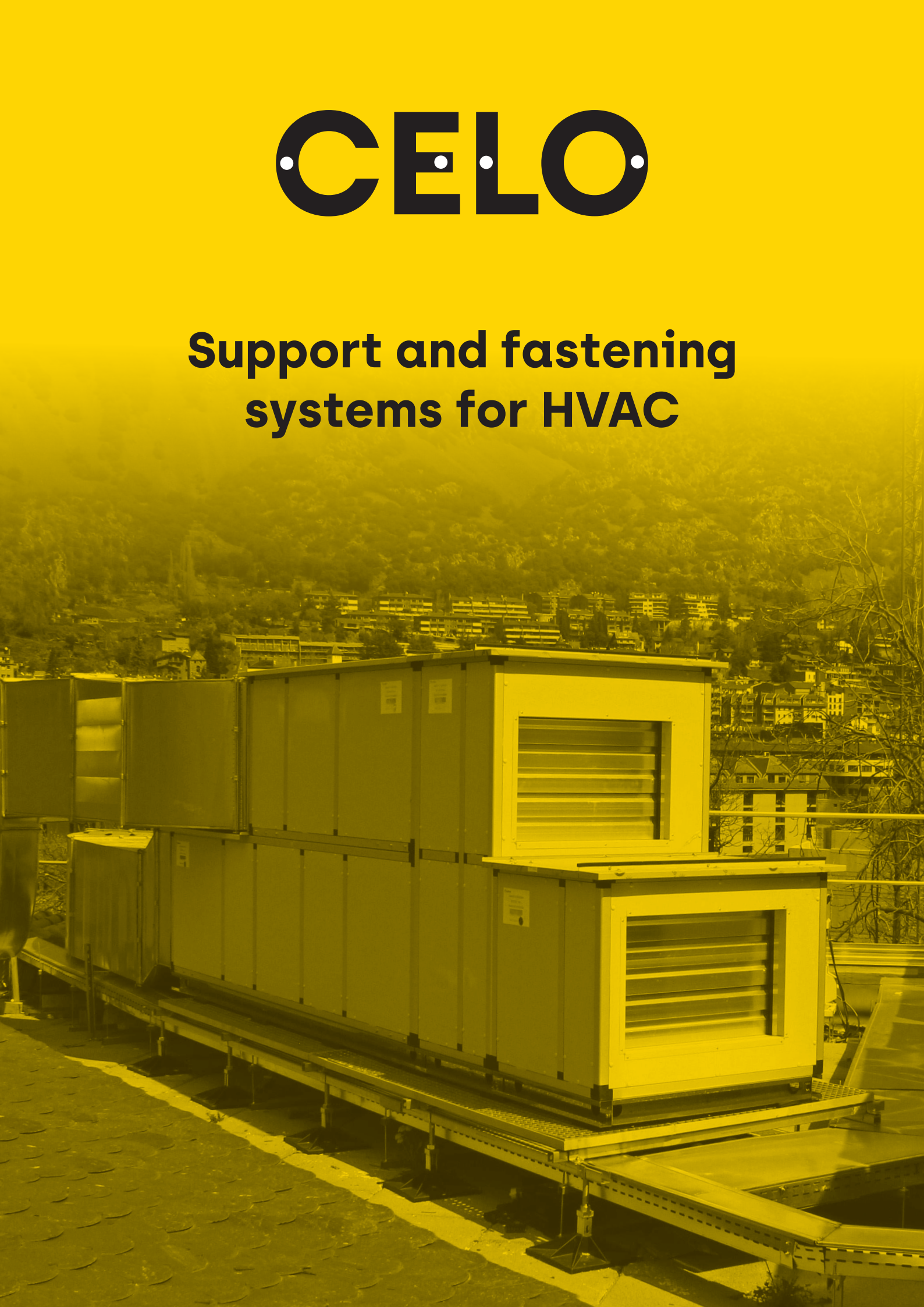
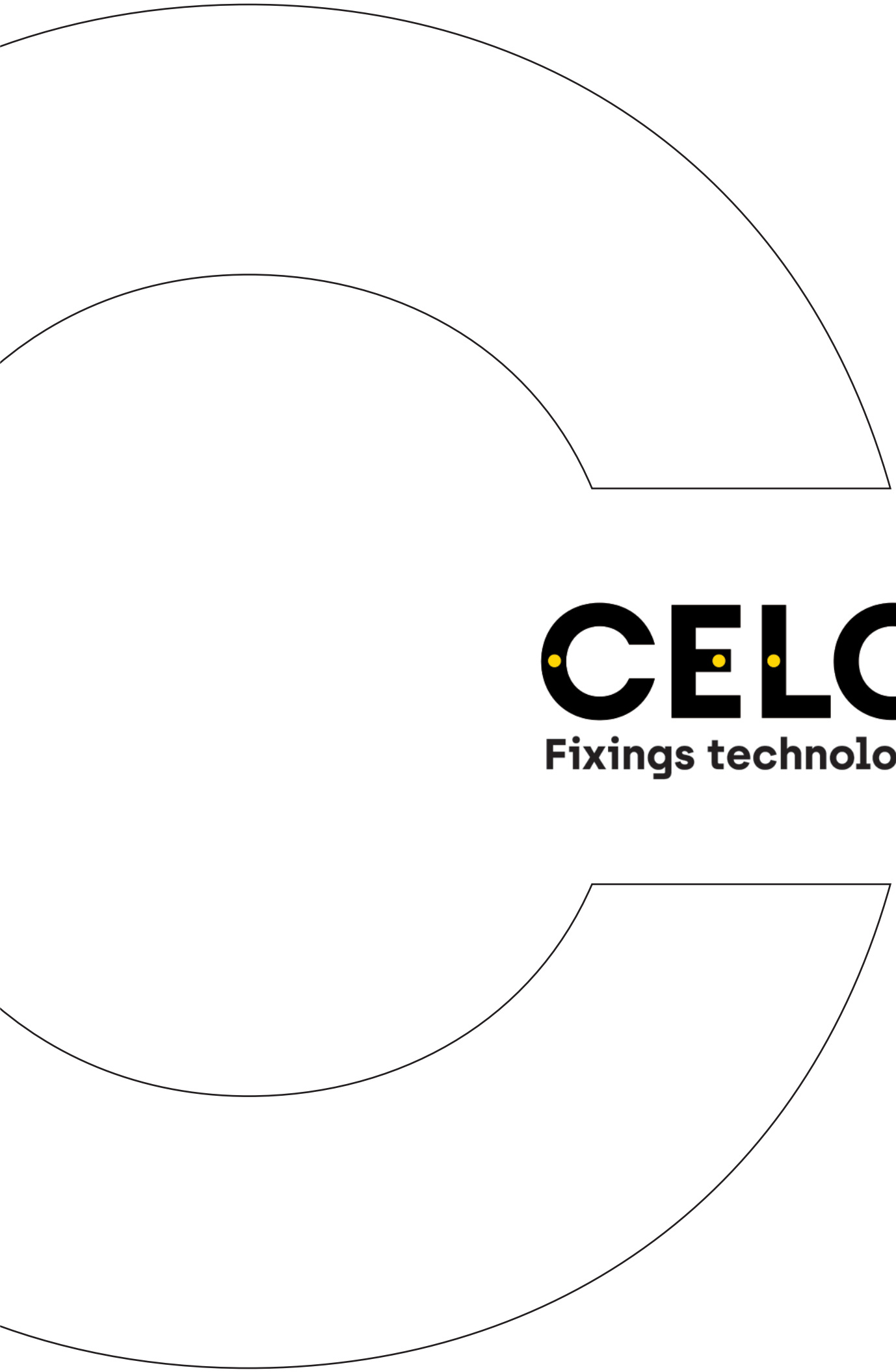
CELO

Support and fastening systems for HVAC





CELO

Fixings technology

Small Things Matter

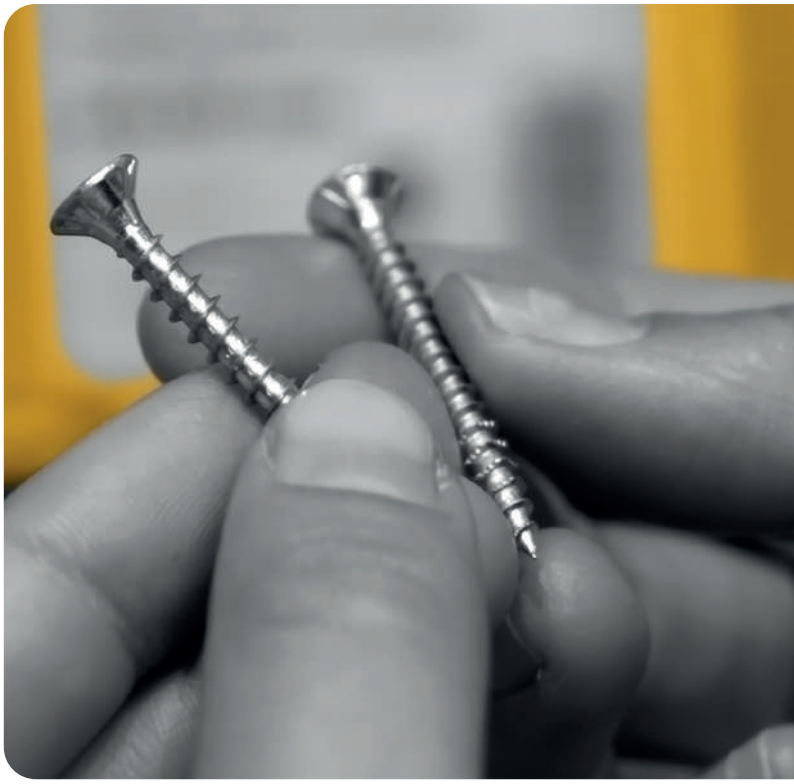


In CELO, we believe that **small details make a difference.** That's why every system we develop is born with a clear purpose: to help you **work faster,** with less effort and **better results.**

Our experience as a **manufacturer** allows us to control every detail, from **product design and manufacturing** materials to production, ensuring reliable, durable, and **easy-to-install solutions.** In addition, thanks to our cross-department dedication, every CELO team collaborates to consistently meet the highest standards, which enables us to offer a comprehensive and distinctive **experience for our customers.**

We design products that not only **make installation easier,** but also maximize performance and competitiveness for our clients. To achieve this, we have a t**eam of expert engineers** at your disposal, ready to provide complete support at every stage of the project. At CELO, your success is our priority, which is why we ensure that our technical solutions are designed to enhance efficiency and profitability on every job site.

Our commitment also extends to **distribution,** where we aim to offer **high-turnover** products along with the best resources to optimize point-of-sale management. Everything is designed so that selling CELO products is as **easy and fast** as installing them.





Our value proposition

As **experts in fastening solutions,** we combine innovation, quality, and agility so that every installation can be carried out in the **fastest, simplest, and most cost-effective way.**

What sets us apart?

Innovative systems

Designs that simplify installation, save time, and deliver real value to every project.

Tailored solutions for you

One of the widest ranges on the market, designed to meet the real needs of installers and distributors.

Certified quality

Validated by international approvals.

Global-vision manufacturers

Full control of the production process and international presence to provide fast, close-to-you support.

Expert technical support

Our engineering team supports you before, during, and after installation to optimize every detail.

Constant evolution

We improve every day to offer more sustainable, efficient solutions aligned with the challenges of the industry.

CELO display services





We transform your point of sale into a more profitable, attractive, and efficient space.

Our displays are designed to **boost sales, improve your customers' experience,** and strengthen your business image—without you having to worry about a thing.

With **100% tailor-made implementation,** we adapt each display to your space and needs, always ensuring **maximum product visibility and turnover.**

- **Personalized implementation:** we install displays designed according to your store's style, space, and target audience.
- **Ongoing management:** our specialized team monitors product rotation and keeps the displays constantly updated.
- **Continuous guidance and improvement:** we analyze your sales and adjust the ranges to maximize the profitability of each category.
- **Marketing support:** we create promotions, materials, and specific actions to attract customers and drive sales.

Training sessions and webinars



Our commitment to **continuous learning** is a central part of our philosophy, aimed at driving professional growth and **excellence in every project.** Our dedication to training is reflected in our collaboration with associations and installation companies, giving our customers access to our own **courses and update programs** across all our areas of expertise.

In addition to promoting knowledge exchange within the sector, we organize **open sessions** for any interested user, covering trends, technical updates, and best practices. Internally, we also promote **on-demand training initiatives for our teams,** strengthening talent and ensuring a high level of specialization.

Training sessions and webinars



Maintaining a direct connection with industry professionals drives us to actively **participate in the main national trade fairs** and in events organized by our customers, where we present the l**atest additions** to our catalog, **perform live demonstrations,** and offer specialized, **free technical support** to visitors.

In addition to showcasing **innovations and trends,** these events allow us to build close relationships, exchange knowledge, and listen first-hand to the needs of the market so we can continue improving every day.

Technical services for installers



Tailored technical solutions

At CELO Fixings, **we provide the technical support you need** to carry out your projects efficiently and safely. We take care of optimizing resources, solving unexpected issues, and ensuring that you always have the right materials and procedures for each installation.

ALL OUR TECHNICAL SERVICES

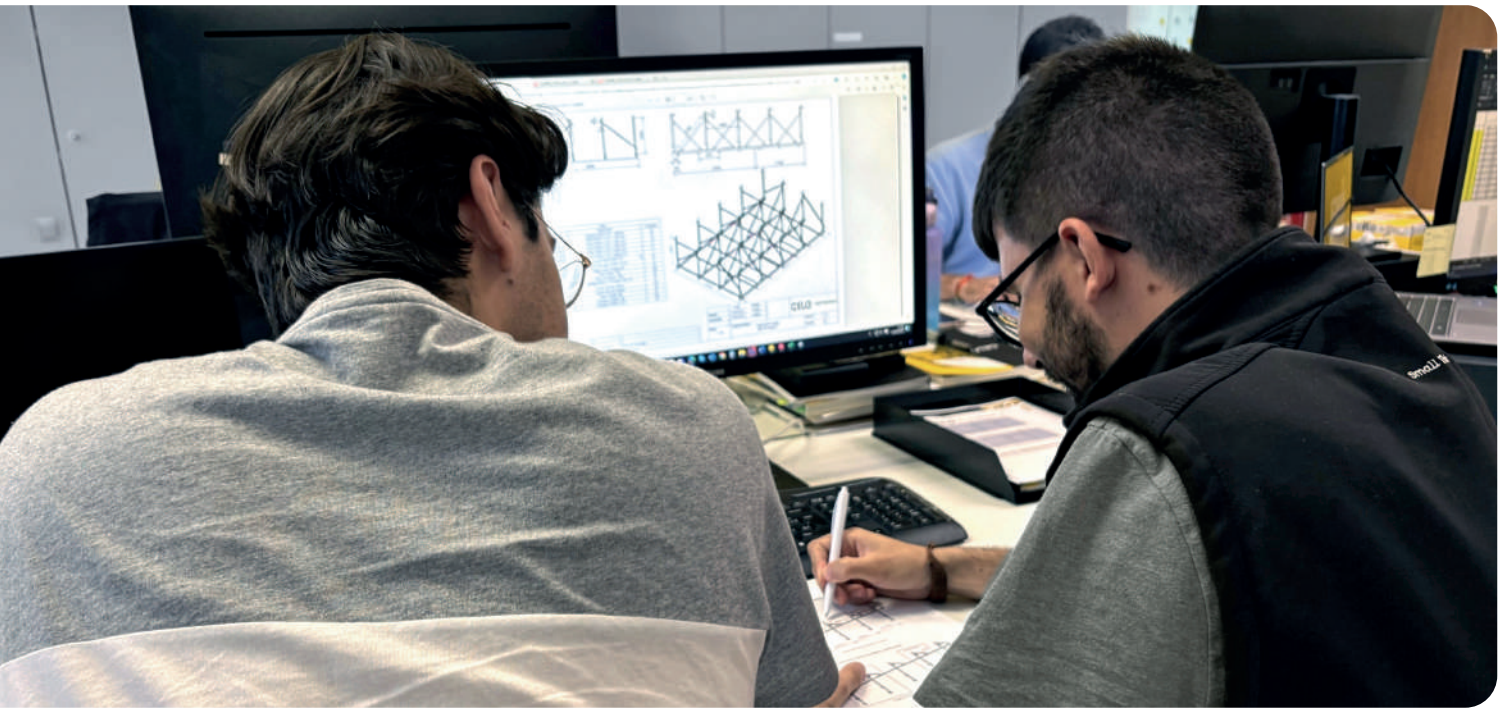
- **Preliminary project study:**
We analyze the needs of your installation to offer the most suitable solution right from the start of your project.

- **Material definition and optimization:**
We select and adjust the materials required for the installation to maximize efficiency and reduce costs.

- **Installation review and verification:**
We review and verify your project's installation to ensure it meets all necessary technical and safety requirements.

- **On-site technical support:**
We accompany you on-site to resolve any technical questions and ensure an efficient and safe installation with the help of our expert technicians.





Engineering technical services

Professional technical analysis, definition, and support



CELO's **engineering team is available to help** you define, optimize, and execute your projects with precision and efficiency. We analyze every step to offer you **effective technical solutions, reducing time and ensuring a fast and safe installation.**

- **Project analysis and definition**
  We analyze the needs of your installation to offer the most suitable solution, reducing budget and preparation time.

- **On-site technical support**
  We accompany you on-site to resolve any technical questions and ensure an efficient and safe installation with the help of expert technicians. Depending on the country (contact to confirm).

- **BIM modeling and preview**
  We integrate our solutions into your BIM model to preview the final installation and avoid technical conflicts.

- **Custom solution design**
  Our technical team analyzes your project to offer the safest and most efficient solution. With DesignFiX, a free software tool, you'll find the ideal fastening for each application.

SCAN THE CODE
REQUEST TECHNICAL SUPPORT!



Complete technical study: loads, materials, documentation, etc.

Custom design and cutting according to project requirements.

Delivery on-site ready to install.

Maximum structural safety and regulatory compliance.

Faster, more efficient, and longer-lasting installations.

Pre-assembly service

Design, breakdown, and supply for fast, tailor-made installation.

At CELO, **we design and pre-assemble customized industrial frames tailored** to the needs of each project.

Thanks to our free breakdown study and pre-assembled shipping service, **we ensure significant time savings on-site.**

Benefits of a study and pre-assembly:

- Structural safety
- Damage prevention
- Design optimization
- Regulatory compliance
- Safety and durability

Pre-assembled frame rooftop support

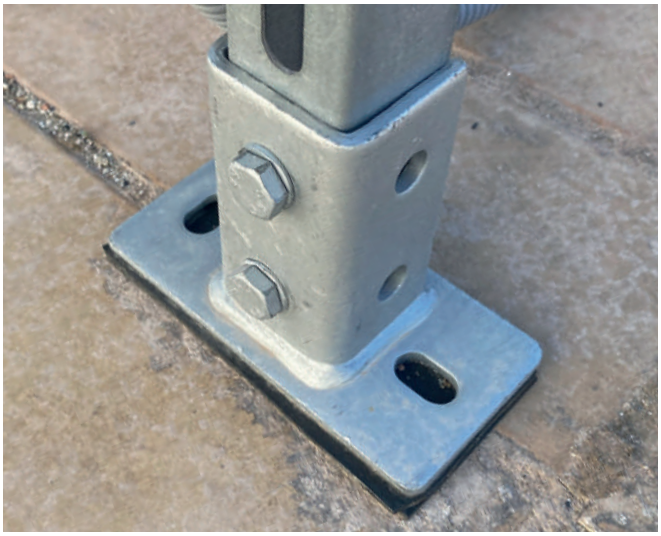
Custom support for 400 schools in Andalucia.

This large-scale project involved the installation of HVAC equipment in **400 educational centers.** The requirement: **raising the units with precision** to allow correct lower duct connection.

To meet this challenge, **CELO's technical team** designed a **customized solution** based on **pre-assembled frames with KlimaProof® coating,** ensuring **high corrosion resistance,** together with **wall supports adapted** to the structural needs of each installation.

This solution **significantly reduced on-site assembly times,** optimizing the process and minimizing possible errors during installation. In addition, it provided a **durable and reliable structure,** capable of consistently **withstanding demanding weather conditions and maintaining long-term performance.**







Success cases

Adapted rooftop support in Andorra: Aerothermal Project

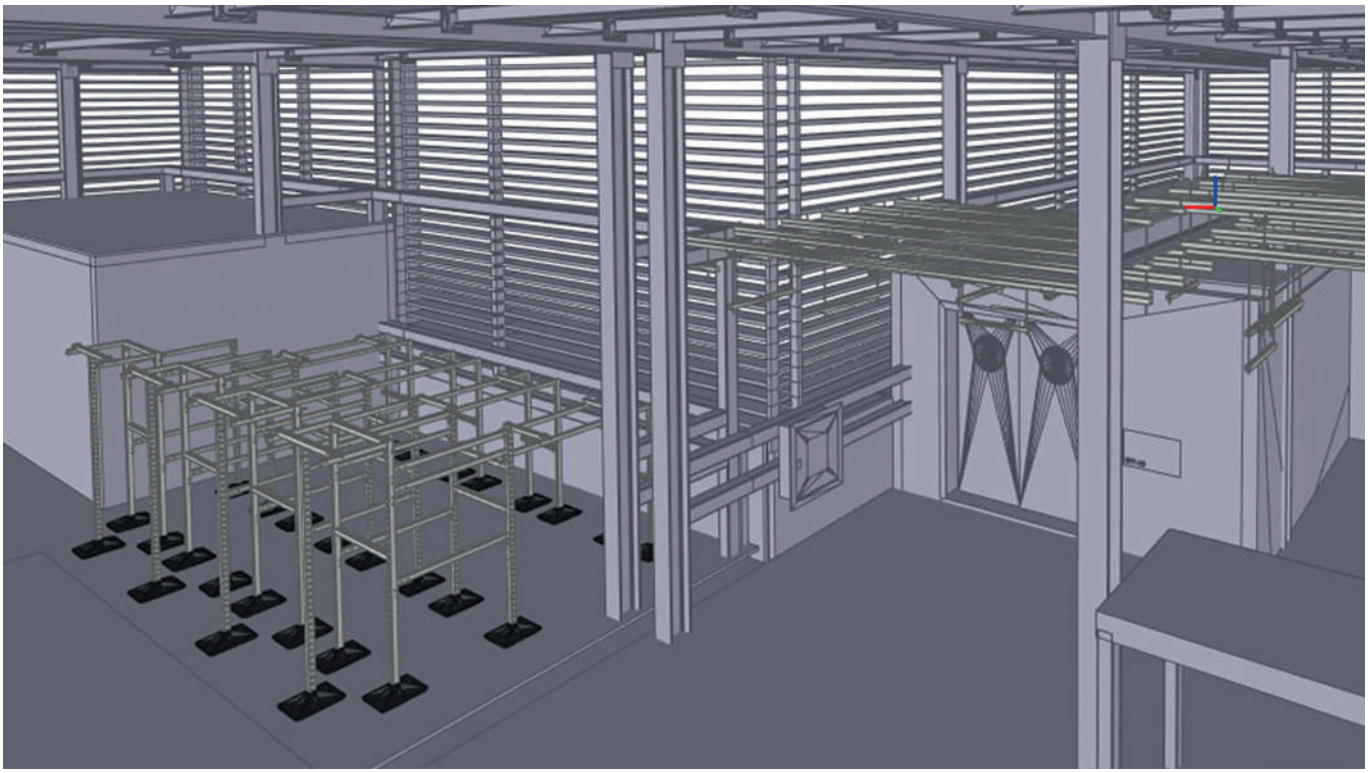
Custom support solution for extreme weather conditions.

The installation company relied on CELO to develop a customized support solution for rooftop aerothermal equipment in Andorra. The main challenge was to adapt the structure to an existing roof while ensuring **safety, stability, and resistance to snow, wind, and other adverse weather conditions.**



After analyzing the project plans, CELO's technical team designed three specific structures to meet the environment requirements perfectly: ad hoc structures with high-resistance profiles and **KlimaProof®** coating, adjustable Bigfeet to ensure proper leveling, and a strategic selection of products from CELO's outdoor support range.

This techincal solution signicantly reduced installation time, ensured long-term structural durability in a highly demanding climate, and allowed the project to be executed without unforeseen issues or modiications thanks to a precise design and continuous support from our technical team.





BIM-designed support for Hospital.

Efficient and durable solution for cable tray installation.

During the expansion of the University Clinical Hospital, t**he main challenge was installing overhead cable trays on the rooftop,** where the available metal beams were spaced 4 meters apart, making fastening an issue.

CELO's technical team designed a custom solution based on a **Strut sub-structure** that made it possible to bridge those distances and support the trays with complete safety. In the areas where additional height from the ground was required, **BigFoot** units were integrated.

The entire system was designed for outdoor use with a **KlimaProof®** coating, ensuring resistance in saline environments, and everything was digitally designed in BIM, allowing for fast and precise implementation of the solution.

Success cases

Outdoor **pipe support**



Custom solution for pipeline installations in a coastal environment.

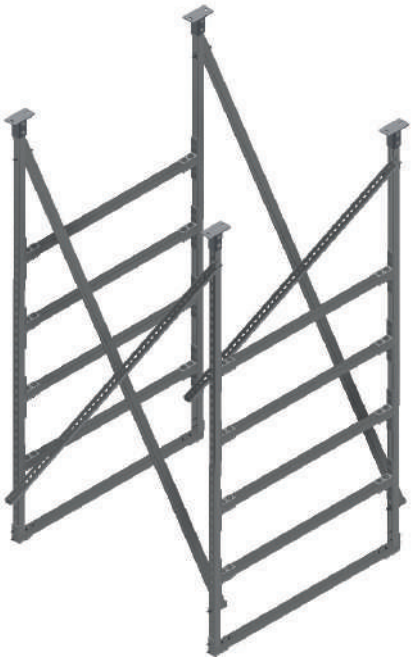
In the project to modernize the domestic hot water installations at a Hotel in Sitges, the challenge was to **design a gantry style structure capable of supporting large diameter PPR pipes,** adapting each structure to the characteristics of each section and ensuring safe rooftop anchoring.

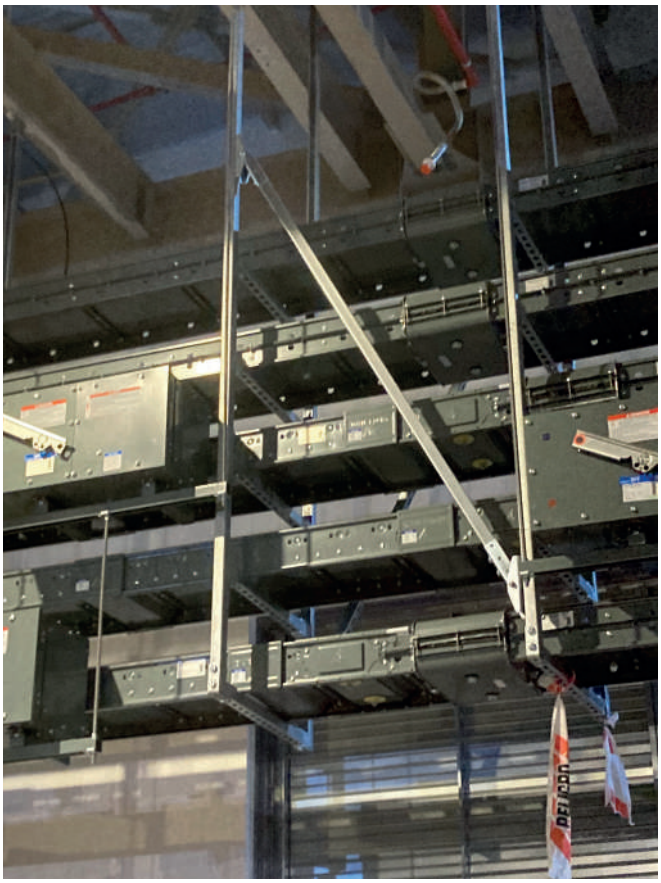
CELO's technical team developed a customized solution using double Strut profiles in sections from 250 mm to 160 mm, with 4 meter gantry supports. The pipes were fastened from below the gantry to maintain aesthetics in visible areas, incorporating **expansion sliders** to absorb dimensional changes. Wall anchoring was done using SH wall brackets and BTS stainless-steel anchors, and all metal components had a **KlimaProof®** coating to ensure resistance in a coastal environment.

The design adapted to each pipe type allowed for precise material optimization and installation efficiency. The use of EP quick-connection systems significantly reduced assembly time compared to conventional methods. The involvement of CELO's technical team and the immediate availability of materials were key to completing the project efficiently and on time.



Seismic-resistant **Data Center support**





High-performance support systems for data centers.

During the construction of a **data center** in Santiago de Chile, the challenge was to replace traditional welded iron structures with a modular, **Meccano-type system capable of supporting high gravitational loads while meeting strict seismic-resistance requirements.** The task included developing the proposal within a limited timeframe (less than two weeks), adapting it to a confined space with anchoring and bracing restrictions, and overcoming the limited strength of the existing metal structure, all while complying with local construction and safety regulations.

CELO designed a system of secondary beams using **Strut profiles** and multi-level octagonal frames, reinforced with cable trays. **The system's flexibility made it possible to adapt dimensions, rotations, and assembly to real on-site conditions.**

The solution significantly reduced installation time and costs, **simplified transport and assembly by eliminating the need for welding, and allowed components to be reused for different configurations.** Technical support, on-site training, and the adaptability of the system optimized on-site work, improved the final appearance, and ensured a safe and efficient result.



Pick&Install

Optimize your warehouse, maximize your productivity



SCAN THE CODE
Get more information
or request your Pick&Install!



INFORMATIONAL SIGNAGE
Products by category: fastening, clamping, profiles, and anchors

TECHNICAL SUPPORT
Direct from the factory and continuous training

90% SAVINGS
Time saved searching for material in the workshop

50 % REDUCTION
from loss of inventory and misplaced material

OPTIMAL SPACE UTILIZATION
with adaptable and stackable modules (50 or 100 cm)

What does the Pick&Install system consist of?

Pick&Install is the comprehensive storage and organization solution specially designed for professional installers. It transforms disorder into efficient, organized spaces, allowing you to always have the necessary materials at hand and reducing time and costs in your day-to-day work.

- **Initial free diagnosis** and needs analysis.
- **Personalized design** based on your workshop and workload.
- **Professional installation** and complete organization of your products.
- **Staff training** to get the most out of the system.
- **Ongoing support** and optimization.
- **Maintenance included.**

Grow your business—work with the warehouse you deserve.

Discover how CELO Pick\&Install can transform your workshop.

Fast Assembly Strut System

Save 50% on support installation time

With CELO's Fast Assembly Strut System, you **save time and money on your support installations.** Contact our technical team with no commitment and let them guide you through every step, reviewing your projects and providing a detailed study.

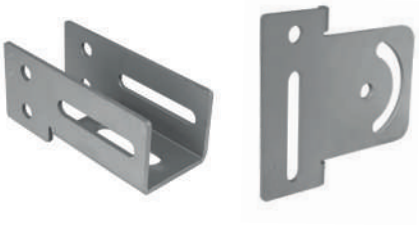
You will receive a tailor-made breakdown, ensuring you obtain the exact fixings needed for each project. With this comprehensive solution, efficiency is guaranteed from planning to implementation.

Fast Assembly Strut for your installation

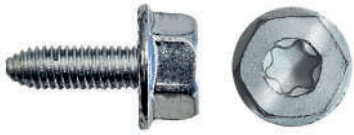
The fastest installation. With easy, intuitive assembly, you only need three products to install with this system:



KlimaProof® Strut Profile
41x41 Strut profile with a wide variety of lengths up to 6 m



Union plates / brackets
Connection accessories depending on the support configuration



Fastite screw
Hex-head screw with combined hex and Torx drive

The process is simple:

Choose the **profile** length (from 400 mm to 6 meters)
- Select the union plate/bracket.
- Assemble the structure using the Fastite screw.

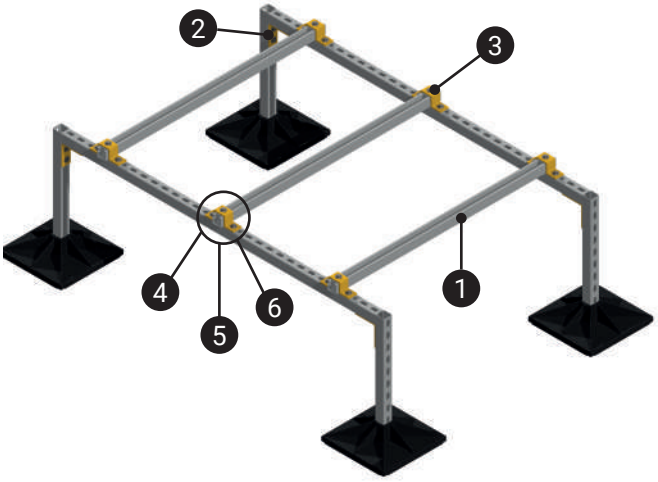
Fast and intuitive installation
The support is assembled directly onto the Strut profile. Fewer connection elements.

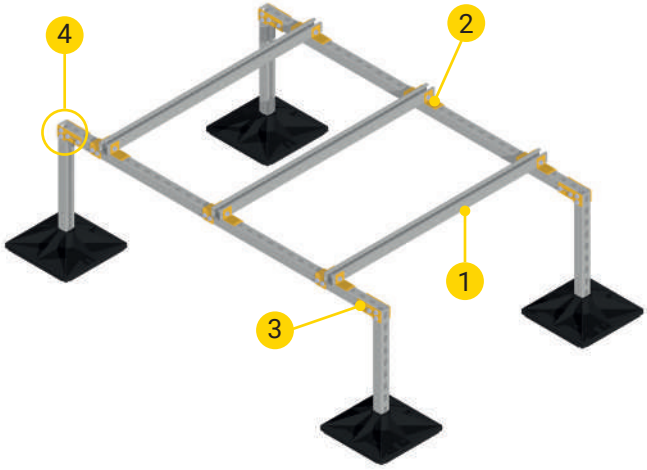
Resistant in corrosive environments thanks to the KlimaProof® coating
Offering protection for over 1,000 hours in a salt spray chamber.

50% cost reduction
Reduces the total cost of equipment installation. The screw-based connection design shortens installation time.

Anti-loosening design
The mechanical screw connection provides high resistance, preventing loosening even from vibrations or impacts.

Assembly time comparison for your frame





TRADITIONAL SYSTEM

What material do you need?

1. Strut profile
2. 90º bracket
3. Omega union plate
4. 933 8x25 mm screw
5. Washer
6. Quick nut – TSS

Installation time
20 minutes

FAST ASSEMBLY STRUT

What material do you need?

