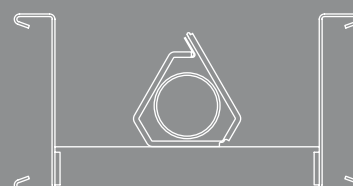
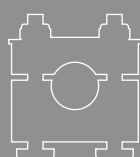
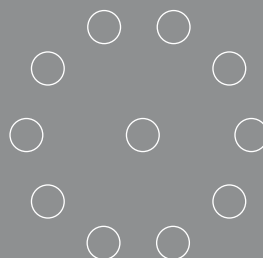
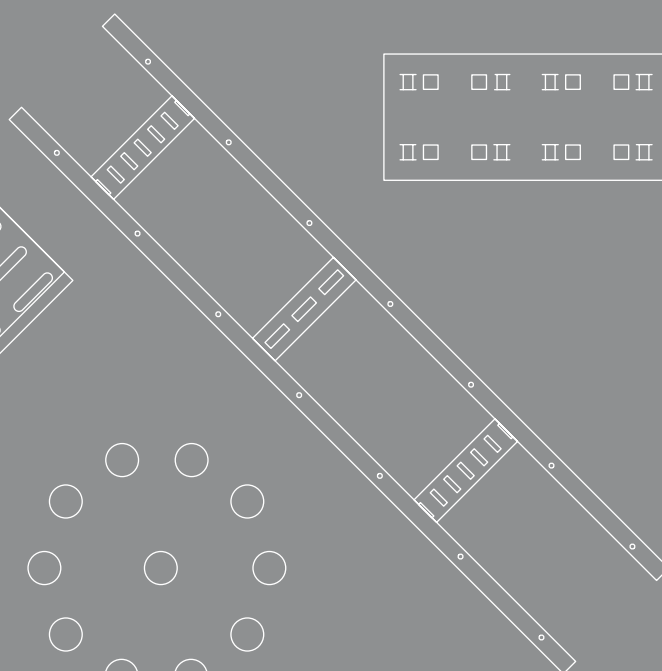
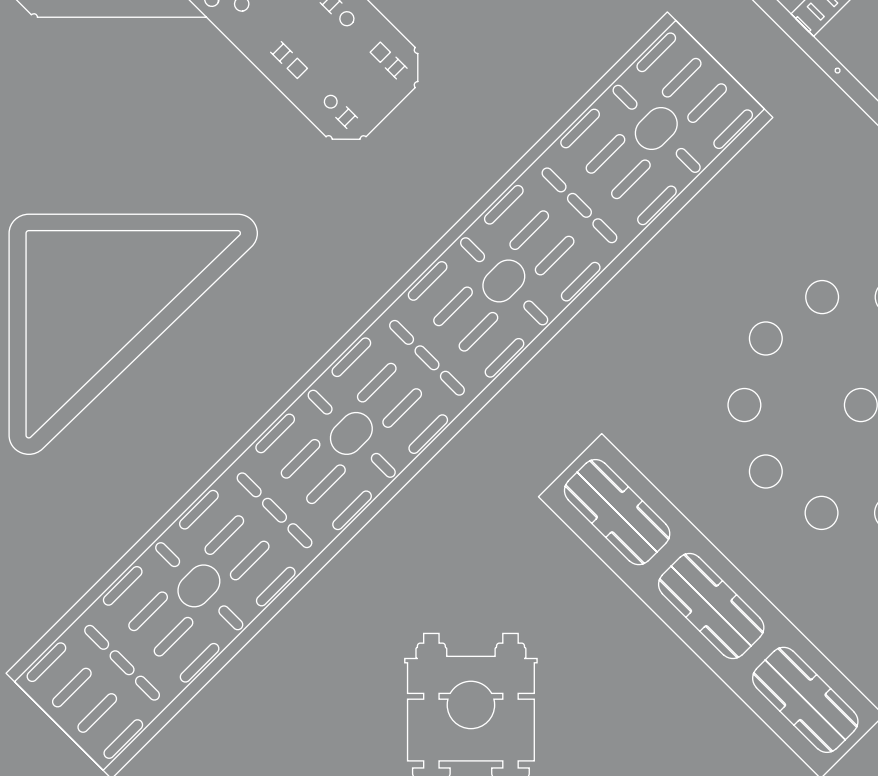
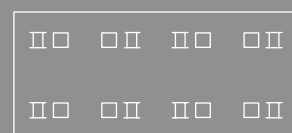
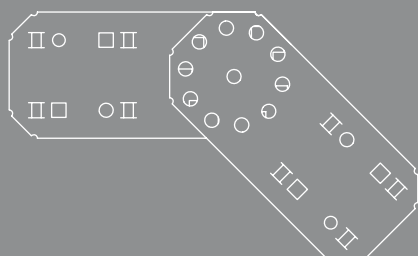
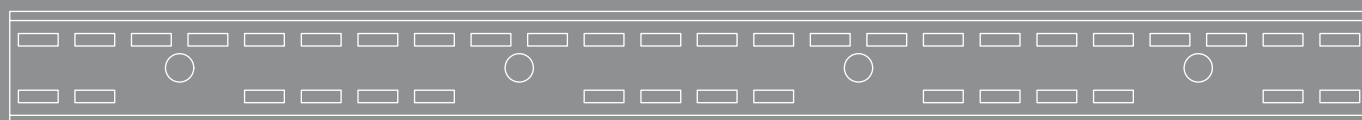


PRODUCT CATALOGUE

2021

MODULAR SUPPORT SYSTEMS
FOR EI&T, HVAC AND PIPING

Support, Cable Ladders, Cable Trays and Accessories



How to use

A generous range of our most popular standard products, from complete multi-discipline support systems to the smallest of fasteners can be identified and detailed using the information in the following chapters. The featured product ranges are offered based on decades of experience and our best practice solutions. They include ranges approved under DNV-GL, ABS, UL, CSA & RMRS schemes.

This Product Catalogue has been split into convenient sections covering the main product ranges we are proud to offer. Each section is preceded by a short introduction to the range, and contains important and useful information on how to identify the products from the type descriptions and product names. We invite you to preview these pages in order to maximise your experience of the offering. Our products are all illustrated for easy identification, and detailed by type descriptions, type names and article numbers. We have also included the weights in order that considerations can be made for build weight and most importantly for HSE.

Product information online

We have chosen to store all supporting documentation for our products online such as detailed dimension drawings, loading limitations, user guides, best practice guides and much more. This product catalogue feature our most popular systems and components. However, we also have a massive range of variants which are not featured. Should you require solutions different from those offered, or require any further information, please do not hesitate to contact us. Visit oglaend-system.com/products for more product information.

How to read type descriptions

We use a system of letters and numbers in our type descriptions to enable efficient identification of product properties. See our overview of product type shortcodes on page X.

Example: OE150 FE-90-300 R600 SS

OE	=	Product family
150	=	Rail height
FE	=	Flat Elbow
90	=	Angle
300	=	Width
R600	=	Radius
SS	=	Material



We offer a Complete Support System

Table of Contents

Our Product Catalogue 2021. Showcases our total system offering - shared support between multiple disciplines such as EI&T, HVAC and piping for offshore installations.

Support



Mekano® Support System
24



FRP Composite support System
46



Direct Fastening on Steel (FoS)
60

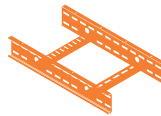


UNO Support System
82

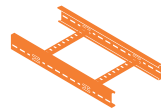


Alternative Support
94

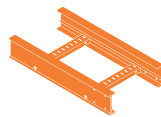
Cable Ladders



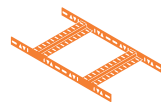
OE Cable Ladder System
104



LOE Cable Ladder System
130

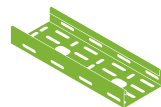


FOE Composite Cable Ladder System
144

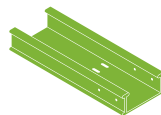


RZE Cable Ladder Systems for Ships
172

Cable Trays



SPB Cable Tray System
182

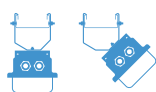


FTE Composite Cable Tray System
200

Most of the featured products are available in various sizes and materials. The full range of product details and specifications is available on our website.

oglaend-system.com

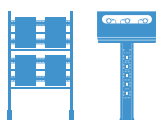
Accessories



Light Fitting Support
216



Pipe Support
264



Racks, Instrument Stands &
Equipment Plates
224



HVAC Support
276



Tubing Clamps
236



Miscellaneous
280



Cable Cleats & Cable Ties
256



Nuts, Bolts and Fasteners
286

Company

About us

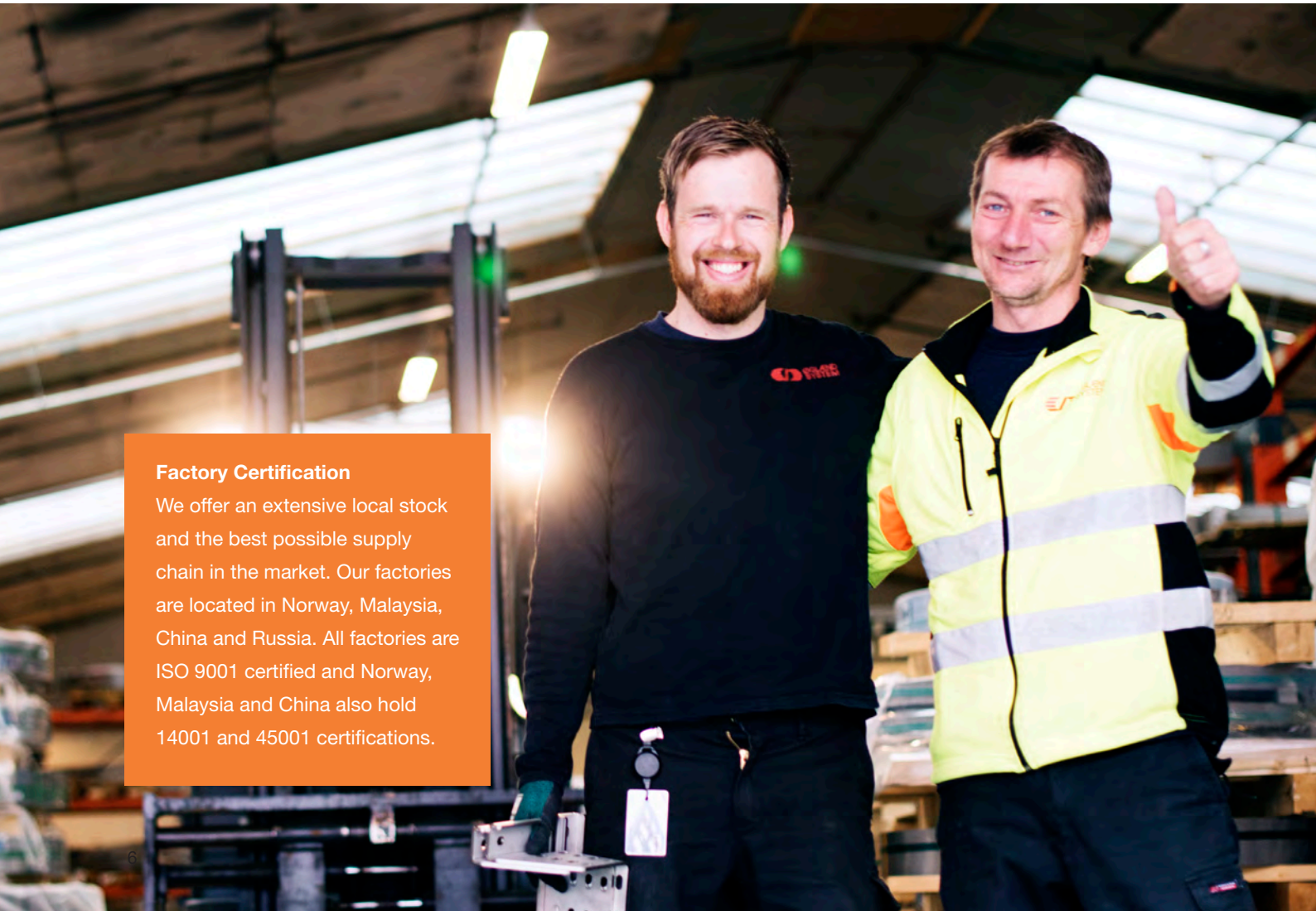
Oglaend System (ØS) is a global and market leading solution provider of multidiscipline support systems, cable ladders, cable trays and associated services. Whether it is oil & gas, shipbuilding, wind energy or renewables, our 40 years of experience in the offshore industry helps provide our customers with the most cost efficient and durable supports solutions across disciplines.

Our systems help reduce the total installed cost of supports by reducing total weight, installation time and engineering hours through standardization, simplification and digitalization. ØS support systems and innovative modular Mekano® triangular channels are pre-engineered using a finite element simulation environment called P4D® (Precision for Decision). Complemented with digital twins in all the major 3D software - PDMS, E3D, S3D our system seamlessly integrates with customer workflow.

Oglaend System is part of the Hilti Group, who are renowned for quality tools and fasteners and has a strong global presence in the construction, energy and industry segments. By combining Hilti's fastening on steel and Oglaend System's multidiscipline support systems we can provide the ultimate combination of flexibility, strength and corrosion resistance.

Factory Certification

We offer an extensive local stock and the best possible supply chain in the market. Our factories are located in Norway, Malaysia, China and Russia. All factories are ISO 9001 certified and Norway, Malaysia and China also hold 14001 and 45001 certifications.





How do our products and system make you more competitive?

We always aim to make our customers more competitive by reducing the total installed cost. Our MultiGrid® installation concept reduces the total system cost of a project by up to 30%. By reducing weight, installation and engineering time, optimizing coordination between disciplines and simplifying future modification work. We reduce the amount of hot work required for an installation, which in turn also works to reduce the safety risks. The project risks are also reduced when engineering and construction are decoupled.

We partner with our customers throughout entire project cycle. Our innovative and standardized support system is complemented with digital and engineering services, thereby increasing productivity and reducing the overall cost. ØS engineers supports clients in 3D design, structural analysis and product development.

Our systems can be delivered in pre-cut lengths as kits or prefabricated modules – thereby improving logistics and increasing construction speed. To further ensure safe and timely installation we provide construction team training and engineering support on the site. All to ensure lowest total system costs!

Services

We support you through each project stage!

Over the decades we have partnered with our customers to reduce system costs and ensure the highest safety standards.

Oglaend System has a successful track record of supporting customers globally with a range of services beyond delivering total system solutions. As a dedicated partner, we can embed ourselves in the project's life cycle – from concept until maintenance & modification or decommissioning.



Avoid rework using our design support service

Our engineering team has specialized expertise about our products and systems and can therefore help you find the most optimal and cost-efficient solutions for your project. To take full advantage of our design services, we emphasize early project engagement, but Oglaend System is also equipped to provide rapid and focused support to running projects.



By taking advantage of our designers' knowledge of the Oglaend System products and solutions, you can be confident that you will get an assembly that is fit for purpose. A major advantage is that our designers have different fields of expertise, which is utilized to provide the best possible industry specific support. This way we can make engineering more effective and avoid rework.

If your application requires a customized solution, then we can easily draw and produce a special product. Members from our design teams are available for assignments in all time zones and can support either through digital commu-

nication, on project platforms, embedded in your design offices, or on site to offer immediate support.

The more complex the project is, the more you have to gain from putting us to work for you! We are ready to support and provide solutions to tough design challenges.

Take advantage of our survey services to solve challenges onsite

We can assist with conversion study, lifetime study, weight study and engineering concept and rules. Through these studies we can quantify the weight and cost savings you benefit from by choosing our total system solution compared to welding structural steel. Since the system solution integrates all disciplines into one it works to reduce engineering efforts and total asset weight. Our 3D catalogues are available in all the major 3D softwares with typical assemblies, making the tedious work of 3D assembly easier and more efficient. While our recommendations on Best Practice design further simplifies engineering.

When the construction is underway, our experienced site service personnel can help ensure that Oglaend System's best practice is followed and help find solutions to challenges on the spot.

Our teams understand the work processes at yards and are experienced in communicating and demonstrating our best practice solutions to ensure cost and time effective installation and not least of all - safe installation practices.



On-site support with customer.

Simplify onsite assembly with our cutting and kitting service

A kit is basically a Bill of Materials in a complete set, where the channels are already cut to the required length. Our deliveries can be installed straight out of the box, which reduces costly and time-consuming work on-site; as well as preventing retrofitting work. All items are labelled, and you simply use the included drawing as an instruction manual to assemble it.



mistakes when cutting are eradicated. In addition, both waste disposal, and inherently dangerous operations such as cutting, and grinding are reduced on site. This delivers you with positive HSE results.

We have many years of experience delivering kits in some of the more demanding projects, from offshore wind energy projects in northern Europe, to large energy projects in south east Asia. Our knowledge and experience from different industries makes us well equipped to provide cutting and kitting services tailored to your specifications.

Reduce construction time using our pre-fabrication service

Our preassembled packages take the cutting and kitting service to the next level. The assemblies can arrive at your yard or storage facility, according to your logistics program, labelled to your specification and be ready for immediate installation. This way of working drastically reduces construction time as every package is made-to-order and repeated "typical" assemblies can be offered in



bulk. All assemblies are carefully wrapped to protect the material from site contaminants and damage due to weld splatter, paint and other such contaminants at the site.

MultiGrid® Installation Method

Shared support for multiple disciplines with MultiGrid® installation concept

A complete support system

We have an extensive and complete product portfolio. We offer complete containment systems for instrument, electrical, telecom and piping. We offer starter brackets for both hot and cold work for multidiscipline support systems. In addition, we can provide additional custom-made items that may be required to complete an installation.



Pre-engineered Mekano® Support Channels

With over 40 years experience from the offshore oil & gas industry, installed in some of the world's hars- hest climates, Oglænd System products are recognised as being both reliable and innovative. Our best practice guide is designed to simplify the product selection from our vast portfolio of products, in order to help our customers make the best choices based on our most fit for purpose recommendations. In addition, we have standardized our Mekano® support configurations into typicals in order to simplify design, and furthermore integrated these typicals in Aveva MDS for a faster and smoother 3D experience.

This service offering is further enhanced with the availability of P4D®, our advanced finite element analysis tool developed to predict the mechanical behaviour of the Mekano® system. Together, these selection, design and structural analysis capabilities have been used together and allow us to offer our customers pre-engineered support solutions in order to simplify and standardise design and engineering. All our typical support solutions are pre-engineered with P4D®, and are available in AVEVA MDS. This offering gives you our customer the confidence and tools to choose the right supports for your applications whilst reducing your engineering time by up to 30%.

PRE-ENGINEERED MEKANO® SUPPORT CHANNELS:



CH50-2T2*



CH50-2T2.5



CH100-2T2



CH100-2T3 11x35



CH100-2T3



CH125-2T5

**Pre-engineered U-frame with horizontal CH100-1 is also available.*



MultiGrid® installation concept - starter brackets welded to structure in a grid pattern for full flexibility.

Best Practice

Decades of experience and lessons learnt from tens of thousands of successfully completed projects are summarized and shared in our best practice manual.

Typicals

We drive standardization through Typical. Typical is our vehicle for delivering solutions rather than products, reducing complexity through the asset-lifecycle.

3D MDS

As a part of our vision of developing SMART typicals, AVEVA have added our Mekano® typicals into MDS (Multi-discipline Support) module within PDMS and E3D.

P4D®, Precision for Decision

Robust finite element technology provides extreme accuracy and allows for precise system selection, which allows us to go further in reducing your project's weight and cost.



Bolted support system with shared support between disciplines. Flexible for future changes of the installation.

Direct Fastening on Steel (FoS)

Direct Fastening on Steel with Hilti FoS

Our cold work solution is an excellent option for quick installation post paint for up to C5 environments.

What is Fastening on Steel?

The Fastening on Steel (FoS) system is made up of two types of corrosion resistant studs from Hilti – S-BT and X-BT. The S-BT threaded studs are screwed directly onto painted steel structures. Whereas, the X-BT threaded studs are fastened by friction welding.

FoS is especially suitable for field support and late-stage modification of multi-discipline applications, grating and earthing/bonding of electrical systems. The installation of FoS is done using only battery powered tools and this method makes grinding, welding and repainting unnecessary.



Anti-vibration Fasteners

Self locking, anti-vibration fasteners are included as standard for the majority of our products in stainless steel, FRP and HDG (HDG: M10 and M12 only. M6 A4 self locking anti-vibration fasteners can be safely used for connecting M6 HDG applications).



Anti-Vibration thread design

Our unique self-locking bolts and anti-vibration nuts guarantee against loosening from vibration. The key is a special thread design which prevents the minute side-to-side movement which causes other fasteners to loosen under vibration.

Independently tested by SP Sweden to DIN 65151 they have a long track record in some of the most demanding offshore environments.

Recommended by DROPS (Dropped Object Awareness and Prevention).

Quick and safe installation

Installation time is reduced as the flange nuts are free running onto bolts with no resistance, and the self locking feature allows for tightening with just one hand and one tool.



Benefits:

- Reduced chance of dropped objects.
- No need for washers, nylon nuts or thread locking compounds.
- Flange ensures correct fitment.
- Improved logistics, less parts.

Splice Connector with Notches



Unique design

Splice connectors for many Oglænd System products are equipped with our unique notch system.

The notches engage into corresponding slots in the parts being attached which then efficiently distribute the loading across the joint. The notches also improve fitting time and accuracy, and deliver stronger and stiffer joints with fewer bolts required. See our OE Cable Ladder section for more details.



Our products & systems are applicable to most industries

Multidiscipline support systems are exceptionally well suited for many industrial applications and are available in a range of materials and designs to suit the loading and environmental requirements. Our systems have been installed in water purification plants, industrial water treatment facilities, chemical and fertilizer plants, desalination plants, Mining industry, supply of drinking water, wash down rooms and clean areas to mention just a few. The area effective design coupled with the modular design and huge range of accessories make our multidiscipline support systems ideal in many other application areas.

Industries



Oil and Gas

No industry has higher requirements with respect to quality, weight, safety and corrosion resistance than the oil & gas industry on the North Sea shelf. Our long history of close collaboration with this industry has given us first-hand experience to develop products that can endure the harshest conditions imaginable. We have compiled our 40 years of experience in the offshore O&G industry to create a Best Practice.

Recommended systems: MultiGrid® Installation Method, Mekano® Support System, OE and FOE Cable Ladders, SPB-RF, SPBE and FTE Cable Trays, Smart Cleat® Cable Cleats and ETIN™ Tubing Clamps.



Wind Energy

Oglaend System offers support and cable management systems in steel and composite material for the wind energy industry – both offshore and onshore. We have taken advantage of our knowledge and experience from the oil & gas industry and transferred this proven technology to fit wind energy installations. We can offer engineering support throughout the project cycle – from FEED studies and to detailed design. Oglaend System has core expertise in providing detailed design solutions for TP's, jackets and substations.

Recommended systems: MultiGrid® Installation Method, OE and FOE Cable Ladders, SPB-RF, FTE and SPBE Cable Trays, SmartCleat® Cable Cleats and Cable Ties.



Shipbuilding

Our special product range for shipbuilding is used on a range of vessels, such as: FPSOs, LNGs, Oil Tankers, Supply Vessels, Cruise Ships, Ferries, Navy Vessels and more. We provide a total system for the shipbuilding industry consisting of support, custom-made cable ladders and accessories. This equipment is designed to maximize the use of the very narrow spaces and to bypass any obstacles onboard vessels. Our vast experience with the requirements in the shipbuilding industry has resulted in an extensive Best Practice for Shipbuilding projects.

Recommended systems: MultiGrid® Installation Method for Ships, RZE Cable Ladders for Ships, SmartCleat® Cable Cleats and ETIN™ Tubing Clamps.



Infrastructure

You will find that our products are suited for a range of different types of application areas: tunnels, railways, bridges, roads, airports, commercial buildings, data centers, power plants, marine farming facilities and more.

Recommended systems: Mekano® Support Systems, LOE and TOE Cable Ladders, SmartCleat®, Concrete Insert Rails, Racks & HVAC systems.

Structural Analysis

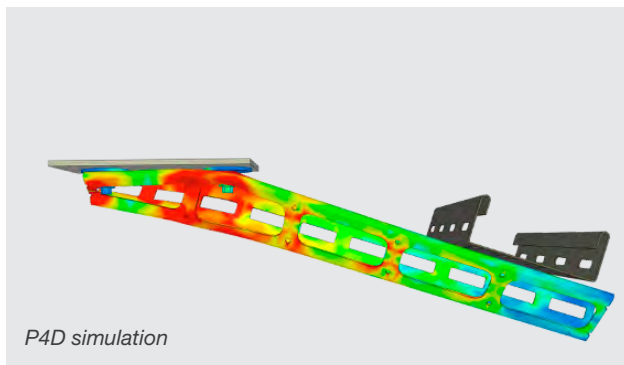
Structural Analysis Software P4D®

P4D® applies knowledge and techniques from automobile- and defense industries to the innovative, light-weight, and modular Mekano® multidiscipline support system. By following a strategy of mass production of standardized solutions, we have made it economically viable to use the most advanced technology to develop structural documentation with unrivalled accuracy.

Oglaend System believes that the next generation support systems are multidiscipline, for maximum equipment utilization; modular, for full flexibility; and digitally available in 3D libraries, for efficient application.

With P4D® we have developed an automated, robust, and flexible finite element platform specifically for the Mekano® system, providing the necessary algorithms to maximize benefits. P4D® is based on the advanced finite element code IMPETUS Afea, which is a modern, non-linear, explicit finite element software. This solution technique handles all the physics locally, making it suitable for complex, non-linear problems. In practice, the effect is that more of Mekano®'s mechanical strength is available to designers and engineers in a plug-and-play format.

Don't hesitate to get in contact with us to learn how P4D® can help your projects achieve a seamless design, engineering, installation and maintenance integration.



3D libraries

3D Modelling

The products that are found within this product catalogue are available in AVEVA PDMS/E3D and Intergraph Smart 3D. All our 3D catalogues are created and maintained by AVEVA Solutions and Intergraph/Hexagon to ensure that our products are fully compatible with tools our customers use. Oglaend System also offer a comprehensive catalogue in Bentley Raceway and Cable Management (BRCM) and Autodesk REVIT.

Our engineering support team connects directly with our customers to assist in the modelling of our products. For our latest 3D catalogue please contact your local Oglaend or Hilti representative.

AVEVA MDS

Our SMART Mekano® Typicals are available in AVEVA MDS (Multi Discipline Support) Module. These typicals reflect our Best Practice and efforts to standardize. Please contact your local Oglaend or Hilti representative for a full list of available typicals.

For customers that do not use the MDS Module, our Mekano® profiles are also available in the Structural module.

Smart 3D

Our SMART Mekano® Assemblies and Mekano® Typical are also available in the Smart 3D support module.

Please contact your local Oglaend or Hilti representative for a full list of available typicals.



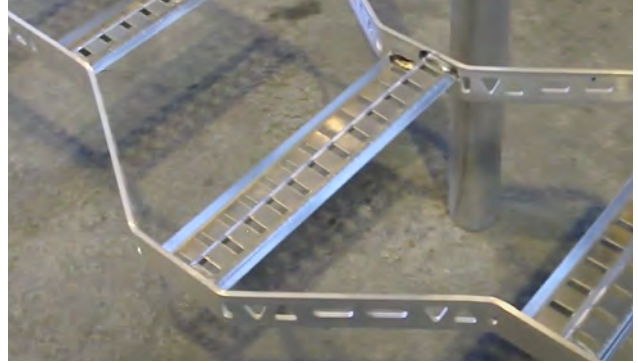
Availability of Oglaend System products in third party 3D design software is shown in the introduction pages for the system and indicates that many of the main volume objects are available. Some exceptions may occur. Please contact your local design office for assistance if required items are not currently published in these libraries.

Materials



Stainless steel (SS)

Stainless steel forms a protective chromium oxide layer when the alloy is exposed to air, hindering direct contact between the alloy and the corrosive environment. If a stainless steel component is damaged, a new chromium oxide layer forms, effectively re-sealing the damaged area. Oglænd System's stainless steel components usually made AISI 316L (EN1.4404) quality.



Aluminium (AL)

Aluminium is typically used in applications where minimal weight is key. When exposed to water it forms a coherent surface oxide preventing the aluminium to corrode. Oglænd System's aluminium components are made in 5052 H22, 6062 and 5754 H22 quality.



Hot dip galvanized (HDG)

Hot dip galvanized steel is coated by a protective layer of zinc. The zinc layer offers good protection against most corrosive environments. This is due to its low electrode potential, which allows it to act as a sacrificial anode. The zinc therefore corrodes slowly instead of the material it protects. Oglænd System's HDG steel components are made in accordance with European standard EN ISO 1461. In accordance with the standard, components in material thickness from 1.5 - 3.0 mm receive a minimum 45 µm coating. EN ISO 12944-2 offers guidance that a zinc coating of 45 µm delivers corrosion protection in the order of 21-64 years in an environment with corrosion class C3. For less corrosive environments using pre galvanized (PG) components is often a preferable alternative.



Zinc aluminium magnesium (ZM)

ZM is a metallic coating which offers excellent corrosion protection suitable up to C4 environments. The coating consists of zinc, aluminium (3.5%) and magnesium (3%) which offers far better anti corrosion resistance with thinner coatings than traditional hot dipped galvanized coatings. ZM coated steel is pre-galvanized to 25 µm/per side which simplifies logistics and improves CO₂ footprint, and like HDG, benefits from "self-healing" for cuts and holes made post coating. In addition, ZM coated products are both lighter and more cost effective than similar products in HDG finish. ZM is included in European Standard EN 10346.



Composite materials (FRP)

Oglaend System offers a range of resins to match the needs of our customers. From our standard polyester resin to our high performance olstar resin, we can meet your chemical, fire, smoke and toxicity requirements. To specify the desired resin, the standard FRP article numbers are suffixed with the resin code at the end as shown below.

GRP/FRP: Note, the pultruded process of manufacture means there is no difference in GRP/FRP material types.

Standard Product Construction (FRP)

Standard FRP Cable ladders are fabricated by joining pultruded cable ladder side profile to pultruded rungs that are punched. The rung is fixed to the side profile by using an SS fastener and Smartlok. Our standard Smartlok is manufactured using PA6 (nylon) material. Standard FRP Cable Ladder and FRP Cable Tray fittings are fabricated using SS angle plates and SS bolt sets unless stated otherwise.

In case our standard construction does not meet your project requirements please contact us for assistance. We have additional options of 'Smartlok' and the majority of our standard products can be supplied with FRP bolts and FRP angle plates upon request.

FRP Resin Guide

Polyester

Resin code: (standard art. no.) N/A

Polyester is the most widely used resin system. It offers good weathering properties with resistance to ultraviolet light and has good corrosion resistance. Our Polyester resin has been specially formulated to meet certain fire and smoke standards and is classified as a "class 1" resin in accordance with BS476 P7 and ASTM E84. Our standard polyester resin product range is UL approved.

Polyester with anti-static properties

Resin code: 'A' for FOE items. 'C1A' for FTE items.

Polyester resin can be given anti-static properties to meet project requirements. Anti-static resins contain carbon powder, which increases the conductivity of the material and as a result this material requires grounding.

Vinyl Ester

Resin code: 'VE'

Vinyl Ester resins offer better corrosion resistance and heat resistance than polyester resin. It is especially suited to industries using heavy chemical and caustic materials.

Olstar

Resin code: 'AC'

Oglaend Low Smoke & Toxicity Acrylic Resin (OLSTAR) is ideal for use in enclosed areas, mass transit and tunnels. This resin exceeds the low smoke and toxicity properties of other resins while maintaining good fire performance properties.

Olstar ABS

Resin code: 'ABS'

Our Acrylic resin has anti-static properties and should therefore be grounded. This resin is used for projects that require ABS or BV certification.

Typical material certificates for given products can be supplied on request, however these requirements must be made known to us prior to ordering.

Choose the right material/coating

Oglaend System offers a range of materials/coatings to cover your needs. We recommend the following depending on your operating environment. The final decision regarding the chosen material and products is the presonisibility of the user and/or specifier.

Material	Corrosion resistance	C1	C2	C3	C4	C5-I	C5-M
Stainless Steel (SS)	Very High						
Fibre Reinforced Polymer (FRP)	Very High						
Aluminium (AL)	Very High						
Zinc Aluminium Magnesium (ZM)	High						
Hot Dip Galvanized (HDG)	High						
Pre-Galvanized (PG)	Medium						

- Recommended: Meets corrosion requirement.
- Can be used: Exceeds corrosion requirement.

Material	Abbreviation	Material Quality	Surface Treatment
Stainless Steel	SS	AISI 316L (EN1.4404)	Pickling and Passivation (Welded products)
Carbon Steel	HDG, ZM	Different steel qualities depend on material thickness.	Hot Dip Zinc Galvanised (HDG), Pre-galvanised Zinc/Alu./Magnesium (ZM)
Aluminium	AL	5052 H22, 6062 and 5754 H22	
Composite	FRP/GRP	See resin guide.	

Corrosion

Corrosion is a general term used to describe the conversion of refined metals to their more stable oxides. The process damages metal components and often leads to reduced performance and a lower aesthetic value. Two main sources of corrosion on steel components are galvanic corrosion and environmental corrosion.

Galvanic corrosion may occur if there is contact between metals with different electrode potentials in a humid climate. Water acts as an electrolyte and the metals as electrodes, similar to a galvanic cell. Typically, the metal with the lowest electrode potential is corroded. Environmental corrosion reaches a significant magnitude mostly in humid environments or in buried/underwater installations. Many factors affect environmental corrosion, including, but not limited to, water chemistry, humidity and degree of condensation.

Materials and Corrosion

All materials suffer from corrosion damage when exposed to certain environments. The rate of corrosion and the impact of environmental conditions varies greatly depending on the material in question. Both zinc coated materials and stainless steel displays a high resistance against corrosion in most environments. Oglaend System have a long and successful track record in some of the world harshest environments.



Pickling and passivation

All of Oglaend System's welded products are "Pickled and Passivated". This is a process to remove the heat tint that is created during welding. The heat tint is produced by an increase in the density of chromium at the surface and a corresponding decrease in the area below. As a result, the affected region is vulnerable to corrosion and less aesthetically pleasing. Both problems are efficiently solved through "Pickling and Passivation". This allows a new protective chromium oxide layer to be established. Oglaend System has a long track record from the North Sea using these methods with great success.

Safety & HSE

Our systems are carefully designed and manufactured using high tech, modern machine parks. This combination gives a product that typically has no sharp edges prior to cutting. When products are cut on-site for installation, the cut edges will in many cases be sharp, therefore precautions must be taken to avoid accidents and injuries. As common practice, we recommend using Kevlar gloves when handling and installing products in addition to eye, head and footwear protective equipment. Local and national HSE variances must also be observed.

Where products are being cut on site, we recommend using a band saw with an appropriate blade suitable for the material thickness to reduce swarf and burr. Angle grinders with fine cutting wheels can be used (1 mm). However, care should be taken to protect surrounding materials, from grinding sparks and not to overheat the materials. As best practice, any burr should be removed.

Preferred Tools/Safety

Unless appropriate safety measures are taken, cutting or grinding metal can be a hazardous activity, with a significant risk of personal injury or damage to the installation. When available, a band saw is usually the most appropriate tool for cutting thin metal products such as cable ladders and trays. Using band saws for this purpose results in minimal splatter, and its stability facilitates safe use.

Matrix - Selecting The Right Tool

Tools	Steel		FRP	
	Support	Trays/Ladders	Support	Trays/Ladders
 Bandsaw				
 Cordless Circular Saw				
 Angle Grinder*				
 Torches				

Note! Do not mix cutting blades between stainless steel and carbon steel.

*Where band saws are unavailable or impractical, angle grinders may also be used. These offer increased flexibility, but result in more splatter and increased risk of personal injury. Angle grinders are not suitable for FRP.

 = Recommended
 = Can be used
 = Can not be used



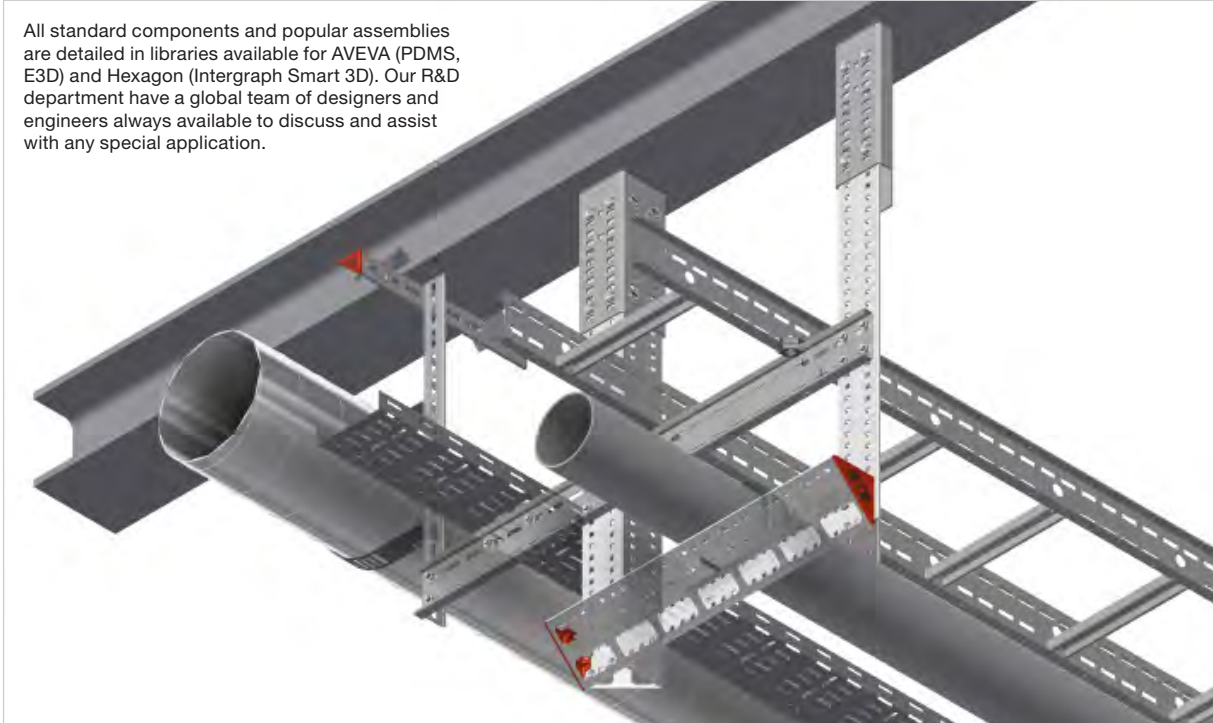
After metal has been cut, all sharp edges should be deburred to avoid cutting injuries to personnel.



To further reduce the risk of injuries to personnel, end caps are available for all product ranges in high visibility thermoplastic and/or in all metal construction.

MEKANO® SUPPORT SYSTEM

All standard components and popular assemblies are detailed in libraries available for AVEVA (PDMS, E3D) and Hexagon (Intergraph Smart 3D). Our R&D department have a global team of designers and engineers always available to discuss and assist with any special application.



MATERIALS



3D LIBRARIES

AVEVA (E3D / PDMS)
Hexagon (Intergraph Smart 3D)
Bentley

CERTIFICATES



RECTANGULAR SLOTTING - FOR EI&T, HVAC AND TUBING



CH50-1
1-sided channel
Available in 1.5 mm material thickness.



CH50-2
2-sided support channel
Available in 1.5 mm material thickness.



CH100-1
1-sided channel
Available in 1.5 mm material thickness.



CH50-2T
Triangle support channel
Available in 1.5 and 2 mm material thickness. Option available with M10/M6 holes.



CH100-2T
Triangle support channel
Available in 2 and 3 mm material thickness.

SQUARE SLOTTING - FOR MULTIPLE DISCIPLINES INCLUDING PIPE SUPPORT



CH50-2T2.5
Triangle support channel
Available in 2.5 mm material thickness.



CH100-2T3
Triangle support channel
Available in 3 mm material thickness.



CH100-4
Square Hollow Section
Available in 5 mm material thickness.



CH125-2T5
Triangle support channel
Available in 5 mm material thickness.

Mekano® is a flexible, light weight and cost saving support system for all main disciplines including electrical, instrumentation, telecom, HVAC and piping. Mekano® sections are available in a range of profiles, grades and materials to suit any application, however all share the same high quality engineering solutions.

LIGHTER, SAFER & COST EFFECTIVE

Mekano® support systems are bolted together on site, or in light-weight pre-assembled sections for safe and easy installation. When compared to traditional welded supports, Mekano® Systems are significantly lighter, quicker to install, safer in construction and more cost effective.

MAXIMUM FLEXIBILITY

Most importantly, Mekano® systems offer full flexibility in design and installation both in initial construction and in all subsequent adaptation or upgrade works. This flexibility is yet further enhanced by employing our MultiGrid® installation methods as best practice. For full details, see next section.

OUR FLAGSHIP RANGE

The patented Mekano® Triangular sections are compact and rigid due to their closed section, whilst being considerably lighter than SHS or RHS sections. Unlike welded stock steel and UNO type systems, Mekano® Triangular sections can be fitted back to back without the need for additional brackets or fittings. The profiles have generous access holes on the back in order to easily access fasteners, and also allow for cables to be housed.

A full and comprehensive range of standard and specialist accessories are available which simplify design and procurement, and offer quick, safe and economical installation for all disciplines.



BACK TO BACK

All channels are connected back to back using self locking bolts as shown in the picture.

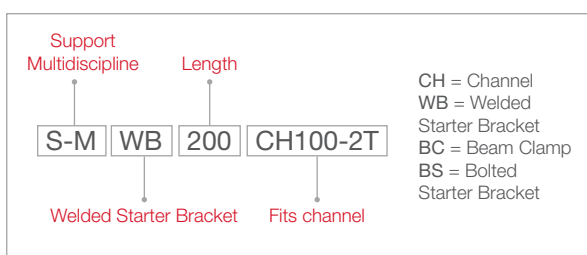


TABLE OF CONTENTS

MultiGrid® Installation Concept.....	26
Channel Selector: EI&T & HVAC Support.....	28
Channel Selector: Multi-discipline incl. Pipe	
Support	29

Mekano® Channels

Mekano® Channels for EI&T and HVAC.....	30
Mekano® Channels for all Disciplines including	
Pipe Support	31

Mekano® Accessories

Mekano® Accessories for CH50 Channels	32
Mekano® Accessories for CH100-1/CH100-2T	
Channels	33
Mekano® Accessories for CH100-4 Channels.....	34
Mekano® Accessories for CH125 Channels.....	35

Mekano® Starter Brackets

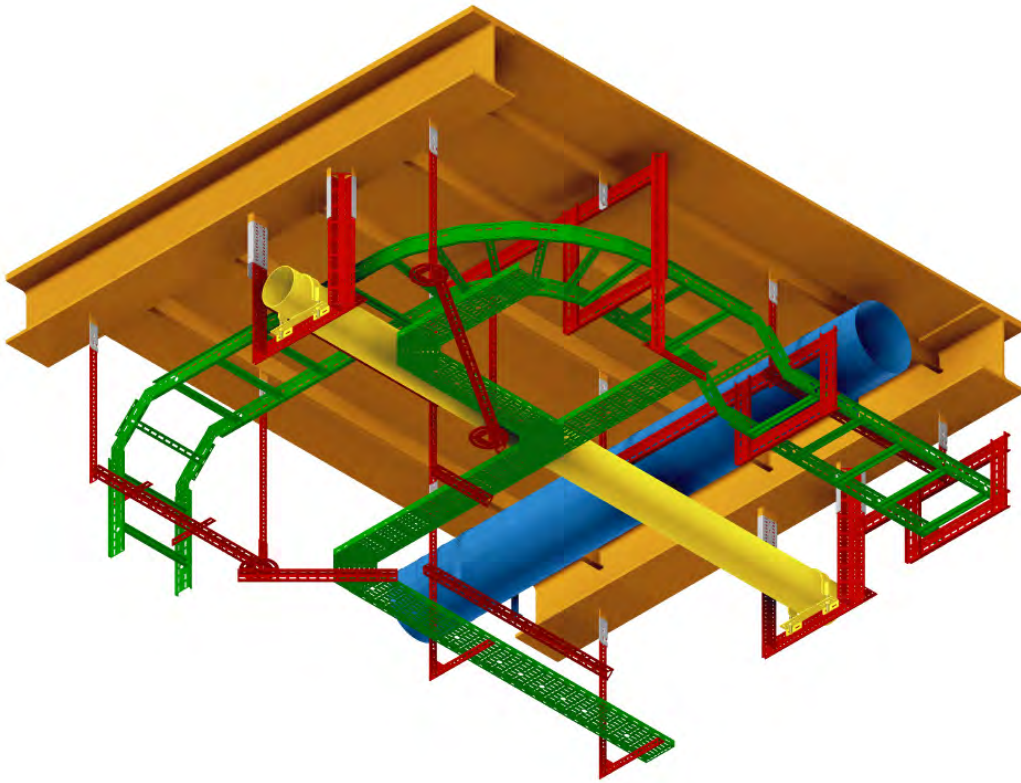
Welded Starter Brackets	36
Doubling Plates.....	38
Mekano® L Bracket Sleeves	38
Welded Starter Brackets for Stringer.....	39
Welded Starter Brackets for Cantilever.....	39
Bolted Starter Brackets.....	40
Beam Clamps	42
MultiGrid® Light Starter Brackets.....	44



Intellectual Property Rights

Please note that many of the products presented in this catalogue are protected by our intellectual property rights in the form of patents, registered designs and trademarks, and that we have made the strategic decision to police and enforce these rights in all relevant jurisdictions.

MultiGrid® Installation Concept



Our Recommended Installation Method: MultiGrid®

In order to provide ultimate flexibility during installation and future extension or adaptation, we highly recommended designing and installing according to our MultiGrid® concept for support.

Experience gained from close to half a century of detailed work in projects of all sizes and levels of complexity, proves that most installations have some change to their design or unforeseen adaptation requirements during the construction or installation phase.

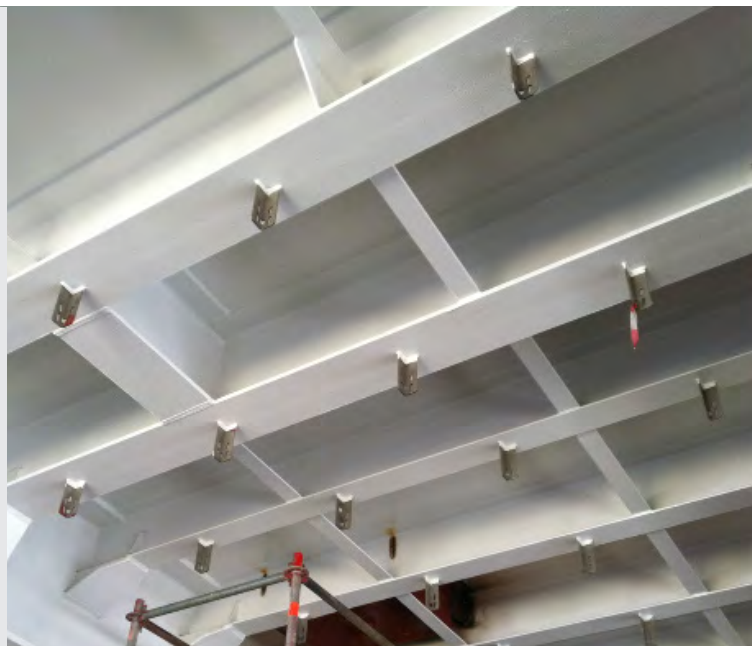
MultiGrid® Installation

MultiGrid® is our concept of installing a grid of welded starter brackets in a set pattern over the entire equipment area as opposed to having to pre-determine, locate and provide support directly over each specific component requiring support.

Exceptional load brackets can of course also be added at this time to cover any specific load requirements for example to support piping sections.

Insulating

Employing the MultiGrid® installation principle is especially beneficial when the structure has been insulated to allow for any future modification during construction or when the installation has been put into service.



Shared support for multiple disciplines

Starter brackets can be connected using Mekano® traverse beams to maximise the flexibility, or support can be taken directly from the starter brackets. MultiGrid® allows for supports to be shared between multiple disciplines, thus optimising the installation space available and greatly reducing the time and material required to support each discipline independently or separately.

Cost saving at an early stage

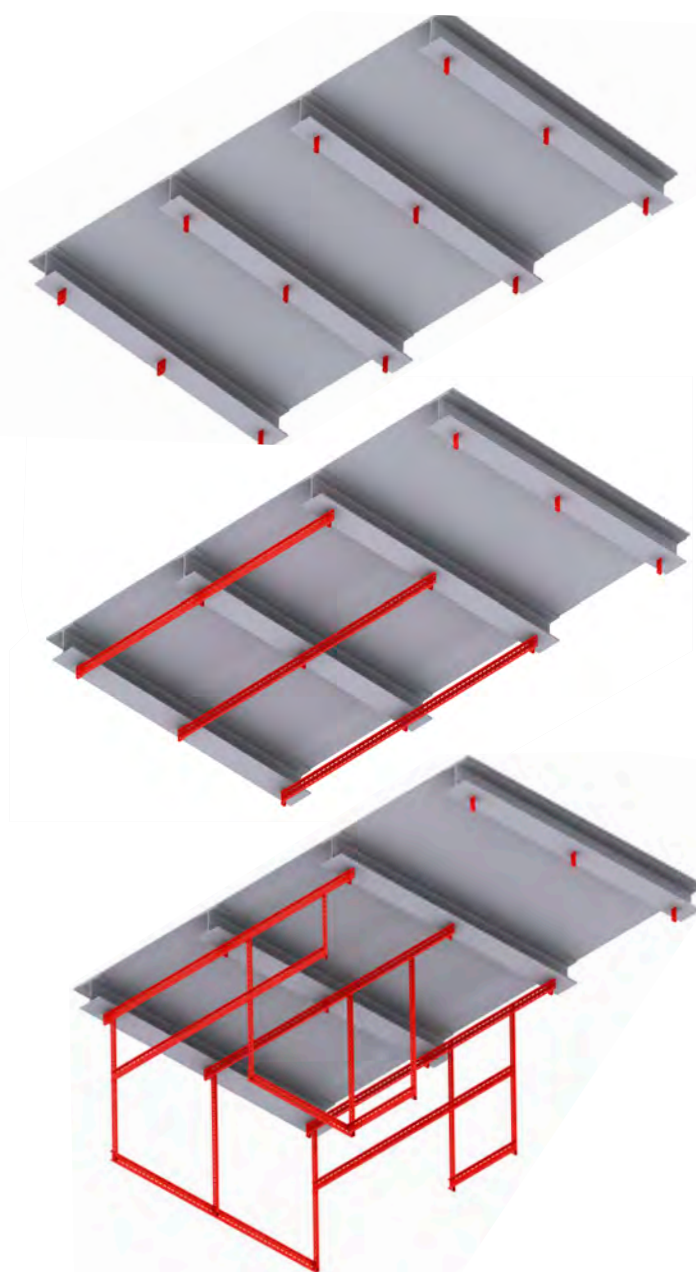
The inbuilt redundancy provided by multiple starter points at the early stage of construction is a low cost, no risk investment compared to the significant costs and difficulties in having to add or reposition supports during later stages of construction, or in the worst case, during operation.

Flexible for future upgrades

The flexibility MultiGrid® offers also allows for future upgrades in technology and new equipment to be incorporated in existing spaces without requiring entire refits. Using MultiGrid® and bolted Mekano® support, entire areas can be reconfigured without requiring hot-work.

Starter brackets to suit any environment

Mekano® starter brackets for designing MultiGrid® installations are available in various lengths and types in a range of material qualities to suit any installation environment.

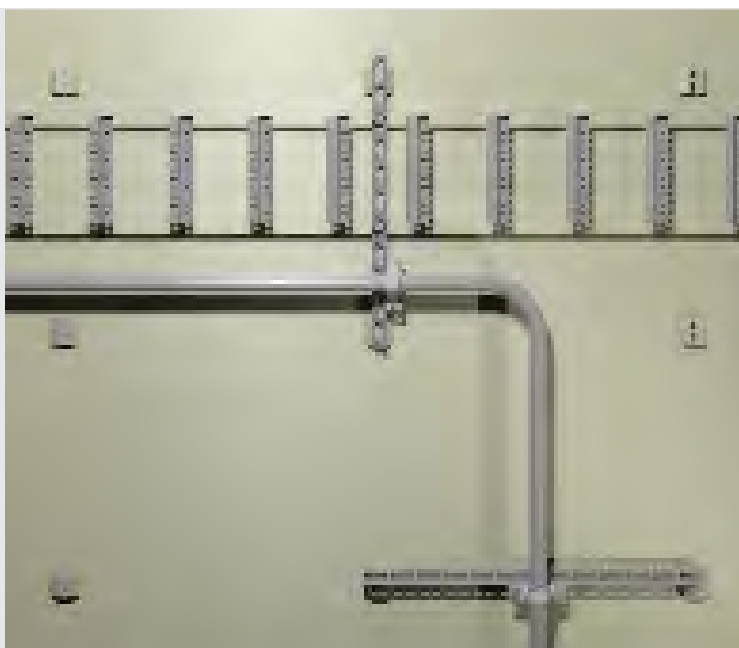


MultiGrid® Light

MultiGrid® Light is the ideal solution for wall, ceiling or floor, when a space saving construction or compact design is required. MultiGrid® Light starter brackets can be connected to form flexible space efficient support structures for lighter loadings.

Now available for post paint modifications

Using Hilti S-BT/X-BT, MultiGrid® Light starter bracket 91253 can be fixed post paint for support of Mekano® 50-2T channels suited for C5 environments. This is particularly useful where space is limited, or compact design is required for light weight support applications and last minute changes. MultiGrid® Light are also suitable for late change tubing, addition electrical junction boxes, HVAC duct support and other light support applications.



Channel Selector: EI&T & HVAC Support

SUPPORT CHANNELS FOR EI&T AND HVAC

Mekano® channels with a rectangular hole pattern are ideally suited for EI&T and HVAC disciplines. With the rectangular hole pattern you get full flexibility in transverse and angular adjustments. The table below shows maximum recommended size of the most typical configurations - U, L, T or cantilever supports - for each channel.

TYPICAL SUPPORT CONFIGURATIONS - MAXIMUM WIDTH AND HEIGHT

T- and L-frames require the use of gusset plate to follow recommendation.
*Additional bracing must be considered.

Recommended	Can be used	Not recommended	↔ Max width (m)	↕ Max height (m)
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LOAD DATA

The data is based on testing done according to IEC 61537 "Cable management – Cable tray systems and cable ladder systems" specifications. The safe working load (SWL) includes a safety factor of 1.7. The load is according to specification from IEC 61537. Contact us for complete test reports and more detail.

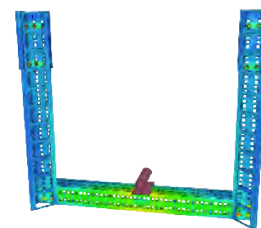
Support Configuration	Width (m)	Height (m)	CH100-1 x CH50-2T2 SWL (kg)	CH50-2T1.5 SWL (kg)	CH50-2T2 SWL (kg)	CH100-2T2 SWL (kg)	CH100-2T3 11x35 SWL (kg)
U-frame	1	1	1294	941	1235	2000	-
	2.05	1	■	■	■	765	1350
L-frame	0.4	0.6	■	■	200	-	-
	0.4	1	■	■	194	720	-
	0.6	1	■	■	76	510	-
	0.6	1.5	■	■	■	560	-
	0.7	0.6	■	■	■	200	■
T-frame*	0.4x0.4	0.8	■	■	382	-	-
	0.5x0.5	1	■	■	■	764	-
Cantilever	0.6		■	■	■	240	-
	0.8		■	■	■	200	-

*Loads based on equal loading on both sides, total load on frame given above.

Channel Selector: Multi-discipline incl. Pipe Support

SUPPORT CHANNELS FOR MULTI-DICIPLINE SUPPORT

Mekano® channels with a square hole patter are ideally suited for heavy duty supports. With the square hole pattern you get a secure fit in all directions. The table below shows maximum recommended size of the most typical configurations - U, L, T or cantilever supports - for each channel.



TYPICAL SUPPORT CONFIGURATIONS - MAXIMUM WIDTH AND HEIGHT

CH50-2T2.5				CH100-2T3				CH100-4				CH125-2T5**			
Art. no.: 1372183 (3m)				Art. no.: 1372185 (3m)				Art. no.: 1372531 (6m)				Art. no.: 1303398 (3m)			
Art. no.: 1372193 (5.9m)				Art. no.: 1372195 (5.9m)											
		0.7	3			3	5.9*			3	5.9*			3	5.9*
		0.4	1			0.6	1.5			0.6	2			0.6	2
		2x0.4	1			2x0.6	1.5			2x0.6	3			2x0.6	3
		0.5				1.2				1				1.2	

T- and L-frames require the use of gusset plate to follow recommendation.
*Additional bracing must be considered. **Use splice for 5.9 m.

	Recommended		Can be used		Not recommended		Max width (m)		Max height (m)
---	-------------	---	-------------	---	-----------------	---	---------------	---	----------------

LOAD DATA

Precision for decision - P4D®

P4D® is an advanced analysis tool developed to predict the mechanical behaviour of Mekano® systems. Robust finite element technology delivers extreme accuracy and allows for precise system selection. This allows us to go further in reducing your project's weight and cost. All our typical multi-discipline support solutions are pre-engineered with P4D®.

We can offer load tables (P4D® Matrix) and full documentation of specific solutions (P4D® Reports) as part of our lifecycle engineering support package. Please contact us for additional information about our engineering support offering.

Load data powered by P4D®. Loads given in kN, deflection allowance: L/200. Data in table for channels in SS material.

Support Configuration	Width (m)	Height (m)	CH50-2T2.5 (kN)	CH100-2T3 (kN)	CH125-2T5 (kN)
 U-frame	0.5	0.5	6.3**	22.4	61.4
	1	1		14.5	36
	2	2		6.4	15.8
	3	3		3.1	9.2
 L-frame	0.4	0.5	-	1.75	5.6
	0.4	0.6	0.2**	-	-
	0.4	1	0.2**	1.5	5.3
	0.4	1.5		1.45	4.6
	0.6	0.5		0.9	3.0
	0.6	1		0.8	3.0
 T-frame*	0.6	1.5		0.8	2.7
	0.4x0.4	1	2.5**	18	48.8
	0.5x0.5	1		13.2	32.6
	0.6x0.6	1		10.5	31.3
 Cantilever	0.4		1.3	7.35	16.2
	0.5		0.5	-	-
	0.6			3.8	9.5
	0.8			2.35	6.35
	1			1.6	4.6

*Loads based on equal loading on both sides, total load on frame given above. **With gusset plate.

Mekano® Channels for EI&T and HVAC

Mekano® Channel 50-1

C-shaped Mekano® Channel for light EI&T and HVAC support.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-M CH50-1-3000	1371687	3,8	1371684	5,3



Mekano® Channel 50-2

Angled Mekano® Channel for EI&T and HVAC support. Please refer to our website for relative weights.

Type Description	SS	HDG	ZM	AL
S-M CH50-2-3000	1371689	1302506	91191	91200



Mekano® Channel 50-2T1.5

Mekano® Triangle Channel for EI&T and HVAC support.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-M CH50-2T1.5-3000	1372181	4,2	1372186	4,1
S-M CH50-2T1.5-5900	1372191	8,3	1372196	8,7



Mekano® Channel 50-2T1.5 10/6

Mekano® Triangle Channel for EI&T and HVAC support, with holes for M10 bolts one side, M6 bolts the other side.

Type Description	SS	SS (kg)
S-M CH50-2T1.5-10/6-3000	91170	4,3



Mekano® Channel 50-2T2

Mekano® Triangle Channel for EI&T and HVAC support.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-M CH50-2T2-3000	1372182	5,5	1372187	5,8
S-M CH50-2T2-5900	1372192	10,8	1372197	11,4



Mekano® Channel 100-1

C-shaped Mekano® Channel for EI&T and HVAC support. Please refer to our website for relative weights.

Type Description	SS	HDG	ZM	AL
S-M CH100-1-3000	1371685	1371649	91188	91199



Mekano® Channel 100-2T2

Mekano® Triangle Channel for EI&T and HVAC support.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-M CH100-2T2-3000	1372184	11,5	1372189	11,2
S-M CH100-2T2-5900	1372194	22,6	1372199	23,6



Mekano® Channel 100-2T3 11x35

Mekano® Triangle Channel especially suited for heavy load EI&T / HVAC applications.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-M CH100-2T3-11x35-3000	91124	16,9	91126	17,7
S-M CH100-2T3-11x35-5900	91125	33,5	91127	-



Mekano® Channels for all Disciplines including Pipe Support

Mekano® Channel 50-2T2.5

Mekano® Triangle Channel for heavy load and piping applications.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-M CH50-2T2.5-3000	1372183	7,3	1372188	7,5
S-M CH50-2T2.5-5900	1372193	14,2	1372198	-



Mekano® Channel 100-2T3

Mekano® Triangle Channel for heavy load and piping applications.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-M CH100-2T3-3000	1372185	-	1372190	18,6
S-M CH100-2T3-5900	1372195	35,4	1372200	36,6



Mekano® Channel 100-4

Mekano® SHS Channel for extra heavy load and piping applications. Material thickness 5 mm.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-M CH100-4-5-5800	-	-	89819	82,5
S-M CH100-4-5-6000	1372531	81,8	-	-



Mekano® Channel 125-2T5

Mekano® Triangle Channel for heavy load and piping applications.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-M CH125-2T5-3000	1303398	36,4	1303399	-



Mekano® Accessories for CH50 Channels

Mekano® 50-1 Splice Connector

Splice Connector for Mekano® 50-1 Channels.

Type Description	Fasteners included	SS	SS (kg)	HDG
S-M SC-CH50-1	2×M10	1302595	0,30	1372763



Mekano® 50-2 Splice Connector

Splice Connector for Mekano® 50-2 and 50-2T Channels

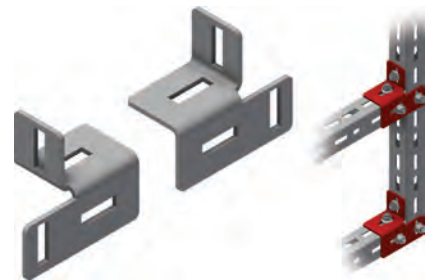
Type Description	Fasteners included	SS	SS (kg)	HDG
S-M SC-CH50-3	4×M10	1372624	0,40	84824



Mekano® 50-2 Flush Connector Bracket

Bracket allowing Mekano® 50-2 Channels to be flush fitted where back to back fitting is restricted. In left (80381) and right (80382) hand variants.

Type Description	Fasteners included	SS	SS (kg)
S-M-AB CH-50-2T	-	80381	0,30
S-M-AB CH-50-2T	-	80382	0,30



Mekano® 50-2T Gusset Plates

Gusset Plates to reinforce the connection between two Mekano® Triangle Channels. Available with or without corner support. 2.5 mm material thickness with corner support. 4 mm material thickness without corner support, suitable where support space is limited.

Type Description	SS	SS (kg)	HDG	ZM
S-M GP-CH-50-2T 2.5	85678	0,20	85497	85669
S-M GP-CH-50-2T 4	70234	0,30		



Mekano® 50-2T Edge Protector

Used to protect cables routed through the slots in Triangular Channels.

Type Description	EPDM	EPDM (kg)
A-CH-2T2 EP-O	88912	0,010



Mekano® 50-2T End Cap

High visibility end protection for channel.

Type Description	TPR	TPR (kg)
A-CH50-2T EP	82197	0,010



Angle Bracket M10

Angled brackets connecting two CH50 channels to give two independent fixings.

Type Description	Fasteners included	SS	SS (kg)	HDG
S-M AB 55x55x40-10	2×M10	1371712	0,10	1302494



Mekano® Accessories for CH100-1/CH100-2T Channels

Mekano® 100-1 Splice Connector

Splice Connector available with or without notches. Notches (code NO) are recommended where possible to strengthen the connection.

Type Description	Fasteners included	SS	SS (kg)	HDG
OE/LOE100 SC-NO	4×M10	1371681	0,30	
OE100 SC	4×M10	1371683	0,50	1371678



Mekano® 100-2T Splice Connector

Splice Connector for Channel 100-2T and 100-4.

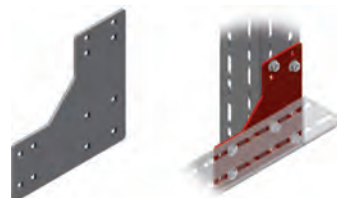
Type Description	SS	SS (kg)	HDG	HDG (kg)
S-M SC-CH100-5	1372534	1,2	1372535	1,3



Mekano® 100-2T Gusset Plate for L support

Gusset Plate to reinforce the connection between two Mekano® Triangle Channels.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-M GP-CH-100-2T	59506	1,1	59507	1,2



Mekano® 100-2T Gusset Plate

Gusset Plate to reinforce the connection between two Mekano® Triangle Channels. With Nonie adjustment giving 5 mm increments.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-M GP-N-CH-100-2T	1301584	2,2	54897	2,2



Mekano® 100-2T End Cap

End Caps for Mekano 100-2T channels. Available in high visibility TPR material with push on fit, or AISI 316L with bolted fit.

Type Description	TPR	TPR (kg)	SS	SS (kg)
A-CH100-2T EP	82198	0,030	91103	0,10



Mekano® 100-2T Edge Protector

Used to protect cables routed through the slots in Triangular Channels.

Type Description	EPDM	EPDM (kg)
A-CH-2T2 EP-O	88912	0,010



Mekano® 100-2T Bracing Bracket

Mekano® Bracing Bracket for using CH100-2T channel as bracing for CH100-2T or CH125-2T5 channels. When using M12 bolts for CH125 2T5 channel, use Hex type with anti vibration flange nuts (not self-lock bolts with square neck)

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-M SC-BB-CH100	90812	1,5	91321	1,6

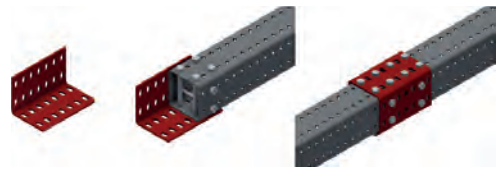


Mekano® Accessories for CH100-4 Channels

Mekano® 100-4 Splice Connector

Splice Connector for Channel 100-2T and 100-4.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-M SC-CH100-5	1372534	1,2	1372535	1,3



Mekano® 100-4 L-Splice

L-shaped Splice Connector for Mekano® 100-4 Channels.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-M SC-L-CH100-4	1372540	2,5	1372539	2,7



Mekano® 100-4 T-Splice

T-shaped Splice Connector for Mekano® 100-4 Channels.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-M SC-T-CH100-4	1372543	2,4	1372542	2,4



Mekano® 100-4 X-Splice

Cross-shaped Splice Connector for Mekano® 100-4 Channels.

Type Description	SS	SS (kg)
S-M SC-CP-CH100-4	82356	-



Mekano® 100-4 Bracing Connector, type A

Bracing Connector for Mekano® Channel 100-4.

Type Description	Fasteners included	SS	SS (kg)
S-M SC-V-CH100-4-A	7xM10	1301571	2,5



Mekano® 100-4 Bracing Connector, type B

Bracing Connector for Mekano® Channel 100-4.

Type Description	Fasteners included	SS	SS (kg)
S-M SC-V-CH100-4-B	7xM10	1301569	2,7



Mekano® 100-4 Bracing Connector, type C

Bracing Connector for Mekano® Channel 100-4.

Type Description	Fasteners included	SS	SS (kg)
S-M SC-V-CH100-4-C	10xM10	1301570	3,9



Mekano® 100-4 Cut Marking Tool

Marking tool to aid cutting Mekano® 100-4 to 45° or 90°.

Type Description	SS	SS (kg)
S-M CD-CH100-4	1372533	0,20



Mekano® 100-4 End Cap

High visibility end protection for CH 100-4 channels.

Type Description	TPR	TPR (kg)
EC CH100-4-3	1303293	0,10
EC CH100-4-5	1303294	0,090



Mekano® Accessories for CH125 Channels

Mekano® 125-2T Splice Connector

Splice Connector for Channel 125-2T5.

Type Description	SS	SS (kg)
S-M SC-CH125-2T5-250	1302063	2,8



Mekano® 125-2T L Gusset Plate

Gusset Plate to reinforce the connection between two Mekano® Triangle Channels.

Type Description	SS	SS (kg)
S-M GP-CH-125-2T5	1306898	1,3



Mekano® 125-2T T Gusset Plate

T Gusset Plate to reinforce the connection between two Mekano® Triangle Channels.

Type Description	SS	SS (kg)
S-M GP-T-CH-125-2T5	1301576	-



Mekano® 125-2T X Gusset Plate

Gusset Plate to reinforce the connection between two Mekano® Triangle Channels.

Type Description	SS	SS (kg)
S-M GP-N-CH-125-2T5	1302173	2,4



Mekano® 125-2T X Interface Gusset Plate

Gusset Plate to reinforce the connection between two Mekano® Triangle Channels CH125-2T and CH100-2T.

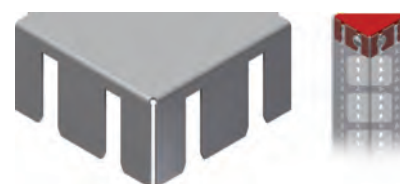
Type Description	SS	SS (kg)
S-M GP-N-CH-125/CH-100-2T	1302083	2,4



Mekano® 125-2T End Cap

End protection for channel.

Type Description	SS	SS (kg)
A-CH125-2T5 EP	90609A	0,20



Mekano® 125-2T Bracing Bracket

Mekano® Bracing Bracket for using CH125-2T5 channel as bracing for CH100-2T or CH125-2T5 channels. When using M12 bolts for CH125 2T5 bracing channel, use Hex type with anti vibration flange nuts (not self-lock bolts with square neck).



Type Description	SS	SS (kg)
S-M SC-BB-CH125	90813	2,9

Welded Starter Brackets

Welded Flat Bracket 50

Welded Starter Bracket for EI&T and HVAC. Suitable for 50-1 Channel. Available in two lengths. Note: 125 mm length is not suitable for NORSOK painting regulations.



Type Description	SS	SS (kg)	CS	CS (kg)
S-M WB-125-CH50-1	1371695	0,20	1302511	0,20
S-M WB-200-CH50-1	1371696	0,30	1302512	0,30

Welded L-Bracket 50

Welded Starter Bracket for Mekano® 50-2 and 50-2T Channels. Also for piping installations when combined with Triangle Channel with square holes. Available in three lengths. Note: 125 mm length is not suitable for NORSOK painting regulations.



Type Description	SS	SS (kg)	CS	CS (kg)
S-M WB-125-CH50-2	82211	0,50	82210	0,50
S-M WB-200-CH50-2	1371698	1,0	1302514	0,90
S-M WB-300-CH50-2	1371699	1,5	1302599	1,5

Welded L-Bracket 50 with doubling plate

Welded Starter Bracket for Mekano® 50-2 and 50-2T Channels with doubling plate. Also for piping installations when combined with Triangle Channel with square holes.



Type Description	SS	SS (kg)
S-M WB-PL-CH50-2	58822	1,7

Welded L-Bracket 50/100

Welded Starter Bracket for multiple applications. Suitable for Mekano® 50-2T and 100-2T Channels. Also for piping installations when combined with Triangle Channel with square holes. Available in three lengths.



Type Description	SS	SS (kg)
S-M WB-140-CH50-T/CH100-T	1301566	0,90
S-M WB-200-CH50-T/CH100-T	1301567	1,4
S-M WB-300-CH50-T/CH100-T	1301568	2,1

Welded L-Bracket 50/100 Partly Galv

Welded Starter Bracket for multiple applications. Suitable for Mekano® 50-2T and 100-2T Channels. Also for piping installations when combined with Triangle Channel with square holes. Available in three lengths. With approximately 40 mm without zinc for safe welding to structure before cleaning and painting. Masking sleeves are available to suit.

Type Description	CS Partly Galvanised	CS Partly Galvanised (kg)
S-M WB-140-CH50-T/CH100-T	1301593	0,80
S-M WB-200-CH50-T/CH100-T	1301594	1,5
S-M WB-300-CH50-T/CH100-T	1301595	2,2



Welded Flat Bracket 100

Welded Starter Bracket for EI&T and HVAC. Suitable for CH100-1 channel. Available in three lengths. Note: 125 mm length is not suitable for NORSOK painting regulations.

Type Description	SS	SS (kg)	CS	AL
S-M WB-125-CH100-1	1371691	0,50	1302507	
S-M WB-200-CH100-1	1371692	0,80	1302508	77965
S-M WB-300-CH100-1	1371693	1,2	1302509	



Welded C-Bracket 100-2T

Welded Starter Bracket for Mekano® 100-2T Channels. Suitable for EI&T and HVAC. Available in two lengths. With hole for safety line.

Type Description	SS	SS (kg)	CS	CS (kg)
S-M WB-200-CH100-2T	1301024	1,6	88919	1,6
S-M WB-300-CH100-2T	1301061	2,5		-



Welded C-Bracket 100-2T3

Welded Starter Bracket for Mekano® 100-2T3 Channels with square holes. Can also be used for CH100-2T2.

Type Description	SS	SS (kg)
S-M WB-300-CH100-2T3	1302061	2,3



Welded U-Bracket 100-4

Welded Starter for extra heavy load and piping applications.

Type Description	SS	SS (kg)	CS	CS (kg)
S-M WB-240-CH100-4	1372601	3,0	1372606	2,9



Welded U-Bracket 100-4 Plate

Welded Starter Bracket for extra heavy load and piping applications. With top plate, 200x200x8 mm.

Type Description	SS	SS (kg)
S-M WB-PL-CH100-4	1372552	5,5



Welded C-Bracket 125-2T5

Welded Starter Bracket for Mekano® 125-2T5 Channels with square holes.

Type Description	SS	SS (kg)	CS Partly Galvanised	CS Partly Galvanised (kg)
S-M WB-300-CH125-2T5	1306897	3,3	1300085	3,5



Doubling Plates

Doubling Plates for Welding

Doubling plates for welding to structure for attaching welded starter brackets.

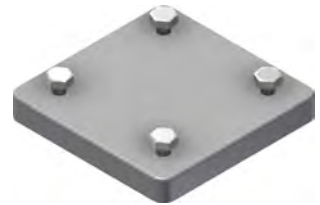
Type Description	SS	SS (kg)
OS PL-100x20	74345	1,6
OS PL-150x20	74346	3,6
OS PL-200x20	74347	6,4



Doubling Plates for Bolting

Doubling plates for welding to structure for attaching bolted starter brackets. Bolts supplied are for masking/protecting the threads during construction only.

Type Description	SS	SS (kg)
OS PL-150x20 CC100-M10	79981	3,6
OS PL-200x20 CC125-M10	55276	6,5
OS PL-200x20 CC150-M10	79558	6,5
OS PL-250x20 CC200-M10	79559	10,1
OS PL-300x20 CC250-M12	79560	14,5
OS PL-250x20-CC200-M10 CFS-T-50	91835	-

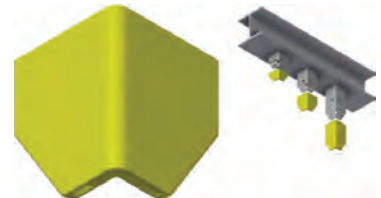


Mekano® L Bracket Sleeves

Mekano® L Bracket Sleeves

Sleeves for Mekano L-bracket 50/100 offering high visibility protection and also for masking during sandblasting.

Type Description	Yellow Plastic	Yellow Plastic (kg)
A-EP-WB-140	1300027	0,090
A-EP-WB-200	1300028	0,20
A-EP-WB-300	1300029	0,30



Welded Starter Brackets for Stringer

Welded L-Bracket 50 Stringer

Angled Welded Starter Bracket for welding to stringer. Can be combined with Mekano® 50-2, and 50-2T Channels. Also for piping installations when combined with Triangle Channel with square holes.

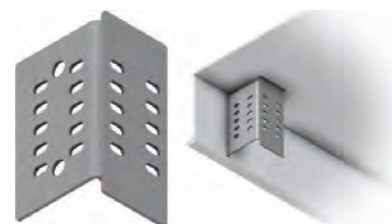
Type Description	SS	SS (kg)	CS	CS (kg)
S-M WB-ST-200-CH50-2	84283	0,90	84287	0,90



Welded L-Bracket 100-2T Stringer

Welded Starter Bracket for welding to stringer. For Mekano® CH100-2T channels. Can be combined with Mekano® 50-2 and 50-2T Channels. Also used for piping installations when combined with Triangle Channel with square holes.

Type Description	SS	SS (kg)
S-M WB-ST-220-CH100-2T	1301073	1,2



Welded Starter Brackets for Cantilever

Welded L-Bracket 100-2T Cantilever

Welded Starter Bracket for Mekano® 100-2T Channels. Fits inside channel. Also for piping installations when combined with Triangle Channel with square holes.

Type Description	SS	SS (kg)
S-M WB-IN-225-CH100-2T	1301059	1,4



Welded L-Bracket 100-2T Cantilever with doubling plate

Welded Starter Bracket for Mekano® 100-2T Channels with doubling plate. Fits inside channel. Also for piping installations when combined with Triangle Channel with square holes.

Type Description	SS	SS (kg)
S-M WB-PL-CH100-2T	58821	2,8



Bolted Starter Brackets

Bolted L-Bracket 50 Twin Fix

Bolted Starter for Mekano® 50-2T with two fixing holes.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-M BS-125-CH50-2T	1303396	0,50	1303397	0,60



Bolted Inline Starter 50

Starter Bracket for Mekano® CH50-2T for use with Concrete Insert Rail, UNO Cantilevers or fixing directly to structure.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-M BS-CH50-2	80133	0,50	80134	0,60



Bolted Flexi Starter 50

Bolted support bracket which can also be used as a starter. Flexible design with 360° rotation. Suitable for CH50-2T channels.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-M BS-360-CH50-2	87051	1,5	87052	1,6



Bolted Z-Bracket 100

Bolted Starter for Mekano® 100-1 and 100-2T. FoS compatible.

Type Description	Fasteners included	SS	SS (kg)	HDG
S-M BS-CH100-1	2×M10	1371707	1,2	1302487



Bolted L-Bracket 50

Bolted Starter for Mekano® 50-2T with three fixing holes. FoS compatible.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-M BS-125-CH50-2T-3	1306907	0,70	1306904	0,80



Bolted L-Bracket 100-2T

Bolted Starter for Mekano® 100-2T with three fixing holes. Available in 3 or 5 mm material thickness.

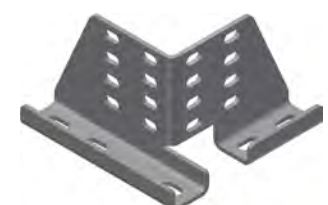
Type Description	SS	SS (kg)	HDG	HDG (kg)
S-M BS-CH100-2T 125-3	1306908	1,3	1306905	1,2
S-M BS-CH100-2T 130-5	1306909	1,8	1306906	1,9



Bolted L-Bracket 100-2T FoS

Bolted bracket for Mekano® Channels up to CH100-2T. FoS compatible.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-M BS-CH100-2T 130-5	84308	1,9	84309	1,9



Bolted C-Bracket 100-2T

Bolted Starter Bracket for Mekano® 100-2T Channels. Suitable for EI&T and HVAC. Available in two lengths. With hole for safety line.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-M BS-200-CH100-2T	1371425	4,3	1371426	4,4
S-M BS-300-CH100-2T	1371427	5,1	1371428	5,4



Bolted C-Bracket 100-2T3

Bolted Starter Bracket for Mekano® 100-2T3 Channels. Suitable for heavy load and piping applications. Can also be used with 100-2T for EI&T and HVAC applications.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-M BS-300-CH100-2T3	1303358	-	1303359	5,2



Bolted U-Brackets 100-4

Bolted Starter Bracket for Mekano® 100-4 Channels. Suitable for heavy load and piping applications. With 8 mm plate in three different dimensions: A. 200x200 mm, B. 150x200 mm, C. 120x200 mm.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-M BS-CH100-4-A	1372550	5,5	1372603	5,9
S-M BS-CH100-4-B	1372555	4,9	1372554	5,2
S-M BS-CH100-4-C	1372523	4,5	1372522	4,8



Bolted C-Bracket 125-2T5

Bolted Starter Bracket for Mekano® 125-2T5 Channels. Suitable for heavy load and piping applications.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-M BS-300-CH125-2T5	1306896	8,4	1300756	8,8



Doubling Plates Threaded

Doubling plates for welding to structure for attaching bolted starter brackets. Bolts are supplied only for protecting the plates threaded holes during construction.

Type Description	Fasteners included	SS	SS (kg)
OS PL-150x20 CC100-M10	-	79981	3,6
OS PL-200x20 CC150-M10	-	79558	6,5
OS PL-250x20 CC200-M10	-	79559	10,1
OS PL-300x20 CC250-M12	-	79560	14,5



Beam Clamps

Simple Beam Clamp

Beam Clamp with tapered bolt for direct fixing to beam flanges. For up to 25 and 35 mm thick flanges.

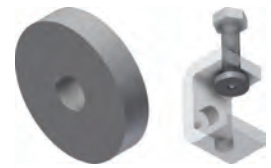
Type Description	SS	SS (kg)
S-M BC-U-25/6	1371801	0,20
S-M BC-U-25/10	1371802	0,20
S-M BC-U-35/10	1371803	0,20



Pressure Distribution Plate

Pressure Distribution Plate for use with tapered bolts. Prevents damage to paintwork.

Type Description	SS	SS (kg)
S-M BC-U-PP	1371804	0,010



H-Beam Clamp 50

Pair of Beam Clamps for use with traverse beams. Two types of traverse beam are available, BC-160 for flange width 88 - 160 mm and BC-300 for flange width 102 - 300 mm. Suitable for flange thickness up to 14 mm.

Beam clamps can also be used with Mekano® 50-1, 50-2, 50-2T and 100-1 channels.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-M BC-FC	85197	0,40	85196	0,40
S-M BC-160	85622	1,2	85621	1,2
S-M BC-300	85624	1,7	85623	1,8

2 Locking Bolt set(s) M10x50 included



H-Beam Clamp 100

Pair of Beam Clamps for use with a traverse beam. The traverse beam is suitable for flange width 100 to 350 mm and up to 30 mm thick. Beam Clamps can also be used together with Mekano® 100-2T & 100-3 channels. Angle Brackets can be used to reinforce connections.

Type Description	Fasteners included	SS	SS (kg)	HDG
S-M BC-CH100-3	4xM10	1372491	3,0	1372490
S-M BT-CH100-3	-	1372495	3,5	1372494
S-M MG-CA	-	1372497	0,080	80926



H-Beam Clamp 100-4

Heavy duty Beam Clamp for Mekano® Channel 100-4. Fits all sizes from HE240A/B to HE1000A/B and similar beams with 240 to 300 mm flange width.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-M BC-MS-CH100-4-A	1372520	15,8	1372519	16,9



Stringer Clamp

Bolted Clamp Bracket for stringer. For light loads.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-M BC-ST-HD	86877	0,30	86889	0,30



Stringer Clamp 100

Bolted Clamp Bracket for stringer. For medium loads. Use minimum two in combination for stability.

Type Description	SS	SS (kg)
S-M BC-ST-HD	86887	2,4



MultiGrid® Light Starter Brackets

Welded MultiGrid® Light L-Bracket 50/100

MultiGrid® Light Welded Starter Bracket for Mekano® 50-2T and 100-2T Channels. Should be prepared for paint on-site to be in accordance with NORSOK M501.

Type Description	SS	SS (kg)	AL	AL (kg)
S-M WB 100x50x50	60028	0,40	91201	0,40



Welded MultiGrid® Light Bracket 50/100

MultiGrid® Light Welded Starter Bracket for Mekano® 50-2T and 100-2T Channels. Should be prepared for paint on-site to be in accordance with NORSOK M501.

Type Description	SS	SS (kg)
S-M WB 100x90x30	60027	0,40



Bolted MultiGrid® Light Bracket 50

MultiGrid® Light Bolted Starter Bracket for Mekano® 50-2T Channels. In accordance with NORSOK M501. FoS compatible.

Type Description	SS	SS (kg)	HDG	ZM
S-M BS-100x60	91253	0,90	59999	91428



Doubling Plate MultiGrid® Light 50/100

MultiGrid® Light doubling plates / starter brackets for welding to the structure for Mekano® 50-2T and 100-2T channels. With anti-vibration threads.

Type Description	SS	SS (kg)
OS PL-Ø75x20 CC50 M10	60029	0,70

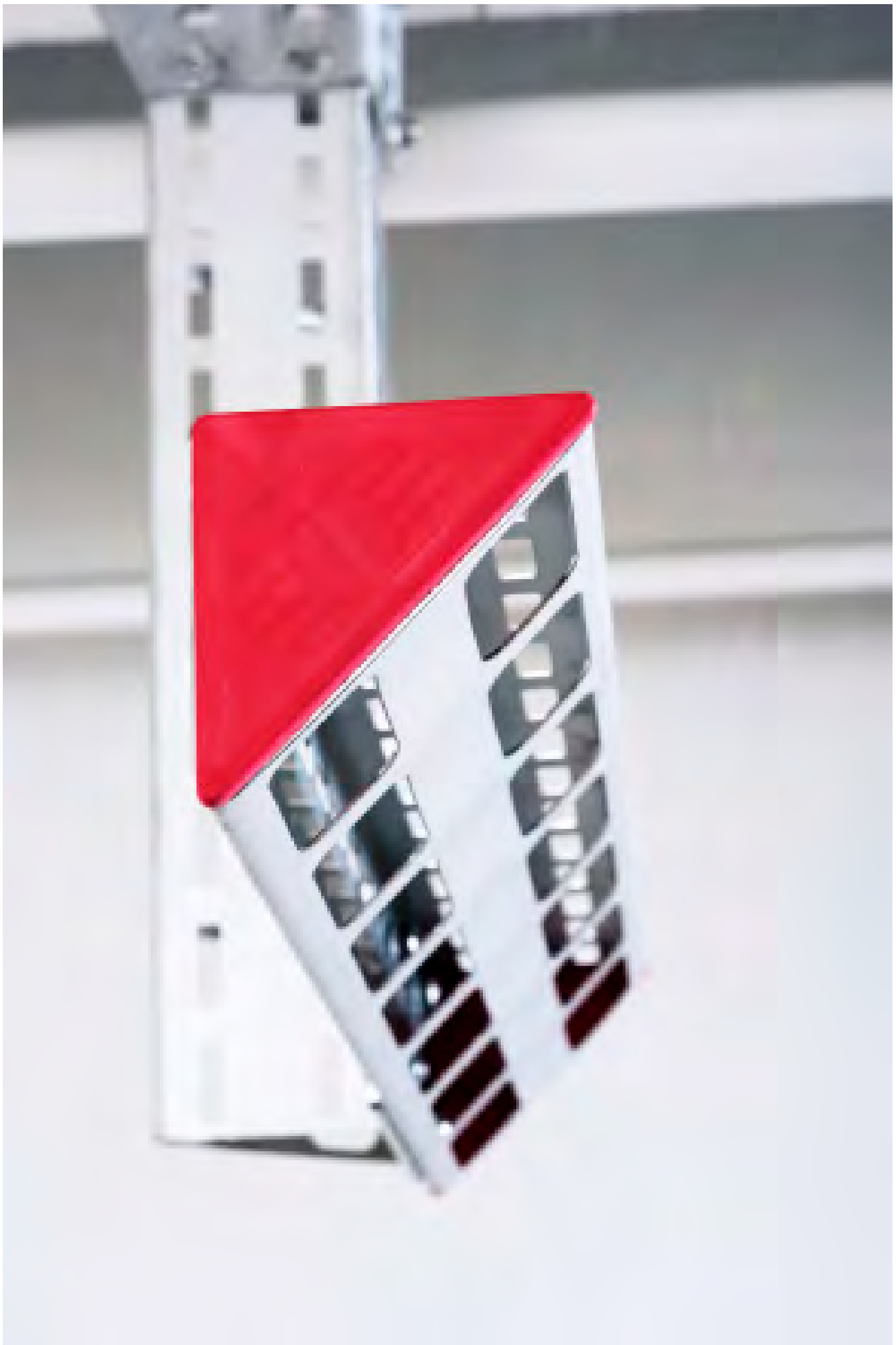


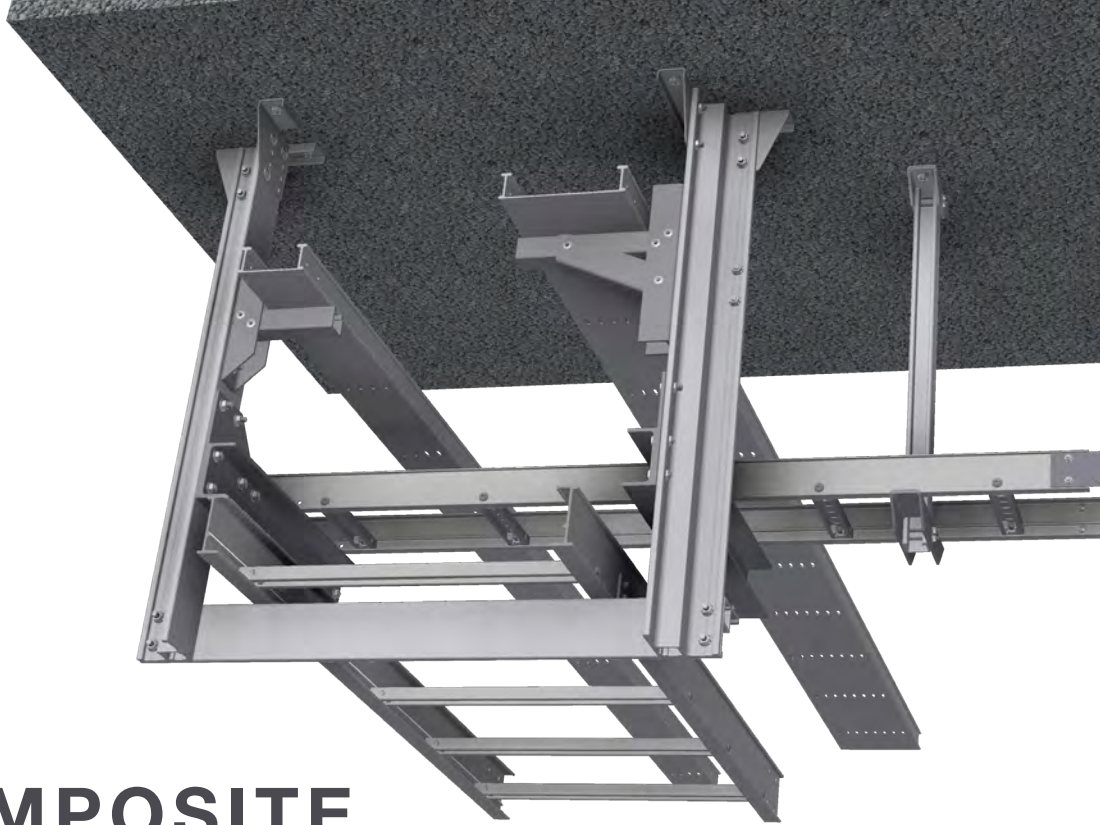
MultiGrid® Light Wall Bracket 50

MultiGrid® Light Welded Starter Bracket for Mekano® 50-2T Channels. In accordance with NORSOK M501.

Type Description	SS	SS (kg)
S-M WB-BW	71230	0,50
S-M WB-AW	71229	0,60





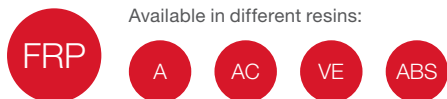


FRP COMPOSITE SUPPORT SYSTEM

Oglaend System corrosion resistant glass fibre reinforced plastic (FRP/GRP) support channels are designed to deliver weight reductions while maintaining strength and maximizing loading capability. The design delivers HSE advantages when lifting and fitting Tray and Support equipment. The support channels are available in four different resins materials, each formulated to satisfy special project requirements. A wide range of practical, smart and innovative accessories are also available to complement the system

MATERIALS

Available in different resins:



Article numbers are for standard FRP polyester resin. For alternative resin types, add the resin code as a suffix to the article number. For more information on resin systems, please see the materials section or refer to our website.

3D LIBRARIES

AVEVA (E3D / PDMS)
Hexagon (Intergraph Smart 3D)
Bentley

FRP SUPPORT CHANNELS



CH42

Size: 42 x 24 x 5 mm



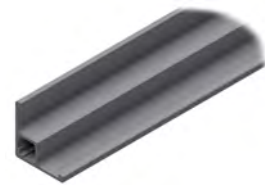
CH53

Size: 53 x 55 x 5 mm



CH100

Size: 100 x 50 x 6 mm



CH100S

Size: 100 x 100 x 5 mm

FRP UNO CHANNELS



U-42 Single

Size: 42 x 42 x 3 mm



U-43 Single

Size: 43 x 43 x 4 mm



U-43 Double

Size: 43 x 86 x 4 mm

FRP support sections are available in a range of profiles and designs, and are available with a wide range of standard and specialised accessories in all FRP, and AISI 316L Stainless Steel to suit many applications.

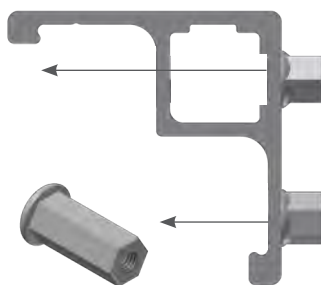
FRP SUPPORT CHANNEL

Oglaend System are proud to present our unique, Patent Pending FRP support channel for heavy loads, the Triangular FRP channel.

The Triangular FRP channel has been specially designed to maximise modern material and manufacturing technology for glass fibre reinforced plastics. This channel complements and develops upon our well established range of Mekano® Triangular section support profiles currently available in Stainless Steel and HDG materials.

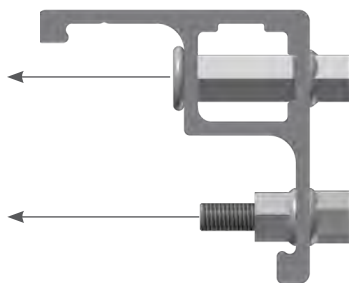
Reinforced woven fibre fabrics are layered in the section which provide excellent resistance to bolt shear-out and offer superior tensile strength.

The closed profile box-section combined with the wide flanges provide excellent torsional resistance, and offer generous surface areas for attaching equipment quickly, easily and securely.



The slots in the channels are used to positively locate our FRP Sleeve Nuts, to prevent the sleeves from turning during tightening. This allows installers to use just one hand and one tool to attach sections and equipment which not only saves time and eases logistics, but also delivers improved H&S conditions.

Equipment and other sections can be attached using the sleeve-nut system either through the box-section, the flanges, or a combination of both.



Support-Multidiscipline Length

S-M WB 200 CH100-2T

Welded Starter Bracket Fits channel

CH = Channel
WB = Welded Starter Bracket
BC = Beam Clamp
BS = Bolted Starter Bracket

TABLE OF CONTENTS

FRP Channel Selector	48
FRP Starter Bracket Summary	49

FRP Channels

FRP Support Channels	50
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FRP Starter Brackets & Accessories

Welded Starter Brackets for FRP	51
Bolted Starter Brackets for FRP	51
Beam Clamps for FRP	52
FRP Support Channel Accessories	52

FRP UNO Channels & Accessories

FRP UNO Channels	53
FRP UNO Accessories	54

FRP Miscellaneous & Fasteners

FRP Ceiling and Wall Support	57
FRP UNO Fasteners	58



Intellectual Property Rights

Please note that many of the products presented in this catalogue are protected by our intellectual property rights in the form of patents, registered designs and trademarks, and that we have made the strategic decision to police and enforce these rights in all relevant jurisdictions.

FRP Channel Selector

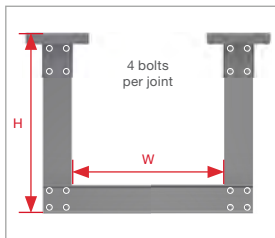
FRP SUPPORT CHANNELS FOR EI&T AND HVAC

Fibreglass channels CH100 and CH100S 1-6 are ideally suited for EI&T and HVAC disciplines and offer full adjustability when fitted as part of the Oglaend MultiGrid® System. FRP is safe and easy to cut and no hot work is involved. We also offer convenient drill jigs to increase the accuracy of drilling the connection perforations required. The channel is manufactured using a unique 3-axis mat fiber which delivers good resistance against 'tearing' in all directions. Our Best Practice recommendation is to use SS bolt sets with FRP supports.

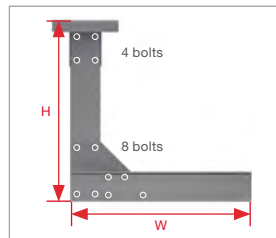
TYPICAL SUPPORT CONFIGURATIONS

FRP CHANNEL CH100S

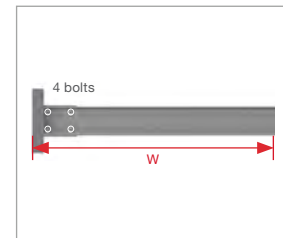
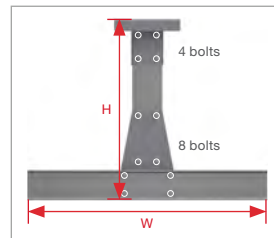
Art. no.: 71322



U-frame: Fitted back to back.



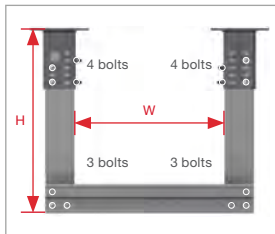
L- and T-frame: Fitted back to back with gusset plate. Use gusset plate as drill jig for connection.



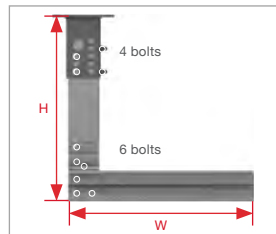
Cantilever: 4 bolt connection.

FRP CHANNEL CH100

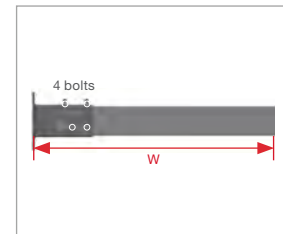
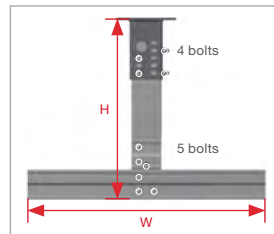
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U-frame: Fitted back to back.



L- and T-frame: Fitted back to back with connection piece.



Cantilever: Starter bracket can be used as drill jig.

LOAD DATA

The data is based on testing generally according to IEC 61537 "Cable management – Cable Tray systems and Cable Ladder systems". The safe working load (SWL) includes a safety factor of 3.0. Loadings are according to specification from IEC 61537.

Support Configuration	Width (mm)	Height (mm)	CH100 SWL (kg)	CH100S SWL (kg)
 U-frame	1000	1000	1100	1000
	1500	1000	-	900
	1950	1000	766	733
 L-frame	700	600	130	50
	900	975	80	-
 T-frame*	1150	1000	766	566
	1600	975	450	-
 Cantilever	650		160	-
	700		-	180
	850		100	-
	900		-	133

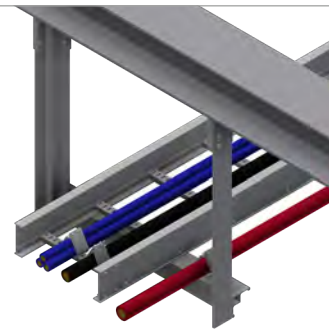
*Loads based on equal loading on both sides, total load on frame given above.

FRP Starter Bracket Summary

U-frame support with FRP Support Channel CH100. Fixed to beam with Beam Clamp Starter Bracket.



U-frame support with FRP Support Channel CH100S. Fixed to beam with welded or bolted C-Starter Bracket.



STARTER BRACKETS FOR CHANNEL CH100

For single or back to back CH100 (art no.: 74991).

HOT WORK



Welded Starter S-FRP FC-BC

Art. no.: 73636C

S-M WB-200-CH50-T/CH100-T SS

Art. no.: 1301567

COLD WORK



S-FRP FC-BC (Beam C)

Art. no.: 73634

Fits beam widths 200-300 mm.

COLD WORK



Bolted Starter Bracket S-FRP FC-BS

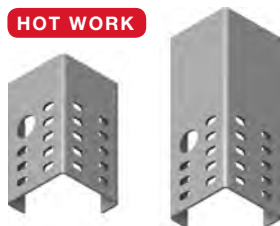
Art. no.: 73636

Bolted Starter S-M BS-CH100-1 SS

Art. no.: 1371707

STARTER BRACKETS FOR CHANNEL CH100S

HOT WORK



SB-CH100-2T 200 and 300

Art. no.: 1301024 and 1302061

Welded starter is supplied complete with brackets and bolt set. Available in 200 and 300 mm lengths. 300 mm suitable for L-frame and 200 mm suitable for U-frame.



S-M WB-200-CH50-T/CH100-T SS

Art. no.: 1301567

COLD WORK



S-M BS-CH100-2T

Art. no.: 1306908 - 3 mm thickness

Art. no.: 1306909 - 5 mm thickness

Art. no.: 84308 - 5 mm thickness (FoS)

Bolted starter bracket with 3 fixing holes. Suitable for U-frame. A version with 5 fixing holes is also available. Adapted to use Hilti fastening on steel. This bracket can be fitted with X-BT HL threaded stud to provide a post-paint solution to add support.

COLD WORK



SB-CH100-2T 200 and 300

Art. no.: 1371425 and 1303358

Bolted Starter, supplied with complete brackets and bolt set. For triangular channel. Available in 200 and 300 mm lengths. 300 mm suitable for L-frame. 200 mm suitable for U-frame.

FRP Support Channels

FRP Support Channel CH42

FRP Support Profile. Size: 42 x 24 x 5 mm, 6 m length.

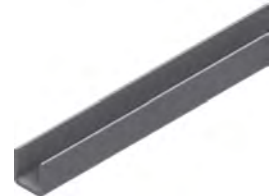
Type Description	FRP	FRP (kg)
S-M FRP CH42-1-6	73632	0,80



FRP Support Channel CH53

FRP Support Profile. Size: 53 x 55 x 5 mm, 6 m length.

Type Description	FRP	FRP (kg)
S-M FRP CH53 1-6	73642	1,6



FRP Support Channel CH100

FRP Support Profile. Size: 100 x 50 x 6 mm, 6 m length.

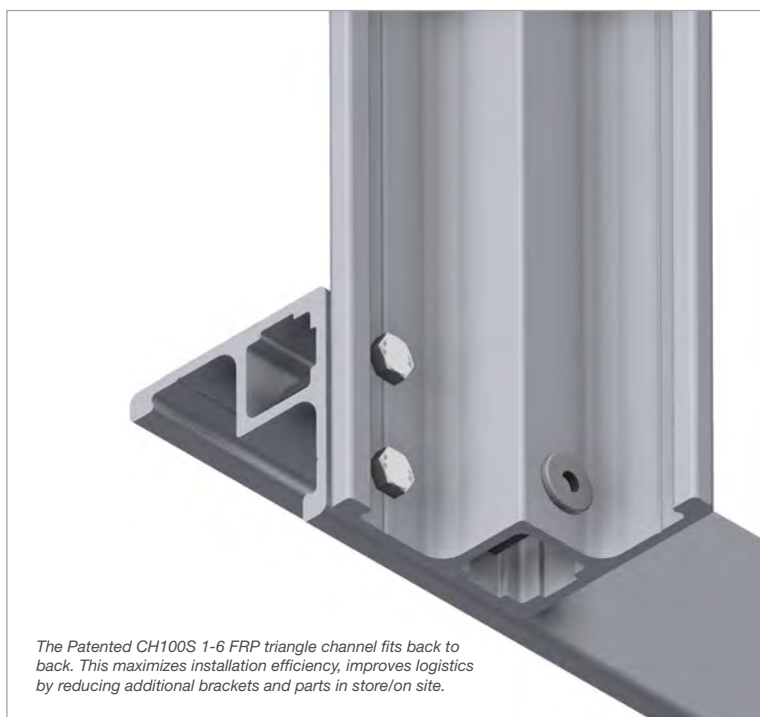
Type Description	FRP	FRP (kg)
S-M FRP CH100 1-6	74991	2,2



FRP Support Channel CH100-2T

FRP Support Profile. Size: 100 x 100 x 5 mm, 6 m length.
Patented Design.

Type Description	FRP	FRP (kg)
S-M FRP CH100S 1-6	71322	3,1



Welded Starter Brackets for FRP

Welded C-Bracket

Welded C-Bracket for use with FRP channel CH100S-1.
Available in two lengths with hole for safety line.

Type Description	Fasteners included	SS	SS (kg)
S-M WB-200-CH100-2T	-	1301024	1,6
S-M WB-300-CH100-2T	-	1301061	2,5



Welded Z-Bracket for FRP Channel

Welded starter bracket for use with support channels CH42-1, CH43-1 and CH100-1.

Type Description	Fasteners included	SS	SS (kg)
S-FRP FC-WB	-	73636C	0,80



Bolted Starter Brackets for FRP

Bolted Z-Starter for FRP Channel

Bolted starter bracket for use with support channels CH42-1, CH43-1 and CH100-1.

Type Description	Fasteners included	SS	SS (kg)
S-FRP FC-BS	-	73636	2,2



Bolted C-Starter Bracket for FRP Channel

Bolted starter bracket for use with FRP Support channel CH100S-1.

Type Description	Fasteners included	SS	SS (kg)
S-M BS-200-CH100-2T	-	1371425	4,3
S-M BS-300-CH100-2T3	-	1303358	-



Bolted L-Starter for FRP Channel

Bolted Starter Brackets suitable for FRP triangular channel. In 3 or 5 mm thickness.

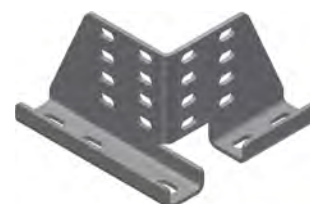
Type Description	Fasteners included	SS	SS (kg)
S-M BS-CH100-2T 125-3	-	1306908	1,3
S-M BS-CH100-2T 130-5	-	1306909	1,8



Bolted L-Starter for FRP Channel FoS

Bolted Starter Bracket in 5 mm thickness suitable for FRP triangular channel. This bracket can be fitted with Hilti X-BT HL threaded stud to provide a post-paint solution to add support. FoS compatible.

Type Description	SS	SS (kg)
S-M BS-CH100-2T 130-5	84308	1,9



Beam Clamps for FRP

Beam Clamps for FRP

Starter Bracket suitable for use with beams 200-300 mm wide.

Type Description	Fasteners included	SS	SS (kg)
S-FRP FC-BC	4xM10	73634	-



FRP Support Channel Accessories

CH100 Spacer

Spacer Plate for double channel supports.

Type Description	Fasteners included	FRP	FRP (kg)
S-FRP SH-100x50	1xM10	74996	0,060



CH100 Gusset Plate

Gusset Plate for reinforcement of support joints.

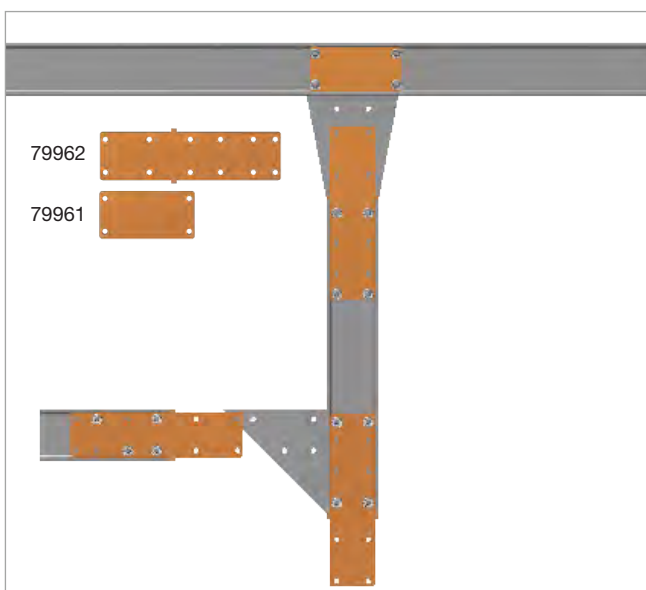
Type Description	Fasteners included	FRP	FRP (kg)
S-FRP GP-T	8xM10	79970	0,50
S-FRP GP-L	8xM10	79969	0,80



CH100 Smart Jig

Smart Drilling Jig for quick and easy on-site drilling of support profiles.

Type Description	SS	SS (kg)
DJ-BA-80x160	79959	0,20
DJ-GP-T-80x200	79961	0,20
DJ-GP-L-80x400	79962	0,50
DJ-CH100S-2T-FRP	87050	0,30



FRP UNO Channels

U-42 Single

FRP Support Profile. Size: 42 x 42 x 3 mm, 6 m length.

Type Description	FRP	FRP (kg)
S-M UNO CH42-1-U-6	74480	5,4



U-43 Single

FRP Support Profile. Size: 43 x 43 x 4 mm, 6 m length.

Type Description	FRP	FRP (kg)
S-M UNO CH43-1-U-6	71371	1,1



U-43 Double

FRP Support Profile. Size: 43 x 86 x 4 mm, 6 m length.

Type Description	FRP	FRP (kg)
S-M UNO CH43-2-U-6	71669	2,1



FRP UNO Accessories

Square Plate Washer

Square washer for fitting over UNO profiles for attaching bolts or threaded rod.

Type Description	FRP	FRP (kg)
UNO WA-M6	71306	0,030
UNO WA-M10	71307	0,030



2 Hole Flat Bracket

Two hole flat bracket for connecting UNO sections together.

Type Description	FRP	FRP (kg)
UNO SC-2	71296	0,050



3 Hole Flat Bracket

Three hole flat bracket for connecting UNO sections together.

Type Description	FRP	FRP (kg)
UNO SC-3	71302	0,080



4 Hole Flat Bracket

Four hole flat bracket for connecting UNO sections together.

Type Description	FRP	FRP (kg)
UNO SC-4	71301	0,10



1+1 Hole Angle Bracket

Angle bracket for connecting UNO sections together. 1 + 1 holes.

Type Description	FRP	FRP (kg)
UNO SA-HO 1x1 P	71303	0,060



1+2 Hole Angle Bracket

Angle bracket for connecting UNO sections together. 1 + 2 holes.

Type Description	FRP	FRP (kg)
UNO SA-HO 1x2 P	71304	0,080



2+2 Hole Angle Bracket

Angle bracket for connecting UNO sections together. 2 + 2 holes.

Type Description	FRP	FRP (kg)
UNO SA-HO 2x2 S	71308	0,10



2+2 Hole Wide Angle Bracket

Wide angle bracket for connecting UNO sections together. 2 + 2 holes.

Type Description	FRP	FRP (kg)
UNO SA-HO 2x2 P	71810	0,10



3+3 Hole Wide Angle Bracket

Wide angle bracket for connecting UNO sections together. 3 + 3 holes.

Type Description	FRP	FRP (kg)
UNO SA-HO 3x3 P	71805	0,20



4+4 Hole Wide Angle Bracket

Wide angle bracket for connecting UNO sections together. 4 + 4 holes.

Type Description	FRP	FRP (kg)
UNO SA-HO 4x4 P-O	71804	0,30



Cross Bracket

Cross bracket for connecting UNO sections together.

Type Description	FRP	FRP (kg)
UNO GP-C-6	71300	0,20



Flat L-Bracket

Flat L-shaped UNO bracket for connecting UNO sections together. 3 holes.

Type Description	FRP	FRP (kg)
UNO GP-L-3	71298	0,090



3 Hole Flat T-Bracket

Flat T-shaped UNO bracket for connecting UNO sections together. 3 holes.

Type Description	FRP	FRP (kg)
UNO GP-T-3	71297	0,090



4 Hole Flat T-Bracket

Flat T-shaped UNO bracket for connecting UNO sections together. 4 holes.

Type Description	FRP	FRP (kg)
UNO GP-T-4	71299	0,10



Flat T-Bracket 60°

Flat T-shaped 60° angle UNO bracket for connecting UNO sections together. 3 + 2 holes.

Type Description	FRP	FRP (kg)
UNO SA-VE 60	71803	0,20



Flat T-Bracket 45°

Flat T-shaped 45° angle UNO bracket for connecting UNO sections together. 2 + 2 holes.

Type Description	FRP	FRP (kg)
UNO SA-VE 45	71802	0,10



Flat T-Bracket 30°

Flat T-shaped 30° angle UNO bracket for connecting UNO sections together. 2 + 2 holes.

Type Description	FRP	FRP (kg)
UNO SA-VE 30	71801	0,10



1+1 Hole Obtuse Angle Bracket 45°

Obtuse angle bracket with 45° angle for connecting UNO sections together. 1 + 1 holes.

Type Description	SS	SS (kg)
UNO SA-45 1x1	71808	0,040



2+2 Hole Obtuse Angle Bracket 45°

Obtuse angle bracket with 45° angle for connecting UNO sections together. 2 + 2 holes.

Type Description	SS	SS (kg)
UNO SA-45 2x2	71807	0,090



6+2 Hole Angle T-Bracket

T-bracket for connecting UNO sections together. 6 + 2 holes.

Type Description	FRP	FRP (kg)
UNO SA-HO 6x2 T	71806	0,40



2+2 Hole Angle T-Bracket

T-bracket for connecting UNO sections together. 2 + 2 holes.

Type Description	FRP	FRP (kg)
UNO SA-HO 2x2 T	71305	0,10



3+2 Hole Angle T-Bracket

T-bracket for connecting UNO sections together. 3 + 2 holes.

Type Description	FRP	FRP (kg)
UNO SA-HO 3x2 T	71309	0,20



FRP Ceiling and Wall Support

Central Support

Complete Central FRP Support for equally distributed loads.

Type Description	FRP	FRP (kg)
S-FRP CS-500-150	71440	1,1
S-FRP CS-500-200	71441	1,1
S-FRP CS-500-300	71442	1,3
S-FRP CS-500-400	71443	1,5
S-FRP CS-500-500	71445	1,6
S-FRP CS-500-600	71446	1,8



Heavy duty Cantilever Arm

Heavy Duty FRP Cantilever Arm Support. Cable Ladder should be fixed to support on inside of profile.

Type Description	FRP	FRP (kg)
FRP CA-HD-100	70448	1,0
FRP CA-HD-150	70449	1,1
FRP CA-HD-200	70450	1,2
FRP CA-HD-300	70271	1,5
FRP CA-HD-450	70272	1,9
FRP CA-HD-600	70273	2,1
FRP CA-HD-750	70274	2,3
FRP CA-HD-900	71553	2,5



Light duty Cantilever Arm

Light Duty FRP Cantilever Arm Support. Cable Tray / Ladder should be fixed to support on inside of profile.

Type Description	FRP	FRP (kg)
FRP CA-LD-50	71477	0,50
FRP CA-LD-100	71478	0,50
FRP CA-LD-150	71479	0,60
FRP CA-LD-200	71480	0,60
FRP CA-LD-300	71481	0,70
FRP CA-LD-400	71482	0,80



Threaded Rod

Threaded Rod. M10 size.

Type Description	FRP	FRP (kg)
S-FRP TR-M10-1500	71364	0,20
S-FRP TR-M10-3000	71315	0,40



FRP UNO Fasteners

FRP UNO Bolts

FRP bolts suitable for use with UNO FRP channel nuts.

Type Description	FRP	FRP (kg)
S-M HE-E-M10x40	75253	0,010



FRP UNO Channel nuts

UNO Channel Nut. M10 size.

Type Description	FRP	FRP (kg)
S-UNO NU-M10	71551	0,010
S-UNO NU-S-M10	72026	0,020





DIRECT FASTENING ON STEEL (FoS)



Post-paint modification opportunities

Introducing our new cold work capability specifically for quick installation post paint for up to C5 environments, achieved by combining the best of Hilti Fastening on Steel (FoS) products and Oglænd System technology.

Hilti S-BT threaded screw stud and X-BT HL threaded blunt tip stud

corrosion resistant stud systems are designed for direct fastening to steel structures with painted surfaces. These are especially suitable for late-stage modification and in-situ support for multi-discipline applications. S-BT is a fully cold work solution giving the ultimate of flexibility for infield application. Both X-BT and S-BT eliminate the need for grinding, welding and repainting the structure, and are

quickly and easily installed with fully portable cordless tools.

We recommend stainless steel solutions for highly corrosive C5 environments where as ZM (Zinc-aluminium-magnesium) coatings are well suited for C3 & C4 environments. Hot-dip galvanized option (HDG) is most commonly used for mildly corrosive C3 environments.

CERTIFICATES

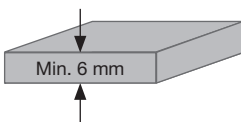


HILTI S-BT AND X-BT HL BOLT SYSTEM



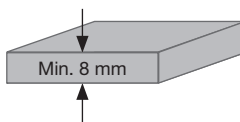
S-BT

Hilti S-BT bolts for minimum 6 mm base material.



X-BT High Load

Hilti X-BT bolts for minimum 8 mm base material.



Spacer

3 mm Sleeve SS for X-BT HL and S-BT applications.

Spacers can be used when fastening applications with M10 studs where the fixing holes are 11-12 mm. For example Mekano® CH50-2T1.5 channel.

BRACKETS FOR FASTENING ON STEEL

A selected range of our products are showcased here in combination with our Hilti direct fastening on steel solutions, offering our customers the ultimate combination of flexibility, strength, corrosion resistance and convenience.



ELECTRICAL CONNECTIONS

Our S-BT bonding system has solutions for equalizing potentials between fittings and equipment, for preventing static build-up and for discharging short circuit events. Please contact us for specifications and a demonstration of the solutions.



GRATING SYSTEM

Direct fastening solutions for installing gratings on steel structures.



TABLE OF CONTENTS

S-BT & X-BT Overview	62
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Multipurpose Fastening

Multipurpose Fastening (MPF)	63
Tools for S-BT	64
Tools for X-BT	66
Tools Accessories.....	68
Featured post-paint modification products	69
Tubing Clamp Applications	71
Threaded Studs for Multipurpose fastening	72
X-BT tool accessories for Multipurpose Fastening	73
S-BT tool accessories for Multipurpose Fastening	73

Grating

Grating (GRA).....	74
Threaded stud for Grating Fastening	75
Grating Fasteners	76
X-BT tool accessories for Grating Fastening	77
S-BT tool accessories for Grating Fastening.....	77

Electrical Connections

Electrical Connections (Earthing)	78
S-BT Threaded stud for Electrical connections ...	79
S-BT Threaded stud for High Current Electrical connections	80
Earth Link Jumpers.....	80
S-BT tool accessories for Electrical Connections	81
M10 Socket for for Electrical connections	81

Øglænd System is a group company of Hilti. All Hilti products featured in this catalogue are available globally from your regional Hilti sales organisation. For our valued customers in Norway, these products are also available directly from Øglænd System AS.

Installation Guideline

Scan QR code with a mobile device to see installation guidelines.

S-BT



X-BT



S-BT & X-BT Overview



S-BT SYSTEM OVERVIEW

Application	Type description	SS Art. no.	Type description	HDG Art. no.
Multipurpose fastening	S-BT-MR M10/15 SN 6 OGL	2205156	S-BT-MF M10/15 AN 6	2140528
Grating fastening	S-BT-GR M8/7 SN 6	2140529	S-BT-GF M8/7 AN 6	2140527
Electrical connections	S-BT-ER M10/15 SN 6	2186203	S-BT-EF M10/15 AN 6	2186204
Elec. Connector High Current	S-BT-ER M10 HC 120	2204739	S-BT-EF M10 HC 120	2204932



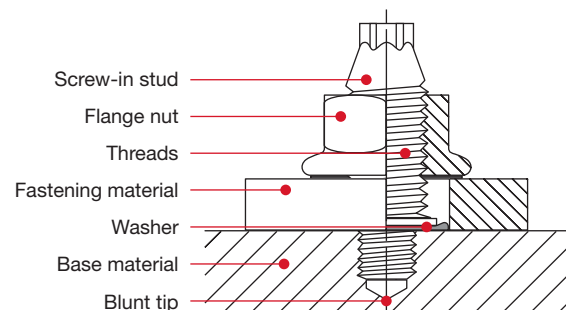
X-BT HL SYSTEM OVERVIEW

Application	Type description	SS Art. no.
Multipurpose fastening (high load)	X-BT-MR M10/15 SN 8 OGL	2217525
Grating fastening (high load)	X-BT-GR M8/7 SN 8	2194344

HOW TO READ TYPE DESCRIPTION

S	Indication of Product of Hilti Business Area S crew Fastening
X	DX solution, powder acutated tool
BT	B lunt T ip
M, G, E	Indication of application: M ultipurpose fastening, G rating fastening, E lectrical
R, F	Indication of material: R = Rostfrei (Stainless), F = Feuerverzinkt (Hot Dip Galvanized)
M8, M10	Thread type and size
HC	H igh C urrent
15, 7	Fastening material thickness (mm)
SN, AN	Washer type: SN = Stainless steel Neoprene, AN = Aluminium Neoprene
6, 8	Minimum base material thickness of installation in a pilot hole
AL	Indication of type base material: AL = Aluminium
OGL	Order O glaend System anti-vibration flange nuts separately.

SECTION OF S-BT FASTENER INSTALLED IN A PILOT HOLE:



Multipurpose Fastening (MPF)

RECOMMENDED PRODUCTS

Our best practice recommendation for multipurpose fastening (MPF) is to use size M10 X-BT or S-BT MR threaded studs. For offshore applications we recommend studs in Stainless Steel (SS) material.

M8 and M6 threaded studs are also available and can be used for special applications.



**Threaded Stud
S-BT-MR M10/15 SN 6 OGL**

Art. no.: 2205156



**Threaded Stud
X-BT-MR M10/15 SN 8 OGL**

Art. no.: 2217525

GENERAL INFORMATION



Washers S-M WA-13x45x3 A4

Art. no.: 84307

Use washer when fastening (non-FoS brackets) brackets with hole/slot opening >13 mm.



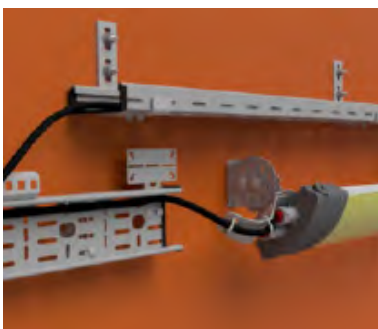
Flange Nuts S-M NU-FL-M10 A4

Art. no.: 1371973

Always use the OS anti-vibration flange nuts for FoS applications.

If sealing between the FoS bracket and the painted surface is necessary, then we recommend using TEC7.

MPF APPLICATIONS



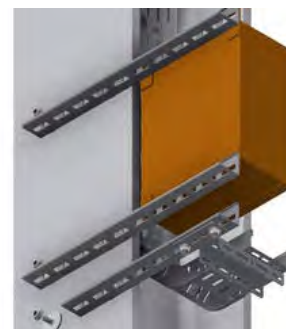
Non-engineered application(s)

- Use together with Oglænd System FoS brackets.
- S-BT or X-BT M10.
- Light duty EI&T.



Pre-engineered application(s)

- Pre-engineered applications by Hilti/OS are described in the Hilti MPF guideline.
- X-BT M10.
- Medium and heavy duty EI&T, HVAC and piping.



Special application(s)

- Engineered and documented by qualified engineers.
- All kinds of applications.
- Use of load tables for the different studs: S-BT or X-BT M10.

Please ask your local sales representative for our Hilti MPF guideline for more details.

Tools for S-BT

Cordless drill, multiple operation

22v Cordless drill suitable for S-BT threaded stud fastening.
SBT 4-A22 - for 1 tool operation, drilling - fastening - torquing.
Please see our product selector for full specification.

Type Description	Art. no.	Weight (kg)
SBT 4-A22	2180532	2,5



Cordless drill, single operation

Compact and lightweight cordless drill for predrilling accurate pilot-holes for X-BT and S-BT thread studs fasteners. It ensures great drilling performance on steel with small-diameter stepped-drill bits and has integrated trigger lock for increased safety. Please see our product selector for full specification.

Type Description	Art. no.	Weight (kg)
SF BT 22-A	2123719	1,8



Battery Charger for 22V cordless drill

Battery Charger for 22V cordless drill. Please see our product selector for full specification.

Type Description	Art. no.	Weight (kg)
C4/36-350 230V box	2034219	-
C4/36-90 230V box	2034530	-



Battery 22V

22V Battery pack. Please see our product selector for full specification.

Type Description	Art. no.	Weight (kg)
B22/2.6 Li-ion	2136393	-
B22/3.0 Li-ion	2136423	-
B22/5.2 Li-ion	2136396	-



Torque Tools for S-BT 5 Nm

Tightening tool with 5 Nm torque control for tightening gratings discs onto HILTI S-BT-GR for aluminium base material.

Type Description	Art. no.	Weight (kg)
S-BT 1/4" 5 Nm	2143271	0,30



Torque Tools for S-BT 8 Nm

Tightening tool with 8 Nm torque control for tightening nuts and gratings discs onto HILTI S-BT threaded studs.

Type Description	Art. no.	Weight (kg)
X-BT 1/4" 8 Nm	2119272	0,30



Depth gauges for S-BT

Depth gauge which ensures that S-BT studs are driven to the correct depth into the base material and avoids overpressing of the sealing washer. Contains relevant calibration card.

Type Description	Art. no.	Weight (kg)
S-DG BT M8/15 Long 6	2148575	0,20
S-DG BT M8/7 Short 6	2143260	0,20
S-DB BT MW10/15 Long 6	2143261	0,20



Depth gauge for S-BT High current

Depth gauge which ensures that S-BT studs for high current are driven to the correct depth onto the connectivity discs. It ensures a consistent attachment of the disc to decoated base material to ensure reliable electrical connectivity. Contains relevant calibration card.

Type Description	Art. no.	Weight (kg)
S-DG BT M10-W10 HC 6	2204933	0,10



Stepped drill bits for S-BT

Drill bit in carbon steel with a stepped shank ensures a correct pilot hole depth in carbon steel and aluminium base material. For use with S-BT Threaded screw-in stud.

Type Description	CS	CS (kg)
TS-BT 5.5-74 AL	2143138	0,030
TS-BT 5.5-74 S	2143137	0,030



Coating removal drill bit for S-BT High current

A drill bit with a 35 mm diameter to ensure smooth decoating of the base material to provide sufficient contact surface to connect cables up to 120 mm² with the S-BT-HC electrical connector.

Type Description	CS	CS (kg)
TS-BT HC 120/AWG4/0	2204736	0,10



Calibration Cards for S-BT

Calibration card for control of S-BT depth settings. HC = high current.

Type Description	Plastic	Weight (kg)
S-CC BT6	2143270	0,010
S-CC BT 6 HC	2204934	0,010



Sockets for Flange Nuts

Deep socket with nut-holder to prevent dropped objects. Nutsetter/ socket with 1/4" hexagon connection end for use with all common holders (DIN ISO 1173-F 6.3) to tighten flange nuts on HILTI threaded studs. A specific spring ensures a safe and convenient tightening of the flange nut.

Type Description	PG	PG (kg)
Nutsetter S-NS 13C for M8	2149244	0,090
Nutsetter S-NS 15C for M10	2149245	0,10
Nutsetter S-NSD17 HKH for M10 (EC)	376703	0,10



Tools for X-BT

Battery-actuated tool BX 3-BT A22

22V cordless nailer for fastening X-BT threaded studs. Combustion-free operation – no powder cartridges to store and dispose. Drives up to 800/500/400 fasteners with a single battery charge (depending on B22 battery model - 5.2, 3.0 or 2.6 Ah). Fastens X-BT threaded studs which do not require further reworking for corrosion protection on steel base material. Ideal for use on high-strength coated steel 8 mm (5/16") or thicker.

Type Description	Art. no.	Weight (kg)
BX 3-BT A22	2194595	-



Fastener Guide for Multipurpose Applications BX 3-BT A22

Fastener guide for use with the BX 3-BT A22 for multi-purpose fastenings with the X-BT MR M10 and X-BT MR M6 threaded studs.

Type Description	Art. no.	Weight (kg)
X-FG B3-BT M	2197626	-



Fastener Guide for Grating Applications BX 3-BT A22

Fastener guide for use with the BX 3-BT A22 for grating fastenings with the X-BT GR M8 threaded studs.

Type Description	Art. no.	Weight (kg)
X-FG B3-BTG	2197625	-



Protective Cap for Fastener Guides BX 3-BT A22

For use with the fastener guides of the Battery-actuated tool BX 3-BT A22 fastening tool. It ensure to correct setting depth of the X-BT threaded stud fasteners.

Type Description	Art. no.	Weight (kg)
X-PC B3-B	2211436	-



Cordless drill, single operation

Compact and lightweight cordless drill for predrilling accurate pilot-holes for X-BT and S-BT thread studs fasteners. It ensures great drilling performance on steel with small-diameter stepped-drill bits and has integrated trigger lock for increased safety. Please see our product selector for full specification.

Type Description	Art. no.	Weight (kg)
SF BT 22-A	2123719	1,8



Battery Charger for 22V cordless drill

Battery Charger for 22V cordless drill. Please see our product selector for full specification.

Type Description	Art. no.	Weight (kg)
C4/36-350 230V box	2034219	-
C4/36-90 230V box	2034530	-



Battery 22V

22V Battery pack. Please see our product selector for full specification.

Type Description	Art. no.	Weight (kg)
B22/2.6 Li-ion	2136393	-
B22/3.0 Li-ion	2136423	-
B22/5.2 Li-ion	2136396	-



Stepped drill bits for X-BT

Drill bit with a stepped shank which ensures a correct pilot hole depth. For use with new generation X-BT-MR, X-BT-GR threaded blunt tip studs.

Type Description	CS	CS (kg)
TX-BT 4.7/7-80	2197930	0,030
TX-BT 4.7/7-110	2197931	-
TX-BT 4.7/7-150	2197629	-



Torque Tool for X-BT HL 20 Nm

Tightening tool with 20 Nm torque control for tightening flange nuts onto X-BT HL threaded studs.

Type Description	Art. no.	Weight (kg)
X-BT 1/4" 20Nm	2212510	-



Sockets for Flange Nuts

Deep socket with nut-holder to prevent dropped objects. Nutsetter/ socket with 1/4" hexagon connection end for use with all common holders (DIN ISO 1173-F 6.3) to tighten flange nuts on HILTI threaded studs. A specific spring ensures a safe and convenient tightening of the flange nut.

Type Description	PG	PG (kg)
Nutsetter S-NS 13C for M8	2149244	0,090
Nutsetter S-NS 15C for M10	2149245	0,10



Tools Accessories

Soft Tool Bag, small

Soft HILTI bag made from durable and water-resistant poly-nylon material. Heavy-duty, easy-pull zipper. Sturdy side pocket for easy storage of smaller items. Large, open design for easy access. Lets you carry Hilti tools with great convenience.

Type Description	Art. no.	Weight (kg)
Soft bag small	434910	-



Inlay for Soft Tool Bag, small

Inlays with compartments for HILTI soft bag small. For separate storage of studs and tools.

Type Description	Art. no.	Weight (kg)
Inlay for Soft bag	2154050	-



Tool case BX 3-BT for X-BT

Empty tool box for BX 3-BT fastening kit. Compartments available for storing BX 3-BT fastening tool, BX 3-BT A22 cordless drill and accessories.

Type Description	Art. no.	Weight (kg)
Case BX 3-BT	2194870	-



Retaining strap

Retaining strap for Hilti Cordless tools

Type Description	Art. no.	Weight (kg)
Retaining strap cordless	2106731	0,10

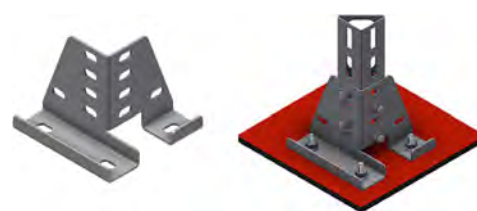


Featured post-paint modification products

Bolted Starter Bracket for Mekano® CH50-2T

Bolted bracket for Mekano® 50-2, 50-2T and 100-1.

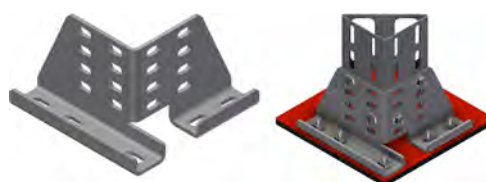
Type Description	SS	SS (kg)	HDG	HDG (kg)
S-M BS-125-CH50-2T-3	1306907	0,70	1306904	0,80



Bolted Starter S-M BS-CH100-2T 130-5 SS

Bolted bracket for Mekano® Channels up to CH100-2T. FoS compatible.

Type Description	SS	SS (kg)
S-M BS-CH100-2T 130-5	84308	1,9



Channel for Direct Fastening

Mekano® Triangle Channel for light EI&T and HVAC support. Fixed with S-BT MR M10 threaded screw stud and standoff washer.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-M CH50-2T2-3000	1372182	5,5	1372187	5,8



Bolted Starter Brackets Grid Light

MultiGrid® Light Bolted Starter Bracket for Mekano® 50-2T Channels. In accordance with NORSOK M501. FoS compatible.

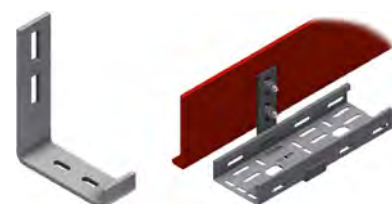
Type Description	SS	SS (kg)
S-M BS-100x60	91253	0,90



Cable Tray Cantilever Support

Simple Cantilever Arm for 100 mm wide SPB Cable Tray.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-SPB CA-100	1302323	0,50	1302320	0,50



Cable Ladder Clamp

Clamp for OE series cable ladders for fastening to structure with M10 S-BT together with standoff washer.

Type Description	SS	SS (kg)	HDG	HDG (kg)
OE FC-B40-54-10/10	60900	0,090	60901	0,20



Universal Bracket for Cable Tray Support

Universal bracket designed for use with 2 Hilti S-BT / X-BT bolts. For fastening 100 mm wide SPB-RF / SPBE cable trays. Available in two heights 30mm and 50 mm.

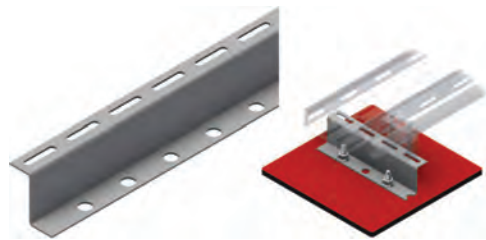
Type Description	SS	SS (kg)	ZM	ZM (kg)
FOS A-M-ZB-30-12/6	68634	0,10	68635	0,10
FOS A-M-ZB-50-12/6	1300315	0,10	-	-



Universal Z-Bracket in 3 meter lengths

Z-Profile in 3 meter lengths for various installations on ship such as electrical outfitting, tubing- and piping installation. Available in three heights, 30mm, 50 mm and 70 mm. Hilti Fastening on Steel (FoS) compatible.

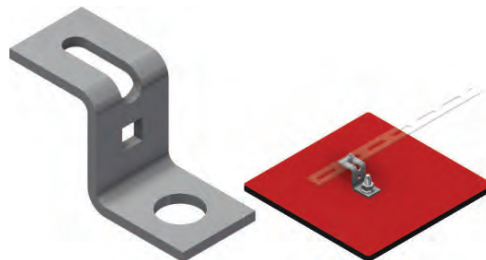
Type Description	SS	SS (kg)	ZM	ZM (kg)
S-M ZB-35-3000	1375516	3,3	1375514	3,3
S-M ZB-50-3000	1300318	4,3	-	-
S-M ZB-70-3000	1375517	8,7	1375515	8,7



Z-Bracket for M6 applications and Flat Iron support

Z-Bracket for multiple M6 applications. Fast and effective alternative to welding for post paint single cable support routings. Compatible with 1375134 ZM flat iron and 78173 AL flat iron. Hilti Fastening on Steel (FoS) compatible.

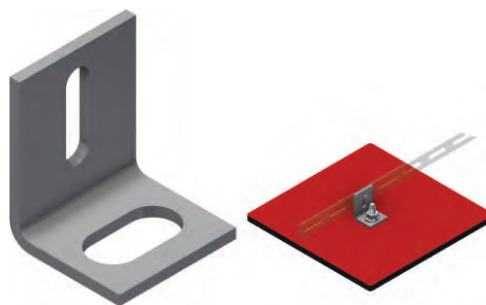
Type Description	ZM	ZM (kg)	AL	AL (kg)
S-FI ZB-BO 25X34	91466	0,10	91467	0,040



Angle Bracket for M6 applications and Flat Iron support

Angle Bracket for multiple M6 applications. Fast and effective alternative to welding for post paint single cable support routings. Compatible with 1375134 ZM flat iron and 78173 AL flat iron. Hilti Fastening on Steel (FoS) compatible.

Type Description	ZM	ZM (kg)	AL	AL (kg)
S-FI AB-BO-35X43	91468	0,050	91469	0,040



Flexi Light Support Bracket

Flexible Light Fitting Bracket which allows the light to be fitted at any required angle in 4 deg. increments.

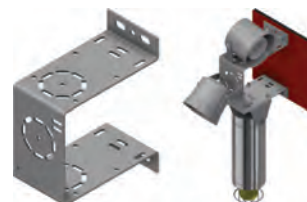
Type Description	SS	SS (kg)	HDG	HDG (kg)
OE100-AH	1371720	0,50	1302497	0,50



Equipment Bracket

Bracket suitable for support of various equipment such as loudspeakers, beacons or signal lamps. Can also be used to support 100 mm cable tray.

Type Description	SS	SS (kg)	HDG	HDG (kg)
OE-SPEA-B	1302695	1,3	1302693	1,4

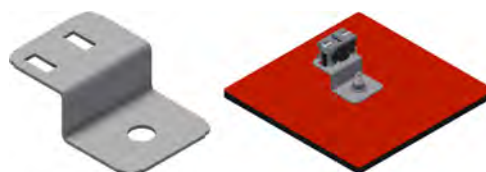


Tubing Clamp Applications

ETIN™ Tubing Clamp Bracket

Suitable for fixing single ETIN™ tubing clamps.

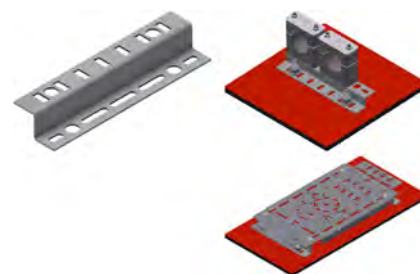
Type Description	SS	SS (kg)	HDG	ZM
A-ETIN BR-30-Ø13	70235	0,090	70236	70237
A-ETIN BR-50-Ø13	1300316	0,10		



ETIN™ Tubing Adapter

ETIN™ tubing adapter for multiple tubing clamps. Also equipped with both longitudinal and lateral slots giving wide variety of tubing and other fastening applications

Type Description	SS	SS (kg)
A-ETIN/INKO-30x190	70240	0,20
A-ETIN/INKO-50x190	1300317	0,30



INKO® Flexi Tubing Clamp

INKO® flexi tubing clamp for 3 - 20 mm tubing. Fixed with S-BT MR M8 threaded screw stud.

Type Description	SS	SS (kg)
INKO Flexi Clamp	1320302	0,050



Threaded Studs for Multipurpose fastening

X-BT for Multipurpose fastening

Threaded blunt tip stud made of stainless steel for multi-purpose fastenings on steel and stainless steel. The stud allows fast and easy single-operator installation with the BX 3-BT A22 Battery-actuated fastening tool. There is no through penetration and no rework of the coating required. Minimum base material thickness 8 mm. The system holds the relevant offshore and onshore approvals and is suited for use in highly corrosive environment.



Supplied in a box containing:

- 100 x X-BT-MR studs
- 1 x stepped drill bit TX-BT 4.7/7 for carbon steel
- 1 x check gauge
- 1 x protective cap for tool fastener guide
- IFU (instructions for use)-manual.

Please order OS anti-vibration flange nuts separately (#1371973).

Type Description	SS	SS (kg)
X-BT-MR M10/15 SN 8 OGL	2217525	-

S-BT for Multipurpose fastening

Threaded screw-in stud made of stainless steel for multi-purpose fastenings on painted steel. The stud allows fast and easy single-operator installation with battery power onto coated steel base material. There is no through penetration and no rework of the coating required. Minimum base material thickness 6 mm. The system holds the relevant approvals for offshore and onshore environments and is suited for use in highly corrosive environment.



Supplied in a box containing:

- 100 x S-BT-MR studs
- 1 x stepped drill bit TS-BT 5.5-74 S for carbon steel
- 1 x check gauge
- IFU (instructions for use)-manual

Order Oglænd System anti-vibration flange nuts separately (#1371973).

Type Description	SS	SS (kg)
S-BT-MR M10/15 SN 6 OGL	2205156	-

Anti-vibration Flange nuts for S-BT & X-BT HL

Oglænd System Anti-vibration flange nuts in A4 quality.

Type Description	A4	A4 (kg)
S-M NU-FL-M10	1371973	0,010



Washers for S-BT & X-BT HL

Washer with Ø 13 mm hole suitable for use with S-BT. Allows for brackets with 11-12 mm fixing holes to stand off surface so they can be connected using M10 direct fastening S-BT and X-BT methods.

Type Description	SS	SS (kg)
S-M WA-13x45x3	84307	0,040



M10 Socket for ØS Flange Nuts

Deep socket with nut-holder to prevent dropped objects. Nutsetter/ socket with 1/4" hexagon connection end for use with all common holders (DIN ISO 1173-F 6.3) to tighten flange nuts on HILTI threaded studs. A specific spring ensures a safe and convenient tightening of the flange nut.

Type Description	PG	PG (kg)
Nutsetter S-NS 15C for M10	2149245	0,10



X-BT tool accessories for Multipurpose Fastening

Fastener Guide for Multipurpose Applications

Fastener guide for use with the BX 3-BT A22 for multi-purpose fastenings with the X-BT MR M10 and X-BT MR M6 threaded studs.

Type Description	Art. no.	Weight (kg)
X-FG B3-BT M	2197626	-



Torque Tool for X-BT 20 Nm

Tightening tool with 20 Nm torque control for tightening flange nuts onto X-BT HL threaded studs.

Type Description	Art. no.	Weight (kg)
X-BT 1/4" 20Nm	2212510	-



S-BT tool accessories for Multipurpose Fastening

Depth gauges for S-BT Multipurpose Fastening

Depth gauge which ensures that S-BT studs are driven to the correct depth into the base material and avoids overpressing of the sealing washer. Contains relevant calibration card.

Type Description	Art. no.	Weight (kg)
S-DB BT MW10/15 Long 6	2143261	0,20



Torque Tools for S-BT 8 Nm

Tightening tool with 8 Nm torque control for tightening nuts and gratings discs onto HILTI S-BT threaded studs.

Type Description	Art. no.	Weight (kg)
X-BT 1/4" 8 Nm	2119272	0,30



Calibration Cards for S-BT

Calibration card for control of S-BT depth settings. HC = high current.

Type Description	Plastic	Weight (kg)
S-CC BT6	2143270	0,010



Grating (GRA)

In this guide we will show which fastening on steel technology to use for grating (GRA) applications.

To fasten grating you can either use the M8 X-BT and S-BT threaded studs, however; our recommendation and best practice installation method are X-BT threaded studs. For offshore applications we recommend studs in Stainless Steel (SS) material.

BEST PRACTICE INSTALLATION METHOD:

X-BT HL and Grating Disc HL (RED ring) are our best practice for grating fastening. S-BT cannot be used with the RED ring grating fastener. For C5M (all areas).

Selection Guide: X-BT and Grating Disc (red)

Grating Disc Type		Grating height (mm)			
		X-FCM-R HL 25/30 Art. no.: 2194345		X-FCM-R HL 1 1/4" Art. no.: 2194346	
		X-FCM-R HL 45/50 Art. no.: 2194348			
Threaded Stud Type		Grating height (mm)			
		23 - 33	32 - 37	38 - 43	48 - 53
X-BT-GR M8 Art. no.: 2194344					
		58 - 63	62 - 67	68 - 73	78 - 83
X-BT-GR M8 Art. no.: 2194344					
					
X-SEA Art. no.: 432274					
		38 - 43	42 - 47	48 - 53	58 - 63
X-BT-MR M8/14 SN8 Art. no.: 2194339					
		68 - 73	72 - 77	78 - 83	83 - 93
X-BT-MR M8/14 SN8 Art. no.: 2194339					
					
X-SEA Art. no.: 432274					

Torque: 20Nm **RED** ring.



Torque tool X-BT 1/4" 20 Nm / 14.8lbf
Art. no.: 2212510

OPTIONAL INSTALLATION METHOD:

X-BT HL and Grating Disc HL (RED ring) are our best practice for grating fastening. S-BT can be used with the BLACK ring grating fasteners when torqued with 8Nm. For C5M (all areas).

Selection Guide: S-BT and Grating Disc (Black)

Grating Disc Type		Grating height (mm)			
		X-FCM-R 25/30 Art. no.: 247181		X-FCM-R 1 1/4" Art. no.: 247184	
		X-FCM-R 45/50 Art. no.: 247183			
Threaded Stud Type		Grating height (mm)			
		28 - 33	32 - 37	38 - 43	48 - 53
S-BT-GR M8 Art. no.: 2140529					
		58 - 63	62 - 67	68 - 73	78 - 83
S-BT-GR M8 Art. no.: 2140529					
					
X-SEA Art. no.: 432274					
		38 - 43	42 - 47	48 - 53	58 - 63
S-BT-MR M8/15 SN 6 Art. no.: 2148612					
		68 - 73	72 - 77	78 - 83	83 - 93
S-BT-MR M8/15 SN 6 Art. no.: 2148612					
					
X-SEA Art. no.: 432274					

Torque: 8Nm **BLACK** ring.



Torque tool S-BT 1/4" 8 Nm
Art. no.: 2119272

Threaded stud for Grating Fastening

Threaded screw-in stud made of stainless steel for grating fastenings on painted steel or aluminium. The stud allows fast and easy single-operator installation with battery driven tools. There is no through penetration and no rework of the base material required. Minimum base material thickness 6 mm. The system holds the relevant offshore and onshore approvals and is suited for use in mildly or highly corrosive environment.



X-BT threaded stud for Grating (Short)

Supplied in a box containing:

- 100 x X-BT GR studs
- 1 x stepped drill bit TX-BT 4.7/7 for carbon steel
- 1 x check gauge
- 1 x protective cap for tool fastener guide
- IFU (instructions for use)-manual

Order application appropriate grating fasteners separately.

Type Description	SS	SS (kg)
X-BT-GR M8/7 SN 8	2194344	-



X-BT threaded stud for Grating (Long)

Supplied in a box containing:

- 100 x X-BT MR M8/14 studs,
- 100 x Hilti flange nuts (to be discarded for Grating and Ogleand Multipurpose applications)
- 1 x stepped drill bit TX-BT 4.7/7 for carbon steel,
- 1 x check gauge,
- 1 x protective cap for tool fastener guide
- IFU (instructions for use)-manual.

Order application appropriate grating fasteners separately.

Type Description	SS	SS (kg)
X-BT-MR M8/14 SN 8	2194339	0,010



S-BT threaded stud for Grating (Short)

Supplied in a box containing:

- 100 x S-BT-GR studs
- 1 x stepped drill bit TS-BT 5.5-74 S for carbon steel
- 1 x check gauge
- IFU (instructions for use)-manual

Order application appropriate grating fasteners separately.

Type Description	SS	SS (kg)
S-BT-GR M8/7 SN 6	2140529	0,010



S-BT threaded stud for Grating (Long)

Supplied in a box containing:

- 100 x S-BT-GR studs
- 100 x Hilti flange nuts (to be discarded for Grating and Oglænd Multipurpose applications)
- 1 x stepped drill bit TS-BT 5.5-74 S for carbon steel
- 1 x check gauge
- IFU (instructions for use)-manual



Order application appropriate grating fasteners separately.

Type Description	SS	SS (kg)
S-BT-MR M8/15 SN 6	2148612	0,010

Grating Fastener Stud Extension, for Metal/FRP grating

Extension adaptor for fastening gratings with height more than 50 mm or 2". Extension can fasten gratings with heights up to 80 mm. Qty/pack: 100 items.



Type Description	SS	SS (kg)
X-SEA-R 30 M8	432274	0,020

Grating Fasteners

S-BT/X-BT Grating Fastener Discs Offshore for Metal/FRP grating (Black, 8Nm)

Grating element made of stainless steel for fastening gratings of heights from 25 mm to 50 mm. For use with S-BT and X-BT threaded studs. Holds all relevant offshore and onshore approvals and is suited for use in highly corrosive environment. Locking tabs on the disc help prevent the fastening working loose. The disc itself has a non-slip surface. Torque = 8Nm (Black ring)



Type Description	SS	SS (kg)
X-FCM-R 25/30	247181	0,030
X-FCM-R 35/40	247182	0,030
X-FCM-R 45/50	247183	0,040
X-FCM-R 1 1/4"	247184	0,030

X-BT Grating Fastener Discs Offshore for Metal/FRP grating (Red, 20Nm)

X-FCM R HL is a stainless steel grating element with increased load capacities which ensure a safe and reliable grating installation. It is used with new generation X-BT-GR M8 threaded blunt tip stud. The disc has a nominal diameter of 50 mm (2") and is equipped with locking tabs to prevent loosening of the element. The disc can be used for grating heights from 25 mm to 50 mm. Torque = 20Nm (Red ring)



Type Description	SS	SS (kg)
X-FCM-R HL 25/30	2194345	-
X-FCM-R HL 35/40	2194347	-
X-FCM-R HL 45/50	2194348	-
X-FCM-R HL 1 1/4"	2194346	-

X-BT tool accessories for Grating Fastening

Fastener Guide for Grating Applications

Fastener guide for use with the BX 3-BT A22 for grating fastenings with the X-BT GR M8 threaded studs.

Type Description	Art. no.	Weight (kg)
X-FG B3-BTG	2197625	-



Torque Tool for X-BT 20 Nm

Tightening tool with 20 Nm torque control for tightening flange nuts onto X-BT HL threaded studs.