1. Fast Assembly Strut profile
2. Fast Assembly 90º bracket
3. Omega FAS union plate
4. Fastite 7x15 screw

Installation time
9 minutes

Save 60 % installation time

KlimaProof®

1,000 hours in a salt spray chamber



Extended fastening system for indoor and outdoor installations:

- The KlimaProof® coating ensures resistance in a salt spray chamber* according to ISO 9227 for more than 1,000 hours.
- Corrosion resistance: C1–C4 according to ISO 12944-2.
- Total protection thanks to self-healing capability on cut edges.
- Excellent resistance in highly aggressive environments.
- Threaded accessories also withstand the 1,000 SSC hours.
- Can be combined with zinc-plated, pre-galvanized, and hot-dip galvanized steel products**.

The best alternative to hot-dip galvanizing

ZINC-PLATED STEEL
80 hours

HOT-DIP GALVANIZED
Up to 600 hours

CELO KlimaProof® Protection

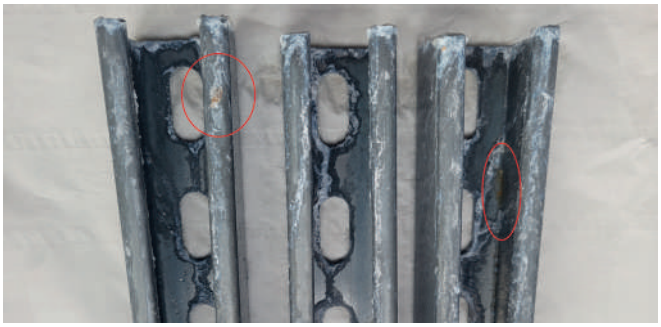
KlimaProof®
1.000 hours

*Until the appearance of a maximum of 5% red rust.
KlimaProof® is a coating that guarantees more than 1,000 SSC hours. This guarantee is subject to Terms and Conditions at **www.celofixings.com.

KlimaProof® coating guarantee

CELO certifies a minimum durability of 1,000 hours in a salt spray chamber according to DIN-EN ISO 9227 for the entire range of KlimaProof® products.

The verifications carried out were performed through accelerated corrosion tests in a salt spray chamber according to DIN-EN ISO 9227 in a certified external laboratory, where the durability of the KlimaProof® coating was confirmed both on profiles and on system accessories. This was verified through the NSS (Neutral Salt Spray) test, with a minimum durability of 1,000 hours and a maximum of 5% red corrosion on the surface.



Samples at 600 hours in NSS



Samples at 1,000 hours in NSS



Accessory samples at 1,000 hours in NSS

This guarantee applies to the quality of all systems built with KlimaProof® products. Subject to the conditions of this document, this guarantee covers structural integrity — in other words, no perforation and no breakage due to corrosion— of any product with the KlimaProof® coating.



OUTDOOR SUPPORT SYSTEMS

FAS KlimaProof® Strut Profile 41x41	28
FAS KlimaProof® Strut Profile 41x82	29
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FAS KlimaProof® Joint ROT	32
FAS KlimaProof® Vertical Union Plate UDESC	32
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TS Profile Nut 	95
SV Wall Support 	96
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VT / HT Support 	97
Beam Clamp 	97
PRS Lock Plate 	98
TPP Profile Cap 	98
LWFS Suspended Fixing System 	99
EWFS Suspended Fixing System 	99

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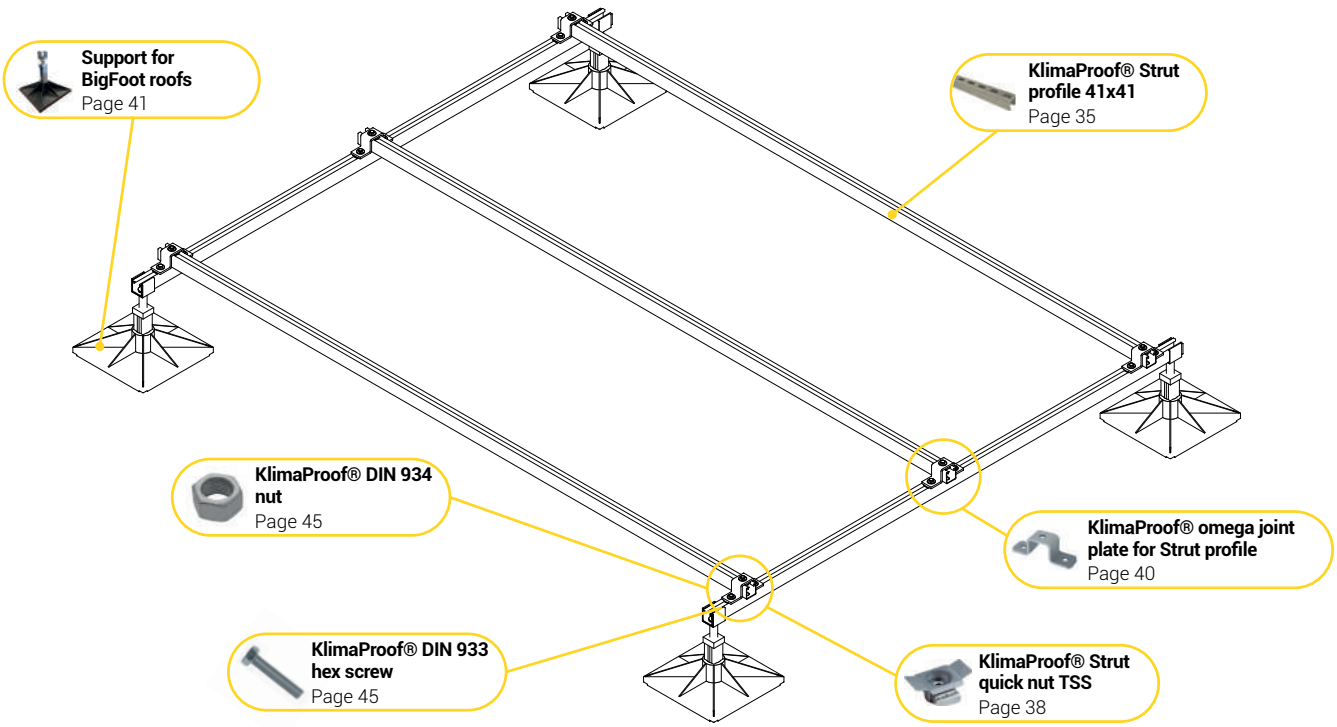
Notes

Outdoor support systems

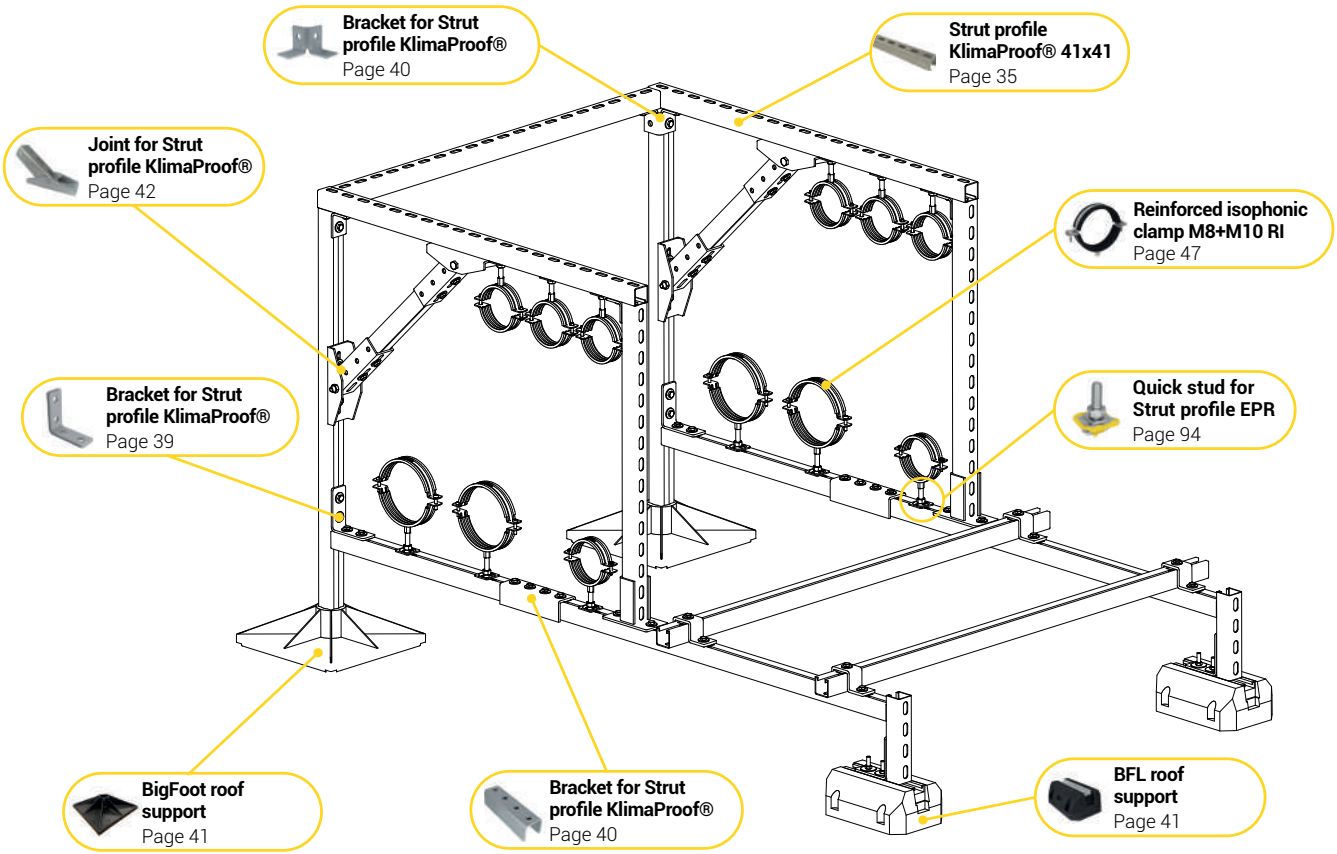
Fast Assembly Strut KlimaProof® Profile 41x41	28
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Outdoor installations

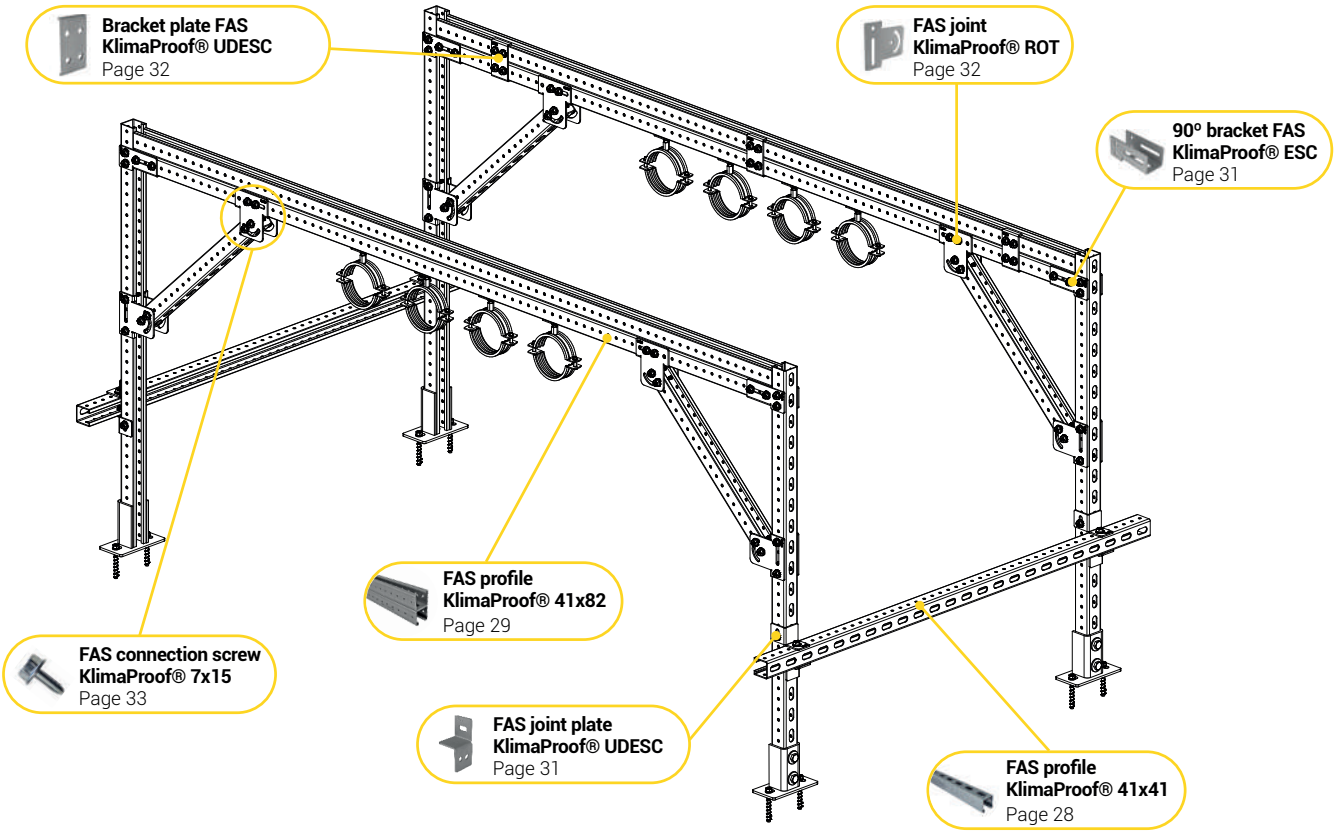
Machinery support



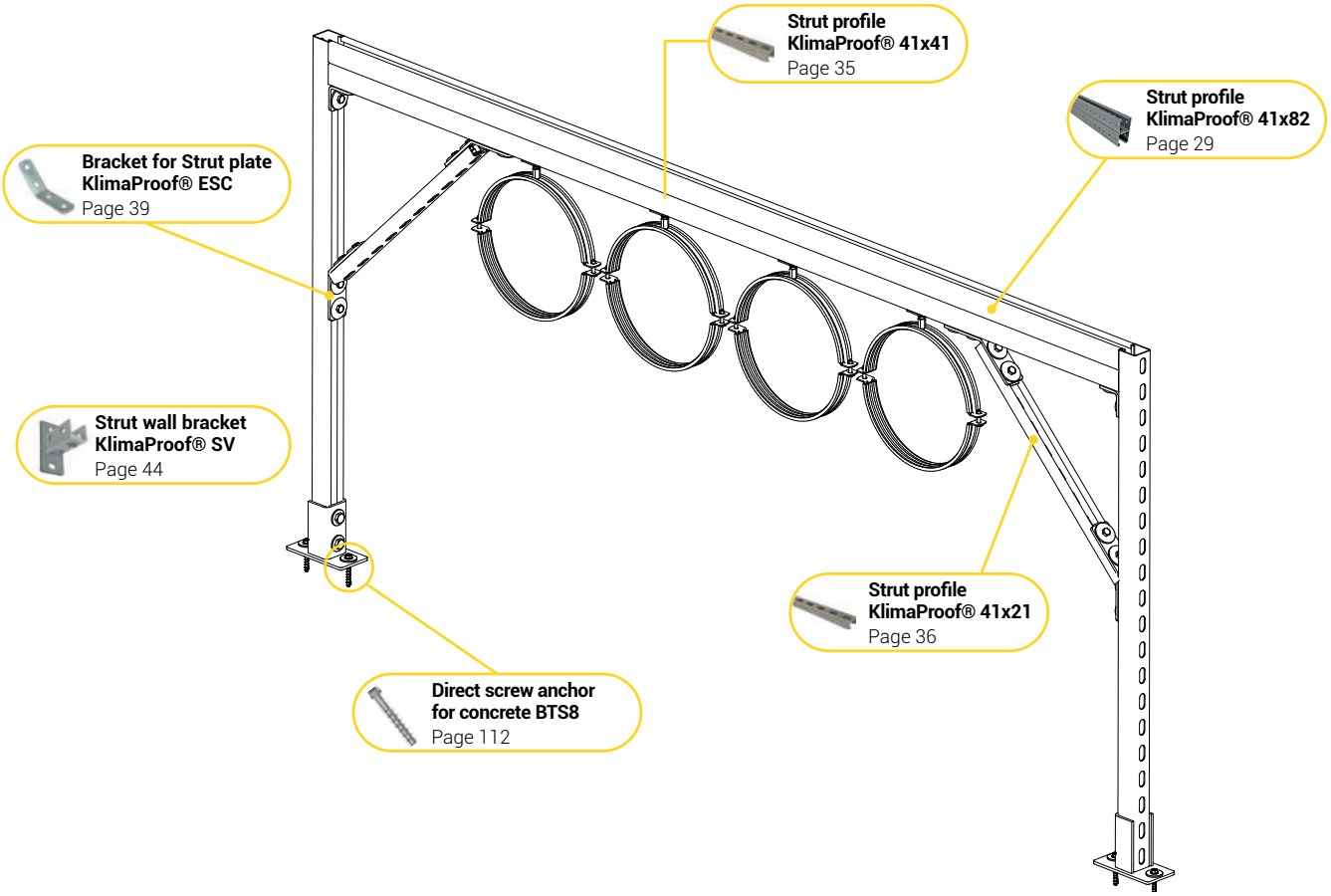
Mixed machinery and pipe support



Fast Assembly Strut outdoor support

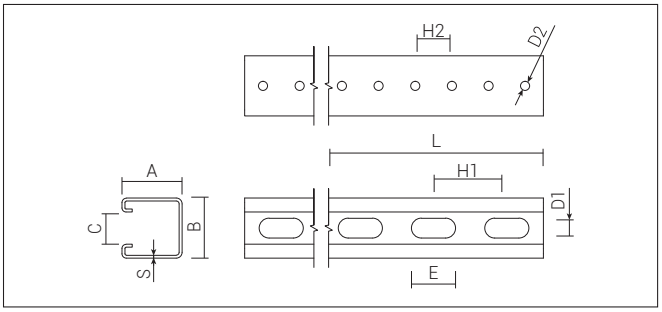


Pipe support



Fast Assembly Strut KlimaProof® Profile 41x41





L: Length
B: Width
S: Thickness
C: Profile opening

D_1: Slot diameter
E: Slot width
H_1: Distance between slots

D_2: Hole diameter
H_2: Distance between holes

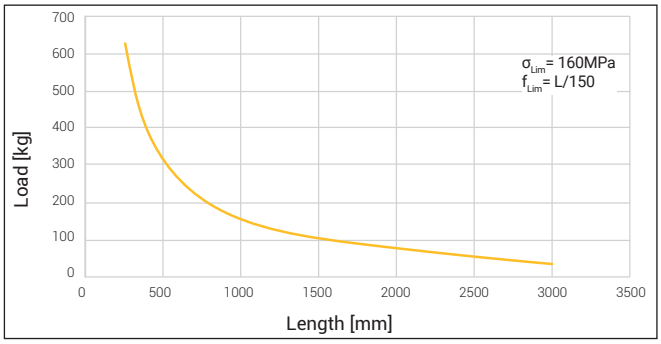
Features

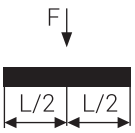
- Fast Assembly Strut KlimaProof® Profile 41x41 with side holes for easy and quick assembly with the FAS system.
- Compatible with all FAS system accessories and with Strut system accessories.
- Saw-tooth edging under the borders to prevent slipping.
- In-house manufacturing. Guaranteed quality.
- Corrosion resistance: C1–C4 according to ISO 12944-2.
- The KlimaProof® coating guarantees salt spray resistance according to ISO 9227 for at least 1,000 hours.
- DX51 galvanized steel Z200 MA according to UNE-EN 10327.

Strapped presentation

Fast Assembly Strut Profile 41x41 KlimaProof® coating

L (mm)	BxAxS (mm)	C (mm)	D1xE (mm)	H1 (mm)	D2 (mm)	H2 (mm)	Code	Pack (pcs.)
3000	41x41x2	22	30x13.5	50	6.2	25	**MGLFAS41413000P20**	1





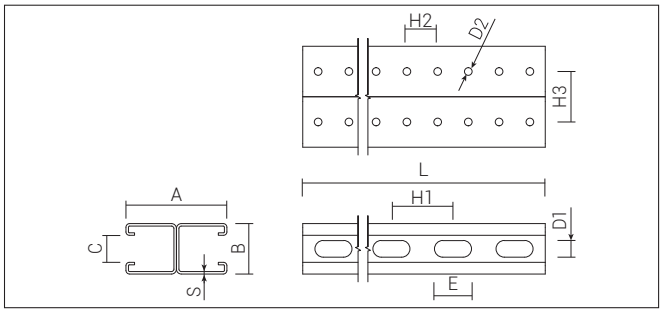
Central load. For any other load distribution, add all loads together and treat them as a single point load located at L/2.
Values based on a maximum deflection of L/150 and σ_{perm} 160 N/mm².
Simulation carried out by CERO METROS CUADRADOS engineering.

Recommended loads

Load (kg)	Maximum length (mm)
624	250
520	300
446	350
390	400
347	450
312	500
260	600
223	700
195	800
173	900
156	1000
142	1100
130	1200
120	1300
111	1400
104	1500
89	1750
78	2000
66	2250
53	2500
44	2750
37	3000

Fast Assembly Strut KlimaProof® Profile 41x82





L: Length
B: Width
S: Thickness
C: Profile opening
D_1: Slot diameter
E: Slot width
H_1: Distance between slots
D_2: Hole diameter
H_2: Distance between holes
H_3: Distance between holes

Features

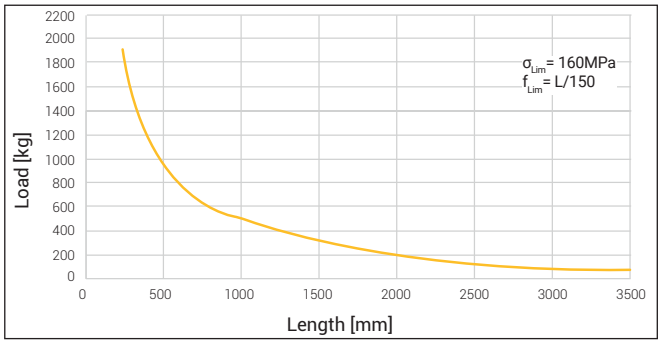
- Fast Assembly Strut KlimaProof® Double Profile 41x82 with side holes for easy and quick assembly with the FAS system.
- Union of two 41x41 Strut profiles by electro-welding every 150 cm
- Compatible with all FAS system accessories and with Strut system accessories.
- Saw-tooth edging under the borders to prevent slipping on both profiles.
- In-house manufacturing. Guaranteed quality.
- Corrosion resistance: C1–C4 according to ISO 12944-2.
- The KlimaProof® coating guarantees salt spray resistance according to ISO 9227 for at least 1,000 hours.
- DX51 galvanized steel Z200 MA according to UNE-EN 10327.

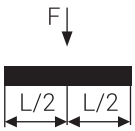
Strapped presentation

Fast Assembly Strut Profile 41x82 KlimaProof® coating

L (mm)	BxAxS (mm)	C (mm)	D1xE (mm)	H1 (mm)	D2 (mm)	H2 (mm)	H3 (mm)	Code	Pack (pcs.)
3000	41x82x2	22	30x13.5	50	6.2	25	41	**MGLFAS41823000P20D**	1

Made-to-order product.





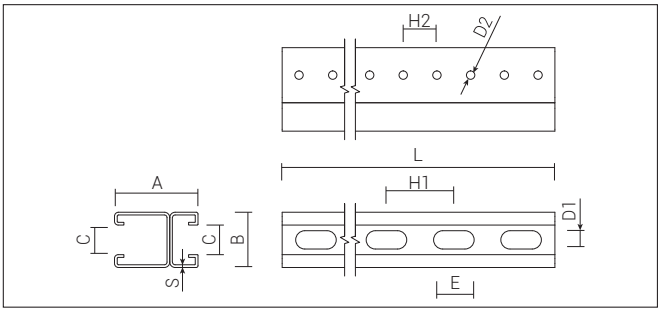
Central load. For any other load distribution, add all loads together and treat them as a single point load located at L/2.
Values based on a maximum deflection of L/150 and σ_{perm} 160 N/mm².
Simulation carried out by CERO METROS CUADRADOS engineering.

Recommended loads

Load (kg)	Maximum length (mm)
1952	250
1627	300
1220	400
976	500
813	600
697	700
610	800
488	1000
407	1200
322	1400
246	1600
195	1800
158	2000
130	2200
109	2400
93	2600
80	2800
70	3000

Fast Assembly Strut KlimaProof® Profile 41x62





L: Length
B: Width
S: Thickness
C: Profile opening

D1: Slot diameter
E: Slot width
H1: Distance between slots

D2: Hole diameter
H2: Distance between holes

Features

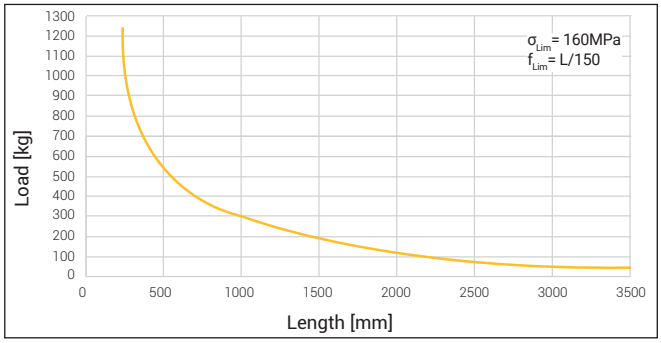
- Fast Assembly Strut KlimaProof® Double Profile 41x62 with side holes for easy and quick assembly with the FAS system.
- Union of two Strut profiles 41x41 and 41x21 by electro-welding every 150 cm.
- Compatible with all FAS system accessories and with Strut system accessories.
- Saw-tooth edging under the borders to prevent slipping on both profiles.
- In-house manufacturing. Guaranteed quality.
- Corrosion resistance: C1–C4 according to ISO 12944-2.
- The KlimaProof® coating guarantees salt spray resistance according to ISO 9227 for at least 1,000 hours.
- DX51 galvanized steel Z200 MA according to UNE-EN 10327.

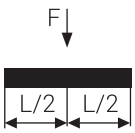
Strapped presentation

Fast Assembly Strut Profile 41x62 KlimaProof® coating

L (mm)	BxAxS (mm)	C (mm)	D1xE (mm)	H1 (mm)	D2 (mm)	H2 (mm)	Code	Pack (pcs.)
3000	41x62x2	22	30x13.5	50	6.2	25	**MGLFAS41623000P20**	1

Made-to-order product.





Central load. For any other load distribution, add all loads together and treat them as a single point load located at L/2.
Values based on a maximum deflection of L/150 and σ_{perm} 160 N/mm².
Simulation carried out by CERO METROS CUADRADOS engineering.

Recommended loads

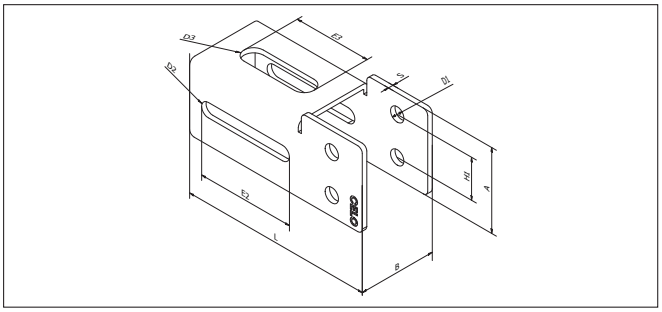
Load (kg)	Maximum length (mm)
1230	250
1025	300
768	400
615	500
512	600
439	700
384	800
307	1000
256	1200
214	1400
164	1600
130	1800
105	2000
87	2200
73	2400
62	2600
54	2800
47	3000

Fast Assembly Strut KlimaProof® Bracket ESC





NEW PRODUCT

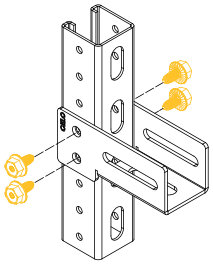


L: Length
B: Width
A: Height
S: Thickness
D_1: Hole diameter
H_1: Distance between holes
D_2: Slot diameter
E_2: Slot width
D_3: Slot diameter
E_3: Slot width

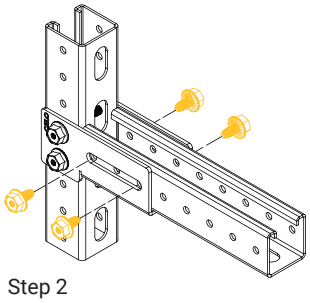
Features

- 0º union bracket for the Fast Assembly Strut system.
- Assembly on FAS 41x41, 41x62, and 41x82 profiles.
- Provides 90º connections between FAS profiles, allowing the construction of modular structures and flexible support systems.
- Compatible only with FAS profiles.
- High resistance. The 3 mm thickness provides high strength.
- KlimaProof® coating for outdoor installations (durability of more than 1,000 hours in a salt spray chamber).

Installation



Step 1



Step 2

Box presentation

Fast Assembly Strut ESC Bracket KlimaProof® Coating

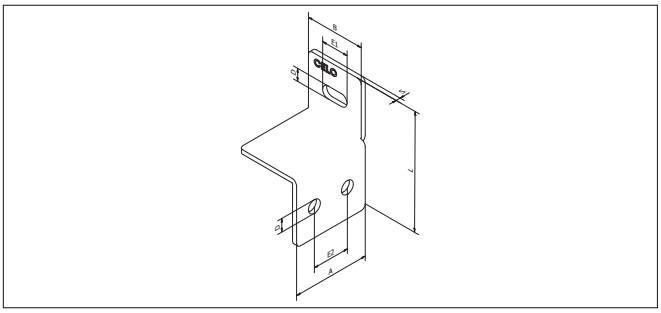
L (mm)	B (mm)	A (mm)	S (mm)	HxD1 (mm)	E2xD2 (mm)	E3xD3 (mm)	Code	Pack (pcs.)
116	47	50	3	25x6.2	59x9	47x13	**9L23FAS4190ESC**	20

Fast Assembly Strut KlimaProof® Union Plate UESC





NEW PRODUCT

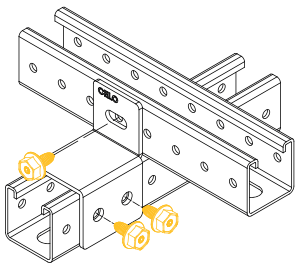


L: Length
B: Width
A: Height
S: Thickness
D: Slot / hole diameter
E1: Slot width
E2: Slot width

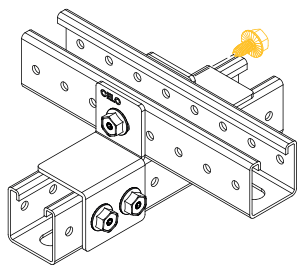
Features

- Perpendicular profile-to-profile union plate of the Fast Assembly Strut system.
- Assembly on FAS 41x41, 41x62, and 41x82 profiles.
- Provides 90º connections between FAS profiles, allowing the construction of modular structures and flexible support systems
- Compatible only with FAS profiles.
- High resistance. The 3 mm thickness provides high strength.
- KlimaProof® coating for outdoor installations (durability of more than 1,000 hours in a salt spray chamber).

Installation



Step 1



Step 2

Box presentation

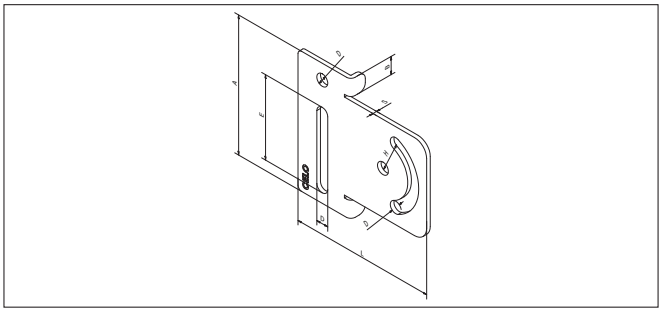
Fast Assembly Strut Union Plate UESC KlimaProof®

L (mm)	B (mm)	A (mm)	S (mm)	E1xD (mm)	E2xD (mm)	Code	Pack (pcs.)
82	37.5	40	3	19x9	23x9	**9L23FAS41UESC**	20

Fast Assembly Strut KlimaProof® Joint ROT





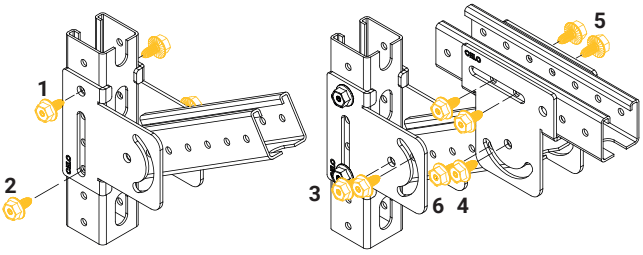


L: Length
B: Flange width
A: Height
S: Thickness
H: Distance between holes
D: Hole diameter
E: Slot width

Features

- Union plate for adjustable-angle connections in the Fast Assembly Strut system.
- Provides connections between Strut profiles, allowing angle adjustment from 0º to 135º.
- Assembly on FAS 41x41, 41x62, and 41x82 profiles.
- Compatible only with FAS profiles.
- High resistance. The 3 mm thickness provides high strength.
- KlimaProof® coating for outdoor installations (durability of more than 1,000 hours in a salt spray chamber).

Installation



Step 1 Step 2

Box presentation

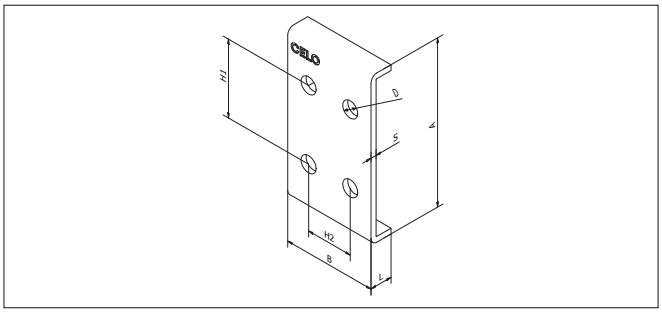
Fast Assembly Strut ROT KlimaProof® Coating

L (mm)	B (mm)	A (mm)	S (mm)	H (mm)	D (mm)	E (mm)	Code	Pack (pcs.)
106	13	100	3	25	9	61	**9L23FASROT**	20

Fast Assembly Strut KlimaProof® Vertical Union Plate UDESC





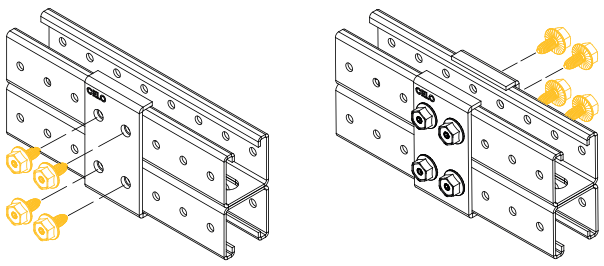


L: Length
B: Width
A: Height
S: Thickness
D: Hole diameter
H_1: Distance between holes / slot
H_2: Distance between holes / slot

Features

- Vertical union plate for profiles of the Fast Assembly Strut system.
- Provides connections between Strut profiles, enabling the construction of the double 41x82 profile (union of two 41x41 profiles).
- Assembly on FAS 41x41 profiles.
- Compatible only with FAS profiles.
- High resistance. The 3 mm thickness provides high strength.
- KlimaProof® coating for outdoor installations (durability of more than 1,000 hours in a salt spray chamber).