Type Description	Art. no.	Weight (kg)
X-BT 1/4" 20Nm	2212510	-



S-BT tool accessories for Grating Fastening

Torque Tools for S-BT 8 Nm

Tightening tool with 8 Nm torque control for tightening nuts and gratings discs onto HILTI S-BT threaded studs.

Type Description	Art. no.	Weight (kg)
X-BT 1/4" 8 Nm	2119272	0,30



Depth gauges for S-BT Grating Fastening

Depth gauge which ensures that S-BT studs are driven to the correct depth into the base material and avoids overpressing of the sealing washer. Contains relevant calibration card.

Type Description	Art. no.	Weight (kg)
S-DG BT M8/15 Long 6	2148575	0,20
S-DG BT M8/7 Short 6	2143260	0,20



Calibration Cards for S-BT

Calibration card for control of S-BT depth settings. HC = high current.

Type Description	Plastic	Weight (kg)
S-CC BT6	2143270	0,010



Electrical Connections (Earthing)

In this guide we'll show you which Hilti Fastening on Steel (FoS) products to use for electrical connections.

S-BT threaded studs are our best practice recommendation for electrical connections, however it's also possible to use X-BT threaded studs. For offshore applications we recommend studs in Stainless Steel (SS) material.

EARTHING AND BONDING

Earthing or bonding in less than 2 minutes: Certified, suitable for all areas.

BONDING - FOR EQUALIZATION OF POTENTIALS

- Functional bonding 40A
- Short circuit bonding 1.25 kA (IEC)
- Lightning Class N/50kA



Threaded stud
S-BT-ER M10/15 SN 6

Art. no.: 2186203



EARTHING - EQUIVALENT TO WELDING BOSS

- Functional bonding 269A
- Short circuit bonding 14.4 kA (IEC)
- Lightning Class H/100kA



Elec. Connector
S-BT-ER M10 HC 120

Art. no.: 2204739



S-BT Threaded stud for Electrical connections

Threaded screw-in stud made of stainless steel for use as an electrical connector for functional and protective bonding and grounding applications. For a maximum permanent current of 40 A and a maximum contact resistance of 5 mΩ. The stud allows fast and easy single-operator installation with battery driven tools. There is no through penetration and rework required. Minimum base material thickness 6 mm. The system holds the relevant electrical, offshore and onshore approvals.



S-BT threaded stud for Electrical bonding Offshore

Supplied in a box containing:

- 100 x S-BT-ER studs
- 200 x nuts
- 100 x lock washers
- 1 x stepped drill bit TS-BT 5.5-74 S for carbon steel
- 1 x check gauge
- IFU (instructions for use)-manual



Type Description	SS	SS (kg)
S-BT-ER M10/15 SN 6	2186203	0,030

S-BT threaded stud for Electrical bonding Onshore

Supplied in a box containing:

- 100 x S-BT-EF studs
- 200 x nuts
- 100 x lock washers
- 1 x stepped drill bit TS-BT 5.5-74 S for carbon steel
- 1 x check gauge
- IFU (instructions for use)-manual



Type Description	HDG	HDG (kg)
S-BT-EF M10/15 AN 6	2186204	0,030

S-BT Threaded stud for High Current Electrical connections

Threaded screw-in stud made of stainless steel for use as an electrical connector for functional and protective bonding and grounding applications. For a maximum permanent current of 14'400 A and a maximum contact resistance of 5 mΩ. The stud allows fast and easy single-operator installation with battery driven tools. There is no through penetration and rework of the coating required. Minimum base material thickness 6 mm. The system holds the relevant electrical, offshore and onshore approvals.



S-BT threaded stud for High Current applications (Earthing) Offshore

Supplied in a box containing:

- 100 x S-BT-ER High Current studs
- 100 x conductor discs
- 100 x lock washers
- 100 x nuts
- 1 x coating removal drill bit
- 1 x stepped drill bit TS-BT 5.5-74 S
- 1 x check gauge
- IFU (instructions for use)-manual



Type Description	SS	SS (kg)
S-BT-ER M10 HC 120	2204739	0,10

S-BT threaded stud for High Current applications (Earthing) Onshore

Supplied in a box containing:

- 100 x S-BT-EF High Current studs
- 100 x conductor discs
- 100 x lock washers
- 100 x nuts
- 1 x coating removal drill bit
- 1 x stepped drill bit TS-BT 5.5-74 S
- 1 x check gauge
- IFU (instructions for use)-manual



Type Description	HDG	HDG (kg)
S-BT-EF M10 HC 120	2204932	0,10

Earth Link Jumpers

Earth Link Jumpers

Earth Link Jumper. Type description shows: Length mm/Diameter mm-cross section area mm².

Type Description	Cu	Cu (kg)
A-M EL-100/10-10 Cu	85815	0,020
A-M EL-300/10-10 Cu	85816	0,030
A-M EL-100/10-16 Cu	85817	0,030
A-M EL-300/10-16 Cu	1306885	-



S-BT tool accessories for Electrical Connections

Depth gauge for S-BT High current

Depth gauge which ensures that S-BT studs for high current are driven to the correct depth onto the connectivity discs. It ensures a consistent attachment of the disc to decoated base material to ensure reliable electrical connectivity. Contains relevant calibration card.

Type Description	Art. no.	Weight (kg)
S-DG BT M10-W10 HC 6	2204933	0,10



Depth gauge for S-BT Bonding

Depth gauge which ensures that S-BT studs for high current are driven to the correct depth onto the connectivity discs. It ensures a consistent attachment of the disc to decoated base material to ensure reliable electrical connectivity. Contains relevant calibration card.

Type Description	Art. no.	Weight (kg)
S-DB BT MW10/15 Long 6	2143261	0,20



Coating removal drill bit for S-BT High current

A drill bit with a 35 mm diameter to ensure smooth decoating of the base material to provide sufficient contact surface to connect cables up to 120 mm² with the S-BT-HC electrical connector.

Type Description	CS	CS (kg)
TS-BT HC 120/AWG4/0	2204736	0,10



Calibration Cards for S-BT

Calibration card for control of S-BT depth settings. HC = high current.

Type Description	Plastic	Plastic (kg)
S-CC BT6	2143270	0,010
S-CC BT 6 HC	2204934	0,010



M10 Socket for for Electrical connections

M10 Socket for for Electrical connections

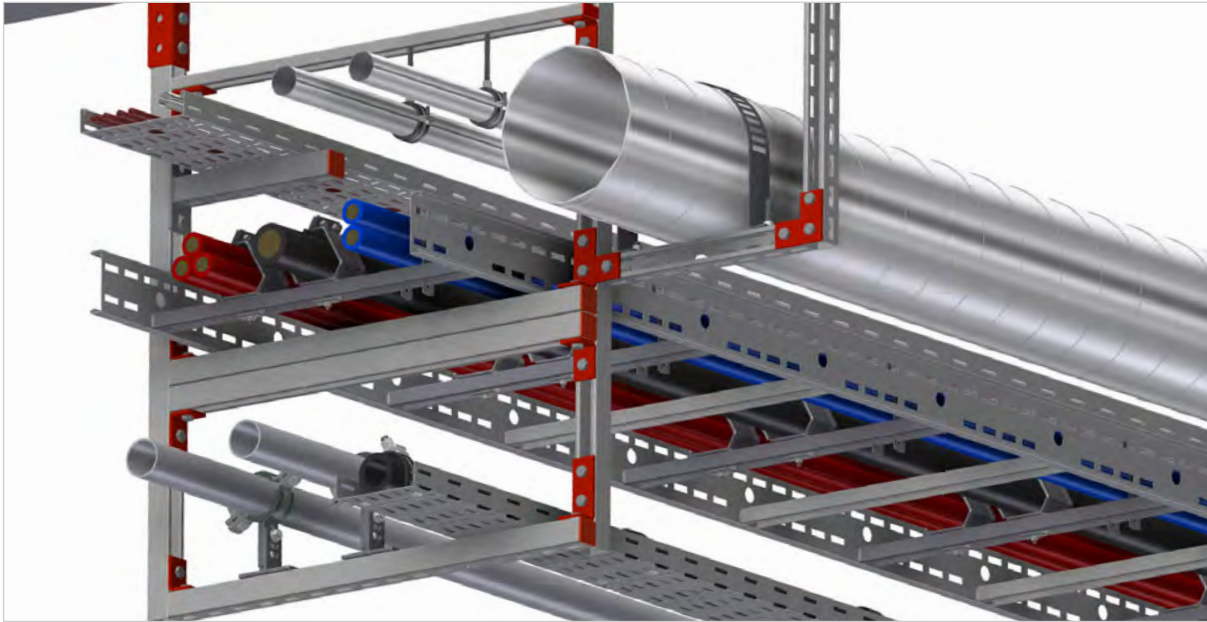
Deep socket with nut-holder to prevent dropped objects. Nutsetter/ socket with 1/4" hexagon connection end for use with all common holders (DIN ISO 1173-F 6.3) to tighten flange nuts on HILTI threaded studs. A specific spring ensures a safe and convenient tightening of the flange nut.

Type Description	PG	PG (kg)
Nutsetter S-NSD17 HKH for M10 (EC)	376703	0,10



UNO SUPPORT SYSTEM

UNO is a traditional, tried and tested support system comprising simple U-shaped profiles. The channels are bolted together to form support configurations using a wide range of brackets and accessories. Unlike our Mekano® System, UNO cannot be fitted back-to-back without the use of additional brackets. UNO is available in single and double U-configurations, in perforated and non-perforated types. Whilst compact in profile, they offer good strength.



MATERIALS



3D LIBRARIES

Hexagon (Intergraph Smart 3D)
Bentley

UNO SINGLE CHANNELS



UNO-41-1

Material thickness:
HDG & PG = 2.5 mm
SS = 2 mm



UNO-41-1-P

Material thickness:
HDG & PG = 2.5 mm
SS = 2 mm



UNO-41-1-P3

Material thickness:
SS = 2 mm



UNO-21-1

Material thickness:
HDG & PG = 2.5 mm
SS = 2 mm



UNO-21-1-P

Material thickness:
HDG & PG = 2.5 mm
SS = 2 mm

UNO DOUBLE CHANNELS



UNO-41-2

Material thickness:
HDG = 2.5 mm
SS = 2 mm



UNO-21-2

Material thickness:
HDG = 2.5 mm
SS = 2 mm

UNO BRACKETS

Bracketry is generally in 5 mm 316L SS or 6 mm HDG steel with 13 mm holes suitable for M12 bolts. (some exceptions apply)



STARTER BRACKETS AND BEAM CLAMPS

We offer a range of bolted starters suitable for both single and double UNO channels, together with a wide selection of beam clamps.



UNO NUTS

UNO nuts are traditionally supplied as spring nuts with different lengths of spring required depending on the profile depth. The springs can become tangled and must be loosened before use, increasing fitting time. As a solution to this, we offer UNO cards which are reusable, flexible, one size-fits-all plastic cards, to hold the nut securely during fitting.

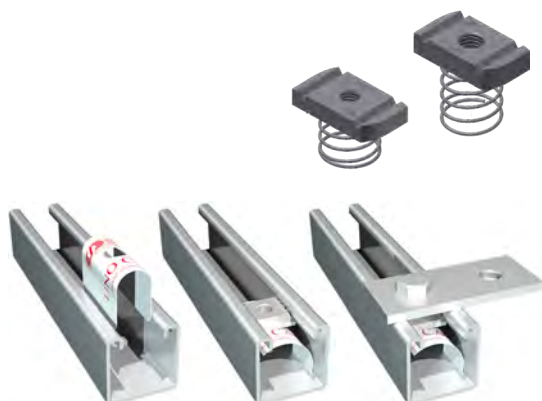


TABLE OF CONTENTS

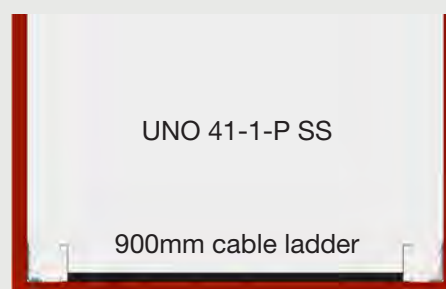
UNO Channels, Fasteners & Fixings

UNO Channels	84
UNO Fasteners	85
UNO Fixings	86

UNO Starter Brackets

UNO Bolted Starter Brackets	92
UNO Beam Clamps	92

Comparing Mekano® and UNO Support Systems



The comparison shows the Mekano® system is:

30% Lighter
22% Stronger
43% More cost efficient
22% Quicker to install

Intellectual Property Rights

Please note that many of the products presented in this catalogue are protected by our intellectual property rights in the form of patents, registered designs and trademarks, and that we have made the strategic decision to police and enforce these rights in all relevant jurisdictions.

UNO Channels

U-41 Single

U-shaped UNO Channel.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-UNO-41-1 (3 m)	1371859	6,7	1302227	8,2
S-UNO-41-1 (6 m)	1371865	13,3	1302233	16,8



U-41 Double

Double U-shaped UNO Channel. Channels are spot welded each 200 mm each side, with a 100 mm stagger between sides.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-UNO-41-2 (3 m)	1371864	13,4	1302229	16,8
S-UNO-41-2 (6 m)	1371867	26,8	1302235	33,6



U-41 Perforated

U-shaped UNO Channel. Perforated base.

Type Description	SS	SS (kg)	HDG	PG
S-UNO-41-1-P (3 m)	1371863	6,4	1302228	
S-UNO-41-1-P (6 m)	1371866	12,8	1302234	1302197



U-41 Triple Perforated

U-shaped UNO Channel. Base and both sides perforated.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-UNO-41-1-P3 (3 m)	1306884	5,7	90613	7,1



U-21 Single

U-shaped UNO Channel.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-UNO-21-1 (6 m)	1371860	9,5	1302230	12,0



U-21 Double

Double U-shaped UNO Channel. Channels are spot welded each 200 mm each side, with a 100 mm stagger between sides.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-UNO-21-2 (6 m)	1371862	19,0	1302232	22,9



U-21 Perforated

U-shaped UNO Channel. Perforated base.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-UNO-21-1-P (3 m)	1306966	4,5		-
S-UNO-21-1-P (6 m)	1371861	8,9	1302231	10,5



UNO Fasteners

Nuts for U-21 and U-41 Channel

Without spring for both U-21 and U-41 Channels, and OE rungs.

Note, "S-UNO NU-M-3112" is not compatible for U21 channels.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-UNO NU-M-3106	1371872	0,020	1302250	0,030
S-UNO NU-M-3108	1371873	0,020	1302251	0,040
S-UNO NU-M-3110	1371874	0,030	1302252	0,040
S-UNO NU-M-3112	1371875	0,030	1302253	0,040



Spring Nuts for U-21 Channel

Available as M6, M8 & M10.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-UNO NU-M-2106	1371868	0,020	1302246	0,030
S-UNO NU-M-2108	1371869	0,020	1302247	0,030
S-UNO NU-M-2110	1371870	0,030	1302248	0,040



Spring Nuts for U-41 Channel

Available as M6, M8, M10 & M12.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-UNO NU-M-4106	1371876	0,030	1302254	0,030
S-UNO NU-M-4108	1371877	0,040	1302255	0,030
S-UNO NU-M-4110	1371878	0,040	1302256	0,040
S-UNO NU-M-4112	1371879	0,050	1302257	0,050



Complete UNO Card and Nut set

UNO Card and Nut set for both U-21 and U-41. Comprises 100 UNO nuts, 50 reusable UNO cards and 1 applicator tool. Note, M12 with card is not suitable for U-21 light duty channels.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-UNO Nu-Card M6	1302240	2,0	1302236	2,8
S-UNO Nu-Card M8	1302241	2,2	1302237	3,5
S-UNO Nu-Card M10	1302242	2,5	1302238	3,1
S-UNO Nu-Card M12	1302243	2,7	1302239	3,8

Box consist of =



UNO Fixings

Lipped Square Washer

Washer for fitting over UNO Channels. Available with 7,9,11 & 13 mm holes.

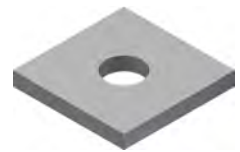
Type Description	SS	SS (kg)	HDG	HDG (kg)
S-UNO D 131-7	1371887	0,050	1302258	0,050
S-UNO D 132-9	1371888	0,050	1302259	0,050
S-UNO D 133-11	1371889	0,050	1302260	0,050
S-UNO D 134-13	1371890	0,050	1302261	0,050



Square Plate Washer

Universal washer for fitting over UNO profiles for attaching bolts or threaded rod. With 13 mm hole. Other hole sizes on request.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-UNO D-21-12	88046	0,060	88047	0,080



Two Hole Flat Bracket

Two hole Flat Bracket for connecting UNO channels.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-UNO D-22	1371891	0,10	1302262	0,20



Three Hole Flat Bracket

Three hole flat bracket for connecting UNO sections together.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-UNO D-23	1371892	0,20	1302263	0,20



Four Hole Flat Bracket

Four hole flat bracket for connecting UNO sections together.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-UNO D-24	1371893	0,30	1302264	0,30



Five Hole Flat Bracket

Five hole flat bracket for connecting UNO sections together.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-UNO D-25	1371894	0,30	1302265	0,40



UNO Channel Splice Connector

Four hole splice connector for UNO channels.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-UNO D-24B	89324	0,70	84759	0,70



Flat L-Bracket

L-shaped UNO bracket for connecting UNO sections together.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-UNO D-31	1371895	0,20	1302266	0,20



Flat T-Bracket

T-shaped UNO bracket for connecting UNO sections together.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-UNO D-32	1371896	0,30	1302267	0,30



Flat T-Bracket D-33

Flat T UNO bracket for connecting UNO sections together.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-UNO D-33	1371897	0,30	1302268	0,30



Flat T-Bracket D-111

Flat T UNO bracket for connecting UNO sections together.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-UNO D-111	89611	0,40	89711	0,40



Flat Cross-Bracket

Cross bracket for connecting UNO sections together.

Type Description	SS	SS (kg)
S-UNO D-110	89610	0,40



Heavy Duty Cross-Bracket

Heavy duty cross bracket for connecting UNO sections together.

Type Description	SS	SS (kg)
S-UNO D-107	89536	1,5



1+1 Hole Angle Bracket

Angle bracket for connecting UNO sections together.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-UNO D 41-42	1371898	0,10	1302269	0,20



1+2 Hole Angle Bracket

Angle bracket for connecting UNO sections together.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-UNO D 43-44	1371899	0,20	1302270	0,20



2+1 Hole Angle Bracket

Angle bracket for connecting UNO sections together.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-UNO D-49	1371902	0,20	1302273	0,30



2+2 Hole Angle Bracket

Angle bracket for connecting UNO sections together.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-UNO D-47-48	1371901	0,30	1302272	0,30



1+3 Hole Angle Bracket

Angle bracket for connecting UNO sections together.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-UNO D-45-46	1371900	0,30	1302271	0,30



Channel Support Bracket D-51

Bracket for supporting UNO channels.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-UNO D-51	1371903	0,30	1302274	0,30



Channel Support Bracket D-52

Bracket for supporting UNO channels.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-UNO D-52	1371904	0,30	1302275	0,30



Channel Support Bracket D-53

Bracket for supporting UNO channels.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-UNO D-53	1371905	0,30	1302276	0,30



U-Bracket for U-21-1

U-Bracket for U-21-1.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-UNO D-64	82236	0,30	82235	0,40



U-Bracket for U-41-1 and U-21-2

U-Bracket for U-41-1 and U-21-2.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-UNO D-61	1371906	0,40	1302277	0,40



U-Bracket for U-41-2

U-Bracket for U-41-2.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-UNO D-62	1371907	0,50	1302278	0,60



Z-Bracket

Z bracket for connecting UNO sections together.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-UNO D-71	1371908	0,20	1302279	0,20



Wing Bracket

Wing bracket for connecting UNO sections together.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-UNO D-96	1371929	0,70	1302298	0,70



Wing Bracket D-78

Wing bracket for connecting UNO sections together.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-UNO D-78	1302318	0,30	1302316	0,30



Wing Bracket D-76

Wing bracket for connecting UNO sections together.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-UNO D-76	1302317	0,30	1302315	0,30



Tubing Bracket

UNO tubing clamp for connecting tubing directly to UNO sections.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-UNO D-105	1302593	0,10	1302299	0,20



Acute Angle Bracket 45°

Acute angle bracket for connecting UNO sections together.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-UNO D-91-05	1371917	0,20	1302288	0,30



Acute Angle Bracket 60°

Acute angle bracket for connecting UNO sections together.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-UNO D-91-07	1371918	0,20	1302289	0,20



Acute Angle Bracket 75°

Acute angle bracket for connecting UNO sections together.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-UNO D-91-09	1371919	0,20	1302290	0,30



Obtuse Angle Bracket 15°

Obtuse angle bracket for connecting UNO sections together.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-UNO D-92-01	1371920	0,20	1302291	0,20



Obtuse Angle Bracket 30°

Obtuse angle bracket for connecting UNO sections together.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-UNO D-92-03	1371921	0,20	1302292	0,20



Obtuse Angle Bracket 45°

Obtuse angle bracket for connecting UNO sections together.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-UNO D-92-05	1371922	0,20	1302293	0,20



Obtuse Angle Bracket 60°

Obtuse angle bracket for connecting UNO sections together.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-UNO D-92-07	1371923	0,20	1302294	0,20



Obtuse Angle Bracket 75°

Obtuse angle bracket for connecting UNO sections together.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-UNO D-92-09	1371924	0,20	1302295	0,20



Closure Strip

Cover to close the UNO Channel.

Type Description	SS	SS (kg)	PVC	PG
S-UNO D-93	1371916	0,90	85966	1302287



End Cap

High visibility End Cap for UNO Channel.

Type Description	PE	PE (kg)
S-UNO D-97-41	1371927	0,010
S-UNO D-97-21	1371947	-



End Cap Metal

Metal End Cap for UNO Channel.

Type Description	SS	SS (kg)
S-UNO D-97-41	1371928	0,010



Equipment Bracket

Support bracket for attaching light equipment to UNO channels.
Supplied in pairs.

Type Description	SS	SS (kg)
A-UNO D137-SB	1303283	0,40



UNO Bolted Starter Brackets

Bolted Starter for U-41-1

End pieces for UNO Channel for starter or 90 deg connection.

Type Description	Fasteners included	SS	SS (kg)	HDG
S-UNO E-1	-	1371925	1,1	1302296



Bolted Starter for U-41-2

End pieces for UNO Channel for starter or 90 deg connection.

Type Description	Fasteners included	SS	SS (kg)	HDG
S-UNO E-2	-	1371926	1,4	1302297



Bolted Starter E-3 for U-41-1

Ceiling support for UNO Channels.

Type Description	SS	SS (kg)	HDG	PG
S-UNO E-3	1304475	0,80	1304474	1304473



UNO Beam Clamps

Window Beam Clamp

Window Clamp for attaching single U-41 Channel below H beam sections. Includes tapered bolt. Must be fitted in pairs.

Type Description	Fasteners included	SS	SS (kg)	HDG
S-UNO D-81	1×M10	1371909	0,40	1302280



Beam Clamp D-82

Clamp for attaching UNO Channel with UNO nuts to H beam flange sections. Includes tapered bolt. Must be fitted in pairs.

Type Description	Fasteners included	SS	SS (kg)	HDG
S-UNO D-82	1×M10	1371910	0,20	1302281



Beam Clamp D-85

Clamp for attaching UNO Channel from the end profile to H beam flange sections. Includes tapered bolt. Must be fitted in pairs or together with other beam clamps.

Type Description	Fasteners included	SS	SS (kg)	HDG
S-UNO D-85	1×M10	1371912	0,10	1302283



Beam Clamp D-86

Clamp for attaching UNO Channel to H beam flange sections.
Includes tapered bolt.

Type Description	Fasteners included	SS	SS (kg)	HDG
S-UNO D-86	1×M10	1371913	0,50	1302284



Beam Clamp D-87-A

Clamp for attaching U-41 Channel to H beam flange sections. Square U-Bolt included. Must be fitted in pairs.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-UNO D-87-A	1371914	0,40	1302285	0,60



Beam Clamp D-87-B

Clamp for attaching U-41-2 Channel to H beam flange sections. Square U-Bolt included. Must be fitted in pairs.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-UNO D-87-B	1371915	0,40	1302286	0,60



Beam Clamp 30-1 for U-41-1

Clamp for attaching U-41-1 Channel to H beam flange sections. Square U-Bolt included. For flange thickness up to 30 mm. Must be fitted in pairs.

Type Description	SS	SS (kg)
S-UNO BC-30-1	1304498	0,70



Beam Clamp 30-2 for U-41-2

Clamp for attaching U-41-2 Channel to H beam flange sections. Square U-Bolt included. For flange thickness up to 30 mm. Must be fitted in pairs.

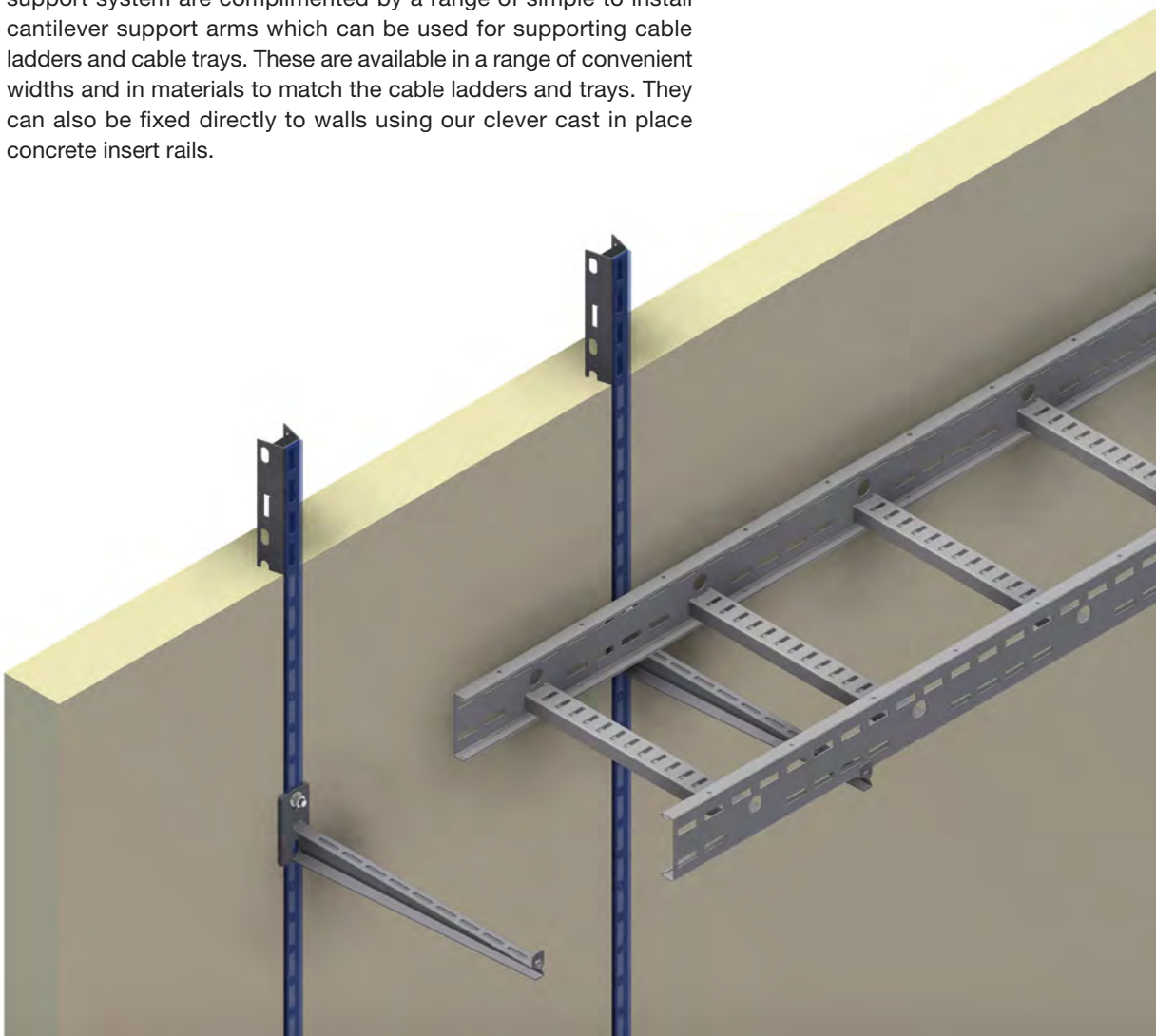
Type Description	SS	SS (kg)
S-UNO BC-30-2	1304499	0,70



ALTERNATIVE SUPPORT

CANTILEVER ARMS

Both our Mekano® multidiscipline support system and our UNO support system are complimented by a range of simple to install cantilever support arms which can be used for supporting cable ladders and cable trays. These are available in a range of convenient widths and in materials to match the cable ladders and trays. They can also be fixed directly to walls using our clever cast in place concrete insert rails.



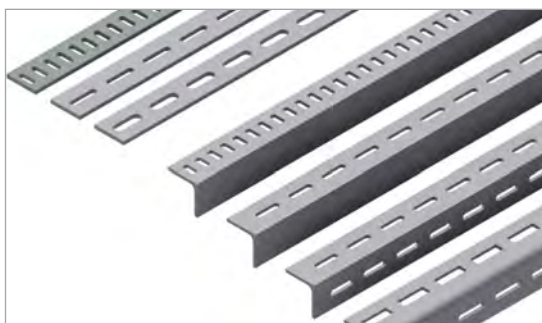
LOAD DATA CANTILEVER ARMS

Cantilever Arm	SWL 100mm SS (kg)	SWL 150mm SS (kg)	SWL 200mm SS (kg)	SWL 300mm SS (kg)	SWL 400mm SS (kg)	SWL 600mm SS (kg)
CA-30	210	176	135	135	123	■
CA-35	176	■	88	76	70	47
CB-31	235	235	176	147	111	■
CB-30	264	147	98	98	100	■
CA-40	■	■	411	-	176	82
CA-80	■	■	■	■	305*	294
CB-OE/SPB	■	264	■	176	117*	■

SWL = Safe Working Load. Point load at the end to simulate worst case scenario. Safety factor is 1.7.

*450 mm length.

■ = Cantilever arm is not available in this length.



PERFORATED PROFILES

We offer a range of standard perforated profiles suitable for welding during construction. These can then be treated and coated together with the main structure. Slot patterns are available laterally or longitudinally, and the profiles may be supplied flat or angled. The edges and bolt holes are not prepared for paint unless otherwise stated. Primed steel is delivered with a factory applied coating of primer to deliver protection during transport and storage. After installation, or when the products are exposed to corrosive environments, they must have a secondary coating applied for optimal life expectancy. The primer offers good adhesion and maximizes the coverage for top coat systems.

PRELIMINARY INSTALLATION EQUIPMENT

During the installation period there are many obstacles that could prove hazardous if not dealt with. We recommend suspending cables temporarily with our S-shaped hook to improve HSE and to avoid shortcircuit or damage to the cables. When the installation work is completed you can reuse the same safety hooks on the next project.

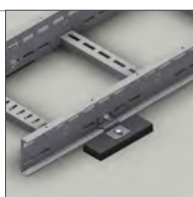
The safety hooks that we offer are supplied from HMM Gruppen and are approved by DNV.

Made of non-conductive thermoplastic polyester. Constructed to support a variety of cables, which is why we offer safety hooks with different safe working loads.



SUPPORT MAGNETS

Our strong magnets can be installed as a permanent or temporary fastening point for support systems. The support magnets are well-suited for areas that are hard to reach and difficult to work in.



CONCRETE INSERT RAIL

Our innovative concrete insert rail is a channel which is attached to the concrete mould prior to pouring. When the mould is removed, the result is a strong, flexible support rail system encased in the concrete wall, ceiling or floor. The rail system can be used for direct support by attaching cantilever arms, or can be used for supporting a wide range of brackets and accessories.



TABLE OF CONTENTS

Cantilever Arms

Cantilever Arms..... 96

Perforated Profiles

Flat Iron 98

Angle Iron Single Perforated 99

Angle Iron Double Perforated..... 100

Flat Iron with welding strips..... 101

Angle Iron with welding strips 101

S-Hooks, Magnets and Concrete Insert Rail

Preliminary Installation Equipment..... 102

Support Magnets..... 102

Concrete Insert Rail 103

Intellectual Property Rights

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Cantilever Arms

Offshore Cantilever Arm CA-30

Cantilever Arm for LOE and RZE Cable Ladders and SPB Cable Trays. Type description length states corresponding ladder/tray.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-M CA-30-100	1371439	-	86275	0,40
S-M CA-30-150	1371440	-	86276	0,50
S-M CA-30-200	1371441	-	86277	0,50
S-M CA-30-300	1371442	0,70	86278	0,70
S-M CA-30-400	1371443	0,80	86279	0,90



Onshore Cantilever Arm CA-35

Cantilever Arm for LOE and RZE Cable Ladders and SPB Cable Trays. Type description length states corresponding ladder/tray width.

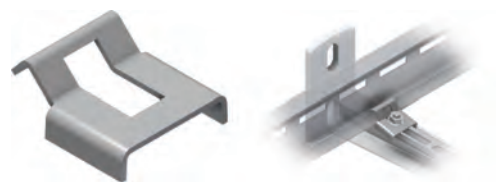
Type Description	SS	SS (kg)	HDG	HDG (kg)
S-M CA-35-100	1302442	0,30	1372689	0,40
S-M CA-35-200	1302443	0,50	1372690	0,50
S-M CA-35-300	1302444	0,60	1372691	0,60
S-M CA-35-400	1302445	0,80	1372692	0,90
S-M CA-35-500	1302446	1,0	1372693	1,0
S-M CA-35-600	1302447	1,1	1372694	1,2



Fixing Clamp for Cantilever Arm

Clamp for fixing LOE Cable Ladders to CA-35 type Cantilever Arms.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-LOE FC-CA-35	1372384	0,010	1371556	0,010



Channel Bracket for Mekano® Support

Channel Brackets suitable for support from Mekano® CH 50-2T and CH 100-2T channels. Type description length states corresponding tray width.

Type Description	SS	SS (kg)	HDG	ZM
S-M CB-31-100	1300055	0,30	1300060	91376
S-M CB-31-150	1300056	0,30	1300061	91375
S-M CB-31-200	1300057	0,40	1300062	91374
S-M CB-31-300	1300058	0,70	1300063	91373
S-M CB-31-400	1300059	0,80	1300064	91372



Channel Bracket for Channel support

Cantilever Arm channel bracket for installation on Mekano® or UNO Channels. Type description length states corresponding tray width.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-M CB-30-100	1371791	0,40	1302437	0,40
S-M CB-30-150	1371792	0,40	1302438	0,50
S-M CB-30-200	1371793	0,50	1302439	0,50
S-M CB-30-300	1371794	0,70	1302440	0,70
S-M CB-30-400	1371799	0,80	1302441	0,90



Channel Bracket OE/SPB

Channel brackets with increased capacity specifically designed for supporting OE Cable Ladder or SPB Cable Tray systems from Mekano® 100-2T2 Channel. Type description length states corresponding tray/ladder width.

Type Description	SS	SS (kg)	HDG	ZM
S-M CB-OE/SPB-150	1300065	-	1300068	91369
S-M CB-OE/SPB-300	1300066	1,6	1300069	91370
S-M CB-OE/SPB-450	1300067	2,1	1300070	91371

2 Locking Bolt set(s) M10x20 included.



Single UNO Cantilever CA-40

UNO Cantilever Arm. Type description length states cantilever arm length.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-UNO CA-40-200	1371880	0,70	1302300	0,80
S-UNO CA-40-300	1371881	0,90	1302301	1,1
S-UNO CA-40-400	1371882	1,1	1302302	1,4
S-UNO CA-40-500	1302311	1,4	1302303	1,6
S-UNO CA-40-600	1371883	1,6	1302304	1,9
S-UNO CA-40-800	1302312	-	1302305	2,5
S-UNO CA-40-1000	1302313	2,4	1302306	3,0



Double UNO Cantilever CA-80

Double UNO Cantilever Arm. Type description length states corresponding ladder/tray width.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-UNO CA-80-450	1302314	2,8	1302307	3,5
S-UNO CA-80-600	1371884	3,4	1302308	3,7
S-UNO CA-80-750	1371885	4,1	1302309	4,4
S-UNO CA-80-900	1371886	4,8	1302310	6,0



UNO Cantilever Bracing

Bracing arms for UNO cantilevers. Available with 30/60 or 45 degree angle support.

Type Description	SS	SS (kg)
30° UNO BB-45-600	1303296	2,2
30° UNO BB-30-600	1303295	1,8



Flat Iron

Lateral Slots 7x20 mm

Flat strip with lateral slots for universal support. Type description gives slot size first, followed by section dimensions and length.

Type Description	HDG	HDG (kg)
FI-CW-7x20-30x5x3000	1372130	2,8
FI-CW-7x20-40x5x3000	1372131	4,1
FI-CW-7x20-50x4x3000	1372103	4,3



Longitudinal Slots 7x35 mm

Flat strip with longitudinal slots for universal support. Type description gives slot size first, followed by section dimensions and length.

Type Description	SS	SS (kg)	HDG	AL
FI-LW-7x35-25x5x3000	1371930	2,5	1372111	
FI-LW-7x35-30x5x3000	1371931	3,0	1372112	78173
FI-LW-7x35-40x5x3000	1371932	4,3	1372113	78229
FI-LW-7x35-50x5x3000	1371933	5,5	1372114	



Longitudinal Slots 7x35 mm

Flat strip with longitudinal slots for universal support. Type description gives slot size first, followed by section dimensions and length.

Type Description	ZM	ZM (kg)
FI-LW-7x35-25x3x3000	1375134	1,4



Longitudinal Slots 11x30 mm

Flat strip with longitudinal slots for universal support. Type description gives slot size first, followed by section dimensions and length.

Type Description	SS	SS (kg)	HDG	HDG (kg)
FI-LW-11x30-40x6x3000	1371984	5,0		-
FI-LW-11x30-40x8x3000		-	1372102	7,0
FI-LW-11x30-50x5x3000	1371935	5,4	81485	5,8



Longitudinal Slots 11x35 mm

Flat strip for universal support with longitudinal slots. Type Description gives slot size first, followed by section dimensions and length.

Type Description	SS	SS (kg)	HDG	AL
FI-LW-11x35-40x5x3000	86858	3,9	81484	62930



Angle Iron Single Perforated

Lateral Slots 7x16 mm

Angle section for universal support with lateral slots on one side. Type description gives slot size first, followed by section dimensions and length.



Type Description	SS	SS (kg)	HDG	AL
AI-CW-7x16-30x30x3x3000	1371942	3,6	1372134	78228
AI-CW-7x16-40x40x4x3000	1371943	6,7	1372140	

Longitudinal Slots 7x30 mm

Angle section for universal support with longitudinal slots on one side. Type description gives slot size first, followed by section dimensions and length.



Type Description	SS	SS (kg)	HDG	HDG (kg)
AI-LW-7x30-30x30x3x3000	1371939	3,9	1372117	4,2
AI-LW-7x30-40x40x4x3000	1371940	6,9	1372118	7,4

Longitudinal Slots 7x30 mm

Angle section for universal support with longitudinal slots on one side. Type description gives slot size first, followed by section dimensions and length.



Type Description	AL	AL (kg)
AI-LW-7x30-50x50x3x2000	78045	1,5

Longitudinal Slots 11x30 mm

Angle section for universal support with longitudinal slots on one side. Type description gives slot size first, followed by section dimensions and length.



Type Description	SS	SS (kg)
AI-LW-11x30-50x50x5x3000	1371941	10,7

Angle Iron Double Perforated

Longitudinal Slots 7x30 mm

Angle section for universal support with longitudinal slots on both sides. Type description gives slot size first, followed by section dimensions and length.

Type Description	SS	SS (kg)
AI-LW-7x30-40x40x4x3000	1371945	6,6



Longitudinal Slots 11x30 mm

Angle section for universal support with longitudinal slots on both sides. Type description gives slot size first, followed by section dimensions and length.

Type Description	SS	SS (kg)	HDG	HDG (kg)
AI-LW-11x30-50x50x5x3000	1371946	10,1	78662	10,8



Longitudinal Slots 7x35 mm

Angle section for universal support with longitudinal slots on both sides. Type description gives slot size first, followed by section dimensions and length.

Type Description	SS	SS (kg)	HDG	HDG (kg)
AI-LW-7x35-49x49x4x3000	88342	7,9	88347	8,5



Longitudinal Slots 11x35 mm

Angle section for universal support with longitudinal slots on both sides. Type description gives slot size first, followed by section dimensions and length.

Type Description	SS	SS (kg)	HDG	HDG (kg)
AI-LW-11x35-49x49x4x3000	88348	7,3	88349	7,8



Longitudinal Slots 7x35/11x35 mm

Angle section for universal support with longitudinal slots on both sides. Type description gives slot size first, followed by section dimensions. Length: 3000 mm.

Type Description	SS	SS (kg)	HDG	HDG (kg)
AI-LW-7/11x35-49x49x4	88344	7,6	88346	8,2



Longitudinal Slots 13x40 mm

Angle section for universal support with longitudinal slots on both sides. Type description gives slot size first, followed by section dimensions and length.

Type Description	SS	SS (kg)
AI-LW-13x40-54x54x4x3000	88351	7,8



Flat Iron with welding strips

Longitudinal Slots 7x35 mm

Flat strip with welding lugs and longitudinal slots. Type description gives slot size first, followed by section dimensions and length.

Type Description	AL	AL (kg)
FI WS-HO 7x35-2500	86884	0,50



Angle Iron with welding strips

Longitudinal Slots 7x35 mm

Flat strip with angled welding lugs and longitudinal slots. Type description gives slot size first, followed by section dimensions. Length: 3000 mm.

Type Description	AL	AL (kg)
AI-LW-7x30-50x50x3x2000	78045	1,5



Preliminary Installation Equipment

DNV approved Safety Hook

Hook for temporary support of cables during installation. Available in three sizes; 6", 9" & 12".

Type Description	Plastic	Plastic (kg)
A-M HT-6	1372893	0,070
A-M HT-9	1372894	0,10
A-M HT-12	1372895	0,40



Support Magnets

Magnet S-M MF 94x34 IT M6 RM

Magnets for support for ship and offshore use. Fully adjustable, for permanent and temporary support.

Type Description	MA	MA (kg)
S-M MF 94x34 IT M6 RM	68966	0,40



Magnet S-M MF 175x60 IT M8 RM

Magnets for support for ship and offshore use. Fully adjustable, for permanent and temporary support.

Type Description	MA	MA (kg)
S-M MF 175x60 IT M8 RM	68965	1,7



Magnet S-M MF Ø88 OT M8 RP

Magnets for support for ship and offshore use. Fully adjustable, for permanent and temporary support.

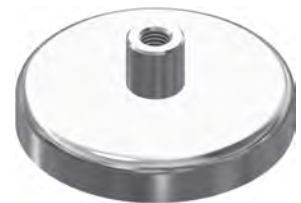
Type Description	MA	MA (kg)
S-M MF Ø88 OT M8 RP	68967	0,40



Magnet S-M MF Ø57 IT M6

Magnets for support for ship and offshore use for gluing to structure for permanent support.

Type Description	MA	MA (kg)
S-M MF Ø57 IT M6	68968	0,20



Magnet S-M MF Ø80 IT M10

Magnets for support for ship and offshore use for gluing to structure for permanent support.

Type Description	MA	MA (kg)
S-M MF Ø80 IT M10	68969	0,70



V-Tool for Øglænd Magnets M6

Tool for safe removal of powerful support magnets. With M6 thread to attach to magnet prior to removal.

Type Description	AL	AL (kg)
V-Tool M6	1303299	0,060



V-Tool for Øglænd Magnets M8

Tool for safe removal of powerful support magnets. With M8 thread to attach to magnet prior to removal.

Type Description	AL	AL (kg)
V-Tool M8	1303298	0,30



Concrete Insert Rail

Channel Concrete Insert Rail

Channel Rail for casting in concrete. Available in three lengths.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-M CIC-V-50-1-1250	1303392	2,5	1303395	2,6
S-M CIC-V-50-1-2500	1303391	4,5	1303394	4,7
S-M CIC-V-50-1-3000	1303390	5,2	1303393	5,5



T-Bolt for Concrete Insert Rail

T-Bolts for attaching into Concrete Insert Rail (M10).

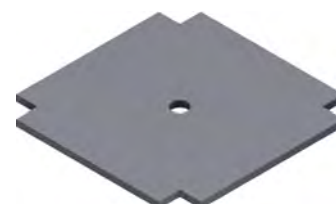
Type Description	SS	SS (kg)	HDG	HDG (kg)
S-M CIC-V-TS	1372621	-	80911	0,030



Nail Plate for Concrete Insert Rail

Nail Plate for temporarily fixing Concrete Insert Rail to timber form during casting.

Type Description	SS	SS (kg)
S-M CIC-V-FC	79717C	0,020



Nail for Concrete Insert Rail

Nail for temporarily fixing Concrete Insert Rail to timber form during casting.

Type Description	SS	SS (kg)
S-M CIC-V-NA	79717H	-



Bolted Inline Starter 50

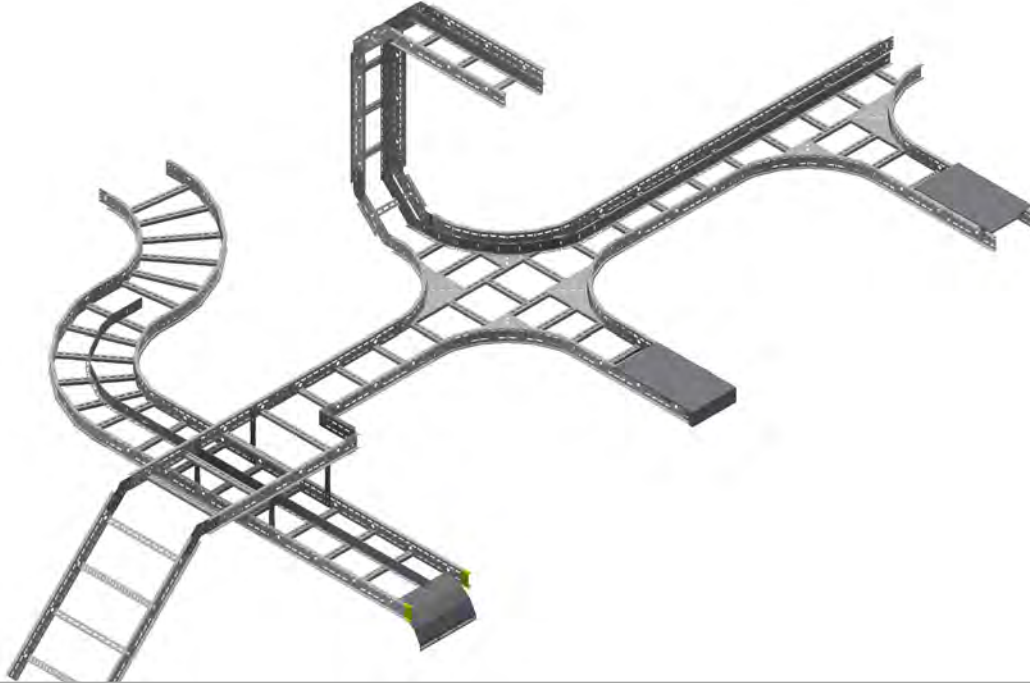
Starter Bracket for Mekano® CH50-2T for use with Concrete Insert Rail, UNO Cantilevers or fixing directly to structure.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-M BS-CH50-2	80133	0,50	80134	0,60



OE CABLE LADDER SYSTEM

The OE cable ladder system is designed to deliver high loading capacities together with significant weight reductions. OE cable ladders are designed to be safe, and give distinct HSE benefits. All parts are roll formed with return flanges and have no sharp edges. Handling, lifting and fitting operations are inherently safer, easier and quicker. All welded stainless steel products are pickled and passivated to meet the expectations of long field lifetime and integrity requirements.



MATERIALS



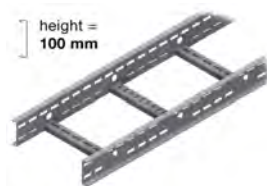
3D LIBRARIES

AVEVA (E3D / PDMS)
Hexagon (Intergraph Smart 3D)
Bentley

CERTIFICATES



CABLE LADDERS



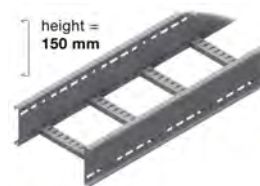
OE100
Siderail height 100 mm



OE125
Siderail height 125 mm



OE150
Siderail height 150 mm



OE150 20C US
Reduced rung spacing

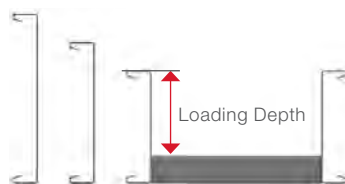
LOAD DATA

Cable Ladder	Loading Depth (mm)	SWL 3 m SS/HDG (kg/m)	SWL 4.5 m SS/HDG (kg/m)	SWL 6 m SS/HDG (kg/m)	Available lengths (m)	Material thickness SS/HDG (mm)
OE100	75	283 / 217	164 / 109	92 / 68	3 and 6	1.5 / 1.5
OE125	100	317 / 400	211 / 209	121 / 123	3 and 6	1.5 / 2.0
OE150	125	417 / 448	221 / 276	122 / 132	3 and 6	1.5 / 2.0

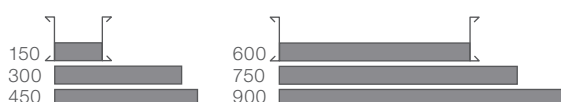
SWL = Safe Working Load. Loading data according to IEC61537. The length of the end span must be reduced to 3/4 of the support spacing and with no splices on the end span.

DIFFERENT HEIGHTS (MM):

Different ladder heights offer several choices for efficient positioning of the loads and full optimisation of the area, including possibility for future expansion.



AVAILABLE WIDTHS (MM):



ALTERNATING SLOT PATTERNS

OE ladders have alternating slot patterns on the rungs, allowing for optimal fitting of both cable ties, short circuit cable cleats and tubing clamps without compromise.



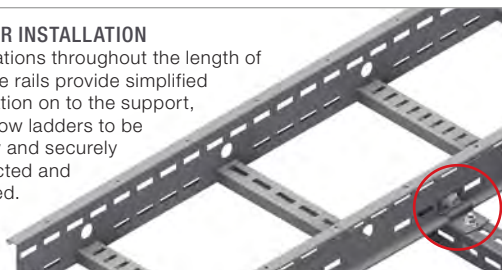
DRAINAGE HOLES

The design reduces the possibility of any liquids to permanently gather and pool. Material choices offered have been carefully considered in order to avoid corrosion whilst maintaining cost advantages.



LADDER INSTALLATION

Perforations throughout the length of the side rails provide simplified installation on to the support, and allow ladders to be quickly and securely connected and adjusted.



RAIL & RUNG PATTERN

The rail and rung design also gives the option to connect equipment directly onto the ladder with no need for drilling or unnecessary and heavy extra bracketry.



Product code	Flat Elbow	Width	Material
OE	150	FE - 90 - 300	R600 SS
	Rail height	Angle	Radius

FE = Flat Elbow, TE = Tee-Piece, CP = Cross-Piece, CO = Cover

TABLE OF CONTENTS

OE Features	106
-------------------	-----

OE100 Cable Ladder System

OE100 Cable Ladder System	107
OE100 Fittings.....	107
OE100 Fixings	111

OE125 Cable Ladder System

OE125 Cable Ladder System	113
OE125 Fittings.....	113
OE125 Fixings	116

OE150 Cable Ladder System

OE150 Cable Ladder System	118
OE150 Fittings.....	119
OE150 Fixings	122

OE Accessories

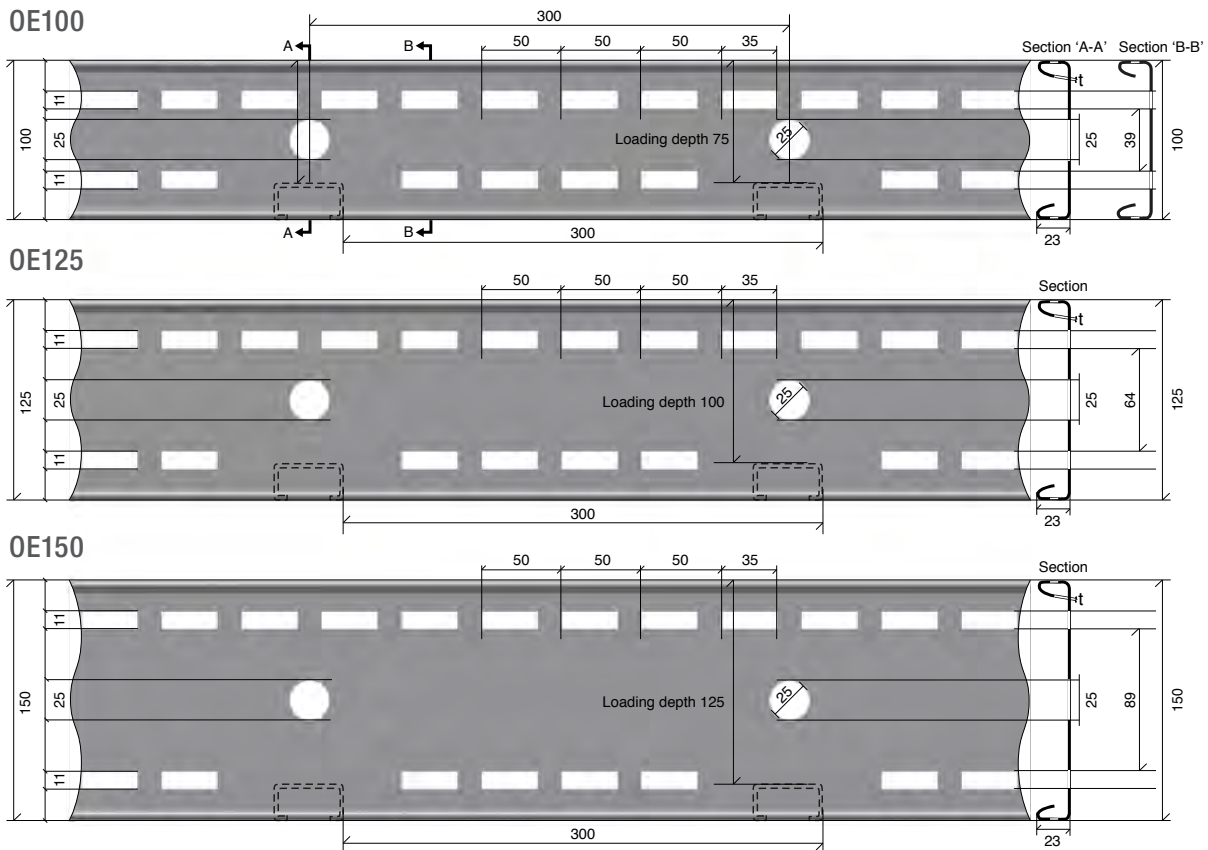
OE Cover	124
OE Fixing Clamps	126
OE Installation and Protection Equipment.....	127
OE Miscellaneous	128



Intellectual Property Rights

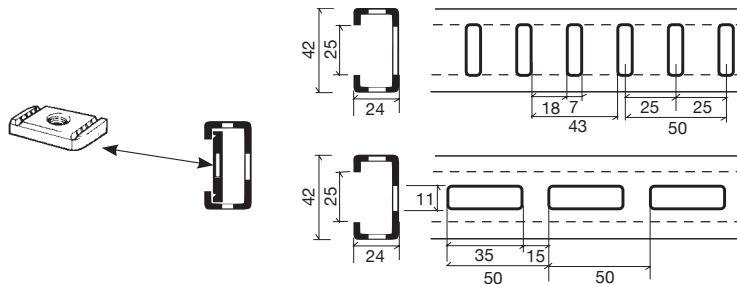
Please note that many of the products presented in this catalogue are protected by our intellectual property rights in the form of patents, registered designs and trademarks, and that we have made the strategic decision to police and enforce these rights in all relevant jurisdictions.

OE Features



SMART RUNG DESIGN

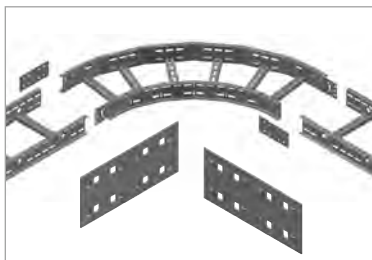
OE rungs are designed to be fully compatible with UNO nuts, allowing for brackets and accessories to be attached directly to the underside of the standard rungs.



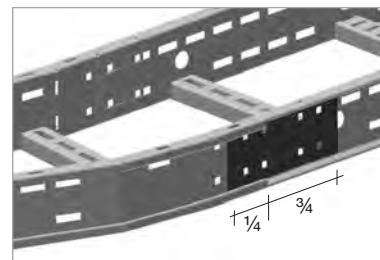
Splice Connectors



When joining two fittings together, no additional splice connectors are necessary.



Only one additional splice connector is required when attaching a fitting against a straight OE cable ladder. Two splice connectors are required to join two cable ladders.



When attaching to fittings, the notches must be directed outwards. $\frac{3}{4}$ of the splice connector is fixed to the cable ladder and $\frac{1}{4}$ to the fitting.

OE100 Cable Ladder System

OE100 Cable Ladder

OE100 Cable Ladder of 100 mm rail height for heavy loads. Alternating slot patterns on the rungs allow for optimal fitting of both Cable Ties, short circuit Cable Cleats and Tubing Clamps. The rail and rung design also gives the option to connect equipment directly onto the ladder.



OE100 Cable Ladder in 3 m length

Type Description	SS	SS (kg)	HDG	HDG (kg)
OE100 CL-150-3000	1371606	12,2	1371600	12,8
OE100 CL-300-3000	1371607	13,8	1371601	14,5
OE100 CL-450-3000	1371608	15,5	1371602	16,2
OE100 CL-600-3000	1371609	17,1	1371603	17,9
OE100 CL-750-3000	1371610	18,8	1371604	22,1
OE100 CL-900-3000	1371611	20,4	1371605	24,2

OE100 Cable Ladder in 6 m length

Type Description	SS	SS (kg)	HDG	HDG (kg)
OE100 CL-150-6000	86745	23,6	86739	25,8
OE100 CL-300-6000	86746	-	86740	29,5
OE100 CL-450-6000	86747	30,1	86741	33,1
OE100 CL-600-6000	86748	33,3	86742	36,7
OE100 CL-750-6000	86749	35,3	86743	45,2
OE100 CL-900-6000	86750	40,3	86744	-

OE100 Fittings

90° Flat Elbow

Space-saving 90° Flat Elbow with one integrated Splice Connector on each end.



Radius 600 mm

Type Description	SS	SS (kg)	HDG	HDG (kg)
OE100 FE-90-LW-150 R600	1384036	5,2	1384180	5,7
OE100 FE-90-LW-300 R600	1384037	6,7	1384181	7,2
OE100 FE-90-LW-450 R600	1384038	8,2	1384182	8,9
OE100 FE-90-LW-600 R600	1384039	9,6	1384183	10,2
OE100 FE-90-LW-750 R600	1384040	-	1384184	11,9
OE100 FE-90-LW-900 R600	1384041	12,4	1384185	13,3

4 Locking Bolt set(s) M10x20 included.

Radius 900 mm

Type Description	SS	SS (kg)	HDG	HDG (kg)
OE100 FE-90-LW-150 R900	1384042	7,2	1384186	7,5
OE100 FE-90-LW-300 R900	1384043	8,6	1384187	-
OE100 FE-90-LW-450 R900	1384044	10,1	1384188	10,8
OE100 FE-90-LW-600 R900	1384045	11,5	1384189	11,9
OE100 FE-90-LW-750 R900	1384046	-	1384190	15,1
OE100 FE-90-LW-900 R900	1384047	14,5	1384191	15,4

60° Flat Elbows

Space-saving 60° Flat Elbow with one integrated Splice Connector on each end.

Radius 600 mm

Type Description	SS	SS (kg)	HDG	HDG (kg)
OE100 FE-60-LW-150 R600	1384024	3,9	1384168	4,1
OE100 FE-60-LW-300 R600	1384025	4,9	1384169	5,2
OE100 FE-60-LW-450 R600	1384026	5,9	1384170	6,2
OE100 FE-60-LW-600 R600	1384027	6,9	1384171	7,4
OE100 FE-60-LW-750 R600	1384028	7,9	1384172	8,4
OE100 FE-60-LW-900 R600	1384029	8,8	1384173	9,5

4 Locking Bolt set(s) M10x20 included.



Radius 900 mm

Type Description	SS	SS (kg)	HDG	HDG (kg)
OE100 FE-60-LW-150 R900	1384030	5,2	1384174	5,4
OE100 FE-60-LW-300 R900	1384031	6,1	1384175	6,4
OE100 FE-60-LW-450 R900	1384032	7,1	1384176	7,7
OE100 FE-60-LW-600 R900	1384033	8,1	1384177	8,5
OE100 FE-60-LW-750 R900	1384034	-	1384178	10,5
OE100 FE-60-LW-900 R900	1384035	-	1384179	11,7

45° Flat Elbows

Space-saving 45° Flat Elbow with one integrated Splice Connector on each end.

Radius 600 mm

Type Description	SS	SS (kg)	HDG	HDG (kg)
OE100 FE-45-LW-150 R600	1384012	2,7	1384156	2,9
OE100 FE-45-LW-300 R600	1384013	3,5	1384157	3,7
OE100 FE-45-LW-450 R600	1384014	4,2	1384158	4,5
OE100 FE-45-LW-600 R600	1384015	4,9	1384159	5,2
OE100 FE-45-LW-750 R600	1384016	5,6	1384160	6,1
OE100 FE-45-LW-900 R600	1384017	6,4	1384161	6,9

4 Locking Bolt set(s) M10x20 included.



Radius 900 mm

Type Description	SS	SS (kg)	HDG	HDG (kg)
OE100 FE-45-LW-150 R900	1384018	3,6	1384162	3,9
OE100 FE-45-LW-300 R900	1384019	4,4	1384163	4,6
OE100 FE-45-LW-450 R900	1384020	5,1	1384164	7,7
OE100 FE-45-LW-600 R900	1384021	5,9	1384165	6,1
OE100 FE-45-LW-750 R900	1384022	6,6	1384166	7,6
OE100 FE-45-LW-900 R900	1384023	7,3	1384167	8,6

30° Flat Elbows

Space-saving 30° Flat Elbow with one integrated Splice Connector on each end.

Radius 600 mm

Type Description	SS	SS (kg)	HDG	HDG (kg)
OE100 FE-30-LW-150 R600	1384000	1,9	1384144	-
OE100 FE-30-LW-300 R600	1384001	2,4	1384145	2,5
OE100 FE-30-LW-450 R600	1384002	2,9	1384146	-
OE100 FE-30-LW-600 R600	1384003	3,3	1384147	3,5
OE100 FE-30-LW-750 R600	1384004	3,8	1384148	-
OE100 FE-30-LW-900 R600	1384005	4,3	1384149	4,7

4 Locking Bolt set(s) M10x20 included.



Radius 900 mm

Type Description	SS	SS (kg)	HDG	HDG (kg)
OE100 FE-30-LW-150 R900	1384006	2,5	1384150	2,6
OE100 FE-30-LW-300 R900	1384007	-	1384151	3,1
OE100 FE-30-LW-450 R900	1384008	3,5	1384152	3,7
OE100 FE-30-LW-600 R900	1384009	-	1384153	4,1
OE100 FE-30-LW-750 R900	1384010	4,5	1384154	5,2
OE100 FE-30-LW-900 R900	1384011	4,9	1384155	5,6

Tee-Piece

Space-saving Tee-Piece with one integrated Splice Connector on each junction.



Radius 600 mm

Type Description	SS	SS (kg)	HDG	HDG (kg)
OE100 TE-LW-150/150-R600	1384288	10,3	1384504	11,1
OE100 TE-LW-300/300-R600	1384301	11,8	1384517	12,8
OE100 TE-LW-450/450-R600	1384314	13,9	1384530	-
OE100 TE-LW-600/600-R600	1384327	15,6	1384543	16,9
OE100 TE-LW-750/750-R600	1384340	18,2	1384556	-
OE100 TE-LW-900/900-R600	1384353	20,1	1384569	-

6 Locking Bolt set(s) M10x20 included.

Radius 900 mm

Type Description	SS	SS (kg)	HDG	HDG (kg)
OE100 TE-LW-150/150-R900	1384294	17,2	1384510	17,8
OE100 TE-LW-300/300-R900	1384307	19,3	1384523	-
OE100 TE-LW-450/450-R900	1384320	21,6	1384536	23,1
OE100 TE-LW-600/600-R900	1384333	-	1384549	25,6
OE100 TE-LW-750/750-R900	1384346	-	1384562	-
OE100 TE-LW-900/900-R900	1384359	29,2	1384575	34,6

Cross-Piece

Space-saving Cross-Piece with one integrated Splice Connector on each junction.



Radius 600 mm

Type Description	SS	SS (kg)	HDG	HDG (kg)
OE100 CP-LW-150-R600	1384720	-	1384756	-
OE100 CP-LW-300-R600	1384721	16,6	1384757	-
OE100 CP-LW-450-R600	1384722	18,9	1384758	20,2
OE100 CP-LW-600-R600	1384723	20,9	1384759	22,5
OE100 CP-LW-750-R600	1384724	23,7	1384760	25,9
OE100 CP-LW-900-R600	1384725	25,9	1384761	28,3

8 Locking Bolt set(s) M10x20 included.

Radius 900 mm

Type Description	SS	SS (kg)	HDG	HDG (kg)
OE100 CP-LW-150-R900	1384726	-	1384762	-
OE100 CP-LW-300-R900	1384727	28,5	1384763	-
OE100 CP-LW-450-R900	1384728	31,3	1384764	-
OE100 CP-LW-600-R900	1384729	-	1384765	-
OE100 CP-LW-750-R900	1384730	-	1384766	-
OE100 CP-LW-900-R900	1384731	-	1384767	-

Flexi Riser

Fully adjustable riser for 0 to 90°. Can be used as inside or outside riser.

Type Description	SS	SS (kg)	HDG	HDG (kg)
OE100 FR1-LW-150	1371636	2,6	1371630	-
OE100 FR1-LW-300	1371637	2,7	1371631	3,1
OE100 FR1-LW-450	1371638	2,8	1371632	3,2
OE100 FR1-LW-600	1371639	2,9	1371633	3,4
OE100 FR1-LW-750	1371640	3,1	1371634	3,6
OE100 FR1-LW-900	1371641	3,2	1371635	3,7

8 Locking Bolt set(s) M10x20 included.



Flexi Riser Part

Flexi Riser part for 0 to 90°. Can be used as inside or outside riser.

Type Description	SS	SS (kg)	HDG	HDG (kg)
OE100 FR-PA-LW-150	1371642	1,5	1371650	1,5
OE100 FR-PA-LW-300	1371643	1,6	1371651	1,6
OE100 FR-PA-LW-450	1371644	1,7	1371652	1,7
OE100 FR-PA-LW-600	1371645	1,8	1371653	1,8
OE100 FR-PA-LW-750	1371646	-	1371654	-
OE100 FR-PA-LW-900	1371647	2,3	1371655	2,1



OE100 Fixings

Splice Connector

Splice Connector for attaching Cable Ladders and fittings. Available in two types: With and without notches. Notches (code NO) are recommended where possible to strengthen the connection. Two Splice Connectors are required for each connection between two Cable Ladders. One Splice Connector is required between a Cable Ladder and an OE fitting.

Type Description	Fasteners included	SS	SS (kg)	HDG
OE/LOE100 SC-NO	4×M10	1371681	0,30	-
OE100 SC	4×M10	1371683	0,50	1371678



Splice Angle Vertical

Vertical splice angles for forming tee-junctions between two ladders. Two Splices required per connection.

Type Description	Fasteners included	SS	SS (kg)	HDG
OE100 SA-VE	4×M10	1371711	1,1	1302493



Hinge Vertical

Heavy duty Vertical Hinge for OE Cable Ladders. Can be locked in place in increments of 4°. SS version with notches. Two Hinges required for each connection.

Type Description	Fasteners included	SS	SS (kg)	HDG
OE/LOE100 HV	4×M10	1371679	0,70	1371676



Splice Angle Horizontal

Angled Horizontal Splice for the OE Cable Ladder system. Two Splices required for each connection.

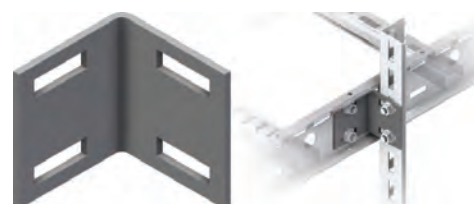
Type Description	Fasteners included	SS	SS (kg)	HDG
OE100 SA-HO	4×M10	1371682	0,60	1302534



Angle Bracket

Angle Bracket for fitting OE Cable Ladders directly to Mekano® Channels.

Type Description	Fasteners included	SS	SS (kg)	HDG
OE100 AB-70x70-10	4×M10	1372622	0,40	1372623



Hinge Horizontal

Horizontal Hinge which can be locked in any angle. Two hinges required for each OE-connection.

Type Description	Fasteners included	SS	SS (kg)	HDG
OE100 HH	4×M10	1371680	0,70	1371677



Reducer Part

Part for reducing or increasing Cable Ladder width in set increments. Universal design which can be used for left or right side independently, or both sides together.

Type Description	SS	SS (kg)	HDG	HDG (kg)
OE100 RE-Z-150	1371656	0,80	1302562	0,90
OE100 RE-Z-300	1371657	1,2	1302563	1,3
OE100 RE-Z-450	1371658	1,5	1302564	1,6
OE100 RE-Z-600	1371659	1,8	1302565	1,6
OE100 RE-Z-750	1371660	2,1	1302566	1,9

4 Locking Bolt set(s) M10x20 included.



Dividers

Divider for separation and segregation of different systems. Dividers in SS (316L) cannot be used as an electromagnetic barrier, therefore Duplex barriers are available.

Type Description	SS	SS (kg)	HDG	Duplex
OE100 DI	1372003	3,9	1372000	1303284
OE100 DI-FE	1372009	3,7	1372006	1303286
OE100 DI-FR	1372021	0,50	1372012	1303290

3 Locking Bolt set(s) M6x12 included.



End Protector

High-visibility protection for OE Cable Ladder end rails.

Type Description	Yellow Plastic	Yellow Plastic (kg)
A-OE/LOE 100 EP	1306893	0,10



End Cover

End Cover to close the end of the Cable Ladder. Provides a tidy finish.

Type Description	SS	SS (kg)
OE EC-100-150	60009	0,60
OE EC-100-300	60010	0,90
OE EC-100-450	60011	1,2
OE EC-100-600	60012	1,5
OE EC-100-750	60013	1,8
OE EC-100-900	60014	2,1



OE125 Cable Ladder System

OE125 Cable Ladder

OE125 Cable Ladder of 125 mm rail height for heavy loads. Alternating slot patterns on the rungs allow for optimal fitting of both Cable Ties, short circuit Cable Cleats and Tubing Clamps. The rail and rung design also gives the option to connect equipment directly onto the ladder.



OE125 Cable Ladder in 3 m length

Type Description	SS	SS (kg)	HDG	HDG (kg)
OE125 CL-150-3000	80180	14,0	80000	18,9
OE125 CL-300-3000	80181	15,6	80001	20,6
OE125 CL-450-3000	80182	17,3	80002	22,4
OE125 CL-600-3000	80183	19,0	80003	24,1
OE125 CL-750-3000	80184	20,6	80004	28,3
OE125 CL-900-3000	80185	22,3	80005	30,4

OE125 Cable Ladder in 6 m length

Type Description	SS	SS (kg)	HDG	HDG (kg)
OE125 CL-150-6000	86757	27,5	86751	38,1
OE125 CL-300-6000	86758	-	86752	41,8
OE125 CL-450-6000	86759	34,4	86753	45,3
OE125 CL-600-6000	86760	37,6	86754	48,8
OE125 CL-750-6000	86761	40,8	86755	57,3
OE125 CL-900-6000	86762	44,3	86756	61,8

OE125 Fittings

90° Flat Elbows

Space-saving 90° Flat Elbow with one integrated Splice Connector on each end.



Radius 600 mm

Type Description	SS	SS (kg)	HDG	HDG (kg)
OE125 FE-90-LW-150 R600	1384084	5,9	1384228	6,3
OE125 FE-90-LW-300 R600	1384085	7,5	1384229	-
OE125 FE-90-LW-450 R600	1384086	-	1384230	9,7
OE125 FE-90-LW-600 R600	1384087	10,5	1384231	11,3
OE125 FE-90-LW-750 R600	1384088	-	1384232	-
OE125 FE-90-LW-900 R600	1384089	13,5	1384233	14,8

4 Locking Bolt set(s) M10x20 included.

Radius 900 mm

Type Description	SS	SS (kg)	HDG	HDG (kg)
OE125 FE-90-LW-150 R900	1384090	-	1384234	-
OE125 FE-90-LW-300 R900	1384091	9,5	1384235	-
OE125 FE-90-LW-450 R900	1384092	11,1	1384236	11,6
OE125 FE-90-LW-600 R900	1384093	12,5	1384237	13,2
OE125 FE-90-LW-750 R900	1384094	-	1384238	16,3
OE125 FE-90-LW-900 R900	1384095	15,5	1384239	18,1

60° Flat Elbows

Space-saving 60° Flat Elbow with one integrated Splice Connector on each end.

Radius 600 mm

Type Description	SS	SS (kg)	HDG	HDG (kg)
OE125 FE-60-LW-150 R600	1384072	4,4	1384216	-
OE125 FE-60-LW-300 R600	1384073	5,4	1384217	-
OE125 FE-60-LW-450 R600	1384074	6,4	1384218	-
OE125 FE-60-LW-600 R600	1384075	7,4	1384219	-
OE125 FE-60-LW-750 R600	1384076	8,5	1384220	-
OE125 FE-60-LW-900 R600	1384077	9,4	1384221	-

4 Locking Bolt set(s) M10x20 included.



Radius 900 mm

Type Description	SS	SS (kg)	HDG	HDG (kg)
OE125 FE-60-LW-150 R900	1384078	5,7	1384222	-
OE125 FE-60-LW-300 R900	1384079	-	1384223	-
OE125 FE-60-LW-450 R900	1384080	-	1384224	-
OE125 FE-60-LW-600 R900	1384081	-	1384225	-
OE125 FE-60-LW-750 R900	1384082	-	1384226	-
OE125 FE-60-LW-900 R900	1384083	-	1384227	-

45° Flat Elbows

Space-saving 45° Flat Elbow with one integrated Splice Connector on each end.