Installation



Step 1 Step 2

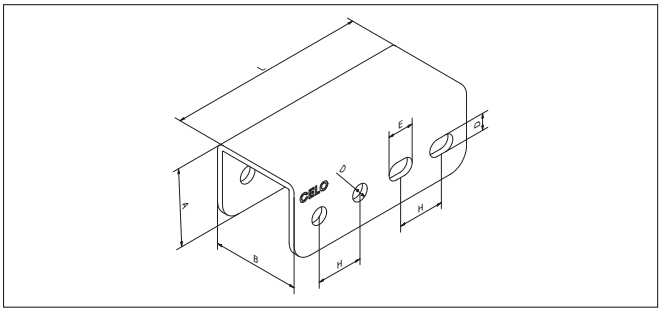
Box presentation

Fast Assembly Strut Vertical Union Plate UDESC KlimaProof®

L (mm)	B (mm)	A (mm)	S (mm)	H1 (mm)	H2 (mm)	D (mm)	Code	Pack (pcs.)
12	50	88	3	41	25	9	**9L23FAS82UDESC**	20

Fast Assembly Strut KlimaProof® Longitudinal Union Plate ULESC



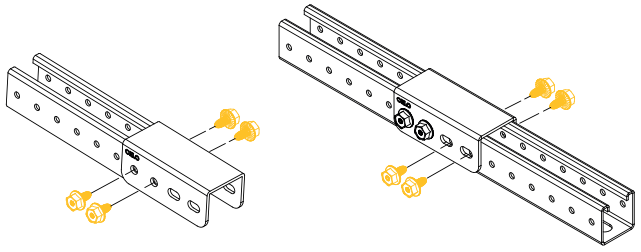


L: Length
B: Width
A: Height
S: Thickness
H: Distance between holes / slots
D: Hole / slot diameter
E: Slot width

Features

- Longitudinal union plate for profiles of the Fast Assembly Strut system.
- Provides linear connections between Strut profiles, enabling the linear construction of 41x41 profiles.
- Assembly on FAS 41x41, 41x62, and 41x82 profiles.
- Compatible only with FAS profiles.
- High resistance. The 3 mm thickness provides high strength.
- KlimaProof® coating for outdoor installations (durability of more than 1,000 hours in a salt spray chamber).

Installation



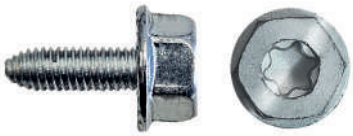
Step 1 Step 2

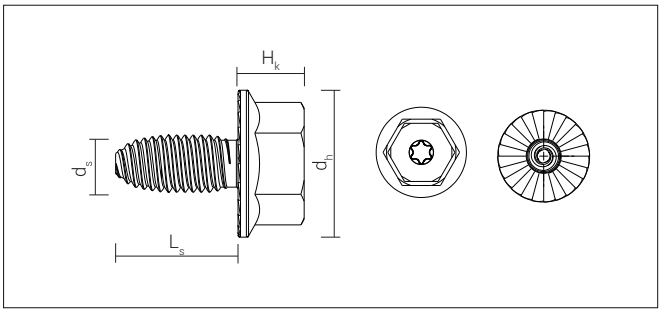
Box presentation

Fast Assembly Strut Longitudinal Union Plate ULESC KlimaProof®

L (mm)	B (mm)	A (mm)	S (mm)	D (mm)	DxE (mm)	H (mm)	Code	Pack (pcs.)
106	47	41.5	3	9	9x14.2	25	**9L23FAS41ULESC**	20

Fast Assembly Strut KlimaProof® Union Screw 7x15





d_s: Screw diameter
L_s: Screw length
d_h: Head diameter
H_k: Head height

Features

- Fastest fastening system for metal profiles.
- Fastite thread screw for tapping into thin sheet metal without needing a nut.
- Extrudes material to achieve higher strength.
- Eliminates the use of nuts and washers.
- Ridges under the screw head increase stripping torque and resistance to loosening due to vibration.
- The trilobular section ensures low threading torque and high resistance to vibration loosening.
- Compatible with FAS System profiles.

Box presentation

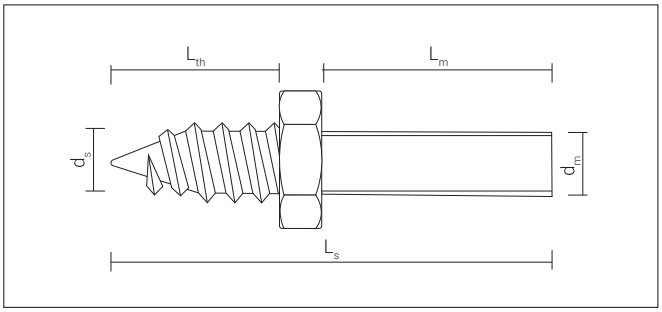
Fast Assembly Strut Union Screw 7x15 KlimaProof®

d_s (mm)	L_s (mm)	d_h (mm)	H_k (mm)	SW	Impronta	Code	Pack (pcs.)
7	15	18	8.1	13	Torx30	**9715FT13**	250

Fast Assembly Strut Direct-to-Profile Screw TRBFT



F 120



L_{th}: Threaded section
L_m: Metric length
L_s: Screw length
d_s: Screw diameter
d_m: Metric diameter

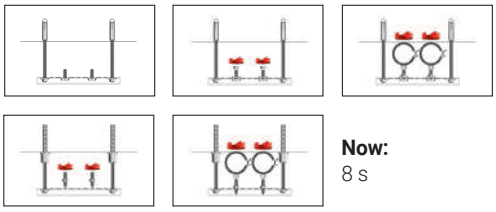
Features

- The fastest fastening system compatible with FAS profiles.
- Fastite thread screw ideal for threading into thin sheet metal without the need for a nut.
- Trilobular section ensuring low threading torque and high resistance to vibration loosening.
- Does not loosen. Eliminates the use of nuts and washers.
- Extrudes material to achieve greater strength.
- Versatile. Two types of metric thread.
- Dual-thread screw: FT M7x12 and metric M8x15 or M6x6.
- Installation using the Torab ST M8 Wrench.
- Suitable for mounting M6 and M8 clamps on profiles.





Installation



Before: 18 s

Now: 8 s

Box presentation

TRBFT Zinc-plated

d_s (mm)	L_s (mm)	L_{th} (mm)	L_m (mm)	d_m (mm)	Impr.	Code	Pack (pcs.)	Packaging (pcs.)
7	**32**	**12**	**6**	**M6**	TRBM8	**966TRBFT**	100	1,800
7	**32**	**12**	**15**	**M8**	TRBM8	**9815TRBFT**	100	1,800

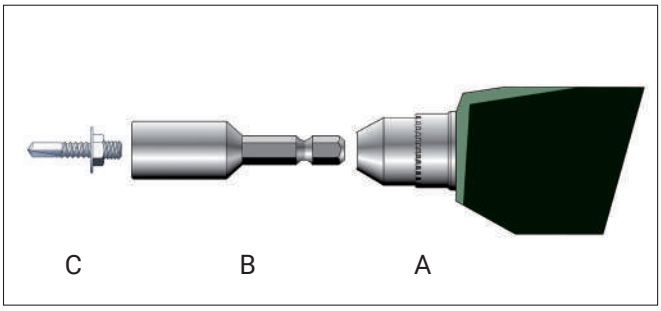
Socket wrench LLTRB



M8



M6



Features

- Compatible with: FT, TRB, TRBP.
- The socket wrench (B) attaches to the drill (A) for installing the Torab® screw (C).
- The wrench can be used with screwdrivers or a universal chuck.

Box presentation

LLTRB

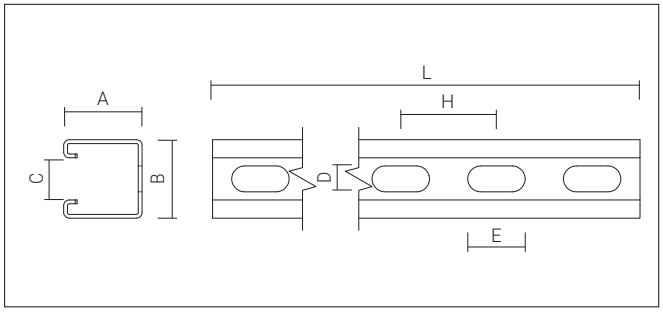
Thread	Sheet thickness (mm)	Code	Pack (pcs.)	Packaging (pcs.)
LL TRB-M6	TRB M6	**910M6LLTRB**	1	50
LL TRB-M8	TRB M8	**913M8LLTRB**	1	100

Strut KlimaProof® Profile 41x41



Strut Profile 41x41



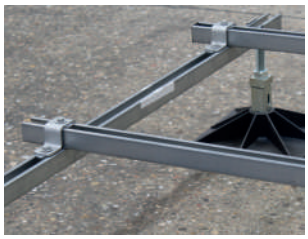


A: Height
B: Width
C: Profile opening
D: Hole width
E: Hole length
L: Length
H: Distance between holes

Features

- Strut channel system with continuous perforation. The distance between the end of the channel and the first hole is always the same.
- 13.5 x 30 mm perforation every 50 mm.
- Saw-tooth edging under the borders to prevent slipping.
- KlimaProof® coating, guaranteeing more than 1,000 hours in a salt spray chamber.



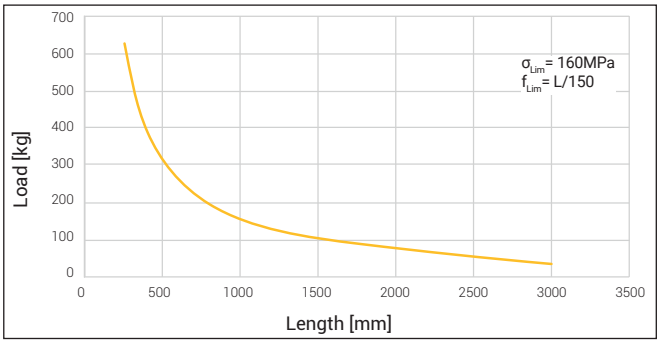


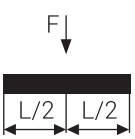
Customizable length!
Cut-to-size service available. Contact sales for details.

Strapped presentation

Strut Profile 41x41 KlimaProof® Coating

L (mm)	BxAxS (mm)	C (mm)	DxE (mm)	H (mm)	Code	Pack (pcs.)
3000	41x41x2	22	13.5x30	50	**MGL41413000P20**	1





Central load. For any other load distribution, add all loads together and treat them as a single point load located at L/2.
Values based on a maximum deflection of L/150 and σ_{perm} 160 N/mm².
Simulation carried out by CERO METROS CUADRADOS engineering.

Recommended loads

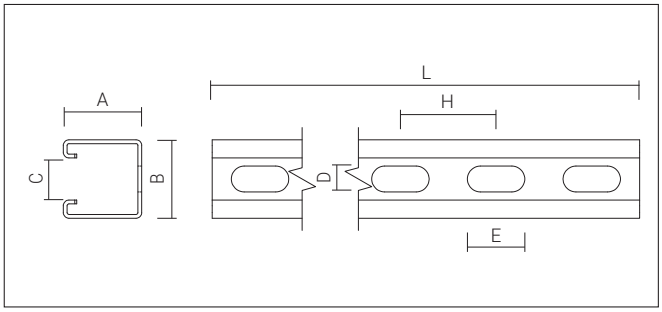
Load (kg)	Maximum length (mm)
612	250
510	300
437	350
382	400
340	450
306	500
255	600
219	700
191	800
170	900
153	1000
139	1100
127	1200
118	1300
109	1400
102	1500
84	1750
64	2000
51	2250
41	2500
34	2750
29	3000

Strut KlimaProof® Profile 41x21



Strut Profile 41x21





A: Height
B: Width
C: Profile opening
D: Hole width
E: Hole length
H: Distance between holes
L: Length

Features

- Strut channel system with continuous perforation. The distance between the end of the channel and the first hole is always the same.
- 13.5 x 30 mm perforation every 50 mm.
- Saw-tooth edging under the borders to prevent slipping.
- KlimaProof® coating, guaranteeing more than 1,000 hours in a salt spray chamber.



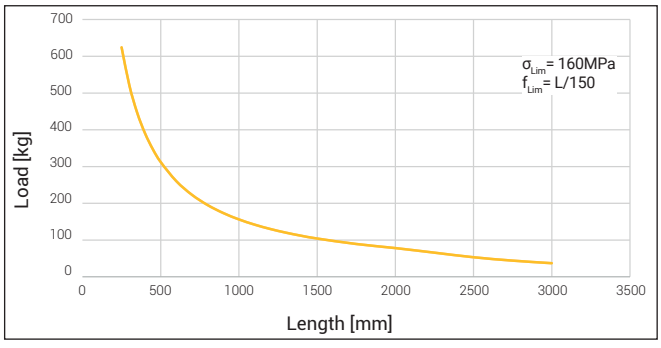


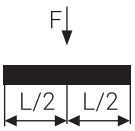
Customizable length!
Cut-to-size service available. Contact sales for details.

Strapped presentation

Strut Profile 41x21 KlimaProof® Coating

L (mm)	BxAxS (mm)	C (mm)	DxE (mm)	H (mm)	Code	Pack (pcs.)
3000	41x21x2	22	13.5x30	50	**MGL41213000P20**	1





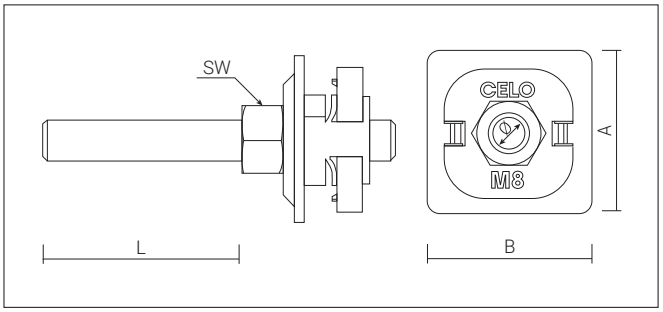
Central load. For any other load distribution, add all loads together and treat them as a single point load located at L/2.
Values based on a maximum deflection of L/150 and σ_{perm} 160 N/mm².
Simulation carried out by CERO METROS CUADRADOS engineering.

Recommended loads

Load (kg)	Maximum length (mm)
231	250
192	300
165	350
144	400
128	450
115	500
96	600
82	700
72	800
64	900
58	1000
51	1100
43	1200
36	1300
31	1400
27	1500
20	1750
15	2000
12	2250
10	2500
8	2750
7	3000

Sliding Strut Profile Stud KlimaProof® EPS





L: Length B: Width A: Height

Features

- Easy installation.
- Pre-assembled for installing clamps or other accessories on Strut profiles.
- KlimaProof® coating, guaranteeing more than 1,000 hours in a salt spray chamber.
- Recommended load 250 kg per point. Safety factor included.
- Compatible with all Fast Assembly Strut Profiles.





Box presentation

EPS

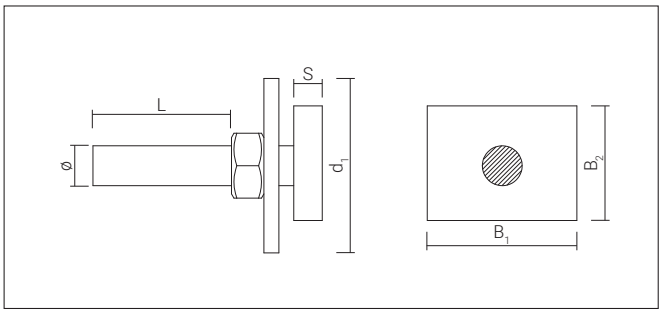
Ø (mm)	AxB (mm)	L (mm)	SW (mm)	Code	Pack (pcs.)
M8	41x41	20	13	**9L23418EPS**	50
M8	41x41	50	13	**9L2341880EPS**	50
M10	41x41	20	17	**9L234110EPS**	50
M10	41x41	50	17	**9L23411080EPS**	50

Installation



Strut KlimaProof® Profile Stud EP

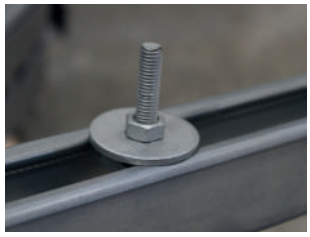




L: Length
B_1 / B_2: Width
S: Thickness
d_1: Washer length

Features

- Pre-fixing system, even with the profile in a vertical position to adjust the installation.
- Fits all Strut profile sizes 41x41 and 41x21.
- Serrated nut for optimal fastening.
- KlimaProof® coating, guaranteeing more than 1,000 hours in a salt spray chamber.
- Compatible with all Fast Assembly Strut Profiles.





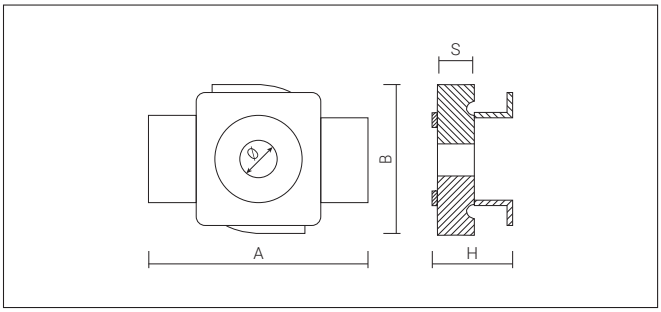
Box presentation

EP

Ø (mm)	B_1 (mm)	B_2 (mm)	L (mm)	S (mm)	d_1 (mm)	Code	Pack (pcs.)
M8	36	20	30	5.8	38	**9L23418EP**	100

Strut KlimaProof® Quick Nut TSS



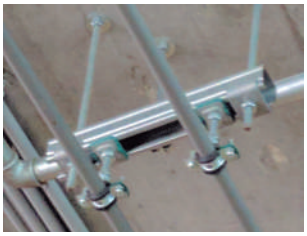


A: Length
B: Width
H: Height
S: Thickness

Features

- Pre-fixing system, even with the profile in a vertical position to adjust the installation.
- Fits all Strut profile sizes 41x41 and 41x21.
- Serrated nut for optimal fastening.
- KlimaProof® coating, guaranteeing more than 1,000 hours in a salt spray chamber.
- Compatible with all Fast Assembly Strut Profiles.





Box presentation

TSS

Ø (mm)	AxB (mm)	S (mm)	H (mm)	Code	Pack (pcs.)	Packaging (pcs.)
M8	48x30	6	15	**9L23418TSS**	100	900

Installation

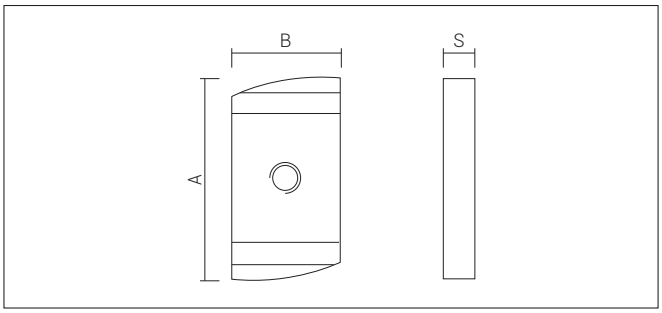






Strut KlimaProof® Profile Nut TS





L: Length
B: Width
S: Thickness

Features

- Nut with serrated grooves for improved fastening against the inner wall of the profile.
- Fits all Strut profile sizes 41x41 and 41x21.
- KlimaProof® coating, guaranteeing more than 1,000 hours in a salt spray chamber.
- Compatible with all Fast Assembly Strut Profiles.





Box presentation

TS

Ø (mm)	For profile	Code	Pack (pcs.)	Packaging (pcs.)
M8	41x41 / 41x21	**9L23418TS**	50	600
M10	41x41 / 41x21	**9L324110TS**	50	600

KlimaProof® ESC Brackets for Strut profiles



90°/2 bracket



90°/4 bracket



Reinforced 45° bracket



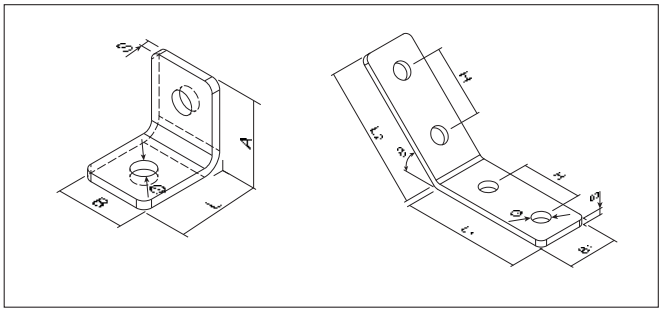
135°/4 bracket

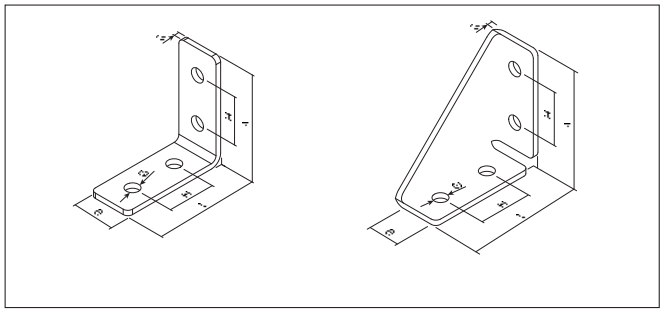












S: Thickness
A: Height

L: Length
B: Width

H: Distance between holes

Features

- Universal assembly system for Strut 41x41 and 41x21 profiles.
- Designed to support high loads.
- Available in different sizes and dimensions to adapt to the specific needs of each project.
- S235 steel.
- KlimaProof® coating, guaranteeing more than 1,000 hours in a salt spray chamber.

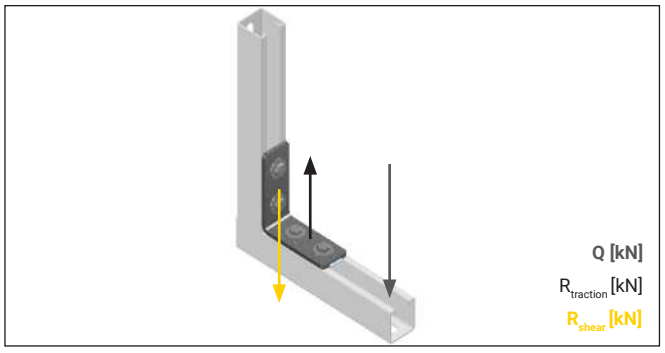




Box presentation

Strut Profile Brackets

Type	B (mm)	A (mm)	L (mm)	S (mm)	H (mm)	Ø (mm)	Code	Pack (pcs.)
90° / 2 bracket	40	50	50	5	-	13	**9L23412ESC**	25
90° / 4 bracket	40	50	100	5	45	13	**9L23414ESC**	20
90° bracket/ REINFORCED	40	100	100	5	45	13	**9L23414ESCR**	20
135° / 4 bracket	40	94	94	5	48	13	**9L2341445ESC**	25



Recommended loads

Type	$R_{traction}$ (F_x)	R_{shear} (F_y)
90° / 2 bracket	4.74 kN	1.37 kN
90° / 4 bracket	9.48 kN	4.00 kN
90° bracket/ REINFORCED	9.48 kN	4.00 kN
135° / 4 bracket	9.48 kN	4.00 kN

Safety coefficient y = 2.

KlimaProof® Strut Profile Union Plates



Omega Strut 41x41

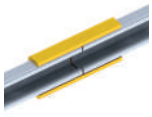


Strut 41x41 Union Profile

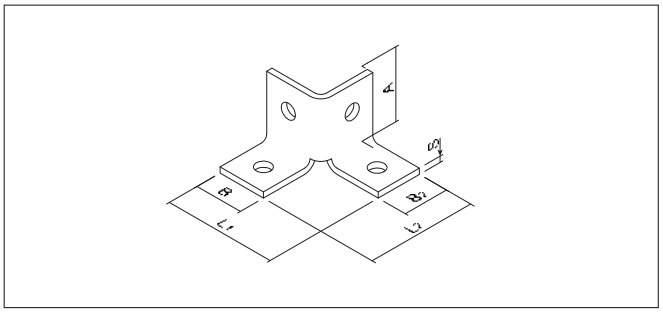


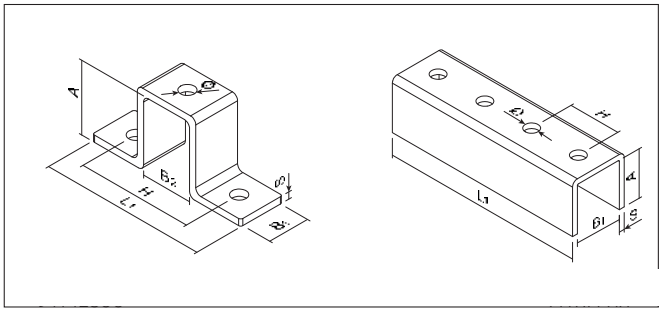
Strut 41x41 Two-Side Bracket











B_1 / B_2: Width
A: Height

L_1 / L_2: Length
S: Thickness

H: Distance between holes

Features

- Universal assembly system for Strut 41x41 and 41x21 profiles.
- They provide connections between Strut profiles, enabling the construction of modular structures and flexible support systems.
- S235 steel.
- KlimaProof® coating, guaranteeing more than 1,000 hours in a salt spray chamber.

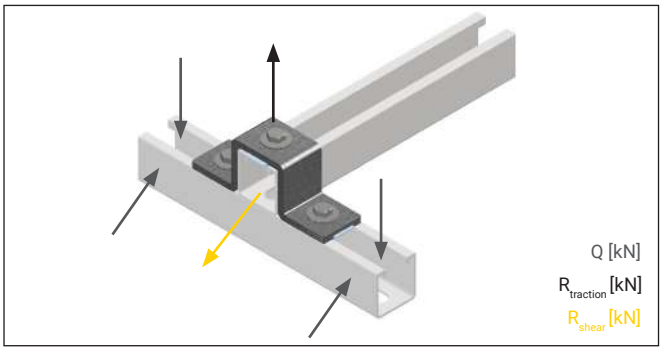




Box presentation

Strut Profile Union Plates

Type	B_1 (mm)	B_2 (mm)	A (mm)	L_1 (mm)	L_2 (mm)	S (mm)	H (mm)	Ø (mm)	θ (mm)	Code	Pack (pcs.)
Omega Strut 41x41	40	44	44	142	-	5	99	13	-	**9L2341UESC**	20
Strut 41x41 Union Profile	43	-	49	185	-	5	48	13	-	**9L2341ULESC**	10
Strut 41x41 Two-Side Bracket	40	-	-	94	94	5	48	13	45	**9L2341TFESC**	20

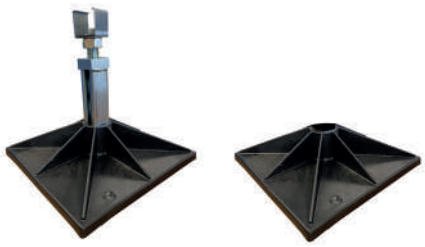


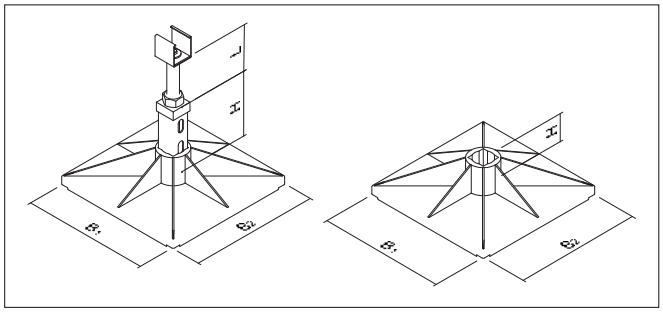
Recommended loads

Type	$R_{traction}(F_x)$	$R_{shear}(F_y)$
UESC	9.48 kN	4.00 kN
ULESC	9.48 kN	4.00 kN
TFESC/2	4.74 kN	1.37 kN

Safety coefficient y = 2.

Roof Support BF / BFS





B_1 / B_2: Width H: Height L: Length

Features

- Support system for HVAC installations, walkways, cable systems, or other elements on flat roofs.
- Modular structure for building frames using 41x41 Strut profile.
- The BF reference includes two 300x300 mm bases and two union pieces with height-adjustment system.
- The BFS reference includes two 300x300 mm bases without union pieces.
- Material: PA6 with 30% fiberglass.
- Anti-slip and anti-vibration base.





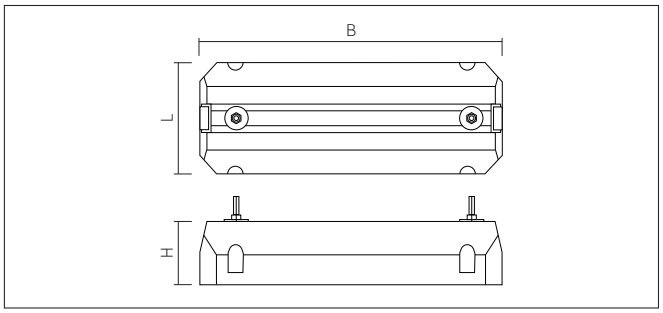
Box presentation

BF / BFS

Denom.	B_1 (mm)	B_2 (mm)	H (mm)	L (mm)	Loads (kN)	Code	Pack (pcs.)
BF	300	300	195	33-125	2.5	**94141BF**	2
BFWR	300	300	85	-	2.5	**94141BFWR**	2

Roof Support BFL





B: Width H: Height L: Length

Features

- Base made from high-quality recycled SBR rubber.
- 41x21 aluminum profile integrated on the upper side through molding.
- Hollowed bottom surface to facilitate water drainage.
- Excellent vibration and noise absorption thanks to the granules used.
- Great long-term stability and resistance.
- Ideal solution for multiple applications: condensing units, air-to-air heat pumps, pipe supports, and cable trays.

Box presentation

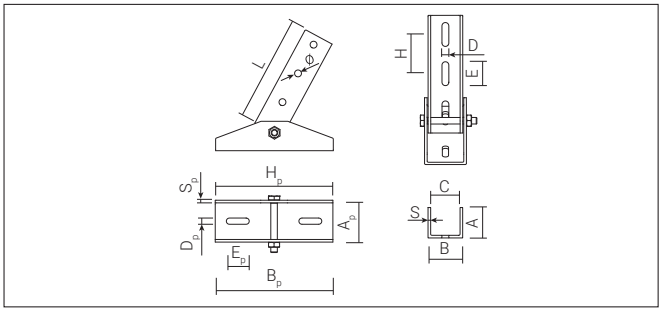
BFL

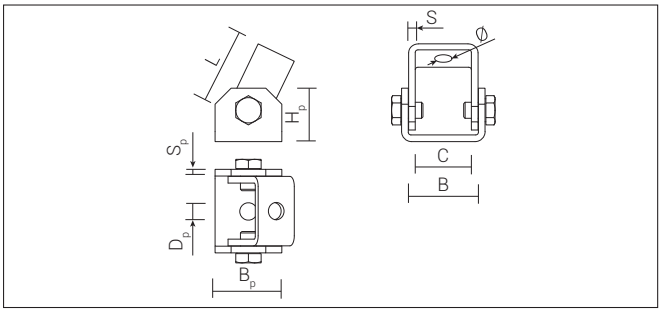
Denom.	B (mm)	H (mm)	L (mm)	Loads (kN)	Code	Pack (pcs.)
BFL	160	90	250	2.5	**94121250BFL**	2
BFL	160	90	400	3.5	**94121400BFL**	2
BFL	160	90	600	5.0	**941216000BFL**	2

Strut KlimaProof® Joint
ROT









Features

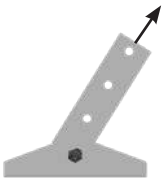
- Accessory for mounting Strut 41x41 and 41x21 profiles.
- Angular adjustment from 0º to 135º.
- S235 steel.
- KlimaProof® coating, guaranteeing more than 1,000 hours in a salt spray chamber.

A: Height
B: Width
C: Profile opening
L: Length
H: Distance between holes

E: Hole length
S: Thickness
D: Hole width
A_p: Plate height
H_p: Distance between plate holes

B_p: Plate width
D_p: Plate hole width
E_p: Plate hole length
S_p: Plate thickness

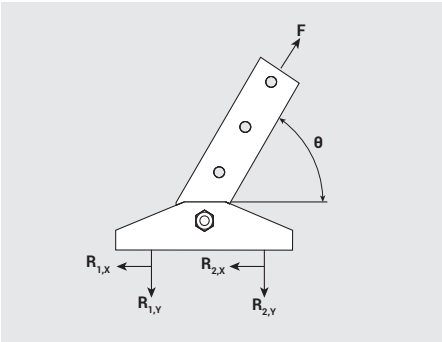
Maximum permissible loads



- Load applicable in any direction.
- Load 12 kN
- Safety coefficient applied: γ = 2.0
- Maximum load applied on concrete fixing. Load without considering the Strut profile.







Reactions in fixing elements

Angle	$R_{1,X}$	$R_{1,Y}$	$R_{2,X}$	$R_{2,Y}$
0º	0.38 · F	0.26 · F	0.73 · F	0.00 · F
30º	0.50 · F	0.43 · F	0.47 · F	0.14 · F
45º	0.50 · F	0.51 · F	0.29 · F	0.19 · F
60º	0.33 · F	0.50 · F	0.04 · F	0.25 · F
90º	0.00 · F	0.50 · F	0.00 · F	0.50 · F

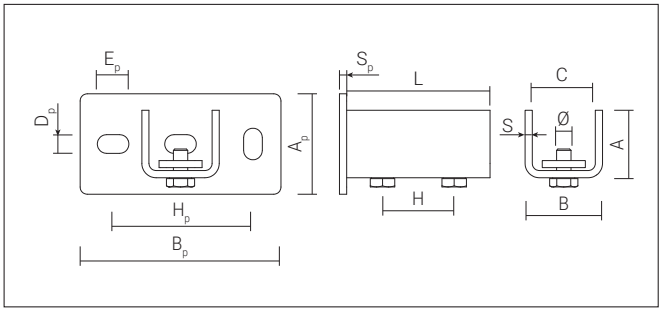
Box presentation

ROT

L (mm)	BxSxA (mm)	C (mm)	DxE (mm)	Ø (mm)	H (mm)	Plate			Code	Pack (pcs.)
						B_pxA$_p$xS_p (mm)	D_pxE_p (mm)	H_p (mm)		
180	53.5x46x4	45	10.5x36.5	11	60	180x64x4	9.5x35	112	**9L2341ROT**	10
52.5	51x5	41	-	12.5	-	50x62.5x5	12.5	40	**9L2341ROTS**	10

Strut KlimaProof® Wall Support SH





A: Height
B: Width
C: Profile opening
L: Length
H: Distance between holes
E: Hole length
S: Thickness
D: Hole width
A_p: Plate height
H_p: Distance between plate holes
B_p: Plate width
D_p: Plate hole width
E_p: Plate hole length
S_p: Plate thickness

Features

- Plate with welded profile.
- Perpendicular slotted holes to facilitate assembly.
- Includes plate with threaded holes and M10x30 tightening screws, grade 6.8.
- KlimaProof® coating, guaranteeing more than 1,000 hours in a salt spray chamber.



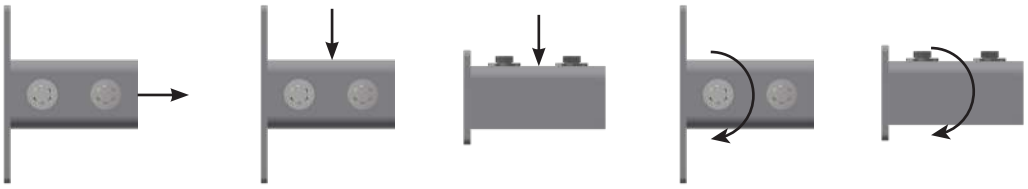


Box presentation

SH Horizontal

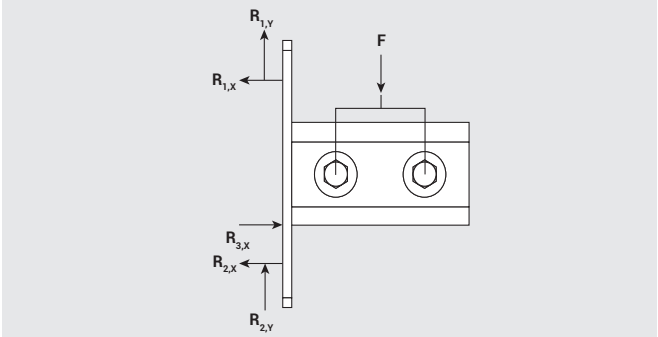
L (mm)	BxAxS (mm)	C (mm)	Ø (mm)	H (mm)	Plate			Code	Pack (pcs.)
					B_pxA_pxS_p (mm)	D_pxE_p (mm)	H_p (mm)		
100	54x47x5	44	13 (M10)	50	140x70x6	13x22	98	**9L2341SH**	10

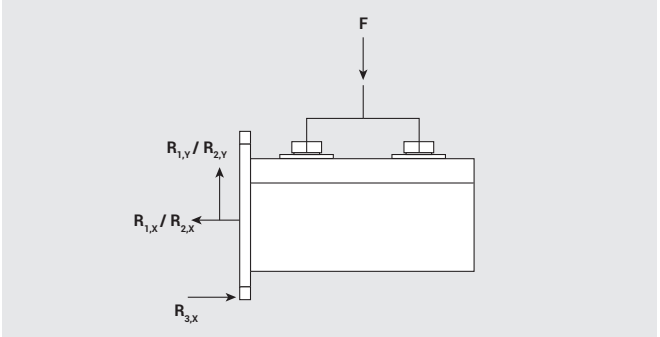
Maximum loads



16.86 kN | 5.17 kN | 7.54 kN | 0.39 kN·m | 0.57 kN·m

- Safety coefficient applied = 2.0
- Loads without considering the Strut profile





Reactions in fixing elements

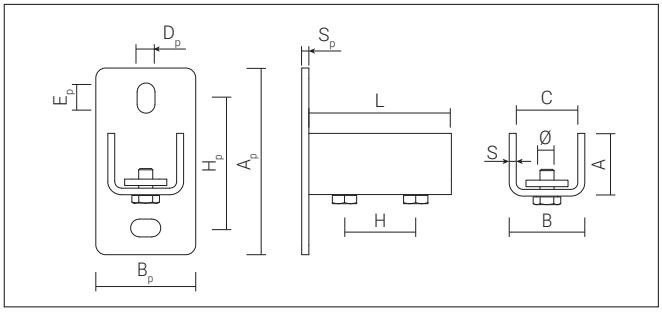
$R_{1,X}$	$R_{1,Y}$	$R_{2,X}$	$R_{2,Y}$	$R_{3,X}$
0.72·F	0.50·F	0.07·F	0.50·F	0.79·F

Reactions in fixing elements

$R_{1,X}$	$R_{1,Y}$	$R_{2,X}$	$R_{2,Y}$	$R_{3,X}$
0.79·F	0.50·F	0.79·F	0.50·F	1.57·F

Strut KlimaProof® Wall Support SV





A: Height
B: Width
C: Profile opening
L: Length
H: Distance between holes
E: Hole length
S: Thickness
D: Hole width
A_p: Plate height
H_p: Distance between plate holes
B_p: Plate width
D_p: Plate hole width
E_p: Plate hole length
S_p: Plate thickness

Features

- Plate with welded profile.
- Perpendicular slotted holes to facilitate assembly.
- KlimaProof® coating, guaranteeing more than 1,000 hours in a salt spray chamber.
- Includes plate with threaded holes and M10x30 tightening screws, grade 6.8.

Box presentation

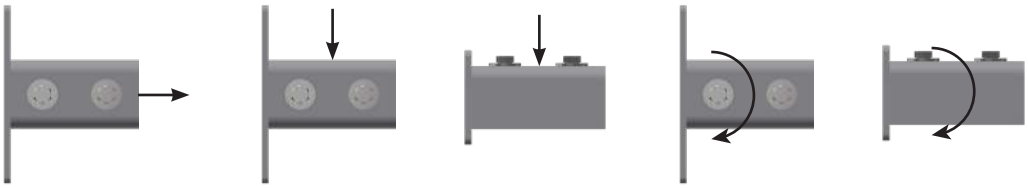
SV Vertical

L (mm)	BxAxS (mm)	C (mm)	Ø (mm)	H (mm)	Plate			Code	Pack (pcs.)
					B_pxA_pxS_p (mm)	D_pxE_p (mm)	H_p (mm)		
100	54x47x5	44	13 (M10)	50	70x140x6	13x22	98	**9L2341SV**	10



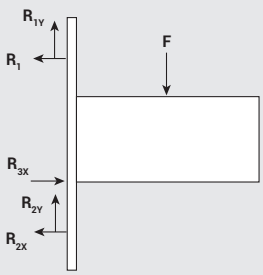


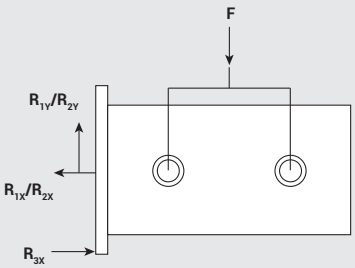
Maximum loads



16.86 kN | 5.17 kN | 7.54 kN | 0.39 kN·m | 0.57 kN·m

- Safety coefficient applied = 2.0
- Loads without considering the Strut profile





Reactions in fixing elements

$R_{1,X}$	$R_{1,Y}$	$R_{2,X}$	$R_{2,Y}$	$R_{3,X}$
0.72·F	0.50·F	0.07·F	0.50·F	0.79·F

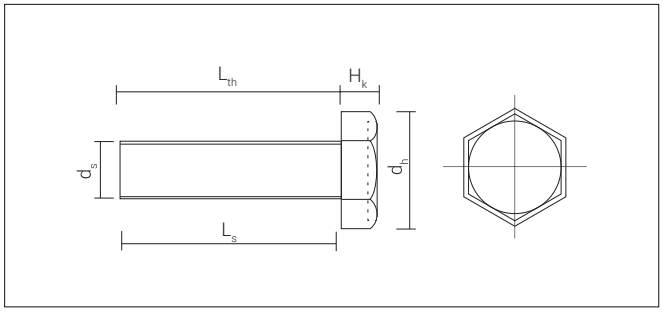
Reactions in fixing elements

$R_{1,X}$	$R_{1,Y}$	$R_{2,X}$	$R_{2,Y}$	$R_{3,X}$
0.79·F	0.50·F	0.79·F	0.50·F	1.57·F

Hexagon Screw KlimaProof® DIN 933







L_{th}: Threaded section
H_k: Head height
L_s: Screw length
d_s: Screw diameter
d_h: Head diameter

Features

- Hexagon screw for Strut profiles.
- KlimaProof® coating, guaranteeing more than 1,000 hours in a salt spray chamber.

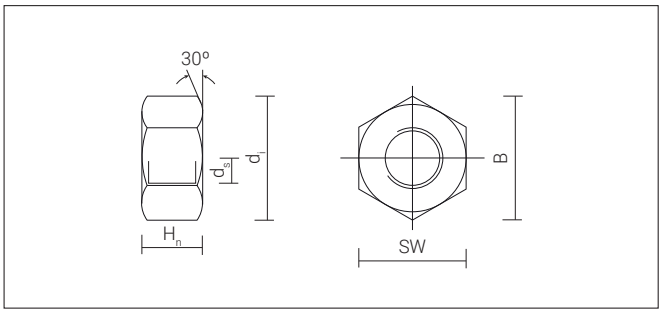
Box presentation

DIN 933

d_s (mm)	L_s (mm)	H_k (mm)	SW	Code	Pack (pcs.)	Packaging (pcs.)
M8	25	5.3	13	**9L23825933**	100	1,200
M8	60	5.3	13	**9L23860933**	100	1,200
M10	25	5.3	17	**9L231025933**	100	1,200
M10	60	5.3	17	**9L321060933**	100	1,200

Hexagon Nut KlimaProof® DIN 934





B: Width
H_n: Nut thickness
d_s: Screw diameter
d_i: Inner diameter

Features

- Hexagon nut.
- KlimaProof® coating, guaranteeing more than 1,000 hours in a salt spray chamber.

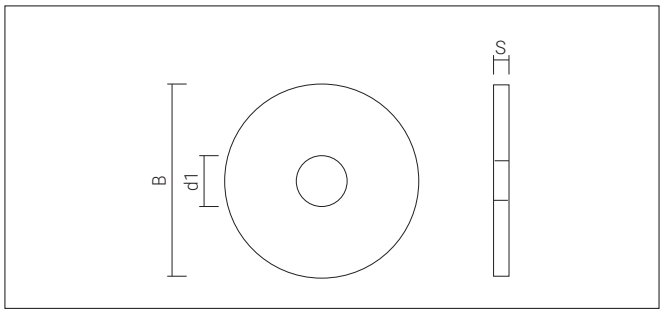
Box presentation

DIN 934

d_s (mm)	SW	B (mm)	H_n (mm)	Code	Pack (pcs.)	Packaging (pcs.)
M8	13	14.38	6.5	**9L238934**	250	4,000

Strut KlimaProof® Washer AS

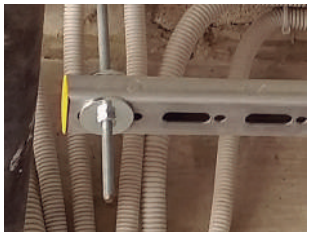




B: Width S: Thickness d_1: Hole diameter

Features

- Flat washers for Strut profiles.
- KlimaProof® coating, guaranteeing more than 1,000 hours in a salt spray chamber.





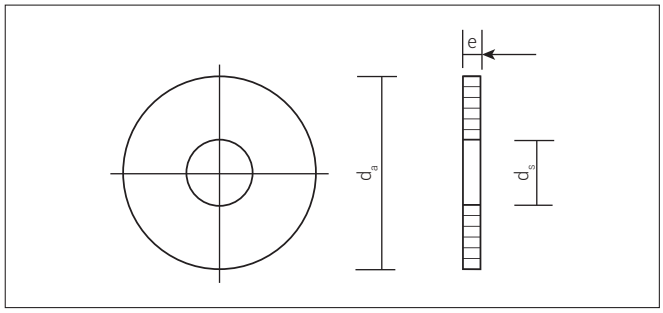
Box presentation

AS

Ø (mm)	B (mm)	d_1 (mm)	S (mm)	Code	Pack (pcs.)	Packaging (pcs.)
M8	40	8.5	3	**9L238AS**	100	600
M10	40	10.5	3	**9L2310AS**	100	600

KlimaProof® Washer DIN 9021





d_a: Inner diameter d_s: Outer diameter e: Thickness

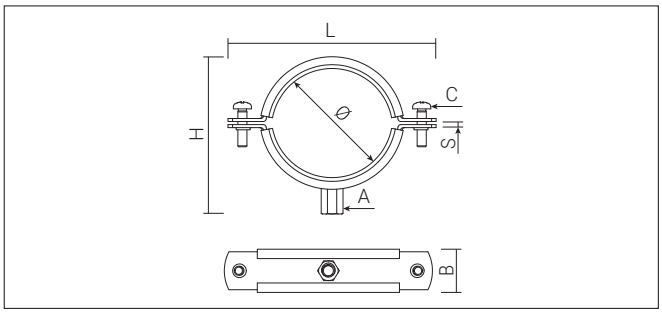
Box presentation

DIN 9021

Ø (mm)	d_s (mm)	d_a (mm)	e (mm)	Code	Pack (pcs.)	Packaging (pcs.)
8	8.4	16	1.6	**9L2389021**	250	6,000
10	10.5	20	2.0	**9L23109021**	250	8,000

Reinforced soundproof clamp M8+M10 RI





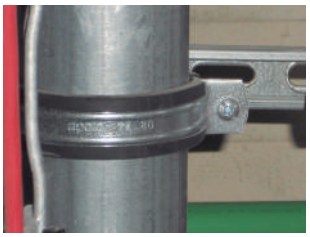
H: Height
L: Length

B: Width
S: Thickness

C: Screw
A: Nut

Features

- Double-rib design for greater strength.
- Loads certified by Applus.
- EPDM rubber resistant to UV rays and seawater.
- Resists temperatures from −50 °C to 110 °C.
- Longer screws with domed head and combined drive (Slot + PZ).
- KlimaProof® coating, guaranteeing more than 1,000 hours in a salt spray chamber.





Box presentation

RI M8+M10

Ø (mm)	BxS (mm)	L (mm)	H (mm)	A (mm)	C (mm)	Code	Pack (pcs.)
15-19	20x1.5	60	48	SW13 - M8/M10	M6x16	**9L2318RI**	100
20-24	20x1.5	63	52	SW13 - M8/M10	M6x16	**9L2322RI**	100
23-28	20x1.5	69	58	SW13 - M8/M10	M6x16	**9L2328RI**	100
31-36	20x1.5	77	65	SW13 - M8/M10	M6x16	**9L2335RI**	100
38-44	20x1.5	86	70	SW13 - M8/M10	M6x16	**9L2340RI**	100
44-50	20x1.5	93	78	SW13 - M8/M10	M6x20	**9L2348RI**	100
54-58	20x1.5	102	84	SW13 - M8/M10	M6x16	**9L2354RI**	50
59-65	20x1.5	108	90	SW13 - M8/M10	M6x25	**9L2360RI**	50
74-80	25x2.0	138	105	SW13 - M8/M10	M6x25	**9L2375RI**	50
83-93	25x2.0	148	120	SW13 - M8/M10	M6x25	**9L2390RI**	50
95-103	25x2.0	159	130	SW13 - M8/M10	M6x25	**9L23100RI**	50
108-118	25x2.0	173	140	SW13 - M8/M10	M6x25	**9L23110RI**	50
121-130	25x2.0	186	155	SW13 - M8/M10	M6x30	**9L23125RI**	50
132-143	25x2.0	199	170	SW13 - M8/M10	M6x25	**9L23140RI**	50
159-169	25x2.0	225	190	SW13 - M8/M10	M6x25	**9L23160RI**	40
198-202	25x2.0	259	230	SW13 - M8/M10	M6x25	**9L23200RI**	40
249-254	25x2.0	309	280	SW13 - M8/M10	M6x25	**9L23250RI**	30

Recommended loads

Under ceiling		On wall	
Range	Loads (kN)	Metric	Loads (kN)
R 18 - R 100	160	M8	20
R 110 - R 200	250	M10	50

Technical information

Ø (mm)	Loads (kg)	Ø Pipes		
		Iron	Copper	Plastic
15-19	80	3/8"	18	16
20-24	80	1/2"	22	20
23-28	80	3/4"	28	25
31-36	100	1"	35	32
38-44	100	1-1/4"	42	40
44-50	100	1-1/2"	-	50
54-58	100	-	54	-
59-65	100	2"	63	63
62-67	100	-	63	63
74-80	150	2-1/2"	76	75
83-93	150	3"	89	90
95-103	150	3-1/2"	-	-
108-118	150	4"	108	110
121-127	150	4-1/2"	-	125
132-143	150	5"	-	-
159-169	150	6"	159	160
249-254	200	-	-	250

Notes

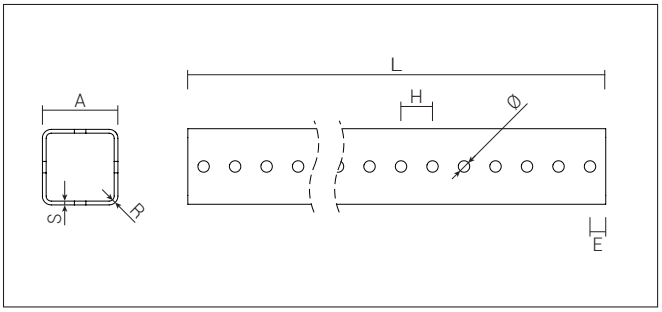
High-load support systems

High Loads Systems Profile 60x60	50
High Loads Systems Profile 60x100	51
High Loads Systems Profile 100x100	52
KlimaProof® Wall Support Base for 60x60 Profile BSP	53
KlimaProof® Wall Support Base for 100x60 Profile BSP	54
KlimaProof® Wall Support Base for 100x100 Profile BSP	55
KlimaProof® 4-Hole Union Bracket ESC	56
KlimaProof® 4-Hole 90° Union Bracket ESC	57
KlimaProof® Reinforced 90° Union Bracket ESCR	58
KlimaProof® Union Bracket for 60x60 Profiles ESC	59
KlimaProof® Taptite Thread Screw for HLS	60

High Loads Systems Profile
60x60



NEW PRODUCT



L: Length
A: Width
S: Thickness
E: Slot width
H: Distance between slots

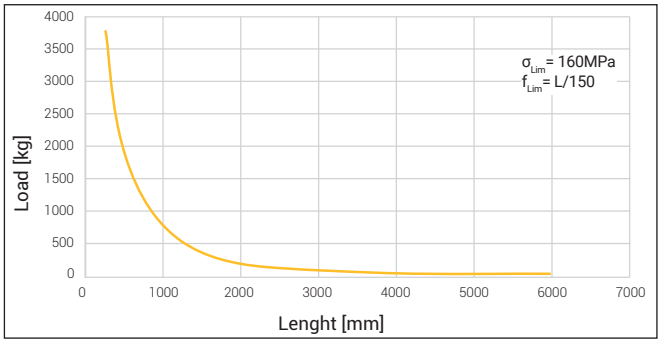
Features

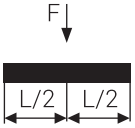
- Modular steel profile of 60x60 mm, designed for the creation of support structures.
- Optimized geometry to provide high rigidity and load capacity in industrial and building applications.
- Allows multiple configurations: frames, bases, gantries and three-dimensional structures for installations.
- Perforated system that enables quick fastening of clamps, cable trays and accessories without additional drilling.
- Compatible with a wide range of connectors, brackets and standard accessories for flexible and expandable assembly.
- Suitable for ceiling, wall or floor installation, allowing the structure to be adapted to the available space.
- Anti-corrosion coating (hot-dip galvanized) for indoor and outdoor use. Guaranteed more than 600 hours in salt spray chamber according to ISO 9227.

Strapped presentation

High Loads Systems Profile 60x60

L (mm)	A (mm)	B (mm)	S (mm)	R (mm)	Ø (mm)	H (mm)	E (mm)	Area (mm²)	Code	Pack (pcs.)
6000	60	60	3	7	9.10	25	12.5	655.67	**GC60606000P30**	1





Values for a maximum deflection of L/150 and σ_{perm} 315 N/mm².
Load at the center. For any other distribution, add all loads and treat them as a single point load located at L/2.

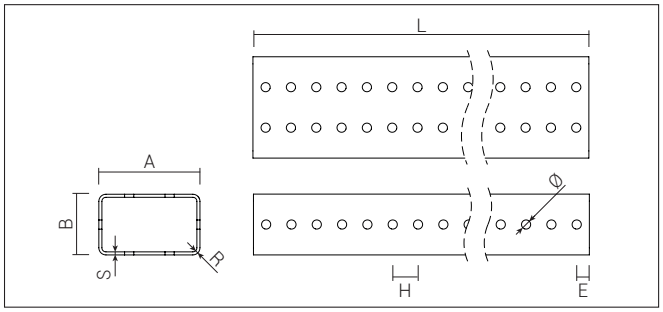
Recommended loads

Load (kg)	Maximum length (mm)
791.4	1000
506.5	1250
351.7	1500
258.4	1750
197.9	2000
156.3	2250
126.6	2500
104.6	2750
87.9	3000
74.9	3250
64.6	3500
56.3	3750
49.5	4000
43.8	4250
39.1	4500
35.1	4750
31.7	5000
28.7	5250
26.2	5500
23.9	5750
22.0	6000

High Loads Systems Profile
60x100



NEW PRODUCT



L: Length
A: Width
S: Thickness
E: Slot width
H: Distance between slots

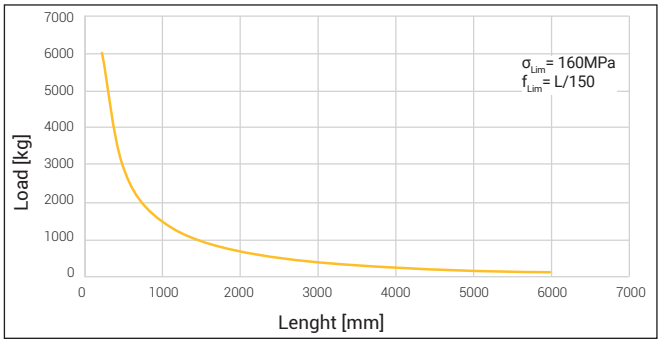
Features

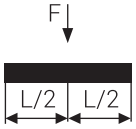
- Modular steel profile of 60x100 mm, designed for the creation of support structures.
- Optimized geometry to provide high rigidity and load capacity in industrial and building applications.
- Allows multiple configurations: frames, bases, gantries and three-dimensional structures for installations.
- Perforated system that enables quick fastening of clamps, cable trays and accessories without additional drilling.
- Compatible with a wide range of connectors, brackets and standard accessories for flexible and expandable assembly.
- Suitable for ceiling, wall or floor installation, allowing the structure to be adapted to the available space.
- Anti-corrosion coating (hot-dip galvanized) for indoor and outdoor use. Guaranteed more than 600 hours in salt spray chamber according to ISO 9227.

Strapped presentation

High Loads Systems Profile 60x100

L (mm)	A (mm)	B (mm)	S (mm)	R (mm)	Ø (mm)	H (mm)	E (mm)	Area (mm²)	Code	Pack (pcs.)
6000	100	60	3	7	9.10	25	12.5	895.67	**GC601006000P30**	1





Values for a maximum deflection of L/150 and σ_{perm} 315 N/mm².
Load at the center. For any other distribution, add all loads and treat them as a single point load located at L/2.

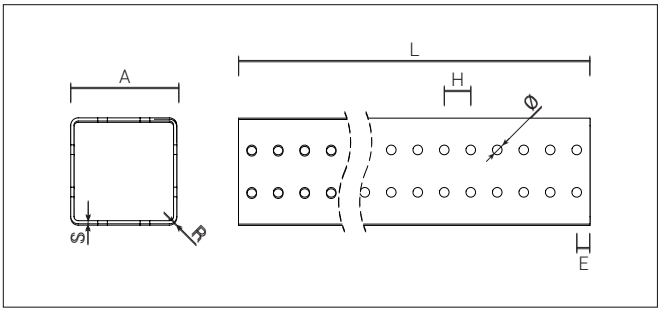
Recommended loads

Load (kg)	Maximum length (mm)
1456.5	1000
992.6	1250
689.3	1500
506.4	1750
387.7	2000
306.4	2250
248.1	2500
205.1	2750
172.3	3000
146.8	3250
126.6	3500
110.3	3750
96.9	4000
85.9	4250
76.6	4500
68.7	4750
62.0	5000
56.3	5250
51.3	5500
46.9	5750
43.1	6000

High Loads Systems Profile
100x100



NEW PRODUCT



L: Length
A: Width

S: Thickness
E: Slot width

H: Distance between slots

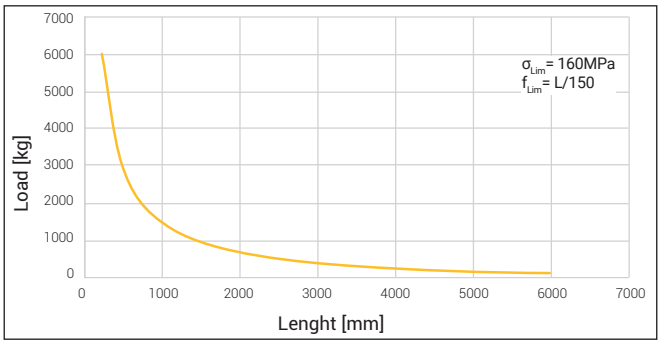
Features

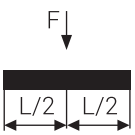
- Modular steel profile of 100x100 mm, designed for the creation of support structures.
- Optimized geometry to provide high rigidity and load capacity in industrial and building applications.
- Allows multiple configurations: frames, bases, gantries and three-dimensional structures for installations.
- Perforated system that enables quick fastening of clamps, cable trays and accessories without additional drilling.
- Compatible with a wide range of connectors, brackets and standard accessories for flexible and expandable assembly.
- Suitable for ceiling, wall or floor installation, allowing the structure to be adapted to the available space.
- Anti-corrosion coating (hot-dip galvanized) for indoor and outdoor use. Guaranteed more than 600 hours in salt spray chamber according to ISO 9227.

Strapped presentation

High Loads Systems Profile 100x100

L (mm)	A (mm)	B (mm)	S (mm)	R (mm)	Ø (mm)	H (mm)	E (mm)	Area (mm²)	Code	Pack (pcs.)
6000	100	100	3	7	9.10	25	12.5	1135.67	**GC1001006000P30**	1





Values for a maximum deflection of L/150 and σ_{perm} 315 N/mm².
Load at the center. For any other distribution, add all loads and treat them as a single point load located at L/2.

Recommended loads

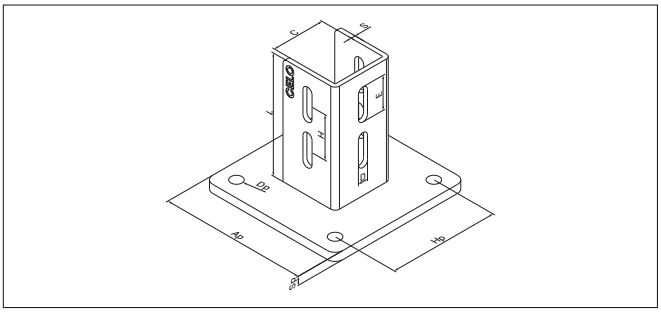
Load (kg)	Maximum length (mm)
1497.5	1000
1198.0	1250
998.3	1500
855.7	1750
748.7	2000
665.5	2250
599.0	2500
530.8	2750
446.0	3000
380.1	3250
327.7	3500
285.5	3750
250.9	4000
222.3	4250
198.2	4500
177.9	4750
160.6	5000
145.6	5250
132.7	5500
121.4	5750
111.5	6000

Wall Support Base for KlimaProof® Profile 60x60 BSP





NEW PRODUCT



L: Length
C: Opening for profile
S: Thickness
E: Slot width
D: Slot diameter
H: Distance between slots
D_p: Plate hole diameter
A_p: Plate width
H_p: Distance between plate holes
S_p: Plate thickness

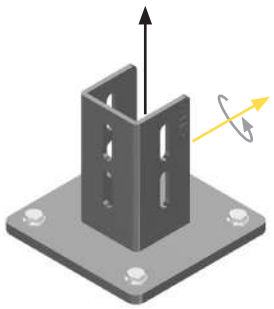
Features

- Wall support base for the High Loads System.
- Assembly on 60x60 profiles.
- Provides connections between HLS profiles perpendicular to the floor or wall, allowing the construction of modular structures and flexible support systems.
- High strength. Its thickness provides high resistance.
- KlimaProof® coating, guaranteeing more than 1,000 hours in salt spray chamber.

Box presentation

Wall support base for 60x60 profile KlimaProof® coating

A_p (mm)	H_p (mm)	S_p (mm)	D_p (mm)	S (mm)	C (mm)	L (mm)	H (mm)	DxE (mm)	Code
165	125	10	14	5	60	135	50	11.5x38.5	**2L23HLS60BSP**



Moment [kNm]
$R_{traction}$ [kN]
R_{shear} [kN]

Recommended loads

Concrete type	$R_{traction}$ (kN)	R_{shear} (F_y)	Moment (kNm)
C20-25	49	87	4
C50-60	76	87	6.3

Recommended loads according to application with 4 BTS 10x90.

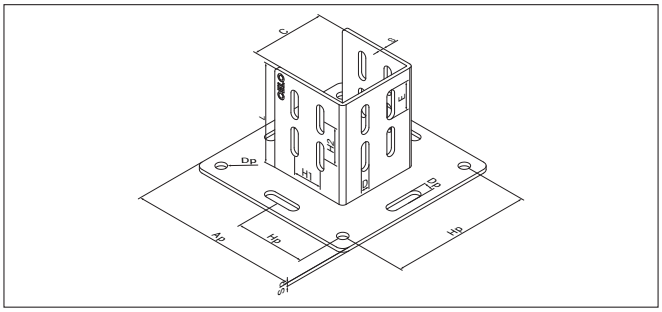
Wall Support Base for KlimaProof® Profile 100x100 BSP











Features

- Wall support base for the High Loads System.
- Assembly on 100x100 profiles.
- Provides connections between HLS profiles perpendicular to the floor or wall, allowing the construction of modular structures and flexible support systems.
- High strength. Its thickness provides high resistance.
- KlimaProof® coating, guaranteeing more than 1,000 hours in salt spray chamber.

L: Length
C: Opening for profile
S: Thickness
E: Slot width
D: Slot diameter

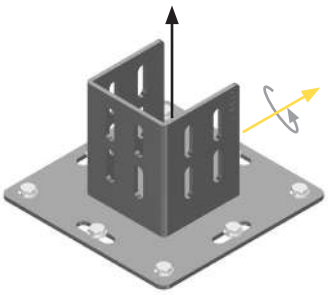
H1/2: Distance between slots
D_p: Plate hole diameter

A_p: Plate width
H_p: Distance between plate holes
S_p: Plate thickness

Box presentation

Wall support base for 100x100 profile KlimaProof® coating

A_p (mm)	H_p (mm)	S_p (mm)	D_p (mm)	S (mm)	C (mm)	L (mm)	H (mm)	H (mm)	DxE (mm)	Code
230	190	10	14	5	100	135	50	40	11.5x38.5	**9L23HLS100BSP**



Moment [kNm]
$R_{traction}$ [kN]
R_{shear} [kN]

Recommended loads

Concrete type	$R_{traction}$ (kN)	R_{shear} (F_y)	Moment (kNm)
C20-25	70.3	140.6	7.9
C50-60	109	173.9	12.2

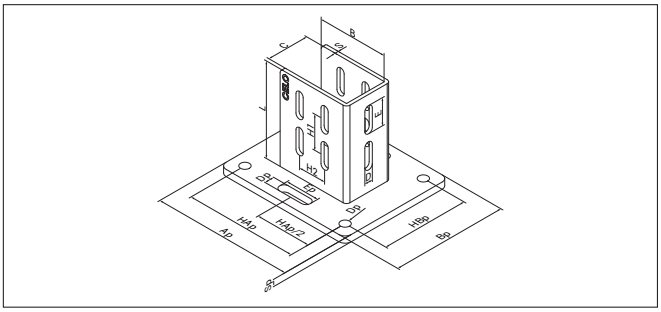
Recommended loads according to application with 4 BTS 10x90.

Wall Support Base for KlimaProof® Profile 100x60 BSP





NEW PRODUCT



L: Length
C: Opening for profile
S: Thickness
B: Width
E: Slot width
D: Slot diameter
B_p: Plate width
A_p: Plate width
H1/2: Distance between slots
D_p: Plate hole diameter
H_p: Distance between plate holes
S_p: Plate thickness
HA_p: Distance between plate holes
HA_{p2}: Distance between slot and plate hole
HB_p: Distance between plate holes

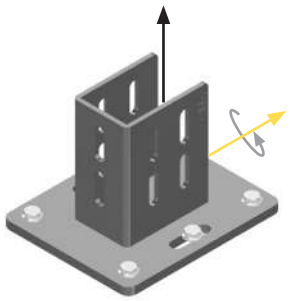
Features

- Wall support base for the High Loads System.
- Assembly on 100x60 profiles.
- Provides connections between HLS profiles perpendicular to the floor or wall, allowing the construction of modular structures and flexible support systems.
- High strength. Its thickness provides high resistance.
- KlimaProof® coating, guaranteeing more than 1,000 hours in salt spray chamber.

Box presentation

Wall support base for 100x60 profile KlimaProof® coating

A_p x B_p x S_p (mm)	HA_p x HB_p (mm)	D_p (mm)	E_p (mm)	SxBxC (mm)	L (mm)	H1 (mm)	H2 (mm)	DxE (mm)	Code
200x165x10	140x125	14	49	5x100x60	135	50	40	11.5x38.5	**9L23HLS10060BSP**



Moment [kNm]
$R_{traction}$ [kN]
R_{shear} [kN]

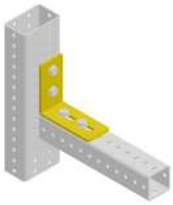
Recommended loads

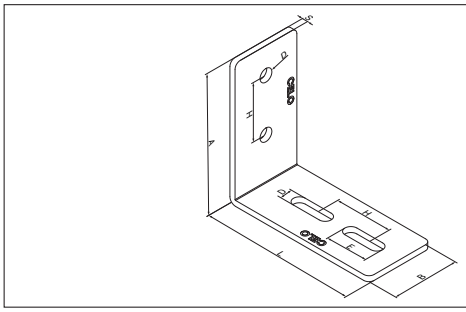
Concrete type	$R_{traction}$ (kN)	R_{shear} (F_y)	Moment (kNm)
C20-25	54.2	108.5	4,4
C50-60	84.5	130.5	6.77

Recommended loads according to application with 4 BTS 10x90.