Radius 600 mm

Type Description	SS	SS (kg)	HDG	HDG (kg)
OE125 FE-45-LW-150 R600	1384060	3,1	1384204	3,3
OE125 FE-45-LW-300 R600	1384061	3,9	1384205	4,1
OE125 FE-45-LW-450 R600	1384062	4,6	1384206	4,9
OE125 FE-45-LW-600 R600	1384063	5,4	1384207	5,8
OE125 FE-45-LW-750 R600	1384064	6,2	1384208	6,6
OE125 FE-45-LW-900 R600	1384065	6,9	1384209	7,5

4 Locking Bolt set(s) M10x20 included.



Radius 900 mm

Type Description	SS	SS (kg)	HDG	HDG (kg)
OE125 FE-45-LW-150 R900	1384066	4,9	1384210	-
OE125 FE-45-LW-300 R900	1384067	-	1384211	-
OE125 FE-45-LW-450 R900	1384068	5,7	1384212	-
OE125 FE-45-LW-600 R900	1384069	6,4	1384213	-
OE125 FE-45-LW-750 R900	1384070	7,2	1384214	-
OE125 FE-45-LW-900 R900	1384071	-	1384215	-

30° Flat Elbows

Space-saving 30° Flat Elbow with one integrated Splice Connector on each end.

Radius 600 mm

Type Description	SS	SS (kg)	HDG	HDG (kg)
OE125 FE-30-LW-150 R600	1384048	2,2	1384192	2,3
OE125 FE-30-LW-300 R600	1384049	2,7	1384193	2,8
OE125 FE-30-LW-450 R600	1384050	3,2	1384194	3,3
OE125 FE-30-LW-600 R600	1384051	3,7	1384195	3,9
OE125 FE-30-LW-750 R600	1384052	4,2	1384196	4,4
OE125 FE-30-LW-900 R600	1384053	4,7	1384197	5,1

4 Locking Bolt set(s) M10x20 included.



Radius 900 mm

Type Description	SS	SS (kg)	HDG	HDG (kg)
OE125 FE-30-LW-150 R900	1384054	2,9	1384198	-
OE125 FE-30-LW-300 R900	1384055	3,4	1384199	-
OE125 FE-30-LW-450 R900	1384056	3,9	1384200	-
OE125 FE-30-LW-600 R900	1384057	4,4	1384201	-
OE125 FE-30-LW-750 R900	1384058	-	1384202	-
OE125 FE-30-LW-900 R900	1384059	5,4	1384203	-

Tee-Piece

Space-saving Tee-Piece with one integrated Splice Connector on each junction.



Radius 600 mm

Type Description	SS	SS (kg)	HDG	HDG (kg)
OE125 TE-LW-150/150-R600	1384360	11,3	1384576	12,2
OE125 TE-LW-300/300-R600	1384373	12,9	1384589	13,7
OE125 TE-LW-450/450-R600	1384386	-	1384602	-
OE125 TE-LW-600/600-R600	1384399	16,8	1384615	17,9
OE125 TE-LW-750/750-R600	1384412	19,4	1384628	-
OE125 TE-LW-900/900-R600	1384425	21,4	1384641	22,9

6 Locking Bolt set(s) M10x20 included.

Radius 900 mm

Type Description	SS	SS (kg)	HDG	HDG (kg)
OE125 TE-LW-150/150-R900	1384366	18,4	1384582	-
OE125 TE-LW-300/300-R900	1384379	20,9	1384595	22,2
OE125 TE-LW-450/450-R900	1384392	-	1384608	-
OE125 TE-LW-600/600-R900	1384405	25,3	1384621	-
OE125 TE-LW-750/750-R900	1384418	-	1384634	33,3
OE125 TE-LW-900/900-R900	1384431	31,2	1384647	-

Cross-Piece

Space-saving Cross-Piece with one integrated Splice Connector on each junction.



Radius 600 mm

Type Description	SS	SS (kg)	HDG	HDG (kg)
OE125 CP-LW-150-R600	1384732	16,3	1384768	17,3
OE125 CP-LW-300-R600	1384733	17,9	1384769	19,1
OE125 CP-LW-450-R600	1384734	20,2	1384770	21,5
OE125 CP-LW-600-R600	1384735	22,2	1384771	23,7
OE125 CP-LW-750-R600	1384736	-	1384772	26,6
OE125 CP-LW-900-R600	1384737	27,1	1384773	-

8 Locking Bolt set(s) M10x20 included.

Radius 900 mm

Type Description	SS	SS (kg)	HDG	HDG (kg)
OE125 CP-LW-150-R900	1384738	27,6	1384774	29,1
OE125 CP-LW-300-R900	1384739	-	1384775	-
OE125 CP-LW-450-R900	1384740	-	1384776	-
OE125 CP-LW-600-R900	1384741	-	1384777	37,2
OE125 CP-LW-750-R900	1384742	-	1384778	45,3
OE125 CP-LW-900-R900	1384743	-	1384779	-

Flexi Riser

Fully adjustable riser for 0-90°. Can be used as inside or outside riser.

Type Description	SS	SS (kg)	HDG	HDG (kg)
OE125 FR1-LW-150	80336	3,5	80156	-
OE125 FR1-LW-300	80337	3,8	80157	5,2
OE125 FR1-LW-450	80338	3,9	80158	5,5
OE125 FR1-LW-600	80339	4,1	80159	5,6
OE125 FR1-LW-750	80340	4,3	80160	5,8
OE125 FR1-LW-900	80341	4,5	80161	-

8 Locking Bolt set(s) M10x20 included.



Flexi Riser Part

Flexi Riser part for 0-90°. Can be used as inside or outside riser.

Type Description	SS	SS (kg)	HDG	HDG (kg)
OE125 FR-PA-LW-150	80342	1,7	80162	1,8
OE125 FR-PA-LW-300	80343	1,9	80163	1,9
OE125 FR-PA-LW-450	80344	2,1	80164	2,1
OE125 FR-PA-LW-600	80345	2,2	80165	2,3
OE125 FR-PA-LW-750	80346	2,3	80166	2,6
OE125 FR-PA-LW-900	80347	2,5	80167	2,8



OE125 Fixings

Splice Connector

Splice Connector for attaching Cable Ladders and fittings. Available in two types: With and without notches. Notches (code NO) are recommended where possible to easily locate splice and strengthen the connection. Two Splice Connectors are required for each connection between two Cable Ladders. One Splice Connector is required between a Cable Ladder and an OE fitting.

Type Description	Fasteners included	SS	SS (kg)	HDG
OE125 SC-NO	4xM10	83600	0,40	
OE125 SC	4xM10	80328	0,60	80148



Hinge Vertical

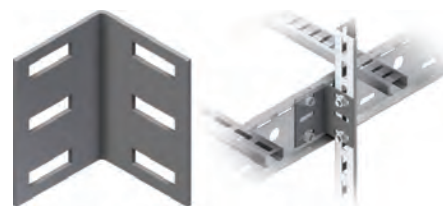
Heavy duty Vertical Hinge for OE Cable Ladders. Can be locked in place in increments of 4°. SS version with notches. Two Hinges required for each connection.

Type Description	Fasteners included	SS	SS (kg)	HDG
OE125 HV	4xM10	80333	1,1	80153



Angle Bracket

Angle Bracket for fitting OE Ladders directly to Mekano® Channels. Two Brackets required for each connection.



Type Description	Fasteners included	SS	SS (kg)	HDG
OE125 AB-70x70-10	2xM10	82125	0,30	82124

Hinge Horizontal

Horizontal Hinge which can be locked in any angle. Two Hinges required for each connection.



Type Description	Fasteners included	SS	SS (kg)	HDG
OE125 HH	4xM10	80334	1,0	80154

Reducer Part

Part for reducing or increasing Cable Ladder width in set increments. Universal design which can be used for left or right side independently, or both sides together.



Type Description	SS	SS (kg)	HDG	HDG (kg)
OE125 RE-Z-150	80298	1,0	80118	1,0
OE125 RE-Z-300	80299	1,2	80119	1,4
OE125 RE-Z-450	80300	1,8	80120	1,9
OE125 RE-Z-600	80301	2,2	80121	2,3
OE125 RE-Z-750	80302	2,5	80122	2,7

4 Locking Bolt set(s) M10x20 included.

Dividers

Divider for separation and segregation of different systems. Dividers in SS (316L) cannot be used as an electromagnetic barrier, therefore Duplex barriers are available.

Type Description	SS	SS (kg)	HDG	Duplex
OE125 DI	1372004	4,9	1372001	1303285
OE125 DI-FE	1372010	4,6	1372007	1303287
OE125 DI-FR	1372022	0,60	1372013	1303291



End Protector

High-visibility protection for OE end rails.

Type Description	Yellow Plastic	Yellow Plastic (kg)
A-OE 125 EP	80389	0,030



OE150 Cable Ladder System

Standard OE150 Cable Ladder

OE150 Cable Ladder of 150 mm rail height for heavy loads. Alternating slot patterns on the rungs allow for optimal fitting of both Cable Ties, short circuit Cable Cleats and Tubing Clamps. The rail and rung design also gives the option to connect equipment directly onto the ladder.



OE150 Cable Ladder in 3 m length

Type Description	SS	SS (kg)	HDG	HDG (kg)
OE150 CL-150-3000	79806	15,7	79800	21,4
OE150 CL-300-3000	79807	17,4	79801	23,2
OE150 CL-450-3000	79808	19,0	79802	24,9
OE150 CL-600-3000	79809	20,7	79803	26,6
OE150 CL-750-3000	79810	22,3	79804	30,8
OE150 CL-900-3000	79811	24,0	79805	32,9

OE150 Cable Ladder in 6 m length

Type Description	SS	SS (kg)	HDG	HDG (kg)
OE150 CL-150-6000	86769	31,3	86763	43,3
OE150 CL-300-6000	86770	-	86764	-
OE150 CL-450-6000	86771	-	86765	50,5
OE150 CL-600-6000	86772	-	86766	-
OE150 CL-750-6000	86773	-	86767	62,5
OE150 CL-900-6000	86774	44,5	86768	-

OE150 Cable Ladder Nema 20C

OE150 Cable Ladder of 150 mm rail height for heavy loads. With class designation 20C according to NEMA VE 1 Standard. The rail and rung design, which is compatible with UNO nuts, also gives the option to connect equipment directly onto the ladder. 6 m length. For SS, use NEMA 20C splices and NEMA 20C adapted covers when required.

Type Description	SS	SS (kg)	HDG	HDG (kg)
OE150 CL-20C-US-150-6000	90510	-	90516	44,5
OE150 CL-20C-US-300-6000	90511	56,5	90517	-
OE150 CL-20C-US-450-6000	90512	60,5	90518	53,5
OE150 CL-20C-US-600-6000	90513	-	90519	-
OE150 CL-20C-US-750-6000	90514	69,5	90520	68,8
OE150 CL-20C-US-900-6000	90515	-	90521	74,5



OE150 Fittings

90° Flat Elbows

Space-saving 90° Flat Elbow with one integrated Splice Connector on each end.



Radius 600 mm

Type Description	SS	SS (kg)	HDG	HDG (kg)
OE150 FE-90-LW-150 R600	1384132	6,6	1384276	-
OE150 FE-90-LW-300 R600	1384133	8,2	1384277	8,8
OE150 FE-90-LW-450 R600	1384134	9,8	1384278	10,5
OE150 FE-90-LW-600 R600	1384135	11,4	1384279	12,2
OE150 FE-90-LW-750 R600	1384136	-	1384280	14,1
OE150 FE-90-LW-900 R600	1384137	14,6	1384281	15,9

4 Locking Bolt set(s) M10x20 included.

Radius 900 mm

Type Description	SS	SS (kg)	HDG	HDG (kg)
OE150 FE-90-LW-150 R900	1384138	8,1	1384282	9,6
OE150 FE-90-LW-300 R900	1384139	10,6	1384283	11,4
OE150 FE-90-LW-450 R900	1384140	12,2	1384284	13,5
OE150 FE-90-LW-600 R900	1384141	13,8	1384285	-
OE150 FE-90-LW-750 R900	1384142	15,3	1384286	16,7
OE150 FE-90-LW-900 R900	1384143	16,9	1384287	18,6

60° Flat Elbows

Space-saving 60° Flat Elbow with one integrated Splice Connector on each end.



Radius 600 mm

Type Description	SS	SS (kg)	HDG	HDG (kg)
OE150 FE-60-LW-150 R600	1384120	-	1384264	5,3
OE150 FE-60-LW-300 R600	1384121	6,1	1384265	6,5
OE150 FE-60-LW-450 R600	1384122	7,2	1384266	7,6
OE150 FE-60-LW-600 R600	1384123	8,2	1384267	8,8
OE150 FE-60-LW-750 R600	1384124	9,3	1384268	10,1
OE150 FE-60-LW-900 R600	1384125	10,4	1384269	11,2

4 Locking Bolt set(s) M10x20 included.

Radius 900 mm

Type Description	SS	SS (kg)	HDG	HDG (kg)
OE150 FE-60-LW-150 R900	1384126	6,5	1384270	6,9
OE150 FE-60-LW-300 R900	1384127	7,6	1384271	7,9
OE150 FE-60-LW-450 R900	1384128	8,7	1384272	-
OE150 FE-60-LW-600 R900	1384129	9,8	1384273	10,2
OE150 FE-60-LW-750 R900	1384130	10,8	1384274	12,3
OE150 FE-60-LW-900 R900	1384131	11,9	1384275	13,6

45° Flat Elbows

Space-saving 45° Flat Elbow with one integrated Splice Connector on each end.



Radius 600 mm

Type Description	SS	SS (kg)	HDG	HDG (kg)
OE150 FE-45-LW-150 R600	1384108	3,5	1384252	3,7
OE150 FE-45-LW-300 R600	1384109	4,3	1384253	4,6
OE150 FE-45-LW-450 R600	1384110	-	1384254	5,4
OE150 FE-45-LW-600 R600	1384111	5,9	1384255	6,3
OE150 FE-45-LW-750 R600	1384112	6,7	1384256	7,2
OE150 FE-45-LW-900 R600	1384113	7,5	1384257	8,2

4 Locking Bolt set(s) M10x20 included.

Radius 900 mm

Type Description	SS	SS (kg)	HDG	HDG (kg)
OE150 FE-45-LW-150 R900	1384114	4,6	1384258	-
OE150 FE-45-LW-300 R900	1384115	5,4	1384259	5,8
OE150 FE-45-LW-450 R900	1384116	6,3	1384260	6,7
OE150 FE-45-LW-600 R900	1384117	7,1	1384261	7,6
OE150 FE-45-LW-750 R900	1384118	7,8	1384262	8,5
OE150 FE-45-LW-900 R900	1384119	8,6	1384263	9,5

30° Flat Elbows

Space-saving 30° Flat Elbow with one integrated Splice Connector on each end.



Radius 600 mm

Type Description	SS	SS (kg)	HDG	HDG (kg)
OE150 FE-30-LW-150 R600	1384096	2,4	1384240	2,5
OE150 FE-30-LW-300 R600	1384097	-	1384241	3,2
OE150 FE-30-LW-450 R600	1384098	3,5	1384242	3,7
OE150 FE-30-LW-600 R600	1384099	-	1384243	4,3
OE150 FE-30-LW-750 R600	1384100	4,6	1384244	-
OE150 FE-30-LW-900 R600	1384101	5,1	1384245	5,6

4 Locking Bolt set(s) M10x20 included.

Radius 900 mm

Type Description	SS	SS (kg)	HDG	HDG (kg)
OE150 FE-30-LW-150 R900	1384102	3,2	1384246	3,5
OE150 FE-30-LW-300 R900	1384103	3,7	1384247	3,9
OE150 FE-30-LW-450 R900	1384104	4,3	1384248	4,4
OE150 FE-30-LW-600 R900	1384105	4,8	1384249	5,1
OE150 FE-30-LW-750 R900	1384106	5,3	1384250	5,6
OE150 FE-30-LW-900 R900	1384107	5,9	1384251	6,7

Tee-Piece

Space-saving Tee-Piece with one integrated splice connector on each junction.



Radius 600 mm

Type Description	SS	SS (kg)	HDG	HDG (kg)
OE150 TE-LW-150/150-R600	1384432	12,3	1384648	13,3
OE150 TE-LW-300/300-R600	1384445	13,9	1384661	-
OE150 TE-LW-450/450-R600	1384458	16,1	1384674	17,4
OE150 TE-LW-600/600-R600	1384471	-	1384687	19,4
OE150 TE-LW-750/750-R600	1384484	20,6	1384700	22,5
OE150 TE-LW-900/900-R600	1384497	22,6	1384713	24,9

6 Locking Bolt set(s) M10x20 included.

Radius 900 mm

Type Description	SS	SS (kg)	HDG	HDG (kg)
OE150 TE-LW-150/150-R900	1384438	-	1384654	21,6
OE150 TE-LW-300/300-R900	1384451	22,1	1384667	23,9
OE150 TE-LW-450/450-R900	1384464	24,7	1384680	26,8
OE150 TE-LW-600/600-R900	1384477	27,1	1384693	29,4
OE150 TE-LW-750/750-R900	1384490	30,2	1384706	33,1
OE150 TE-LW-900/900-R900	1384503	32,7	1384719	35,8

Cross-Piece

Space-saving Cross-Piece with one integrated Splice Connector on each junction.



Radius 600 mm

Type Description	SS	SS (kg)	HDG	HDG (kg)
OE150 CP-LW-150-R600	1384744	17,4	1384780	18,8
OE150 CP-LW-300-R600	1384745	-	1384781	20,5
OE150 CP-LW-450-R600	1384746	21,3	1384782	-
OE150 CP-LW-600-R600	1384747	23,3	1384783	-
OE150 CP-LW-750-R600	1384748	26,1	1384784	-
OE150 CP-LW-900-R600	1384749	28,3	1384785	-

8 Locking Bolt set(s) M10x20 included.

Radius 900 mm

Type Description	SS	SS (kg)	HDG	HDG (kg)
OE150 CP-LW-150-R900	1384750	29,5	1384786	30,8
OE150 CP-LW-300-R900	1384751	31,9	1384787	33,3
OE150 CP-LW-450-R900	1384752	-	1384788	-
OE150 CP-LW-600-R900	1384753	37,5	1384789	-
OE150 CP-LW-750-R900	1384754	40,8	1384790	47,2
OE150 CP-LW-900-R900	1384755	-	1384791	50,7

Flexi Riser

Fully adjustable riser for 0-90°. Can be used as inside or outside riser.

Type Description	SS	SS (kg)	HDG	HDG (kg)
OE150 FR1-LW-150	79818	4,9	80433	6,9
OE150 FR1-LW-300	79819	5,1	80434	7,1
OE150 FR1-LW-450	79820	5,2	80435	7,3
OE150 FR1-LW-600	79821	5,4	80436	7,5
OE150 FR1-LW-750	79822	5,6	80437	7,7
OE150 FR1-LW-900	79823	5,7	80438	7,9

8 Locking Bolt set(s) M10x20 included.



Flexi Riser Part

Flexi Riser part for 0-90°. Can be used as inside or outside riser.

Type Description	SS	SS (kg)	HDG	HDG (kg)
OE150 FR-PA-LW-150	79859	-	82955	-
OE150 FR-PA-LW-300	79860	2,1	82956	2,1
OE150 FR-PA-LW-450	79861	2,3	82957	2,3
OE150 FR-PA-LW-600	79862	2,4	82958	2,6
OE150 FR-PA-LW-750	79863	2,6	82959	3,2
OE150 FR-PA-LW-900	79864	3,0	82960	3,0



OE150 Fixings

Splice Connector

Splice Connector for attaching Cable Ladders and fittings. Available in two types: With and without notches. Notches (code NO) are recommended where possible to easily locate splice and strengthen the connection. Two Splice Connectors are required for each connection between two Cable Ladders. One Splice Connector is required between a Cable Ladder and an OE fitting.



Type Description	Fasteners included	SS	SS (kg)	HDG
OE150 SC-NO	4×M10	83601	0,50	
OE150 SC	4×M10	79843	0,80	80432

Splice Connector NEMA 20C

Splice Connector for attaching NEMA 20C Cable Ladders in SS. Two Splice Connectors are required for each connection between two Cable Ladders. One Splice Connector is required between a Cable Ladder and an OE fitting. For HDG NEMA 20C ladders, use standard HDG splice.



Type Description	Fasteners included	SS	SS (kg)	HDG
OE150 SC-HD	6×M10	109208	0,90	

Splice Angle Vertical

Vertical Splice Angle for forming T-junctions between two ladders. Two splice angles required for each connection.



Type Description	Fasteners included	SS	SS (kg)	HDG
OE150 SA-VE	4×M10	81573	1,8	81574

Hinge Vertical

Heavy duty Vertical Hinge for OE Cable Ladders. Can be locked in place in increments of 4°. SS version with notches. Two hinges required for each connection.



Type Description	Fasteners included	SS	SS (kg)	HDG
OE150 HV	4×M10	79844	1,3	80445

Splice Angle Horizontal

Right angled horizontal splice for the OE Cable Ladder system. Two splice angles required for each connection.



Type Description	Fasteners included	SS	SS (kg)	HDG
OE150 SA-HO	4×M10	1306950	1,0	1306951

Angle Bracket

Angle Bracket for fitting OE ladders directly to Mekano® Channels. Two brackets required for each connection.



Type Description	Fasteners included	SS	SS (kg)	HDG
OE150 AB-70x70-10	4×M10	80452	0,60	80451

Hinge Horizontal

Horizontal Hinge which can be locked in any angle. Two hinges required for each connection.

Type Description	Fasteners included	SS	SS (kg)	HDG
OE150 HH	4xM10	79911	1,1	80450



Reducer Part

Part for reducing or increasing Cable Ladder width in set increments. Universal design which can be used for left or right side independently, or both sides together.

Type Description	SS	SS (kg)	HDG	HDG (kg)
OE150 RE-Z-150	82968	0,90	82950	1,1
OE150 RE-Z-300	82967	1,5	82951	1,7
OE150 RE-Z-450	82969	1,9	82952	2,1
OE150 RE-Z-600	82966	2,4	82953	2,6
OE150 RE-Z-750	82984	2,9	82954	3,1

4 Locking Bolt set(s) M10x20 included.

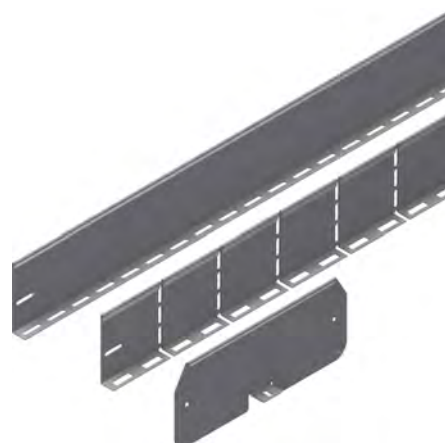


Dividers

Divider for separation and segregation of different systems. Dividers in SS (316L) cannot be used as an electromagnetic barrier, therefore Duplex barriers are available.

Type Description	SS	SS (kg)	HDG	Duplex
OE150 DI	1372005	5,8	1372002	1303288
OE150 DI-FE	1372011	5,4	1372008	1303289
OE150 DI-FR	1372023	0,80	1372014	1303292

3 Locking Bolt set(s) M6x12 included.



End Protector

High-visibility protection for OE end rails.

Type Description	Yellow Plastic	Yellow Plastic (kg)
A-OE 150 EP	80390	-



End Cover

End Cover to close the end of the Cable Ladder. Provides a tidy finish.

Type Description	SS	SS (kg)	HDG	HDG (kg)
OE EC-150-150	89388	0,80	87363	0,90
OE EC-150-300	89389	1,2	87364	1,4
OE EC-150-450	89390	1,6	87365	1,7
OE EC-150-600	89391	-	87366	2,1
OE EC-150-750	89392	2,4	87367	2,5
OE EC-150-900	89393	2,8	87368	2,9



OE Cover

Cover for OE Straight Cable Ladder

Flat Cover for OE Cable Ladders. Widths from 600 mm have Peaked design.

Type Description	SS	SS (kg)	HDG	ZM
OE CO-CL-150-3000	1302543	7,9	1302537	58915
OE CO-CL-300-3000	1302544	13,2	1302538	58916
OE CO-CL-450-3000	1302545	18,7	1302539	58917
OE CO-CL-600-1500	1302546	12,2	1302540	58918
OE CO-CL-750-1500	1302547	14,8	1302541	58919
OE CO-CL-900-1500	1302548	-	1302542	58920



Cover for OE150 Nema 20C Cable Ladder

Flat Cover for OE Cable Ladders. For HDG - use standard OE Covers. Widths from 600 mm have Peaked design.

Type Description	SS	SS (kg)
OE CO-20C-US-150-3000	90574	8,1
OE CO-20C-US-300-3000	90575	13,5
OE CO-20C-US-450-3000	90576	18,9
OE CO-20C-US-600-1500	90577	12,2
OE CO-20C-US-750-1500	90578	14,9
OE CO-20C-US-900-1500	90579	17,6



Cover for OE 90° Flat Elbow

Flat Cover for OE Cable Ladders fittings. Radius 600.

Type Description	SS	SS (kg)	HDG	ZM
OE CO-FE-90-150 R600	1384810	2,5	1384834	59381
OE CO-FE-90-300 R600	1384811	4,9	1384835	59382
OE CO-FE-90-450 R600	1384812	7,8	1384836	59383
OE CO-FE-90-600 R600	1384813	11,3	1384837	59384
OE CO-FE-90-750 R600	1384814	-	1384838	59385
OE CO-FE-90-900 R600	1384815	19,2	1384839	59386



Cover for OE 45° Flat Elbow

Flat Cover for OE Cable Ladders fittings in radius 600.

Type Description	SS	SS (kg)	HDG	ZM
OE CO-FE-45-150 R600	1384798	1,2	1384822	59393
OE CO-FE-45-300 R600	1384799	2,4	1384823	59394
OE CO-FE-45-450 R600	1384800	3,9	1384824	59395
OE CO-FE-45-600 R600	1384801	5,8	1384825	59396
OE CO-FE-45-750 R600	1384802	7,7	1384826	59397
OE CO-FE-45-900 R600	1384803	9,8	1384827	59398



Cover for OE 60° Flat Elbow

Flat Cover for OE Cable Ladders fittings in radius 600.

Type Description	SS	SS (kg)	HDG	ZM
OE CO-FE-60-150 R600	1384804	1,6	1384828	59387
OE CO-FE-60-300 R600	1384805	3,2	1384829	59388
OE CO-FE-60-450 R600	1384806	5,1	1384830	59389
OE CO-FE-60-600 R600	1384807	7,9	1384831	59390
OE CO-FE-60-750 R600	1384808	10,5	1384832	59391
OE CO-FE-60-900 R600	1384809	13,4	1384833	59392



Cover for OE 30° Flat Elbow

Flat Cover for OE Cable Ladders fittings in radius 600.

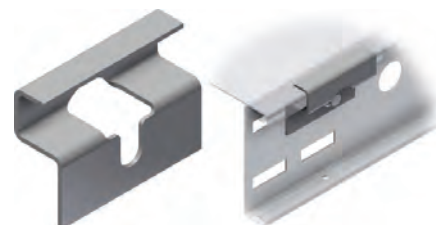
Type Description	SS	SS (kg)	HDG	ZM
OE CO-FE-30-150 R600	1384792	0,80	1384816	59399
OE CO-FE-30-300 R600	1384793	1,6	1384817	59400
OE CO-FE-30-450 R600	1384794	2,6	1384818	59401
OE CO-FE-30-600 R600	1384795	3,9	1384819	59402
OE CO-FE-30-750 R600	1384796	5,2	1384820	59403
OE CO-FE-30-900 R600	1384797	6,7	1384821	59404



Cover Clamp

Cover Clamp for the OE Cable Ladder system.

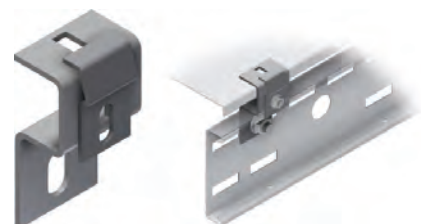
Type Description	Fasteners included	SS	SS (kg)	HDG
OE CC	1xM10	1302531	0,10	1302530



Raised Cover Clamp for ventilated cover

Raised Cover Clamp for ventilation. For OE Cable Ladder System.

Type Description	Fasteners included	SS	SS (kg)	HDG
OE CC-V	1xM10	89062	0,10	75625



Cover Splice Connector

Cover Splice Connector for joining together OE Cable Ladder Covers when being fitted vertically. Complete with 2xM6 bolts & 4xM6 self locking flange nuts to suit.

Type Description	Fasteners included	SS	SS (kg)
OE CC-CD	-	1306903	0,040

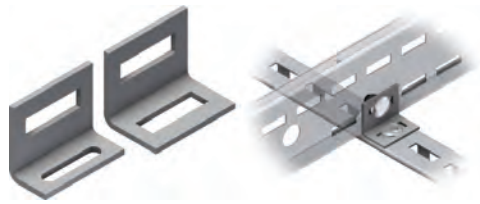


OE Fixing Clamps

Standard Fixing Clamp

For attaching Cable Ladders to support from inside the rails.

Type Description	Fasteners included	SS	SS (kg)	HDG
OE FC-A40-23-10/6	1×M10/1×M6	89916	0,070	89917
OE FC-A40-33-10/10	2×M10	1306889	0,080	89908



Outside Fixing Clamp

Clamp for fixing from outside of Cable Ladder. Can also be used as a hold down slide to allow expansion on the Cable Ladder run.

Type Description	Fasteners included	SS	SS (kg)	HDG
OE FC-B40-54-10/10	2×M10	60900	0,090	60901



M10 Angle Bracket

Universal Angle Bracket for multiple applications.

Type Description	Fasteners included	SS	SS (kg)	HDG
S-M AB 55x55x40-10	2×M10	1371712	0,10	1302494



Press Clamp

Press Clamps for attaching OE Cable Ladder to support. Available with three different hole dimensions.

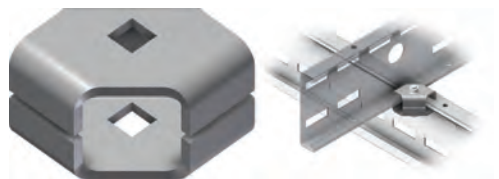
Type Description	Fasteners included	SS	SS (kg)	HDG
OE/LOE FC-M6	-	1372148	0,020	1372048
OE/LOE FC-M8	-	1372149	0,020	1372049
OE/LOE FC-M10	-	1372147	0,040	1372050



Press Clamp for traverse channels

Press Clamp for fixing OE Cable Ladders to traverse channels of Mekano® CH50-1, CH50-2, CH100-1 or UNO channels. Allows for easy adjustment in two directions. Ladders can be fitted from 15 - 90°.

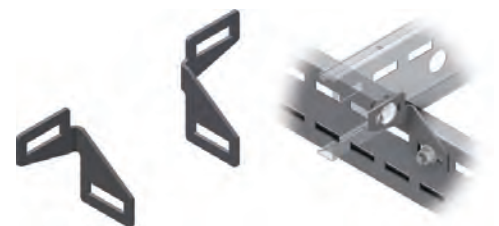
Type Description	Fasteners included	SS	SS (kg)	HDG
OE/LOE FC-CH	1×M6	1302598	0,10	1302483



Twisted Fixing Clamp

Pair of Twist Clamps for fixing OE Cable Ladder to traverse channels with M10 fasteners.

Type Description	Fasteners included	SS	SS (kg)	HDG
OE FC-CH-M10	4×M10	1371705	0,30	1302482



Heavy Duty Fixing Clamp

For fixing OE Cable Ladder, Mekano® 100-1 or 100-2T to wall. Can also be used as a fixing clamp to attach vertical cable ladder runs to a support.

Type Description	Fasteners included	SS	SS (kg)	HDG
S-M AB 60x60x80-10/12	3xM10	1371716	0,40	1302502



OE Installation and Protection Equipment

Cable Pulling Tool

Stainless steel cable pulling tool for fast and easy cable installation. Two sizes are available. Size 1 suits cables up to Ø 60 mm. Size 2 for cables up to Ø 120 mm.

Type Description	SS	SS (kg)
Rig n Roll size 1	84629	0,40
Rig n Roll size 2	84628	0,50



Cable Protector

For routing cables safely through the slots in the OE Cable Ladder rail.

Type Description	EPDM	EPDM (kg)
OE -EP	1371721	-



Exit Plate

Exit plate for the OE/LOE Cable Ladder Systems. Protects the cables when exiting the cable ladder. Supplied in 150 mm sections.

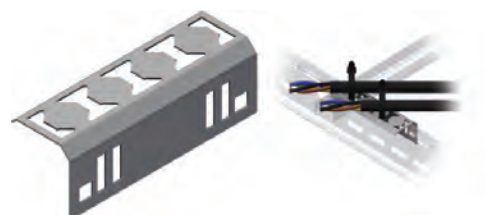
Type Description	Fasteners included	SS	SS (kg)	HDG
A-OE/LOE EX	2xM10	1371723	0,70	1302499



Cable Exit Plate

Exit plate for OE cable ladder and SPB cable tray systems. Protects the cables when exiting the cable ladder. Allows cables to be fixed up to 45° even with metal cable ties.

Type Description	SS	SS (kg)
A-SPB/OE-50 EX	70263	0,10



OE Miscellaneous

OE Rung, longitudinal slots

Bolt-on additional rung. Can support brackets for Lighting, Tubing Clamps, Cable Cleats, Flexi Risers or to reduce C-C depending on application. Rung is fitted at the same level as the ladder rungs.

Type Description	Fasteners included	SS	SS (kg)	HDG
OE RU-BO-2-150	-	86547	0,20	86541
OE RU-BO-2-300	-	86548	0,40	86542
OE RU-BO-2-450	-	86549	0,50	86543
OE RU-BO-2-600	-	86550	0,70	86544
OE RU-BO-2-750	-	86551	0,90	86545
OE RU-BO-2-900	-	86552	1,1	86546



OE Rung, lateral slots

Bolt-on additional rung for additional support or for supporting equipment. Rung is positioned below the level of the ladder rungs. Single fixings on each side also allow it to be rotated to support cable exit.

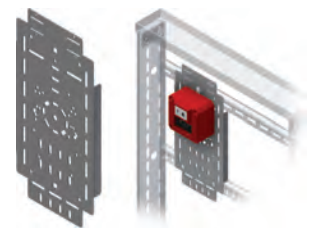
Type Description	Fasteners included	SS	SS (kg)	HDG
OE RU-150	-	1302582	0,20	1302576
OE RU-300	-	1302583	0,30	1302577
OE RU-450	-	1302584	0,50	1302578
OE RU-600	-	1302585	0,70	1302579
OE RU-750	-	1302586	1,1	1302580
OE RU-900	-	1302587	1,3	1302581



Equipment Plate

Equipment plate for fitting directly on the OE rung or on a support bracket.

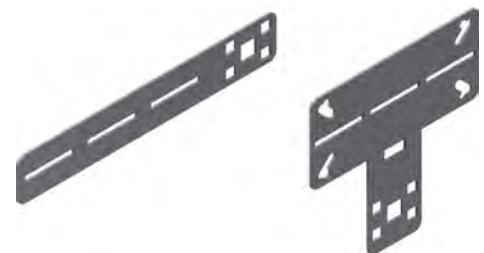
Type Description	SS	SS (kg)
OER SO-UN	88364	1,2



Tag Plate

Range of standard support plates for TAG-No. on Cable Ladders and Cable Trays. Contact us for details of the full range.

Type Description	Fasteners included	SS	SS (kg)	HDG
TAG 12	2×M6	1302163	0,10	1302162
TAG 14	2×M6	1302588	0,20	



Universal Transition Bracket SPB-OE

For attaching SPB cable tray to OE100 cable ladder side rails vertically or horizontally.

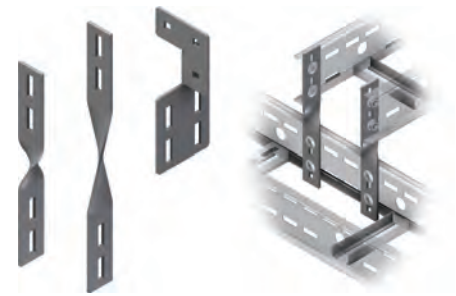
Type Description	Fasteners included	SS	SS (kg)	HDG
A-OE/SPB IF-VE	2×M10/2×M6	1371847	0,20	1302186



Directional Adjuster

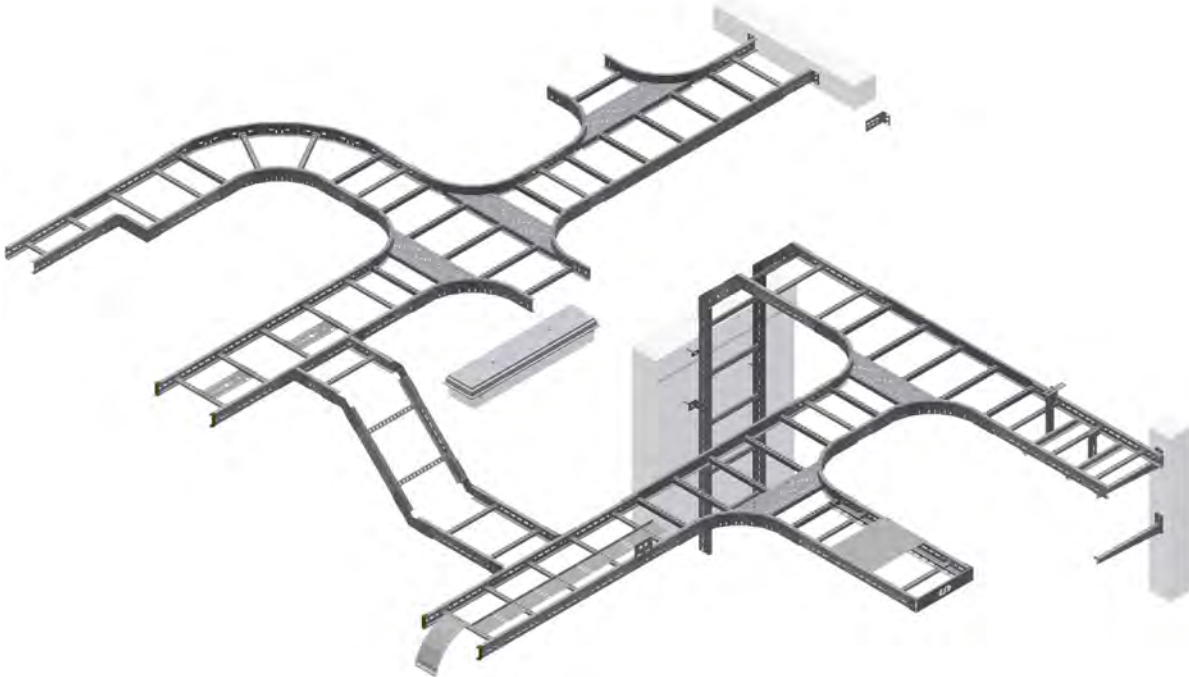
Twisted bracket for supporting two crossing OE100 cable ladders on different levels and changing direction. Available in 3 lengths.

Type Description	Fasteners included	SS	SS (kg)	HDG
S-M SC-TW 40/290	4×M10	1371702	0,40	1302517
S-M SC-TW 40/390	4×M10	1372626	-	84167
S-M SC-TW 90/213	4×M10	1371700	0,50	1302515



LOE CABLE LADDER SYSTEM

LOE is an economical low weight cable ladder system suitable for medium to light loads such as instrumentation, data & telecom cables and where cables have a bending radius less than 300 mm. The design ensures quick and easy installation. Typical support distance is 2 m, and up to a maximum of 4 m for light loads. LOE is unsuitable for high voltage or heavy cables. In these cases, our OE cable ladder is highly recommended. The entire system is designed with no sharp edges to avoid damage to cables, and to improve H&S during installation. LOE systems can be used in a variety of environments, and is complemented by a wide range of accessories for many applications.



MATERIALS



Only LOE75 in ZM and LOE55 in PG.
PG available online.

3D LIBRARIES

Hexagon (Intergraph Smart 3D)
Bentley

CERTIFICATES



Certificates vary across range.
Please contact us.

CABLE LADDERS



LOE55
Siderail height 55 mm.



LOE75
Siderail height 75 mm.



LOE100
Siderail height 100 mm.

LOAD DATA

Cable Ladder	Rail Height (mm)	Loading Depth (mm)	SWL 2 m SS/HDG/ZM (kg/m)	SWL 3 m SS/HDG/ZM (kg/m)	SWL 4 m SS/HDG/ZM (kg/m)	Available lengths (m)	Material thickness SS/HDG/ZM (mm)
LOE55	55	24	200/176/-	100/97/-	31/25/-	3	1.00 / 1.25 / -
LOE75	75	46	181/304/295	104/150/115	54/79/62	3	1.00 / 1.25 / 1.00
LOE100	100	68	316/321/-	188/217-	94/119/-	3	1.25 / 1.50 / -

SWL = Safe Working Load.

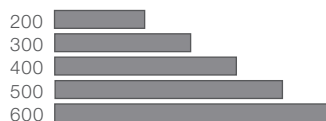
Loading data according to IEC61537. The length of the end span must be reduced to 3/4 of the support spacing and with no splices on the end span.

DIFFERENT HEIGHTS (MM)

Different ladder heights offer several choices for efficient positioning of the loads and full optimisation of the area, including possibility for future expansion. D = Loading depth.



AVAILABLE WIDTHS (MM)



PRE SLOTTED RUNGS

The ladder rungs are spot welded to the side rails. The rungs are pre-slotted enabling cable ties to be easily and efficiently attached.



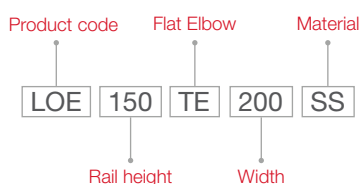
DRAINAGE HOLES

The design reduces the possibility for any liquids to permanently gather and pool. Material choices offered have been carefully considered in order to avoid corrosion whilst maintaining cost advantages.



LADDER INSTALLATION

Slotted side rails with the flange facing inwards are ideally suited for quick and simple installation of equipment and support directly on the side rail.



TE = Tee-Piece
FE = Flat Elbow
CP = Cross-Piece
CR = Combi-Riser
CO = Cover
DI = Divider
EP = End Protection
CA = Cantilever Arm
FC = Fixing Clamp
AB = Angle Bracket

TABLE OF CONTENTS

LOE55 Cable Ladder System

LOE55 Cable Ladder System	133
LOE55 Fittings	133
LOE55 Fixings	134

LOE75 Cable Ladder System

LOE75 Cable Ladder System	136
LOE75 Fittings	136
LOE75 Fixings	137

LOE100 Cable Ladder System

LOE100 Cable Ladder System	138
LOE100 Fittings	138
LOE100 Fixings	139

LOE Accessories

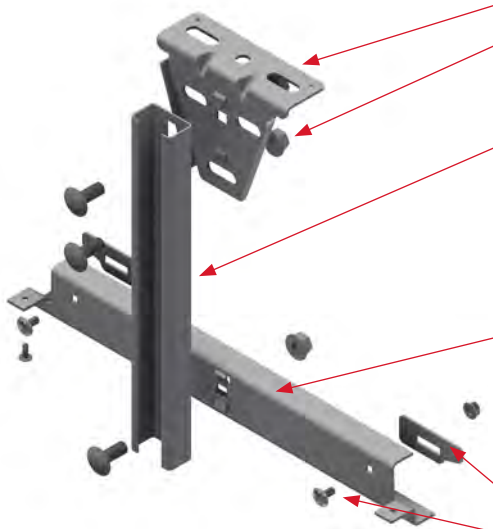
LOE Accessories	140
LOE Ceiling Support	142

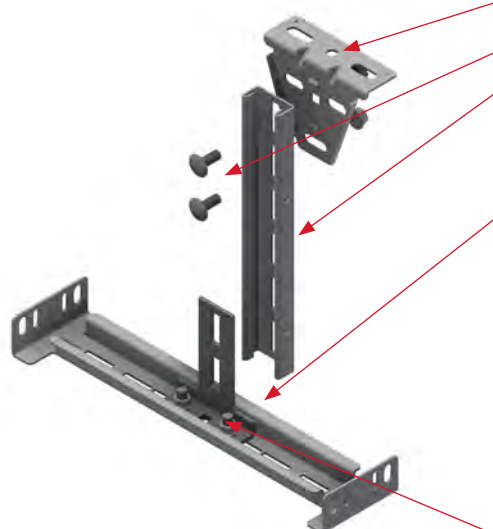


Intellectual Property Rights

Please note that many of the products presented in this catalogue are protected by our intellectual property rights in the form of patents, registered designs and trademarks, and that we have made the strategic decision to police and enforce these rights in all relevant jurisdictions.

CENTRAL SUPPORT FOR LOE CABLE LADDERS

Standard, Central support for width 200-600 mm:	Recommended solutions	Type Description	Art. no. SS	Art. no. ZM
	Ceiling Bracket	S-M CE-SD	1372385	1375422
	Locking bolts (included)	S-M LS-M10x20 / M10x25	1371983	1371980
	Channel Choose pendular length:	S-M CH42-1-300	1303347	1375423
		S-M CH42-1-450	1303348	1375424
		S-M CH42-1-900	1303349	1375425
		S-M CH42-1-3000	1303350	1375426
	Pendular Console	S-LOE CS-20-200	1303310	1375167
		S-LOE CS-20-300	1303311	1375168
		S-LOE CS-20-400	1303312	1375169
		S-LOE CS-20-500	1303313	1375170
		S-LOE CS-20-600	1303314	1375171
	Alt. 1: Fixing Clamp	S-LOE FC-CS-20	1304461	Use SS
	Alt. 2: Self-Tapping screw	S-M SE-HE-4.8x13	1371373	Use SS

Heavy Duty, Central support for width 500-600 mm:	Recommended solutions	Type Description	Art. no. SS	Art. no. ZM
	Ceiling Bracket	S-M CE-SD	1372385	1375422
	Locking bolts (included)	S-M LS-M10x20 / M10x25	1371983	1371980
	Channel	S-M CH50-1 3000	1371687	1375164
	Bracket for Central Support incl. Angle Bracket Fix cable ladder to bracket with 2 pcs. bolt sets, ordered seperately: • LOE55 and LOE75: 2 pcs. M6x12. • LOE100: 2 pcs. M10x20.	S-TOE CS-CH-200	1306875	1375158
		S-TOE CS-CH-300	1306876	1375159
		S-TOE CS-CH-400	1306877	1375160
		S-TOE CS-CH-500	1306878	1375161
		S-TOE CS-CH-600	1306879	1375162
	Locking bolts (included)	S-M LS-M10x20 / M10x25	1371983	1371980

ZM system can include bolts and parts in HDG material.

LOE55 Cable Ladder System

LOE55 Cable Ladder

Cable Ladder with 55 mm rail height for light to medium loads.
Lateral slots on the rungs allow optimal fitting of cable ties.

Type Description	SS	SS (kg)	HDG	HDG (kg)
LOE55 CL-CW-200-3000	1372330	6,2	1371511	8,2
LOE55 CL-CW-300-3000	1372331	6,7	1371512	9,0
LOE55 CL-CW-400-3000	1372332	7,3	1371513	9,7
LOE55 CL-CW-500-3000	1372333	8,7	1371514	10,5
LOE55 CL-CW-600-3000	1372334	8,3	1371515	11,1



LOE55 Fittings

LOE55 Flat Elbow 90°

Space-saving 90° Flat Elbow with integrated Splice Connectors.
Radius 300 mm.

Type Description	SS	SS (kg)	HDG	HDG (kg)
LOE55 FE-90-CW-200 R300	1372340	2,9	1371525	2,9
LOE55 FE-90-CW-300 R300	1372341	3,4	1371526	3,4
LOE55 FE-90-CW-400 R300	1372342	-	1371527	-
LOE55 FE-90-CW-500 R300	1372343	4,5	1371529	4,5
LOE55 FE-90-CW-600 R300	1372344	-	1371530	-

4 Locking Bolt set(s) M6x12 included.



LOE55 Tee-Piece

Space-saving Tee-Piece with integrated Splice Connectors.

Type Description	SS	SS (kg)	HDG	HDG (kg)
LOE55 TE-CW-200-R300	1372350	5,4	1371534	5,4
LOE55 TE-CW-300-R300	1372351	6,3	1371535	6,3
LOE55 TE-CW-400-R300	1372352	7,5	1371536	7,5
LOE55 TE-CW-500-R300	1372353	8,4	1371538	8,4
LOE55 TE-CW-600-R300	1372354	9,3	1371539	9,3

6 Locking Bolt set(s) M6x12 included.



LOE55 Cross-Piece

Space-saving Cross-Piece with integrated Splice Connectors.

Type Description	SS	SS (kg)	HDG	HDG (kg)
LOE55 CP-CW-200-R300	1304420	7,7	1371543	7,7
LOE55 CP-CW-300-R300	1304421	8,8	1371544	8,8
LOE55 CP-CW-400-R300	1304422	10,2	1371545	10,2
LOE55 CP-CW-500-R300	1304423	11,4	1371547	11,4
LOE55 CP-CW-600-R300	1304424	12,6	1371548	12,6

8 Locking Bolt set(s) M6x12 included.



LOE55 Riser

45° fixed angle Riser Bracket for LOE 55 Cable Ladders. Two brackets required for each connection.

Type Description	Fasteners included	SS	SS (kg)	HDG
SPB/LOE55 RB-45	2×M6	1372376	0,30	1371541



LOE55 Fixings

Inside Splice Connector LOE55

Splice Connector for fitting inside the Cable Ladder rail. With notches to strengthen the connection. Two Splice Connectors required for each connection.

Type Description	Fasteners included	SS	SS (kg)
LOE55 SC	2×M6	1372370	0,20



Outside Splice Connector LOE55

Splice Connector for fitting outside LOE Cable Ladder. Two Splice Connectors required for each connection.

Type Description	Fasteners included	HDG	HDG (kg)
LOE55 SC	2×M6	1371552	0,30



Hinge Horizontal

Horizontal Hinge which can be adjusted to any required angle from 0-90°. Two hinges required for each connection.

Type Description	Fasteners included	SS	SS (kg)	HDG
LOE55 HH	2×M6	1372372	0,30	1371553



Hinge Vertical

Vertical Hinge for making risers at any angle. Two hinges required for each connection.

Type Description	Fasteners included	SS	SS (kg)	HDG
LOE55 HV	2×M6	1372374	0,20	1371554



End Cover

End Cover to close the end of the Cable Ladder. Provides a tidy finish.



Type Description	SS	SS (kg)	HDG	HDG (kg)
A-LOE55/75 EC-200	89297	0,30	91322	0,40
A-LOE55/75 EC-300	89298	0,50	91323	0,50
A-LOE55/75 EC-400	89299	0,60	91324	0,60
A-LOE55/75 EC-500	89300	0,70	91325	0,70
A-LOE55/75 EC-600	89301	0,80	91326	0,80

Rail End Protection

High visibility protection for LOE end rails.



Type Description	Yellow Plastic	Yellow Plastic (kg)
A-LOE 55 EP	1371597	0,010

LOE75 Cable Ladder System

LOE75 Cable Ladder

Cable Ladder with 75 mm rail height for light to medium loads. Lateral slots on the rungs allow optimal fitting of cable ties.

Type Description	SS	SS (kg)	ZM	ZM (kg)
LOE75 CL-CW-200-3000	1372335	7,5	1375401	7,7
LOE75 CL-CW-300-3000	1372336	8,1	1375402	8,4
LOE75 CL-CW-400-3000	1372337	8,5	1375403	9,2
LOE75 CL-CW-500-3000	1372338	10,3	1375404	-
LOE75 CL-CW-600-3000	1372339	10,2	1375405	10,8



LOE75 Fittings

LOE75 Flat Elbow 90°

Space-saving 90° Flat Elbow with integrated Splice Connectors. Radius 300 mm.

Type Description	SS	SS (kg)	ZM	ZM (kg)
LOE75 FE-90-CW-200 R300	1372345	2,9	1375431	3,6
LOE75 FE-90-CW-300 R300	1372346	3,1	1375432	4,2
LOE75 FE-90-CW-400 R300	1372347	3,5	1375433	4,7
LOE75 FE-90-CW-500 R300	1372348	3,9	1375434	5,3
LOE75 FE-90-CW-600 R300	1372349	4,9	1375435	5,9

4 Locking Bolt set(s) M6x12 included.



LOE75 Tee-Piece

Space-saving Tee-Piece with integrated Splice Connectors.

Type Description	SS	SS (kg)	ZM	ZM (kg)
LOE75 TE-CW-200-R300	1304405	5,8	1375436	6,4
LOE75 TE-CW-300-R300	1304406	6,8	1375437	7,3
LOE75 TE-CW-400-R300	1304407	-	1375438	8,5
LOE75 TE-CW-500-R300	1304408	-	1375439	9,5
LOE75 TE-CW-600-R300	1304409	10,2	1375440	10,4

6 Locking Bolt set(s) M6x12 included.



LOE75 Cross-Piece

Space-saving Cross-Piece with integrated Splice Connectors.

Type Description	SS	SS (kg)	ZM	ZM (kg)
LOE75 CP-CW-200-R300	1304430	8,3	1375441	9,2
LOE75 CP-CW-300-R300	1304431	9,5	1375442	10,3
LOE75 CP-CW-400-R300	1304432	11,2	1375443	11,8
LOE75 CP-CW-500-R300	1304433	12,4	1375444	12,9
LOE75 CP-CW-600-R300	1304434	13,7	1375445	14,1

8 Locking Bolt set(s) M6x12 included.



LOE75 Riser

45° fixed angle Riser Bracket for LOE 55 Cable Ladders. Two brackets required for each connection.

Type Description	Fasteners included	SS	SS (kg)	ZM
SPB/LOE75 RB-45	2×M6	1375151	-	1375409



LOE75 Fixings

Inside Splice Connector LOE75

Splice Connector for fitting inside the Cable Ladder rail. With notches to strengthen the connection. Two Splice Connectors required for each connection.

Type Description	Fasteners included	SS	SS (kg)	ZM
LOE75 SC	4×M6	1372371	0,30	1375406



Outside Splice Connector LOE75

Splice Connector for fitting outside LOE Cable Ladder. Two Splice Connectors required for each connection.

Type Description	Fasteners included	SS	SS (kg)	ZM
LOE75 SC-HD	4×M6	1303329	0,50	



Hinge Horizontal LOE75

Horizontal Hinge which can be adjusted to any required angle from 0-90°. Two hinges required for each connection.

Type Description	Fasteners included	SS	SS (kg)	ZM
LOE75 HH	2×M6	1372373	0,30	1375407



Hinge Vertical LOE75

Vertical Hinge for making risers at any angle. Two hinges required for each connection.

Type Description	Fasteners included	SS	SS (kg)	ZM
LOE75 HV	2×M6	1372375	0,20	1375408



Rail End Protection

High visibility protection for LOE end rails.

Type Description	Yellow Plastic	Yellow Plastic (kg)
A-LOE 75 EP	80388	-



LOE100 Cable Ladder System

LOE100 Cable Ladder

Cable Ladder with 100 mm rail height and 3 m in length suitable for heavy loads. Lateral slots on the rungs allow optimal fitting of cable ties. Inward facing flange and slots on side rails allow equipment to be fitted easily.

Type Description	SS	SS (kg)	HDG	HDG (kg)
LOE100 CL-CW-200-3000	1303365	10,4	1303360	13,3
LOE100 CL-CW-300-3000	1303366	11,1	1303361	14,3
LOE100 CL-CW-400-3000	1303367	11,7	1303362	15,0
LOE100 CL-CW-500-3000	1303368	12,4	1303363	15,9
LOE100 CL-CW-600-3000	1303369	13,0	1303364	16,7



LOE100 Fittings

LOE100 Flat Elbow 90°

Space-saving 90° Flat Elbow with integrated Splice Connectors. Radius 300 mm.

Type Description	SS	SS (kg)	HDG	HDG (kg)
LOE100 FE-90-200 R300	1303385	4,9	1303380	-
LOE100 FE-90-300 R300	1303386	5,3	1303381	5,4
LOE100 FE-90-400 R300	1303387	6,2	1303382	6,2
LOE100 FE-90-500 R300	1303388	6,6	1303383	6,6
LOE100 FE-90-600 R300	1303389	6,9	1303384	-

8 Locking Bolt set(s) M10x20 included.



LOE100 Tee-Piece

Space-saving Tee-Piece with integrated Splice Connectors.

Type Description	SS	SS (kg)	HDG	HDG (kg)
LOE100 TE-200	1304415	6,5	1304410	6,5
LOE100 TE-300	1304416	6,8	1304411	7,4
LOE100 TE-400	1304417	-	1304412	8,5
LOE100 TE-500	1304418	-	1304413	9,4
LOE100 TE-600	1304419	10,2	1304414	10,5

12 Locking Bolt set(s) M10x20 included.



LOE100 Cross-Piece

Space-saving Cross-Piece with integrated Splice Connectors.

Type Description	SS	SS (kg)	HDG	HDG (kg)
LOE100 CP-200	1304440	-	1304435	10,6
LOE100 CP-300	1304441	-	1304436	11,6
LOE100 CP-400	1304442	-	1304437	12,1
LOE100 CP-500	1304443	-	1304438	13,9
LOE100 CP-600	1304444	-	1304439	14,8

16 Locking Bolt set(s) M10x20 included.



LOE100 Riser

90° Combi Riser with integrated Splice Connectors for the LOE 100 Cable Ladder System. Can be used as inside or outside riser by reversing the rung. Can be cut to create two 45° risers.

Type Description	SS	SS (kg)	HDG	HDG (kg)
LOE100 CR-200	1304450	-	1304445	3,8
LOE100 CR-300	1304451	4,3	1304446	4,5
LOE100 CR-400	1304452	4,5	1304447	4,7
LOE100 CR-500	1304453	4,8	1304448	-
LOE100 CR-600	1304454	5,1	1304449	5,6

8 Locking Bolt set(s) M10x20 included.



LOE100 Fixings

Splice Connector LOE100

Splice Connector for attaching Cable Ladders and fittings. Available in two types: With and without notches. Notches (code NO) are recommended where possible to strengthen the connection. Ladder to Ladder: Two Splice Connectors are required. Ladder to Fitting: No Splice Connectors are required. Fitting to Fitting: Two Splice Connectors are required.

Type Description	Fasteners included	SS	SS (kg)	HDG
OE/LOE100 SC-NO	4xM10	1371681	0,30	
OE100 SC	4xM10	1371683	0,50	1371678



Hinge Horizontal LOE100

Horizontal Hinge which can be adjusted to required angle. Two hinges required for each connection.

Type Description	Fasteners included	SS	SS (kg)	HDG
LOE100 HH	4xM10	1303332	0,30	1303331



Hinge Vertical LOE100

Heavy duty Vertical Hinge for LOE Cable Ladders. Can be locked in place in increments of 4°. Two hinges required for each connection.

Type Description	Fasteners included	SS	SS (kg)	HDG
OE/LOE100 HV	4xM10	1371679	0,70	1303333



Rail End Protection

High visibility protection for OE end rails.

Type Description	Yellow Plastic	Yellow Plastic (kg)
A-OE/LOE 100 EP	1306893	0,10



LOE Accessories

Cover

Straight Flat Cover for the LOE Cable Ladder System. 3 m length.

Type Description	SS	SS (kg)	ZM	ZM (kg)
LOE/SPB CO-CT-200-3000	1302606	8,2	1303252	-
LOE/SPB CO-CT-300-3000	1302607	11,8	1303253	11,5
LOE/SPB CO-CT-400-3000	1302608	15,4	1303254	15,1
LOE/SPB CO-CT-500-3000	1302609	19,0	1303255	18,6
LOE/SPB CO-CT-600-3000	1302610	22,6	1303256	22,1



Cover Clamp

Cover Clamp for the LOE Cable Ladder System.

Type Description	Fasteners included	SS	SS (kg)	HDG
SPB-RF40/60 LOE55 CC	1×M6	1372670	0,020	1372672
LOE75 CC	1×M6	1372379	0,020	1372872
LOE100 CC	1×M10	1303335	0,030	1303334



Raised Cover Clamp

Raised Cover Clamp for ventilation of the LOE Cable Ladder System.

Type Description	Fasteners included	SS	SS (kg)	HDG
SPB40/60 LOE55 CC-V	2×M6	70001	0,060	59997
LOE100 CC-V	4×M10/2×M6	1373302	0,40	1373303



Socket Plate Horizontal

Socket Plate for fitting horizontally between the rungs of an LOE Cable Ladder.

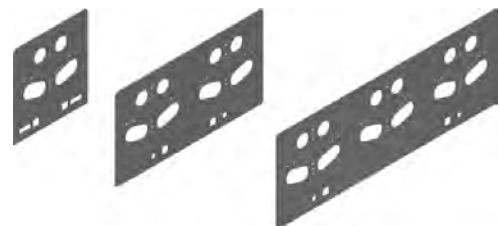
Type Description	SS	SS (kg)	HDG	HDG (kg)
LOE SO-RU	1372378	0,50	1372056	0,50



Socket Plate Vertical

Socket Plate for fitting vertically on the siderails of an LOE Cable Ladder.

Type Description	SS	SS (kg)	HDG	ZM
A-SPB/LOE SO-JB	1372377	0,20	1371592	1301049
A-SPB/LOE SO-JB-2	1303337	0,40	1306855	1301069
A-SPB/LOE SO-JB-3	1303339	0,60	1303338	1301599



Divider

Divider for separation and segregation of different systems.

Note: Dividers in SS (AISI 316) cannot be used as an electromagnetic barrier. Contact us for alternatives.

Type Description	SS	SS (kg)	HDG	ZM
LOE DI-22	1372380	1,0	1371572	-
LOE DI-42	1371706	1,6	1372783	1375166



Divider Channel

Divider Channel which forms a Cable Tray section approx. 100 mm wide within the LOE Cable Ladder. For separation and segregation of different systems. Note: Dividers in SS (AISI 316) cannot be used as an electromagnetic barrier. Contact us for alternatives.

Type Description	SS	SS (kg)	HDG	ZM
LOE DI-CH	1304496	3,0	1372034	1375414



Wall Angle Bracket M10/M6

Angle Bracket for fitting LOE 55/75 vertically.

Type Description	Fasteners included	SS	SS (kg)	HDG
S-M AB-50x50x25-10/6	1xM10/1xM6	1371817	0,080	1372761



Wall Distance Bracket

Angle Bracket for fitting LOE 55/75 vertically 20-35 mm from wall.

Type Description	Fasteners included	SS	SS (kg)	HDG	ZM
S-LOE WD	2xM6	1304468	0,10	1304467	1375417



Angle Bracket M10

Angle Bracket for fitting LOE 100 vertically or horizontally.

Type Description	Fasteners included	SS	SS (kg)	HDG
S-M AB-50x140x35-10	3xM10	1304469	0,20	1301081



Angle Bracket M6

Angle Bracket for fitting LOE 55/75 vertically or horizontally.

Type Description	Fasteners included	SS	SS (kg)	HDG
S-M AB-50x102x25-6	3xM6	1372382	0,10	1372696



LOE Ceiling Support

Ceiling Bracket

Adjustable Ceiling Bracket for Central Support Channel. Allows Support Channel to be hung up to 38° from vertical in either direction.

Type Description	Fasteners included	SS	SS (kg)	HDG	ZM
S-M CE-SD	2×M10	1372385	0,30	1372150	1375422



Channel CH42-1

Channel for attaching Ceiling Bracket to Support Arm. For LOE Cable Ladder. Available in 3 m full lengths or in standard pre-cut lengths.

Type Description	SS	SS (kg)	ZM	ZM (kg)
S-M CH42-1-300	1303347	0,30	1375423	0,30
S-M CH42-1-450	1303348	0,50	1375424	0,50
S-M CH42-1-900	1303349	0,90	1375425	1,0
S-M CH42-1-3000	1303350	3,1	1375426	3,2



Splice connector for Channel CH42-1

Splice Connector for Channel CH42-1.

Type Description	Fasteners included	SS	SS (kg)	HDG
S-M SC-CH42-1	2×M10	1301581	0,30	1301580



Central Support for CH42-1

Central Support Arm for fixing LOE Cable Ladder. Available in five standard widths.

Type Description	SS	SS (kg)
S-LOE CS-20-200	1303310	0,20
S-LOE CS-20-300	1303311	0,40
S-LOE CS-20-400	1303312	0,50
S-LOE CS-20-500	1303313	0,80
S-LOE CS-20-600	1303314	0,90

1 Locking Bolt set(s) M10x20 included.



Fixing Clamp for Pendular Bracket

Clamp for fixing LOE Cable Ladders to Centre Support Bracket.

Type Description	Fasteners included	SS	SS (kg)
S-LOE FC-CS-20	1×M6	1304461	0,20



Channel CH50-1

Channel for attaching Ceiling Bracket to Support Arm. For LOE Cable Ladder. Suitable for heavier loads and when supporting wide Cable Ladders.

Type Description	SS	SS (kg)	HDG	ZM
S-M CH50-1-3000	1371687	3,8	1371684	1375164



Splice connector for Channel CH50-1

Splice Connector for Channel CH50-1.

Type Description	Fasteners included	SS	SS (kg)	HDG
S-M SC-CH50-1	2×M10	1302595	0,30	1372763



Central Support for CH50-1

Central Support Arm for fixing LOE Cable Ladder. Available in five standard widths. Suitable for heavier loads and when supporting wide Cable Ladders.

Type Description	HDG	HDG (kg)	ZM	ZM (kg)
S-LOE CS-20-200	1303305	0,30	1375167	0,30
S-LOE CS-20-300	1303306	0,50	1375168	-
S-LOE CS-20-400	1303307	0,70	1375169	-
S-LOE CS-20-500	1303308	0,80	1375170	-
S-LOE CS-20-600	1303309	1,0	1375171	-

1 Locking Bolt set(s) M10x25 included.



Central Channel

Combined Ceiling Bracket and Central Channel for fixing to Central Support Arm. For LOE Cable Ladder. Available in three standard heights.

Type Description	SS	SS (kg)	HDG	ZM
S-LOE CH48-1-172	1304476	0,40	1304478	1375376
S-LOE CH48-1-222	1304479	0,50	1304481	1375377
S-LOE CH48-1-300	1306848	0,60	1304484	1375157



Bracket for Central Support incl. Angle Bracket

LOE central support with bracket arm. Fix cable ladder to bracket with 2 pcs. bolt sets (ordered separately). For LOE55 and LOE75, 2 pcs. M6x12. For LOE100, 2 pcs. M10x20.

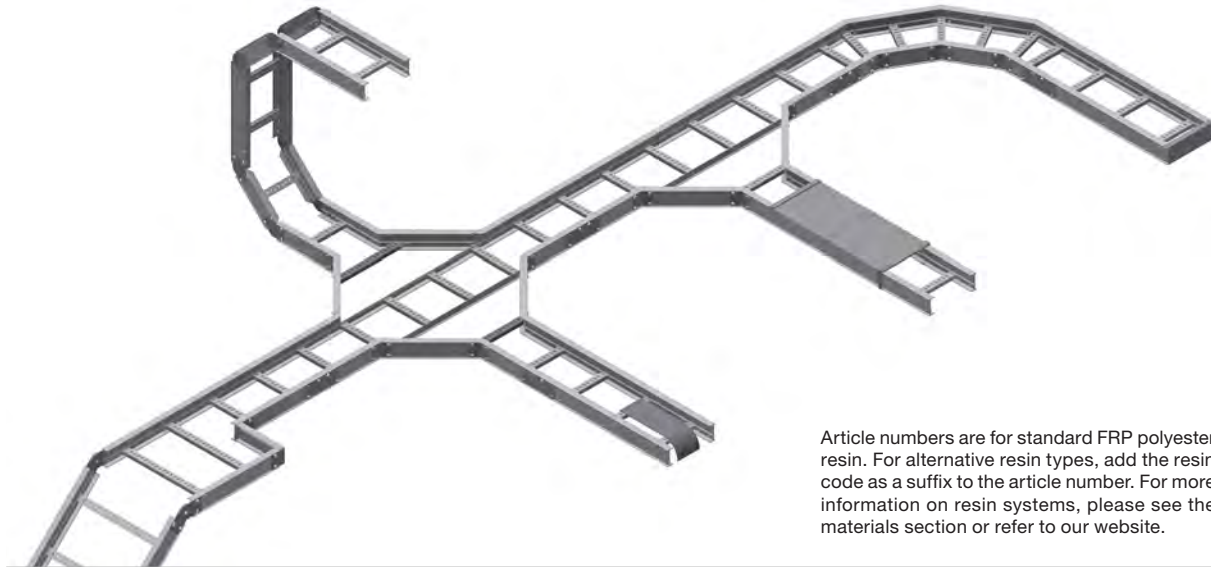
Type Description	SS	SS (kg)	HDG	ZM
S-TOE CS-CH-200	1306875	0,8	1306870	1375158
S-TOE CS-CH-300	1306876	0,9	1306871	1375159
S-TOE CS-CH-400	1306877	1,1	1306872	1375160
S-TOE CS-CH-500	1306878	1,3	1306873	1375161
S-TOE CS-CH-600	1306879	1,6	1306874	1375162

2 Locking Bolt set(s) M10x20 included.



FOE COMPOSITE CABLE LADDER SYSTEM

Oglaend System corrosion resistant glass fibre reinforced plastic (FRP/GRP) cable ladders are designed to deliver weight reductions while maintaining strength and maximizing loading capability. The design delivers HSE improvements when lifting and fitting ladder and support equipment. Cable ladders are available in different resin materials, each formulated to satisfy special project requirements.



Article numbers are for standard FRP polyester resin. For alternative resin types, add the resin code as a suffix to the article number. For more information on resin systems, please see the materials section or refer to our website.

MATERIALS

Available in different resins:

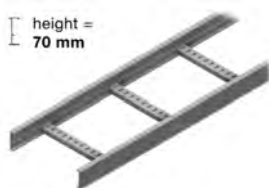


3D LIBRARIES

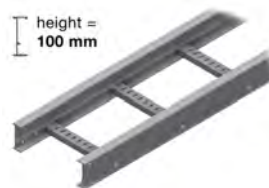
AVEVA (E3D / PDMS)
Hexagon (Intergraph Smart 3D)
Bentley

CERTIFICATES

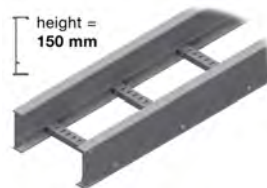
Type	UL	ABS	BV
FOE70	All resin	Olstar ABS	Olstar ABS
FOE100	All resin	Olstar ABS	Olstar ABS
FOE150 GA	All resin	Olstar ABS	Olstar ABS
FOE150 HD	All resin	Olstar ABS	Olstar ABS



FOE70
Siderail height 70 mm



FOE100
Siderail height 100 mm



FOE150 GA
GA = General Application



FOE150 HD
HD = Heavy Duty

FOE200 also available on request.

LOAD DATA

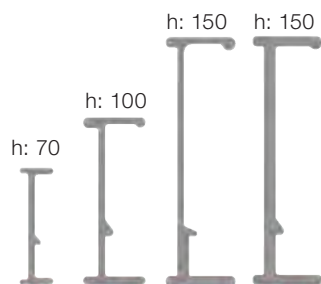
Cable Ladder	Rail Height (mm)	Loading Depth (mm)	SWL 2 m (kg/m)	SWL 3 m (kg/m)	Available lengths (m)	Nema FG-1	Wall thickness FRP (mm)
FOE70	70	46	263	103	3	8A	4
FOE100	100	71	-	230	3/6	12C	4
FOE150 GA	150	121	-	402	3/6	16B	4 ¹ /7 ²
FOE150 HD	150	121	-	460	3/6	20C	7

SWL = Safe Working Load, ¹Upper Wall, ²Lower Wall

Loading data according to IEC61537. The length of the end span must be reduced to 3/4 of the support spacing and with no splices on the end span.

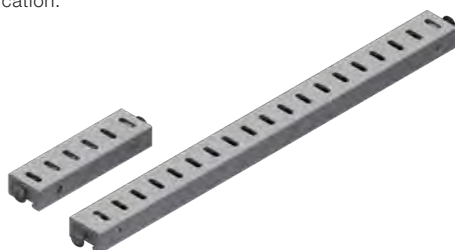
DIFFERENT HEIGHTS (MM):

Different ladder heights to give more choice for loading space availability. Designed with unique I-beam for superior loading capacity.

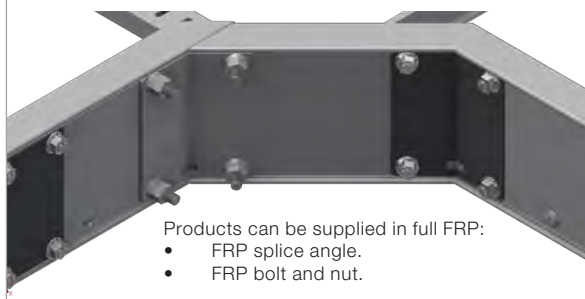


VARIABLE RUNG WIDTH (MM):

Standard widths range from 150-900 mm. Rung widths and rung spacing can be customized to project requirements on application.

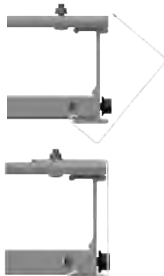


FITTING ACCESSORIES AVAILABLE IN FRP AND SS



HEAVY DUTY COVER FIXING CLAMPS

Available in FRP and SS materials.



Product code	Flat Elbow	Width	Material
FOE	150	FE - 90 - 300	R600 FRP
	Rail height	Angle	Radius

FE = Flat Elbow, TE = Tee-Piece, CP = Cross-Piece, CO = Cover

TABLE OF CONTENTS

FOE Smart Features	146
--------------------------	-----

FOE70 Cable Ladder System

FOE70 Cable Ladder System	147
FOE70 Fittings	147
FOE70 Fixings	151

FOE100 Cable Ladder System

FOE100 Cable Ladder System	153
FOE100 Fittings	153
FOE100 Fixings	158

FOE150 Cable Ladder System

FOE150 GA Cable Ladder System	160
FOE150 HD Cable Ladder System	160
FOE150 Fittings	161
FOE150 Fixings	166

FOE Cover & Accessories

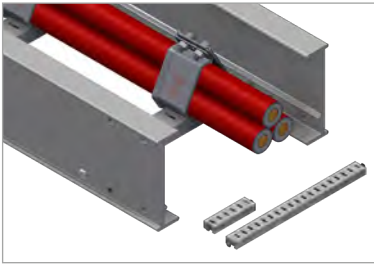
FOE Cover	168
FOE Cover Clamps	170
FOE Accessories	170



Intellectual Property Rights

Please note that many of the products presented in this catalogue are protected by our intellectual property rights in the form of patents, registered designs and trademarks, and that we have made the strategic decision to police and enforce these rights in all relevant jurisdictions.

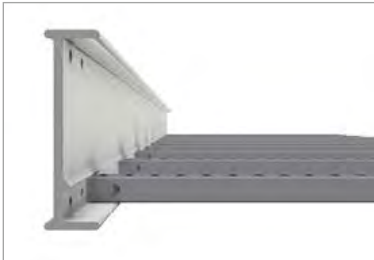
FOE Smart Features



PERFORATED RUNG DESIGN

Standard widths range from 150-900 mm. This allows for our high voltage cable cleats SmartCheat® to be easily installed. ETIN™ tubing clamps can also be installed. Flexible rung attachment allows additional rungs to be installed.

C-profile advantages; increased loading complete with perforations, prohibits liquid entrapment, long maintenance service life, range of smart-loks available to meet different requirements, rung widths and rung spacing can be customized to project requirements on application.