Bracket connector 4 holes KlimaProof® ESC







L: Length
A: Height
B: Width

S: Thickness
D: Slot diameter
E: Slot width

H: Distance between slots

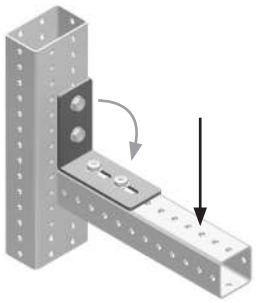
Features

- 90° connector bracket for the High Loads Systems.
- Allows assembly of the closed 60x60 profile together with the HLS profile range (60x60, 100x60, 100x100).
- High strength. The 5 mm thickness provides high resistance.
- KlimaProof® coating, guaranteeing more than 1,000 hours in salt spray chamber.

Box presentation

Bracket connector 4 holes ESC KlimaProof® coating

L (mm)	B (mm)	A (mm)	S (mm)	D (mm)	E (mm)	H (mm)	Code
135	60	120	5	11.5	36.5	50	**9L23HLS60490ESC**

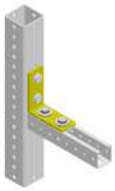


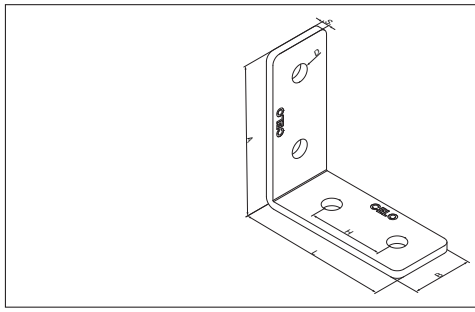
Recommended loads

R_{shear} (F_y)	Moment (kNm)
5.00	0.35

Bracket connector 4 holes 90° KlimaProof® ESC







L: Length
A: Height
B: Width

S: Thickness
D: Slot diameter

H: Distance between slots

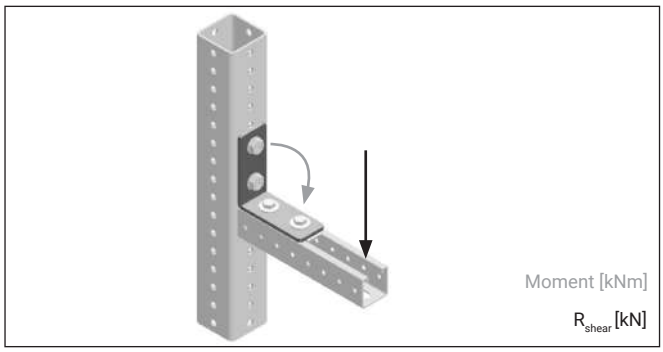
Features

- 90° connector bracket for the High Loads Systems.
- Allows assembly of the closed 60x60 profile together with the HLS profile range (60x60, 100x60, 100x100).
- High strength. The 5 mm thickness provides high resistance.
- KlimaProof® coating, guaranteeing more than 1,000 hours in salt spray chamber.

Box presentation

Bracket connector 4 holes 90° ESC KlimaProof® coating

L (mm)	B (mm)	A (mm)	S (mm)	D (mm)	H (mm)	Code
100	41	100	5	11.5	50	**9L23HLS41490ESC**

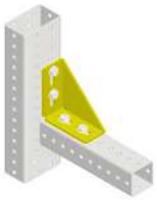


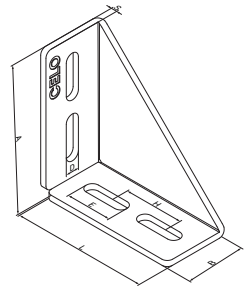
Recommended loads

R_{shear} (F_y)	Moment (kNm)
5.00	0.35

Reinforced 90° connector bracket KlimaProof® ESCR ESCR







L: Length
A: Height
B: Width

S: Thickness
E: Slot width

D: Slot diameter
H: Distance between slots

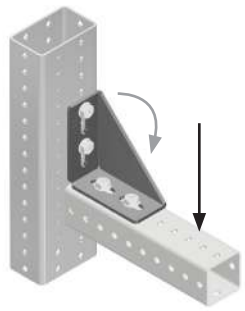
Features

- Reinforced 90° connector bracket for the High Loads Systems.
- Allows assembly of the closed 60x60 profile together with the HLS profile range (60x60, 100x60, 100x100).
- High strength. The 5 mm thickness provides high resistance.
- KlimaProof® coating, guaranteeing more than 1,000 hours in salt spray chamber.

Box presentation

Reinforced 90° connector bracket ESC KlimaProof® coating

L (mm)	B (mm)	A (mm)	S (mm)	H (mm)	ExD (mm)	Code
120	50	120	50	50	38.5x11.5	**9L23HLS6090ESCR**



Moment [kNm]

R_{shear} [kN]

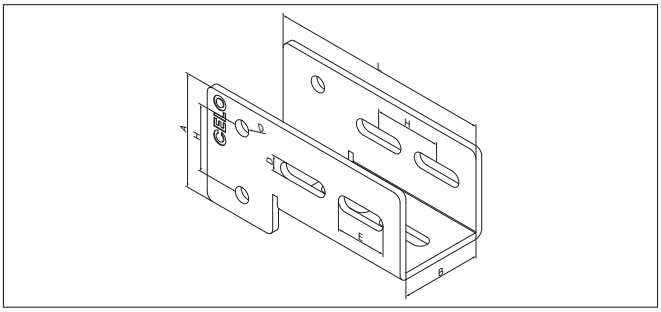
Recommended loads

R_{shear} (F_y)	Moment (kNm)
5.00	0.35

Bracket connector for 60x60 profiles KlimaProof® ESC







L: Length
A: Height
B: Width

S: Thickness
D: Slot diameter
E: Slot width

H: Distance between holes/slots

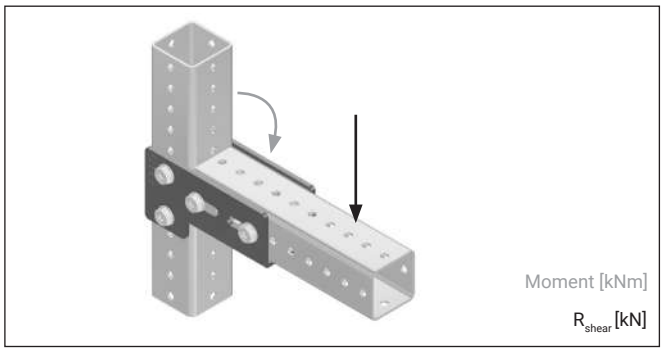
Features

- Bracket that enables the lateral connection of 60x60 profiles.
- Due to its geometry, it provides maximum available space for installations.
- Allows the construction of modular structures and flexible support systems.
- Compatible only with HLS profiles.
- High strength. The 5 mm thickness provides high resistance.
- KlimaProof® coating, guaranteeing more than 1,000 hours in salt spray chamber.

Box presentation

Bracket connector for 60x60 profiles ESC KlimaProof® coating

L (mm)	B (mm)	A (mm)	S (mm)	D (mm)	E (mm)	H (mm)	Code
166.5	60	85	5	11.5	38.5	50	**9L23HLS6090ESC**



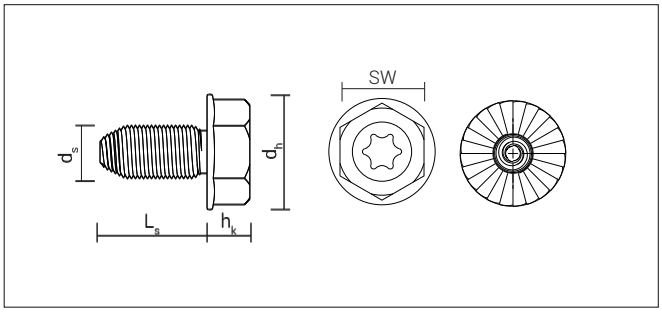
Recommended loads

R_{shear} (F_y)	Moment (kNm)
5.00	0.35

Taptite thread screw for HLS KlimaProof®



NEW PRODUCT



d_s: Screw diameter
L_s: Screw length
d_h: Head diameter
h_k: Head height

Features

- Taptite thread screw ideal for threading into steel plates.
- Fastest fastening system for metal profiles. Avoids the use of nuts and washers.
- Extrudes material to achieve higher strength.
- Ribs under the screw head that increase the stripping torque and resistance to loosening due to vibration.
- Trilobular section ensuring low threading torque and high resistance to vibration loosening.
- KlimaProof® coating, guaranteeing more than 1,000 hours in salt spray chamber.

Box presentation

Taptite thread screw for HLS KlimaProof®

d_s (mm)	L_s (mm)	d_h (mm)	H_k (mm)	SW	Drive socket	Code
10	21	21.5	8	17	TX50	**91021HLS**

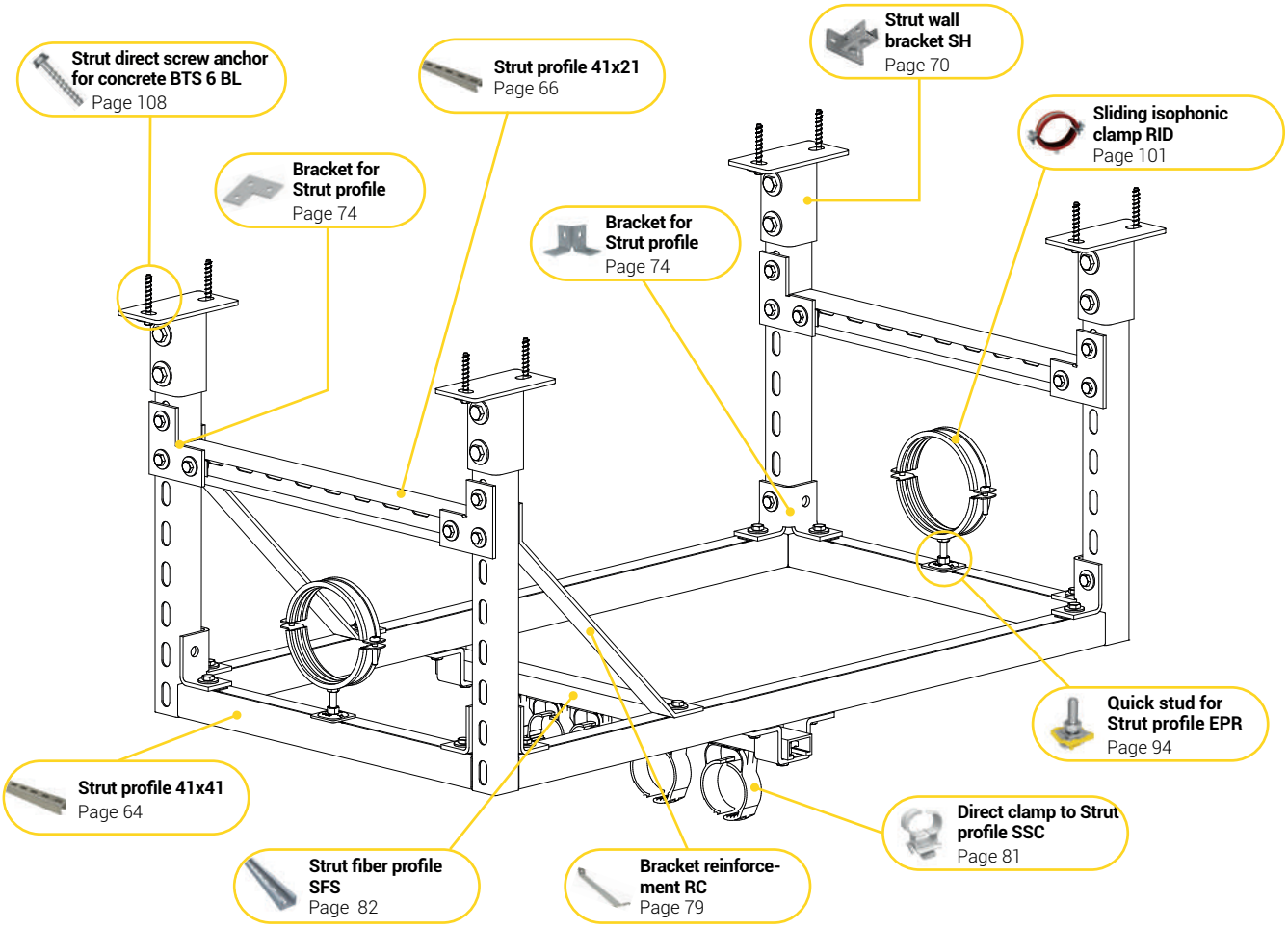
Indoor support systems

Strut profile and support 41x41	64
Strut profile and support 41x21	66
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Brackets for Strut profiles ESC	73
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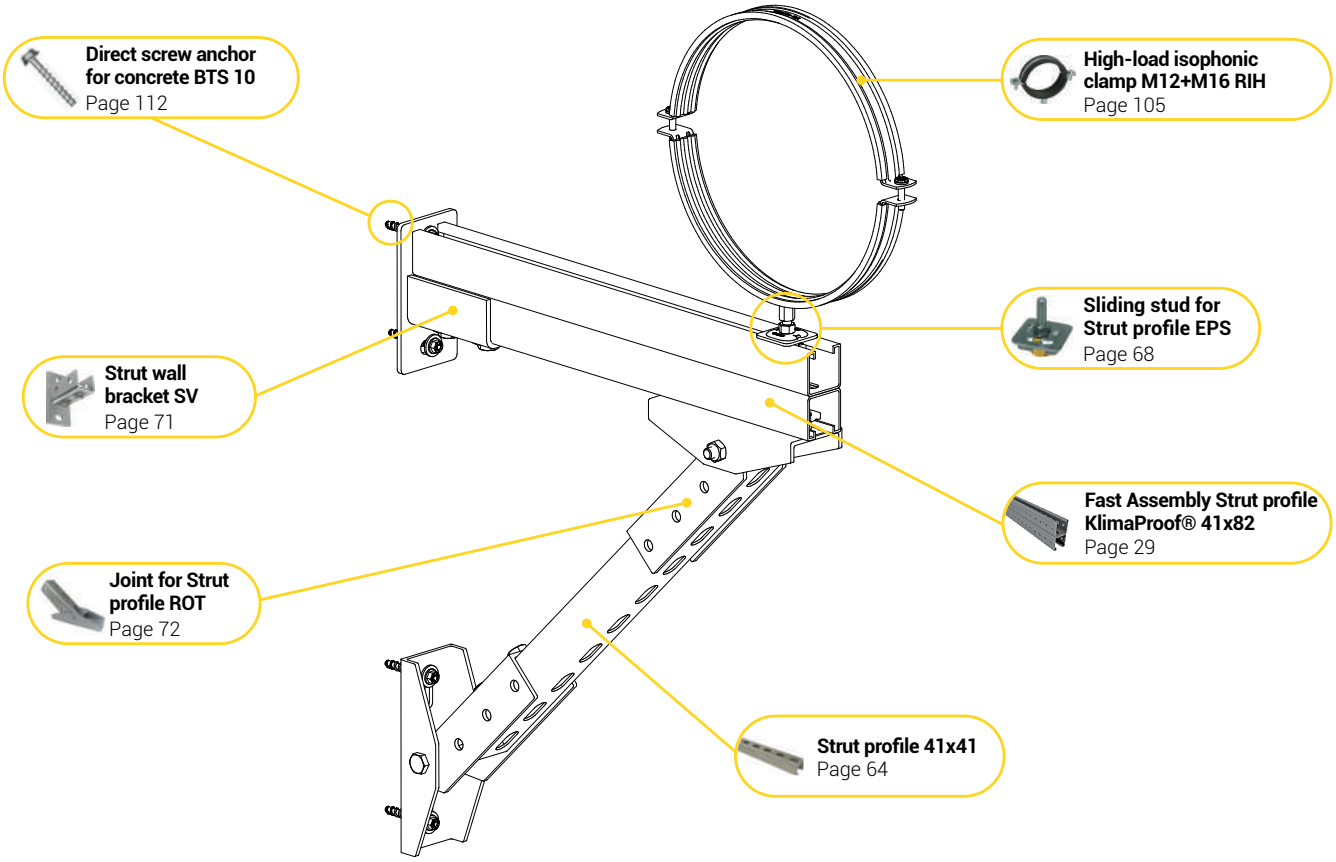
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Indoor Strut installations

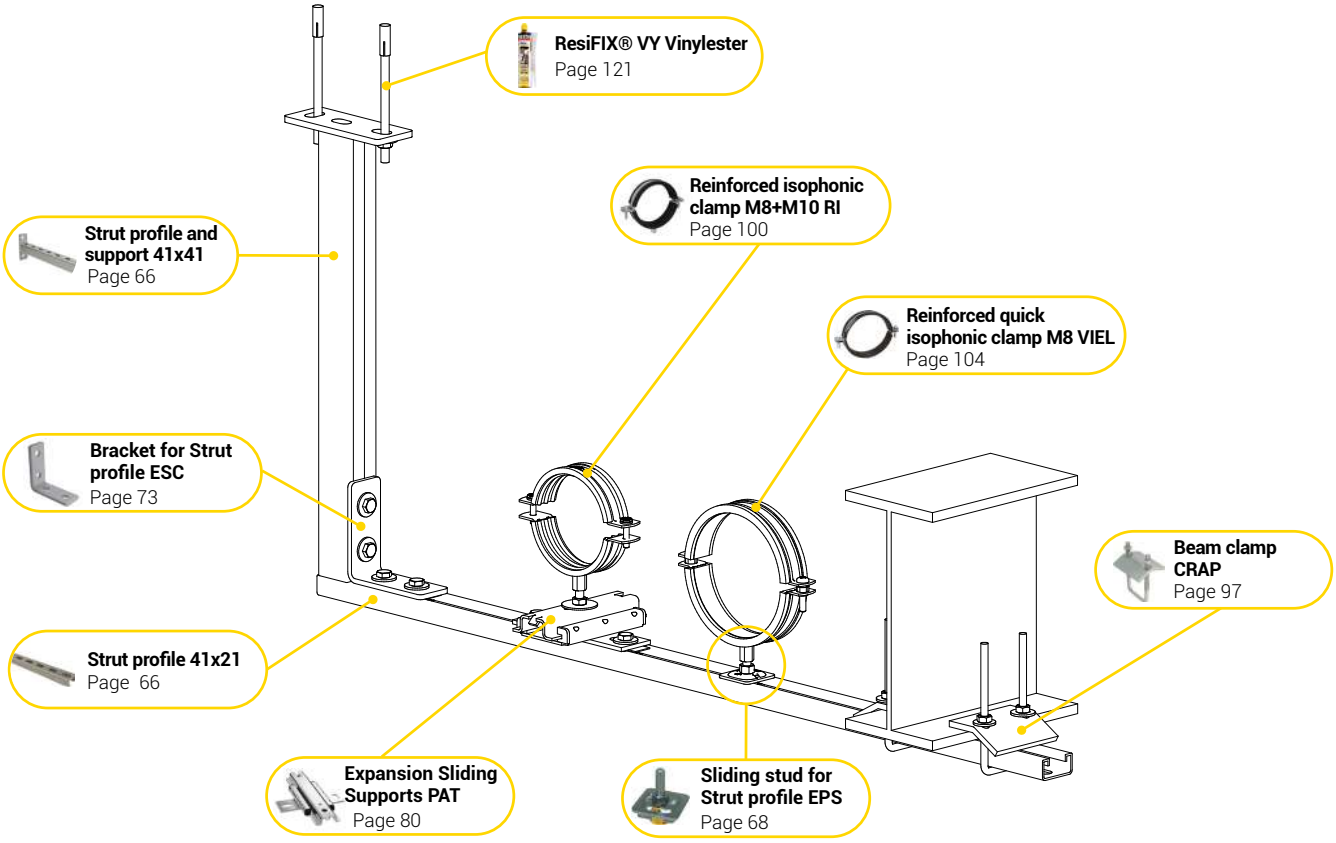
Combined structure



High-load pipe support



Support for expansion absorption



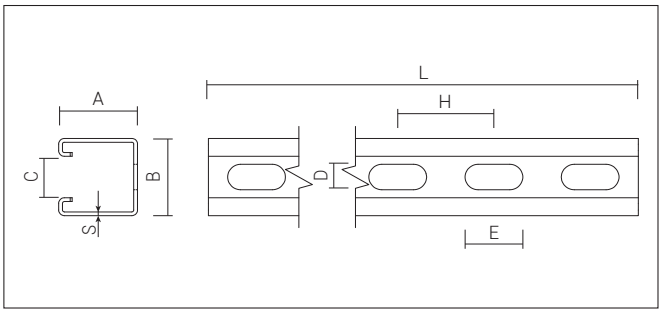
Strut 41x41 profile and support



Strut profile 41x41x2



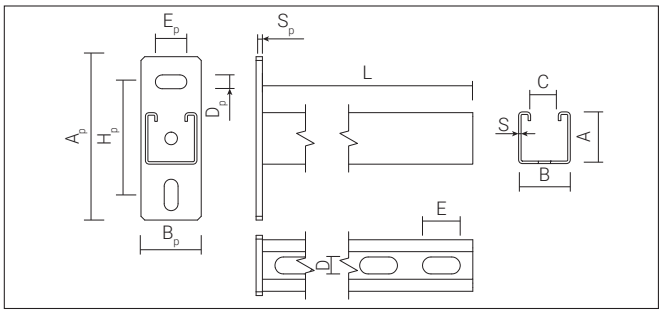
Strut profile support 41x41 SPE



Features

- For medium installations.
- 13.5x30 mm perforation every 50 mm
- Saw-tooth serration that prevents slipping.

Customizable length!
Cut-to-size service available. Contact sales for details.



A: Height
B: Width
C: Profile opening
L: Length
H: Distance between holes
E: Hole length
S: Thickness
D: Hole width
A_p: Plate height
H_p: Distance between plate holes
B_p: Plate width
D_p: Plate hole width
E_p: Plate hole length
S_p: Plate thickness

Strapped presentation

Strut profile 41x41x2 Galvanized

L (mm)	BxAxS (mm)	C (mm)	DxE (mm)	H (mm)	Code	Pack (pcs.)
600	41x41x2	22	13.5x30	50	**4141600P20**	1
1,000	41x41x2	22	13.5x30	50	**41411000P20**	1
3,000	41x41x2	22	13.5x30	50	**41413000P20**	1



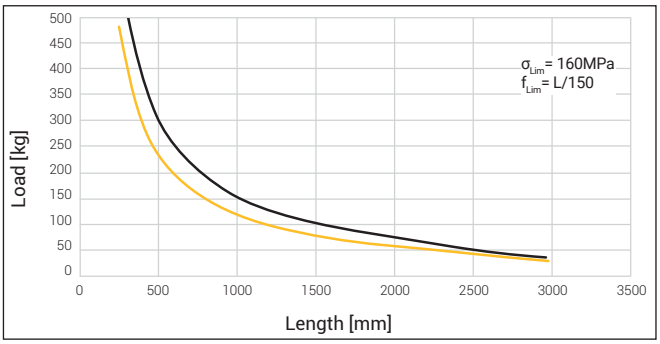


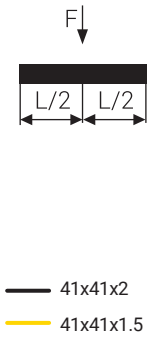
Strut profile support 41x41 SPE Zinc-plated

L (mm)	BxAxS (mm)	C (mm)	DxE (mm)	H (mm)	Plate			Code	Pack (pcs.)
					B_pxA_pxS_p (mm)	D_pxE_p (mm)	H_p (mm)		
200	41x41x2	22	13.5x30	50	48x130x5	11x25	90	**4141200SPE**	1
300	41x41x2	22	13.5x30	50	48x130x5	11x25	90	**4141300SPE**	1
450	41x41x2	22	13.5x30	50	48x130x5	11x25	90	**4141450SPE**	1
600	41x41x2	22	13.5x30	50	48x130x5	11x25	90	**4141600SPE**	1
750	41x41x2	22	13.5x30	50	48x130x5	11x25	90	**4141750SPE**	1
1,000	41x41x2	22	13.5x30	50	48x130x5	11x25	90	**41411000SPE**	1

Strut profile support 41x41 SPE Hot-dip galvanized

L (mm)	BxAxS (mm)	C (mm)	DxE (mm)	H (mm)	Plate			Code	Pack (pcs.)
					B_pxA_pxS_p (mm)	D_pxE_p (mm)	H_p (mm)		
600	41x41x2	22	13.5x30	50	48x130x5	11x25	90	**HD4141600SPE**	1
750	41x41x2	22	13.5x30	50	48x130x5	11x25	90	**HD4141750SPE**	1
1,000	41x41x2	22	13.5x30	50	48x130x5	11x25	90	**HD41411000SPE**	1





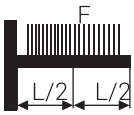
Recommended loads Strut Profile 41x41

Maximum length (mm)	41x41x1.5 F_{rec} (kg)	41x41x2 F_{rec} (kg)
250	481	612
300	400	510
350	343	437
400	300	382
450	267	340
500	240	306
600	200	255
700	172	219
800	150	191
900	133	170
1000	120	153
1100	109	139
1200	100	127
1300	92	118
1400	86	109
1500	80	102

Central load. For any other load distribution, add all loads together and treat them as a single point load located at L/2.
Values based on a maximum deflection of L/150 and σ_{perm} 160 N/mm².
Simulation carried out by CERO METROS CUADRADOS engineering.



End load



Distributed load

41x41

Length support (mm)	End Maximum Permitted Load (kg)	Distributed Maximum Permitted Load (kg)
150	99	198
200	72	115
300	32	66
400	18	37

Values for a maximum deflection of L/150 and σ_{perm} 160 N/mm².

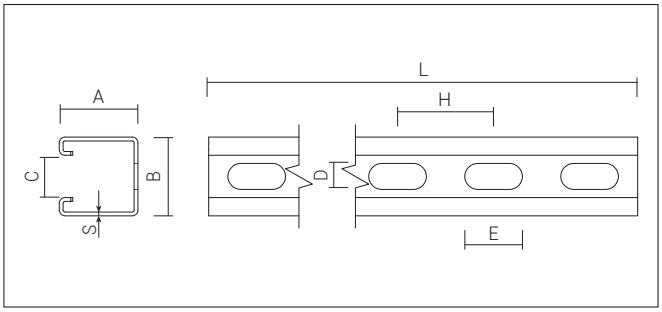
Strut 41x21 profile and support



Strut profile 41x21x2



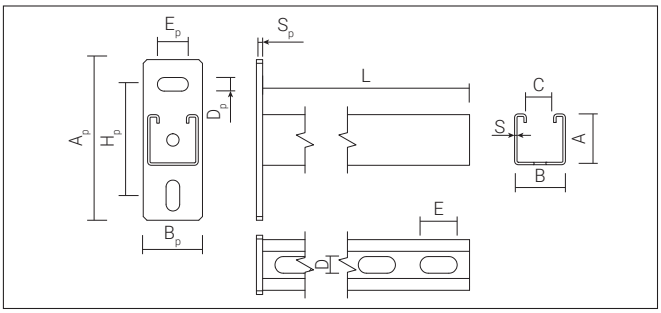
Strut profile support 41x21 SPE



Features

- For light and medium installations.
- 13.5x30 mm perforation every 50 mm.
- Saw-tooth serration that prevents slipping.

Customizable length!
Cut-to-size service available. Contact sales for details.



A: Height
B: Width
C: Profile opening
L: Length
H: Distance between holes
E: Hole length
S: Thickness
D: Hole width
A_p: Plate height
H_p: Distance between plate holes
B_p: Plate width
D_p: Plate hole width
E_p: Plate hole length
S_p: Plate thickness

Strapped presentation

Strut profile 41x21x2 Galvanized

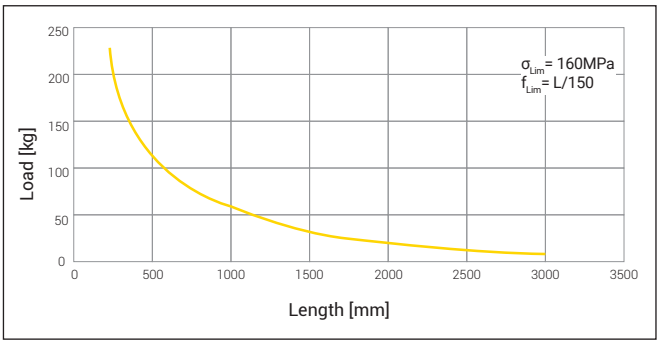
L (mm)	BxAxS (mm)	C (mm)	DxE (mm)	H (mm)	Code	Pack (pcs.)
600	41x21x2	22	13.5x30	50	**4121600P20**	1
1,000	41x21x2	22	13.5x30	50	**41211000P20**	1
3,000	41x21x2	22	13.5x30	50	**41213000P20**	1

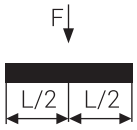




Strut profile support 41x21 SPE Zinc-plated

L (mm)	BxAxS (mm)	C (mm)	DxE (mm)	H (mm)	Plate			Code	Pack (pcs.)
					B_pxA_pxS_p (mm)	D_pxE_p (mm)	H_p (mm)		
150	41x21x2	22	13.5x30	50	48x130x5	11x25	90	**94121150SPE**	1
200	41x21x2	22	13.5x30	50	48x130x5	11x25	90	**94121200SPE**	1
300	41x21x2	22	13.5x30	50	48x130x5	11x25	90	**94121300SPE**	1
400	41x21x2	22	13.5x30	50	48x130x5	11x25	90	**4121400SPE**	1





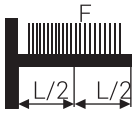
Recommended loads

Load (kg)	Maximum length (mm)
231	250
192	300
165	350
144	400
128	450
115	500
96	600
82	700
72	800
64	900
58	1000
51	1100
43	1200
36	1300
31	1400
27	1500
20	1750
15	2000
12	2250
10	2500
8	2750
7	3000

Central load. For any other load distribution, add all loads together and treat them as a single point load located at L/2.
Values based on a maximum deflection of L/150 and σ_{perm} 160 N/mm².
Simulation carried out by CERO METROS CUADRADOS engineering.



End load



Distributed load

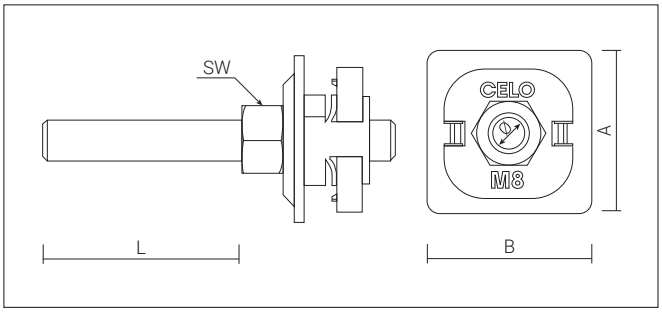
Recommended loads Strut Profile Support 41x21

Length support (mm)	End Maximum Permitted Load (kg)	Distributed Maximum Permitted Load (kg)
150	99	198
200	72	115
300	32	66
400	18	37

Values for a maximum deflection of L/150 and σ_{perm} 160 N/mm².

Sliding stud for Strut profile EPS





L: Length B: Width A: Height

Features

- Easy placement.
- Pre-assembled for installing clamps or other accessories on Strut profiles.
- Fits all Strut profile and support sizes.
- Zinc-plated.
- Recommended load 250 kg per point. Safety factor included.





Box presentation

EPS

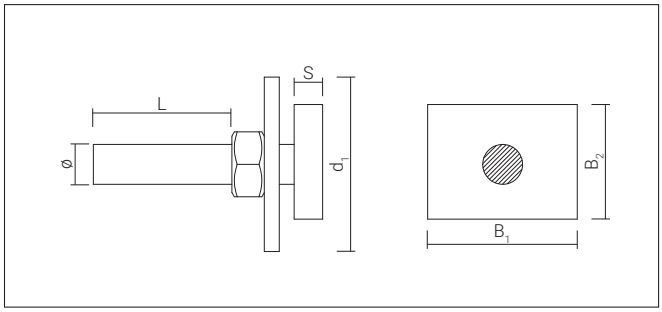
Ø (mm)	AxB (mm)	L (mm)	SW (mm)	Code	Pack (pcs.)
M8	41x41	20	13	**9418EPS**	100
M10	41x41	20	17	**94110EPS**	50
M12	41x41	20	19	**94112EPS**	50

Installation



Stud for Strut profile EP





L: Length S: Thickness d_1: Washer length
B_1 / B_2: Width

Features

- Stud riveted to the nut.
- Washer Ø 35 mm.
- Pre-assembled, allows quick fastening of clamps and profiles.
- Zinc-plated coating.





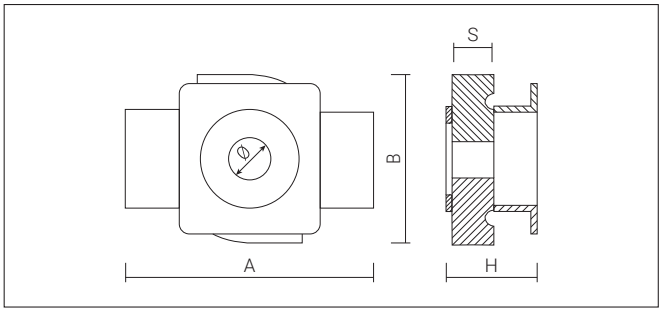
Box presentation

EP

Ø (mm)	B_1 (mm)	B_2 (mm)	L (mm)	S (mm)	d_1 (mm)	Code	Pack (pcs.)
M8	36	20	30	5.8	38	**9418EP**	100
M10	36	20	30	5.8	38	**94110EP**	100

Quick nut TSS





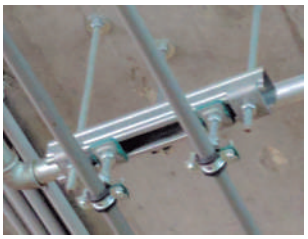
H: Height
B: Width

A: Length

S: Thickness

Features

- Easy and fast.
- Pre-fixing system, even with the profile in a vertical position to adjust the installation.
- Fits all profile sizes.
- Serrated nut for optimal fixing.
- Zinc-plated.





Box presentation

TSS

Ø (mm)	AxB (mm)	S (mm)	H (mm)	Code	Pack (pcs.)	Packaging (pcs.)
M8	48x30	6	15	**9418TSS**	100	900
M10	48x30	8	17	**94110TSS**	100	400
M12	48x30	9	18	**94112TSS**	50	450

Installation

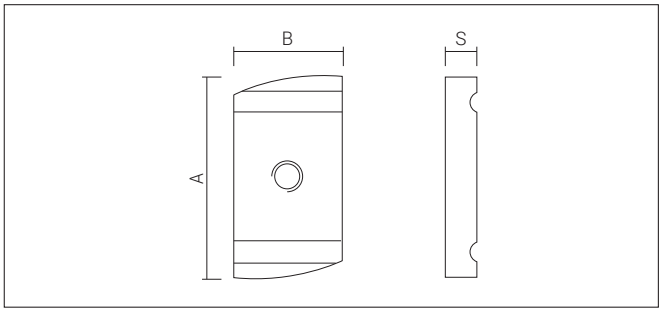






Strut profile nut TS





A: Height

B: Width

S: Thickness

Features

- With serrated slot for better fixing on the interior wall of the profile.
- Nut suitable for all profile sizes.
- Zinc-plated.





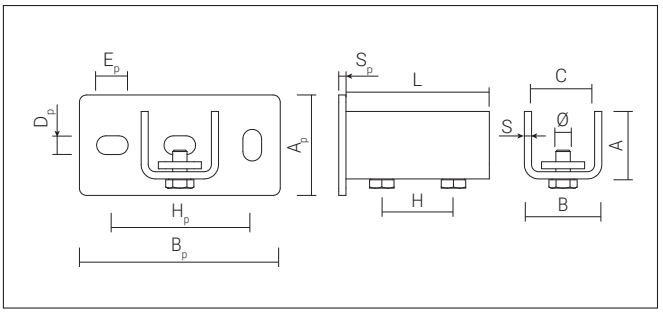
Box presentation

TS

Ø (mm)	BxAxS (mm)	For profiles	Code	Pack (pcs.)	Packaging (pcs.)
M6	20x35x5.5	41x41 / 41x21	**9416TS**	50	600
M8	20x35x6	41x41 / 41x21	**9418TS**	50	600

Wall bracket Strut SH





A: Height
B: Width
C: Profile opening
L: Length
H: Distance between holes
E: Hole length
S: Thickness
D: Hole width
A_p: Plate height
H_p: Distance between plate holes
B_p: Plate width
D_p: Plate hole width
E_p: Plate hole length
S_p: Plate thickness

Features

- Plate with welded profile.
- Perpendicular slotted holes to facilitate assembly.
- Includes plate with threaded holes and M10x30 tightening screws. Grade 6.8.
- Zinc-plated.



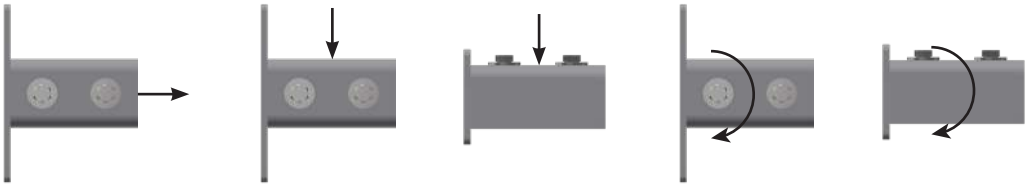


Box presentation

SH Horizontal

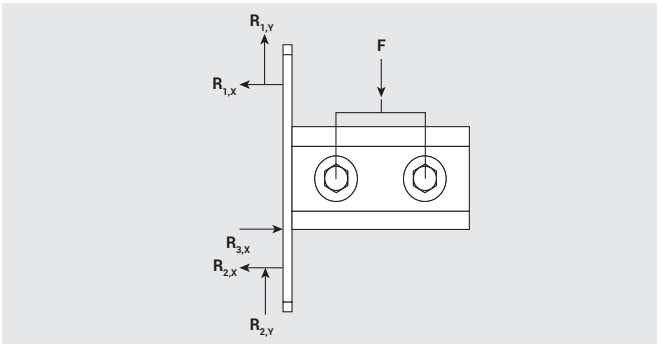
L (mm)	BxAxS (mm)	C (mm)	Ø (mm)	H (mm)	Plate			Code	Pack (pcs.)
					B_pxA$_p$xS$_p$ (mm)	D$_p$xE$_p$ (mm)	H_p (mm)		
100	54x47x5	44	SW17 (M10)	50	140x70x6	13x22	98	**941SH**	10

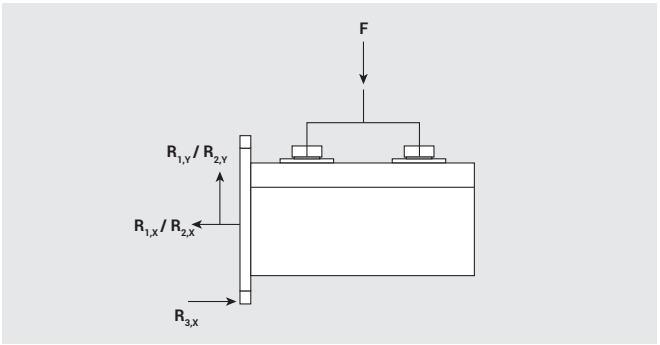
Maximum loads



16.86 kN | 5.17 kN | 7.54 kN | 0.39 kN·m | 0.57 kN·m

- Maximum loads Applied safety factor = 2.0.
- Loads without considering the Strut profile.





Reactions on fastening elements

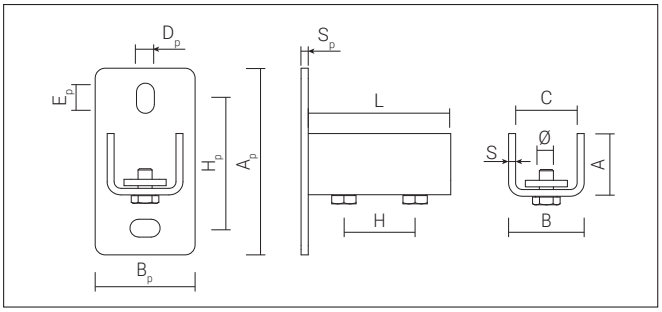
$R_{1,X}$	$R_{1,Y}$	$R_{2,X}$	$R_{2,Y}$	$R_{3,X}$
0.72·F	0.50·F	0.07·F	0.50·F	0.79·F

Reactions on fastening elements

$R_{1,X}$	$R_{1,Y}$	$R_{2,X}$	$R_{2,Y}$	$R_{3,X}$
0.79·F	0.50·F	0.79·F	0.50·F	1.57·F

Wall bracket Strut SV





A: Height
B: Width
C: Profile opening
L: Length
H: Distance between holes
E: Hole length
S: Thickness
D: Hole width
A_p: Plate height
H_p: Distance between plate holes
B_p: Plate width
D_p: Plate hole width
E_p: Plate hole length
S_p: Plate thickness

Features

- Plate with welded profile.
- Perpendicular slotted holes to facilitate assembly.
- Includes plate with threaded holes and M10x30 tightening screws. Grade 6.8.
- Zinc-plated..

Box presentation

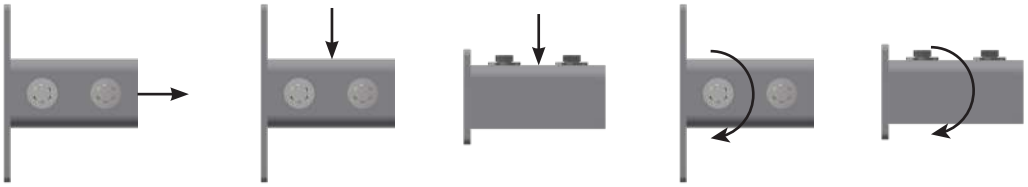
SV Vertical

L (mm)	BxAxS (mm)	C (mm)	Ø (mm)	H (mm)	Plate			Code	Pack (pcs.)
					B_pxA_pxS_p (mm)	D_pxE_p (mm)	H_p (mm)		
100	54x47x5	44	SW17 (M10)	50	70x140x6	13x22	98	**941SV**	10



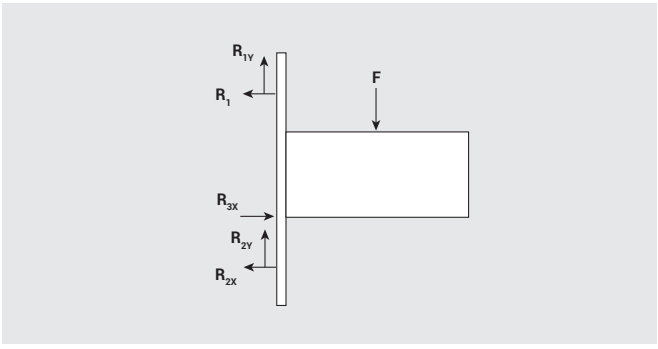


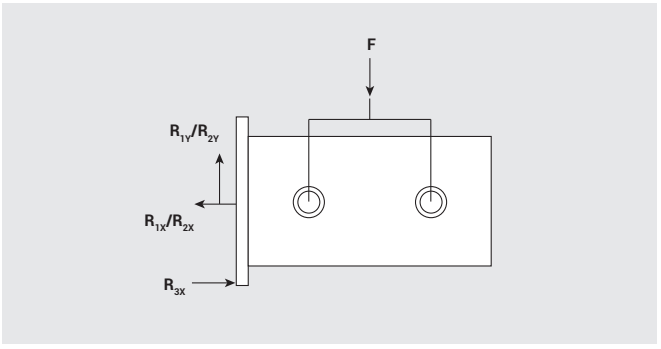
Maximum loads



16.86 kN | 5.17 kN | 7.54 kN | 0.39 kN·m | 0.57 kN·m

- Applied safety factor = 2.0.
- Loads without considering the Strut profile.





Reactions on fastening elements

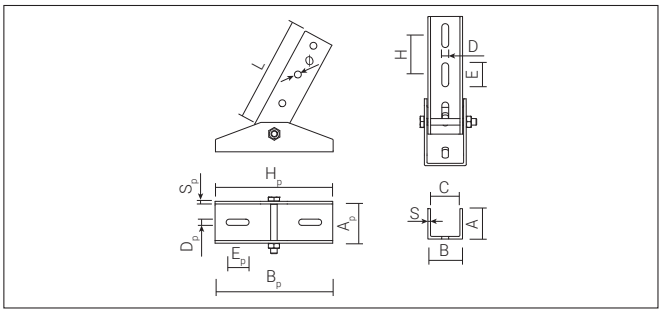
$R_{1,X}$	$R_{1,Y}$	$R_{2,X}$	$R_{2,Y}$	$R_{3,X}$
0.72·F	0.50·F	0.07·F	0.50·F	0.79·F

Reactions on fastening elements

$R_{1,X}$	$R_{1,Y}$	$R_{2,X}$	$R_{2,Y}$	$R_{3,X}$
0.79·F	0.50·F	0.79·F	0.50·F	1.57·F

Joint for Strut profile ROT





Features

- Accessory for mounting Strut profile 41x41 and 41x21.
- Angular adjustment from 0° to 135°.
- Steel S235.
- Zinc-plated.

A: Height
B: Width
C: Profile opening
L: Length
H: Distance between holes

E: Hole length
S: Thickness
D: Hole width
A_p: Plate height
H_p: Distance between plate holes

B_p: Plate width
D_p: Plate hole width
E_p: Plate hole length
S_p: Plate thickness



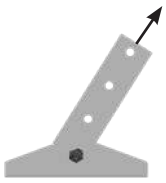


Box presentation

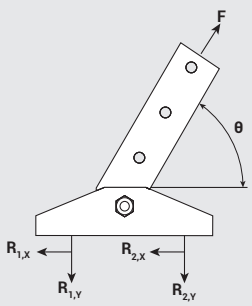
ROT

L (mm)	BxAxS (mm)	C (mm)	DxE (mm)	Ø (mm)	H (mm)	Plate			Code	Pack (pcs.)
						B_pxA$_p$xS_p (mm)	D_pxE_p (mm)	H_p (mm)		
180	53.5x46x4	45	10.5x36.5	11	60	180x64x4	9.5x35	112	**941ROT**	10

Maximum permitted loads



- Load applicable in any direction.
- Load 12 kN
- Applied safety factor γ = 2.0
- Maximum load applied on concrete fixing. Load without considering the Strut profile.



Reactions on fastening elements

Angle	$R_{1,X}$	$R_{1,Y}$	$R_{2,X}$	$R_{2,Y}$
0°	0.38 · F	0.26 · F	0.73 · F	0.00 · F
30°	0.50 · F	0.43 · F	0.47 · F	0.14 · F
45°	0.50 · F	0.51 · F	0.29 · F	0.19 · F
60°	0.33 · F	0.50 · F	0.04 · F	0.25 · F
90°	0.00 · F	0.50 · F	0.00 · F	0.50 · F

Angled brackets for Strut ESC



90°/2 bracket



90°/3 bracket

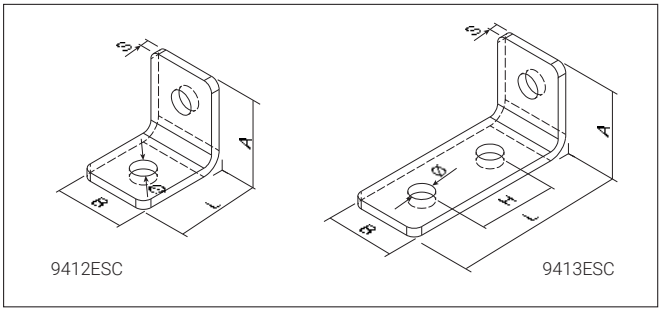


90°/4 bracket

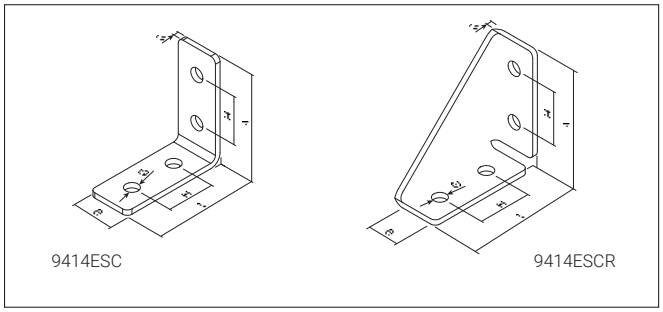


Reinforced 45° bracket





9412ESC 9413ESC



9414ESC 9414ESCR

S: Thickness
A: Height

L: Length
B: Width

H: Distance between holes

Features

- Universal assembly system for Strut profiles 41x41 and 41x21.
- Designed to withstand high loads.
- Available in different sizes and dimensions to suit the specific needs of each project.
- Steel S235.

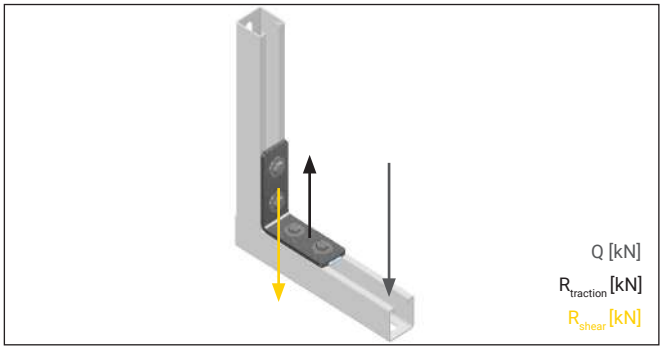




Box presentation

ESC

Type	B (mm)	A (mm)	L (mm)	S (mm)	H (mm)	Ø (mm)	Code	Pack (pcs.)
90° / 2 bracket	40	50	50	5	-	13	**9412ESC**	25
90° / 3 bracket	40	50	100	5	45	13	**9413ESC**	20
90° / 4 bracket	40	100	100	5	45	13	**9414ESC**	20
90° bracket / REINFORCED	45	110	110	5	45	13	**9414ESCR**	25



Recommended loads

Type	$R_{traction}$ (F_x)	R_{shear} (F_y)
90° / 2 bracket	4.74 kN	1.37 kN
90° / 3 bracket	4.74 kN	1.37 kN
90° / 4 bracket	9.48 kN	4.00 kN
90° bracket / REINFORCED	9.48 kN	4.00 kN

Safety factor γ = 2.

Brackets for Strut profile


TESC


UESC


CESC


EESC


ESCC


TFESC

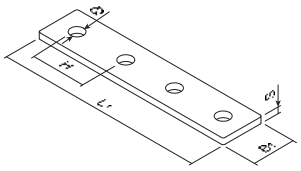

ESC 45/4

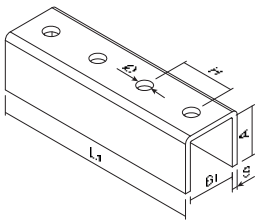

ESC 45/2

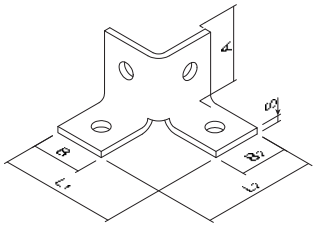

ULESC

Features

- Universal assembly system for Strut profiles 41x41 and 41x21.
- They provide connections between Strut profiles, allowing the contruction of modular structures and flexible support systems.
- Steel S235.


9414ESCC

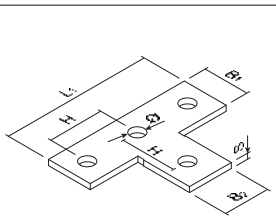

941ULESC

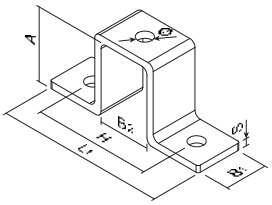

941TFESC

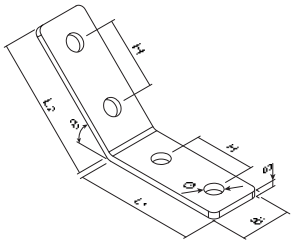
S: Thickness
A: Height
L: Length
B: Width

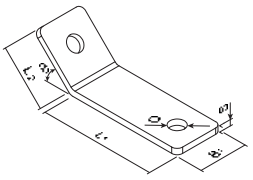
H: Distance between holes
L_1: Length 1
L_2: Length 2

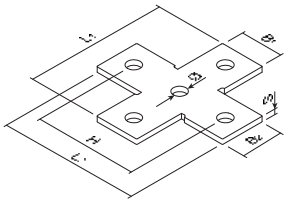
B_1: Width 1
B_2: Width 2

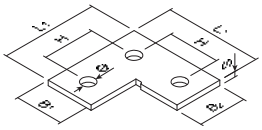

941TESC


941UESC


941445ESC


941245ESC


941CESC


941EESC







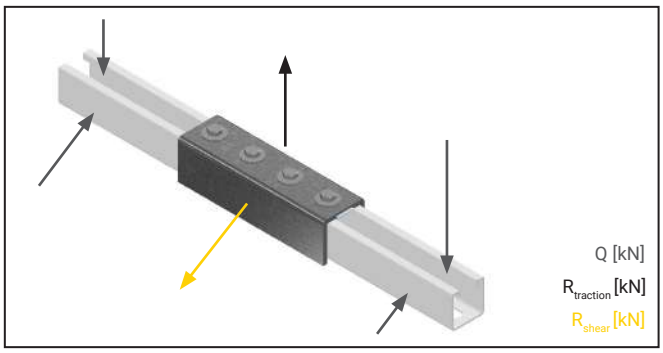




Box presentation

Brackets for Strut profile

Type	B_1 (mm)	B_2 (mm)	A (mm)	L_1 (mm)	L_2 (mm)	S (mm)	H (mm)	Ø (mm)	θ (mm)	Code	Pack (pcs.)
TESC	41	41	-	130	-	5	48	13	-	**941TESC**	25
EESC	41	41	-	90	90	5	48	13	-	**941EESC**	20
CESC	41	41	-	132	132	5	96	13	-	**941CESC**	20
ESCC	41	-	-	186	-	5	50	13	-	**9414ESCC**	25
UESC	40	44	44	142	-	5	99	13	-	**941UESC**	20
TFESC	38	40	60	90	90	5	-	13	-	**941TFESC**	20
ULESC	43	-	49	185	-	5	48	13	-	**941ULESC**	10
ESC45/2	40	-	-	94	45	5	48	13	45	**941245ESC**	25
ESC45/4	40			94	94	5	-	13	45	**941445ESC**	25



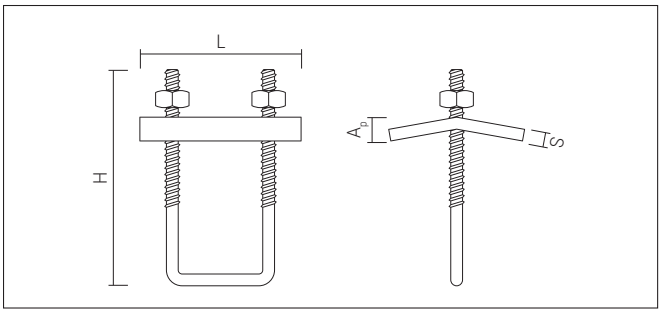
Recommended loads

Type	$R_{traction}$ (F_x)	R_{shear} (F_y)
TESC	4.74 kN	1.37 kN
EESC	4.74 kN	1.37 kN
CESC	4.74 kN	1.37 kN
ESCC	9.48 kN	4.00 kN
UESC	9.48 kN	4.00 kN
TFESC	4.74 kN	1.37 kN
ULESC	9.48 kN	4.00 kN
ESC45/2	4.74 kN	1.37 kN
ESC45/4	4.74 kN	1.37 kN

Safety factor γ = 2.

Beam clamp CRAP





H: Height
L: Length
S: Thickness
A_p: Plate height

Features

- For installations under beams without drilling or welding.
- Zinc-plated.
- For 38x40 profile.
- Nut and washer included.
- Maximum beam thickness 17 mm.

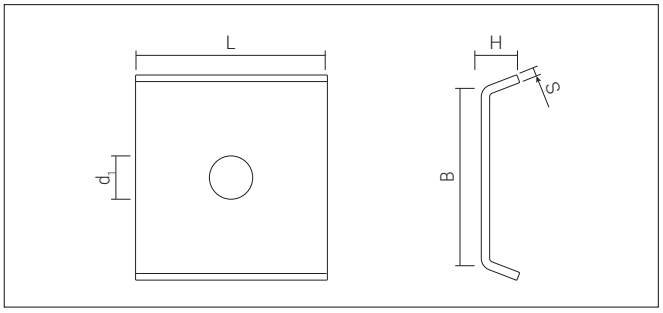
Box presentation

CRAP

Ø (mm)	L (mm)	H (mm)	S (mm)	For profiles	Code	Pack (pcs.)
M8	105	85	6	41x41/41x21	**941CRAP**	25
M10	135	85	6	41x41/41x21	**91041CRAP**	20

PRS locking plate





L: Length
H: Height
B: Width
S: Thickness
d_1: Hole diameter

Features

- Zinc-plated steel.
- M8 locking plate.

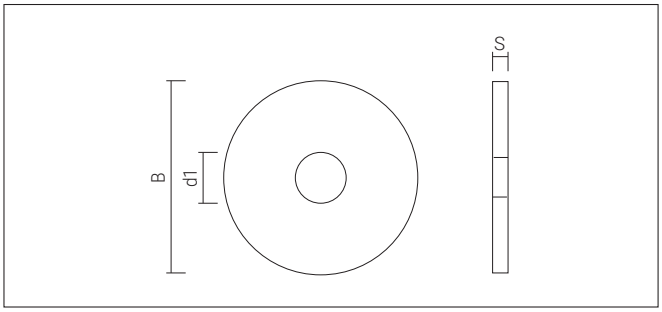
Box presentation

PRS

H (mm)	B (mm)	S (mm)	L (mm)	d_1 (mm)	For profiles	Code	Pack (pcs.)
8	42	2	51	9	41x41/41x21	**941PRS**	100
10	42	2	51	11	41x41/41x21	**94110PRS**	100

Flat washer for Strut profile AS

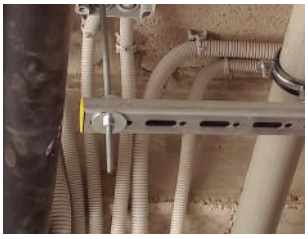




B: Width S: Thickness d_1: Hole diameter

Features

- Flat washers for profiles.
- Zinc-plated.





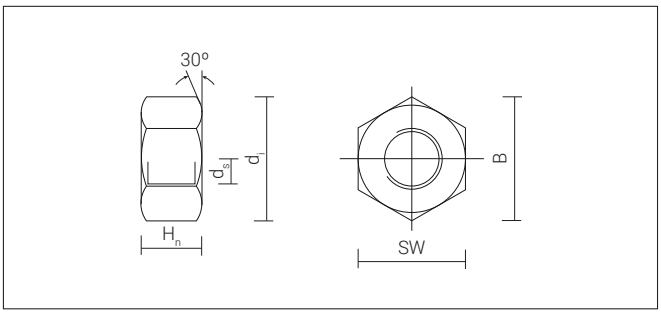
Box presentation

AS

Ø (mm)	B (mm)	d_1 (mm)	S (mm)	Code	Pack (pcs.)
M8	40	8.5	3	**98AS**	100
M10	40	10.5	3	**910AS**	100

Nut DIN 934





B: Width
H_n: Nut thickness
d_s: Screw diameter
d_i: Inner diameter

Features

- Hex nut.
- Steel grade 8.

Box presentation

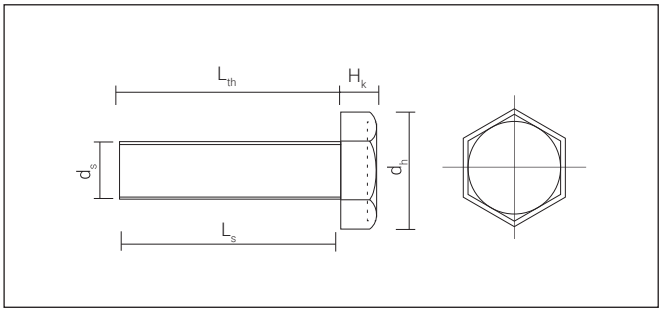
DIN 934 Zinc-plated

d_s (mm)	SW (mm)	B (mm)	H_n (mm)	Code	Pack (pcs.)	Packaging (pcs.)
M3	5.5	6.08	2.4	**93934**	1,000	24,000
M4	7.0	7.74	3.2	**94934**	1,000	24,000
M5	8.0	8.87	4.0	**95934**	500	12,000
M6	10.0	11.05	5.0	**96934**	500	6,000
M8	13.0	14.38	6.5	**98934**	250	3,000
M10	17.0	18.90	8.0	**910934**	250	2,000
M10	17.0	18.90	8.0	**910934200**	200	2,400
M12	19.0	21.10	10.0	**912934**	100	1,200

Hex screw DIN 933



Cincado



d_s: Screw diameter
L_s: Screw length
L_{th}: Threaded section
H_k: Head height

Features

- Hexagonal head.
- Indented head (M3, M4 and M5).
- Trimmed head (M6 and M8).

Box presentation

DIN 933 Zinc-plated

d_s (mm)	L_s (mm)	L_{th} (mm)	H_k (mm)	Drive socket	Code	Pack (pcs.)	Packaging (pcs.)
3	10	T	2.0	SW5.5	**9310933**	1,000	12,000
3	20	T	2.0	SW5.5	**9320933**	1,000	12,000
3	30	T	2.0	SW5.5	**9330933**	500	6,000
4	8	T	2.8	SW7	**948933**	500	12,000
4	10	T	2.8	SW7	**9410933**	500	12,000
4	15	T	2.8	SW7	**9415933**	500	6,000
4	20	T	2.8	SW7	**9420933**	500	6,000
4	25	T	2.8	SW7	**9425933**	500	6,000
4	60	T	2.8	SW7	**9460933**	250	1,500
5	10	T	3.5	SW8	**9510933**	500	6,000
5	15	T	3.5	SW8	**9515933**	250	6,000
5	20	T	3.5	SW8	**9520933**	250	6,000
5	45	T	3.5	SW8	**9545933**	250	1,500
5	60	T	3.5	SW8	**9560933**	250	1,500
6	10	T	4.0	SW10	**9610933**	250	6,000
6	16	T	4.0	SW10	**9616933**	250	3,000
6	20	T	4.0	SW10	**9620933**	250	3,000
6	25	T	4.0	SW10	**9625933**	250	3,000
6	30	T	4.0	SW10	**9630933**	250	3,000
6	40	T	4.0	SW10	**9640933**	250	1,500
6	50	T	4.0	SW10	**9650933**	250	1,500
8	16	T	5.3	SW13	**9816933**	100	1,200
8	20	T	5.3	SW13	**9820933**	100	1,200
8	25	T	5.3	SW13	**9825933**	100	1,200
8	30	T	5.3	SW13	**9830933**	100	1,200
8	35	T	5.3	SW13	**9835933**	100	800
8	40	T	5.3	SW13	**9840933**	75	900
8	45	T	5.3	SW13	**9845933**	100	800
8	50	T	5.3	SW13	**9850933**	50	600
8	60	T	5.3	SW13	**9860933**	50	400
8	70	T	5.3	SW13	**9870933**	40	480

T: Full thread

Presented in bags

DIN 933 Zinc-plated

d_s (mm)	L_s (mm)	L_{th} (mm)	H_k (mm)	Drive socket	Code	Pack (pcs.)	Packaging (pcs.)
4	65	T	2,8	SW7	**465933**	250	1.250
4	70	T	2,8	SW7	**470933**	250	1.000

T: Full thread.

Threaded rod 975



A2 STAINLESS STEEL

Features

- Manufactured in steel grade 4.8.

Box presentation

975 Cincado

Denom.	Code	Pack (pcs.)
M4	**4975**	200
M6	**6975**	100
M8	**8975**	50
M10	**10975**	25
M12	**12975**	25

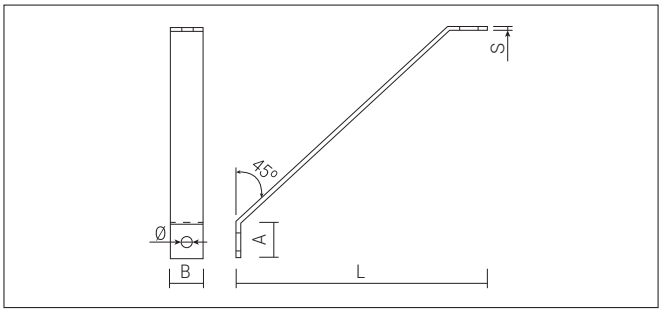
Box presentation

975 Stainless Steel

Denom.	Code	Pack (pcs.)
M8	**X8975**	50
M10	**X10975**	25

Bracket reinforcement RC





L: Length
B: Width

S: Thickness

A: Bridge height

Features

- Multiplies the maximum recommended load by 2.5.
- Adaptable to all Strut supports.
- Zinc-plated.



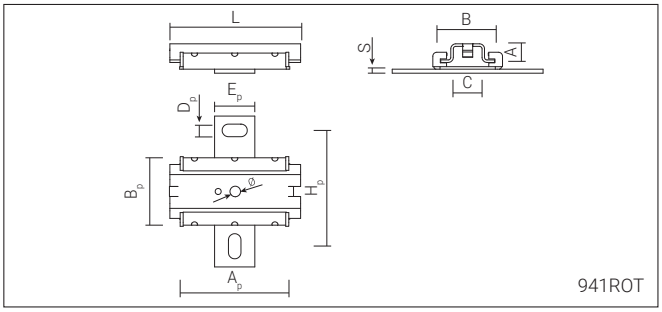
Box presentation

RC

L (mm)	BxAxS (mm)	Ø	Code	Pack (pcs.)
313	40x47x5	45°	**9300RC**	5

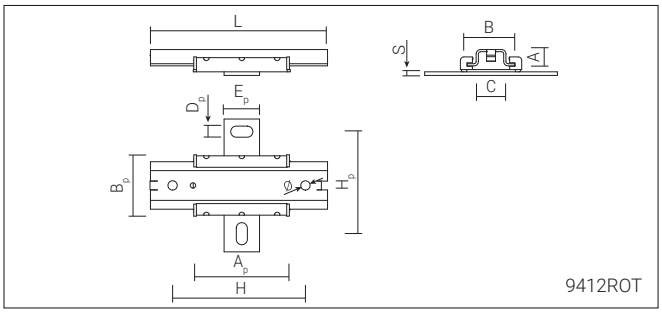
Expansion Sliding Supports PAT





Features

- Expansion slides designed to compensate for pipe expansion.
- Can be used with Strut profiles and CELO isophonic clamps.
- Sliding part made of polyamide reinforced with glass fiber.
- M10 connectors.



A: Height
B: Width
C: Profile opening
L: Length
S: Thickness

H: Distance between screws
A_p: Plate height
H_p: Distancebetween plate holes

B_p: Plate width
D_p: Plate hole width
E_p: Plate hole length

Box presentation

PAT

L (mm)	BxAxS (mm)	C (mm)	Ø (mm)	H (mm)	Plate			Code	Pack (pcs.)
					B_pxA$_p$ (mm)	D_pxE_p (mm)	H_p (mm)		
130	53.6x18.5x2.5	28.6	10.5	-	67x102	12.5x25	115	**941PAT**	10
200	53.6x18.5x2.5	28.6	10.5	150	67x102	12.5x25	115	**9412PAT**	10

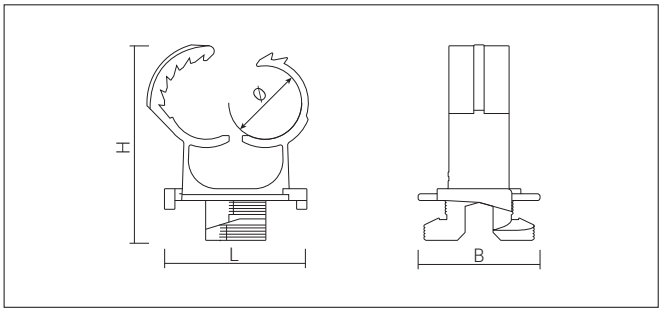




Direct clamp to Strut profile SSC



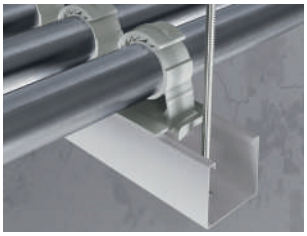
NEW PATENTED PRODUCT · HALOGEN FREE · BEST NYLON QUALITY · UL · RoHS



H: Height L: Length B: Width

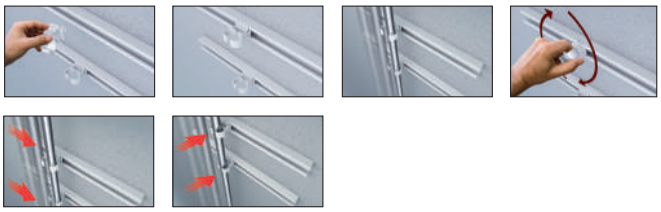
Features

- Clamp designed for direct installation on CELO SFS fiber profile or
- STRUT profile, without accessories or tools.
- Saves time, accessories and labour.
- Multi-diameter: one clamp covers three pipe diameters.
- Allows closing several clamps at once.
- Self-locking system that fits perfectly onto the profile.
- Absorbs vibration and expansion.
- Thermal and electrical insulation.
- Installation temperature: −5°C to +45°C.
- Operating temperature: −10°C to +90°C, and occasionally from −25°C to +110°C.
- Halogen-free.