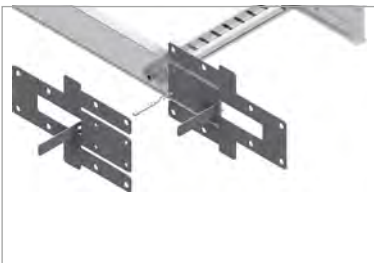
LADDER SIDERAIL

Ladder Siderail has unique off centre side profiles. Easy installation and secure fitting of splice plates. Increased load capacity at splice location. Roll edges for easy handling. Trim edge, reduces cable snagging, roll over and aids stability to reduce rung movement.



SPLICE CONNECTORS

Full height splice and joint connectors with A4 quality bolt sets which can handle the same loadings as the ladder system itself. The products are delivered with perforations for use with splice connectors predrilled.



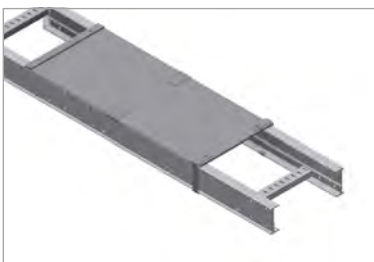
DRILL JIG

Smart Jig available for easy and accurate drilling.



FLEXIBLE RISER

Allows user to change between inside or outside riser (simply remove then invert the splice angle plate).



CABLE LADDER COVER

Covers are available for all widths of FOE Cable Ladders and fittings. For straight Cable Ladders, covers are supplied in 3 meter lengths consisting of 4 interlocking sections. These covers are designed this way to reduce possible sagging across the width of the cover.

The bolts used to interlock the sections are also used to install the HD Cover fixing clamp. Covers for fittings are supplied as a single flat cover.

FOE70 Cable Ladder System

FOE70 Straight Cable Ladder

Composite Cable Ladder with 70 mm rail height certified to class 8A according to Nema FG-1 standard. 3 m length.

Type Description	FRP	FRP (kg)
FOE-70 CL-150-3000	73700	5,7
FOE-70 CL-200-3000	70300	5,9
FOE-70 CL-300-3000	73701	6,3
FOE-70 CL-400-3000	70301	6,6
FOE-70 CL-450-3000	73702	6,8
FOE-70 CL-500-3000	70302	6,9
FOE-70 CL-600-3000	73703	7,3



FOE70 Fittings

90° Flat Elbows

Compact design Flat Elbow in radius 300 mm.
(For more radius options please contact us.)

Type Description	FRP	FRP (kg)
FOE-70 FE-90-150 R300	73706	2,2
FOE-70 FE-90-200 R300	70303	2,3
FOE-70 FE-90-300 R300	73307	2,5
FOE-70 FE-90-400 R300	70304	3,2
FOE-70 FE-90-450 R300	73708	3,3
FOE-70 FE-90-500 R300	73707	3,5
FOE-70 FE-90-600 R300	73709	3,8



45° Flat Elbows

Compact design Flat Elbow in radius 300 mm.
(For more radius options please contact us.)

Type Description	FRP	FRP (kg)
FOE-70 FE-45-150 R300	73712	1,4
FOE-70 FE-45-200 R300	70305	1,4
FOE-70 FE-45-300 R300	73713	1,6
FOE-70 FE-45-400 R300	70306	1,7
FOE-70 FE-45-450 R300	73714	2,0
FOE-70 FE-45-500 R300	70307	2,1
FOE-70 FE-45-600 R300	73715	2,3



Tee-Piece

Compact design Tee-Piece in radius 300 mm.
(For more radius options and for unequal fittings please contact us.)

Type Description	FRP	FRP (kg)
FOE-70 TE-150/150 R300	73718	3,2
FOE-70 TE-200/200 R300	70308	3,3
FOE-70 TE-300/300 R300	73719	3,6
FOE-70 TE-400/400 R300	70309	4,1
FOE-70 TE-450/450 R300	73720	4,3
FOE-70 TE-500/500 R300	70310	4,5
FOE-70 TE-600/600 R300	73721	4,8



Cross-Piece

Compact design Cross-Piece in radius 300 mm.
(For more radius options and for unequal fittings please contact us.)

Type Description	FRP	FRP (kg)
FOE-70 CP-150/150 R300	73724	4,3
FOE-70 CP-200/200 R300	70311	4,5
FOE-70 CP-300/300 R300	73725	4,9
FOE-70 CP-400/400 R300	70312	5,3
FOE-70 CP-450/450 R300	73726	5,4
FOE-70 CP-500/500 R300	70313	5,6
FOE-70 CP-600/600 R300	73727	5,9



Riser Part

Riser Link which can be combined with Angle Plates and additional Riser Links to create required configurations.

Type Description	FRP	FRP (kg)
FOE-70 RI-PA-150	73741	0,60
FOE-70 RI-PA-200	70403	0,60
FOE-70 RI-PA-300	73742	0,60
FOE-70 RI-PA-400	70404	0,70
FOE-70 RI-PA-450	73743	0,70
FOE-70 RI-PA-500	70405	0,70
FOE-70 RI-PA-600	73744	0,70



Inside Fixed Riser 90°. Radius 400 mm

Fixed angle Inside Riser piece. Compact design. Preassembled in composite system. Exact radius 409 mm.

Type Description	FRP	FRP (kg)
FOE-70 RI-IN-90-150 R400	73747	0,90
FOE-70 RI-IN-90-200 R400	70415	0,90
FOE-70 RI-IN-90-300 R400	73748	1,0
FOE-70 RI-IN-90-400 R400	70416	1,0
FOE-70 RI-IN-90-450 R400	73749	1,0
FOE-70 RI-IN-90-500 R400	70417	1,1
FOE-70 RI-IN-90-600 R400	73750	1,1

8 Locking Bolt set(s) M6x16 included.



Inside Fixed Riser 90°. Radius 600 mm

Fixed angle Inside Riser piece. Compact design. Preassembled in composite system. Exact radius 607 mm.

Type Description	FRP	FRP (kg)
FOE-70 RI-IN-90-150 R600	73753	1,6
FOE-70 RI-IN-90-200 R600	70418	1,7
FOE-70 RI-IN-90-300 R600	73754	1,8
FOE-70 RI-IN-90-400 R600	70419	1,8
FOE-70 RI-IN-90-450 R600	73755	1,9
FOE-70 RI-IN-90-500 R600	70420	1,9
FOE-70 RI-IN-90-600 R600	73756	2,0

8 Locking Bolt set(s) M6x16 included.



Inside Fixed Riser 90°. Radius 800 mm

Fixed angle Inside Riser piece. Compact design. Preassembled in composite system. Exact radius 804 mm.

Type Description	FRP	FRP (kg)
FOE-70 RI-IN-90-150 R800	73759	2,4
FOE-70 RI-IN-90-200 R800	70421	2,4
FOE-70 RI-IN-90-300 R800	73760	2,6
FOE-70 RI-IN-90-400 R800	70422	2,6
FOE-70 RI-IN-90-450 R800	73761	2,7
FOE-70 RI-IN-90-500 R800	70423	2,7
FOE-70 RI-IN-90-600 R800	73762	2,9

8 Locking Bolt set(s) M6x16 included.



Outside Fixed Riser 90°. Radius 400 mm

Fixed angle Outside Riser. Compact design. Preassembled in composite system. Exact radius 393 mm.

Type Description	FRP	FRP (kg)
FOE-70 RI-OU-90-150 R400	73765	0,90
FOE-70 RI-OU-90-200 R400	70424	0,90
FOE-70 RI-OU-90-300 R400	73766	1,0
FOE-70 RI-OU-90-400 R400	70425	1,0
FOE-70 RI-OU-90-450 R400	73767	1,0
FOE-70 RI-OU-90-500 R400	70426	1,1
FOE-70 RI-OU-90-600 R400	73768	1,1

8 Locking Bolt set(s) M6x16 included.



Outside Fixed Riser 90°. Radius 600 mm

Fixed angle Outside Riser. Compact design. Preassembled in composite system. Exact radius 591 mm.

Type Description	FRP	FRP (kg)
FOE-70 RI-OU-90-150 R600	73771	1,6
FOE-70 RI-OU-90-200 R600	70427	1,7
FOE-70 RI-OU-90-300 R600	73772	1,8
FOE-70 RI-OU-90-400 R600	70428	1,8
FOE-70 RI-OU-90-450 R600	73773	1,9
FOE-70 RI-OU-90-500 R600	70429	1,9
FOE-70 RI-OU-90-600 R600	73774	2,0

8 Locking Bolt set(s) M6x16 included.



Outside Fixed Riser 90°. Radius 800 mm

Fixed angle Outside Riser. Compact design. Preassembled in composite system. Exact radius 788 mm.

Type Description	FRP	FRP (kg)
FOE-70 RI-OU-90-150 R800	73777	2,4
FOE-70 RI-OU-90-200 R800	70430	2,4
FOE-70 RI-OU-90-300 R800	73778	2,6
FOE-70 RI-OU-90-400 R800	70431	2,6
FOE-70 RI-OU-90-450 R800	73779	2,7
FOE-70 RI-OU-90-500 R800	70432	2,7
FOE-70 RI-OU-90-600 R800	73780	2,9

8 Locking Bolt set(s) M6x16 included.



FOE70 Fixings

Splice plates are delivered in a set for one side of each ladder, complete with bolts as shown. Two sets are therefore required for a ladder connection.

All standard splice connectors in both SS and FRP material are supplied with SS fasteners.

Splice Connector

Splice Connector for connecting Cable Ladders and Fittings.

Type Description	Fasteners included	SS	SS (kg)	FRP
FOE-70 SC	4xM6	70397	0,20	70396



Splice Angle Horizontal

Horizontal 90° Splice for FOE Cable Ladders. Note that the SS type is supplied as a flat plate which may be bent to any angle.

Type Description	Fasteners included	SS	SS (kg)	FRP
FOE-70 SA-HO	4xM6	70399	0,30	70398



Hinge Vertical

Vertical Hinge for FOE Cable Ladders in two types. The heavy duty SS version can be locked in place in increments of 4°.

Type Description	Fasteners included	SS	SS (kg)	FRP
FOE-70 HV-HD	6xM6	74863	0,30	70402



Reducer Part

Part for increasing or reducing Cable Ladder width in set increments. Universal design which can be used for left or right side independently or both sides together. When fitting on just one side, one additional splice connector is required (ordered separately).

Type Description	FRP	FRP (kg)
FOE-70 RP-150	73730	0,30
FOE-70 RP-200	70326	0,40
FOE-70 RP-300	73731	0,50
FOE-70 RP-450	73732	0,60
FOE-70 RP-500	73733	0,60

2 Locking Bolt set(s) M6x16 included.



End Cover

End Cover to close the end of the Cable Ladder.
Provides a tidy finish.

Type Description	FRP	FRP (kg)
FOE-70 EC-150	73735	0,090
FOE-70 EC-200	70393	0,10
FOE-70 EC-300	73736	0,20
FOE-70 EC-400	70394	0,20
FOE-70 EC-450	73737	0,30
FOE-70 EC-500	70395	0,30
FOE-70 EC-600	73738	0,30

2 ST4.8x13 Self Tapping Screw(s) included.



Dividers

Divider for FOE-70 Cable Ladder. Supplied in 3 m lengths.
Dividers are used for separation and segregation of different systems.

Type Description	Fasteners included	FRP	FRP (kg)
FOE-70 DI	4xM6	73783	2,4



FOE100 Cable Ladder System

FOE100 Cable Ladder

Composite Cable Ladder with 100 mm rail height certified to class 12C according to Nema FG-1 standard.



FOE100 Cable Ladder in 3 m length

Type Description	FRP	FRP (kg)
FOE-100 CL-150-3000	74429	10,0
FOE-100 CL-300-3000	74430	11,1
FOE-100 CL-450-3000	74431	12,1
FOE-100 CL-600-3000	74432	13,3
FOE-100 CL-750-3000	74433	14,4
FOE-100 CL-900-3000	74434	15,2

FOE100 Cable Ladder in 6 m length

Type Description	FRP	FRP (kg)
FOE-100 CL-150-6000	74746	20,1
FOE-100 CL-300-6000	74747	22,3
FOE-100 CL-450-6000	74748	24,2
FOE-100 CL-600-6000	74749	26,7
FOE-100 CL-750-6000	74750	28,9
FOE-100 CL-900-6000	74751	30,5

FOE100 Fittings

90° Flat Elbows

Compact design Flat Elbow in composite system.
(For more radius options please contact us.)



Radius 300 mm

Type Description	FRP	FRP (kg)
FOE-100 FE-90-150 R300	74606	-
FOE-100 FE-90-300 R300	74607	4,7
FOE-100 FE-90-450 R300	74608	6,2
FOE-100 FE-90-600 R300	74609	7,0
FOE-100 FE-90-750 R300	74610	8,0
FOE-100 FE-90-900 R300	74611	8,9

Radius 600 mm

Type Description	FRP	FRP (kg)
FOE-100 FE-90-150 R600	73106	5,8
FOE-100 FE-90-300 R600	73107	6,7
FOE-100 FE-90-450 R600	73108	7,5
FOE-100 FE-90-600 R600	73109	8,6
FOE-100 FE-90-750 R600	73110	10,0
FOE-100 FE-90-900 R600	73111	11,0

45° Flat Elbows

Compact design Flat Elbow in composite system.
(For more radius options please contact us.)



Radius 300 mm

Type Description	FRP	FRP (kg)
FOE-100 FE-45-150 R300	74624	2,5
FOE-100 FE-45-300 R300	74625	2,9
FOE-100 FE-45-450 R300	74626	3,7
FOE-100 FE-45-600 R300	74627	4,3
FOE-100 FE-45-750 R300	74628	4,8
FOE-100 FE-45-900 R300	74629	5,3

Radius 600 mm

Type Description	FRP	FRP (kg)
FOE-100 FE-45-150 R600	73124	3,4
FOE-100 FE-45-300 R600	73125	3,9
FOE-100 FE-45-450 R600	73126	4,3
FOE-100 FE-45-600 R600	73127	4,9
FOE-100 FE-45-900 R600	73129	5,9
FOE-100 FE-45-750 R600	73128	5,4

Tee-Piece

Compact design Tee-Piece Fitting in composite system. (For more radius options and for unequal fittings please contact us.)



Radius 300 mm

Type Description	FRP	FRP (kg)
FOE-100 TE-150/150 R300	74506	5,9
FOE-100 TE-300/300 R300	74507	6,7
FOE-100 TE-450/450 R300	74508	7,8
FOE-100 TE-600/600 R300	74509	9,0
FOE-100 TE-750/750 R300	74510	10,4
FOE-100 TE-900/900 R300	74511	11,4

Radius 600 mm

Type Description	FRP	FRP (kg)
FOE-100 TE-150/150 R600	73142	8,8
FOE-100 TE-300/300 R600	73143	10,0
FOE-100 TE-450/450 R600	73144	11,5
FOE-100 TE-600/600 R600	73145	12,9
FOE-100 TE-750/750 R600	73146	14,8
FOE-100 TE-900/900 R600	73147	15,9

Cross-Piece

Compact design Cross-Piece Fitting in composite system. (For more radius options and for unequal fittings please contact us.)



Radius 300 mm

Type Description	FRP	FRP (kg)
FOE-100 CP-150/150 R300	70314	8,1
FOE-100 CP-300/300 R300	70315	8,9
FOE-100 CP-450/450 R300	70316	10,1
FOE-100 CP-600/600 R300	70317	11,2
FOE-100 CP-750/750 R300	70318	12,6
FOE-100 CP-900/900 R300	70319	13,6

Radius 600 mm

Type Description	FRP	FRP (kg)
FOE-100 CP-150/150 R600	71784	12,3
FOE-100 CP-300/300 R600	71785	13,6
FOE-100 CP-450/450 R600	71786	15,2
FOE-100 CP-600/600 R600	71787	16,7
FOE-100 CP-750/750 R600	71788	18,5
FOE-100 CP-900/900 R600	71789	19,9

Riser Part

Riser Link which can be combined with Angle Plates and additional Riser Links to create required configurations.

Type Description	FRP	FRP (kg)
FOE-100 RI-PA-150	74160	1,0
FOE-100 RI-PA-300	74161	1,1
FOE-100 RI-PA-450	74162	1,2
FOE-100 RI-PA-600	74163	1,3
FOE-100 RI-PA-750	74164	1,4
FOE-100 RI-PA-900	74165	1,5



Inside Fixed Riser 90°. Radius 400 mm

Fixed angle Inside Riser piece. Compact design. Preassembled in composite system. Exact radius 434 mm.

Type Description	FRP	FRP (kg)
FOE-100 RI-IN-90-150 R400	74236	2,0
FOE-100 RI-IN-90-300 R400	74237	2,1
FOE-100 RI-IN-90-450 R400	74238	2,2
FOE-100 RI-IN-90-600 R400	74239	2,3
FOE-100 RI-IN-90-750 R400	74240	2,4
FOE-100 RI-IN-90-900 R400	74241	2,5

8 Locking Bolt set(s) M10x20 included.



Inside Fixed Riser 90°. Radius 600 mm

Fixed angle Inside Riser piece. Compact design. Preassembled in composite system. Exact radius 633 mm.

Type Description	FRP	FRP (kg)
FOE-100 RI-IN-90-150 R600	74242	3,4
FOE-100 RI-IN-90-300 R600	74243	3,6
FOE-100 RI-IN-90-450 R600	74244	3,8
FOE-100 RI-IN-90-600 R600	74245	4,0
FOE-100 RI-IN-90-750 R600	74246	4,3
FOE-100 RI-IN-90-900 R600	74247	4,4

8 Locking Bolt set(s) M10x20 included.



Inside Fixed Riser 90°. Radius 800 mm

Fixed angle Inside Riser piece. Compact design. Preassembled in composite system. Exact radius 831 mm.

Type Description	FRP	FRP (kg)
FOE-100 RI-IN-90-150 R800	74248	4,8
FOE-100 RI-IN-90-300 R800	74249	5,1
FOE-100 RI-IN-90-450 R800	74250	5,4
FOE-100 RI-IN-90-600 R800	74251	5,8
FOE-100 RI-IN-90-750 R800	74252	6,1
FOE-100 RI-IN-90-900 R800	74253	6,3

8 Locking Bolt set(s) M10x20 included.



Outside Fixed Riser 90°. Radius 400 mm

Fixed angle Outside Riser piece. Compact design. Preassembled in composite system. Exact radius 393 mm.

Type Description	FRP	FRP (kg)
FOE-100 RI-OU-90-150 R400	74254	2,0
FOE-100 RI-OU-90-300 R400	74255	2,1
FOE-100 RI-OU-90-450 R400	74256	2,2
FOE-100 RI-OU-90-600 R400	74257	2,3
FOE-100 RI-OU-90-750 R400	74258	2,4
FOE-100 RI-OU-90-900 R400	74259	2,5

8 Locking Bolt set(s) M10x20 included.



Outside Fixed Riser 90°. Radius 600 mm

Fixed angle Outside Riser piece. Compact design. Preassembled in composite system. Exact radius 593 mm.

Type Description	FRP	FRP (kg)
FOE-100 RI-OU-90-150 R600	74260	3,4
FOE-100 RI-OU-90-300 R600	74261	3,6
FOE-100 RI-OU-90-450 R600	74262	3,8
FOE-100 RI-OU-90-600 R600	74263	4,0
FOE-100 RI-OU-90-750 R600	74264	4,3
FOE-100 RI-OU-90-900 R600	74265	4,4

8 Locking Bolt set(s) M10x20 included.



Outside Fixed Riser 90°. Radius 800 mm

Fixed angle Outside Riser piece. Compact design. Preassembled in composite system. Exact radius 790 mm.

Type Description	FRP	FRP (kg)
FOE-100 RI-OU-90-150 R800	74266	4,8
FOE-100 RI-OU-90-300 R800	74267	5,1
FOE-100 RI-OU-90-450 R800	74268	5,4
FOE-100 RI-OU-90-600 R800	74269	5,8
FOE-100 RI-OU-90-750 R800	74270	6,1
FOE-100 RI-OU-90-900 R800	74271	6,3

8 Locking Bolt set(s) M10x20 included.



Reducer Right

Part for reducing cable ladder width in set increments from one side.

Type Description	FRP	FRP (kg)
FOE-100 RE-R-300/150	70371	3,4
FOE-100 RE-R-450/150	70372	4,1
FOE-100 RE-R-600/150	70373	5,2
FOE-100 RE-R-450/300	70374	3,8
FOE-100 RE-R-600/300	70375	4,4
FOE-100 RE-R-750/300	70376	5,6
FOE-100 RE-R-900/300	71449	6,3
FOE-100 RE-R-600/450	70377	4,1
FOE-100 RE-R-750/450	70378	4,7
FOE-100 RE-R-900/450	70379	6,0
FOE-100 RE-R-750/600	70380	4,4
FOE-100 RE-R-900/600	70381	5,1
FOE-100 RE-R-900/750	110124	4,7



Reducer Left

Part for reducing cable ladder width in set increments from one side.

Type Description	FRP	FRP (kg)
FOE-100 RE-L-300/150	70349	3,5
FOE-100 RE-L-450/150	70350	4,0
FOE-100 RE-L-600/150	70351	5,2
FOE-100 RE-L-450/300	70352	3,7
FOE-100 RE-L-600/300	70353	4,4
FOE-100 RE-L-750/300	70354	5,5
FOE-100 RE-L-900/300	71448	6,3
FOE-100 RE-L-600/450	70355	-
FOE-100 RE-L-750/450	70356	4,7
FOE-100 RE-L-900/450	70357	5,9
FOE-100 RE-L-750/600	70358	4,3
FOE-100 RE-L-900/600	70359	5,0
FOE-100 RE-L-900/750	110125	4,7



Reducer Central

Part for reducing cable ladder width equally from both sides in set increments.

Type Description	FRP	FRP (kg)
FOE-100 RE-300/150	70327	3,4
FOE-100 RE-450/150	70328	4,2
FOE-100 RE-600/150	70329	4,6
FOE-100 RE-450/300	70330	3,6
FOE-100 RE-600/300	70331	4,5
FOE-100 RE-750/300	70332	5,0
FOE-100 RE-900/300	71447	5,4
FOE-100 RE-600/450	70333	3,8
FOE-100 RE-750/450	70334	4,8
FOE-100 RE-900/450	70335	5,1
FOE-100 RE-750/600	70336	-
FOE-100 RE-900/600	70337	5,1
FOE-100 RE-900/750	110121	4,3



FOE100 Fixings

Splice plates are delivered in a set for one side of each ladder, complete with bolts as shown. Two sets are therefore required for a ladder connection.

All standard splice connectors in both SS and FRP material are supplied with SS fasteners.

Splice Connector

Splice Connector for connecting Cable Ladders and Fittings.

Type Description	Fasteners included	SS	SS (kg)	FRP
FOE-100 SC	4×M10	74858	0,30	75051



Splice Angle Horizontal

Horizontal 90° splice for FOE cable ladders. Note that the SS type is supplied as flat plate which may be bent to any angle.

Type Description	Fasteners included	SS	SS (kg)	FRP
FOE-100 SA-HO	4×M10	74861	0,30	70400



Hinge Vertical

Vertical Hinge for FOE Cable Ladders in two types. The heavy duty SS version can be locked in place in increments of 4°.

Type Description	Fasteners included	SS	SS (kg)	FRP
FOE-100 HV-HD	6×M10	74864	0,40	75036



Splice Angle Plate 22.5°

Vertical splice plates can be used to quickly construct risers at various angles.

Type Description	Fasteners included	SS	SS (kg)	FRP
FOE-100 SA-VE-22.5	4×M10	74197	0,20	70413



Splice Angle Plate 30°

Vertical splice plates can be used to quickly construct risers at various angles.

Type Description	Fasteners included	SS	SS (kg)	FRP
FOE-100 SA-VE-30	4×M10	74194	0,20	70410



Splice Angle Plate 45°

Vertical splice plates can be used to quickly construct risers at various angles.

Type Description	Fasteners included	SS	SS (kg)	FRP
FOE-100 SA-VE-45	4×M10	74191	0,30	70407



Reducer Part

Part for increasing or reducing Cable Ladder width in set increments. Universal design which can be used for left or right side independently or both sides together. When fitting on just one side, one additional splice connector is required (ordered separately).

Type Description	FRP	FRP (kg)
FOE-100 RP-150	70275	0,70
FOE-100 RP-300	70276	0,90
FOE-100 RP-450	70277	1,1
FOE-100 RP-600	70278	1,3
FOE-100 RP-750	70279	1,6

4 Locking Bolt set(s) M10x20 included.



End Cover

End Cover to close the end of the Cable Ladder. Provides a tidy finish.

Type Description	FRP	FRP (kg)
FOE-100 EC-150	74701	0,10
FOE-100 EC-300	74702	0,20
FOE-100 EC-450	74703	0,30
FOE-100 EC-600	74704	0,40
FOE-100 EC-750	74705	0,60
FOE-100 EC-900	74706	0,70

2 ST4.8x13 Self Tapping Screw(s) included.



Dividers

Divider for FOE100 Cable Ladder. Supplied in 3 m lengths. Dividers are used for separation and segregation of different systems.

Type Description	Fasteners included	FRP	FRP (kg)
FOE 100 FTE-80 DI	4xM6	74541	1,6



FOE150 GA Cable Ladder System

FOE150 GA Cable Ladder System

Composite Cable Ladder System with 150 mm rail height, certified to Nema 16B according to Nema FG-1 standard. To specify FOE150 GA fittings, simply add the suffix "GA" after the article number of the FOE150 fittings.

Type Description	FRP	FRP (kg)
FOE-150GA-CL-150-3000	70264	14,6
FOE-150GA-CL-300-3000	70265	15,7
FOE-150GA-CL-450-3000	70266	16,6
FOE-150GA-CL-600-3000	70267	17,9
FOE-150GA-CL-750-3000	70268	18,7
FOE-150GA-CL-900-3000	70269	19,8



FOE150 HD Cable Ladder System

FOE150 Cable Ladder

Composite Cable Ladder System with 150 mm rail height, certified to Nema 20C according to Nema FG-1 standard.



FOE150 Cable Ladder in 3 m length

Type Description	FRP	FRP (kg)
FOE-150 CL-150-3000	74437	18,7
FOE-150 CL-300-3000	74438	19,8
FOE-150 CL-450-3000	74439	20,8
FOE-150 CL-600-3000	74440	22,0
FOE-150 CL-750-3000	74441	23,1
FOE-150 CL-900-3000	74442	23,9

FOE150 Cable Ladder in 6 m length

Type Description	FRP	FRP (kg)
FOE-150 CL-150-6000	74752	37,5
FOE-150 CL-300-6000	74753	39,6
FOE-150 CL-450-6000	74754	41,6
FOE-150 CL-600-6000	74755	44,0
FOE-150 CL-750-6000	74756	46,3
FOE-150 CL-900-6000	74757	47,9

FOE150 Fittings

90° Flat Elbow

Compact design Flat Elbow in composite system.
(For more radius options please contact us.)



Radius 300 mm

Type Description	FRP	FRP (kg)
FOE-150 FE-90-150 R300	74612	6,9
FOE-150 FE-90-300 R300	74613	8,0
FOE-150 FE-90-450 R300	74614	9,9
FOE-150 FE-90-600 R300	74615	11,2
FOE-150 FE-90-750 R300	74616	12,5
FOE-150 FE-90-900 R300	74617	13,7

Radius 600 mm

Type Description	FRP	FRP (kg)
FOE-150 FE-90-150 R600	73112	10,2
FOE-150 FE-90-300 R600	73113	11,4
FOE-150 FE-90-450 R600	73114	12,7
FOE-150 FE-90-600 R600	73115	14,6
FOE-150 FE-90-750 R600	73116	15,9
FOE-150 FE-90-900 R600	73117	17,2

45° Flat Elbow

Compact design Flat Elbow in composite system.
(For more radius options please contact us.)



Radius 300 mm

Type Description	FRP	FRP (kg)
FOE-150 FE-45-150 R300	74630	4,4
FOE-150 FE-45-300 R300	74631	5,0
FOE-150 FE-45-450 R300	74632	6,0
FOE-150 FE-45-600 R300	74633	6,7
FOE-150 FE-45-750 R300	74634	7,6
FOE-150 FE-45-900 R300	74635	8,1

Radius 600 mm

Type Description	FRP	FRP (kg)
FOE-150 FE-45-150 R600	73130	-
FOE-150 FE-45-300 R600	73131	6,2
FOE-150 FE-45-450 R600	73132	7,3
FOE-150 FE-45-600 R600	73133	7,7
FOE-150 FE-45-750 R600	73134	8,5
FOE-150 FE-45-900 R600	73135	9,2

Tee-Piece

Compact design Tee-Piece Fitting in composite system.
(For more radius options and for unequal fittings please contact us.)



Radius 300 mm

Type Description	FRP	FRP (kg)
FOE-150 TE-150/150 R300	74512	10,2
FOE-150 TE-300/300 R300	74513	11,1
FOE-150 TE-450/450 R300	74514	12,8
FOE-150 TE-600/600 R300	74515	14,4
FOE-150 TE-750/750 R300	74516	16,1
FOE-150 TE-900/900 R300	74517	17,1

Radius 600 mm

Type Description	FRP	FRP (kg)
FOE-150 TE-150/150 R600	73148	15,7
FOE-150 TE-300/300 R600	73149	17,0
FOE-150 TE-450/450 R600	73150	18,8
FOE-150 TE-600/600 R600	73151	20,7
FOE-150 TE-750/750 R600	73152	22,8
FOE-150 TE-900/900 R600	73153	24,4

Cross Piece

Compact design Cross-Piece Fitting in composite system.
(For more radius options and for unequal fittings please contact us.)



Radius 300 mm

Type Description	FRP	FRP (kg)
FOE-150 CP-150/150 R300	70320	14,0
FOE-150 CP-300/300 R300	70321	15,0
FOE-150 CP-450/450 R300	70322	16,2
FOE-150 CP-600/600 R300	70323	17,4
FOE-150 CP-750/750 R300	70324	18,9
FOE-150 CP-900/900 R300	70325	20,1

Radius 600 mm

Type Description	FRP	FRP (kg)
FOE-150 CP-150/150 R600	71676	21,4
FOE-150 CP-300/300 R600	71677	22,8
FOE-150 CP-450/450 R600	71678	24,5
FOE-150 CP-600/600 R600	71679	26,1
FOE-150 CP-750/750 R600	71680	28,0
FOE-150 CP-900/900 R600	71681	29,6

Riser Part

Riser Link which can be combined with Angle Plates and additional Riser Links to create required configurations. Preassembled in composite system.

Type Description	FRP	FRP (kg)
FOE-150 RI-PA-150	74166	1,8
FOE-150 RI-PA-300	74167	1,9
FOE-150 RI-PA-450	74168	2,0
FOE-150 RI-PA-600	74169	2,2
FOE-150 RI-PA-750	74170	2,3
FOE-150 RI-PA-900	74171	2,4



Inside Fixed Riser 90°. Radius 400 mm

Fixed angle Inside Riser piece. Compact design. Preassembled in composite system. Exact radius 482 mm.

Type Description	FRP	FRP (kg)
FOE-150 RI-IN-90-150 R400	74272	3,3
FOE-150 RI-IN-90-300 R400	74273	3,4
FOE-150 RI-IN-90-450 R400	74274	3,5
FOE-150 RI-IN-90-600 R400	74275	3,6
FOE-150 RI-IN-90-750 R400	74276	3,7
FOE-150 RI-IN-90-900 R400	74277	3,8

8 Locking Bolt set(s) M10x20 included.



Inside Fixed Riser 90°. Radius 600 mm

Fixed angle Inside Riser piece. Compact design. Preassembled in composite system. Exact radius 680 mm.

Type Description	FRP	FRP (kg)
FOE-150 RI-IN-90-150 R600	74278	5,7
FOE-150 RI-IN-90-300 R600	74279	5,9
FOE-150 RI-IN-90-450 R600	74280	6,0
FOE-150 RI-IN-90-600 R600	74281	6,3
FOE-150 RI-IN-90-750 R600	74282	6,5
FOE-150 RI-IN-90-900 R600	74283	6,7

8 Locking Bolt set(s) M10x20 included.



Inside Fixed Riser 90°. Radius 800 mm

Fixed angle Inside Riser piece. Compact design. Preassembled in composite system. Exact radius 878 mm.

Type Description	FRP	FRP (kg)
FOE-150 RI-IN-90-150 R800	74284	8,0
FOE-150 RI-IN-90-300 R800	74285	8,3
FOE-150 RI-IN-90-450 R800	74286	8,6
FOE-150 RI-IN-90-600 R800	74287	9,0
FOE-150 RI-IN-90-750 R800	74288	9,3
FOE-150 RI-IN-90-900 R800	74289	9,6

8 Locking Bolt set(s) M10x20 included.



Outside Fixed Riser 90°. Radius 400 mm

Fixed angle Outside Riser piece. Compact design. Preassembled in composite system. Exact radius 393 mm.

Type Description	FRP	FRP (kg)
FOE-150 RI-OU-90-150 R400	74290	3,3
FOE-150 RI-OU-90-300 R400	74291	3,4
FOE-150 RI-OU-90-450 R400	74292	3,5
FOE-150 RI-OU-90-600 R400	74293	3,6
FOE-150 RI-OU-90-750 R400	74294	3,7
FOE-150 RI-OU-90-900 R400	74295	3,8

8 Locking Bolt set(s) M10x20 included.



Outside Fixed Riser 90°. Radius 600 mm

Fixed angle Outside Riser piece. Compact design. Preassembled in composite system. Exact radius 591 mm.

Type Description	FRP	FRP (kg)
FOE-150 RI-OU-90-150 R600	74296	5,7
FOE-150 RI-OU-90-300 R600	74297	5,9
FOE-150 RI-OU-90-450 R600	74298	6,0
FOE-150 RI-OU-90-600 R600	74299	6,3
FOE-150 RI-OU-90-750 R600	74300	6,5
FOE-150 RI-OU-90-900 R600	74301	6,7

8 Locking Bolt set(s) M10x20 included.



Outside Fixed Riser 90°. Radius 800 mm

Fixed angle Outside Riser piece. Compact design. Preassembled in composite system. Exact radius 800 mm.

Type Description	FRP	FRP (kg)
FOE-150 RI-OU-90-150 R800	74302	8,0
FOE-150 RI-OU-90-300 R800	74303	8,3
FOE-150 RI-OU-90-450 R800	74304	8,6
FOE-150 RI-OU-90-600 R800	74305	9,0
FOE-150 RI-OU-90-750 R800	74306	9,3
FOE-150 RI-OU-90-900 R800	74307	9,6

8 Locking Bolt set(s) M10x20 included.



Reducer Right

Part for reducing Cable Ladder width in set increments from one side.

Type Description	FRP	FRP (kg)
FOE-150 RE-R-300/150	70382	5,9
FOE-150 RE-R-450/150	70383	7,1
FOE-150 RE-R-600/150	70384	8,7
FOE-150 RE-R-450/300	70385	6,2
FOE-150 RE-R-600/300	70386	7,5
FOE-150 RE-R-750/300	70387	9,1
FOE-150 RE-R-900/300	71452	10,4
FOE-150 RE-R-600/450	70388	6,6
FOE-150 RE-R-750/450	70389	7,8
FOE-150 RE-R-900/450	70390	9,6
FOE-150 RE-R-750/600	70391	6,9
FOE-150 RE-R-900/600	70392	8,1
FOE-150 RE-R-900/750	110130	-



Reducer Left

Part for reducing Cable Ladder width in set increments from one side.

Type Description	FRP	FRP (kg)
FOE-150 RE-L-300/150	70360	5,8
FOE-150 RE-L-450/150	70361	7,1
FOE-150 RE-L-600/150	70362	8,6
FOE-150 RE-L-450/300	70363	6,2
FOE-150 RE-L-600/300	70364	7,5
FOE-150 RE-L-750/300	70365	9,1
FOE-150 RE-L-900/300	71451	10,4
FOE-150 RE-L-600/450	70366	6,6
FOE-150 RE-L-750/450	70367	7,8
FOE-150 RE-L-900/450	70368	9,6
FOE-150 RE-L-750/600	70369	6,9
FOE-150 RE-L-900/600	70370	8,1
FOE-150 RE-L-900/750	110131	7,0



Reducer Central

Part for reducing Cable Ladder width equally from both sides in set increments.

Type Description	FRP	FRP (kg)
FOE-150 RE-300/150	70338	5,8
FOE-150 RE-450/150	70339	6,9
FOE-150 RE-600/150	70340	7,7
FOE-150 RE-450/300	70341	6,0
FOE-150 RE-600/300	70342	7,2
FOE-150 RE-750/300	70343	8,0
FOE-150 RE-900/300	71450	8,8
FOE-150 RE-600/450	70344	6,2
FOE-150 RE-750/450	70345	7,5
FOE-150 RE-900/450	70346	8,3
FOE-150 RE-750/600	70347	6,4
FOE-150 RE-900/600	70348	7,8
FOE-150 RE-900/750	110127	6,6



FOE150 Fixings

Splice plates are delivered in a set for one side of each ladder, complete with bolts as shown. Two sets are therefore required for a ladder connection.

All standard splice connectors in both SS and FRP material are supplied with SS fasteners.

Splice Connector

Splice Connector for connecting Cable Ladders and Fittings.

Type Description	Fasteners included	SS	SS (kg)	FRP
FOE-150 SC	4×M10	74859	0,50	75045



Splice Angle Horizontal/Expansion Couple

Horizontal 90° Splice for FOE Cable Ladders.

Type Description	Fasteners included	SS	SS (kg)	FRP
FOE-150 SA-HO	4×M10	74862	0,60	70401



Hinge Vertical

Vertical Hinge for FOE Cable Ladders.

Type Description	Fasteners included	SS	SS (kg)	FRP
FOE-150 SV-HD	6×M10	74865	0,80	75037



Splice Angle Plate 22.5°

Vertical Splice Plates for quickly and accurate construction of Risers at various angles.

Type Description	Fasteners included	SS	SS (kg)	FRP
FOE-150 SA-VE-22.5	4×M10	74198	0,30	70414



Splice Angle Plate 30°

Vertical Splice Plates for quickly and accurate construction of risers at various angles.

Type Description	Fasteners included	SS	SS (kg)	FRP
FOE-150 SA-VE-30	4×M10	74195	0,30	70411



Splice Angle Plate 45°

Vertical Splice Plates for quickly and accurate construction of Risers at various angles.

Type Description	Fasteners included	SS	SS (kg)	FRP
FOE-150 SA-VE-45	4×M10	74192	0,40	70408



Reducer Part

Part for increasing or reducing Cable Ladder width in set increments. Universal design which can be used for left or right side independently or both sides together. When fitting on just one side, one additional splice connector is required (ordered separately).

Type Description	FRP	FRP (kg)
FOE-150 RP-150	70280	1,0
FOE-150 RP-300	70281	1,5
FOE-150 RP-450	70282	1,9
FOE-150 RP-600	70283	2,4
FOE-150 RP-750	70284	2,8

4 Locking Bolt set(s) M10x25 included.



End Cover

End Cover to close the end of the Cable Ladder. Provides a tidy finish.

Type Description	FRP	FRP (kg)
FOE-150 EC-150	74707	0,20
FOE-150 EC-300	74708	0,30
FOE-150 EC-450	74709	0,50
FOE-150 EC-600	74710	0,60
FOE-150 EC-750	74711	0,80
FOE-150 EC-900	74712	0,90

2 ST4.8x13 Self Tapping Screw(s) included.



Divider

Divider for FOE-150 Cable Ladder. Supplied in 3 m lengths. Dividers are used for separation and segregation of different systems.

Type Description	Fasteners included	FRP	FRP (kg)
FOE-150 DI	4xM6	74542	2,5

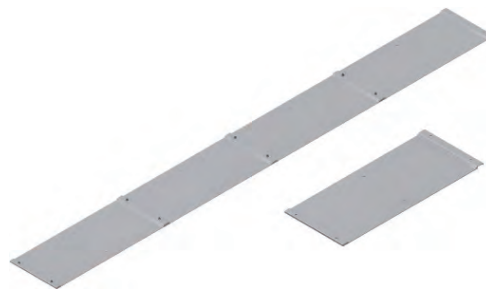


FOE Cover

Cover Straight

Flat cover for the FOE100 and FOE150 cable ladder system. Covers are supplied in 3 m lengths, consisting of 4 interlocking sections.

Type Description	FRP	FRP (kg)
FOE CO-CL-150	71468	3,7
FOE CO-CL-300	71470	6,7
FOE CO-CL-450	71472	9,8
FOE CO-CL-600	71474	12,8
FOE CO-CL-750	71475	15,9
FOE CO-CL-900	71476	18,9



Cover for 90° Flat Elbow. Radius 300 mm

Flat cover for FOE 90° Flat Elbow in composite system for FOE100 and FOE150. Radius 300 mm. (For more radius options please contact us.)

Type Description	FRP	FRP (kg)
FOE-CO FE-90-150 R3	74715	1,1
FOE-CO FE-90-300 R3	74716	2,3
FOE-CO FE-90-450 R3	74717	3,6
FOE-CO FE-90-600 R3	74718	5,3
FOE-CO FE-90-750 R3	74719	7,1
FOE-CO FE-90-900 R3	74720	9,1



Cover for 45° Flat Elbow. Radius 300 mm

Flat cover for FOE 45° Flat Elbow in composite system for FOE100 and FOE150. Radius 300 mm. (For more radius options please contact us.)

Type Description	FRP	FRP (kg)
FOE-CO FE-45-150 R3	74801	0,60
FOE-CO FE-45-300 R3	74802	1,2
FOE-CO FE-45-450 R3	74803	2,0
FOE-CO FE-45-600 R3	74804	3,1
FOE-CO FE-45-750 R3	74805	4,2
FOE-CO FE-45-900 R3	74806	5,3



Cover FOE Tee-Piece. Radius 300 mm

Flat cover for the FOE100 and FOE150 cable ladder system.
(For more radius options or for unequal cover please contact us.)

Type Description	FRP	FRP (kg)
FOE CO-TE-150 R3	74721	2,0
FOE CO-TE-300 R3	74722	3,5
FOE CO-TE-450 R3	74723	5,4
FOE CO-TE-600 R3	74724	7,6
FOE CO-TE-750 R3	74725	9,9
FOE CO-TE-900 R3	74726	12,6



Cover FOE Cross-Piece. Radius 300 mm.

Flat cover for the FOE100 and FOE150 cable ladder system.
(For more radius options or for unequal cover please contact us.)

Type Description	FRP	FRP (kg)
FOE CO CP-150 R3	71655	2,5
FOE CO CP-300 R3	71656	4,9
FOE CO CP-450 R3	71657	7,2
FOE CO CP-600 R3	71658	9,8
FOE CO CP-750 R3	71659	12,7
FOE CO CP-900 R3	71660	15,7



Cover Riser

Riser cover for the FOE100 and FOE150 cable ladder system. For Radius R400, 1 x cover are required. For Radius R600, 2 x cover are required. For Radius R800, 3 x cover are required.

Type Description	FRP	FRP (kg)
FOE CO-FR-150	74760	0,30
FOE CO-FR-300	74761	0,60
FOE CO-FR-450	74762	0,80
FOE CO-FR-600	74763	1,1
FOE CO-FR-750	74764	1,4
FOE CO-FR-900	74765	1,6



FOE Cover Clamps

HD Cover Fixing Clamp FOE

Heavy duty cover clamp for straight sections of cable ladder cover. Utilizes bolt set that it supplied as part of straight cover.

Type Description	Fasteners included	SS	SS (kg)	FRP
FOE-100 CC-HD	-	71485	0,090	71783
FOE-150 CC-HD	-	71486	0,10	71757



GP Cover Fixing Clamp FOE

Lightweight cable ladder cover fixing clamp.

Type Description	Fasteners included	SS	SS (kg)	FRP
FOE CC	1xM6	74856	0,060	72077



HD Flexi Cover Fixing Clamp FOE

HD Flexi Cover Clamps are available for 100 and 150 mm heights.

Type Description	FRP/SS	FRP/SS (kg)
FOE-100-150	71617	0,30
FOE-100-300	71618	0,40
FOE-100-450	71619	0,50
FOE-100-600	71620	0,60
FOE-100-750	71621	0,70
FOE-100-900	71622	0,80
FOE-150-150	71623	0,30
FOE-150-300	71624	0,40
FOE-150-450	71625	0,50
FOE-150-600	71626	0,60
FOE-150-750	71627	0,70
FOE-150-900	71628	0,80

2 Locking Bolt set(s) M6x25 included.

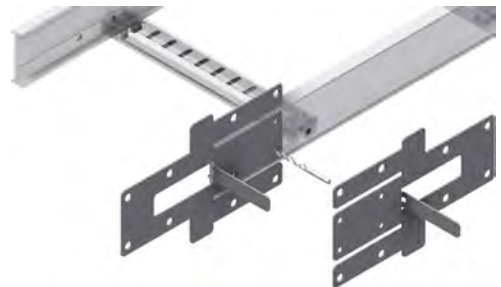


FOE Accessories

Smart Jig

With this jig you can pre-drill holes in exact positions when cutting cable ladder lengths on-site. After modifications use Oglænd System Sealing Kit to preserve the product quality.

Type Description	SS	SS (kg)
FOE-DJ70/100/150	74398	0,40



Fixing Clamp

Fixing Clamp which fits both ladders and trays. Used for vertical or horizontal installations.

Type Description	Fasteners included	SS	SS (kg)	FRP
FOE/FTE FC-B40x65	1xM10	74783	0,040	72024



Expansion Clamp

Fixing clamp suitable for all cable ladder heights. Used for horizontal installations. Compatible with M10 fasteners.

Type Description	Fasteners included	FRP	FRP (kg)
FOE FC-A40x65	-	71410	0,040



Rung FOE70

Punched rung for use with FOE70 cable ladders. Rung supplied complete with Smartlok insert and SS bolts.

Type Description	FRP	FRP (kg)
FOE-70 RU-150	71544	0,10
FOE-70 RU-200	71545	0,10
FOE-70 RU-300	71546	0,20
FOE-70 RU-400	71547	0,20
FOE-70 RU-450	71548	0,20
FOE-70 RU-500	71549	0,20
FOE-70 RU-600	71550	0,30



Rung FOE100 and FOE150

Additional rungs can be added to standard FOE ladder. Rung supplied complete with Smartlok insert and SS bolts.

Type Description	FRP	FRP (kg)
FOE RU-150	74469	0,20
FOE RU-300	74470	0,30
FOE RU-450	74471	0,40
FOE RU-600	74472	0,50
FOE RU-750	74473	0,60
FOE RU-900	74474	0,70



SmartCleat Adapter

Adapter for fixing SmartCleats to FOE rungs. Produced in FRP.

Type Description	FRP	FRP (kg)
A-AD-RU-FRP	71215	0,050



Exit Plate

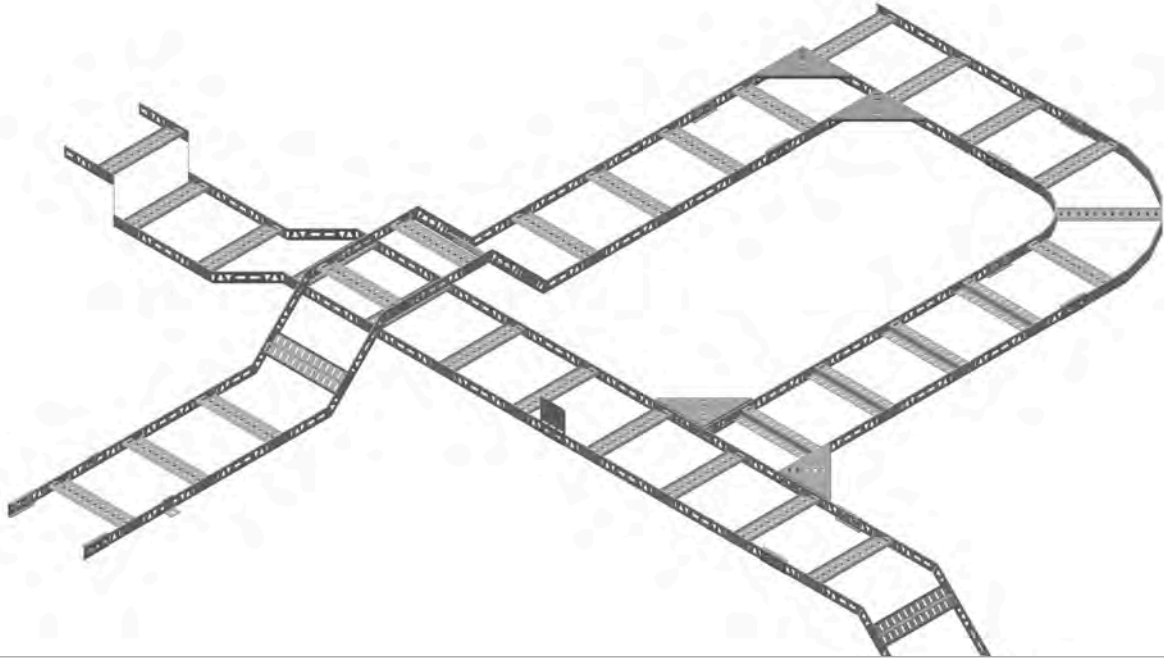
Exit plate for cable ladders.

Type Description	FRP	FRP (kg)
FOE EX-150	74545	0,40



RZE CABLE LADDER SYSTEMS FOR SHIPS

We offer two distinctive types of cable ladders specially designed for ships, the RZE-R and the RZE-P cable ladder system. RZE-R is a cable ladder with a smart design which reduces the need for fittings to change direction of the cable run. RZE-P is the preferred system for heavy loads. Both systems are complemented by a comprehensive range of accessories, and have designs allowing for the direct installation of our ETIN™ tubing clamps. Our new RZE-R Cable ladder in Aluminium offers fantastic weight savings with high load capacities.



MATERIALS



ZM fittings available for HDG. Only RZE-R in AL.

CERTIFICATES



CABLE LADDERS



RZE-R
Siderail height 40 mm



RZE-P
Siderail height 40 mm



MultiGrid® for Ships
Support solutions for shipbuilding

LOAD DATA

Cable Ladder	Rail Height (mm)	SWL 1.5 m HDG/SS/AL (kg/m)	SWL 2 m HDG/SS/AL (kg/m)	SWL 2.5 m HDG/SS/AL (kg/m)	Available lengths (m)	Material thickness HDG/SS/AL (mm)
RZE-R	40	184 / - / 126	102 / - / 99	56 / - / -	3	4 / - / 5
RZE-P	40	260 / 200 / -	134 / 159 / -	- / - / -	3	5 / 5 / -

SWL = Safe Working Load.

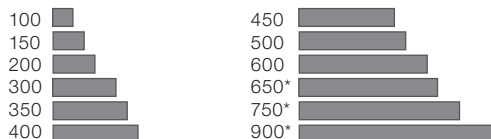
Loading data according to IEC61537. The length of the end span must be reduced to 3/4 of the support spacing and with no splices on the end span.

Z-RUNGS

The Z-profile of the rungs allow for easy access for cable ties. The design also allows for equipment to be installed both above and below the rungs.



AVAILABLE WIDTHS



*Only available for RZE-P.
2 x 450 are recommended for 900 mm widths.

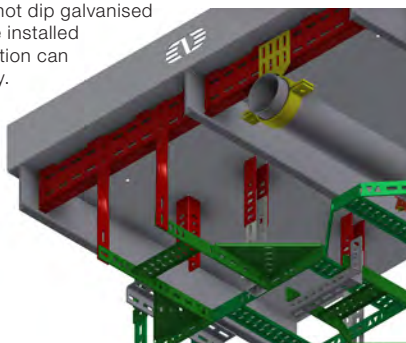
MULTIGRID® FOR SHIPS

In order to provide flexibility in installation and future extension or adaptation, we strongly suggest using our recommended installation method; MultiGrid® for Ships. MultiGrid® for ships can be included in two distinct ways. Firstly, a matrix is formed by welding lengths of perforated channel either in line with, or parallel to stringers. These form starting points for vertical supports at any point to directly support cable ladders, light piping or equipment.

Alternatively, welded starter brackets can be installed in a grid pattern which can then either be used for direct support, or they can be connected by traverse channels allowing full flexibility where support is required. This flexibility allows for change and collision avoidance throughout the installation and service life of the installation.

Both systems of welded channels or starter brackets are installed at the construction phase and are then cleaned and painted with the rest of the ship sections.

Cable ladders in hot dip galvanised finish can then be installed and cable installation can begin immediately.



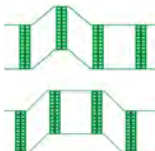
RISER SLOTS

The RZE-R side rails feature a hole pattern, which allows the ladder to be partially cut, then bent to create vertical risers. The cuts can then be welded in place if necessary.



SIDEWAYS ADJUSTMENT

Place the ladder upright on a raised edge, then line up the hole to the edge of the pallet. Simply step and press down on the side rail to adjust sideways. This technique is useful for avoiding obstacles like pipes in situ without cutting and welding.



Product code

Width

RZE-R FE 150

Flat Elbow

TE = Tee-Piece
FE = Flat Elbow
TE-PA = Tee-Piece Part
RI = Riser
SC = Splice Connector
RB = Riser Bracket
HV = Hinge Vertical
FC = Fixing Clamp
CS = Central Support
EP = Edge Protector

TABLE OF CONTENTS

Cable Ladder System for Shipbuilding

RZE-R Cable Ladder System 174

RZE-P Cable Ladder System 175

Accessories & Support

RZE Accessories 176

MultiGrid for Ships..... 178

Support Magnets..... 180



Intellectual Property Rights

Please note that many of the products presented in this catalogue are protected by our intellectual property rights in the form of patents, registered designs and trademarks, and that we have made the strategic decision to police and enforce these rights in all relevant jurisdictions.

RZE-R Cable Ladder System

RZE-R Cable Ladder

Flexible Cable Ladder with Z-profiled and slotted rungs. The ladder features perforation on the siderails to easily change direction vertically or sideways. Length = 3 m.

Type Description	SS	SS (kg)	HDG	AL
RZE-R CL-100	1300941	5,9	85923	108020
RZE-R CL-150	1300942	6,4	85924	108021
RZE-R CL-200	1300943	6,9	85925	108022
RZE-R CL-300	1300944	9,5	85926	108024
RZE-R CL-400	1300945	10,5	85927	108026
RZE-R CL-500	1300946	11,6	85929	108028
RZE-R CL-600	1300947	12,6	85930	108029



RZE-R 90° Flat Elbow

90° Flat Elbow for the RZE-R Cable Ladder system.
Radius = 200 mm.

Type Description	SS	SS (kg)	HDG	AL
RZE-R FE-90-100	1300948	1,8	1372067	108047
RZE-R FE-90-150	1300949	2,0	1372068	108048
RZE-R FE-90-200	1300950	2,3	1372069	108049
RZE-R FE-90-300	1300951	3,4	1372070	108051
RZE-R FE-90-400	1300952	4,0	1372071	108053
RZE-R FE-90-500	1300953	4,7	1372073	108055
RZE-R FE-90-600	1300954	5,3	1372074	108056



RZE-P Cable Ladder System

RZE-P Cable Ladder

Cable Ladder for heavy loads with slotted rails, featuring slotted Z-profile rungs. Length = 3 m.

Type Description	SS	SS (kg)	HDG	HDG (kg)
RZE-P CL-100	86819	-	86780	9,6
RZE-P CL-150	86820	9,6	86781	10,3
RZE-P CL-200	86821	10,3	86782	10,9
RZE-P CL-250	86822	10,9	86783	11,6
RZE-P CL-300	86823	11,5	86784	12,2
RZE-P CL-350	86824	12,1	86785	12,9
RZE-P CL-400	86825	12,6	86786	13,5
RZE-P CL-450	86826	13,4	86787	14,2
RZE-P CL-500	86827	13,8	86788	14,8
RZE-P CL-600	86828	-	86789	16,2
RZE-P CL-650	86829	16,1	86790	16,8
RZE-P CL-750	86830	16,8	86791	18,1
RZE-P CL-900	86831	-	86792	20,1



RZE-P 90° Flat Elbow

90° Flat Elbow for the RZE-P Cable Ladder system.
Radius = 200 mm.

Type Description	SS	SS (kg)	HDG	HDG (kg)
RZE-P FE-90-100	87665	2,6	87652	2,8
RZE-P FE-90-150	87666	2,9	87653	3,1
RZE-P FE-90-200	87667	3,2	87654	3,4
RZE-P FE-90-250	87668	3,5	87655	3,7
RZE-P FE-90-300	87669	3,9	87656	-
RZE-P FE-90-350	87670	4,2	87657	4,4
RZE-P FE-90-400	87671	4,5	87658	4,7
RZE-P FE-90-450	87672	5,9	87659	6,2
RZE-P FE-90-500	87673	6,3	87660	6,6
RZE-P FE-90-600	87674	7,2	87661	7,6
RZE-P FE-90-650	87675	7,6	87662	-
RZE-P FE-90-750	87676	8,5	87663	-
RZE-P FE-90-900	87677	9,8	87664	10,4



RZE Accessories

Splice Connector

Splice Connector for Cable Ladder RZE. Two splices are required for each connection.

Type Description	SS	HDG	ZM	AL
RZE SC-40-P	82873	85516	1375141	87372



Tee- and Cross-Bracket

Bracket set (pair) for forming Tee and Cross-pieces for RZE Cable Ladder System.

Type Description	SS	HDG	ZM	AL
RZE TE-PA	87973	87972	1375143	86883



Riser Bracket (Only needed for RZE-P)

Riser Bracket 45° for Cable Ladder RZE-P. Supplied in pairs.

Type Description	Fasteners included	PG	PG (kg)
RZE-P RB-45	8×M10	81769	0,20



Hinge Vertical

Vertical Hinge for Cable Ladder RZE. The hinge can be adjusted in 4° steps. Two hinges are required for each connection.

Type Description	Fasteners included	SS	SS (kg)	HDG	ZM
RZE HV	2×M6	85490	0,50	81575	1375142



Fixing Clamp

Fixing Clamp for clamping on the siderail of the RZE Cable Ladders.

Type Description	SS	HDG	ZM	AL
RZE FC-40	86876	1372099	1375144	87027



Fixing Clamp to Channel

Fixing Clamp to fasten the RZE cable ladder side rails to a vertical channel.

Type Description	Fasteners included	SS	SS (kg)	HDG	ZM
RZE FC-CH-30/40	-	85503	0,10	1372098	1375145



Light Bracket

Light Fitting Bracket for attaching Light Fittings to Cable Ladder RZE.

Type Description	Fasteners included	SS	SS (kg)	ZM
A-RZE LB-Ceag	1×M8/1×M6	83599	0,090	1375146
A-RZE LB-Glamox	2×M6	85618	0,10	1375147



Socket Plate

Socket Plate for bolting to Cable Ladder RZE. Can easily be formed to a 90° angle.

Type Description	Fasteners included	SS	SS (kg)	ZM	AL
A-RZE SO-40	-	91683	0,10	81877	87028



Exit Plate

Exit Plate for exiting cables over the siderail of RZE Cable Ladders. The plate is fitted by pressing it onto the siderail. No fasteners required.

Type Description	SS	SS (kg)	ZM	ZM (kg)
A-RZE EX	83598	0,080	84290	0,080



Edge Protector

To protect cables from sharp edges. 50 m spool. Flexible PVC with steel core.

Type Description	CS	CS (kg)
A-RZE EP	84636	0,20



Cantilever Arm for rung

Cantilever Arm for temporary fixing to slots on Z-rung when the Cable Ladder is fitted on edge. Holds the cables prior to cable ties being fixed.

Type Description	PG	PG (kg)
A-RZE CA	85437	0,10



Cable Pulling Tool

Stainless steel cable pulling tool for fast and easy cable installation. Two sizes. Size 1 suits cables up to Ø=60 mm. Size 2 is suitable for cables up to Ø=120 mm.

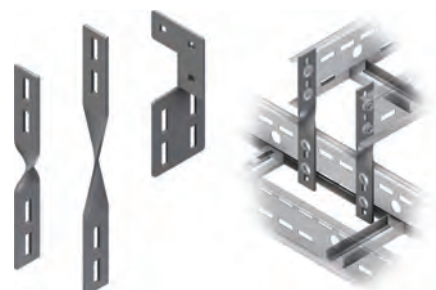
Type Description	SS	SS (kg)
Rig n Roll size 1	84629	0,40
Rig n Roll size 2	84628	0,50



Directional Adjuster

Twisted bracket for supporting two crossing OE100 cable ladders on different levels and changing direction. Available in 3 lengths.

Type Description	Fasteners included	SS	SS (kg)	HDG
S-M SC-TW 40/290	4×M10	1371702	0,40	1302517
S-M SC-TW 40/390	4×M10	1372626	-	84167
S-M SC-TW 90/213	4×M10	1371700	0,50	1302515



RZE Central Support

Central Support Bracket for RZE Cable Ladder Systems. Can be combined with Mekano® Channel 50-1. A single central support facilitates easier cable pulling.

Type Description	HDG	HDG (kg)
RZE CS-150	82820	0,70
RZE CS-200	82821	0,80
RZE CS-300	82822	-
RZE CS-400	82823	1,3
RZE CS-450	82824	1,4
RZE CS-500	82825	1,6
RZE CS-600	82826	1,8
RZE CS-750	82827	2,3
RZE CS-900	82828	2,5



MultiGrid for Ships

Welding Channels

Perforated Welding Channel in carbon steel. To be welded and painted together with the structure.

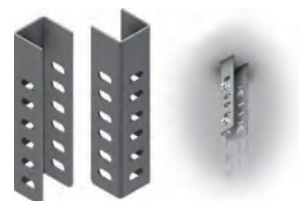
Type Description	CS	CS (kg)
S-M WCH-100L 600	87999	1,6
S-M WCH-100L 1500	85167	3,9



Starter Bracket

Welding Bracket in carbon steel. To be welded and painted together with the structure.

Type Description	PR	PR (kg)
S-M WB-200-UNO-3	87998	0,40



Splice Channel

300 mm long Channel Splice for connecting Starter Brackets to the Cable Ladder.

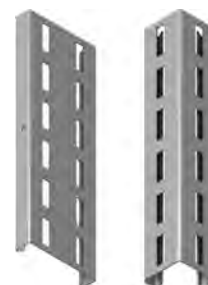
Type Description	HDG	HDG (kg)
S-M CH-42-3-300	87997	0,60



Mekano® Support Channels

Angled and C-shaped Mekano® Channel for EI&T and HVAC support. Length = 3 m. Also available in SS and HDG, see Mekano® chapter.

Type Description	AL	AL (kg)
S-M CH50-2-3000	91200	1,7
S-M CH100-1-3000	91199	1,7



Starter Bracket

Welded Starter Bracket for Mekano® CH50-2 and CH100-1 channels.

Type Description	AL	AL (kg)
S-M WB 100x50x50	91201	0,40



Support Magnets

Magnet S-M MF 94x34 IT M6 RM

Magnets for support for ship and offshore use. Fully adjustable, for permanant and temporary support.

Type Description	MA	MA (kg)
S-M MF 94x34 IT M6 RM	68966	0,40



Magnet S-M MF 175x60 IT M8 RM

Magnets for support for ship and offshore use. Fully adjustable, for permanant and temporary support

Type Description	MA	MA (kg)
S-M MF 175x60 IT M8 RM	68965	1,7



Magnet S-M MF Ø88 OT M8 RP

Magnets for support for ship and offshore use. Fully adjustable, for permanant and temporary support.

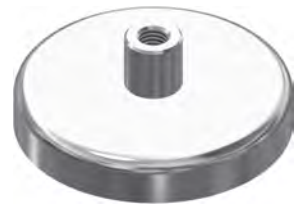
Type Description	MA	MA (kg)
S-M MF Ø88 OT M8 RP	68967	0,40



Magnet S-M MF Ø57 IT M6

Magnets for support for ship and offshore use for gluing to structure for permanant support.

Type Description	MA	MA (kg)
S-M MF Ø57 IT M6	68968	0,20



Magnet S-M MF Ø80 IT M10

Magnets for support for ship and offshore use for gluing to structure for permanant support.

Type Description	MA	MA (kg)
S-M MF Ø80 IT M10	68969	0,70



V-Tool for Øglænd Magnets M6

Tool for safe removal of powerful support magnets. With M6 thread to attach to magnet prior to removal.

Type Description	AL	AL (kg)
V-Tool M6	1303299	0,060



V-Tool for Øglænd Magnets M8

Tool for safe removal of powerful support magnets. With M8 thread to attach to magnet prior to removal.

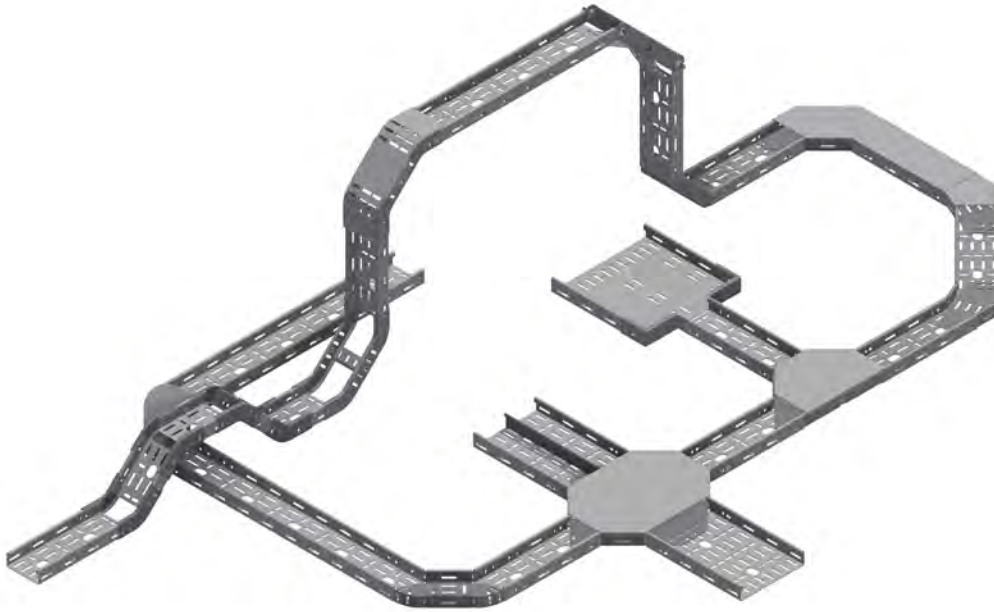
Type Description	AL	AL (kg)
V-Tool M8	1303298	0,30





SPB CABLE TRAY SYSTEM

We have two distinct variants of cable tray, SPB-RF for E,I&T with return flanges on the sides to avoid damage to cables and SPBE specifically designed for tubing applications. A comprehensive range of accessories and specialised fittings fully complements our cable tray ranges. Our unique range of cost and labour saving tubing adapters, ETIN™ and INKO®, fit the entire range of cable trays up to 200 mm wide. For hole pattern and tubing clamp compatibility from 300 mm wide, please refer to our online selector. Both designs of cable trays feature slot patterns allowing for optimal and efficient positioning of equipment and easy access for cable ties and other fixings.



MATERIALS



Aluminium available online.

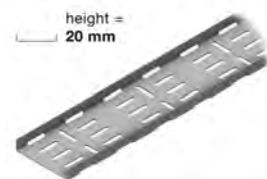
3D LIBRARIES

AVEVA (E3D / PDMS)
Hexagon (Intergraph Smart 3D)
Bentley

CERTIFICATES

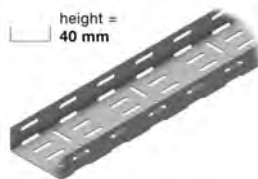


CABLE TRAYS



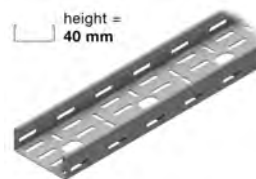
SPBE20

Tray for tubing.



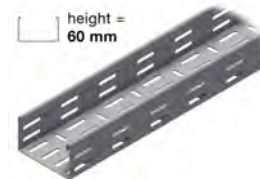
SPBE40

Tray for tubing and light electrical installations.



SPB-RF40

Mainly for electrical applications.



SPB-RF60

Available online. Height 50, 75 and 100 available on request.

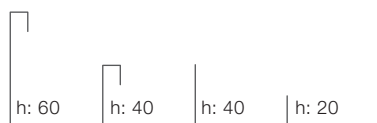
LOAD DATA

Cable Tray	SWL 1.5 m SS/HDG/ZM (kg/m)	SWL 2 m SS/HDG/ZM (kg/m)	SWL 2.5 m SS/HDG/ZM (kg/m)	SWL 3 m SS/HDG/ZM (kg/m)	Material thickness SS/HDG/ZM (mm)
SPBE20	40 / 60 / -	12 / 25 / 44	- / - / 31	- / - / 17	1.5 / 2.0 / 1.5 ³ or 2.0 ⁴
SPBE40	- / - / -	122 / 122 / 122*	68 / 91 / 78*	52 / 46 / 34*	1.5 / 1.5 ¹ or 2.0 ² / 2
SPB-RF40	- / 238 ³ / -	165 / 140 ³ or 308 ⁴ / 155	101 / 70 ³ or 214 ⁴ / 113	67 / 50 ³ or 120 ⁴ / 71	1.5 / 1.5 ³ or 2.0 ⁴ / 1.5

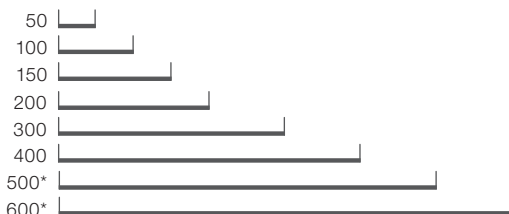
SWL = Safe Working Load. ¹Widths from 50-100 mm. ²Widths from 150-400 mm. ³Widths from 50-200 mm. ⁴Widths from 300-600. *Test results cable tray 400 mm width. Loading data according to IEC61537. The length of the end span must be reduced to 3/4 of the support spacing and with no splices on the end span.

DIFFERENT HEIGHTS (MM):

Different tray heights to give more choice for loading space availability. Return flange for increased load capability. Other heights available upon request.



AVAILABLE WIDTHS (MM):



**Only available for SPBE-20 and SPB-RF40.*

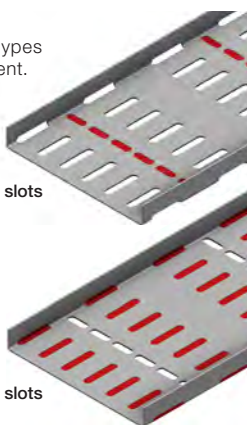
ALTERNATING SLOT PATTERNS

To ensure full flexibility to install all types of tubing clamps and other equipment.

The slot and hole pattern on the following pages is generic for the type, however has variances depending on width and material type. Please check our online product selector for the exact pattern.

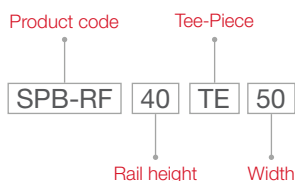
Lateral slots

Longitudinal slots



ACCESSORIES

SPB cable tray products are complemented with a wide selection of brackets and fitting solutions enabling compact and stable fitting in all possible configurations and scenarios. A comprehensive range of standard and specialised accessories and fittings is also available for smart fitting solutions for standard to the most diverse types of equipment.



TE = Tee-Piece, CR = Combi-Riser, CO = Cover, FR = Flexi Riser

TABLE OF CONTENTS

SPBE20 Cable Tray System

SPBE20 Cable Tray System	184
SPBE20 Fittings	184
SPBE20 Fixings	186

SPBE40/SPB-RF40 Cable Tray System

SPBE40/SPB-RF40 Cable Tray System	187
SPBE40/SPB-RF40 Fittings	187
SPBE40/SPB-RF40 Fixings	191

SPB Accessories & Support

SPB Accessories	193
SPB Support	198



Intellectual Property Rights

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SPBE20 Cable Tray System

SPBE20 Cable Tray

Cable Tray for tubing and light electrical support. Compatible with ETIN™ and INKO® tubing clamp ranges on all tray widths.

Type Description	SS	SS (kg)	HDG	ZM
SPBE20 CT-50-3000	1371408	2,8	1371400	1375200
SPBE20 CT-100-3000	1371409	4,3	1371401	1375201
SPBE20 CT-150-3000	1371410	5,7	1371402	1375202
SPBE20 CT-200-3000	1371411	7,3	1371403	1375203
SPBE20 CT-300-3000	1371412	10,6	1371404	1375204
SPBE20 CT-400-3000	1371413	13,6	1371405	1375205
SPBE20 CT-500-3000	1371414	16,7	1371406	1375206
SPBE20 CT-600-3000	1371415	19,7	1371407	1375207



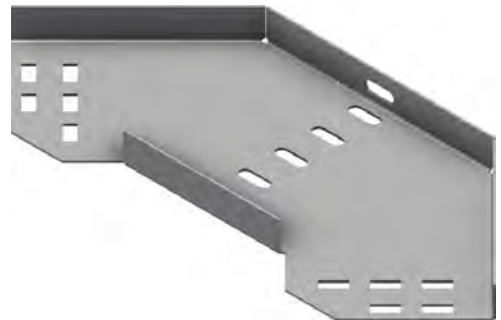
SPBE20 Fittings

90° Flat Elbow

90° Flat Elbow with integrated splice connectors.

Type Description	SS	SS (kg)	HDG	HDG (kg)
SPBE20 FE-90-50-R75	1302018	0,30	1302010	0,30
SPBE20 FE-90-100-R75	1302019	0,50	1302011	0,50
SPBE20 FE-90-150-R75	1302020	0,80	1302012	0,80
SPBE20 FE-90-200-R75	1302021	1,1	1302013	1,2
SPBE20 FE-90-300-R75	1302022	1,9	1302014	2,0
SPBE20 FE-90-400-R75	1302023	2,9	1302015	3,1
SPBE20 FE-90-500-R75	1302024	4,1	1302016	4,4
SPBE20 FE-90-600-R75	1302025	6,5	1302017	6,9

4 Locking Bolt set(s) M6x12 included.



90° Flat Elbow for Tubing Installation

90° flat elbow with integrated splice connectors for tubing installations.

Type Description	SS	SS (kg)	HDG	HDG (kg)
SPBE20 FE-TI-50	1371835	0,10	1302175	0,10
SPBE20 FE-TI-100	1371836	0,30	1302176	0,40
SPBE20 FE-TI-150	1371837	0,50	1302177	0,70
SPBE20 FE-TI-200	1371838	0,80	1302178	1,1

2 Locking Bolt set(s) M6x12 included.



45° Flat Elbow

45° flat elbow with integrated splice connectors.

Type Description	SS	SS (kg)	HDG	HDG (kg)
SPBE20 FE-45-50-R75	1302034	0,10	1302026	0,10
SPBE20 FE-45-100-R75	1302035	0,30	1302027	0,30
SPBE20 FE-45-150-R75	1302036	0,40	1302028	0,40
SPBE20 FE-45-200-R75	1302037	0,60	1302029	0,60
SPBE20 FE-45-300-R75	1302038	1,3	1302030	1,7

4 Locking Bolt set(s) M6x12 included.

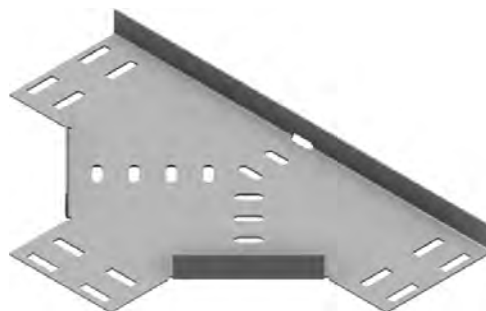


Tee-Piece

Tee-Piece with integrated Splice Connectors.