Installation



Box presentation

SSC Grey

Ø (mm)	L (mm)	H (mm)	B (mm)	Code	Pack (pcs.)	Packaging (pcs.)
14-18	46	48	41	**918SSC**	50	300
20-25	46	56	41	**925SSC**	25	225
25-32	48	65	41	**932SSC**	25	150
35-42	57	80	41	**942SSC**	20	120
48-55	72	95	41	**955SSC**	10	60
59-65	82	109	41	**965SSC**	8	48

Technical information

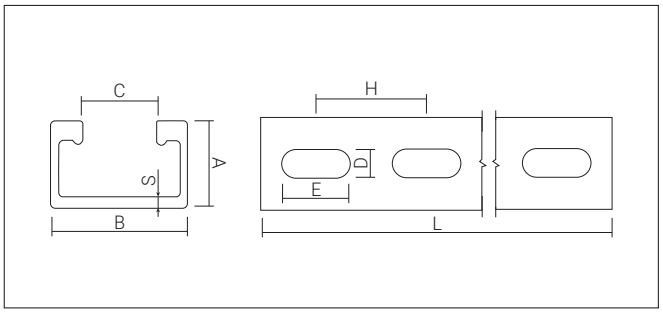
Ø (mm)	Loads F_{Rec} (kg)	EMT	CPVC	IMC	Approval
14-18	23	1/2	1/2	-	UL
20-25	23	3/4	3/4	1/2	UL
25-32	23	1	1	3/4	UL
35-42	34	1-1/4	1-1/4&1-1/2	1&1-1/4	UL
48-55	36	1-1/2 &2	2	1-1/2	UL
59-65	45	-	-	2	UL

Technical information

Ø (mm)	Ø Pipes		
	Iron	Copper	Plastic
14-18	3/8”	14-15-18	16
20-25	1/2”	22	20-25
25-32	3/4”	28	32
35-42	1-1/4”	35-42	40-42
48-55	1-1/2”	54	50
59-65	2”	63	63

Fiberglass Strut profile SFS



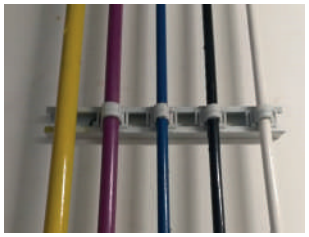


C: Profile opening
S: Thickness
B: Width
A: Height
H: Distance between holes
D: Hole width
E: Hole length
L: Length

Features

- Manufactured in high-strength fiberglass.
- 75% lighter than a steel profile.
- 30% lighter than an aluminium profile.
- Thermal and electrical insulation.
- Easy handling and cutting.
- Same strength as the steel profile at distances up to half a metre.
- Resistant to corrosive, acidic, saline, alkaline and electrochemical corrosion (galvanic pair) environments.
- Mounting temperature: −10°C / +60°C
- Fire-resistant, UL94-V0 certified.





Applications

- Medical gas installations in hospitals.
- Electrical installations in farms and greenhouses.
- Installations in fish farms, canning and meat industries.
- Installations in the chemical industry.

Installation



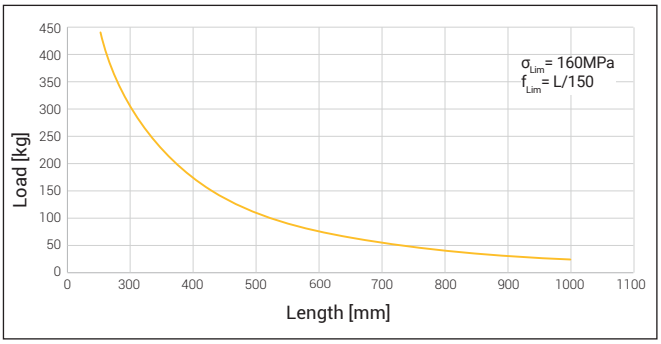


Box presentation

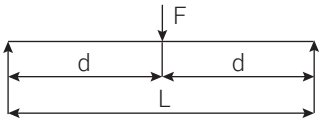
SFS

B (mm)	A (mm)	L (mm)	S (mm)	C (mm)	E (mm)	D (mm)	H (mm)	Code	Pack (pcs.)	Packaging (pcs.)
41	25.5	508	3	22	30	12	50	**4125SFS05**	32	896
41	25.5	914	3	22	30	12	50	**4125SFS09**	32	640
41	25.5	1828	3	22	30	12	50	**4125SFS18**	18	360
41	25.5	3000	3	22	30	12	50	**4125SFS30**	12	240

Up to 24°C: 96 kg. | Up to 50°C: 77 kg.
Maximum load for a length of 500 mm.



3-point bending



Recommended loads

T. +23 °C L (mm)	"F" Maximum load (kg)	Deflection Maximum load (mm)
250	398	1.67
300	276	2.00
350	203	2.33
400	155	2.67
450	123	3.00
500	99	3.33
550	82	3.67
600	69	4.00
650	59	4.33
700	51	4.67
750	44	5.00
800	39	5.33
850	34	5.67
900	31	6.00
1000	25	6.67

Notes

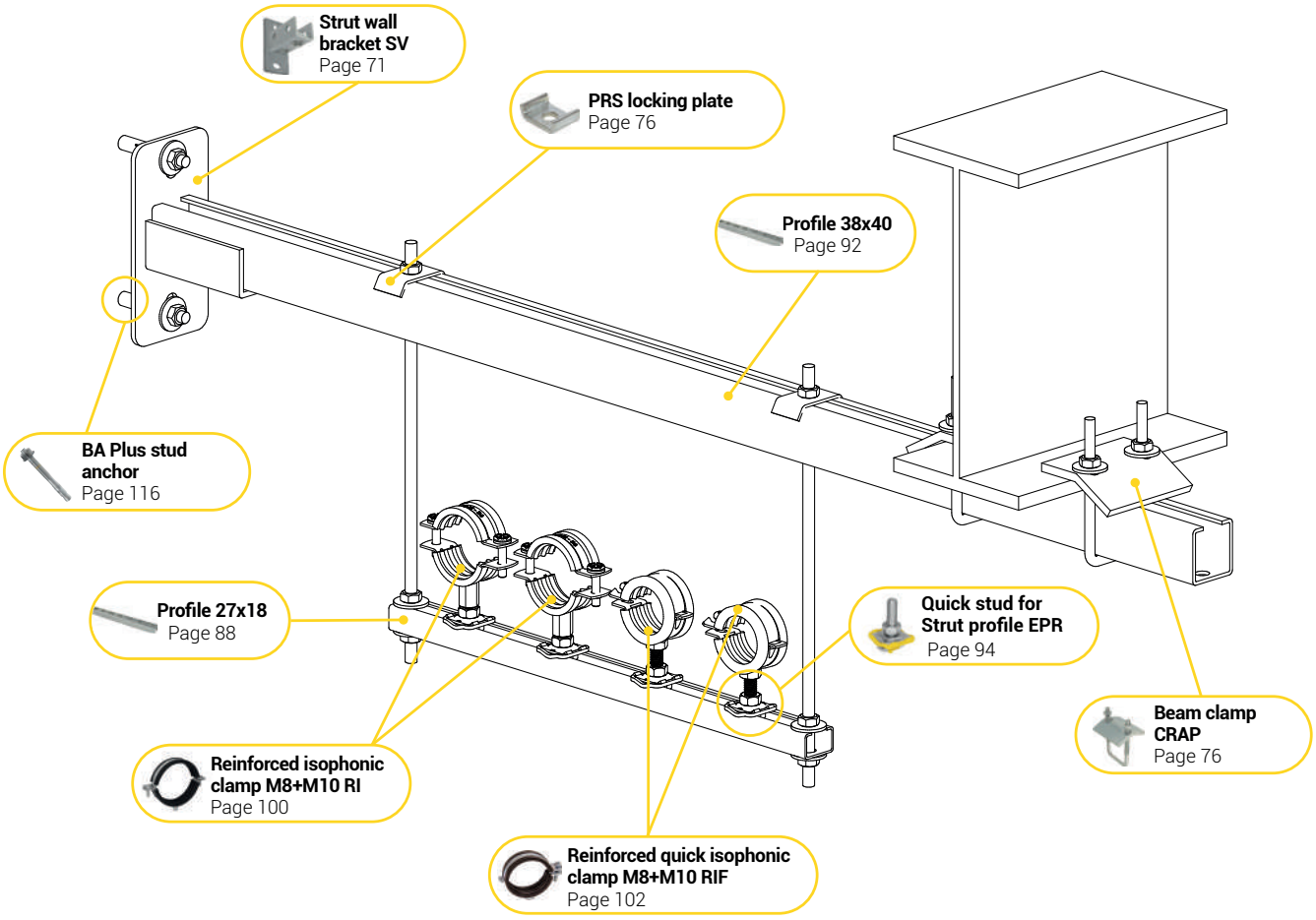
Indoor installations lightweight profile

Profile and support 27x18	88
Profile and support 28x30	90
Profile and support 38x40	92
Quick stud for profile EPR	94
Stud for profile EP	95
Profile nut TS	95
Wall bracket SV	96
Wall bracket SH	96
VT / HT support	97
Beam clamp	97

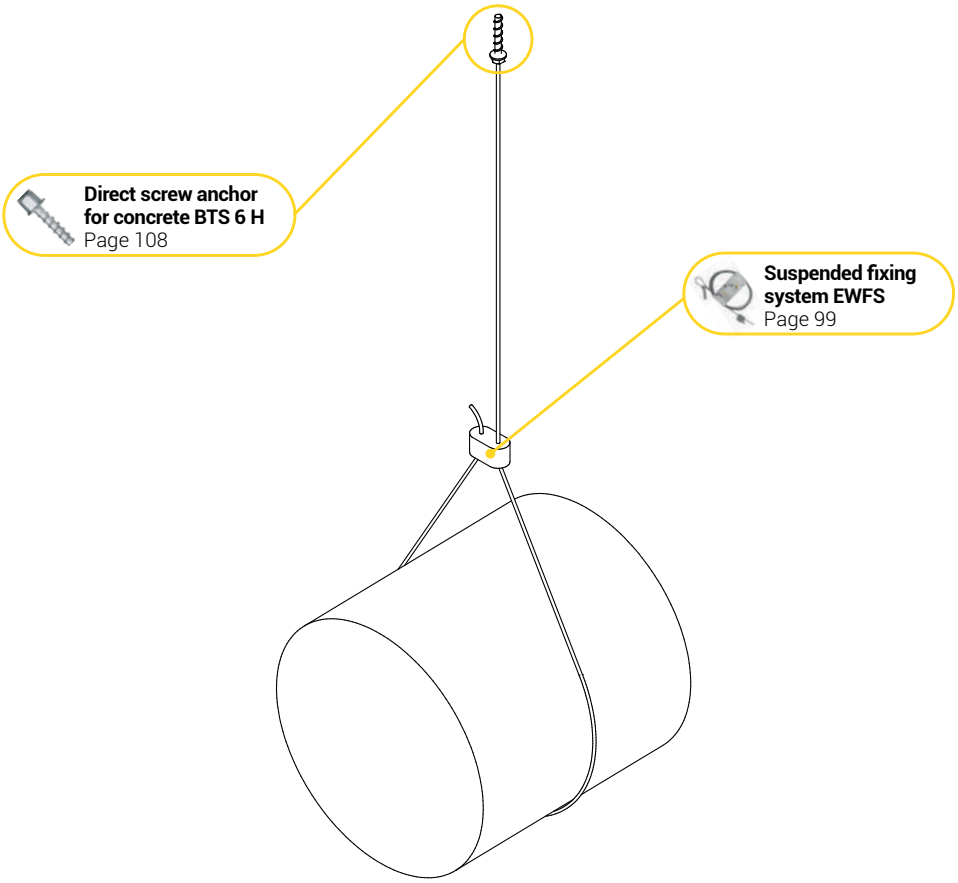
PRS locking plate	98
TPP profile cap	98
LWFS suspended fixing system	99
EWFS suspended fixing system	99
Reinforced isophonic clamp M8+M10 RI	100
Sliding clamp RID	101
Reinforced quick isophonic clamp M8+M10 RIF	102
Isophonic ventilation clamp M8+M10 VIE	102
Reinforced quick isophonic clamp M8 VIEI	104
High-load isophonic clamp M12+M16 RIH	105

Indoor Lightweight installations

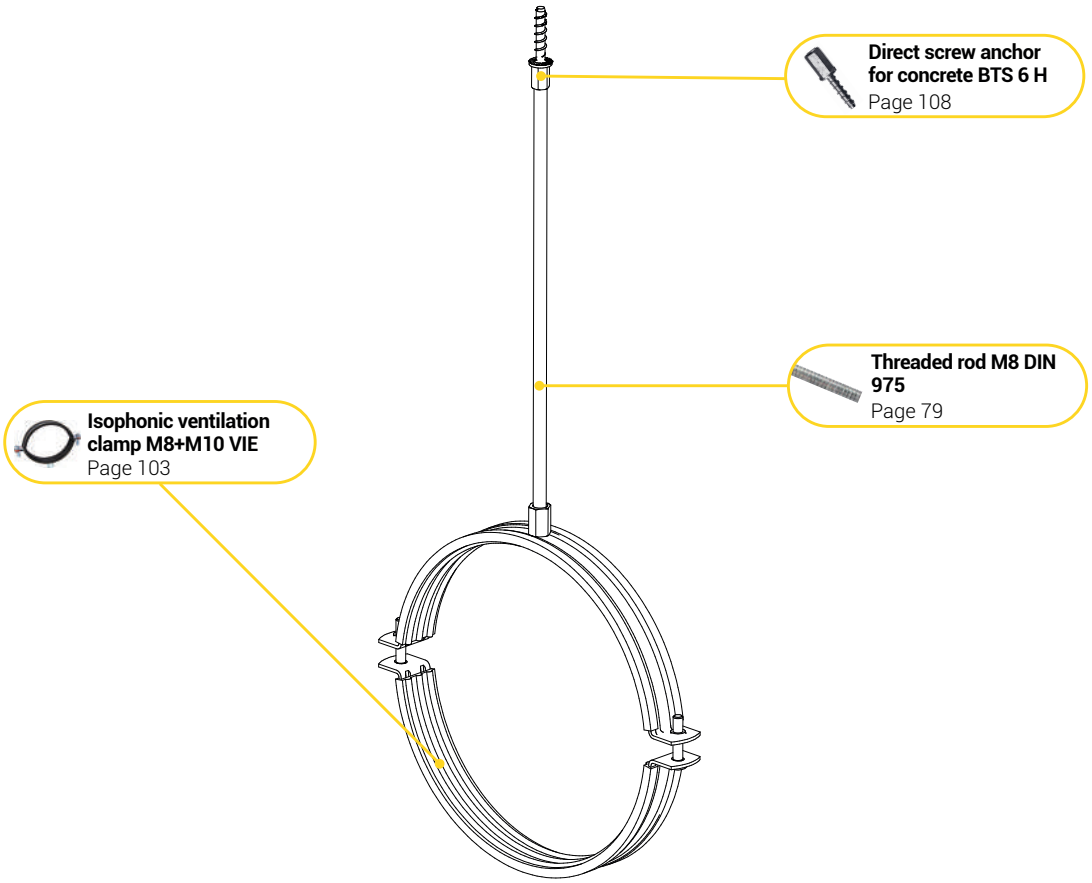
Pipe support with light profile



Suspended fixing system



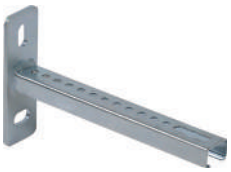
Single pipe support



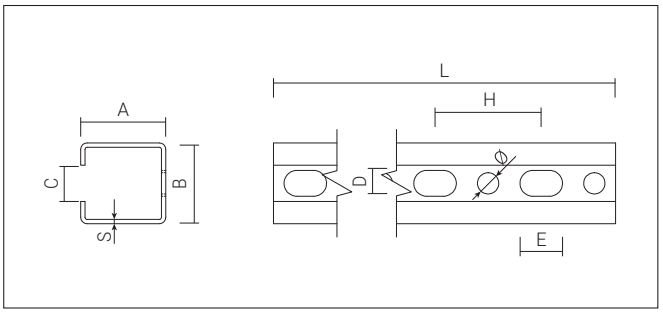
Strut profile and support 27x18



Profile 27x18



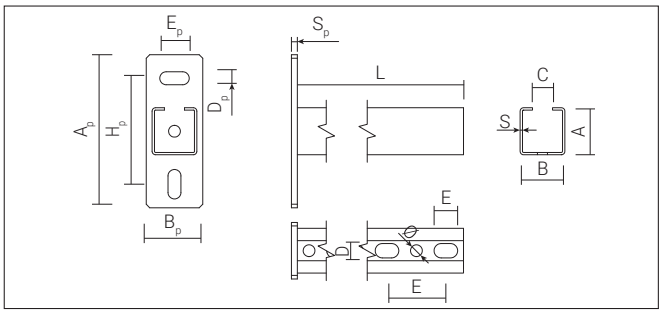
Strut profile support 27x18 SPE



Features

- Fastening of clamps using EPR profile stud.
- For horizontal wall fixing of pipes and trays.
- Support with 110x40x4.5 mm plate with horizontal and vertical slotted hole of 13x21 mm.
- Lengths 400, 500 and 600 mm are designed for hanging trays of 500, 600 and 700 mm.

Customizable length!
Cut-to-size service available. Contact sales for details.



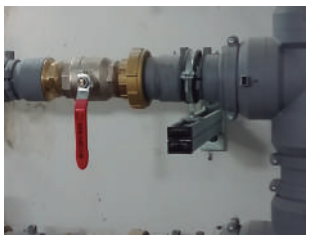
A: Height
B: Width
C: Profile opening
L: Length
H: Distance between holes
E: Hole length
S: Thickness
D: Hole width
A_p: Plate height
H_p: Distance between plate holes
B_p: Plate width
D_p: Plate hole width
E_p: Plate hole length
S_p: Plate thickness

Strapped presentation

Profile 27x18 Galvanized

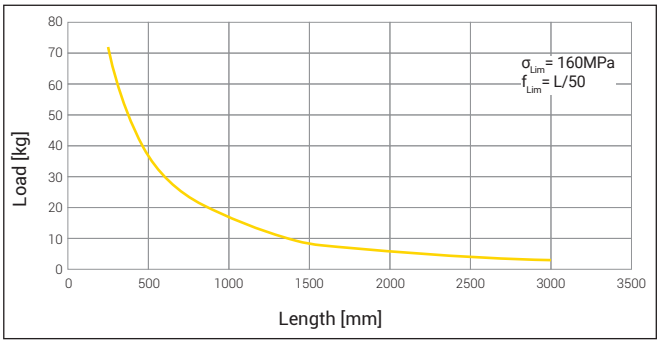
L (mm)	BxAxS (mm)	C (mm)	DxE (mm)	Ø (mm)	H (mm)	Code	Pack (pcs.)
400	27x18x1.2	15	8x20	10	50	**2718400PSTD**	10
500	27x18x1.2	15	8x20	10	50	**2718500PSTD**	10
600	27x18x1.2	15	8x20	10	50	**2718600PSTD**	10
2,000	27x18x1.2	15	8x20	10	50	**2718PSTD**	10

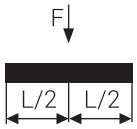




Strut profile support 27x18 SPE Zinc-plated

L (mm)	BxAxS (mm)	C (mm)	DxE (mm)	Ø (mm)	H (mm)	Plate			Code	Pack (pcs.)
						B_pxA$_p$xS_p (mm)	D_pxE_p (mm)	H_p (mm)		
200	27x18x1	15	8x20	10	50	40x123x4	11x20	83	**92718200SPE**	20
300	27x18x1	15	8x20	10	50	40x123x4	11x20	83	**92718300SPE**	20

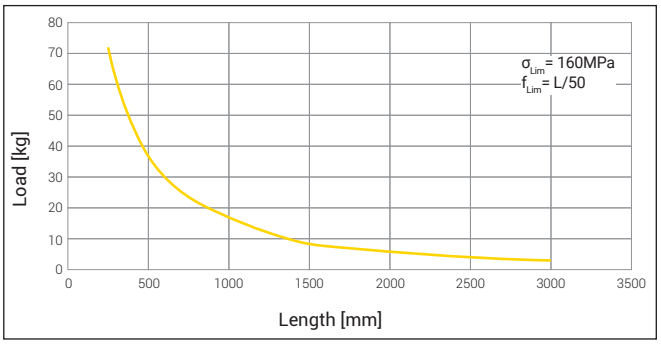




Recommended loads (Profile 27x18)

Load (kg)	Maximum length (mm)
71	250
59	300
50	350
44	400
39	450
35	500
29	600
25	700
22	800
20	900
18	1000
15	1100
13	1200
11	1300
9	1400
8	1500
6	1750
5	2000
4	2250
3	2500
2	2750
2	3000

Central load. For any other load distribution, add all loads together and treat them as a single point load located at L/2.
Values based on a maximum deflection of L/150 and σ_{perm} 160 N/mm².
Simulation carried out by CERO METROS CUADRADOS engineering.





Recommended loads (Profile Support 27x18)

Load (kg)	Maximum length (mm)
71	250
59	300
50	350
44	400
39	450
35	500
29	600
25	700
22	800
20	900
18	1000
15	1100
13	1200
11	1300
9	1400
8	1500
6	1750

Central load. For any other load distribution, add all loads together and treat them as a single point load located at L/2.
Values based on a maximum deflection of L/150 and σ_{perm} 160 N/mm².
Simulation carried out by CERO METROS CUADRADOS engineering.

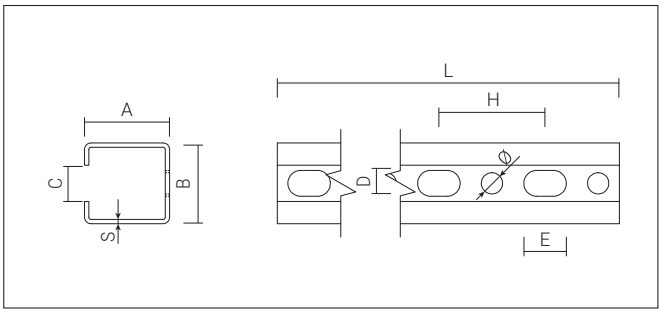
Profile and support 28x30



Profile 28x30

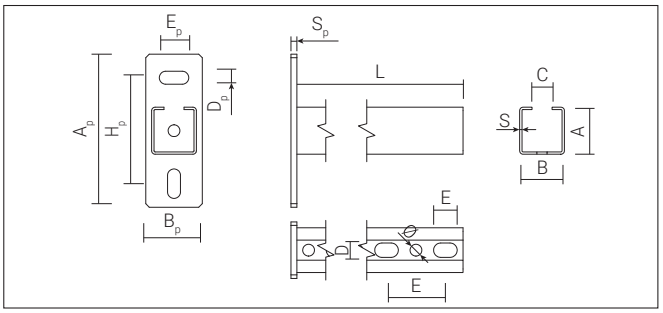


Profile support 28x30 SPE



Features

- Fastening of clamps using EPR profile stud.
- For horizontal wall fixing of pipes and trays.
- Support with 110x40x4.5 mm plate with hole.



Customizable length!
Cut-to-size service available. Contact sales for details.

A: Height
B: Width
C: Profile opening
L: Length
H: Distance between holes
E: Hole length
S: Thickness
D: Hole width
A_p: Plate height
H_p: Distance between plate holes
B_p: Plate width
D_p: Plate hole width
E_p: Plate hole length
S_p: Plate thickness

Strapped presentation

Profile 28x30 Galvanized

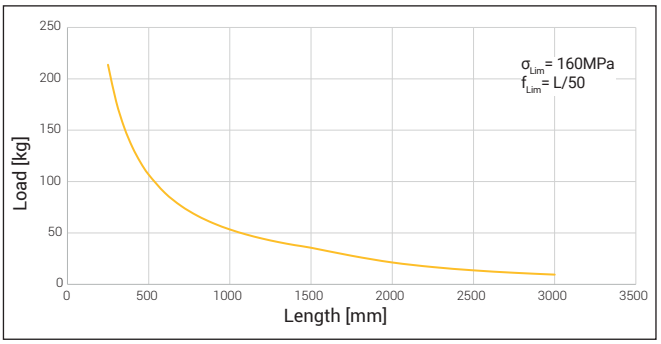
L (mm)	BxAxS (mm)	C (mm)	DxE (mm)	Ø (mm)	H (mm)	Code	Pack (pcs.)
2,000	28x30x1.8	15	10.2x20	10	50	**2830PSTD**	6
3,000	28x30x1.8	15	10.2x20	10	50	**28303000PSTD**	1

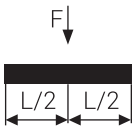




Strut profile support 28x30 SPE Zinc-plated

L (mm)	BxAxS (mm)	C (mm)	DxE (mm)	Ø (mm)	H (mm)	Plate			Code	Pack (pcs.)
						$B_pxA_pxS_p$ (mm)	D_pxE_p (mm)	H_p (mm)		
400	28x30x1.8	15	10.2x20	10	50	40x123x4	11x20	83	**2830400SPE**	20

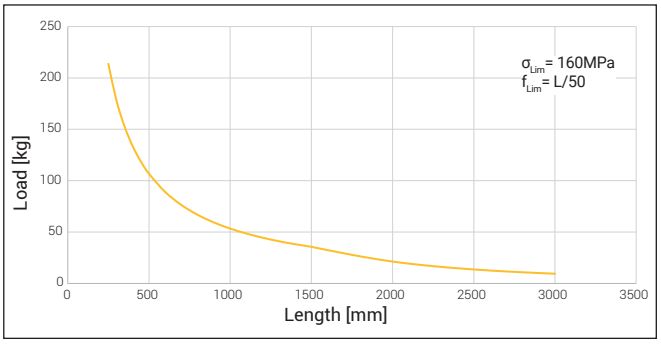




Recommended loads (Profile 28x30)

Load (kg)	Maximum length (mm)
214	250
178	300
153	350
134	400
119	450
107	500
89	600
76	700
67	800
59	900
53	1000
49	1100
45	1200
41	1300
38	1400
36	1500
28	1750
21	2000
17	2250
14	2500
11	2750
9	3000

Central load. For any other load distribution, add all loads together and treat them as a single point load located at L/2.
Values based on a maximum deflection of L/150 and σ_{perm} 160 N/mm².
Simulation carried out by CERO METROS CUADRADOS engineering.





Recommended loads (Profile Support 28x30)

Load (kg)	Maximum length (mm)
214	250
178	300
153	350
134	400
119	450
107	500
89	600
76	700
67	800
59	900
53	1000
49	1100
45	1200
41	1300
38	1400
36	1500
28	1750
21	2000
17	2250
14	2500
11	2750
9	3000

Central load. For any other load distribution, add all loads together and treat them as a single point load located at L/2.
Values based on a maximum deflection of L/150 and σ_{perm} 160 N/mm².
Simulation carried out by CERO METROS CUADRADOS engineering.

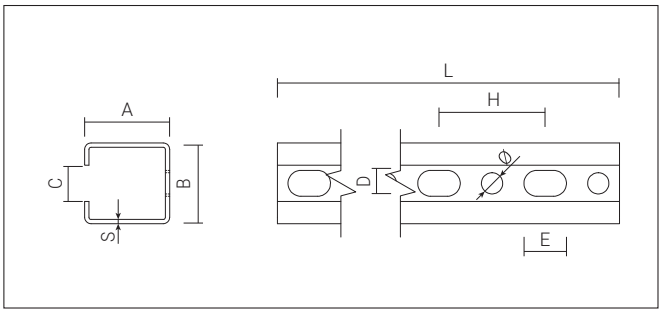
Profile and support 38x40



Profile 38x40



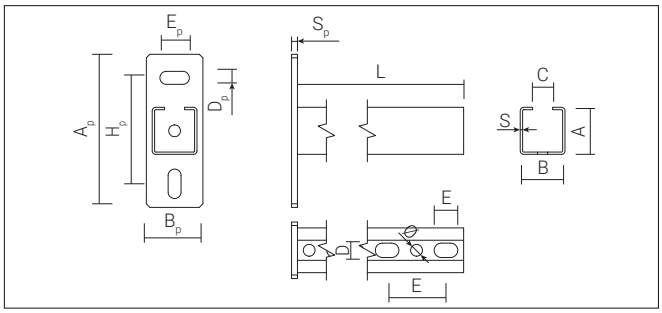
Profile support 38x40 SPE



Features

- Fastening of clamps using EPR profile stud.
- MT clamps can be fastened.

Customizable length!
Cut-to-size service available. Contact sales for details.



A: Height
B: Width
C: Profile opening
L: Length
H: Distance between holes
E: Hole length
S: Thickness
D: Hole width
A_p: Plate height
H_p: Distance between plate holes
B_p: Plate width
D_p: Plate hole width
E_p: Plate hole length
S_p: Plate thickness

Strapped presentation

Profile 38x40 Galvanized

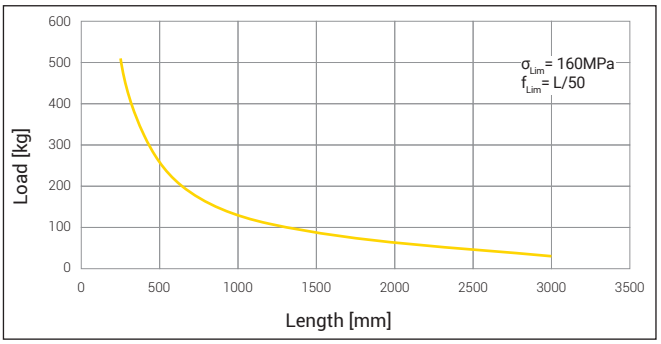
L (mm)	BxAxS (mm)	C (mm)	DxE (mm)	Ø (mm)	H (mm)	Code	Pack (pcs.)
2,000	38x40x2	17	12.2x20	10	50	**3840PSTD**	6
3,000	38x40x2	17	12.2x20	10	50	**38403000PSTD**	6

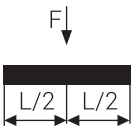




Profile support 38x40 SPE Zinc-plated

L (mm)	BxAxS (mm)	C (mm)	DxE (mm)	Ø (mm)	H (mm)	Plate			Code	Pack (pcs.)
						B_pxA$_p$xS_p (mm)	D_pxE_p (mm)	H_p (mm)		
200	38x40x2	17	12.2x20	10	50	48x130x5	11x25	90	**93840200SPE**	6
300	38x40x2	17	12.2x20	10	50	48x130x5	11x25	90	**93840300SPE**	6
400	38x40x2	17	12.2x20	10	50	48x130x5	11x25	90	**3840400SPE**	6
500	38x40x2	17	12.2x20	10	50	48x130x5	11x25	90	**3840500SPE**	6
600	38x40x2	17	12.2x20	10	50	48x130x5	11x25	90	**3840600SPE**	6
800	38x40x2	17	12.2x20	10	50	48x130x5	11x25	90	**3840800SPE**	6

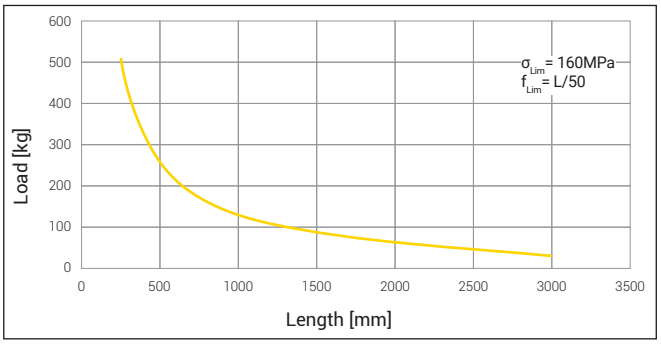




Recommended loads (Profile 38x40)

Load (kg)	Maximum length (mm)
511	250
425	300
365	350
319	400
284	450
255	500
213	600
182	700
160	800
142	900
128	1000
116	1100
106	1200
98	1300
91	1400
85	1500
73	1750
64	2000
56	2250
45	2500
37	2750
31	3000

Central load. For any other load distribution, add all loads together and treat them as a single point load located at L/2.
Values based on a maximum deflection of L/150 and σ_{perm} 160 N/mm².
Simulation carried out by CERO METROS CUADRADOS engineering.





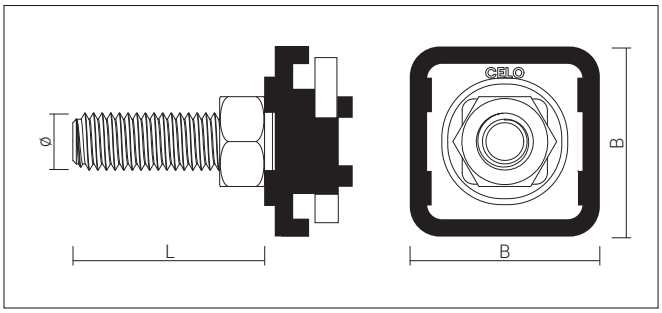
Recommended loads (Profile Support 38x40)

Load (kg)	Maximum length (mm)
15	402.3
20	348.4
25	311.6
30	284.5
35	263.4
40	246.4
45	232.3
50	213.9
55	194.4
60	178.2
65	164.5
70	152.8
75	142.6
80	133.7
85	125.8
90	118.8
95	112.6
100	106.9
125	85.5
150	71.3
175	61.1
200	53.5
225	47.5
250	42.8
270	39.6

Central load. For any other load distribution, add all loads together and treat them as a single point load located at L/2.
Values based on a maximum deflection of L/150 and σ_{perm} 160 N/mm².
Simulation carried out by CERO METROS CUADRADOS engineering.

Quick stud for Strut profile EPR

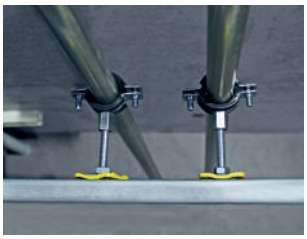




H: Height L: Length B: Width

Features

- The EPR is the fastest solution for installing M6 or M8 clamps on C-type profiles or supports.
- Plastic design engineered to ensure correct pre-installation and proper adjustment with the profile.
- Square washer to increase the contact area with the profile and improve final resistance.
- Different stud sizes to simplify installation of insulated pipes.
- Quick and easy to handle, even when wearing gloves.