Type Description	SS	SS (kg)	HDG	HDG (kg)
SPBE20 TE-50/50-R75	1302123	0,40	1302115	0,50
SPBE20 TE-100/100-R75	1302124	0,80	1302116	0,90
SPBE20 TE-150/150-R75	1302125	1,1	1302117	1,3
SPBE20 TE-200/200-R75	1302126	1,6	1302118	2,0
SPBE20 TE-300/300-R75	1302127	2,7	1302119	3,3
SPBE20 TE-400/400-R75	1302128	4,0	1302120	5,0
SPBE20 TE-500/500-R75	1302129	5,5	1302121	7,4
SPBE20 TE-600/600-R75	1302130	7,3	1302122	9,7

6 Locking Bolt set(s) M6x12 included.



Flexi Riser

0 to 90° Flexi Riser with integrated Splice Connectors. Can be used as inside or outside riser.

Type Description	SS	SS (kg)	HDG	HDG (kg)
SPBE20 FR-50-R75	1302093	0,30	1302085	0,30
SPBE20 FR-100-R75	1302094	0,50	1302086	0,50
SPBE20 FR-150-R75	1302095	0,60	1302087	0,70
SPBE20 FR-200-R75	1302096	0,80	1302088	0,80
SPBE20 FR-300-R75	1302097	1,1	1302089	1,2
SPBE20 FR-400-R75	1302098	1,4	1302090	1,5
SPBE20 FR-500-R75	1302099	1,7	1302091	1,8
SPBE20 FR-600-R75	1302100	2,0	1302092	2,2



Riser Lock

Riser Lock used to reinforce the SPB Flexi Riser.

Type Description	Fasteners included	SS	SS (kg)	HDG
SPB RL-20	2xM6	1302111	0,030	1302110



SPBE20 Fixings

Splice Connector for 50 mm width

U-shaped splice connector for 50 mm wide SPBE20 cable trays.

Type Description	Fasteners included	SS	SS (kg)	HDG	ZM
SPB SC-50	2×M6	1371812	0,20	1302166	1375210



Splice Connector

Splice connector to be fitted outside the cable tray rail. Two splice connectors required for each connection. Not suitable for 50 mm wide trays.

Type Description	Fasteners included	SS	SS (kg)	HDG	ZM
SPBE20 SC	2×M6	1371807	0,10	1371805	1375208



Splice Plate

Splice plate to reinforce the standard splice for wide/heavy load cable tray. Recommended for widths over 300 mm.

Type Description	Fasteners included	SS	SS (kg)	HDG	ZM
SPB SC 85x200	4×M6	1371813	0,20	1302167	1302114



Exit Plate

To protect cables exiting the cable tray. Can be used both on end of cable trays or on side rails at any position.

Type Description	Fasteners included	SS	SS (kg)	HDG
A-SPBE20 EX	2×M6	1302160	0,20	1302158



SPBE40/SPB-RF40 Cable Tray System

SPBE40 Cable Tray

Cable tray for tubing, electrical and instrumentation installations. Compatible with ETIN™ and INKO® tubing clamp ranges on all tray widths.

Type Description	SS	SS (kg)	HDG	ZM
SPBE40 CT-50-3000	1371745	4,0	1371740	1373293
SPBE40 CT-100-3000	1371746	5,5	1371741	1373291
SPBE40 CT-150-3000	1371747	7,0	1371742	1373292
SPBE40 CT-200-3000	1371748	8,5	1371743	1373290
SPBE40 CT-300-3000	1371749	12,6	1302008	1373289
SPBE40 CT-400-3000	1371750	15,8	1302009	1373288



SPB-RF40 Cable Tray

Cable tray with return flange suitable for electrical and instrumentation installations. Also compatible with ETIN™ and INKO® tubing clamp ranges on all trays up to 200 mm wide. For hole pattern and tubing clamp compatibility from 300 mm wide, please refer to our online selector.

Type Description	SS	SS (kg)	HDG	ZM
SPB-RF40 CT-50-3000	1371751	5,3	1302000	1373280
SPB-RF40 CT-100-3000	1371752	6,4	1302001	1373281
SPB-RF40 CT-150-3000	1371753	7,8	1302002	1373282
SPB-RF40 CT-200-3000	1371754	9,2	1302003	1373283
SPB-RF40 CT-300-3000	1371755	13,7	1302004	1373286
SPB-RF40 CT-400-3000	1371756	17,0	1302005	1373287
SPB-RF40 CT-500-3000	1371757	20,5	1302006	1373284
SPB-RF40 CT-600-3000	1371758	23,4	1302007	1373285



SPBE40/SPB-RF40 Fittings

Elbow Flexi

Flexible flat elbow that can be adjusted to any required angle from 0 to 90°. With integrated splices.

Type Description	SS	SS (kg)	HDG	ZM
SPB40 EF-50-R75	60269	0,40	60260	1333421
SPB40 EF-100-R75	60271	0,60	60262	1333422
SPB40 EF-150-R75	60272	0,80	60263	1333423
SPB40 EF-200-R75	60273	1,2	60264	1333424
SPB40 EF-300-R75	60274	-	60265	1333425
SPB40 EF-400-R75	60275	3,2	60266	1333426
SPB40 EF-500-R75	60276	4,6	60267	1333427
SPB40 EF-600-R75	60277	6,4	60268	1333428

4 Locking Bolt set(s) M6x12 included.



45° Flat Elbow

45° Flat Elbow with integrated Splice Connectors.

Type Description	SS	SS (kg)	HDG	ZM
SPB-RF40 FE-45-50-R75	1371766	0,30	1302055	1333389
SPB-RF40 FE-45-100-R75	1371767	0,40	1302056	1333390
SPB-RF40 FE-45-150-R75	1371768	0,60	1302057	1333391
SPB-RF40 FE-45-200-R75	1371769	0,80	1302058	1333392
SPB-RF40 FE-45-300-R75	1371770	1,3	1302059	1333393
SPB-RF40 FE-45-400-R75	1371771	1,9	1302060	1333394

4 Locking Bolt set(s) M6x12 included.

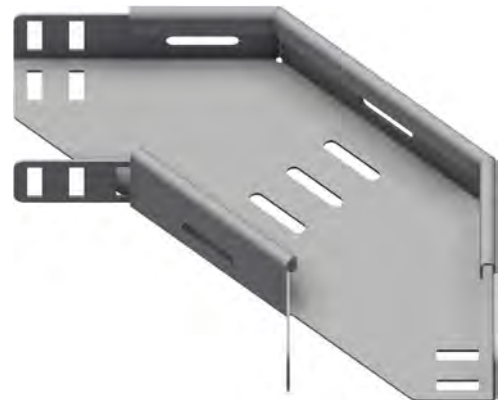


90° Flat Elbow

90° Flat Elbow with integrated splice connectors.

Type Description	SS	SS (kg)	HDG	ZM
SPB-RF40 FE-90-50-R75	1371760	0,40	1302045	1333397
SPB-RF40 FE-90-100-R75	1371761	0,70	1302046	1333398
SPB-RF40 FE-90-150-R75	1371762	1,0	1302047	1333399
SPB-RF40 FE-90-200-R75	1371763	1,3	1302048	1333400
SPB-RF40 FE-90-300-R75	1371764	2,2	1302049	1333401
SPB-RF40 FE-90-400-R75	1371765	3,2	1302050	1333402
SPB-RF40 FE-90-500-R75	79036	4,5	1302051	1333403
SPB-RF40 FE-90-600-R75	79037	5,9	1302052	1333404

4 Locking Bolt set(s) M6x12 included.



90° Flat Elbow for Tubing Installation

90° Flat Elbow for Tubing Installations with integrated Splice Connectors.

Type Description	Fasteners included	SS	SS (kg)	HDG
SPBE40 FE-TI-50	2xM6	1371840	0,20	1302180
SPBE40 FE-TI-100	4xM6	1371841	0,30	1302181
SPBE40 FE-TI-150	4xM6	1371842	0,60	1302182
SPBE40 FE-TI-200	4xM6	1371843	0,90	1302183
SPBE40 FE-TI-300	4xM6	109197	1,7	109194
SPBE40 FE-TI-400	4xM6	109198	2,7	109195
SPBE40 FE-TI-500	4xM6	109199	4,0	109196



Tee-Piece

Tee-Piece with integrated Splice Connectors.

Type Description	SS	SS (kg)	HDG	ZM
SPB-RF40 TE-50/50-R75	1371785	0,60	1302065	1333405
SPB-RF40 TE-100/100-R75	1371786	0,90	1302066	1333406
SPB-RF40 TE-150/150-R75	1371787	1,4	1302067	1333407
SPB-RF40 TE-200/200-R75	1371788	1,8	1302068	1333408
SPB-RF40 TE-300/300-R75	1371789	2,9	1302069	1333409
SPB-RF40 TE-400/400-R75	1371790	4,2	1302070	1333410
SPB-RF40 TE-500/500-R75	1302073	5,7	1302071	1333411
SPB-RF40 TE-600/600-R75	1302074	7,2	1302072	1333412

6 Locking Bolt set(s) M6x12 included.

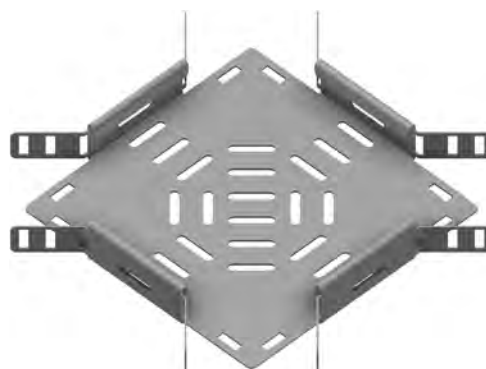


Cross-Piece

Space saving Cross-Piece with integrated splice connectors.

Type Description	SS	SS (kg)	HDG	ZM
SPB-RF40 CP-50/50-R75	1302628	-	1302622	1333413
SPB-RF40 CP-100/100-R75	1302629	1,3	1302623	1333414
SPB-RF40 CP-150/150-R75	1302630	1,6	1302624	1333415
SPB-RF40 CP-200/200-R75	1302631	-	1302625	1333416
SPB-RF40 CP-300/300-R75	1302632	2,6	1302626	1333417
SPB-RF40 CP-400/400-R75	1302633	-	1302627	1333418

8 Locking Bolt set(s) M6x12 included.



Combi Riser

90° combi riser with integrated splice connectors. The rung can be turned 180° to change from inside to outside riser. Can be easily cut to form two 45° risers.

Type Description	SS	SS (kg)	HDG	ZM
SPBE/ RF40 CR-OU-IN-90-50-R75	1302139	0,40	1302131	1333443
SPBE/ RF40 CR-OU-IN-90-100-R75	1302140	0,40	1302132	1333444
SPBE/ RF40 CR-OU-IN-90-150-R75	1302141	0,50	1302133	1333445
SPBE/ RF40 CR-OU-IN-90-200-R75	1302142	0,50	1302134	1333446
SPBE/ RF40 CR-OU-IN-90-300-R75	1302143	0,50	1302135	1333447
SPBE/ RF40 CR-OU-IN-90-400-R75	1302144	0,60	1302136	1333448
SPBE/ RF40 CR-OU-IN-90-500-R75	1302145	0,60	1302137	1333449
SPBE/ RF40 CR-OU-IN-90-600-R75	1302146	0,60	1302138	1333450

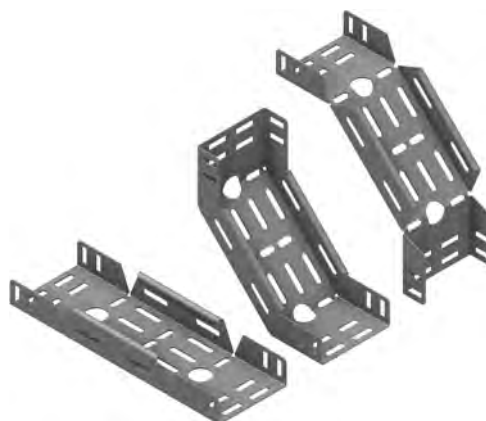
6 Locking Bolt set(s) M6x12 included.



Flexi Riser

Flexi riser with integrated splice connectors for 0 to 90°. Can be used as inside or outside riser.

Type Description	SS	SS (kg)	HDG	ZM
SPB-RF40 FR-50-R75	1371775	0,40	1302101	1333300
SPB-RF40 FR-100-R75	1371776	0,50	1302102	1333301
SPB-RF40 FR-150-R75	1371777	0,70	1302103	1333302
SPB-RF40 FR-200-R75	1371778	0,80	1302104	1333303
SPB-RF40 FR-300-R75	1371779	1,1	1302105	1333304
SPB-RF40 FR-400-R75	1371780	1,5	1302106	1333305
SPB-RF40 FR-500-R75	1371781	1,8	1302107	1333306
SPB-RF40 FR-600-R75	1371782	2,1	1302108	1333307



Riser Lock

Riser lock used to reinforce the SPB flexi riser.

Type Description	Fasteners included	SS	SS (kg)	HDG
SPB RL-40	2xM6	1371783	0,050	1302109



Modular Flexi Riser

Flexible inside and outside riser from 0-90 degrees.

Type Description	SS	SS (kg)	HDG	ZM
SPB-RF40 FR1-50-R175	60119	-	61950	108669
SPB-RF40 FR1-100-R175	60121	1,1	61952	108671
SPB-RF40 FR1-150-R175	60122	1,3	61953	108672
SPB-RF40 FR1-200-R175	60123	1,4	61954	108673
SPB-RF40 FR1-300-R175	60124	1,7	61955	108674
SPB-RF40 FR1-400-R175	60125	-	61956	108675
SPB-RF40 FR1-500-R175	60126	2,3	61957	108676
SPB-RF40 FR1-600-R175	60127	2,6	61958	108677

8 Locking Bolt set(s) M6x12 included.



Reducer

Part for reducing or increasing cable tray width in set increments. Universal design which can be used for left or right side independently, or both sides together.

Type Description	SS	SS (kg)	HDG	ZM
SPB RE-50	86133	0,10	86130	1333364
SPB RE-100	86134	0,10	86131	1333365
SPB RE-150	86136	0,20	86138	109375
SPB RE-200	86135	0,20	86132	1333366
SPB RE-250	86148	0,30	86146	109512
SPB RE-300	86137	0,30	86147	109513



SPBE40/SPB-RF40 Fixings

Splice Connector for 50 mm width

U-shaped splice connector for 50 mm wide SPBE40 and SPB-RF40 cable trays.

Type Description	Fasteners included	SS	SS (kg)	HDG	ZM
SPB SC-50	2×M6	1371812	0,20	1302166	1375210



Splice Connector Inside

This splice connector is used inside cable trays and has notches that strengthen the connection. Two splice connectors required for each connection. ZM splices have notches and are fully compatible and highly recommended for attaching HDG trays.

Type Description	Fasteners included	SS	SS (kg)	ZM
SPB-40 SC-IN	2×M6	1371808	0,20	1302149



Splice Connector Outside

Splice connector for fitting outside cable trays. Two splice connectors required for each connection.

Type Description	Fasteners included	SS	SS (kg)	HDG
SPB-40 SC-OU	2×M6	77516	0,10	1371806



Splice Plate

Splice plate to reinforce the standard splice for wide/heavy load cable tray. Recommended for widths over 300 mm.

Type Description	Fasteners included	SS	SS (kg)	HDG	ZM
SPB SC 85x200	4×M6	1371813	0,20	1302167	1302114



Hinge Vertical

Vertical hinge for creating risers at any angle. Can be used for straight runs or bent to 90° to create Tee-risers. Two hinges required for each connection.

Type Description	Fasteners included	SS	SS (kg)	HDG	ZM
SPB HV	2×M6	1371814	0,10	1302169	1333388



Hinge Horizontal

Horizontal hinge which can be adjusted to required angle. Two hinges required for each connection.

Type Description	Fasteners included	SS	SS (kg)	HDG	ZM
SPB-RF40 HH	4×M6	1371811	0,20	1371810	1333387



Exit Plate

To protect cables exiting the tray. Can be used both on end of cable trays or on side rails at any position.

Type Description	Fasteners included	SS	SS (kg)	HDG
A-SPBE-40 EX	2×M6	1302161	0,10	1302159



Cable Exit Plate

Exit plate for OE cable ladder and SPB cable tray systems. Protects the cables when exiting the cable ladder. Allows cables to be fixed up to 45° even with metal cable ties.

Type Description	SS	SS (kg)
A-SPB/OE-50 EX	70263	0,10



Section for Cable Exit

Versatile Cable Exit Section for SPB-RF40 in 100 mm width.

Type Description	Fasteners included	SS	SS (kg)
A-SPB-RF40-100-EX 300	6×M6	1301585	0,60



Tubing Angle for SPBE40

Angle bracket for forming horizontal Tee-junctions or other angle junctions between two cable trays. Particularly useful for tubing installations. Two tubing angles are required for each connection.

Type Description	Fasteners included	SS	SS (kg)	HDG
SPBE40 AS-HO	2×M6	1371815	0,070	1302168



Vertical Tubing Angle for SPBE40

Angle riser bracket for forming vertical 90° Tee-junctions between two cable trays. Particularly useful for tubing installations. Two tubing angles are required for each connection.

Type Description	Fasteners included	SS	SS (kg)	HDG
SPBE40 AS-VE	2×M6	1371845	0,090	1302185



SPB Accessories

Cover

Straight flat cover for the SPB cable tray system. 3 m length.

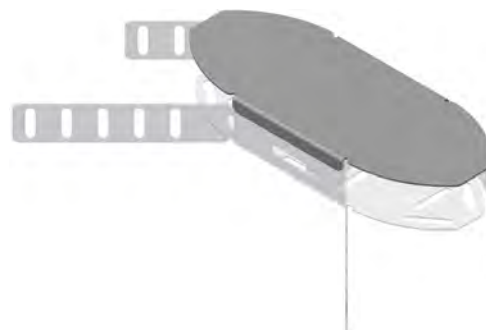
Type Description	SS	SS (kg)	ZM	ZM (kg)
SPB CO-CT-50-3000	1302603	1,8	1303248	2,7
SPB CO-CT-100-3000	1302604	3,0	1303250	4,5
SPB CO-CT-150-3000	1302605	4,2	1303251	6,2
LOE/SPB CO-CT-200-3000	1302606	8,2	1303252	-
LOE/SPB CO-CT-300-3000	1302607	11,8	1303253	11,5
LOE/SPB CO-CT-400-3000	1302608	15,4	1303254	15,1
LOE/SPB CO-CT-500-3000	1302609	19,0	1303255	18,6
LOE/SPB CO-CT-600-3000	1302610	22,6	1303256	22,1



Cover Elbow Flexi

Flat cover for flexi elbow 0-90°. Cover fit all fitment angles without adjustment needed. Same covers fit all tray heights.

Type Description	SS	SS (kg)	ZM	ZM (kg)
SPB CO-EF-50-R75	58726	0,10	107994	0,10
SPB CO-EF-100-R75	58728	0,30	107996	0,30
SPB CO-EF-150-R75	58729	0,60	107997	0,60
SPB CO-EF-200-R75	58730	0,90	107998	0,90
SPB CO-EF-300-R75	58731	1,7	107999	1,7
SPB CO-EF-400-R75	58732	2,8	108000	2,8
SPB CO-EF-500-R75	58733	4,3	108001	4,3
SPB CO-EF-600-R75	58734	-	108002	-



45° Cover

Flat Cover for SPB 45° Flat Elbow.

Type Description	SS	SS (kg)	ZM	ZM (kg)
SPB-RF CO-FE-45-50-R75	79209	0,070	54710	0,080
SPB-RF CO-FE-45-100-R75	79210	0,20	54712	0,20
SPB-RF CO-FE-45-150-R75	79211	0,30	54713	0,30
SPB-RF CO-FE-45-200-R75	79212	0,40	54714	0,40
SPB-RF CO-FE-45-300-R75	79213	0,70	54715	0,70
SPB-RF CO-FE-45-400-R75	79214	1,2	54716	1,1



90° Cover

Flat cover for SPB 90° Flat Elbow.

Type Description	SS	SS (kg)	ZM	ZM (kg)
SPB-RF CO-FE-90-50-R75	1302612	0,20	54719	0,20
SPB-RF CO-FE-90-100-R75	1302613	0,30	54720	0,30
SPB-RF CO-FE-90-150-R75	1302614	0,50	54721	0,50
SPB-RF CO-FE-90-200-R75	1302615	0,80	54722	0,70
SPB-RF CO-FE-90-300-R75	1302616	1,5	54723	1,4
SPB-RF CO-FE-90-400-R75	1302617	2,4	54724	2,3
SPB-RF CO-FE-90-500-R75	80850	3,5	54725	3,3
SPB-RF CO-FE-90-600-R75	80846	4,7	54726	4,6



Tee Cover

Flat Cover for SPB Tee-Piece.

Type Description	SS	SS (kg)	ZM	ZM (kg)
SPB-RF CO-TE-50/50-R75	79197	0,30	107754	0,30
SPB-RF CO-TE-100/100-R75	79198	0,50	107755	0,50
SPB-RF CO-TE-150/150-R75	79199	0,80	107756	0,80
SPB-RF CO-TE-200/200-R75	79200	1,2	54727	1,2
SPB-RF CO-TE-300/300-R75	79201	2,0	107757	-
SPB-RF CO-TE-400/400-R75	79202	3,2	54728	3,2
SPB-RF CO-TE-500/500-R75	79269	4,5	107758	4,5
SPB-RF CO-TE-600/600-R75	80847	6,2	107759	-



Cross-Piece Cover

Flat Cover for the SPB Cable Tray system.

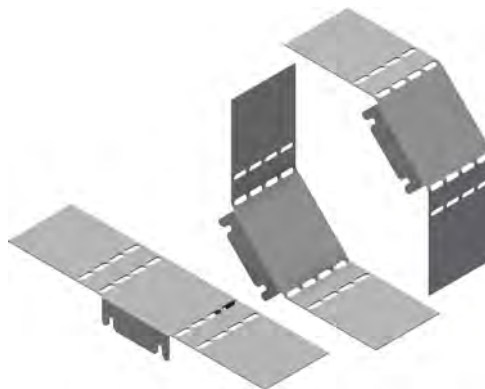
Type Description	SS	SS (kg)	ZM	ZM (kg)
SPB-RF CO-CP-50/50-R75	80995	0,40	80780	0,40
SPB-RF CO-CP-100/100-R75	81442	0,70	80781	0,70
SPB-RF CO-CP-150/150-R75	81443	-	80782	1,0
SPB-RF CO-CP-200/200-R75	80996	1,4	80783	1,4
SPB-RF CO-CP-300/300-R75	80997	2,4	80784	2,3
SPB-RF CO-CP-400/400-R75	80998	3,6	80785	3,5



Cover Flexi Riser

Flat Cover for SPB Flexi Riser.

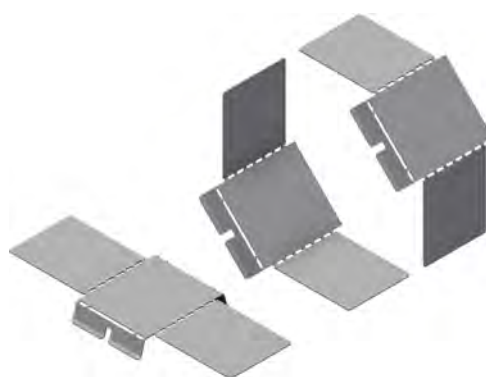
Type Description	SS	SS (kg)	ZM	ZM (kg)
SPB-RF40/50 CO-FR-50-R75	81887	0,30	109357	0,30
SPB-RF40/50 CO-FR-100-R75	81888	0,50	109358	0,50
SPB-RF40/50 CO-FR-150-R75	81889	0,80	109359	0,70
SPB-RF40/50 CO-FR-200-R75	81890	-	109360	1,0
SPB-RF40/50 CO-FR-300-R75	82659	1,4	109361	1,4
SPB-RF40/50 CO-FR-400-R75	82660	1,9	109362	1,9
SPB-RF40/50 CO-FR-500-R75	82663	2,3	109363	2,3
SPB-RF40/50 CO-FR-600-R75	82664	2,8	109364	2,7



Cover Modular Flexi Riser

Flat Cover for SPB Flexi Riser.

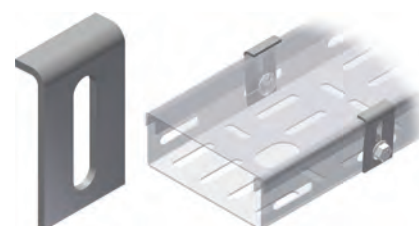
Type Description	SS	SS (kg)	ZM	ZM (kg)
SPB FR-CO-50	90698	0,10	108725	0,10
SPB FR-CO-100	90700	0,40	108727	0,40
SPB FR-CO-150	90701	0,50	108728	0,50
SPB FR-CO-200	90702	0,50	108729	0,70
SPB FR-CO-300	90703	1,1	108730	1,1
SPB FR-CO-400	90704	1,4	108731	1,4
SPB FR-CO-500	90705	1,7	108732	1,8
SPB FR-CO-600	90706	2,1	108733	2,1



Cover Clamp SPB-RF/SPBE

Cover clamp suitable for both the SPBE and SPB-RF cable tray systems.

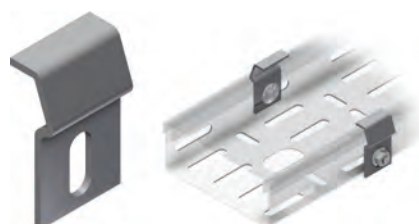
Type Description	Fasteners included	SS	SS (kg)	HDG
SPB CC	1xM6	1302611	0,030	1372669



Cover Clamp SPB-RF

Cover clamp suitable for SPB-RF cable tray system. Also suits LOE55 cable ladder system.

Type Description	Fasteners included	SS	SS (kg)	HDG
SPB-RF40/60 LOE55 CC	1xM6	1372670	0,020	1372672



Raised Cover Clamp

Raised cover clamp for ventilation. For SPB cable tray systems. HDG version has no notches, but has one extra bolt set.

Type Description	Fasteners included	SS	SS (kg)	HDG
SPB40/60 LOE55 CC-V	2xM6	70001	0,060	59997



HD Cover Clamp SPB-RF40

Heavy duty cover clamp suitable for SPB-RF40 cable tray system. Suitable for locations exposed to high wind loadings.

Type Description	SS	SS (kg)	ZM	ZM (kg)
SPB-RF40 CC-HD-50	1300368	0,10	1300376	0,10
SPB-RF40 CC-HD-100	1300369	0,10	1300377	0,10
SPB-RF40 CC-HD-150	1300370	0,20	1300378	0,20
SPB-RF40 CC-HD-200	1300371	0,20	1300379	0,20
SPB-RF40 CC-HD-300	1300372	0,30	1300380	0,30
SPB-RF40 CC-HD-400	1300373	0,30	1300381	0,30
SPB-RF40 CC-HD-500	1300374	0,40	1300382	0,40
SPB-RF40 CC-HD-600	1300375	0,50	1300383	0,50

2 Locking Bolt set(s) M6x12 included.



Divider

Divider for separation and segregation of different systems.

Type Description	SS	HDG	ZM	Duplex
SPB-40 DI-38	88077	88078	1302054	88079



Socket Bracket

Socket Bracket for Junction Box.

Type Description	Fasteners included	SS	SS (kg)	HDG	ZM
A-SPB SO	2xM6	1302156	0,20	1372055	1301049



Socket Plate

Socket Plate for 100 mm wide Cable Trays.

Type Description	Fasteners included	SS	SS (kg)	HDG	ZM
A-SPB SO-100	4xM6	1302689	0,80	1302688	1301034



Edge Protector

To protect cables from sharp edges. 50 m spool. Fits material thickness from 1.5mm to 3.0mm*.

*Can be difficult to fit around tight edges. Flexible PVC with steel core.

Type Description	SS	SS (kg)	CS	CS (kg)
A-SPB EP	1302171	0,10	1302165	0,10



Cable Protector

For routing cables safely through holes in SPB-RF Cable Trays in widths 50 - 200 mm. Flame retardant.

Cable Protectors shape is originally round, but it is designed to fit snugly into the oval hole in the cable trays.

Type Description	EPDM	EPDM (kg)
A-SPB EP-O	1371855	0,002



Coiling Tray SPB-RF

Coiling tray to support maintenance cable loops. Suits all standard SPB-RF straight lengths.

Type Description	SS	SS (kg)
SPB-RF CT-100	70232	1,1
SPB-RF CT-AP	70231	1,1



Tag Plate

Standard support plate for TAG-No. on Cable Ladders and Cable Trays.

Type Description	Fasteners included	SS	SS (kg)	HDG	ZM
TAG 12	2×M6	1302163	0,10	1302162	91185
TAG 14	2×M6	1302588	0,20		



Tag Plate Equinor

Standard support plate for TAG-No. on cable ladders and trays. TR3023 SS (Equinor)

Type Description	Fasteners included	SS	SS (kg)
TAG 14 - TR3023	2×M6	1372532	0,10
TAG 13 - TR3023	2×M6	1375139	0,10

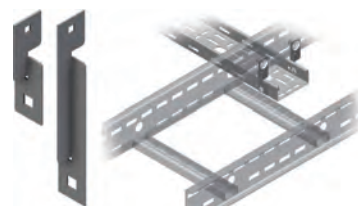


SPB Support

Twisted Transition Bracket SPB-OE

Bracket for supporting SPB cable tray either above or below OE cable ladders when crossing on different levels. Available in two lengths.

Type Description	SS	SS (kg)	HDG	HDG (kg)
A-OE/SPB-RF-IF-97	85082	0,040	84176	0,050
A-OE/SPB-RF-IF-177	60381	0,060	-	-



Universal Transition Bracket SPB-OE

For attaching SPB cable tray to OE100 cable ladder side rails vertically or horizontally.

Type Description	Fasteners included	SS	SS (kg)	HDG
A-OE/SPB IF-VE	2×M10/2×M6	1371847	0,20	1302186



Rail Bracket Horizontal Transition SPB-OE

Transition support bracket for fixing SPB cable trays to the side rails of OE cable ladders.

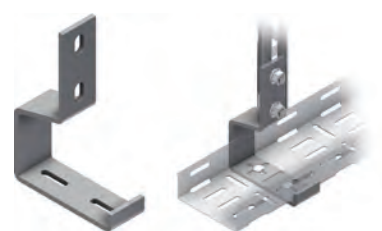
Type Description	Fasteners included	SS	SS (kg)	HDG
A-OE/SPB IF-HO	2×M10/2×M6	1302196	0,20	1302195



Channel Bracket

Channel bracket typically used with Mekano® CH50-2T.

Type Description	Fasteners included	SS	SS (kg)	HDG
S-SPB CB-100	2×M10/1×M6	1302218	0,60	1302216



Cantilever Arm for Vertical Channel

Cantilever arm for supporting 100 mm wide SPB cable tray. Typically used with Mekano® CH50-2T or directly from wall or cable ladders. FoS compatible.

Type Description	Fasteners included	SS	SS (kg)	HDG
S-SPB CA-100	-	1302323	0,50	1302320



Universal Support Bracket

Versatile support bracket for SPB cable trays, suitable for installation on stringers or from threaded rod. It is also suitable for fixing directly onto ceiling, walls and floors.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-SPB SB STUD-23	1372903	0,20	1372902	0,20



Twisted Channel Bracket

Space saving support bracket for installation from the centre of 100-150 mm wide SPB cable trays.

Type Description	Fasteners included	SS	SS (kg)	HDG
S-SPB CB-TW	2×M10/2×M6	1371818	0,30	1302172

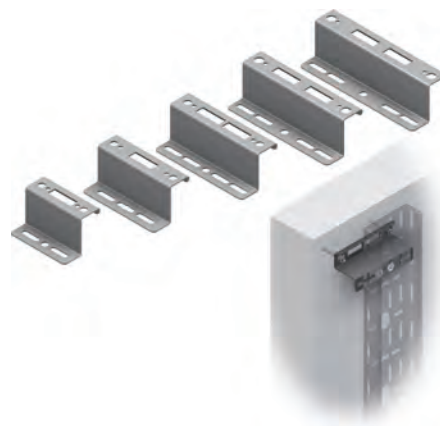


Wall Support Bracket

Support bracket for cable trays suitable for direct fixing to wall, ceiling or floor, or bolting to a square or rectangular hollow section (SHS/RHS) using U-Bolts.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-SPB SB-85-SHS-50	1371795	0,10	1302150	0,10
S-SPB SB-111-SHS-80	1371800	0,10	1302154	0,20
S-SPB SB-135-SHS-100	1371796	0,20	1302151	0,20
S-SPB SB-155-SHS-120	1371797	0,20	1302152	0,20
S-SPB SB-175-SHS-140	1371798	0,20	1302153	0,20

2 Locking Bolt set(s) M6x12 included.



Universal Bracket for Cable Tray Support

Universal bracket designed for use with 2 Hilti S-BT/X-BT bolts. For fastening 100 mm wide SPB-RF/SPBE cable trays. FoS compatible.

Type Description	SS	SS (kg)	ZM	ZM (kg)
FOS A-M-ZB-30-12/6	68634	0,10	68635	0,10
FOS A-M-ZB-50-12/6	1300315	0,10	-	-



Acoustic Wall Support Bracket

Wall support bracket suited for light construction acoustic control walls.

Type Description	SS	SS (kg)
S-SPB SB	91134	0,40



Square U-Bolts

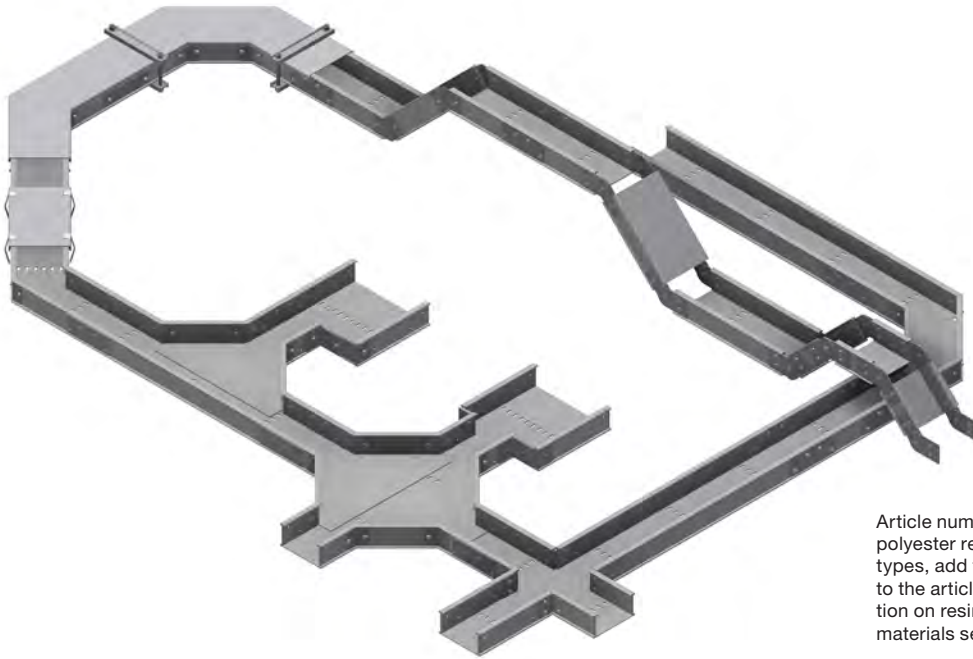
Square U-Bolts in various sizes to suit SHS/RHS. Complete with self locking flange nuts.

Type Description	SS	SS (kg)
S-M UB-SQ-M8-SHS-50	1372590	0,080
S-M UB-SQ-M8-SHS-80	1372591	0,10
S-M UB-SQ-M8-SHS-100	1372592	0,20
S-M UB-SQ-M10-SHS-120	1372593	0,30
S-M UB-SQ-M10-SHS-140	1372594	0,30



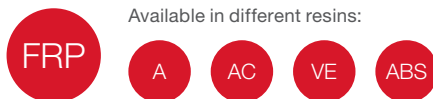
FTE COMPOSITE CABLE TRAY SYSTEM

Oglaend System corrosion resistant fibre reinforced plastic FRP cable trays are designed to deliver weight reductions while maintaining strength and maximising loading capability. The design delivers HSE improvements when lifting and fitting tray and support equipment. The cable trays are available in five different resin materials, each formulated to satisfy special project requirements.



Article numbers are for standard FRP polyester resin. For alternative resin types, add the resin code as a suffix to the article number. For more information on resin systems, please see the materials section or refer to our website.

MATERIALS



Available in different resins:

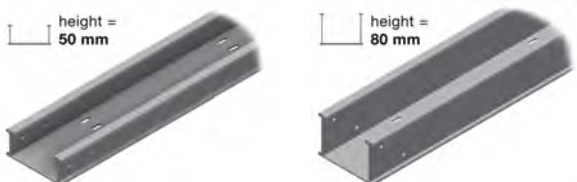
3D LIBRARIES

AVEVA (E3D / PDMS)
Hexagon (Intergraph Smart 3D)
Bentley

CERTIFICATES

Type	UL	ABS	BV
FTE50	All resin	Olstar ABS	Olstar ABS
FTE80	All resin	Olstar ABS	Olstar ABS

CABLE TRAYS



FTE50

FTE80

LOAD DATA

Cable Tray	Tray Height (mm)	Loading Depth (mm)	SWL 2 m FRP (kg/m)	SWL 3 m FRP (kg/m)	Wall thickness FRP (mm)
FTE50	50	47	70*	59*	3 ¹ , 4 ² or 5 ³
FTE80	80	77	113*	103*	3 ¹ , 4 ² or 5 ³

SWL = Safe Working Load.

Loading data according to IEC61537. The length of the end span must be reduced to 3/4 of the support spacing and with no splices on the end span.

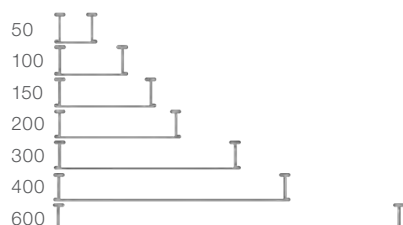
*Tested without underside splice connector. ¹FTE50 50 mm wide. ²FTE50 100-200 mm, FTE80 50-150 mm. ³FTE50 300-600 mm, FTE80 200-600 mm.

DIFFERENT HEIGHTS (MM):

Different tray heights to give more choice for loading space availability. Designed with unique I-beam for superior loading capacity.



AVAILABLE WIDTHS (MM):



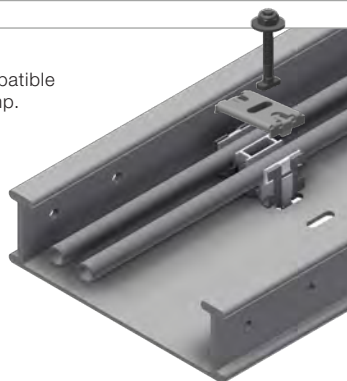
FITTING ACCESSORIES AVAILABLE IN FRP AND SS

Product can be supplied in full FRP.



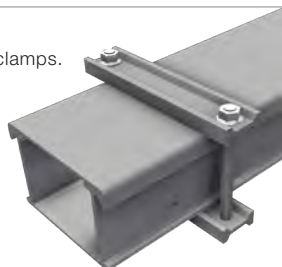
PRE-SLOTTED TRAY

Saves drilling time. Compatible with ETIN™ Tubing Clamp.



COVERS AND FIXING CLAMPS

Snap-on cover and heavy duty clamps.



FE = Flat Elbow, TE = Tee-Piece, CP = Cross-Piece, CO = Cover

TABLE OF CONTENTS

FTE Smart Features.....	202
-------------------------	-----

FTE50 Cable Tray System

FTE50 Cable Tray System	203
FTE50 Fittings.....	203
FTE50 Fixings	205

FTE80 Cable Tray System

FTE80 Cable Tray System	207
FTE80 Fittings.....	207
FTE80 Fixings	209

FTE Cover & Accessories

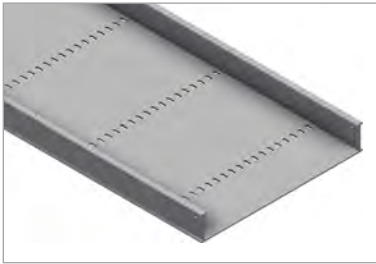
FTE Cover	211
FTE Cover Clamps.....	213
FTE Accessories.....	214



Intellectual Property Rights

Please note that many of the products presented in this catalogue are protected by our intellectual property rights in the form of patents, registered designs and trademarks, and that we have made the strategic decision to police and enforce these rights in all relevant jurisdictions.

FTE Smart Features



PERFORATED TRAY DESIGN

Perforations prohibit any liquid or chemical entrapment thus offering a long service life. Rounded edges for easy handling. Unique off centre beam profile design with increased load capacity that also reduces deflection.



SPLICE CONNECTORS

Full height splice and joint connectors can handle the same loadings as the tray system itself. Products are delivered with perforations for use with splice connectors predrilled.



EASY TO ATTACH TO SUPPORT SYSTEM

Easy installation and efficient support system attachment.



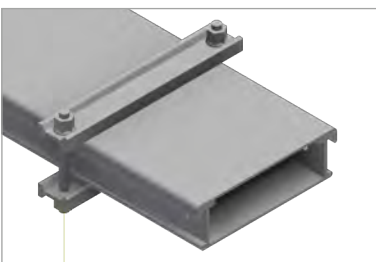
DRILL JIG

Smart jigs for easy and accurate drilling of perforations.



FLEXIBLE RISER

Flexible Riser, allows user to change between inside or outside riser. (simply remove then invert the splice angle plate).



CABLE TRAY COVER

Covers are designed to snap on for widths up to 300 mm. This feature means that cover clamps are not required. For widths exceeding 300 mm or for exposed locations cover clamps are required. We offer a choice of SS cover clips or heavy duty FRP cover clamps.

FTE50 Cable Tray System

FTE50 Cable Tray

Composite Cable Tray suitable for Electrical and Instrumentation installations. Designed with unique I-beam for superior loading capacity. Tray height 50 mm. Supplied in 3 m lengths.

Type Description	FRP	FRP (kg)
FTE-50 CT-50	74400	3,9
FTE-50 CT-100	74401	5,3
FTE-50 CT-150	74399	6,1
FTE-50 CT-200	74402	7,0
FTE-50 CT-300	74403	9,2
FTE-50 CT-400	71460	13,6
FTE-50 CT-600	71558	19,2



FTE50 Fittings

90° Flat Elbow

Compact design Flat Elbow in composite system. Radius 250 mm. (For more radius options please contact us.)

Type Description	FRP	FRP (kg)
FTE-50 FE-90-50	74568	1,2
FTE-50 FE-90-100	74569	1,6
FTE-50 FE-90-150	74572	1,9
FTE-50 FE-90-200	74570	2,2
FTE-50 FE-90-300	74571	3,1
FTE-50 FE-90-400	71463	4,7
FTE-50 FE-90-600	71559	7,9



45° Flat Elbow

Compact design Flat Elbow in composite system. Radius 420 mm. (For more radius options please contact us.)

Type Description	FRP	FRP (kg)
FTE-50 FE-45-50	74575	0,80
FTE-50 FE-45-100	74576	1,1
FTE-50 FE-45-150	74574	1,3
FTE-50 FE-45-200	74577	1,5
FTE-50 FE-45-300	74578	2,0
FTE-50 FE-45-400	71464	3,0
FTE-50 FE-45-600	71560	4,9



Tee-Piece

Compact design Tee-Piece in composite system.

Type Description	FRP	FRP (kg)
FTE-50 TE-50/50	74660	0,60
FTE-50 TE-100/100	74661	0,90
FTE-50 TE-150/150	74659	1,1
FTE-50 TE-200/200	74662	1,3
FTE-50 TE-300/300	74663	1,9
FTE-50 TE-400/400	71465	3,2
FTE-50 TE-600/600	71561	5,8



Radius Tee-Piece

Compact design Tee-Piece with 300 mm radius in composite system.
(For more radius options please contact us.)

Type Description	FRP	FRP (kg)
FTE-50 TE-50/50 R300	71629	1,8
FTE-50 TE-100/100 R300	71630	2,4
FTE-50 TE-150/150 R300	71631	2,8
FTE-50 TE-200/200 R300	71632	3,2
FTE-50 TE-300/300 R300	71633	4,1
FTE-50 TE-400/400 R300	71634	6,4
FTE-50 TE-600/600 R300	71635	10,4



Combi Riser

Fixed 90° riser in composite system with splice plates in stainless steel. The splice plates can be rotated to create inside or outside risers.

Standard radius 40 0mm. (For more radius options please contact us.)

Type Description	FRP	FRP (kg)
FTE-50 CR-50	74670	0,60
FTE-50 CR-100	74671	0,80
FTE-50 CR-150	74669	0,90
FTE-50 CR-200	74672	0,90
FTE-50 CR-300	74673	1,2
FTE-50 CR-400	71490	1,6
FTE-50 CR-600	71562	2,2

4 Locking Bolt set(s) M6x16 included.



Reducer

Part for increasing or reducing Cable Tray width in set increments. Universal design which can be used for left or right side independently or both sides together. When fitting on just one side, one additional splice connector is required (ordered separately).



Type Description	FRP	FRP (kg)
FTE-50 RP-50	70438	0,10
FTE-50 RP-100	70439	0,10
FTE-50 RP-150	70440	0,10
FTE-50 RP-200	70441	0,20
FTE-50 RP-300	71606	0,20

2 Locking Bolt set(s) M6x16 included.

FTE50 Fixings

Splice plates are delivered in a set for one side of each tray, complete with bolts as shown. Two sets are therefore required for a tray connection.

All standard splice connectors in both SS and FRP material are supplied with SS fasteners.

Splice Connector

Straight Splice Connectors used to connect lengths of FTE50 Cable Tray.

Type Description	Fasteners included	SS	SS (kg)	FRP
FTE-50 SC	2xM6	74880	0,10	75043



Splice Connector underside

Splice Plate for attaching two FTE Cable Trays together from the underside. Recommended as a reinforcement to standard Splice Connectors on tray widths 400 mm and above.

Type Description	Fasteners included	FRP	FRP (kg)
FTE U.SPL-400	6xM6	110168	0,70
FTE U.SPL-500	6xM6	110169	0,90
FTE U.SPL-600	6xM6	110170	1,0



Expansion Splice Plates

Expansion Splice Connector with elongated holes to accommodate thermal expansion.

Type Description	Fasteners included	SS	SS (kg)	FRP
FTE-50 SC EXP	2xM6	71691	0,10	71608



Hinge Vertical

Vertical Hinge connector. Allows for flexible riser configurations.

Type Description	Fasteners included	SS	SS (kg)	FRP
FTE-50 HV	2xM6/2xM6	74882	0,20	75044



Splice Angle Horizontal

90° Splice Angle connector.

Type Description	Fasteners included	SS	SS (kg)	FRP
FTE-50 SA-HO-90	2xM6	74870	0,10	70436



Splice Angle 45°

Vertical Splice Plates that can be used to construct risers.

Type Description	Fasteners included	SS	SS (kg)	FRP
FTE-50 SA-VE-45	2xM6	74872	0,10	75041



End Cover

The End Cover provides a tidy end point on the Cable Tray run.

Type Description	FRP	FRP (kg)
FTE-50 EC-50	74727	0,030
FTE-50 EC-100	74728	0,060
FTE-50 EC-150	74885	0,080
FTE-50 EC-200	74729	0,10
FTE-50 EC-300	74730	0,10
FTE-50 EC-400	71492	0,20
FTE-50 EC-600	71564	0,30

2 ST4.8x13 Self Tapping Screw(s) included.



Divider

Divider for FTE50 Cable Tray. Dividers are used for separation and segregation of different systems.

Type Description	Fasteners included	FRP	FRP (kg)
FTE-50 DI	4xM6	74540	1,2



FRP Step Down Splice Plate

Stepped Splice Connector for connecting FTE cable trays in 50 and 80 mm heights.

Type Description	Fasteners included	SS	SS (kg)
FTE-SD-SP-80-50	4xM6	71650	0,090



FTE80 Cable Tray System

FTE80 Cable Tray

Composite Cable Tray suitable for Electrical and Instrumentation installations. Designed with unique I-beam for superior loading capacity. Tray height 80 mm. Supplied in 3 m lengths.

Type Description	FRP	FRP (kg)
FTE-80 CT-50	74410	5,8
FTE-80 CT-100	74411	6,7
FTE-80 CT-150	74409	7,5
FTE-80 CT-200	74412	9,2
FTE-80 CT-300	74413	10,9
FTE-80 CT-400	71461	4,9
FTE-80 CT-500	72051	18,4
FTE-80 CT-600	73879	20,9



FTE80 Fittings

90° Flat Elbow

Compact design Flat Elbow in composite system. Radius 250 mm. (For more radius options please contact us.)

Type Description	FRP	FRP (kg)
FTE-80 FE-90-50	74582	1,8
FTE-80 FE-90-100	74583	2,0
FTE-80 FE-90-150	74581	2,4
FTE-80 FE-90-200	74584	3,0
FTE-80 FE-90-300	74585	3,7
FTE-80 FE-90-400	71493	5,4
FTE-80 FE-90-500	72078	7,2
FTE-80 FE-90-600	73902	8,8



45° Flat Elbow

Compact design Flat Elbow in composite system. Radius 420 mm. (For more radius options please contact us.)

Type Description	FRP	FRP (kg)
FTE-80 FE-45-50	74590	1,2
FTE-80 FE-45-100	74591	1,4
FTE-80 FE-45-150	74589	1,6
FTE-80 FE-45-200	74592	1,9
FTE-80 FE-45-300	74593	2,4
FTE-80 FE-45-400	71494	3,5
FTE-80 FE-45-500	72079	4,5
FTE-80 FE-45-600	73903	5,4



Tee-Piece

Compact design Tee-Piece in composite system.

Type Description	FRP	FRP (kg)
FTE-80 TE-50/50	74664	1,1
FTE-80 TE-100/100	74665	1,1
FTE-80 TE-150/150	74668	1,4
FTE-80 TE-200/200	74666	1,8
FTE-80 TE-300/300	74667	2,4
FTE-80 TE-400/400	71495	3,6
FTE-80 TE-500/500	72080	5,2
FTE-80 TE-600/600	73904	6,3



Radius Tee-Piece

Compact design Tee-Piece with 300 mm radius in composite system.
(For more radius options please contact us.)

Type Description	FRP	FRP (kg)
FTE-80 TE-50/50 R300	71636	2,5
FTE-80 TE-100/100 R300	71637	2,9
FTE-80 TE-150/150 R300	71638	3,1
FTE-80 TE-200/200 R300	71639	3,8
FTE-80 TE-300/300 R300	71640	4,8
FTE-80 TE-400/400 R300	71641	7,1
FTE-80 TE-500/500 R300	72081	9,1
FTE-80 TE-600/600 R300	73905	11,3



Combi Riser

Fixed 90° riser in composite system with splice plates in stainless steel. The splice plates can be rotated to create inside or outside risers.

Standard radius 400 mm. (For more radius options please contact us)

Type Description	FRP	FRP (kg)
FTE-80 CR-50	74674	1,1
FTE-80 CR-100	74675	1,1
FTE-80 CR-150	74678	1,2
FTE-80 CR-200	74676	1,4
FTE-80 CR-300	74677	1,6
FTE-80 CR-400	71496	2,0
FTE-80 CR-500	72083	2,3
FTE-80 CR-600	73906	2,6

? Locking Bolt set(s) M??x?? included.



Reducer

Part for increasing or reducing Cable Tray width in set increments. Universal design which can be used for left or right side independently or both sides together. When fitting on just one side, one additional splice connector is required (ordered separately).



Type Description	FRP	FRP (kg)
FTE-80 RP-50	70442	0,20
FTE-80 RP-100	70443	0,20
FTE-80 RP-150	70445	0,20
FTE-80 RP-200	70446	0,30
FTE-80 RP-300	71607	0,30

2 Locking Bolt set(s) M6x16 included.

FTE80 Fixings

Splice plates are delivered in a set for one side of each tray, complete with bolts as shown. Two sets are therefore required for a tray connection.

All standard splice connectors in both SS and FRP material are supplied with SS fasteners.

Splice Connector

Straight Splice Connectors used to connect lengths of FTE80 Cable Tray.

Type Description	Fasteners included	SS	SS (kg)	FRP
FTE-80 SC	4xM6	74881	0,20	75052



Splice Connector underside

Splice Plate for attaching two FTE Cable Trays together from the underside. Recommended as a reinforcement to standard Splice Connectors on tray widths 400 mm and above.

Type Description	Fasteners included	FRP	FRP (kg)
FTE U.SPL-400	6xM6	110168	0,70
FTE U.SPL-500	6xM6	110169	0,90
FTE U.SPL-600	6xM6	110170	1,0



Expansion Splice Plates

Expansion Splice Connector with elongated holes to accommodate thermal expansion.

Type Description	Fasteners included	SS	SS (kg)	FRP
FTE-80 SC EXP	4xM6	71692	0,20	71609



Hinge Vertical

Vertical Hinge connector, allows for flexible riser configurations.

Type Description	Fasteners included	SS	SS (kg)	FRP
FTE-80 HV	4xM6/2xM6	74883	0,30	75053



Splice Angle Horizontal

90° Splice Angle connector.

Type Description	Fasteners included	SS	SS (kg)	FRP
FTE-80 SA-HO-90	4xM6	74871	0,20	70437



Splice Angle 45°

Vertical Splice Plates that can be used to construct risers.

Type Description	Fasteners included	SS	SS (kg)	FRP
FTE-80 SA-VE-45	2xM6	74873	0,20	75042



End Cover

The end cover provides a tidy end point on the cable tray run.

Type Description	FRP	FRP (kg)
FTE-80 EC-50	74731	0,040
FTE-80 EC-100	74732	0,070
FTE-80 EC-150	74886	0,10
FTE-80 EC-200	74733	0,10
FTE-80 EC-300	74734	0,20
FTE-80 EC-400	71498	0,30
FTE-80 EC-500	72117	0,30
FTE-80 EC-600	73907	0,40

2 ST4.8x13 Self Tapping Screw(s) included.



Divider

Divider for FTE80 Cable Tray.

Dividers are used for separation and segregation of different systems.

Type Description	Fasteners included	FRP	FRP (kg)
FOE 100 FTE-80 DI	4xM6	74541	1,6



FRP Step Down Splice Plate

Stepped Splice Connector for connecting FTE cable trays in 50 and 80 mm heights.

Type Description	Fasteners included	SS	SS (kg)
FTE-SD-SP-80-50	4xM6	71650	0,090



FTE Cover

Cover Straight

Flat cover for the FTE cable tray system with snap-lock system for widths up to 300 mm. For widths over 300 mm or for exposed locations, cover clamps are required.

Type Description	FRP	FRP (kg)
FTE CO-CT-50	74450	2,2
FTE CO-CT-100	74451	3,1
FTE CO-CT-150	74449	3,9
FTE CO-CT-200	74452	4,7
FTE CO-CT-300	74453	6,4
FTE CO-CT-400	71462	7,2
FTE CO-CT-500	72084	8,9
FTE CO-CT-600	71570	10,6



90° Cover

Flat cover for the FTE cable tray system with snap-lock system for widths up to 300 mm. For widths over 300 mm or for exposed locations, cover clamps are required. Radius 250 mm. (For more radius options please contact us.)

Type Description	FRP	FRP (kg)
FTE CO-FE-90-50	74735	0,60
FTE CO-FE-90-100	74736	0,80
FTE CO-FE-90-150	74739	1,1
FTE CO-FE-90-200	74737	1,4
FTE CO-FE-90-300	74738	2,0
FTE CO-FE-90-400	71499	3,0
FTE CO-FE-90-500	72112	3,8
FTE CO-FE-90-600	71651	5,0



45° Cover

Flat cover for the FTE cable tray system with snap-lock system for widths up to 300 mm. For widths over 300 mm or for exposed locations, cover clamps are required. Radius 420 mm. (For more radius options please contact us.)

Type Description	FRP	FRP (kg)
FTE CO-FE-45-50	74940	0,40
FTE CO-FE-45-100	74941	0,60
FTE CO-FE-45-150	74944	0,80
FTE CO-FE-45-200	74942	0,90
FTE CO-FE-45-300	74943	1,4
FTE CO-FE-45-400	71500	1,8
FTE CO-FE-45-500	72113	2,4
FTE CO-FE-45-600	71652	3,0



Tee Cover

Flat cover for the FTE cable tray system with snap-lock system for widths up to 300 mm. For widths over 300 mm or for exposed locations, cover clamps are required.

Type Description	FRP	FRP (kg)
FTE-CO TE-50/50	74840	0,30
FTE-CO TE-100/100	74841	0,40
FTE-CO TE-150/150	74839	0,60
FTE-CO TE-200/200	74842	0,80
FTE-CO TE-300/300	74843	1,3
FTE-CO TE-400/400	71530	1,9
FTE-CO TE-500/500	72115	2,6
FTE-CO TE-600/600	71573	0,30



Cover Combi Riser

Flat cover for the FTE cable tray system with snap-lock system for widths up to 300 mm. For widths over 300 mm or for exposed locations, cover clamps are required. Radius 400 mm. (For more radius options please contact us.)

Type Description	FRP	FRP (kg)
FTE-CO-CR-50	74844	0,20
FTE-CO-CR-100	74845	0,30
FTE-CO-CR-150	74848	0,40
FTE-CO-CR-200	74846	0,50
FTE-CO-CR-300	74847	0,70
FTE-CO-CR-400	71531	0,70
FTE-CO-CR-500	72114	0,90
FTE-CO-CR-600	71653	1,1



FTE Cover Clamps

Cover Clip FTE50

Quick and easy clip-on cover clamp.

Type Description	SS	SS (kg)
FTE-50 CC	71352	0,010



Cover Clip FTE80

Quick and easy clip-on cover clamp.

Type Description	SS	SS (kg)
FTE-80 CC	71459	0,020



Cover Fixing Clamp FTE50

Cover fixing clamp for use in high winds or for covers with width exceeding 300mm.

Produced in FRP.

Type Description	FRP	FRP (kg)
FTE-50 CC-HD-50	73930	0,20
FTE-50 CC-HD-100	73931	0,30
FTE-50 CC-HD-150	73929	0,30
FTE-50 CC-HD-200	73932	0,40
FTE-50 CC-HD-300	73933	0,50
FTE-50 CC-HD-400	71491	0,60
FTE-50 CC-HD-600	71563	0,90



Cover Fixing Clamp FTE80

Cover fixing clamp for use in high winds or for covers with width exceeding 300mm.

Produced in FRP.

Type Description	FRP	FRP (kg)
FTE-80 CC-HD-50	73934	0,20
FTE-80 CC-HD-100	73935	0,30
FTE-80 CC-HD-150	73938	0,30
FTE-80 CC-HD-200	73936	0,40
FTE-80 CC-HD-300	73937	0,50
FTE-80 CC-HD-400	71497	0,60
FTE-80 CC-HD-500	72116	0,80
FTE-80 CC-HD-600	73908	0,90



Ventilated Cover Clamp FTE

Raised Cover Clamp for ventilated cover for horizontal fitting with no wind loading.

Type Description	Fasteners included	FRP	FRP (kg)
FTE CC-SV	1xM6	110278	0,070



FTE Accessories

FRP Step Down Splice Plate

Stepped Splice Connector for connecting FTE cable trays in 50 and 80 mm heights.

Type Description	Fasteners included	SS	SS (kg)
FTE-SD-SP-80-50	4xM6	71650	0,090



Hold Down Fixing Clamp

Fixing Clamp for horizontal fixing of both Cable Tray and Cable Ladder systems. Compatible with M10 fasteners.

Type Description	SS	SS (kg)
FTE FC-B47x50	74492	0,040



Fixing Clamp

Fixing Clamp which fits both ladders and trays. Used for vertical or horizontal installations.

Type Description	Fasteners included	SS	SS (kg)	FRP
FOE/FTE FC-B40x65	1xM10	74783	0,040	72024



Smart Jig

With this jig you can pre-drill holes in exact positions when cutting tray lengths on site. Please refer to our recommendations on sealing following cutting and drilling processes.

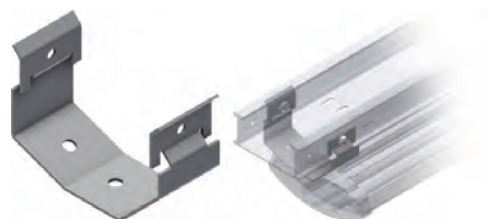
Type Description	SS	SS (kg)
FTE-DJ 50/80	74397	0,20



Light Fitting Bracket FTE

Light Fitting Bracket suitable for fitting to FTE Cable Trays 100 mm width. Fits all FTE cable tray heights. Allows light to be fitted flat to ground or alternatively at 30° or 45° angle.

Type Description	Fasteners included	SS	SS (kg)
A-FTE LB-100-45/30	-	91107	0,20







LIGHT FITTING SUPPORT

We offer a complete range of robust, cost-efficient lighting support equipment systems which are simple to install and suitable for any location. Our support system includes armature holders and cable stretch preventers designed to suit all brands of luminaries. These are supplemented by our complete range of flexible brackets, cable trays, cable ladders, covers and accessories to complete any installation. We can offer systems to suit the lightest to the harshest of environments including subterranean tunnels and offshore installations. They are designed and manufactured accordingly and promote easy installation whatever the location.

MATERIALS



3D LIBRARIES

AVEVA (E3D / PDMS)

LIGHT FITTINGS



Cable ladders and cable trays

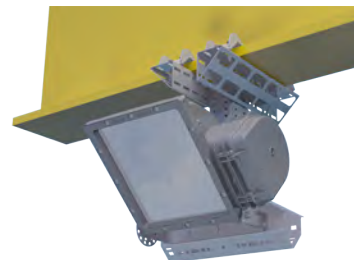
We offer stable and secure solutions for supporting light fittings below cable trays and cable ladders, on the side rails of cable ladders or directly onto Mekano® support profiles. Many of the support brackets have smart designs to allow generous adjustments for positioning relative to the support.



Handrail

A range of brackets for supporting light armatures from round and square section handrails. These support solutions are suitable when the handrail construction is sufficiently rigid.

- 36 W light fitting
- 16 W light fitting



Floodlight

Our floodlight support range is designed to suit most popular floodlight brackets. Hole patterns and slots give wide adjustment possibilities to give optimal placement of the light and eliminate shadows. Many designs include smart solutions to ease access for service works.

STRETCH PREVENTERS

Stretch preventers are available for a range of lighting armatures for both outdoor and indoor use. They are designed to provide an anchor point for cables to prevent stretching the cable from the fitting. In addition, the outdoor types are designed to act as a drip collection point to lead water away from the light fitting. Where there is risk of vibration and where exposed to wind, we recommend fitting the stretch preventer directly to the armature.

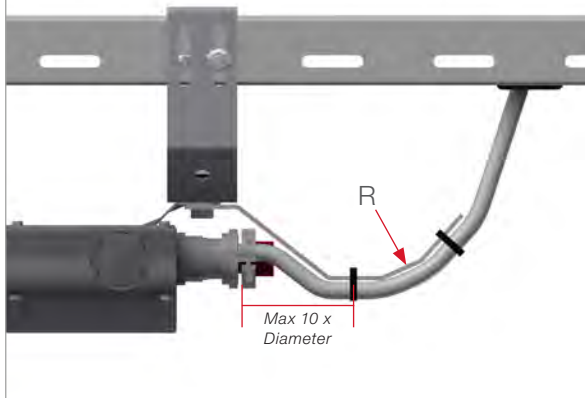


TABLE OF CONTENTS

Cable Ladders & Cable Trays

Light Fitting Support for Cable Ladder.....	218
Light Fitting Support for Cable Tray.....	219
Stretch Preventers	220

Handrail & Floodlight

Light Fitting Support for Handrail.....	221
Floodlight Support.....	222



Intellectual Property Rights

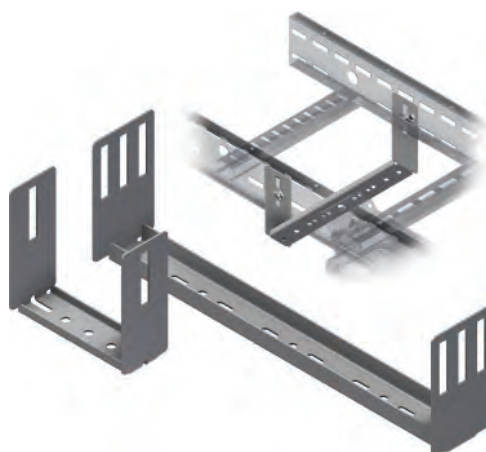
Please note that many of the products presented in this catalogue are protected by our intellectual property rights in the form of patents, registered designs and trademarks, and that we have made the strategic decision to police and enforce these rights in all relevant jurisdictions.

Light Fitting Support for Cable Ladder

Light Fitting Bracket

For OE cable ladder. Adjustable to support the light flush or up to 100 mm below the ladder. Can also be used to support equipment bracket.

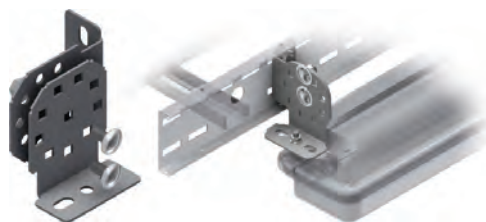
Type Description	SS	SS (kg)	HDG	HDG (kg)
OE-LB-150	1372630	0,40	84310	0,40
OE-LB-300	1372639	0,60	84311	0,60
OE-LB-450	84567	0,90	84312	0,70
OE-LB-600	84568	1,1	84313	0,90
OE-LB-750	84569	1,3	84314	1,3
OE-LB-900	84570	1,4	84315	1,2



Flexi Light Fitting Bracket

Flexible light fitting bracket which allows the light to be fitted at any required angle in 4 deg increments. Suitable for use on side rail or rungs of OE cable ladders. FoS compatible (SS and HDG).

Type Description	Fasteners included	SS	SS (kg)	HDG	AL
OE100-AH	2×M10	1371720	0,50	1302497	78636
OE125-AH	2×M10	89581	0,50		
OE150-AH	2×M10	89579	0,60		



Light Fitting Holder

Stable Light Fitting Bracket for OE100 Cable Ladder. Can be fixed to have the light facing flat or at 60°.

Type Description	Fasteners included	SS	SS (kg)	HDG	AL
OE100-AH-1	2×M10	1371719	0,30	1302496	78635



Light Fitting Angle Bracket

Universal Support Bracket for OE Cable Ladders or Mekano® CH100-1 channels to trays or light fittings.

Type Description	Fasteners included	SS	SS (kg)	HDG
OE/SB-125x115x50-10/6	2×M10/2×M6	1371717	0,50	1302503



Light Fitting Z-Bracket

Light Fitting Bracket for fitting on the OE100 Cable Ladder rail. Also compatible with Support Channel S-M CH100-1 & Mekano® S-M CH100-2T.

Type Description	Fasteners included	SS	SS (kg)	HDG
S-M LF-82-89,5-21,5	2×M10	1306912	0,10	1306913

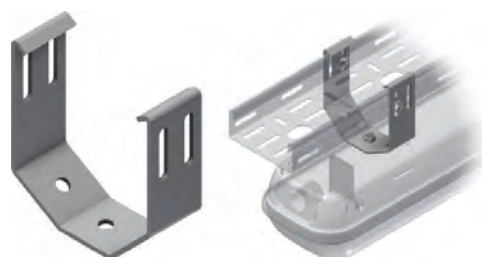


Light Fitting Support for Cable Tray

Light Fitting Bracket

Stable Light Fitting Bracket for SPB-RF Cable Tray. Light fitting can be attached to have the light facing flat, 45° or 30°.

Type Description	Fasteners included	SS	SS (kg)	HDG
SB-AB-110	2×M6	1371851	0,30	1371852
SB-AB-160	2×M6	57637	0,30	
SB-AB-210	2×M6	57638	0,40	
SB-AB-310	2×M6	57639	0,50	



Light Fitting Bracket FTE

Light Fitting Bracket suitable for fitting to FTE Cable Trays 100 mm width. Fits all FTE cable tray heights. Allows light to be fitted flat to ground or alternatively at 30° or 45° angle.

Type Description	Fasteners included	SS	SS (kg)
A-FTE LB-100-45/30	-	91107	0,20



Light Bracket

Universal Light Fitting Bracket for fitting below a Cable Tray to support lighting installations.

Type Description	Fasteners included	SS	SS (kg)	PG
A-SPB LB-Z	1×M6	1371857	0,040	1372818



Stretch Preventers

Stretch Preventer Glamox

Stretch Preventer to avoid stretch damage to cables and to control dripping.

Type Description	Fasteners included	SS	SS (kg)	HDG
LF-SP-Glamox	1×M8	1371854	0,30	1302220
LF-SP-Glamox-Led	-	91248	0,30	



Stretch Preventer Stahl

Stretch Preventer to avoid stretch damage to cables and to control dripping.

Type Description	SS	SS (kg)
LF-SP-Stahl Ø32	1302225	0,30
LF-SP-Stahl Ø25	83498	0,30



Stretch Preventer Ceag

Stretch Preventer to avoid stretch damage to cables and to control dripping.

Type Description	SS	SS (kg)
LF-SP-Ceag Ø25	1371853	0,30



Stretch Preventer Chalmit

Stretch Preventer to avoid stretch damage to cables and to control dripping.

Type Description	SS	SS (kg)
LF-SP-Chalmit Ø20	85165	0,30



Simple Stretch Preventer

Stretch Preventer to avoid stretch damage to a cable. For indoor use.

Type Description	Fasteners included	SS	SS (kg)	HDG
LF-SP-UN-130	2×M6	1302224	0,10	1302223
LF-SP-UN-150	2×M6	1302222	0,30	1302221



Light Fitting Support for Handrail

Lighting Bracket 36 W

Deep recessed Light Fitting Bracket to allow the light to be opened for service without conflicting with vertical hand rail supports.

Typically used for 36 W light fittings. See chapter introduction for typical application examples.

Type Description	SS	SS (kg)
A-LB HR 36W	90615	10,5



Lighting Bracket 18 W

Standard recessed Light Fitting Bracket for use between vertical handrail supports. Fully adjustable fitting angle. Typically used in combination with Mekano® Triangular Channels for 18 W light fittings. See chapter introduction for typical application examples.

Type Description	SS	SS (kg)
A-LB HR-08 18W	55066	0,70



Lighting Bracket 18 W Vertical

Light support bracket for fitting light armatures vertically to handrails. Suitable for round or square handrails. Supplied in pairs. U-Bolts not included. See chapter introduction for typical application examples.

Type Description	SS	SS (kg)
A-LB LF-HR-VE 18W	1301548	6,8



Floodlight Support

Standard Floodlight Bracket

Stable Floodlight Bracket with universal and adjustable fixing design.

Type Description	Fasteners included	SS	SS (kg)
FLB-4	-	84563	11,8



Floodlight Support Bracket

Adjustable universal floodlight fixing bracket to suit most popular luminaries. Suitable for creating custom floodlight supports using Mekano® channel 100-4. Reversible, allowing 210° adjustment. Can support 2 floodlights.

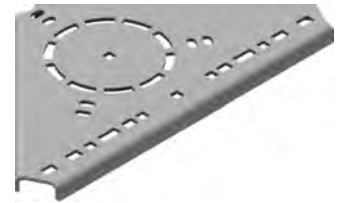
Type Description	Fasteners included	SS	SS (kg)
LB FS-AB CH100-4	-	1301572	-



Floodlight Pole Bracket

Adjustable universal floodlight fixing bracket to suit most popular luminaries. Suitable for use with floodlight bracket rotation plate for creating custom floodlight supports.

Type Description	Fasteners included	SS	SS (kg)
LB FS-AB Pole	-	1301573	2,6



Floodlight bracket Rotation Plate

Rotation Plate suitable for creating floodlight supports with Mekano® 100-4. Compatible with adjustable universal floodlight fixing bracket to give 360° rotation.

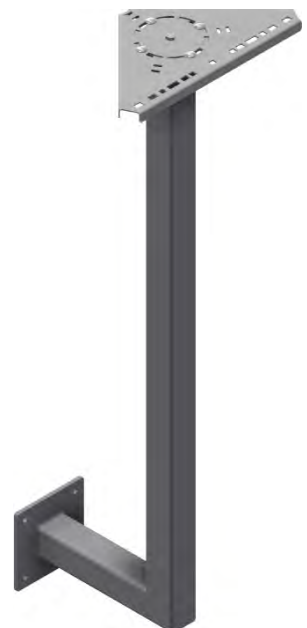
Type Description	Fasteners included	SS	SS (kg)
LB FS-AB Pole B	-	1301574	1,3



Floodlight Pole and Bracket

Floodlight Pole complete with fully adjustable universal floodlight fixing bracket. 1.5 m high.

Type Description	Fasteners included	SS	SS (kg)
LB FS- L1500	4xM10	1301575	27,8



Floodlight bracket Plate

Universal Floodlight Plate suitable for use with OE ladders, Mekano® or UNO supports. Hole patterns: CC 150-160 + 240-250 mm.

Type Description	Fasteners included	SS	SS (kg)
S-M LF-CC150-160, CC240-250	-	85799	3,4



Floodlight Support Starter Bracket

Bolted Starter Bracket for creating Floodlight Support with Mekano® 100-4 channel. With slotted sides to allow floodlights to be lifted or lowered for service. Solid construction in 5 mm thickness.

Type Description	Fasteners included	SS	SS (kg)
S-M BS-TB-CH100-4	-	1301577	5,5



RACKS, INSTRUMENT STANDS & EQUIPMENT PLATES

Our range of equipment rack designs provide optimal area utilisation and are easy and quick to install. Racks are available pre-assembled ready for fixing, or in flat pack form. Flat packing offers advantages for easy site transportation, storage and lifting, where no individual parts exceed 20 kg. Starter brackets are available for bolting or welding to the floor. Racks are available in standard widths from 600 mm to 1800 mm and in configurations allowing single or double sided installation of equipment. Roofs are available to protect equipment from falling objects and drips. All our racks can be easily adjusted and customised using a complete range of standard parts to adapt and utilise the area efficiently.

MATERIALS



3D LIBRARIES

AVEVA (E3D / PDMS)

AVAILABLE IN WIDTHS 600-1800 MM



Standard Rack 250 mm

Rack depth = 250 mm

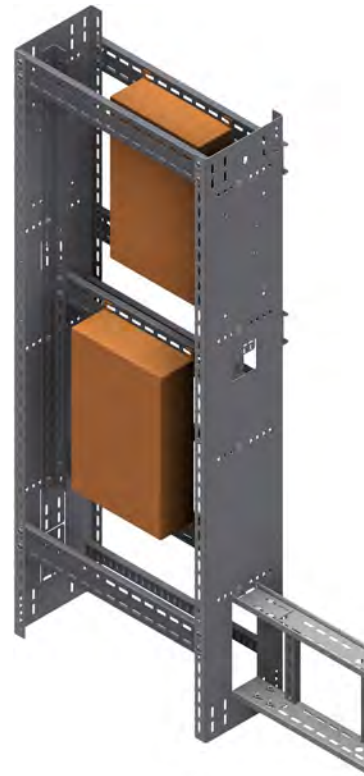
A compact solution, but with sufficiently deep rail to allow cables to be efficiently bent and routed. A double sided version of the standard 250 mm rack is available allowing equipment to be positioned on both sides.



Standard Rack 300 mm

Rack depth = 300 mm

A rack constructed for great stability. Equipment can be installed on one side, suitable when cables are being fed from below. It also offers the possibility for an OE 100, 300 mm wide cable ladder fitted vertically below, providing more room for larger cables.



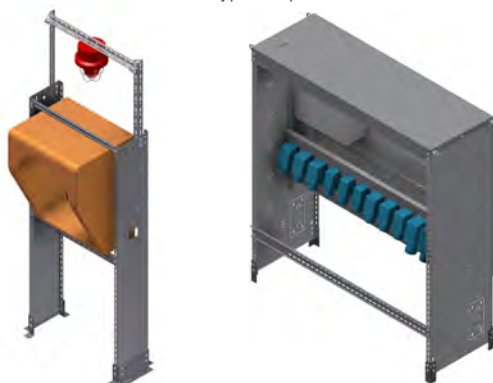
Rio Rack

Rack depth = 300 mm

The Rio rack has the same stable construction as the standard rack and shares the same side rail design. The key difference is that the equipment on the Rio rack is recessed between the side rails rather than fixed on the outside.

UTILITY STATION

To complement our rack range, we offer a range of related products, including Utility Stations and telephone hoods. Custom designs are also available. Please contact us for more information on these types of products.



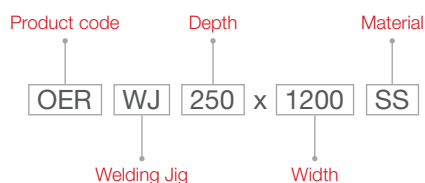
EQUIPMENT PLATES

Our versatile equipment plates are designed to fit a range of different equipment from multiple suppliers. Custom made versions of equipment plates for specific applications are also available on request.

The standard equipment plate can be combined with Z-brackets to further increase areas of application. The bracket is also used to install the equipment plate onto the support. A roof can be attached to offer some protection from the elements, collisions or falling objects.



INSTRUMENT STANDS & EQUIPMENT TOWERS



WJ = Welding Jig, EP = Equipment Plate

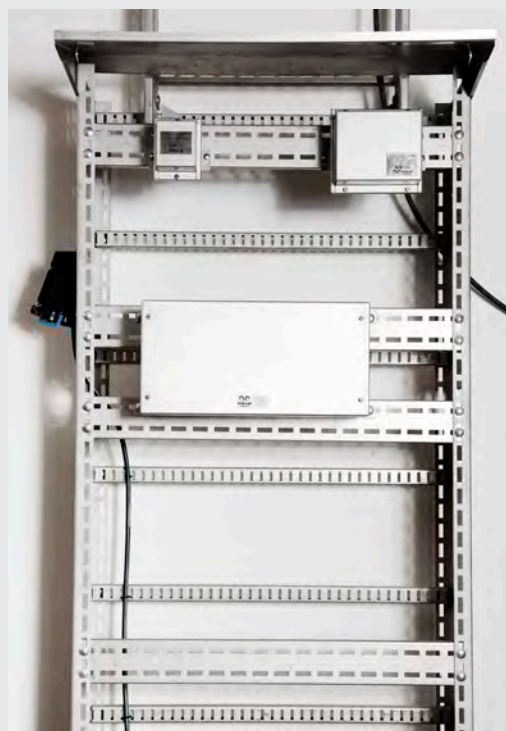
TABLE OF CONTENTS

Junction Box Racks

Standard Rack excl. Starter Brackets.....	226
Starter Brackets for Rack & Instrument Stands..	229
Separate Rack & Instrument Stand parts	230

Instrument Stands & Equipment Towers

Instrument Stands & Equipment Towers.....	232
Equipment Plates.....	234



Intellectual Property Rights

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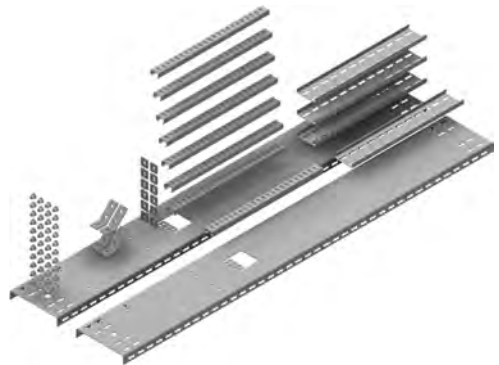
Standard Rack excl. Starter Brackets

Rack 250 mm depth. Flat-packed.

Space saving and cost efficient Rack for supporting Junction Boxes, instruments and other equipment. Excludes starter brackets (options are shown on the next section). Supplied in an easy to assemble flat-pack kit for efficient transportation, handling and storage on site.

Type Description	SS	SS (kg)
OER 250- 600	1301500	-
OER 250-750	1301501	-
OER 250-900	1301502	-
OER 250-1200	1301503	-
OER 250-1500	1301504	-
OER 250-1800	1301505	-

36 Locking Bolt set(s) M10x20 included.

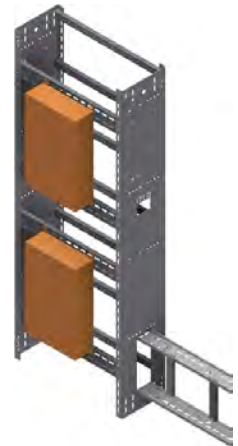


Rack 250 mm depth. Assembled.

Space saving and cost efficient Rack for supporting Junction Boxes, instruments and other equipment. Excludes starter brackets (options are shown on the next section). Supplied fully assembled. Junction boxes and Cable Ladder shown only for illustration purposes.

Type Description	SS	SS (kg)
OER 250- 600 AU	1301518	-
OER 250-750 AU	1301519	-
OER 250-900 AU	1301520	-
OER 250-1200 AU	1301521	-
OER 250-1500 AU	1301522	-
OER 250-1800 AU	1301523	-

36 Locking Bolt set(s) M10x20 included.

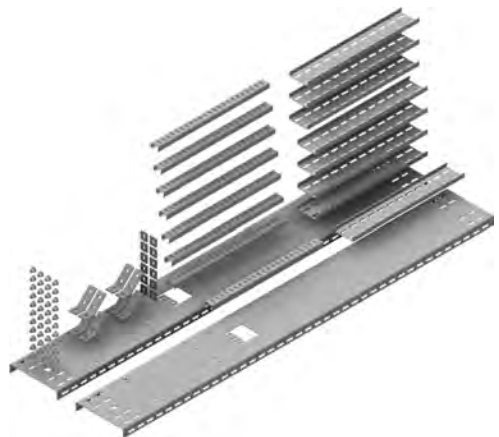


Rack 250 mm depth. Double sided. Flat-packed.

Space saving and cost efficient Rack for supporting Junction Boxes, instruments and other equipment on both sides. Excludes starter brackets (options are shown on the next section). Supplied in an easy to assemble flat-pack kit for efficient transportation, handling and storage on site.

Type Description	SS	SS (kg)
OER 250-DS-600	1301554	50,2
OER 250-DS-750	1301555	54,2
OER 250-DS-900	1301556	57,8
OER 250-DS-1200	1301557	68,4
OER 250-DS-1500	1301558	72,4
OER 250-DS-1800	1301559	85,9

56 Locking Bolt set(s) M10x20 included.



Rack 250 mm depth. Double sided. Assembled.

Space saving and cost efficient Rack for supporting Junction Boxes, instruments and other equipment on both sides. Excludes starter brackets (options are shown on the next section). Supplied fully assembled. Junction boxes and Cable Ladder shown only for illustration purposes.

Type Description	SS	SS (kg)
OER 250-DS-600 AU	1301560	50,1
OER 250-DS-750 AU	1301561	54,2
OER 250-DS-900 AU	1301562	57,8
OER 250-DS-1200 AU	1301563	68,4
OER 250-DS-1500 AU	1301564	72,4
OER 250-DS-1800 AU	1301565	85,9

56 Locking Bolt set(s) M10x20 included.

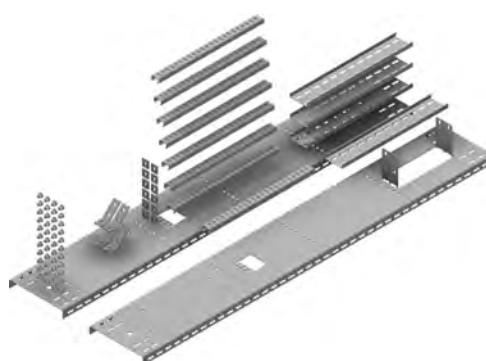


Rack 300 mm depth. Flat-packed.

Space saving and cost efficient Rack for supporting Junction Boxes, instruments and other equipment. Excludes starter brackets (options are shown on the next section). Supplied in an easy to assemble flat-pack kit for efficient transportation, handling and storage on site.

Type Description	SS	SS (kg)
OER 300-600	1301506	-
OER 300-750	1301507	-
OER 300-900	1301508	-
OER 300-1200	1301509	-
OER 300-1500	1301510	-
OER 300-1800	1301511	-

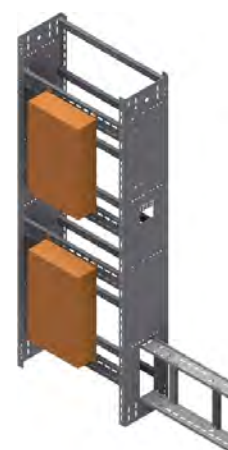
36 Locking Bolt set(s) M10x20 included.



Rack 300 mm depth. Assembled.

Space saving and cost efficient Rack for supporting Junction Boxes, instruments and other equipment. Excludes starter brackets (options are shown on the next section). Supplied fully assembled. Junction boxes and Cable Ladder shown only for illustration purposes.

Type Description	SS	SS (kg)
OER 300-600 AU	1301524	-
OER 300-750 AU	1301525	-
OER 300-900 AU	1301526	-
OER 300-1200 AU	1301527	-
OER 300-1500 AU	1301528	-
OER 300-1800 AU	1301529	-

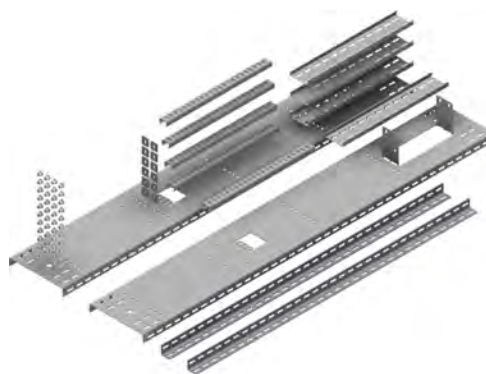


Rack 300 mm depth RIO. Flat-packed.

Space saving and cost efficient Rack for supporting Junction Boxes, instruments and other equipment recessed in the rack. Excludes starter brackets (options are shown on the next section). Supplied in an easy to assemble flat-pack kit for efficient transportation, handling and storage on site.

Type Description	SS	SS (kg)
OER 300-600-RIO	1301512	-
OER 300-750-RIO	1301513	-
OER 300-900-RIO	1301514	-
OER 300-1200-RIO	1301515	-
OER 300-1500-RIO	1301516	-
OER 300-1800-RIO	1301517	-

48 Locking Bolt set(s) M10x20 included.



Rack 300 mm depth RIO. Assembled.

Space saving and cost efficient Rack for supporting Junction Boxes, instruments and other equipment recessed in the rack. Excludes starter brackets (options are shown on the next section). Supplied fully assembled. Junction boxes and Cable Ladder shown only for illustration purposes.

Type Description	SS	SS (kg)
OER 300-600-RIO AU	1301530	-
OER 300-750-RIO AU	1301531	-
OER 300-900-RIO AU	1301532	-
OER 300-1200-RIO AU	1301533	-
OER 300-1500-RIO AU	1301534	-
OER 300-1800-RIO AU	1301535	-



Starter Brackets for Rack & Instrument Stands

Bolted Starter Bracket

Bolted Starter Bracket for Racks. Available in two depths.
Two required per Rack.

Type Description	SS	SS (kg)
OER BS-250	81401	2,3
OER BS-300	84050	2,6



Welded Starter Bracket

Welded Starter Bracket for Racks. Four required per Rack.

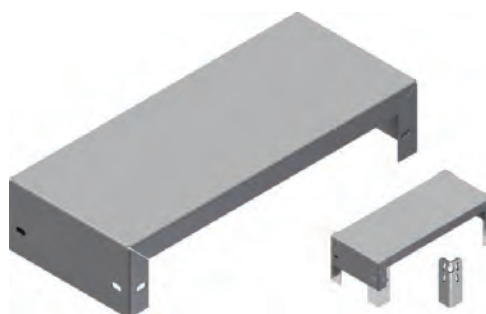
Type Description	SS	SS (kg)
S-M WB-200-CH50-2	1371698	1,0



Welding Jig 250 mm depth

Welding Jig for accurate positioning of Welded Starter Brackets for standard Rack installations.

Type Description	PG	PG (kg)
OER WJ-250x600	81390	4,4
OER WJ-250x750	81393	5,2
OER WJ-250x900	81391	6,0
OER WJ-250x1200	84316	7,6
OER WJ-250x1800	81392	10,7



Welding Jig 300 mm depth

Welding Jig for accurate positioning of Welded Starter Brackets for standard Rack installations.

Type Description	PG	PG (kg)
OER WJ-300x1200-H	84317	8,7
OER WJ-300x1800-H	82740	12,3



Separate Rack & Instrument Stand parts

Roof for standard Racks

Roof for Racks with side rails 250 & 300 mm wide for basic protection.

Type Description	SS	SS (kg)
OER SR-600	81373	3,6
OER SR-750	81374	4,3
OER SR-900	81375	5,0
OER SR-1200	83633	6,5
OER SR-1500	81380	8,0
OER SR-1800	81377	9,4



Side rails for Racks and Equipment Stands

Heavy duty side rails for Equipment Racks and Instrument Stands.

Type Description	SS	SS (kg)
OER SI-250x1990	78745	14,8
OER SI-300x1990	88865	-
OER SI-250x1212	84166	8,6



Fitting Channel

Channel for fitting equipment in Racks.

Type Description	SS	SS (kg)
OER CH-600	78741	1,1
OER CH-750	85731	1,4
OER CH-900	78740	1,9
OER CH-1200	83634	2,0



Fitting Channel

Channel for fitting equipment in Racks. Suitable for rack widths > 1200 mm.

Type Description	SS	SS (kg)
OER-CH-100-1-1500	1301579	4,3
OER-CH-100-1-1800	1301578	5,1



Fitting Channel for heavy loads

Channel for fitting heavy equipment in Racks. Supplied in 3 m length for cutting to suit.

Type Description	SS	SS (kg)
S-M CH100-2T2-3000	1372184	11,5



Rungs with Longitudinal Slots

Rungs for attaching to Rack side rails. Fitted using square washers.

Type Description	SS	SS (kg)
OER RU-LW-600	67800	0,70
OER RU-LW-750	67802	0,80
OER RU-LW-900	67804	1,0
OER RU-LW-1200	83636	1,4
OER RU-LW-1500	85733	2,1
OER RU-LW-1800	78746	2,2



Rungs with Lateral Slots

Rungs for attaching to Rack side rails. Fitted using square washers.

Type Description	SS	SS (kg)
OER RU-CW-600	70719	0,70
OER RU-CW-750	70720	0,80
OER RU-CW-900	70721	-
OER RU-CW-1200	83635	1,7
OER RU-CW-1500	85734	1,7
OER RU-CW-1800	79591	2,2



Top Bracket for Instrument with Weather House

Bracket to be installed on top of the Instrument Stand. To support a single instrument including protection box. Can also be fixed directly on a wall.

Type Description	SS	SS (kg)
OER IB-WB-300	84175	4,2
OER IB-WB-450	85019	6,3
OER IB-WB-600	85020	6,3



Set of screws for single sided Rack

Set of screws and nuts to install single sided Racks.

Type Description	Fasteners included	SS	SS (kg)
OER-SCR-1	44×M10	81425	2,2



Set of screws for double sided Rack

Set of screws and nuts to install double sided Racks.

Type Description	Fasteners included	SS	SS (kg)
OER-SCR-2	64×M10	81426	3,7



Instrument Stands & Equipment Towers

Instrument Stands

Instrument stand with stable construction designed to withstand vibration in the harshest of climates. The instrument stand is packed full of integrated and functional solutions. Few parts for quick and easy installation, with flexible hole pattern for fixing equipment such as ETIN™ tubing clamps directly on the body. No need for extra brackets.

Available in two heights:

1500 mm to be used for direct mounting of transmitters.

1300 mm to be used with weather house on top.

Type Description	SS	SS (kg)
OER IS-1500	87395	22,2
OER IS-1300	87400	19,3

6 Locking Bolt set(s) M10x20 included.



Equipment Towers

Equipment tower with stable construction designed to withstand vibration in the harshest of climates. The equipment tower is packed full of integrated and functional solutions. Few parts for quick and easy installation, with flexible hole pattern for fixing equipment such as ETIN™ tubing clamps directly on the body. No need for extra brackets.

Available in three heights:

2000 mm

2500 mm

3000 mm

Type Description	SS	SS (kg)
OER ET-250x250x2000mm	69005	28,5
OER ET-250x250x2500mm	69001	34,5
OER ET-250x250x3000mm	69008	40,5

6 Locking Bolt set(s) M10x20 included.



Doubling Plates

Doubling plates for welding to the structure. Attach instrument stand or equipment tower on top with bolts. Two available types: Standard Doubling Plate or Doubling Plate for cable transit through floor. Compatible with Hilti Plug seal CFS-T RRS 50 GS 60mm.

Type Description	SS	SS (kg)
OS PL-250x20 CC200-M10	79559	10,1
OS PL-250x20-CC200-M10 CFS-T-50	91835	-



Mekano® Channel for EI&T equipment

Mekano® Channel special made for support of EI&T equipment. Channel allow internal cable routing through channel and use of back to back solution with no need of splice plates. Square slotting for easy use with locking bolts. Not suitable for support of Cable Ladders, Trays, HVAC or piping. Compatible with Mekano® Starter Brackets.

Type Description	SS	SS (kg)
S-M CH100-3Q-5-3000	1306852	36,1

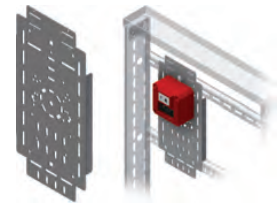


Equipment Plates

Standard Equipment Plate

Equipment plate for fitting directly on the OE rung or on a support bracket.

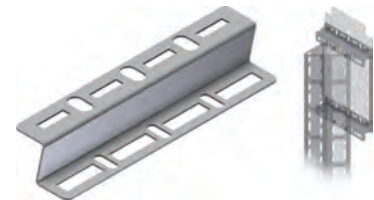
Type Description	SS	SS (kg)
OER SO-UN	88364	1,2



Z-Bracket for Equipment Plate

The standard equipment plate can be combined with Z-Brackets to further increase areas of application. The bracket is also used to install the equipment plate onto the support.

Type Description	SS	SS (kg)
S-M SB-Z 200 M6 + M10	88090	0,20



Universal Bracket

The standard equipment plate can be combined with the universal bracket to further increase areas of application. The bracket is also used to install the equipment plate onto the support. Can be used as a tubing adapter to install tubing clamps. FoS compatible.

Type Description	SS	SS (kg)
A-ETIN/INKO-30x190	70240	0,20
A-ETIN/INKO-50x190	1300317	0,30



Roof for Standard Equipment Plate

Roof for standard Equipment Plate. Offers basic environmental and collision protection.

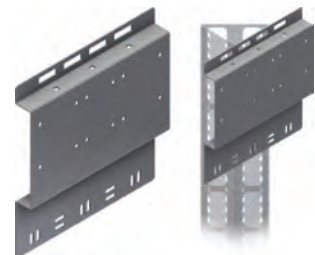
Type Description	SS	SS (kg)
S-M SR-SO	81372	1,5



Equipment Plate for Push Button

Equipment plate suitable for attaching Push Buttons. In two lengths suitable for 1 or 2 push buttons, and 2 or 3 push buttons.

Type Description	SS	SS (kg)
A-M-PL 275x295	1301538	1,5
A-M-PL 425x295	1301537	2,3



Detector Brackets

Adjustable brackets for attaching Detectors and sensors to Mekano® channels, or welded perforated plate. Typically used in pairs.

Type Description	SS	SS (kg)
A-M-ZB 53x95 M10	1301536	0,50



Detector Plate

Stable plate with pole for attaching Detectors and sensors to Mekano channels, or instrument stands.

Type Description	Fasteners included	SS	SS (kg)
A-IS IB-Ø60.3x100	4xM10	1301540	0,70



Sensor Brackets

Universal Sensor bracket.

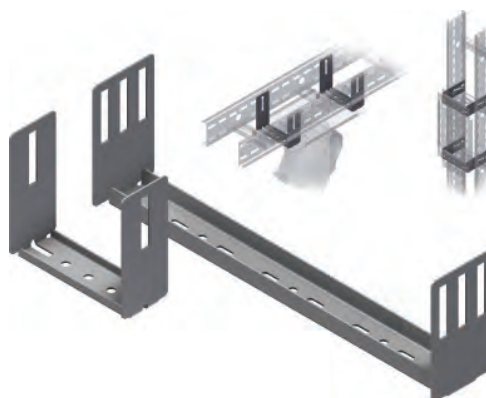
Type Description	SS	SS (kg)
A-M-SB 72x170	1301539	0,70



Equipment Plate Bracket

Adjustable bracket for attaching Equipment Plates below OE Cable Ladders.

Type Description	SS	SS (kg)
OE-LB-150	1372630	0,40
OE-LB-300	1372639	0,60
OE-LB-450	84567	0,90
OE-LB-600	84568	1,1
OE-LB-750	84569	1,3
OE-LB-900	84570	1,4



Equipment Bracket "The STUB"

Universal Equipment Bracket suitable for securing equipment such as loud speakers, gas detectors, signal lamps or cameras.

Type Description	SS	SS (kg)
A-EP STUB 150x150x413	84169	5,7
A-EP STUB 140x150x410	69066	5,1



Loudspeaker Bracket

Loudspeaker bracket suitable for both bolting and welding or stud welding to the structure. Can be used to support a cable tray and equipment such as loudspeakers, or signal lamps. FoS compatible.

Type Description	SS	SS (kg)	HDG	HDG (kg)
OE-SPEA-S	1302694	1,2	-	-
OE-SPEA-B	1302695	1,3	1302693	1,4



TUBING CLAMPS

All our tubing clamps are quick and easy to install and are fully compatible with our standard cable trays and ladders. They are compact in design, and can be stacked and staggered to maximize the fitting space available. The ETIN™ and INKO® designs allow quick installation even where access is not available on the back side. The patent protected clamps are independently vibration tested in accordance with DNV standard. Selected products are available in all-stainless steel designs for subsea and extreme temperature applications. In the event of a fire, no toxic gasses are emitted. The halogen free cores are self-extinguishing and meet UL94 V0, whilst the stainless steel frame of the clamp ensures that the tubing is contained.



MATERIALS



CERTIFICATES



ETIN™ TUBING CLAMPS



ETIN™ 6-12 mm
(1/4" - 1/2")



ETIN™ 14-25 mm
(9/16" - 1")

INKO® TUBING CLAMPS



INKO® Omega
6 - 42 mm (1/4 - 1 1/2")



INKO® Module Clamp
6 - 42 mm (1/4 - 1 1/2")



INKO® Flexi Clamp
3 - 20 mm (1/4 - 3/4")

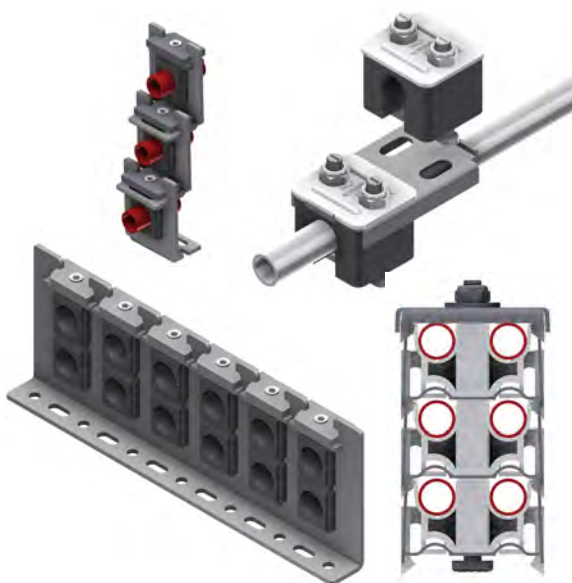
FAST INSTALLATION

The ETIN™ and INKO® designs allow quick installation even where access is not available to the back. This is possible by the use of our quick locking T-bolts.



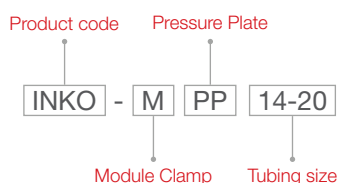
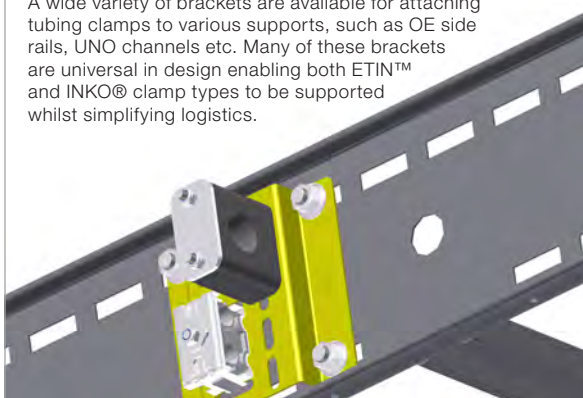
STACKING

Easy to stack directly or by using offset brackets.



TUBING BRACKETS

A wide variety of brackets are available for attaching tubing clamps to various supports, such as OE side rails, UNO channels etc. Many of these brackets are universal in design enabling both ETIN™ and INKO® clamp types to be supported whilst simplifying logistics.



AD = Adapter, WB = Welding Plate, PP = Pressure Plate

TABLE OF CONTENTS

ETIN™ Tubing Clamps

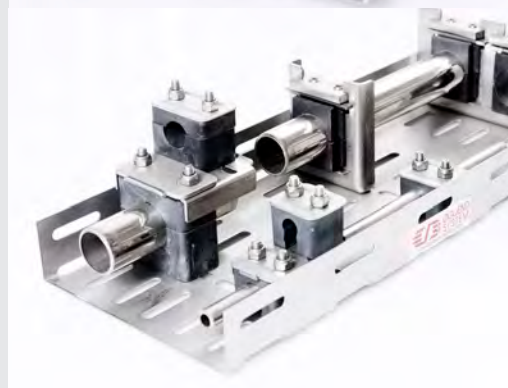
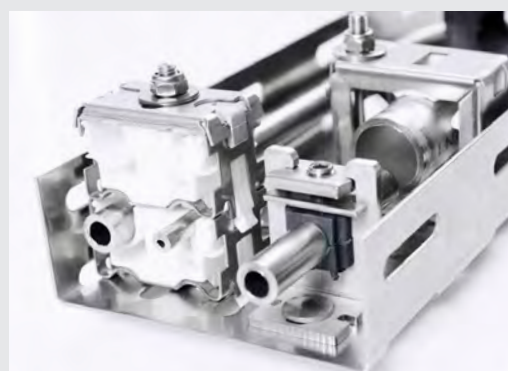
ETIN™ (6-12 mm or 1/4"-1/2").....	240
ETIN™ (14-25 mm or 9/16"-1").....	241
ETIN™ Accessories	242

INKO® Tubing Clamps

INKO® Omega Tubing Clamps	243
INKO® Omega Accessories.....	244
INKO® Module Clamps	245
INKO® Module Welded Base Unit	247
INKO® Module Bolted Base Unit	250
INKO® Flexi Clamps.....	252

Tubing Accessories

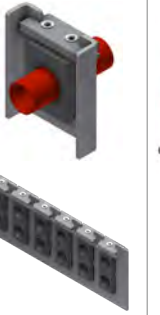
Tubing Accessories	253
Tubing Brackets for Fastening on Steel	254



Intellectual Property Rights

Please note that many of the products presented in this catalogue are protected by our intellectual property rights in the form of patents, registered designs and trademarks, and that we have made the strategic decision to police and enforce these rights in all relevant jurisdictions.

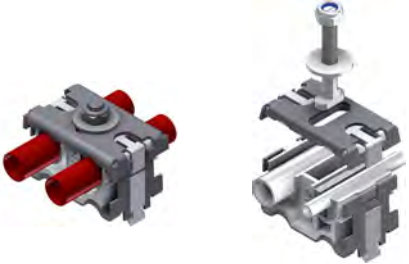
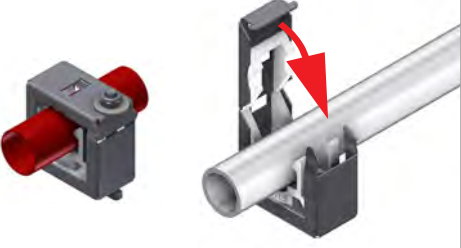
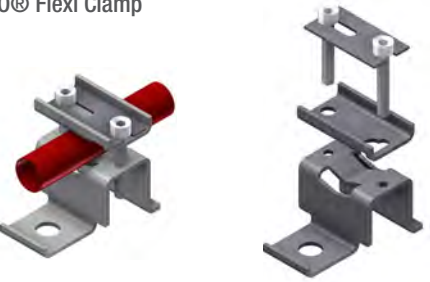
CLAMP SELECTION TABLE

Type	ETIN™ 6-12 mm (1/4"-1/2")	ETIN™ 14-25 mm (9/16" - 1")	INKO® Omega	INKO® Module Clamp, bolted	INKO® Module clamp, welded	INKO® Flexi Clamp
Product drawing						
Corrosion design measurement	Fully sealed: Corrosion Protection Paste (CPP)	Self-draining design	Fully sealed: Use CPP	Fully sealed: Use CPP	Fully sealed: Use CPP	Self-draining design
Tubing range (Metric)						
 Outer Diameter	6 - 12 mm	14 - 25 mm	6 - 42 mm	6 - 42 mm	6 - 42 mm	3 - 20 mm
Tubing range (Imperial)						
 Outer Diameter	1/4-1/2"	9/16" - 1"	1/4-1 1/2"	1/4-1 1/2"	1/4-1 1/2"	1/4-3/4"
Pipe range (Imperial)						
 Inner Diameter			1/2"-1 1/4"	1/2"-1 1/4"	1/2"-1 1/4"	
Material	Polyamide/ AQUAMID 66/6 and AISI 316L Stainless Steel	Polyamide/ AQUAMID 66/6 and AISI 316L Stainless Steel	AISI 316L Stainless Steel and Polypropylene	AISI 316L Stainless Steel and Polypropylene	AISI 316L Stainless Steel and Polypropylene	AISI 316L Stainless Steel
Working Temperature	Max 150°C	Max 150°C	-20 to 110°C	-20 to 110°C	-20 to 110°C	Max 500°C
Subsea version	No	No	No	SS Clamp halves. Maximum temperature: 500°C	SS Clamp halves. Maximum temperature: 500°C	Standard
Number of tubing per level	2	1	1	1-6	1-6	1
Maximum number of levels	3	2	3*	3*	3*	1
FoS brackets	 ETIN™ tubing bracket	 ETIN™ tubing bracket	 Universal support bracket	 Universal support bracket	N/A, to be welded.	 M6 S-BT/X-BT with spacer plate for M10

It is not necessary to use CPP on tubing of 254-SMO or 6MO qualities.

*Additional brackets required.

PARTS AND INSTALLATION METHODS

Type	Number of bolts to fix:	Number of loose parts:	Relative time to install
ETIN™ 6-12 mm (1/4"-1/2") 	1	3	ETIN™ is the fastest tubing clamp to install in the market. 
ETIN™ 14-25 mm (9/16" - 1") 	1	2	
INKO® Omega 	2	1	INKO® Omega comes preassembled to ensure fast installation. 
INKO® Module Clamp, bolted or welded 6 to 20 mm tubing  21 to 42 mm tubing  NB! Additional Base Plate required for tubing sizes from 21 to 42 mm.	1-2 depended on tubing diameter plus additional to fasten to the support.	4/5 Depended on Tubing size.	Installation effectiveness increases with number of tubes installed. More effective for large installations. Bolted version is more efficient to install as it does not require welding. 
INKO® Flexi Clamp 	2	1	

ETIN™ (6-12 mm or 1/4"-1/2")

Metric Tube Colour White

Metric 12 mm ETIN™ Tubing Clamp (colour white). By applying adapter inserts, the clamp can be used for 10 mm, 8 mm or 6 mm tubing. 50 units per pack.

Type Description	SS/PA	SS/PA (kg)
ETIN BU-ME-12	1371825	0,030



Metric Tube Colour White Adapters

Adapter inserts for the white ETIN™ Tubing Clamp. Reduces the tubing diameter from 12 mm to 10 mm, 8 mm or 6 mm. 50no per pack.

Type Description	PA	PA (kg)
ETIN AD-6	1371828	-
ETIN AD-8	1371827	-
ETIN AD-10	1371826	-



Imperial Tube Colour Grey

Imperial 1/2" ETIN™ Tubing Clamp (colour grey). By applying adapter inserts, the clamp can be used for 3/8", 5/16" or 1/4" tubing. 50 units per pack.

Type Description	SS/PA	SS/PA (kg)
ETIN BU-IN-1/2	1371820	0,030



Imperial Tube Colour Grey Adapters

Adapter inserts for the Grey ETIN™ Tubing Clamp. Reduces the tubing diameter from 1/2" to 5/16", 3/8" or 1/4". 50no per pack.

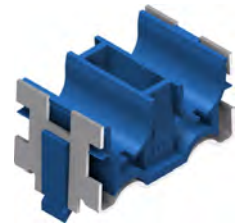
Type Description	PA	PA (kg)
ETIN AD-1/4	1371823	0,002
ETIN AD-3/8	1371821	0,002
ETIN AD-5/16	1371822	0,002



Metric Tube Colour Blue

Metric 10 mm ETIN™ Tubing Clamp (colour blue). Size according to NORSOK standard. 50 units per pack.

Type Description	SS/PA	SS/PA (kg)
ETIN BU-ME-10	1371829	0,030



ETIN™ Top Plate

Top plate for ETIN™ Tubing Clamp. 100 units per pack.

Type Description	SS/PA	SS/PA (kg)
ETIN TP	1371830	0,020



ETIN™ Bolts (6-12 mm Clamp)

M6 T-bolts complete with Nyloc Nut for ETIN™ 6-12mm or 1/4" to 1/2". Three sizes: 40 mm, 65 mm and 90 mm to fit ETIN clamps installed in one, two and three levels. 100no per pack.

Type Description	SS	SS (kg)
ETIN LS-M6x40	1371831	0,010
ETIN LS-M6x65	1371832	0,020
ETIN LS-M6x90	1371833	0,020



ETIN™ (14-25 mm or 9/16"-1")

ETIN™ Tubing Clamp (14-25 mm or 9/16"-1")

ETIN Tubing Clamp for 25 mm/1" tubing. By applying adapter inserts, the clamp can be used for 20 mm (3/4"), 18 mm, 16 mm (5/8") or 14 mm (9/16") tubing. 30 units per pack. Self-draining design.

Type Description	SS/PA	SS/PA (kg)
ETIN BU-ME-25	1302634	0,070



ETIN™ Metric / Imperial Tubing Adapters

Adapter inserts for the ETIN™ Tubing Clamp 14-25 mm or 9/16"-1". Reduces the tubing diameter for tubing 14 mm (9/16"), 16 mm (5/8"), 18 mm or 20 mm (3/4"). 30no per pack.

Type Description	PA	PA (kg)
ETIN AD-14	1302635	-
ETIN AD-16	1302636	0,010
ETIN AD-18	1302637	0,010
ETIN AD-20	1302638	-



ETIN™ Bolts (14-25 mm Clamp)

M6 T-bolt complete with Nyloc Nut for ETIN™ 14-25 mm or 9/16" to 1". Two lengths: 61 mm fits ETIN™ Clamps installed in one level, 110 mm fits ETIN™ Clamps installed on two levels.

Type Description	SS	SS (kg)
ETIN LS-M6x61	1302639	0,020
ETIN LS-M6x110	1302640	0,020



ETIN™ Accessories

ETIN™ Welding Bracket

Welding Channel with perforation suitable for fitting ETIN™ Tubing Clamps.

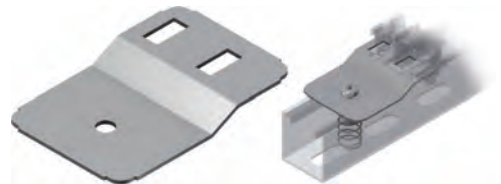
Type Description	SS	SS (kg)
RZ- WB	78497	2,1



ETIN™ Bracket for UNO Channels 360°

Adjustable Bracket to install ETIN™ Tubing Clamps on UNO-Channels.

Type Description	Fasteners included	SS	SS (kg)	HDG
A-UNO D-102-B	1×M6	1302194	0,050	1302192



Universal Bracket

Tubing adapter to install ETIN™ / INKO® tubing clamps. FoS compatible.

Type Description	SS	SS (kg)
A-ETIN/INKO-30x190	70240	0,20
A-ETIN/INKO-50x190	1300317	0,30



Universal Bracket for Cable Tray Support

Universal bracket designed for use with 2 Hilti S-BT/X-BT bolts. For fastening 100 mm wide SPB-RF/SPBE cable trays. FoS compatible.

Type Description	SS	SS (kg)	SS	SS (kg)
FOS A-M-ZB-30-12/6	68634	0,10	68634	0,10
FOS A-M-ZB-50-12/6	1300315	0,10	1300315	0,10



INKO® Omega Tubing Clamps

INKO® Omega (6-13 mm or 1/4"-1/2")

INKO® Tubing Clamps to fit lateral slottings on a Cable Tray. The INKO® Tubing Clamp is supplied complete in one piece, with no loose parts.

Type Description	PP	PP (kg)
INKO-O BU 6	1320306	0,050
INKO-O BU 1/4	1320307	-
INKO-O BU 8	1320308	0,050
INKO-O BU 10 (3/8")	1320310	0,050
INKO-O BU 12	1320312	0,050
INKO-O BU 13 (1/2")	1320313	0,050



INKO® Omega (14-42 mm or 9/16"-1 1/2")

INKO® Tubing Clamps to fit lateral slottings on a Cable Tray. The INKO® Tubing Clamp is supplied complete in one piece, with no loose parts.

Type Description	PP	PP (kg)
INKO-O BU 14 (9/16")	1320314	0,080
INKO-O BU 15	1320315	0,080
INKO-O BU 16 (5/8")	1320316	0,080
INKO-O BU 18	1320318	0,070
INKO-O BU 19 (3/4")	1320319	0,070
INKO-O BU 20	1320320	0,070
INKO-O BU 21	1320321	0,10
INKO-O BU 22 (7/8")	1320322	0,10
INKO-O BU 25	1320325	0,10
INKO-O BU 26 (1")	1320326	0,10
INKO-O BU 27	1320327	0,10
INKO-O BU 28	1320328	0,10
INKO-O BU 30	1320330	0,10
INKO-O BU 32 (1 1/4")	1320332	0,20
INKO-O BU 34	1320334	0,20
INKO-O BU 35	1320335	0,20
INKO-O BU 38 (1 1/2")	1320338	0,20
INKO-O BU 42	1320342	0,20



INKO® Omega Accessories

INKO® Omega Top Plate

Top Plate to fit INKO® Tubing Clamps on two levels.

Type Description	SS	SS (kg)
INKO-O AD 6-13	1320350	0,030
INKO-O AD 14-20	1320351	0,040
INKO-O AD 21-30	1320352	0,080
INKO-O AD 32-42	1320353	0,090



INKO® Omega Bolted Bracket

Bolted Bracket to install INKO® Omega Tubing Clamps.

Type Description	SS	SS (kg)
INKO-O BO 6-13	120513	0,040
INKO-O BO 14-20	120514	0,060
INKO-O BO 21-30	120515	0,080
INKO-O BO 32-42	120516	0,090



INKO® Omega Welded Bracket

Welding Bracket to install INKO® Omega Tubing Clamps.

Type Description	SS	SS (kg)
INKO-O WB 6-13	1320354	0,050
INKO-O WB 14-20	1320355	0,070
INKO-O WB 21-30	1320356	0,090
INKO-O WB 32-42	1320357	0,10



INKO® Omega Cover

Protective cover for the top part of INKO® Omega.

Type Description	Plastic	Plastic (kg)
INKO-O CO 6-13	1320377	-
INKO-O CO 14-20	1320378	0,005
INKO-O CO 21-30	1320379	0,010
INKO-O CO 32-42	1320380	0,008



INKO® Omega Channel

Channel to install INKO® Omega.

Type Description	SS	SS (kg)
INKO-O CH30-1-4000	1320394	4,5



INKO® Omega T-Bolt

INKO® Omega T-Bolts are used for bolting INKO® Module base plates to INKO® Omega Channels.

Type Description	SS	SS (kg)
S-M TS-M6x14	1320398	0,010



INKO® Module Clamps

INKO® Module Clamp Halves

Clamp Halves for the INKO® Module Clamp system.

Type Description	PP	PP (kg)
INKO-M BU 6	1384900	-
INKO-M BU 7	1384901	0,004
INKO-M BU 8	1384902	0,004
INKO-M BU 9	1384903	-
INKO-M BU 10	1384904	-
INKO-M BU 12	1384905	-
INKO-M BU 13	1384906	-
INKO-M BU 14	1384907	0,010
INKO-M BU 15	1384908	0,010
INKO-M BU 16	1384909	0,010
INKO-M BU 18	1384910	0,010
INKO-M BU 19	1384911	0,010
INKO-M BU 20	1384912	0,010
INKO-M BU 21	1384913	0,010
INKO-M BU 22	1384914	0,010
INKO-M BU 25	1384915	0,010
INKO-M BU 26	1384932	0,010
INKO-M BU 27	1384916	0,010
INKO-M BU 28	1384917	0,010
INKO-M BU 30	1384918	0,010
INKO-M BU 32	1384919	0,010
INKO-M BU 34	1384920	0,010
INKO-M BU 35	1384921	0,010
INKO-M BU 38	1384922	0,010
INKO-M BU 40	1384933	0,010
INKO-M BU 42	1384923	0,010



INKO® Module SubSea Clamp Halves

Clamp Halves in Stainless Steel for the INKO® Module Clamp System. Suitable for extreme temperatures and subsea applications. For tubing from 6-42 mm. Contact us for sizes which are not listed below.

Type Description	SS	SS (kg)
INKO-M BU 6	55120	0,040
INKO-M BU 7	55121	0,040
INKO-M BU 8	55122	0,040
INKO-M BU 9	55123	0,040
INKO-M BU 10	55124	0,040
INKO-M BU 12	55125	0,040
INKO-M BU 13	55126	0,040
INKO-M BU 14	55127	0,090
INKO-M BU 16	55129	0,080
INKO-M BU 19	55131	0,080
INKO-M BU 21	55133	0,020
INKO-M BU 26	55136	0,20
INKO-M BU 38	55143	0,30



INKO® Module Lock Plate

Plate to lock down the Clamp Halves on the INKO® Module Clamp System.

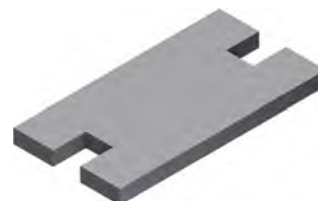
Type Description	SS	SS (kg)
INKO-M FC 6-13	1384924	0,010
INKO-M FC 14-20	1384925	0,030
INKO-M FC 21-30	1384926	0,050
INKO-M FC 32-42	1384927	0,060



INKO® Module Pressure Plate

Pressure Plate to install INKO® Module Clamp.

Type Description	SS	SS (kg)
INKO-M PP 6-13	1384928	0,010
INKO-M PP 14-20	1384929	0,010
INKO-M PP 21-30	1384930	0,020
INKO-M PP 32-42	1384931	0,020



INKO® Module Base Plate

Base Plate to install INKO® Module Clamp. Required for Module base units from 21 to 42 mm tubing.

Type Description	SS	SS (kg)
INKO-M BP 21-30U	1384934	0,010
INKO-M BP 32-42U	1384935	0,010



INKO® Screwdriver 4 mm

Screwdriver for installing INKO® Module Clamps with adjustable torque from 3.0-6.0 Nm. Recommended torque for INKO® module lock plates is 6.0 Nm.

Type Description	Other	Other (kg)
INKO Screwdriver	1320381	0,10



INKO® Module Welded Base Unit

Welded Single One Clamp Base Unit

Welded base for INKO® Module Clamp in one level. Widths 21-42 mm with flanges.

Type Description	SS	SS (kg)
INKO-M WB 6-13 1.1	1384940	0,020
INKO-M WB 14-20 1.1	1384941	0,050
INKO-M WB 21-30 1.1	1384942	0,10
INKO-M WB 32-42 1.1	1384943	0,30



Welded Double One Clamp Base Unit

Welded base for INKO® Module Clamp in two levels. Widths 21-42 mm with flanges.

Type Description	SS	SS (kg)
INKO-M WB 6-13 1.2	1384981	0,050
INKO-M WB 14-20 1.2	1384982	0,10
INKO-M WB 21-30 1.2	1384983	0,20
INKO-M WB 32-42 1.2	1384984	0,40



Welded Single Two Clamp Base Unit

Welded base for INKO® Module Clamp in one level. Widths 32-42 mm with flanges.

Type Description	SS	SS (kg)
INKO-M WB 6-13 2.1	1384948	0,050
INKO-M WB 14-20 2.1	1384950	0,090
INKO-M WB 21-30 2.1	1384951	0,10
INKO-M WB 32-42 2.1	1384952	0,30



Welded Double Two Clamp Base Unit

Welded base for INKO® Module Clamp in two levels. Widths 32-42 mm with flanges.

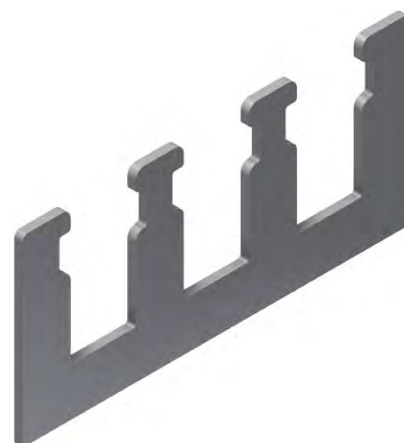
Type Description	SS	SS (kg)
INKO-M WB 6-13 2.2	1384989	0,090
INKO-M WB 14-20 2.2	1384990	0,20
INKO-M WB 21-30 2.2	1384991	0,20
INKO-M WB 32-42 2.2	1384992	0,50



Welded Single Three Clamp Base Unit

Welded base for INKO® Module Clamp in one level. Widths 32-42 mm with flanges.

Type Description	SS	SS (kg)
INKO-M WB 6-13 3.1	1384957	0,070
INKO-M WB 14-20 3.1	1384958	0,10
INKO-M WB 21-30 3.1	1384959	0,20
INKO-M WB 32-42 3.1	1384960	0,40



Welded Double Three Clamp Base Unit

Welded base for INKO® Module Clamp in two levels. Widths 32-42 mm with flanges.

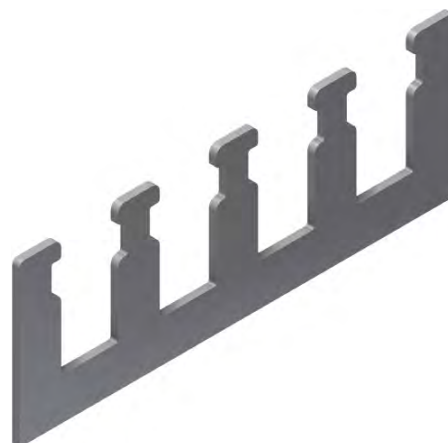
Type Description	SS	SS (kg)
INKO-M WB 6-13 3.2	1384997	0,10
INKO-M WB 14-20 3.2	1384998	0,20
INKO-M WB 21-30 3.2	1384999	0,30
INKO-M WB 32-42 3.2	1384880	0,70



Welded Single Four Clamp Base Unit

Welded base for INKO® Module Clamp in one level. Widths 32-42 mm with flanges.

Type Description	SS	SS (kg)
INKO-M WB 6-13 4.1	1384965	0,090
INKO-M WB 14-20 4.1	1384966	0,20
INKO-M WB 21-30 4.1	1384967	0,20
INKO-M WB 32-42 4.1	1384968	0,50



Welded Double Four Clamp Base Unit

Welded base for INKO® Module Clamp in two levels. Widths 32-42 mm with flanges.

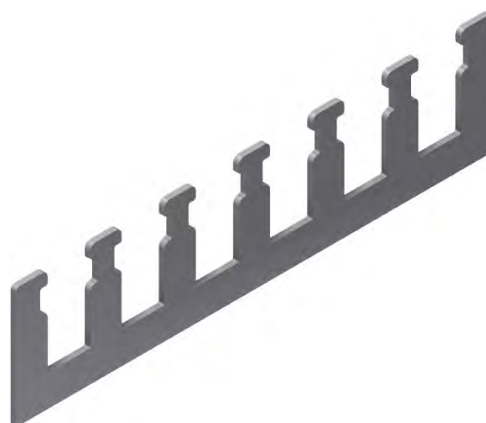
Type Description	SS	SS (kg)
INKO-M WB 6-13 4.2	1384885	0,10
INKO-M WB 14-20 4.2	1384886	0,30
INKO-M WB 21-30 4.2	1384887	0,40
INKO-M WB 32-42 4.2	1384888	0,80



Welded Single Six Clamp Base Unit

Welded base for INKO® Module Clamp in one level. Widths 32-42 mm with flanges.

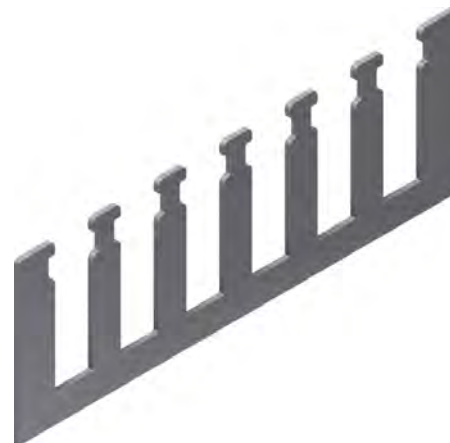
Type Description	SS	SS (kg)
INKO-M WB 6-13 6.1	1384973	0,10
INKO-M WB 14-20 6.1	1384974	0,20
INKO-M WB 21-30 6.1	1384975	0,30
INKO-M WB 32-42 6.1	1384976	0,70



Welded Double Six Clamp Base Unit

Welded base for INKO® Module Clamp in two levels. Widths 32-42 mm with flanges.

Type Description	SS	SS (kg)
INKO-M WB 6-13 6.2	1384893	0,20
INKO-M WB 14-20 6.2	1384894	0,30
INKO-M WB 21-30 6.2	1384895	0,50
INKO-M WB 32-42 6.2	1384896	1,1



INKO® Module Bolted Base Unit

Bolted Single One Clamp Base Unit

Bolted base for INKO® Module Clamp in one level. Widths 21-42 mm with flanges.

Type Description	SS	SS (kg)
INKO-M BO 6-13 1.1	1384936	0,040
INKO-M BO 14-20 1.1	1384937	0,070
INKO-M BO 21-30 1.1	1384938	0,10
INKO-M BO 32-42 1.1	1384939	0,30



Bolted Double One Clamp Base Unit

Bolted base for INKO® Module Clamp in two levels. Widths 21-42 mm with flanges.

Type Description	SS	SS (kg)
INKO-M BO 6-13 1.2	1384977	0,060
INKO-M BO 14-20 1.2	1384978	0,10
INKO-M BO 21-30 1.2	1384979	0,30
INKO-M BO 32-42 1.2	1384980	0,40



Bolted Single Two Clamp Base Unit

Bolted base for INKO® Module Clamp in one level. Widths 32-42 mm with flanges.

Type Description	SS	SS (kg)
INKO-M BO 6-13 2.1	1384944	0,080
INKO-M BO 14-20 2.1	1384945	0,10
INKO-M BO 21-30 2.1	1384946	0,20
INKO-M BO 32-42 2.1	1384947	0,40



Bolted Double Two Clamp Base Unit

Bolted base for INKO® Module Clamp in two levels. Widths 32-42 mm with flanges.

Type Description	SS	SS (kg)
INKO-M BO 6-13 2.2	1384985	0,10
INKO-M BO 14-20 2.2	1384986	0,20
INKO-M BO 21-30 2.2	1384987	0,30
INKO-M BO 32-42 2.2	1384988	0,60



Bolted Single Three Clamp Base Unit

Bolted base for INKO® Module Clamp in one level. Widths 32-42 mm with flanges.

Type Description	SS	SS (kg)
INKO-M BO 6-13 3.1	1384953	0,10
INKO-M BO 14-20 3.1	1384954	0,20
INKO-M BO 21-30 3.1	1384955	0,30
INKO-M BO 32-42 3.1	1384956	0,60



Bolted Double Three Clamp Base Unit

Bolted base for INKO® Module Clamp in two levels. Widths 32-42 mm with flanges.

Type Description	SS	SS (kg)
INKO-M BO 6-13 3.2	1384993	0,10
INKO-M BO 14-20 3.2	1384994	0,30
INKO-M BO 21-30 3.2	1384995	0,40
INKO-M BO 32-42 3.2	1384996	0,80



Bolted Single Four Clamp Base Unit

Bolted base for INKO® Module Clamp in one level. Widths 32-42 mm with flanges.

Type Description	SS	SS (kg)
INKO-M BO 6-13 4.1	1384961	0,10
INKO-M BO 14-20 4.1	1384962	0,20
INKO-M BO 21-30 4.1	1384963	0,30
INKO-M BO 32-42 4.1	1384964	0,70



Bolted Double Four Clamp Base Unit

Bolted base for INKO® Module Clamp in two levels. Widths 32-42 mm with flanges.

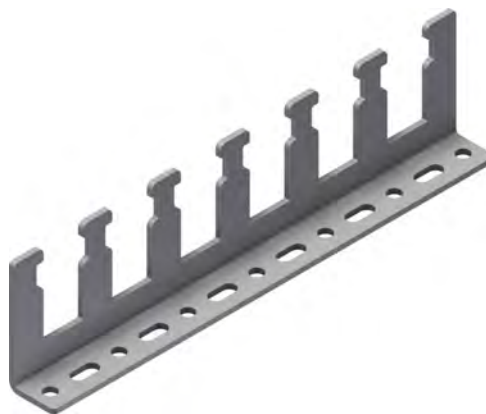
Type Description	SS	SS (kg)
INKO-M BO 6-13 4.2	1384881	0,20
INKO-M BO 14-20 4.2	1384882	0,30
INKO-M BO 21-30 4.2	1384883	0,50
INKO-M BO 32-42 4.2	1384884	0,90



Bolted Single Six Clamp Base Unit

Bolted base for INKO® Module Clamp in one level. Widths 32-42 mm with flanges.

Type Description	SS	SS (kg)
INKO-M BO 6-13 6.1	1384969	0,20
INKO-M BO 14-20 6.1	1384970	0,30
INKO-M BO 21-30 6.1	1384971	0,50
INKO-M BO 32-42 6.1	1384972	0,90



Bolted Double Six Clamp Base Unit

Bolted base for INKO® Module Clamp in two levels. Widths 32-42 mm with flanges.

Type Description	SS	SS (kg)
INKO-M BO 6-13 6.2	1384889	0,30
INKO-M BO 14-20 6.2	1384890	0,50
INKO-M BO 21-30 6.2	1384891	0,70
INKO-M BO 32-42 6.2	1384892	1,3



INKO® Flexi Clamps

INKO® Flexi Clamp Complete

Stainless Steel Clamp suited for high temperature applications. For tubing 3 to 20 mm.

Type Description	SS	SS (kg)
INKO Flexi Clamp	1320302	0,050



INKO® Screwdriver 3 mm

Screwdriver for installing INKO Flexi Clamps with adjustable Torque from 0.3-1.2 Nm. Recommended torque for INKO® Flexi clamps is 0.6 Nm.

Type Description	Other	Other (kg)
INKO Screwdriver	1320300	0,10



Tubing Accessories

ETIN™/INKO® Tubing Bracket for OE Cable Ladder

Bracket to install ETIN™ or INKO® Tubing Clamps on the side rail of the OE Cable Ladder.

Type Description	Fasteners included	SS	SS (kg)	HDG
A-OE100-ETIN IF	2×M10	1371848	0,10	1302187
A-OE125-ETIN IF	2×M10	89380	0,20	
A-OE150-ETIN IF	-	83479	0,20	



ETIN™/INKO® Tubing Adaptor

Bolted adaptor to install ETIN™ Tubing Clamps on any Cable Tray. Lengths: 190 or 3000 mm.

Type Description	Fasteners included	SS	SS (kg)	HDG
A-SPB/ETIN-190	2×M6	1371850	0,10	78590
A-SPB/ETIN-3000	-	1371438	1,3	78890



Universal Bracket

Tubing adaptor to install ETIN™ / INKO® tubing clamps. FoS compatible.

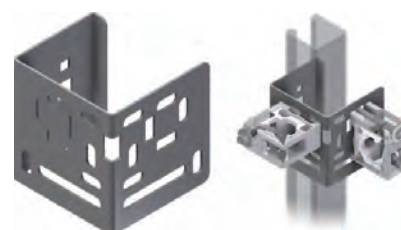
Type Description	SS	SS (kg)
A-ETIN/INKO-30x190	70240	0,20
A-ETIN/INKO-50x190	1300317	0,30



ETIN™/INKO® Tubing Brackets for UNO

Bracket to install ETIN™ and INKO® Tubing Clamps running longitudinally on UNO-channels.

Type Description	Fasteners included	SS	SS (kg)	HDG
A-UNO D-100	1×M6	1371849	0,20	1302190



Corrosion Protection Paste (CPP)

Corrosion Protection Paste (CPP) is a product used to avoid crevice or pitting corrosion by prohibiting liquids and contaminants from entering and residing in cavities. Typical usage areas are on threads, between nuts, bolts and clamped components, into tubing clamps, and between brackets and painted structures. The paste is produced from a specially processed lanolin and has a normal working temperature of -30 to 70° C. It is non-drying, solvent free and resists water washout. The surface to be protected should be dry and clean from debris before application.

Type Description	Other	Other (kg)
CPP	84435	-



Tubing Brackets for Fastening on Steel

Angle Bracket M6

Angle Bracket for multiple applications.

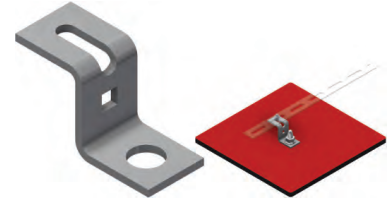
Type Description	ZM	ZM (kg)
S-FI AB-BO-35X43	91468	0,05



Z-bracket M6

Z-Bracket for multiple applications.

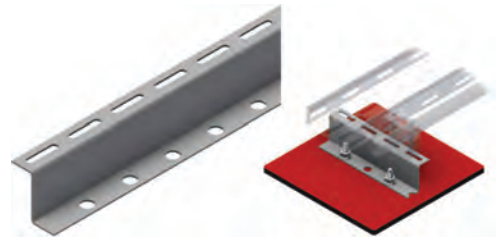
Type Description	ZM	ZM (kg)
S-FI ZB-BO 25X34	91466	0,10



Universal Z-Bracket in 3 meter lengths

Z-Profile in 3 meter lengths for various installations on ship such as electrical outfitting, tubing- and piping installation. Available in three heights, 30mm, 50 mm and 70 mm. Hilti Fastening on Steel (FoS) compatible.

Type Description	SS	SS (kg)	ZM	ZM (kg)
S-M ZB-35-3000	1375516	3,3	1375514	3,3
S-M ZB-50-3000	1300318	4,3		
S-M ZB-70-3000	1375517	8,7	1375515	8,7



Universal Bracket

Tubing adapter to install ETIN™ / INKO® tubing clamps. FoS compatible.

Type Description	SS	SS (kg)
A-ETIN/INKO-30x190	70240	0,20
A-ETIN/INKO-50x190	1300317	0,30

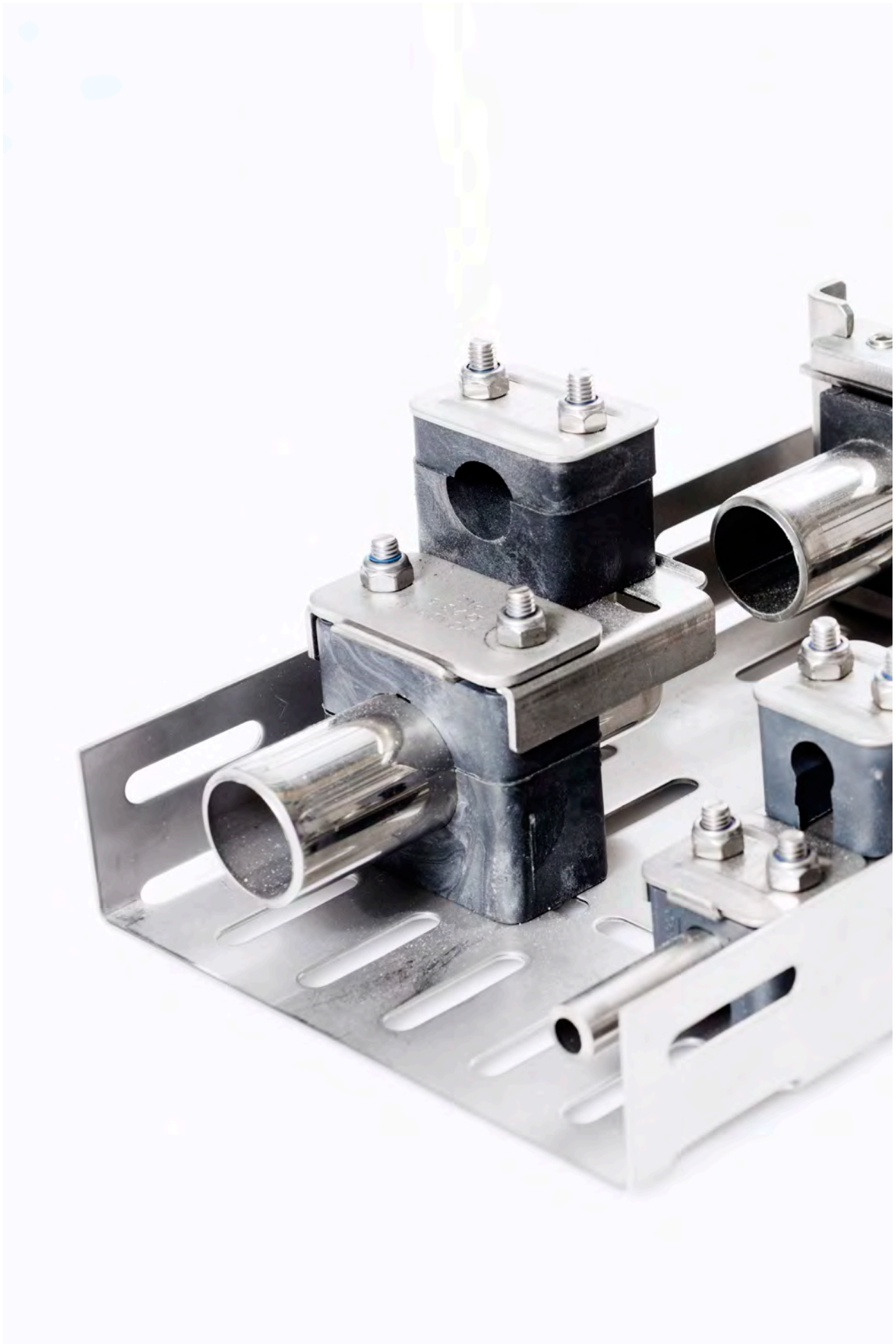


INKO® Omega Bolted Bracket

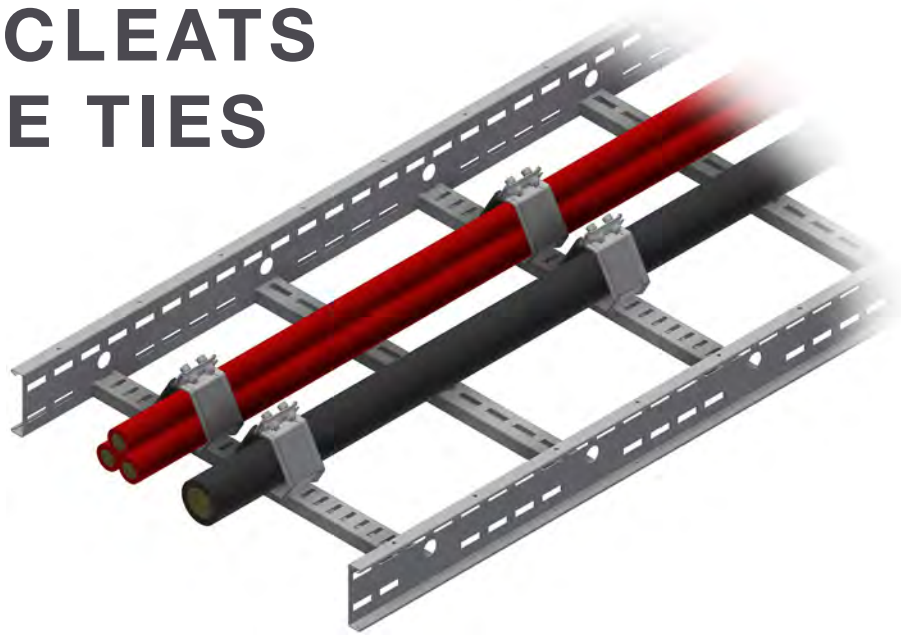
Bolted Bracket to install INKO® Omega Tubing Clamps.

Type Description	SS	SS (kg)
INKO-O BO 6-13	120513	0,040
INKO-O BO 14-20	120514	0,060
INKO-O BO 21-30	120515	0,080
INKO-O BO 32-42	120516	0,090





CABLE CLEATS & CABLE TIES



SmartCleat® is our range of patented short circuit approved cable cleats which are extremely compact and simple to install on any pre-slotted rung design. The SmartCleat® has been comprehensively tested at Sintef Energy Research Centre in Trondheim, Norway and at IPH Berlin, Germany to IEC 61914 and has a peak loading capacity at 184 kA, in addition the SmartCleat® is DNV certified to meet the major standards of strength, flexibility and protection. Our SmartCleat® trefoils are made of stainless steel AISI 316 L with no sharp edges. The cables are held tightly by the smooth surfaces of the cleat ensuring they are not damaged during installation or by a short circuit event.

MATERIALS



CERTIFICATES

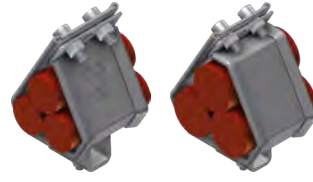


SmartCleat® Single and Trefoil are type approved by DNV according to IEC 61914.

CABLE CLEATS



SmartCleat® Single
Ø < 58 mm and 58 - 99 mm



SmartCleat® Trefoil
Ø < 39 mm and 39 - 99 mm



SmartCleat® Quad
Contact us for details

SECURE PLATE



Smart Secure Plate
Secure plates are highly recommended for fitting at the ends of trefoil cable runs. They provide additional support to reduce arching, deformation and stretch of the cables caused by short circuits.

CABLE TIES

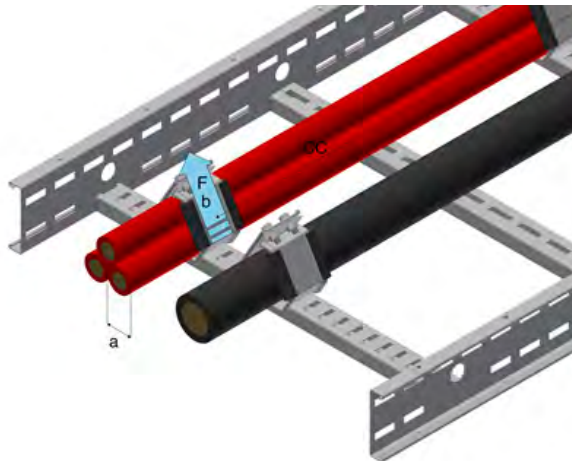


Cable Ties (coated & uncoated)
Non HD types 4.6 mm wide
HD types 7.9 mm wide

INSTALLATION CALCULATOR

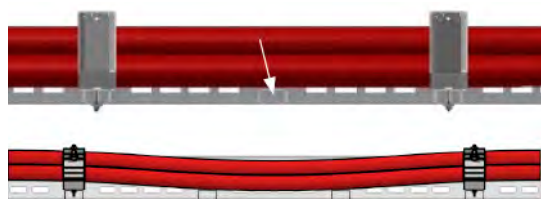
Oglaend System has developed a cleat spacing calculation program to recommend safe installation. Based on the short current peak value for the system and the cable diameter, the program recommends the cleat spacing. When giving the length of the cable run the required number of cleats is also offered.

Download our free calculator from our website to design for the optimal number of cable cleats for your installation.



DESIGN SECURING GOOD SUPPORT

The design secures the cables close to the rungs to ensure the rungs between cleats support the cable and do not create tension in the cable.



Sagging can increase tension on the cable.

OPTIONAL PADS AND INSERTS

Our SmartClea® trefoils are made of stainless steel AISI 316 L with no sharp edges. The cables are held tightly by the smooth surfaces of the cleat ensuring they are not damaged during installation or by a short circuit event. Additional sleeves are available to increase the tightening pressure for installations where the cable tolerances vary, for vertical runs, and enabling standard sized SmartClea® to be used where irregular sizes may occasionally be used.

Please contact us for information on the best SmartClea® and pad combination for your requirements.

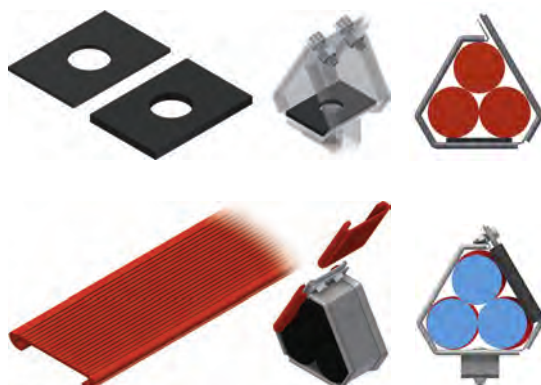


TABLE OF CONTENTS

Cable Cleats

Short circuit safe Cable Cleats..... 258

SmartClea® Accessories..... 262

Cable Ties

Cable Ties..... 263



Intellectual Property Rights

Please note that many of the products presented in this catalogue are protected by our intellectual property rights in the form of patents, registered designs and trademarks, and that we have made the strategic decision to police and enforce these rights in all relevant jurisdictions.

Short circuit safe Cable Cleats

SmartCleat® Trefoil Ø25-38 mm

Short Circuit rated Cable Cleat for Trefoil installation.

Type Description	SS	SS (kg)
Trefoil 3x25	1303425	0,30
Trefoil 3x26	1303426	0,40
Trefoil 3x27	1303427	0,40
Trefoil 3x28	1303428	0,40
Trefoil 3x29	1303429	0,40
Trefoil 3x30	1303430	0,40
Trefoil 3x31	1303431	0,40
Trefoil 3x32	1303432	0,40
Trefoil 3x33	1303433	0,40
Trefoil 3x34	1303434	0,40
Trefoil 3x35	1303435	0,40
Trefoil 3x36	1303436	0,40
Trefoil 3x37	1303437	0,50
Trefoil 3x38	1303438	0,50

1 M6x40 Screw(s) included.



SmartCleat® Trefoil Ø39-60 mm

Short Circuit rated Cable Cleat for Trefoil installation.

Type Description	SS	SS (kg)
Trefoil 3x39	1303439	0,50
Trefoil 3x40	1303440	0,50
Trefoil 3x41	1303441	0,50
Trefoil 3x42	1303442	0,50
Trefoil 3x43	1303443	0,50
Trefoil 3x44	1303444	0,50
Trefoil 3x45	1303445	0,50
Trefoil 3x46	1303446	0,50
Trefoil 3x47	1303447	0,50
Trefoil 3x48	1303448	0,50
Trefoil 3x49	1303449	0,50
Trefoil 3x50	1303450	0,50
Trefoil 3x51	1303451	0,60
Trefoil 3x52	1303452	0,60
Trefoil 3x53	1303453	0,60
Trefoil 3x54	1303454	0,60
Trefoil 3x55	1303455	0,60
Trefoil 3x56	1303456	0,60
Trefoil 3x57	1303457	0,60
Trefoil 3x58	1303458	0,60
Trefoil 3x59	1303459	0,60
Trefoil 3x60	1303460	0,60

1 M6x40 Screw(s) included.



SmartCleat® Trefoil Ø61-99 mm

Short Circuit rated Cable Cleat for Trefoil installation.

Type Description	SS	SS (kg)
Trefoil 3x61	1303461	0,60
Trefoil 3x62	1303462	0,60
Trefoil 3x63	1303463	0,60
Trefoil 3x64	1303464	0,60
Trefoil 3x65	1303465	0,60
Trefoil 3x66	1303466	0,60
Trefoil 3x67	1303467	0,60
Trefoil 3x68	1303468	0,60
Trefoil 3x69	1303469	0,70
Trefoil 3x71	1303471	0,70
Trefoil 3x72	1303472	0,70
Trefoil 3x73	1303473	0,70
Trefoil 3x74	1303474	0,70
Trefoil 3x75	1303475	0,70
Trefoil 3x76	1303476	0,70
Trefoil 3x77	1303477	0,70
Trefoil 3x78	1303478	0,70
Trefoil 3x79	1303479	0,70
Trefoil 3x80	1303480	0,80
Trefoil 3x81	1303481	0,80
Trefoil 3x82	1303482	0,80
Trefoil 3x83	1303483	0,80
Trefoil 3x84	1303484	0,80
Trefoil 3x85	1303485	0,80
Trefoil 3x86	1303486	0,80
Trefoil 3x87	1303487	0,80
Trefoil 3x88	1303488	0,80
Trefoil 3x89	1303489	0,80
Trefoil 3x90	1303490	0,80
Trefoil 3x92	1303492	0,80
Trefoil 3x95	1303495	0,80
Trefoil 3x96	1303496	0,80
Trefoil 3x97	1303497	0,80
Trefoil 3x98	1303498	0,80
Trefoil 3x99	1303499	0,90

1 M6x40 Screw(s) included.



SmartCleat® Single Ø25-38 mm

Short Circuit rated Cable Cleat for single cable installation.

Type Description	SS	SS (kg)
Single 1x25	89825	-
Single 1x27	89827	-
Single 1x28	89828	-
Single 1x29	89829	0,40
Single 1x30	89830	0,40
Single 1x31	89831	0,40
Single 1x32	89832	0,40
Single 1x33	89833	0,40
Single 1x34	89834	0,40
Single 1x35	89835	0,40
Single 1x36	89836	0,40
Single 1x37	89837	0,40
Single 1x38	89838	0,40

1 M6x40 Screw(s) included.



SmartCleat® Single Ø39-57 mm

Short Circuit rated Cable Cleat for single cable installation.

Type Description	SS	SS (kg)
Single 1x39	89839	0,40
Single 1x40	89840	0,40
Single 1x41	89841	0,40
Single 1x42	89842	0,40
Single 1x43	89843	0,40
Single 1x44	89844	0,40
Single 1x45	89845	0,40
Single 1x46	89846	0,40
Single 1x47	89847	0,40
Single 1x48	89848	0,40
Single 1x49	89849	0,40
Single 1x50	89850	0,40
Single 1x51	89851	0,40
Single 1x52	89852	0,40
Single 1x53	89853	0,40
Single 1x54	89854	0,40
Single 1x55	89855	0,40
Single 1x56	89856	0,50
Single 1x57	89857	0,40

1 M6x40 Screw(s) included.



SmartCleat® Single Ø58-79 mm

Short Circuit rated Cable Cleat for single cable installation.

Type Description	SS	SS (kg)
Single 1x58	89858	0,40
Single 1x59	89859	0,40
Single 1x60	89860	0,40
Single 1x61	89861	0,50
Single 1x62	89862	0,50
Single 1x63	89863	0,50
Single 1x64	89864	0,50
Single 1x65	89865	0,50
Single 1x66	89866	0,50
Single 1x67	89867	0,50
Single 1x68	89868	0,50
Single 1x69	89869	0,60
Single 1x70	89870	0,50
Single 1x71	89871	0,50
Single 1x72	89872	0,50
Single 1x73	89873	0,50
Single 1x74	89874	0,50
Single 1x75	89875	0,50
Single 1x76	89876	0,50
Single 1x77	89877	0,50
Single 1x78	89878	0,50
Single 1x79	89879	0,50

1 M6x40 Screw(s) included.



SmartCleat® Single Ø80-99 mm

Short Circuit rated Cable Cleat for single cable installation.

Type Description	SS	SS (kg)
Single 1x80	89880	0,60
Single 1x81	89881	0,60
Single 1x82	89882	0,60
Single 1x83	89883	0,60
Single 1x84	89884	0,60
Single 1x85	89885	0,60
Single 1x87	89887	0,60
Single 1x88	89888	0,60
Single 1x90	89890	0,60
Single 1x91	89891	0,70
Single 1x92	89892	0,70
Single 1x93	89893	0,70
Single 1x94	89894	0,70
Single 1x95	89895	0,70
Single 1x96	89896	0,70
Single 1x97	89897	0,70
Single 1x98	89898	0,70
Single 1x99	89899	0,70

2 M6x40 Screw(s) included.



SmartCleat® Accessories

Smart Securing Plate

Secure plates are highly recommended for fitting at the ends of trefoil cable runs. They provide additional support to reduce arching, deformation and stretch of the cables caused by short circuits.

Type Description	SS	SS (kg)
A-OE-EX-Smarcl-150	1306920	0,70
A-OE-EX-Smarcl-200	1306918	1,0
A-OE-EX-Smarcl-300	1306921	1,3
A-OE-EX-Smarcl-400	1306919	1,9
A-OE-EX-Smarcl-450	1306922	1,9
A-OE-EX-Smarcl-600	1306923	2,6
A-OE-EX-Smarcl-750	1306924	3,3
A-OE-EX-Smarcl-900	1306925	3,9

4 M6x40 Screw(s) included.



Spacer Mat

Packer in EPDM Rubber to tighten installation where cable tolerances vary. Available in two thicknesses.

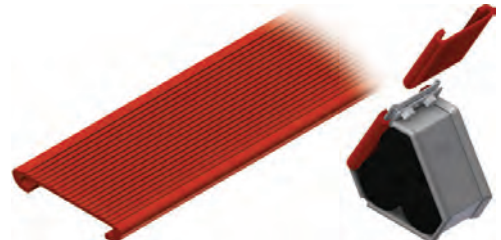
Type Description	EPDM	EPDM (kg)
RS-40x59x2	84074	0,010
RS-40x59x4	84038	0,010



Spacer Pad for Smart Cleat

Adapter pad for SmartCleat® Pad to tighten the fit when cable tolerances vary and for extra grip in vertical installation. In 1.2 m length for cutting to suit.

Type Description	Plastic	Plastic (kg)
AD 3 mm 1200	1301545	0,40
AD 6 mm 1200	1301546	0,60
AD 9 mm 1200	1301547	0,90



Installation tool for SmartCleat®

M6 Z formed Allen key for aligning the holes for easy installation of the bolts, and for tightening the bolts.

Type Description	CS	CS (kg)
Allen Key	74341	-



Cable Ties

Cable Ties Coated

Corrosion resistant Cable Ties also providing excellent resistance against chemicals and salt-spray. Type STFC also provides additional insulation between the ties and the bundle materials. Non HD types 4.6 mm wide. HD types 7.9 mm wide.

Type Description	SS	SS (kg)
STFC 200 316	1302702	-
STFC 360 316	1302703	0,010
STFC 200 HD-316	1302709	-
STFC 360 HD-316	1302710	0,010
STFC 520 HD-316	1302711	-
STFC 680 HD-316	1302712	0,010
STFC 840 HD-316	1302713	-

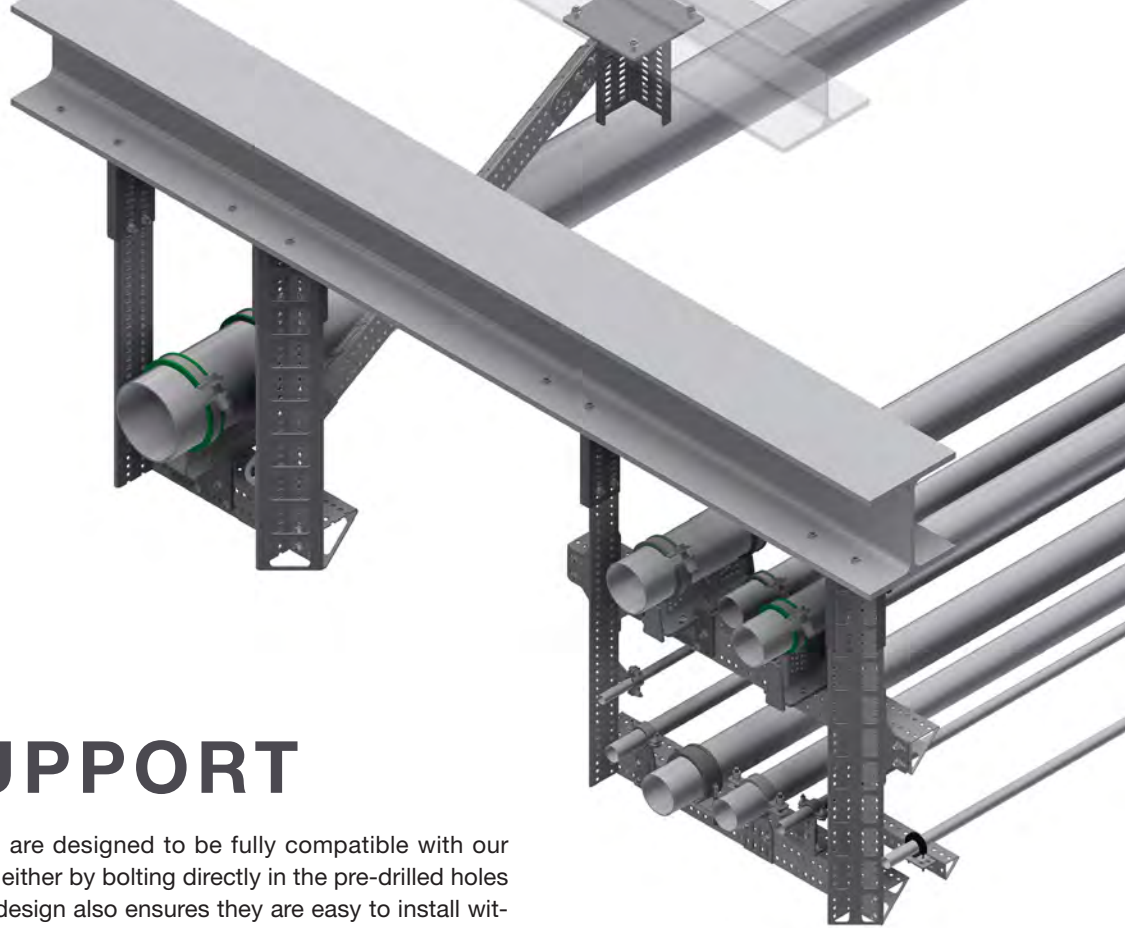


Cable Ties Uncoated

Corrosion resistant Cable Ties also providing excellent resistance against chemicals and salt-spray. The design of the Cable Ties prevent cable damage. Non HD types 4.6 mm wide. HD types 7.9 mm wide.

Type Description	SS	SS (kg)
SST 200 316	1302700	-
SST 360 316	1302701	-
SST 200 HD-316	1302704	-
SST 360 HD-316	1302705	-
SST 520 HD-316	1302706	-
SST 680 HD-316	1302707	-
SST 840 HD-316	1302708	-





PIPE SUPPORT

Our pipe clamps and shoes are designed to be fully compatible with our Mekano® support channels, either by bolting directly in the pre-drilled holes or by using an adapter. The design also ensures they are easy to install without having to weld, and therefore maintain a high degree of flexibility when adjustments during installation or when later modifications are needed. We offer a wide range of support details for your piping needs in the range from DN15 (1/2") to DN200 (8").

MATERIALS

SS

HDG

3D LIBRARIES

AVEVA (E3D / PDMS)

STRUCTURAL ANALYSIS WITH P4D®

We use P4D® to pre-engineer our systems. All our typical piping support solutions are pre-engineered. The need for further calculations in PMO projects will in many cases be unnecessary. All typicals are supplied with relevant documentation.

PIPE CLAMPS



1/2 - 4" and 1/2 - 2"

U-BOLTS

Standard U-bolts and U-bolt Vibro Damping (grip & non-grip).



2 - 8"

U-STRAP

U-strap (grip & non-grip).



≤ 2" and 2"-4"

PIPE CLAMPS W/ PLATE

Pipe clamps with perforated plate.



≤ 2"

ADJUSTABLE BRACKET

Pipe clamp with adjustable bolted bracket.

PIPE SHOES



2 - 6"

SHORT CLAMPED SHOE

Height: 100 mm



2 - 8"

CLAMPED SHOE

Height: 100 mm
Length: 300 mm



2 - 8"

ADJUSTABLE (LOW)

Height: 100 mm
Length: 316 mm

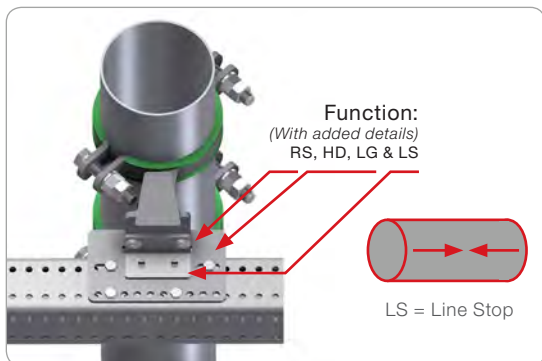
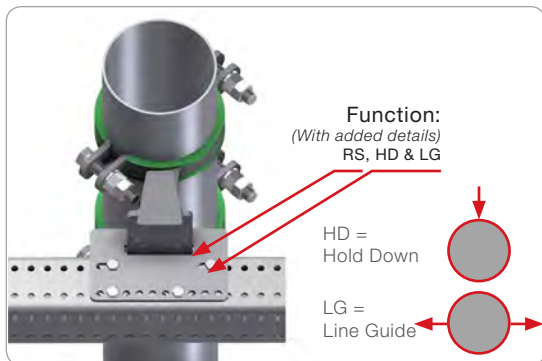
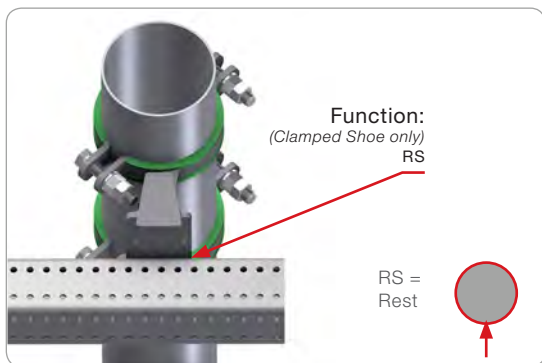


2 - 8"

ADJUSTABLE (HIGH)

Height: 150 mm
Length: 316 mm

SHORT CODES - PIPE SUPPORT FUNCTIONS:



Note:
Example: OPS-SD PC01 (U-Strap Non-Grip) is "RS, HD, LG". Standard "Gap" for all functions, except "RS", is normally between 1.5-3 mm.

NONIE™ PRINCIPLE

Our Nonie™ system is designed to allow adjustments in smaller increments than our channels normally would allow. By moving the bolts from one set of holes to the next, the detail with the Nonie™ system will move in 5 mm increments.

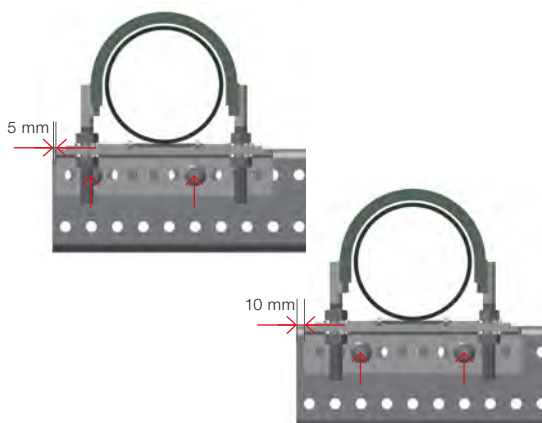


TABLE OF CONTENTS

Pipe Clamps for Different Line Sizes..... 266

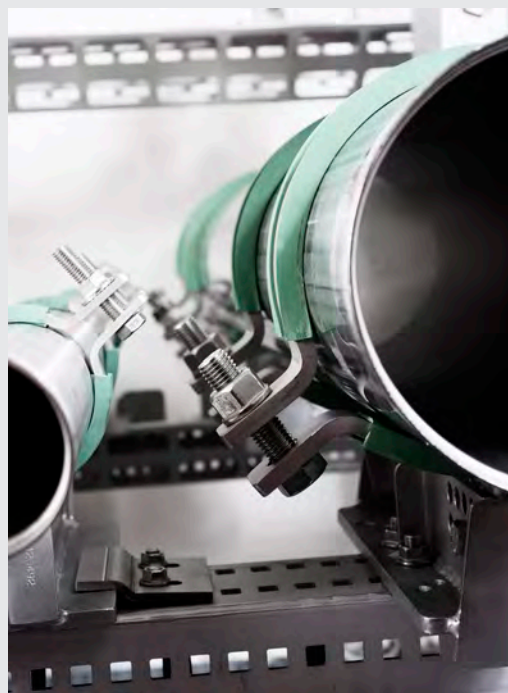
Pipe Clamps and Shoes

Pipe Clamps..... 267

Pipe Shoes..... 272

Accessories

Pipe Support Accessories.....274



Product code Pipe Clamp 01

OPS - SD PC01 - 100

Standard Detail DN 100

PC = Pipe Clamp, PS = Pipe Shoe, LG = Line Guide

Intellectual Property Rights

Please note that many of the products presented in this catalogue are protected by our intellectual property rights in the form of patents, registered designs and trademarks, and that we have made the strategic decision to police and enforce these rights in all relevant jurisdictions.

Pipe Clamps for Different Line Sizes

Type/Dim	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	5"	6"	8"
						•		•	•	•	•	•
	•	•	•	•	•	•						
	•	•	•	•	•	•		•	•	•	•	•
	•	•	•	•	•	•						
	•	•	•	•	•	•*						
	•	•	•	•	•	•*						
						•*	•*	•*	•*			
						•		•	•	•	•	
						•		•	•	•	•	•
						•		•	•	•	•	•
						•		•	•	•	•	•

*Non-pressurized pipes/light loads

Pipe Clamps

Standard U-Bolts Pipe

Standard U-Bolt for 1/2" to 4" for pipes.

Type Description	SS	SS (kg)	HDG	HDG (kg)
OPS-SD UB-M6-015	1375361	0,040		-
OPS-SD UB-M8-015	1375362	0,070		-
OPS-SD UB-M8-020	1375363	0,070	1375368	0,070
OPS-SD UB-M10-020	1375364	0,10	1375369	0,10
OPS-SD UB-M8-025	1375365	0,080	1375370	0,080
OPS-SD UB-M10-032	1375366	0,20	1375371	0,10
OPS-SD UB-M10-040	1375367	0,20	1375372	0,20
OPS-SD UB-M10-050	1375498	0,20	1375505	0,20
OPS-SD UB-M12-050	1375499	0,30		-
OPS-SD UB-M10-065	1375500	0,20	1375506	0,20
OPS-SD UB-M12-065	1375501	0,30		-
OPS-SD UB-M12-080	1375502	0,40	1375507	0,30
OPS-SD UB-M12-090	1375503	0,40		-
OPS-SD UB-M12-100	1375504	0,40	1375508	0,40



Standard U-Bolt Universal Brackets

Universal Bracket for Standard U-Bolts. PSU 110 for 1/2"-2". PSU 160 for 1"-4".

Type Description	SS	SS (kg)	HDG	HDG (kg)
PSU 110	1302391	0,40	1302335	0,60
PSU 160	1302392	1,1	1302336	1,1



U-Bolt Vibro Damping (Non Grip)

U-Bolt with vibration dampening for lines DN 15-50 / 1/2"-2". Type S.T.K.

Type Description	SS	SS (kg)
OPS-SD PC06-015	PS43200	0,090
OPS-SD PC06-020	PS43201	0,10
OPS-SD PC06-025	PS43202	0,10
OPS-SD PC06-032	PS43203	0,20
OPS-SD PC06-040	PS43204	0,30
OPS-SD PC06-050	PS43205	0,30



U-Bolt Vibro Damping (Grip)

U-Bolt with vibration dampening for lines DN 15-50 / 1/2"-2". Type S.T.K.

Type Description	SS	SS (kg)
OPS-SD PC05-015	PS43180	0,090
OPS-SD PC05-020	PS43181	0,10
OPS-SD PC05-025	PS43182	0,10
OPS-SD PC05-032	PS43183	0,20
OPS-SD PC05-040	PS43184	0,30
OPS-SD PC05-050	PS43185	0,30



U-Strap (Non Grip)

U-Strap for CS, SS & Alloy lines DN 50-200 / 2"-8".

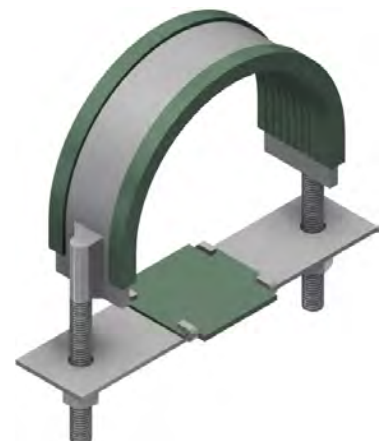
Type Description	SS	SS (kg)	HDG	HDG (kg)
OPS-SD PC01-050	PS43000	0,70	PS43013	0,80
OPS-SD PC01-080	PS43001	1,0	PS43014	1,1
OPS-SD PC01-100	PS43002	1,2	PS43015	1,3
OPS-SD PC01-125	PS43003	1,3	PS43016	1,4
OPS-SD PC01-150	PS43004	2,0	PS43017	2,1
OPS-SD PC01-200	PS43005	2,5	PS43018	2,7



U-Strap (Grip)

U-Strap for CS, SS & Alloy lines DN 50-200 / 2"-8".

Type Description	SS	SS (kg)	HDG	HDG (kg)
OPS-SD PC02-050	PS43048	0,70	PS43054	0,80
OPS-SD PC02-080	PS43049	1,0	PS43055	1,1
OPS-SD PC02-100	PS43050	1,2	PS43056	1,3
OPS-SD PC02-125	PS43051	1,3	PS43057	1,4
OPS-SD PC02-150	PS43052	2,0	PS43058	2,1
OPS-SD PC02-200	PS43053	2,5	PS43059	2,7



Mekano® Adapter for U-Bolt 1/2"-2"

Adapter with slotted holes for U-Bolt DN 15-50 / 1/2"-2" on Mekano® Channels.

Type Description	SS	SS (kg)	HDG	HDG (kg)
OPS-SD AD01-A	1372556	0,30	PS60053	0,30



Mekano® Adapter for U-Strap 2"-5"

Adapter with Nonie adjustment for U-Strap DN 50-125 / 2"-5" on Mekano® Channels.

Type Description	SS	SS (kg)	HDG	HDG (kg)
OPS-SD AD01-B	1372557	0,80	PS60052	0,80



Mekano® Adapter for U-Strap 6"-8"

Adapter with Nonie adjustment for U-Strap DN 150-200 / 6"-8" on Mekano® Channels.

Type Description	SS	SS (kg)	HDG	HDG (kg)
OPS-SD AD01-C	PS60046	1,2	PS60047	1,2



Mekano® Adapter for U-Bolt 1/2"-2" for CH125-2T5

Adapter with slotted holes for U-Bolt DN 15-50 / 1/2"-2" on Mekano® Channel CH125-2T5.

Type Description	SS	SS (kg)	HDG	HDG (kg)
OPS-SD AD02-A	PS60414	0,50	PS60415	0,50



Mekano® Adapter for U-Strap 2"-5" for CH125-2T5

Adapter with Nonie principle for U-Strap DN 50-125 / 2"-5" on Mekano® Channel CH125-2T5.

Type Description	SS	SS (kg)	HDG	HDG (kg)
OPS-SD AD02-B	PS60412	-	PS60413	1,1



Mekano® Adapter for U-Strap 6"-8" for CH125-2T5

Adapter with Nonie principle for U-Strap DN 150-200 / 6"-8" on Mekano® Channel CH125-2T5.

Type Description	SS	SS (kg)	HDG	HDG (kg)
OPS-SD AD02-C	PS60410	1,5	PS60411	1,6



Pipe Clamps with Short Perforated Plate for Pipes ≤ 2"

Bolted Clamp with Short Perforated Plate For Pipes ≤ 2".

Type Description	SS	SS (kg)	HDG	HDG (kg)
OPS-SD-S PC21-015	91396	0,40	PS44071	0,30
OPS-SD-S PC21-020	91397	0,40	PS44072	0,40
OPS-SD-S PC21-025	91398	0,40	PS44073	0,40
OPS-SD-S PC21-032	91399	0,40	PS44074	0,40
OPS-SD-S PC21-040	91400	0,50	PS44075	0,50
OPS-SD-S PC21-050	91401	0,80	PS44076	0,80



Pipe Clamps with Perforated Plate for Pipes ≤ 2"

Bolted Clamp with Perforated Plate for pipes ≤ 2". 6 mm adjustments available by turning the clamp 180°.

Type Description	SS	SS (kg)	HDG	HDG (kg)
OPS-SD PC21-015	91402	0,50	PS44105	0,70
OPS-SD PC21-020	91403	0,50	PS44106	0,70
OPS-SD PC21-025	91404	0,50	PS44107	0,70
OPS-SD PC21-032	91405	0,60	PS44108	0,60
OPS-SD PC21-040	91406	0,60	PS44109	0,80
OPS-SD PC21-050	91407	0,90	PS44111	0,80



Pipe Clamp with Perforated Plate for 2"-4" Pipes

Bolted Clamp with Perforated Plate For 2"-4" pipes.

Type Description	SS	SS (kg)	HDG	HDG (kg)
OPS-SD PC23-050	PS44150	0,80	PS43905	0,80
OPS-SD PC23-065	PS44151	0,90	PS43906	0,90
OPS-SD PC23-080	PS44152	0,90	PS43907	0,90
OPS-SD PC23-090	PS44153	1,6	PS43908	1,7
OPS-SD PC23-100	PS44154	1,4	PS43909	1,7



Pipe Clamp with Adjustable Bracket

Pipe Clamp with Adjustable Bolted Bracket for Pipes $\leq 2"$.

Type Description	SS	SS (kg)	HDG	HDG (kg)
OPS-SD PC13-015	91413	0,70	PS43755	0,70
OPS-SD PC13-020	91414	0,80	PS43756	0,80
OPS-SD PC13-025	91415	1,0	PS43757	1,0
OPS-SD PC13-032	91416	1,1	PS43758	1,1
OPS-SD PC13-040	91417	1,1	PS43759	1,1
OPS-SD PC13-050	91418	1,3	PS43761	1,3

2 M10 Nut(s) included.



2 Bolts Pipe Clamp for light loads

2 Bolt Pipe Clamps (light load) for CS, SS & Alloy Lines DN15-200 / 1/2"-8".

Type Description	SS	SS (kg)	HDG	HDG (kg)
OPS-SD PC08-015	91385	0,20	PS43333	0,20
OPS-SD PC08-020	91386	0,20	PS43334	0,30
OPS-SD PC08-025	91387	0,30	PS43335	0,30
OPS-SD PC08-032	91388	0,30	PS43336	0,30
OPS-SD PC08-040	91389	0,30	PS43337	0,30
OPS-SD PC08-050	91390	0,60	PS43338	0,50
OPS-SD PC08-080	PS43305	0,60	PS43339	0,60
OPS-SD PC08-100	PS43306	1,5	PS43340	1,5
OPS-SD PC08-125	PS43307	1,7	PS43341	1,8
OPS-SD PC08-150	PS43308	3,3	PS43342	3,3
OPS-SD PC08-200	PS43309	-	PS43343	3,9



Pipe Shoes

Clamped Shoe Adjustable (High)

Adjustable Clamped Shoe for CS, SS & Alloy lines DN 50-200/2"-8".
Height: 150 mm. Length: 316 mm.

Type Description	SS	SS (kg)	HDG	HDG (kg)
OPS-SD PS07-0050	PS46037	7,5	PS46043	7,5
OPS-SD PS07-0080	PS46038	8,1	PS46044	8,2
OPS-SD PS07-0100	PS46039	-	PS46045	8,5
OPS-SD PS07-0125	PS46040	9,7	PS46046	9,7
OPS-SD PS07-0150	PS46041	10,5	PS46047	-
OPS-SD PS07-0200	PS46042	14,2	PS46048	-



Clamped Shoe Adjustable (Low)

Adjustable Clamped Shoe for CS, SS & Alloy lines DN 50-200/2"-8".
Height: 100 mm. Length: 316 mm.

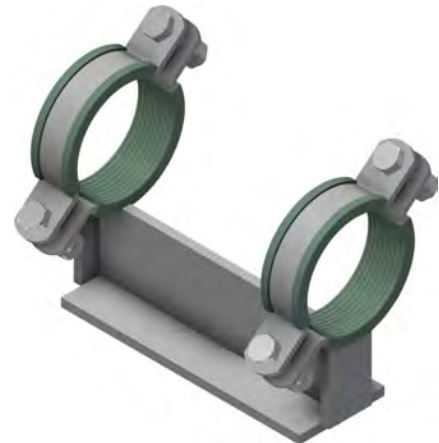
Type Description	SS	SS (kg)	HDG	HDG (kg)
OPS-SD PS05-0050	PS46067	6,1	PS46073	6,6
OPS-SD PS05-0080	PS46068	6,3	PS46074	6,8
OPS-SD PS05-0100	PS46069	7,9	PS46075	-
OPS-SD PS05-0125	PS46070	8,4	PS46076	8,3
OPS-SD PS05-0150	PS46071	11,7	PS46077	11,5
OPS-SD PS05-0200	PS46072	12,9	PS46078	12,5



Clamped Shoe

Clamped Shoe for CS, SS & Alloy lines DN 50-200/2"-8". Height: 100 mm. Length: 300 mm.

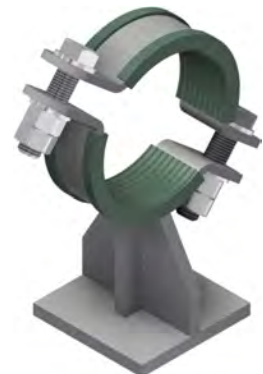
Type Description	SS	SS (kg)	HDG	HDG (kg)
OPS-SD PS02-0050	PS46218	5,8	PS46224	6,3
OPS-SD PS02-0080	PS46219	6,3	PS46225	6,8
OPS-SD PS02-0100	PS46220	-	PS46226	7,1
OPS-SD PS02-0125	PS46221	-	PS46227	8,5
OPS-SD PS02-0150	PS46222	11,2	PS46228	11,9
OPS-SD PS02-0200	PS46223	12,1	PS46229	-



Short Clamped Shoe

Short Clamped Shoe for CS, SS & Alloy lines DN 50-150 / 2"-6".
Height: 100 mm.

Type Description	SS	SS (kg)	HDG	HDG (kg)
OPS-SD PS01-0050	PS46015	2,1	PS46020	-
OPS-SD PS01-0080	PS46016	2,3	PS46021	2,3
OPS-SD PS01-0100	PS46017	-	PS46022	3,5
OPS-SD PS01-0125	PS46018	-	PS46023	-
OPS-SD PS01-0150	PS46019	4,6	PS46024	4,8



Bolted Line Guide & Hold Down

Bolted Line Guide & Hold Down with Nonie adjustment for Shoes.
LG05-A for 10 mm thick baseplate. LG05-B for 15 mm thick baseplate.

Type Description	SS	SS (kg)	HDG	HDG (kg)
OPS-SD LG05-A	PS41862	1,1	PS41860	1,1
OPS-SD LG05-B	PS41872	1,1	PS41870	1,1



Bolted Anchor/LG+HD

Bolted Line Guide & Hold Down for Shoes. LG01-A/B for 10 mm thick baseplate. LG01-C/D for 15 mm thick baseplate. Can be fitted as anchor/gripping with 0 mm gap (LG01-B/D).

Type Description	SS	SS (kg)	HDG	HDG (kg)
OPS-SD LG01-A	PS41678	-	PS41674	1,4
OPS-SD LG01-B	PS41679	-	PS41675	1,1
OPS-SD LG01-C	PS41680	-	PS41676	-
OPS-SD LG01-D	PS41681	-	PS41677	1,6

4 M10 Nut(s) included.



Bolted Line Stop

Bolted Line Stop for Shoes. Art. no includes 2x Line Stops.

Type Description	SS	SS (kg)	HDG	HDG (kg)
OPS-SD LS01	PS41900	0,40	PS41902	-



Bolted Line Stop for CH125-2T5

Bolted Line Stop for Shoes for CH125 2T5. Art. no includes 2x Line Stops.

Type Description	SS	SS (kg)	HDG	HDG (kg)
OPS-SD LS02-A	PS41903	0,80	PS41904	0,80



Bolted Line Guide & Hold Down for CH125-2T5

Bolted Line Guide & Hold Down with Nonie principle for Shoes.
LG05-A for 10 mm thick baseplate. LG05-B for 15 mm thick baseplate.

Type Description	SS	SS (kg)	HDG	HDG (kg)
OPS-SD LG05-C	PS41863	1,6	PS41864	1,7
OPS-SD LG05-D	PS41873	1,6	PS41874	1,7

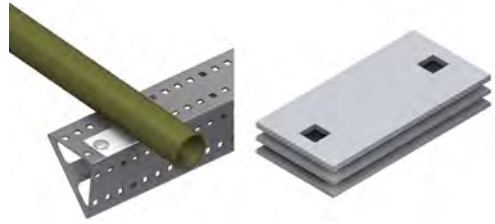


Pipe Support Accessories

Low Friction MultiGrid Isolation Pad (Rectangular)

Low Friction MultiGrid Isolation Pad (Rectangular) -46°C-150°C (PTFE/SS). Shim plates included (2x2 mm)

Type Description	SS	SS (kg)
OPS-SD MI01-A	PS42000	-
OPS-SD MI01-B	PS42001	-
OPS-SD MI01-C	PS42002	-
OPS-SD MI01-D	PS42003	-
OPS-SD MI01-E	PS42004	-
OPS-SD MI01-F	PS42005	-



Low Friction MultiGrid Isolation Pad (Square)

Low Friction MultiGrid Isolation Pad (Square) -46°C-150°C (PTFE/SS). Shim plates included (1x1 mm + 2x2 mm).

Type Description	SS	SS (kg)
OPS-SD MI02-A	PS42020	-
OPS-SD MI02-B	PS42021	-
OPS-SD MI02-C	PS42022	-
OPS-SD MI02-D	PS42023	1,0
OPS-SD MI02-E	PS42024	-
OPS-SD MI02-F	PS42025	-



Shims for U-Bolt Mekano® Adapter 1/2"-2"

Shim plates for U-Bolt Mekano® Adapter 1/2"-2" (1x1 mm + 2x2 mm).

Type Description	SS	SS (kg)	HDG	HDG (kg)
OPS-SD SH-AD01-A	PS42200	0,20	PS42203	0,20



Shims for U-Strap Mekano® Adapter 2"-5"

Shims for U-Strap Mekano® Adapter 2"-5" (1x1 mm + 2x2 mm).

Type Description	SS	SS (kg)	HDG	HDG (kg)
OPS-SD SH-AD01-B	PS42201	0,50	PS42204	0,60

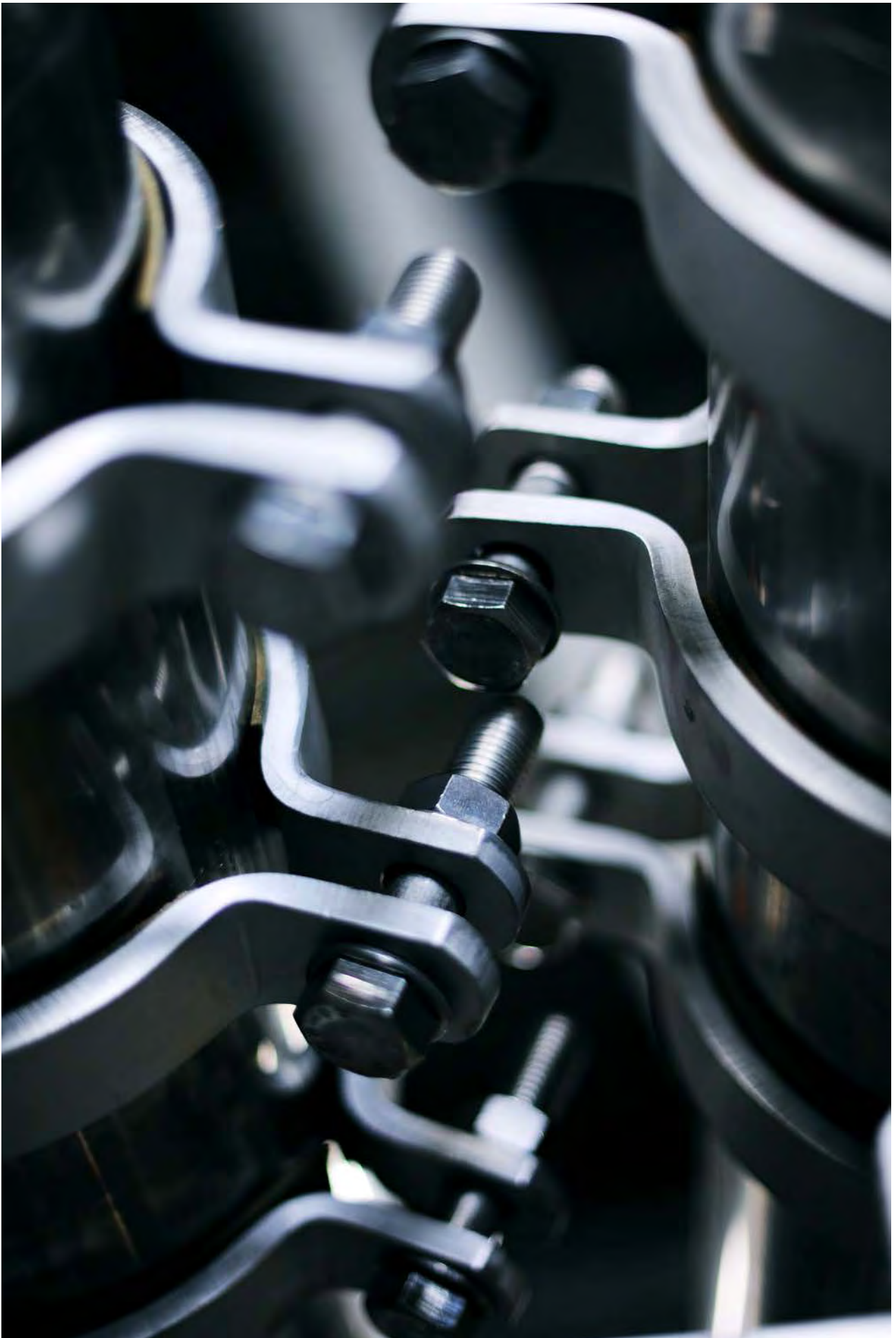


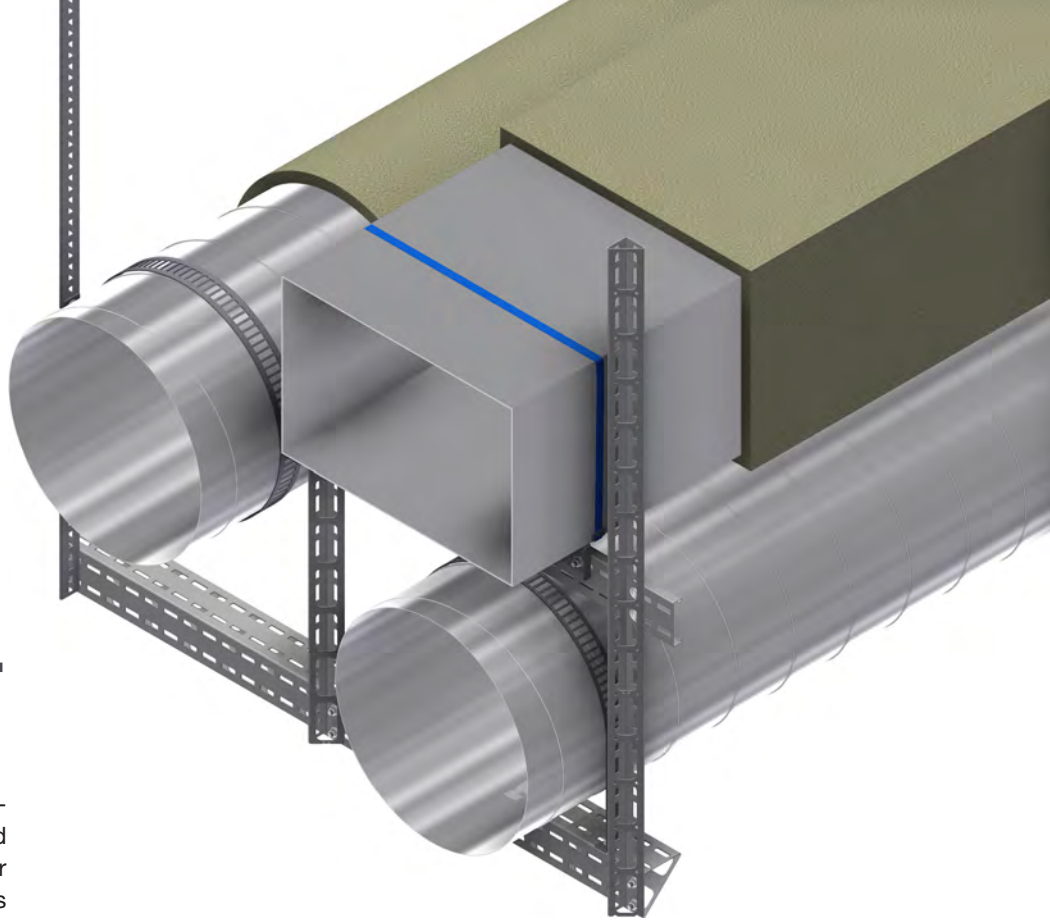
Shims for U-Strap Mekano® Adapter 6"-8"

Shim plates for U-Strap Mekano® Adapter 6"-8". (1x1 mm + 2x2 mm).

Type Description	SS	SS (kg)	HDG	HDG (kg)
OPS-SD SH-AD01-C	PS42202	0,80	PS42205	0,80







HVAC SUPPORT

Complete HVAC clamp range including solutions for both insulated and uninsulated ducting of both circular and rectangular types. The clamps are designed to minimise the fitting space required. They fit directly to our Mekano® system profiles and are therefore both simple and quick to fit and adjust.

MATERIALS



3D LIBRARIES

AVEVA (E3D / PDMS)

HVAC BRACKETS



Circular Clamps

HVAC Clamp for uninsulated and insulated ducting



Rectangular Clamps

HVAC Support brackets

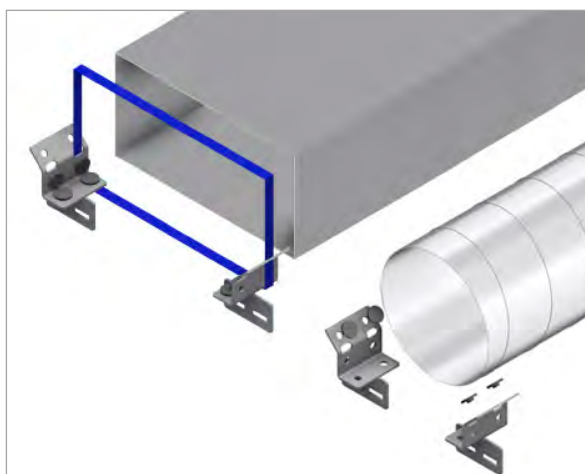


Universal Clamp

Universal strap bracket

HVAC CIRCULAR CLAMPS

The Clamps are supplied flat to save space during transport and ease storage on site. The clamp is easily formed around the ducting.



HVAC UNIVERSAL SUPPORT BRACKETS

The support brackets can be used for both insulated and non insulated ducting, circular or rectangular and are suitable for use with levasint coated cable ties. Use for example 19 mm ties, type Band-it AE-416/AE-436 and lock AE 456. The duct can be insulated from the support bracket by applying insulation pads or tape on the contact areas. The brackets fit all Mekano® support channels including Mekano® 100-1.

TABLE OF CONTENTS

Circular Ducting	278
Rectangular Ducting	279
Circular/Rectangular Ducting	279



Intellectual Property Rights

Please note that many of the products presented in this catalogue are protected by our intellectual property rights in the form of patents, registered designs and trademarks, and that we have made the strategic decision to police and enforce these rights in all relevant jurisdictions.

Circular Ducting

Light HVAC Clamp

HVAC Perforated Clamp for duct diameter from 80 to 1250 mm.
Space saving fixing design. Diameter 80-315 mm with 2no M10x25 bolts. Diameter 400-1250 mm with 1no M10x25 & 1no M10x50.

Type Description	SS	SS (kg)	ZM	ZM (kg)
HVAC HC-LI-80	87984	-	91351	0,20
HVAC HC-LI-100	87985	-	91352	0,30
HVAC HC-LI-125	87613	0,20	91353	0,30
HVAC HC-LI-160	87614	0,30	91354	0,40
HVAC HC-LI-180	87615	0,30	91355	0,40
HVAC HC-LI-200	87616	0,30	91356	0,40
HVAC HC-LI-230	87617	0,40	91357	0,50
HVAC HC-LI-250	87618	0,40	91358	0,50
HVAC HC-LI-315	87619	0,50	91359	0,60
HVAC HC-LI-400	87620	0,60	91360	0,80
HVAC HC-LI-500	87621	1,0	91361	1,1
HVAC HC-LI-600	87622	1,1	91362	1,3
HVAC HC-LI-630	87877	1,2	91363	1,4
HVAC HC-LI-800	87623	1,5	91364	1,7
HVAC HC-LI-900	87988	-	91365	1,8
HVAC HC-LI-1000	87989	-	91366	1,9
HVAC HC-LI-1250	87990	-	91367	3,5



Insulated HVAC Clamp. Single fixing.

Weight saving clamp for ducting being insulated. Single fixing point.
Suits ducting diameter from 80 to 200 mm.

Type Description	SS	SS (kg)
HVAC HC-ID-80	59453	0,20
HVAC HC-ID-100	59454	0,20
HVAC HC-ID-125	59455	0,30
HVAC HC-ID-160	59456	0,30
HVAC HC-ID-180	59457	0,30
HVAC HC-ID-200	59458	0,30

1 M10x25 Screw(s) included.



Insulated HVAC Clamp. Two fixings.

Weight saving clamp for ducting being insulated. Two fixings. Suits ducting diameter from 230 to 1250 mm.

Type Description	SS	SS (kg)
HVAC HC-ID-230	59459	0,60
HVAC HC-ID-250	59460	0,60
HVAC HC-ID-315	59461	0,70
HVAC HC-ID-400	59462	1,0
HVAC HC-ID-500	59463	1,2
HVAC HC-ID-600	59464	1,4
HVAC HC-ID-630	59465	1,4
HVAC HC-ID-800	59466	1,8
HVAC HC-ID-900	59467	2,9
HVAC HC-ID-1000	59468	3,1
HVAC HC-ID-1250	59469	3,9

2 M10x25 Screw(s) included.



Rectangular Ducting

HVAC Support Bracket

HVAC Support Brackets for rectangular ducting comes in pairs. Suitable for use with levasint coated cable ties.

Type Description	Fasteners included	SS	SS (kg)
HVAC RQ-ID-UN	4xM10	79416	0,70



Circular/Rectangular Ducting

Universal Strap Bracket

HVAC Support Brackets for circular or rectangular ducting comes in pairs. Suitable for use with levasint coated cable ties.

Type Description	SS	SS (kg)
HVAC RD-RQ-UN	1302393	0,50



MISCELLANEOUS

The past 40 years of product development and innovation have given Oglænd System an extensive spectre of smart product solutions for all eventualities and situations.

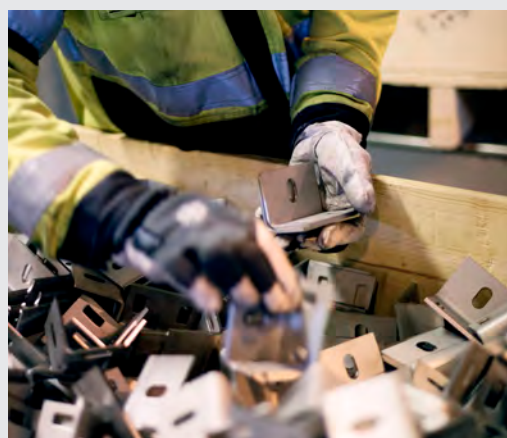
Only a small selection of standard universal products and solutions are presented in the following pages, however a more extensive range of products can be viewed on our website.

We hold comprehensive stocks in global locations supported by market leading logistical solutions.



TABLE OF CONTENTS

Angle Brackets.....	281
Insulation Parts	283
Earthing.....	284
U-Bolts for RHS.....	285



Intellectual Property Rights
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Angle Brackets

Angle Bracket M6

Angle Bracket for multiple applications.

Type Description	Fasteners included	SS	SS (kg)	HDG
S-M AB 50x50x30-6	2xM6	1306881	0,10	83410



Angle Bracket M6/M10

Angle Bracket for multiple applications.

Type Description	Fasteners included	SS	SS (kg)	HDG
S-M AB-50x50x25-10/6	1xM10/1xM6	1371817	0,080	1372761
S-M AB 55x55x40-10/6	1xM10/1xM6	1371816	0,10	1302170



Angle Bracket M10

Angled brackets connecting two CH50 channels to give two independent fixings.

Type Description	Fasteners included	SS	SS (kg)	HDG
S-M AB 55x55x40-10	2xM10	1371712	0,10	1302494



Angle Bracket M10/M12

Angle Bracket for multiple applications.

Type Description	Fasteners included	SS	SS (kg)	HDG
S-M AB 65x80x40-10/12	1xM10	1371713	0,20	1372759
S-M AB 65x80x60-10/12B	1xM10	1371714	0,20	1372762



Angle Bracket Twisted M6

Twisted Angle Bracket to install Cable Ladder on walls.

Type Description	Fasteners included	SS	SS (kg)	HDG
S-M AB-TW-50x105x25-6	2xM6	1372383	0,10	1372697



Angle Bracket 1+2 hole M6

Angle Bracket for multiple applications.

Type Description	Fasteners included	SS	SS (kg)	HDG
S-M AB-50x102x25-6	3xM6	1372382	0,10	1372696



Angle Bracket 1+2 hole M10

Angle Bracket for multiple applications.

Type Description	Fasteners included	SS	SS (kg)	HDG
S-M AB-50x140x35-10	3xM10	1304469	0,20	1301081



Angle Bracket 2+3 hole M6/M10

Universal Support Bracket for OE Cable Ladders or Mekano® CH100-1 channels to trays or light fittings.

Type Description	Fasteners included	SS	SS (kg)	HDG
OE/SB-125x115x50-10/6	2xM10/2xM6	1371717	0,50	1302503



Z-Bracket M10/M12

Angle Bracket for multiple applications.

Type Description	Fasteners included	SS	SS (kg)	HDG
S-M AB 125x60x60-10/12-Z	1xM10	1371715	0,40	1302501



Heavy Duty Fixing Clamp

For fixing OE Cable Ladder, Mekano® 100-1 or 100-2T to wall. Can also be used as a fixing clamp to attach vertical cable ladder runs to a support.

Type Description	Fasteners included	SS	SS (kg)	HDG
S-M AB 60x60x80-10/12	3xM10	1371716	0,40	1302502



Insulation Parts

Insulation Sleeves with Collar

Sleeves with collar in Nylon to insulate different metals in order to prevent galvanic corrosion. 50 per pack.

Type Description	Nylon	Nylon (kg)
A-M IP-M-6	1302679	0,001
A-M IP-M-8	1302999	0,001
A-M IP-M-10	1372527	0,001
A-M IP-M-12	1372528	0,001



Flat Insulation Sleeves

Flat Nylon washer to insulate different metals in order to prevent galvanic corrosion. 50 per pack.

Type Description	Nylon	Nylon (kg)
A-M IP-WA 7x16x3	1300081	0,001
A-M IP-WA 9x20x3	1300082	0,001
A-M IP-WA 11x24x3	1300083	0,001
A-M IP-WA 13x28x3	1300084	0,001



Insulation Plates 135x50 mm

Flat Nylon plate to insulate different metals in order to prevent galvanic corrosion. 3 mm thick.

Type Description	Nylon	Nylon (kg)
A-M IP-135x50	1375510	0,02



Insulation Plates 115x90 mm

Flat Nylon plate to insulate different metals in order to prevent galvanic corrosion. 3 mm thick.

Type Description	Nylon	Nylon (kg)
A-M IP-115x90	1375511	0,03



Insulation Plates in 1200 mm length

Supplied in Nylon. Thickness 3 mm.

Type Description	Nylon	Nylon (kg)
A-M IP-45x1200	1375512	0,20
A-M IP-50x1200	1375513	0,20



Insulation Tape

Adhesive insulation tape. 10 m roll.

Type Description	PTFE	PTFE (kg)
A-M-IP-Tape 20 mm	1372925	0,40
A-M-IP-Tape 50 mm	1372949	1,1



Earthing

Earth Link

Earth Link Jumper. Type description shows: Length mm/Diameter mm-cross section area mm².

Type Description	Cu	Cu (kg)
A-M EL-100/6-4 Cu	85813	0,020
A-M EL-100/6-6 Cu	85814	0,020
A-M EL-100/10-10 Cu	85815	0,020
A-M EL-300/10-10 Cu	85816	0,030
A-M EL-100/10-16 Cu	85817	0,030
A-M EL-300/10-16 Cu	1306885	-



Earthing Boss

Earthing Boss for welding to structure. Diameter x height - Bolt size mm.

Type Description	SS	SS (kg)	CS	CS (kg)
A-M EB-EL-30x30-10	83418	0,20	-	-
A-M EB-EL-45x50-10	55290	0,60	-	-
A-M EB-EL-50x50-12	83428	0,80	83427	0,80
A-M EB-EL-50x50-16	83416	0,80	83400	0,70



Earthing Lug

Earthing Lug for welding to structure. Description shows Hole size - Width x height.

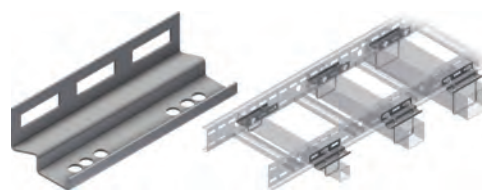
Type Description	SS	SS (kg)
A-M WB-EL-7 75x75	87994	0,20
A-M WB-EL-9 75x75	88012	0,20
A-M WB-EL-11 75x75	88020	0,20
A-M WB-EL-13 75x75	87640	0,20



U-Bolts for RHS

U-Bolt Brackets

Bracket to support OE Cable Ladders on SHS/RHS or H-beams.
Suits Square U-Bolts types SHS-50, 80 and 100.



Type Description	Fasteners included	SS	SS (kg)
S-OE SB-SHS-50/80/100	1×M10	59504	0,20

Square U-Bolts

Square U-Bolts, complete with self locking flange nuts.

Type Description	SS	SS (kg)
S-M UB-SQ-M8-SHS-50	1372590	0,080
S-M UB-SQ-M8-SHS-80	1372591	0,10
S-M UB-SQ-M8-SHS-100	1372592	0,20
S-M UB-SQ-M10-SHS-120	1372593	0,30
S-M UB-SQ-M10-SHS-140	1372594	0,30



NUTS, BOLTS AND FASTENERS

ANTI VIBRATION FLANGE NUTS

Our unique all metal anti vibration flange nuts stay securely tightened without the need for washers, nylon nuts or thread locking compounds. The key to the anti-vibration system is advanced technology in the thread design, which restricts movement between the nut and bolt during vibration, thus preventing loosening. The system is time proven and independently tested at SP Sweden to DIN 65151.

Installation time is reduced as the flange nuts are free running onto bolts with no resistance, and are then tightened with one hand and one tool. This also greatly reduces the chance for dropped objects during installation. Furthermore, the flange nut has the washer included which reduces the inventory of parts required. This improves logistics, reduces costs and ensures correct fitment on the bolt.



MATERIALS



SS = A4-70 (Hex A4-80)
HDG = 40-70 µ Zinc
PG = 4-7 µ Zinc
FRP = Polyester resin

PG available online.

REFERENCE GUIDE

As a quick reference guide, our best selling fasteners are shown below, and in some more detail on the following pages:

Suitable for connecting	Description/Material	Material	Article number
Cable trays to brackets and other components.	Self locking bolt and nut set S-M LS-NU-M6x12 A4	A4	1371981*
	Self locking bolt and nut set S-M LS-NU-M6x20 A4	A4	1371982*
Mekano® starter brackets and many channels. Also for OE Cable Ladder Systems	Self locking bolt and nut set S-M LS-NU-M10x20 A4	A4	1371983*
	Bolt and nut set S-M LS-NU-M10x25 HDG	HDG	1371980*
Mekano® CH125-2T5 channel	Self locking bolt S-M LS-NU-M12x30 A4	A4	1306952
	Self locking bolt S-M LS-NU-M12x32 A4	A4	91117*
	Locking flange nut S-M NU-FL-M12 A4	A4	1371343*
Mekano® CH100-4 channels	HEX Bolt and Nut set S-M HE-NU-M10x130 A4	A4	1372950*
Connecting UNO channels and brackets	Hexagonal Bolt S-M HE-M10x25 A4	A4	1371326*
	Hexagonal Bolt S-M HE-M10x25 HDG	HDG	1371305
	Washers S-M WA-10.5x20x2 A4	A4	1371352
	Washers S-M WA-10.5x20x2 HDG	HDG	1372850
Multiple applications where anti-vibration locking is critical	Locking Flange nuts S-M NU-FL-M6 A4	A4	1371971*
	Locking Flange nuts S-M NU-FL-M8 A4	A4	1371972*
	Locking Flange nuts S-M NU-FL-M10 A4	A4	1371973*
	Locking Flange nuts S-M NU-FL-M12 A4	A4	1791343*
FTE50, FTE80 & FOE70 Splice Plates	Nut & Bolt S-M S-NU-M6 x16 A4	A4	74140
FOE150 & FOE100 FRP Splice Plates	Nut & Bolt S-M PS-M10 x 25 A4	A4	74139
FOE150 & FOE100 SS Splice Plates	Nut & Bolt S-M PS-M10 x 20 A4	A4	74145

Material Certificates to EN 10204 are available for specific products which are marked as follows:
* 3.1 certificates available on request ONLY when ordered together with the products, free of charge.

NOTE: Please note that quantities shown for all fastener packs are counted by weight.
A discrepancy level within +/- 3% is accepted and does not qualify as non-conformance.

BENEFITS WITH ØGLAEND ANTI VIBRATION FLANGE NUTS

- Anti vibration tested to DIN65151.
- All metal construction.
- No washers required – simplifies logistics and improves HSE from dropped objects.
- Flange design guarantees correct fitting orientation.
- Wide flange distributes loading and stresses.
- Free running- reduced installation time.
- HSE benefits: one hand-one tool tightening reduces chance of dropped objects.
- Thread design distributes stress equally through the entire length.
- Reduces risk of stripping and cross threading.
- High corrosion resistance.
- Bolt end can be flush with nut without loss of tightening force.
- DROP (Dropped Objects Awareness and Prevention) recommended.

Quick, Safe & Cost Effective!

TABLE OF CONTENTS

Nuts, Bolts and Fasteners

Bolt Sets.....	288
Bolts	289
Nuts	291
Washers	292
Other	293
Threaded Rod	293
FRP Fasteners	294



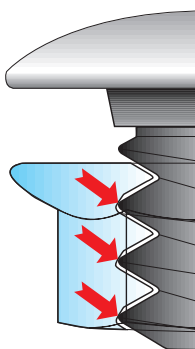
SELF-LOCKING ANTI VIBRATION THREAD DESIGN

Self Lock Fasteners

Øglænd all metal self locking anti vibration nuts have a unique thread design which prevent side to side movement.

This guarantees the nuts will not loosen during vibration.

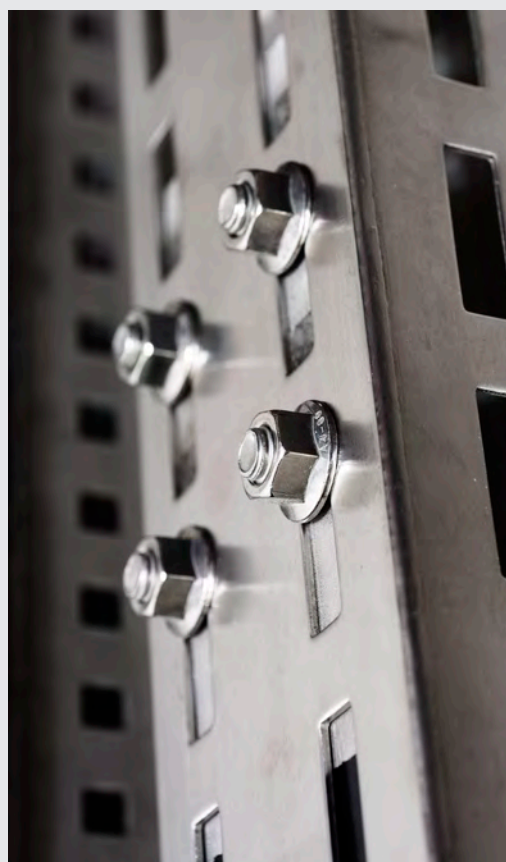
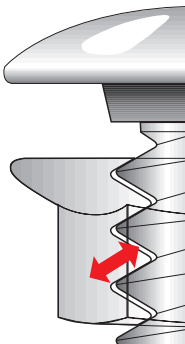
The design also distributes the loading evenly through the threaded length.



Standard Fasteners

Standard threaded fasteners have a tolerance gap between the threads. This gap allows the nut to move slightly from side to side when they are exposed to vibration.

The spiral shape of the thread then causes the nut to rotate and loosen. Nylon inserts and chemical fasteners can slow down this effect, but do not prevent it.



Bolt Sets

Locking Bolt and Anti-Vibration Nut Set Low Neck

Self-Lock Bolt and Anti-vibration Flange Nut set with Low Neck. All metal design.

Type Description	A4	Qty/Pack A4	HDG	Qty/Pack HDG
S-M LS-NU-M6x12	1371981*	200		
S-M LS-NU-M6x16	1306886	100		
S-M LS-NU-M6x20	1371982*	100		
S-M LS-NU-M10x20	1371983*	100		
S-M LS-NU-M10x25	1371437*	100	1371980*	100



Locking Bolt and Anti-Vibration Nut Set High Neck

Self-Lock Bolt and Anti-vibration Flange Nut set with high neck. HDG Flange Nut set is part threaded. All metal design.

Type Description	A4	Qty/Pack A4	HDG	Qty/Pack HDG
S-M LS-NU-M6x30	1371361*	200		
S-M LS-NU-M10x50	1371362*	50	1371589*	50



Hexagonal Bolt and Anti-Vibration Nut Set for Mekano® 100-4

Bolt and Anti-vibration Flange Nut set. Per Piece.

Type Description	A4	A4 (kg)
S-M HE-NU-M10x130	1372950*	0,10
S-M HE-NU-M10x140	1372951*	-
S-M HE-NU-M10x150	1372952*	0,10



Bolts

Locking Bolt Low Neck

Self-Lock Bolt with Low Neck. All metal design.

Type Description	A4	Qty/Pack A4	HDG	Qty/Pack HDG
S-M LS-M6x12	1372161*	200		
S-M LS-M6x16	1306888*	200		
S-M LS-M10x20	1372163*	200		
S-M LS-M10x25	1306895*	100	1372765*	200



Locking Bolt High Neck

Self-Lock Bolt with High Neck. All metal design.

Type Description	A4	Qty/Pack A4	HDG	Qty/Pack HDG
S-M LS-M6x25	1372162	100		
S-M LS-M6x50	85520	100		
S-M LS-M10x30	89821	100		
S-M LS-M10x35	1306892	100		
S-M LS-M10x50	89822*	50		
S-M LS-M10x70	81396	50		
S-M LS-M12x32	91117*	100	91118*	100



Hexagonal Bolts M6

Hexagonal bolt. M6 size.

Type Description	A4	Qty/Pack A4
S-M HE-M6x12	1372780*	200
S-M HE-M6x16	1371318*	100
S-M HE-M6x20	1371319*	100
S-M HE-M6x30	1371320*	200



Hexagonal Bolts M8

Hexagonal bolt. M8 size.

Type Description	A4	Qty/Pack A4	HDG	Qty/Pack HDG
S-M HE-M8x20	1371321*	200	1371301	200
S-M HE-M8x25	1371322*	200	1371302	200
S-M HE-M8x30	1371323*	200	1371303	200



Hexagonal Bolts M10

Hexagonal bolt. M10 size. ISO 4017

Type Description	A4	Qty/Pack A4	HDG	Qty/Pack HDG
S-M HE-M10x16	1371324*	100		
S-M HE-M10x20	1371325*	100	1371304	200
S-M HE-M10x25	1371326*	100	1371305	200
S-M HE-M10x30	1371327*	100	1371306	200
S-M HE-M10x35	1371328*	100	1371307	100
S-M HE-M10x45	1371329*	100	1371308	100
S-M HE-M10x50	1371330*	100	1371309	100
S-M HE-M10x55	1371331*	50	1371310	100



Hexagonal Bolts M10 For Mekano® 100-4

Hexagonal bolt M10. Per Piece. ISO 4014

Type Description	A4	A4 (kg)
S-M HE-M10x130	1372572*	0,090
S-M HE-M10x140	1372573*	0,10



Hexagonal Bolts M12

Hexagonal bolt. M12 size. ISO 4017

Type Description	A4	Qty/Pack A4	HDG	Qty/Pack HDG
S-M HE-M12x25	1371332*	100	1371311	100
S-M HE-M12x35	1371333*	100	1371312	100
S-M HE-M12x45	1371334*	50	1371313	100



Hexagonal Bolts M16

HEX Bolt. M16 size.

Type Description	A4	A4 (kg)
S-M HE-M16x50	1372926*	0,10
S-M HE-M16x65	1372927*	0,10
S-M HE-M16x70	1372928*	0,10



Standard U-Bolts Without Nuts

Standard U-Bolt for 1/2" to 4" for applications.

Type Description	SS	SS (kg)	HDG	HDG (kg)
S-M UB-M6x35-23x50 (1/2")	84461	0,030	66300	0,030
S-M UB-M8x35-23x50 (1/2")	84462	0,040		-
S-M UB-M8x35-IG-29,5x58 (3/4")	82322*	0,040		-
S-M UB-M8x35-28x55 (3/4")		-	66301	0,050
S-M UB-M10x35-28x55 (3/4")	82447	-	82126	0,070
S-M UB-M8x40-36x65 (1")	82734	0,060	82127	0,060
S-M UB-M10x40-44x75 (1 1/4")	84174	0,090	82675	0,10
S-M UB-M10x40-50x80 (1 1/2")	84319	0,10	79401	0,10
S-M UB-M10x55-62x95 (2")	82306	0,070	84645	0,10
S-M UB-M12x55-62x95 (2")	84463	0,20	66302	0,20
S-M UB-M10x60-78x110 (2 1/2")	84464	0,20	84646	0,20
S-M UB-M12x60-78x110 (2 1/2")	83086	-	66303	0,20
S-M UB-M12x60-91x125 (3")	84465	0,20	85735	0,20
S-M UB-M12x75-102x145 (3 1/2")	84466	0,30	66304	0,30
S-M UB-M12x75-117x155 (4")	84467	0,30	85737	0,30



Hexagonal Bolts with Cone Point

Hexagonal bolt with cone point. M10 size.

Type Description	A4	Qty/Pack A4	HDG	Qty/Pack HDG
S-M HE-M10x40	1371335*	100	1371314	100



Pan Head Screw (Torx)

Pan head screws. M6 size.

Type Description	A4	Qty/Pack A4
S-M PS-M6x16	1372156	200
S-M PS-M6x20	1372157	200
S-M PS-M6x25	1372158	200
S-M PS-M6x30	1372159	200
S-M PS-M6x40	1372160	100



Bits (Torx)

Torx bits T30

Type Description	PG	PG (kg)
Bits Torx T30	1371417	-



Nuts

Anti-Vibration Locking Flange Nuts

All metal, anti-vibration, self-lock Flange Nut.

Type Description	A4	Qty/Pack A4	HDG	Qty/Pack HDG
S-M NU-FL-M6	1371971*	100		
S-M NU-FL-M8	1371972*	200	91262*	100
S-M NU-FL-M10	1371973*	50	1372180*	50
S-M NU-FL-M12	1371343*	50	1300765*	50
S-M NU-FL-M16	86494*	100		
S-M NU-FL-M20	86496*	50		



Hexagonal Nuts

Hexagonal nuts.

Type Description	A4	Qty/Pack A4	HDG	Qty/Pack HDG
S-M NU-M6	1372781*	100		
S-M NU-M8	1371340*	100	1372176	100
S-M NU-M10	1371341*	50	1372845	100
S-M NU-M12	1371342*	50	1372179	100



Washers

Washers

Washer for distributing the load from a fastener.

Type Description	A4	Qty/Pack A4	HDG	Qty/Pack HDG
S-M WA-5x30.5x1.5	84394	200		
S-M WA-6.4x12x1.6	1372782	200		
S-M WA-6.4x18x1.6	1371349	200		
S-M WA-6x25x1.5	1371350	200		
S-M WA-8.4x16x1.6	1371351	100	1371345	1000
S-M WA-8x40.3x1.5	84345	1000		
S-M WA-10.5x20x2	1371352	100	1372850	100
S-M WA-13x24x2.5	1371353	100	1371346	100



Washers with Square Hole

Washer for distributing the load from a fastener. Square opening.

Type Description	A4	Qty/Pack A4
S-M WA-7x30.4x1.5	84562	200
S-M WA-11x32x1	1371354	1000



Star Washers

NORSOK requirements prohibit the use of Star Washers for installation of cable trays & ladders therefore we recommend our A4 self-lock flange nuts.

Type Description	A4	Qty/Pack A4
S-M SW-M6	1371355	200
S-M SW-M8	1371356	100
S-M SW-M10	1371357	200
S-M SW-M12	1371358	100



Other

Self-Tapping Bolts

Self-Tapping Stainless Steel Screws for Metal construction, Solar, Facade, DIN7504-K

Type Description	A2	Qty/Pack A2
S-M SE-HE-4.8x13	1371373	100
S-M SE-HE-4.8x25	1371374	100



Sockets

Hex Driver Bits allow the bit to hold the bolts securely in place for quicker installations.

Type Description	PG	Qty/Pack PG
Bits Marutex	1371375	10



Threaded Rod

Threaded Rod

Threaded rod. Type description shows length.

Type Description	A4	A4 (kg)	HDG	HDG (kg)
S-M TR-10-1000	1371416	0,70	1372743	0,50
S-M TR-10-2000	1371418*	1,4	1372742	1,0
S-M TR-10-3000	1371419*	2,1		-



White Plastic Cover for Threaded Rod

White plastic cover for threaded rod. For 6 mm diameter.

Type Description	PVC	PVC (kg)
A-SPB CO-TR-10	1372733	-



FRP Fasteners

FRP Bolt M6

High strength FRP bolt.

Type Description	FRP	FRP (kg)
S-M HE-E-M6x25	75249	-



FRP Bolt M10

High strength FRP bolt.

Type Description	FRP	FRP (kg)
S-M HE-E-M10x40	75253	0,010



FRP Nuts

High strength FRP nut.

Type Description	FRP	FRP (kg)
S-M NU-FL-E-M6	73917	0,003
S-M NU-FL-E-M10	71319	0,010



FRP Stud Bolt M10

Stud bolt for use with FRP support profiles

Type Description	FRP	FRP (kg)
S-M HE-M10 x 30	71487	0,010
S-M HE-M10 x 40	72374	0,010
S-M HE-M10 x 50	71488	0,020
S-M HE-M10 x 80	71489	0,020

1 M10 FRP Nut(s) included.



FRP Sleeve Nut M10

High strength fibre reinforced plastic fasteners with fire retardant vinyl-ester thermoset resin.

Type Description	FRP	FRP (kg)
S-M SN-E-M10	73913	0,020



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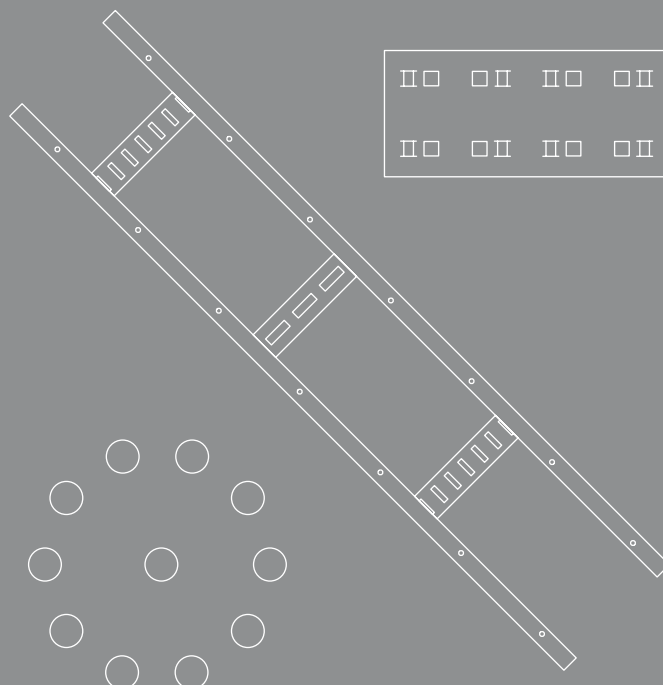
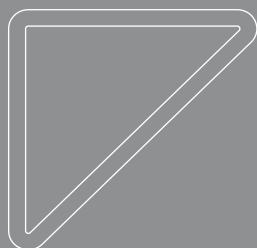
Global Customer Satisfaction With Superb Supply Chain Performance

Customer focus is one of our core values. As our customers are spread globally we have developed a first class supply chain network, with four production sites and international sales subsidiaries.

This network ensures flexibility and short delivery time to consistently meet and exceed customers expectations and demands.

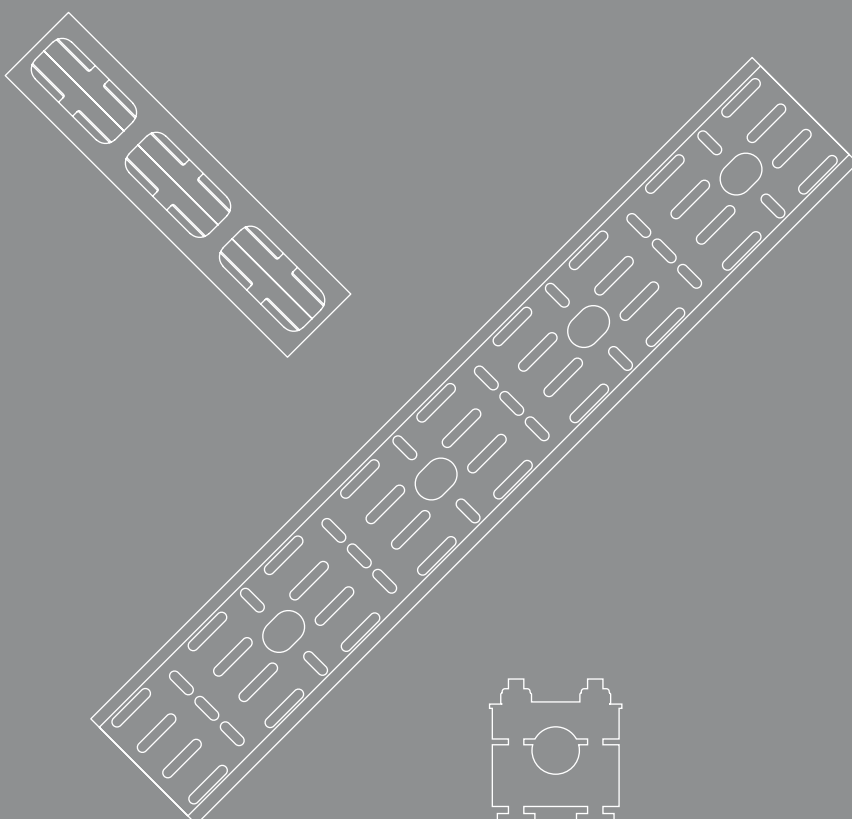
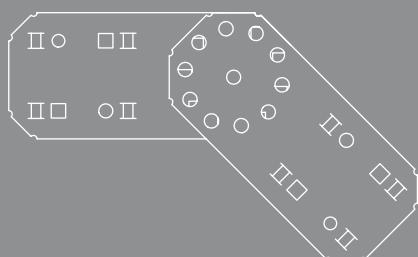
Oglaend System holds an extensive list of local and international certifications and approvals, such as ISO 9001, ISO 14001 and OHSAS 18001. We have many products and solutions that are patented, registered or trademarked.





Oglaend System develop, manufacture and sell multidiscipline support solutions, cable trays and cable ladders to the following industries worldwide: Oil & Gas, Infrastructure, Ship building, Wind Energy, Water Treatment, Marine Farming and many other industries.

These solutions deliver added value through reduced installation time, maximized volume utilisation, weight reductions, enhanced lifetime integrity and improved safety performance



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