Box presentation

EPR

Ø (mm)	BxB (mm)	L (mm)	SW (mm)	Code	Pack (pcs.)	Packaging (pcs.)
M6	**22.5x22.5**	**20**	**10**	**927620EPR**	50	450
M8	**22.5x22.5**	**20**	**13**	**927820EPR**	50	450
M8	**22.5x22.5**	**50**	**13**	**927850EPR**	25	225
M6	**32x32**	**20**	**10**	**938620EPR**	50	450
M8	**32x32**	**20**	**13**	**938820EPR**	50	450
M8	**32x32**	**50**	**13**	**938850EPR**	25	225

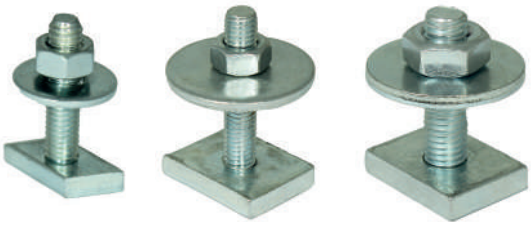
Recommended loads

Profile	Maximum recommended load (kg)
30x13	70
35x13	60
T2000P	60
27x18	120
28x30	180
40x20	150
38x40	200

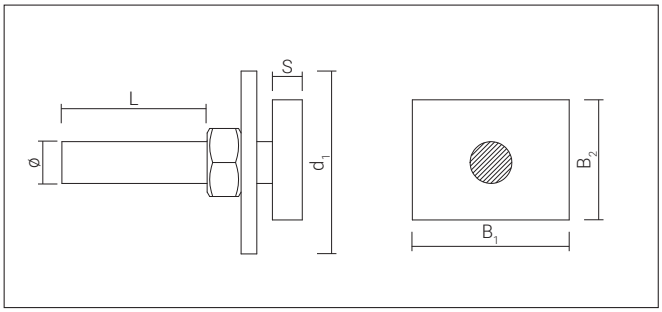
Compatible profiles

References	Compatible profiles
927620EPR	27x18, 28x30, 30x13, 35x13 y T2000P
927820EPR	27x18, 28x30, 30x13, 35x13 y T2000P
927850ERP	27x18, 28x30, 30x13, 35x13 y T2000P
938620ERP	40x20 y 38x40 / 38x40SPE
938820ERP	40x20 y 38x40 / 38x40SPE
938850EPR	40x20 y 38x40 / 38x40SPE

Stud for Strut profile EP



EPM6 EPM8 EPM10



L: Length
B_1 / B_2: Width
S: Thickness
d_1: Washer length





Features

- Stud riveted to the nut.
- Pre-assembled, allows quick fastening of clamps and profiles.
- Zinc-plated.
- Compatible with 38x40 and 20x10 profiles.

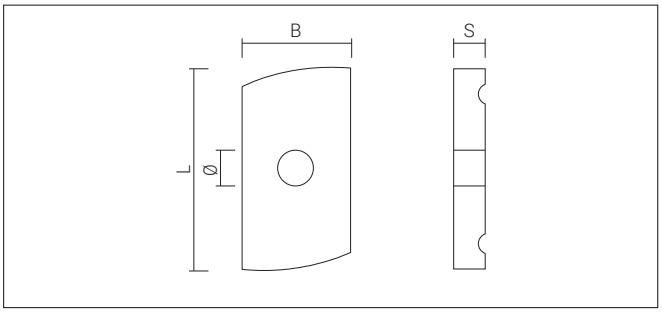
Box presentation

EP

Ø (mm)	B_1 (mm)	B_2 (mm)	L (mm)	S (mm)	d_1 (mm)	Code	Pack (pcs.)
M6	21	10	19.5	4	18	**9625EP**	100
M8	29.5	23	29.5	5.8	35	**9840EP**	100
M10	30	23	23.5	6	35	**91040EP**	100

Strut profile nut TS





H: Height
L: Length
B: Width





Features

- Zinc-plated.
- Thickness 5 mm.

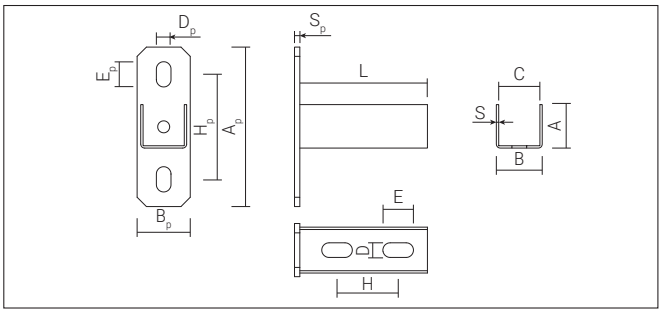
Box presentation

TS

Ø (mm)	L (mm)	B (mm)	S (mm)	For profile	Code	Pack (pcs.)	Packaging (pcs.)
M8	36	16	5	38x40	**9388TS**	100	1,200
M10	36	17	7	38x40	**93810TS**	100	1,200

Wall bracket SV





A: Height
B: Width
C: Profile opening
L: Length
H: Distance between holes

E: Hole length
S: Thickness
D: Hole width
A_p: Plate height
H_p: Distance between plate holes

B_p: Plate width
D_p: Plate hole width
E_p: Plate hole length
S_p: Plate thickness

Features

- Zinc-plated.
- Without screws.

Box presentation

SV

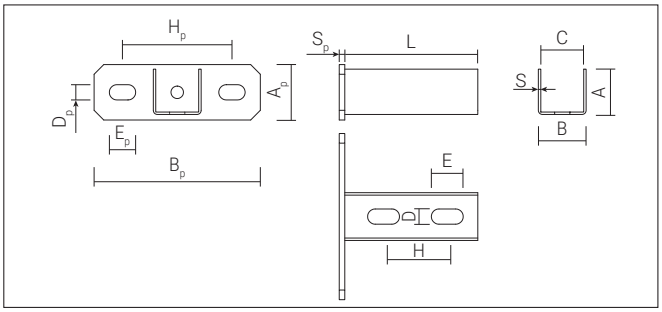
Profile	BxAxS (mm)	C (mm)	DxE (mm)	Ø (mm)	H (mm)	Plate			Code	Pack (pcs.)
						B_pxA$_p$xS_p (mm)	D_pxE_p (mm)	H_p (mm)		
27x18 **28x30** **30x13**	34.5x33x1.8	96	31	11x23	46	40x120x4	11x19	79	**927SV**	10
38x40	50x35x4	90	42	13x25	38	70x144x6	11x19	102	**938SV**	10





Wall bracket SH





A: Height
B: Width
C: Profile opening
L: Length
H: Distance between holes

E: Hole length
S: Thickness
D: Hole width
A_p: Plate height
H_p: Distance between plate holes

B_p: Plate width
D_p: Plate hole width
E_p: Plate hole length
S_p: Plate thickness

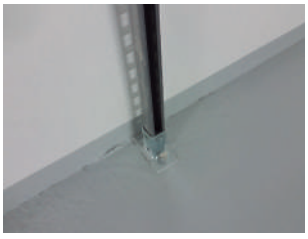
Features

- Zinc-plated.
- Without screws.

Box presentation

SH

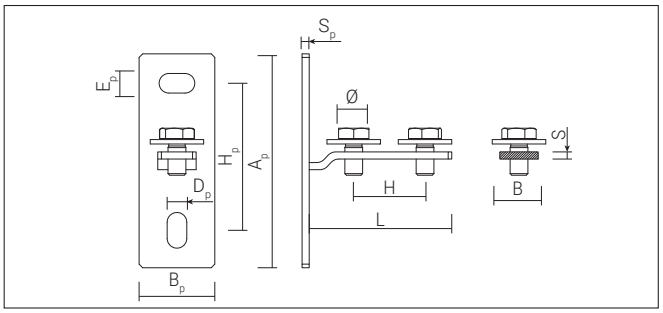
Profile	BxAxS (mm)	C (mm)	DxE (mm)	Ø (mm)	H (mm)	Plate			Code	Pack (pcs.)
						B_pxA$_p$xS_p (mm)	D_pxE_p (mm)	H_p (mm)		
27x18 **28x30** **30x13**	34.5x33x1.8	96	31	11x23	46	120x40x4	11x19	79	**927SH**	10
38x40	50x35x4	90	42	13x25	38	144x70x6	11x19	102	**938SH**	10





Support VT / HT





A: Height
B: Width
C: Profile opening
L: Length
H: Distance between holes

E: Hole length
S: Thickness
D: Hole width
A_p: Plate height
H_p: Distance between plate holes

B_p: Plate width
D_p: Plate hole width
E_p: Plate hole length
S_p: Plate thickness

Features

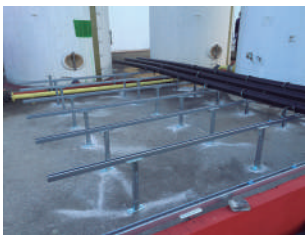
- For fastening 27/18 and 28/30 profiles.
- Continuous welding.
- Screws included.
- Zinc-plated.

Box presentation

VT / HT

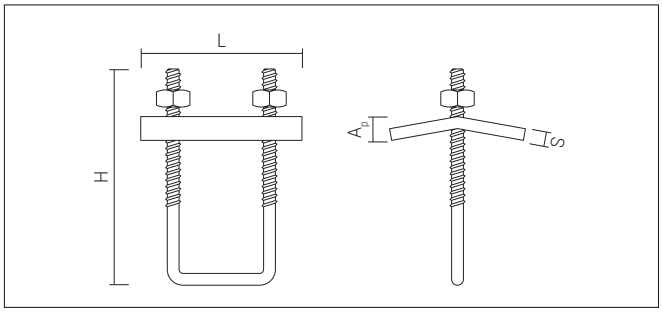
Profile	BxS (mm)	L (mm)	Ø (mm)	H (mm)	Plate B_pxA$_p$xS_p (mm)	Plate D_pxE_p (mm)	Plate H_p (mm)	Code	Pack (pcs.)
27x18 28x30	21.5x4	80	10	40	42.5x120x4	11x20	82.5	**9VTE**	25
27x18 28x30	21.5x4	80	10	40	120x42.5x4	11x20	82.5	**9HTE**	25
38x40	30x4	80	10	40	42.5x120x4	11x20	82.5	**93840VTE**	25
38x40	30x4	80	10	40	42.5x120x4	11x20	82.5	**93840HTE**	25





Beam clamp CRAP





H: Height
L: Length

S: Thickness

A_p: Plate height

Features

- For installations under beams without drilling or welding.
- Zinc-plated.
- For 38x40 profile.
- Nut and washer included.
- Maximum beam thickness 17 mm.

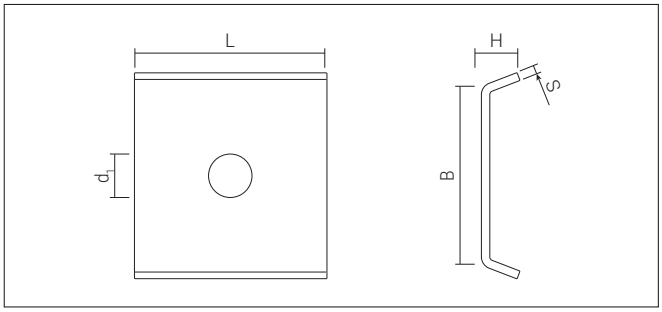
Box presentation

CRAP

Ø (mm)	H (mm)	L (mm)	S (mm)	A_p (mm)	For profile	Code	Pack (pcs.)
M8	100	80	5	< 20	38x40	**938CRAP**	20

PRS locking plate





L: Length
H: Height
B: Width
S: Thickness
d_1: Hole diameter

Features

- Zinc-plated steel.
- M8 locking plate.

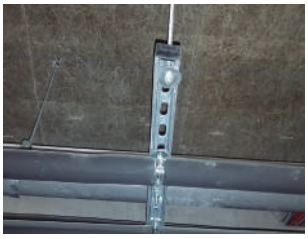
Box presentation

PRS

H (mm)	d_1 (mm)	B (mm)	S (mm)	L (mm)	For profile	Code	Packaging (pcs.)
8	11	30.5	3	24	38x40	**938PRS**	100

TPP profile cap







Features

- Rounded edge.
- Protects the profile ends from corrosion.

Box presentation

TPP

For profile	Color	Code	Pack (pcs.)	Packaging (pcs.)
40 x 20	Black	**944020TPP**	100	900
27 x 18	Black	**942718TPP**	100	900
28 x 30	Black	**942830TPP**	100	900
38 x 40	Black	**943840TPP**	100	450
41x21	Black	**944121TPP**	200	--
41x41	Black	**944141TPP**	100	--

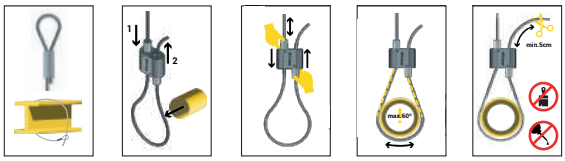
Suspended fixing system LWFS



Features

- Set composed of galvanized steel cable and aluminium gripper.
- Ready to use, the kit includes all the parts required for installation.
- Versatile, can be installed on different types of ceilings.
- Lower visual impact than traditional systems.
- Compatible with AAT, CAL, CMV... or simply by passing the loop through the installation structure.

Installation



Box presentation

LWFS

Ø (mm)	Length (mm)	Code	Pack (pcs.)	Packaging (pcs.)
1.5	3	**9153LWFS**	10	40
1.5	5	**9155LWFS**	10	40
2.0	3	**9203LWFS**	10	40
2.0	5	**9205LWFS**	10	40

Suspended fixing system EWFS

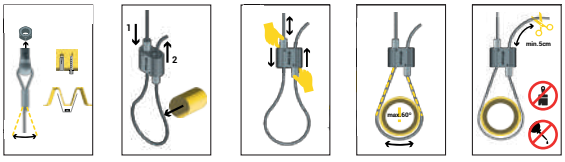




Features

- Set composed of galvanized steel cable, aluminium gripper and M8 screw.
- Ready to use, the kit includes all the parts required for installation.
- Compatible with ME M8, BTS-6 H M8, SAP M8...
- Lower visual impact than traditional systems.
- Ideal for suspending false ceilings, acoustic panels, radiant elements...

Installation



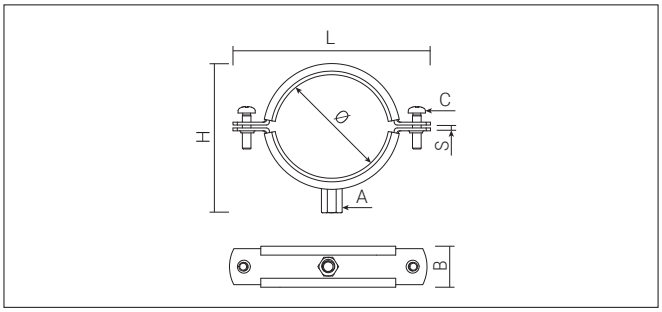
Box presentation

LWFS

Ø (mm)	Length (mm)	Code	Pack (pcs.)	Packaging (pcs.)
2.0	3	**9203M8EWFS**	10	40
2.0	3	**9205M8EWFS**	10	40

Reinforced isophonic clamp M8+M10 RI





H: Height
L: Length

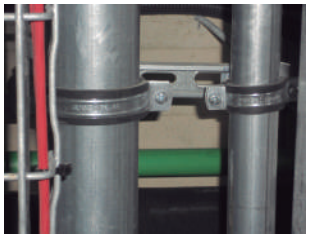
B: Width
t_m: Thickness

C: Screw
A: Nut

Features

- Double-rib design for greater strength.
- Loads certified by Applus.
- EPDM rubber resistant to UV rays and seawater.
- Resists temperatures from −50°C to 110°C.
- Longer screws with domed head and combined drive (Slot + PH).
- Zinc-plated coating 5–10 µm.





Box presentation

RI M8+M10

Ø (mm)	Bxt$_m$ (mm)	L (mm)	H (mm)	A (mm)	C (mm)	Code	Pack (pcs.)
15-19	20x1.5	60	48	SW13 - M8/M10	M6x16	**918RI**	100
20-24	20x1.5	63	52	SW13 - M8/M10	M6x16	**922RI**	100
23-28	20x1.5	69	58	SW13 - M8/M10	M6x16	**928RI**	100
31-36	20x1.5	77	65	SW13 - M8/M10	M6x16	**935RI**	100
38-44	20x1.5	86	70	SW13 - M8/M10	M6x16	**940RI**	100
44-50	20x1.5	93	78	SW13 - M8/M10	M6x20	**948RI**	100
54-58	20x1.5	102	84	SW13 - M8/M10	M6x16	**954RI**	50
59-65	20x1.5	108	90	SW13 - M8/M10	M6x25	**960RI**	50
62-67	20x1.5	111	93	SW13 - M8/M10	M6x20	**963RI**	50
74-80	25x2.0	138	105	SW13 - M8/M10	M6x25	**975RI**	50
83-93	25x2.0	148	120	SW13 - M8/M10	M6x25	**990RI**	50
95-103	25x2.0	159	130	SW13 - M8/M10	M6x25	**9100RI**	50
108-118	25x2.0	173	140	SW13 - M8/M10	M6x25	**9110RI**	50
121-130	25x2.0	186	155	SW13 - M8/M10	M6x30	**9125RI**	50
132-143	25x2.0	199	170	SW13 - M8/M10	M6x25	**9140RI**	50
159-169	25x2.0	225	190	SW13 - M8/M10	M6x25	**9160RI**	40
198-202	25x2.0	259	230	SW13 - M8/M10	M6x25	**9200RI**	40
249-254	25x2.0	309	280	SW13 - M8/M10	M6x25	**9250RI**	30

*Until end of stock.

Presented in bags

RI M8+M10

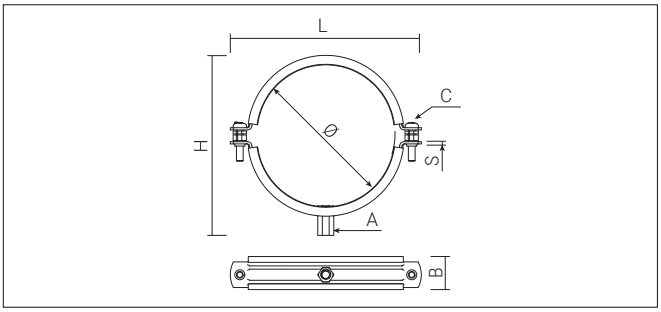
Ø (mm)	Code	Bag (units)	Pack (pcs.)	Packaging (pcs.)
15-19	**18RIEDRN**	2	15	30
20-24	**22RIEDRN**	2	15	30
23-28	**28RIEDRN**	2	15	30
31-36	**35RIEDRN**	2	15	30
38-44	**40RIEDRN**	2	15	30
44-50	**50RIEDRN**	2	15	30
59-65	**60RIEDRN**	2	15	30
74-80	**75RIEDRN**	2	15	30
83-93	**90RIEDRN**	2	15	30
108-118	**110RIEDRN**	2	15	30
132-143	**140RIEDRN**	2	15	30

Technical information

Ø (mm)	Loads (kg)	Ø Pipe		
		Iron	Copper	Plastic
15-19	80	3/8"	18	16
20-24	80	1/2"	22	20
23-28	80	3/4"	28	25
31-36	100	1"	35	32
38-44	100	1-1/4"	42	40
44-50	100	1-1/2"	-	50
54-58	100	-	54	-
59-65	100	2"	63	63
62-67	100	-	63	63
74-80	150	2-1/2"	76	75
83-93	150	3"	89	90
95-103	150	3-1/2"	-	-
108-118	150	4"	108	110
121-127	150	4-1/2"	-	125
132-143	150	5"	-	-
159-169	150	6"	159	160
198-202	150	-	-	200
249-254	200	-	-	250

Sliding clamp RID





H: Height
L: Length

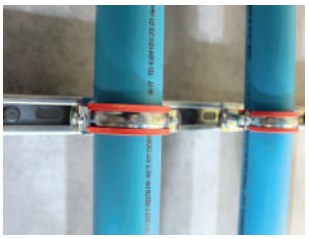
B: Width
t_m: Thickness

C: Screw
A: Nut

Features

- TPE rubber with fleece on the inner side, allowing the pipe to slide.
- Easy and quick to assemble thanks to the lateral opening, except for diameters 200 and 250 mm.
- Plastic washers that allow installation as a fixed point or sliding point.
- Zinc-plated coating 5–10 µm.
- Clamp with reinforcement rib.
- Welded M8+M10 sleeve.





Box presentation

RID

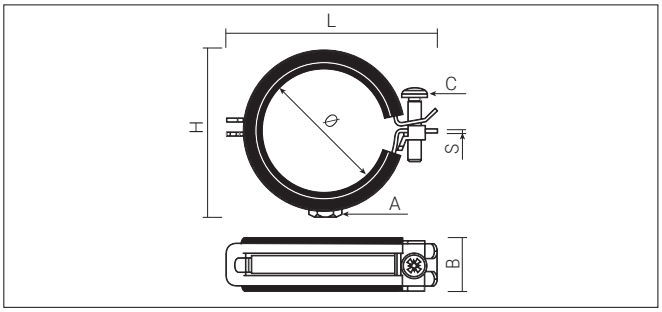
Ø (mm)	Bxt$_m$ (mm)	L (mm)	H (mm)	A (mm)	C (mm)	Code	Pack (pcs.)
19-23	20x1.2	64	49	SW13-M8/M10	M6x20	**922RID**	100
24-29	20x1.2	70	55	SW13-M8/M10	M6x20	**928RID**	100
30-35	20x1.2	79	63	SW13-M8/M10	M6x25	**935RID**	100
38-43	20x1.2	84	71	SW13-M8/M10	M6x20	**942RID**	100
50-56	20x1.2	100	85	SW13-M8/M10	M6x20	**954RID**	50
63-65	20x1.2	112	97	SW13-M8/M10	M6x25	**960RID**	50
70-76	23x1.5	120	106	SW13-M8/M10	M6x25	**975RID**	50
86-91	23x1.5	138	124	SW13-M8/M10	M6x25	**990RID**	50
110-114	23x1.5	159	144	SW13-M8/M10	M6x25	**9110RID**	50
125	23x1.5	171	156	SW13-M8/M10	M6x30	**9125RID**	50
155-160	23x1.5	206	191	SW13-M8/M10	M6x30	**9160RID**	25

Technical information

Ø (mm)	Loads (kg)	Ø Pipe		
		PPR	CPVC (mm)	CPVC (Plug)
20-23	160	20	22.2	3/4"
26-30	160	25	28.6	1
31-36	160	32	34.9	1 1/4"
40-46	160	40	41.3	1 1/2"
48-53	160	50	54	2"
54-59	160	54	-	-
60-64	160	60	60.3	2"
72-83	160	75	73	2 1/2"
87-92	160	90	88.9	3"
102-116	250	110	114	4"
124-130	250	125	-	-
159-168	250	160	168	6"

Reinforced quick isophonic clamp M8+M10 RIF





H: Height
L: Length

B: Width
S: Thickness

C: Screw
A: Nut

Features

- Tilting closure system that allows closing with one hand and front-side mounting.
- Clamp with reinforcement rib.
- Captive screw.
- EPDM resistant to UV rays and seawater.
- Resistant to temperatures from −50°C to 110°C.
- Zinc-plated coating 5–10 µm.





Box presentation

RIF M8+M10

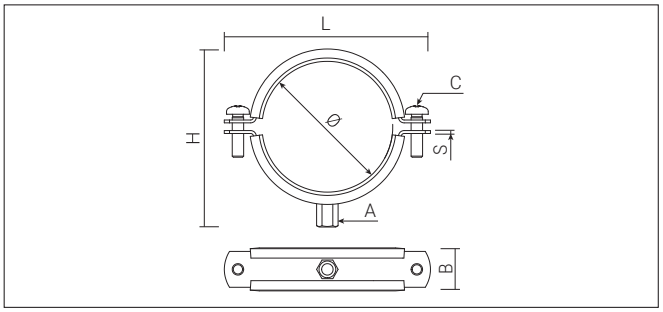
Ø (mm)	BxS (mm)	L (mm)	H (mm)	A (mm)	C (mm)	Code	Pack (pcs.)
12-14	20x1.5	46	42	SW13 - M8/M10	M5x25	**915RIF**	25
15-19	20x1.5	51	47	SW13 - M8/M10	M5x25	**918RIF**	25
21-23	20x1.5	55	51	SW13 - M8/M10	M5x25	**922RIF**	20
26-28	20x1.5	60	56	SW13 - M8/M10	M5x25	**928RIF**	25
32-35	20x1.5	67	63	SW13 - M8/M10	M5x25	**935RIF**	25
40-43	20x1.5	75	71	SW13 - M8/M10	M5x25	**940RIF**	25
48-56	20x1.5	86	84	SW13 - M8/M10	M5x25	**948RIF**	20
57-61	20x1.5	93	89	SW13 - M8/M10	M5x25	**960RIF**	10

Technical information

Ø (mm)	Loads (kg)	Ø Pipe		
		Iron	Copper	Plastic
15	80	1/4"	15	-
18	80	3/8"	18	16
22	80	1/2"	22	20
28	80	3/4"	28	25
35	80	1"	35	32
40	80	1-1/4"	42	40
48	80	1-1/2"	54	50
60	80	2"	-	63

Isophonic ventilation clamp M8+M10 VIE





H: Height
L: Length

B: Width
S: Thickness

C: Screw
A: Nut

Features

- Thicker EPDM rubber, insulates and soundproofs according to DIN 4109.
- EPDM resistant to UV rays and water.
- EPDM with B2 fire resistance.
- Easy installation thanks to the wide clamp opening.
- Longer screws, domed head and combined drive (Slot + PH).
- Resistant to temperatures from −50°C to 110°C.
- Zinc-plated coating 5–10 µm.
- M8 + M10 nut.





Box presentation

VIE M8+M10

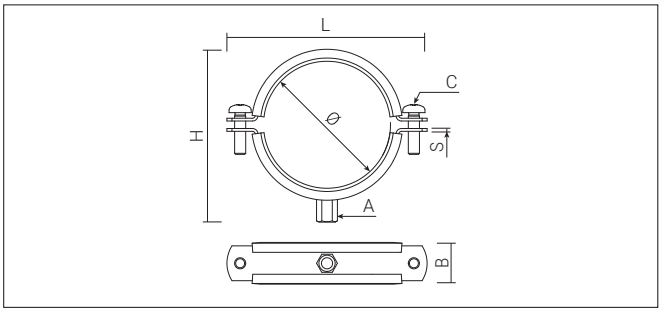
Ø (mm)	BxS (mm)	L (mm)	H (mm)	A (mm)	C (mm)	Code	Pack (pcs.)
315	25x2.0	369	348.0	SW - M8/M10	M8x30	**9315VIE**	25
355	25x2.0	409	388.0	SW - M8/M10	M8x30	**9355VIE**	25
400	25x2.0	454	433.0	SW - M8/M10	M8x30	**9400VIE**	25
450	25x2.5	504	483.0	SW - M8/M10	M8x30	**9450VIE**	20
500	25x2.5	554	533.0	SW - M8/M10	M8x30	**9500VIE**	20
560	25x2.5	614	593.0	SW - M8/M10	M8x30	**9560VIE**	20
630	25x2.5	684	663.0	SW - M8/M10	M8x30	**9630VIE**	20
710	25x2.5	764	743.0	SW - M8/M10	M8x30	**9710VIE**	20
800	25x2.5	854	833.0	SW - M8/M10	M8x30	**9800VIE**	10

Technical information

Ø (mm)	Loads (kg)
315	60
355	60
400	60
450	80
500	80
560	80
630	80
710	80
800	80

Reinforced quick isophonic clamp M8 VIEL





H: Height
L: Length
B: Width
S: Thickness
C: Screw
A: Nut

Features

- Thicker EPDM rubber, insulates and soundproofs according to DIN 4109.
- EPDM resistant to UV rays and water.
- EPDM with B2 fire resistance.
- Easy installation thanks to the wide clamp opening.
- Longer screws, domed head and combined drive (Slot + PH).
- Resistant to temperatures from −50°C to 110°C.
- Zinc-plated coating 5–10 µm.
- M8 nut.





Box presentation

VIEL M8

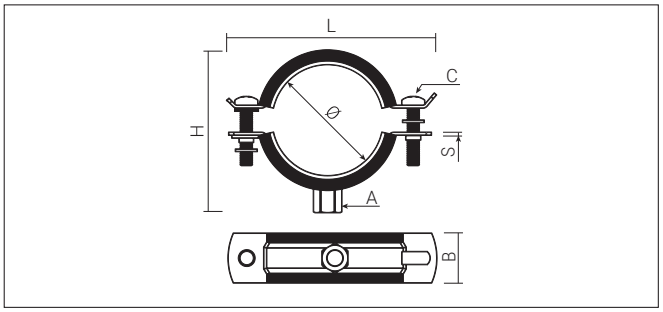
Ø (mm)	BxS (mm)	L (mm)	H (mm)	A (mm)	C (mm)	Code	Pack (pcs.)
100	25x1.5	148	123	SW13 - M8	M6x25	**9100VIEL**	50
125	25x1.5	173	148	SW13 - M8	M6x25	**9125VIEL**	25
160	25x1.5	208	183	SW13 - M8	M6x25	**9160VIEL**	25
200	25x1.5	248	223	SW13 - M8	M6x25	**9200VIEL**	25
250	25x2.0	303	273	SW13 - M8	M8x30	**9250VIEL**	25
300	25x2.0	354	323	SW13 - M8	M8x30	**9300VIEL**	25
315	25x2.0	369	338	SW13 - M8	M8x30	**9315VIEL**	25
355	25x2.0	409	378	SW13 - M8	M8x30	**9355VIEL**	25
400	25x2.0	454	423	SW13 - M8	M8x30	**9400VIEL**	25

Technical information

Ø (mm)	Loads (kg)
100	60
125	60
160	60
200	60
250	60
300	60
315	60
355	60
400	60

High-load isophonic clamp M12+M16 RIH





H: Height
L: Length
B: Width
S: Thickness
C: Screw
A: Nut

Features

- High-load clamps from ø 60 to 270 mm.
- EPDM rubber insulates and soundproofs, DIN 4109 standard.
- Resistant to UV rays and seawater.
- Resists temperatures from −50°C to 110°C.
- B2 fire rating according to DIN 4102.
- Zinc-plated (5–10 µm).
- Welded nut, M12 or M16 depending on size.





Box presentation

RIH M12+M16

Ø (mm)	BxS (mm)	L (mm)	H (mm)	A (mm)	C (mm)	Code	Pack (pcs.)
60-65	30x2.5	118	88	SW19-M12	M8x30	**960RIH**	50
73-75	30x3.0	144	100	SW19-M12	M8x40	**975RIH**	50
88-93	30x3.0	158	116	SW19-M12	M8x40	**990RIH**	50
108-115	30x3.0	182	140	SW19-M12	M8x40	**9110RIH**	25
138-145	40x4.0	226	176	SW24-M16	M12x45	**9140RIH**	20
160	40x4.0	244	195	SW24-M16	M12x45	**9160RIH**	10
220	40x4.0	307	257	SW24-M16	M12x45	**9220RIH**	10
270	40x4.0	355	305	SW24-M16	M12x45	**9270RIH**	10

Technical information

Ø (mm)	Loads (kg)
60	275
75	275
90	275
110	375
140	600
160	600
220	600
270	600
400	600

Notes

Anchors and fixings for supports

Direct screw anchor for concrete BTS 6	108
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Direct screw anchor for concrete BTS 6



BTS 6 B



BTS 6 BL



BTS 6 PT



BTS 6 PTL



BTS 6 E



Large BTS 6 E



BTS 6 H



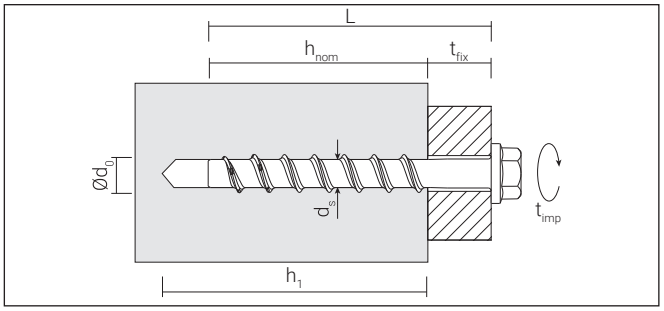
BTS 6 H. M8/M10



For multiple use for non-structural applications in cracked concret

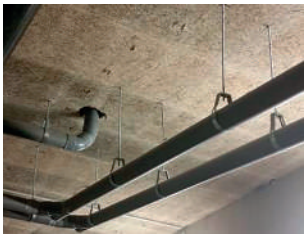




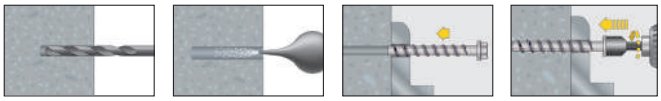


L: Length
h_{nom}: Embedment depth
tfix: Max. fixture thi kness
d_0: Hole diameter
d_s: Screw diameter
h_1: Hole depth





Installation



Features

- The ideal fixing for installations in concrete.
- Easy and secure threading in concrete.
- Immediate load capacity after installation.
- Fixing of plates with oversized holes.
- Multifunctional anchor suitable for different loads.
- Recommended when distances are reduced or space is limited.
- Impact driver recommended.
- Direct screw for concrete available in inches.

BTS 6 B installation
Scan the QR code and access the installation video

BTS 6 + Strut Profile installation
Scan the QR code and access the installation video

BTS 6 E installation
Scan the QR code and access the installation video

BTS 6 H installation
Scan the QR code and access the installation video

Suitable for materials

- Concrete
- Dense natural stone
- Precast concrete

Box presentation

BTS 6 B

Type d_0-L	d_sxL (mm)	h_1 (mm)	h_{nom} (mm)	t_{fix} ≥ (mm)	Wrench	ETA	Code	Pack (pcs.)	Packaging (pcs.)
6-40/5	7.5x40	40	35	5	SW10	●	**9ZG640BTSB**	150	750
6-55/5	7.5x55	40/55	35/50	20/5	SW10	●	**9ZG655BTSB**	100	500

With hex head and stamped washer Ø 14 mm, ZN-Al coated.

Box presentation

BTS 6 BL

Type d_0-L	d_sxL (mm)	h_1 (mm)	h_{nom} (mm)	$t_{fix} \geq$ (mm)	Wrench	ETA	Code	Pack (pcs.)	Packaging (pcs.)
6-40/5	7.5x40	40	35	5	SW13	●	**9ZG640BTSBL**	100	500
6-60/10	7.5x45	40/55	35	25/10	SW13	●	**9ZG660BTSBL**	100	500

BTS 6 PT

Type d_0-L	d_sxL (mm)	h_1 (mm)	h_{nom} (mm)	$t_{fix} \geq$ (mm)	Wrench	ETA	Code	Pack (pcs.)	Packaging (pcs.)
6-40/5	7.5x40	40	35	5	TX30	●	**9ZG640BTSPT**	150	750
6-55/5	7.5x55	40/55	35/50	20/5	TX30	●	**9ZG655BTSPT**	100	500

With domed head (TX30), Ø 19 mm, Zn-Al coated.

BTS 6 PTL

Type d_0-L	d_sxL (mm)	h_1 (mm)	h_{nom} (mm)	$t_{fix} \geq$ (mm)	Wrench	ETA	Code	Pack (pcs.)	Packaging (pcs.)
6-40/5	7.5x40	40	35	5	TX30	●	**9ZG640BTSPTL**	150	750
6-55/5	7.5x55	40/55	35/50	20/5	TX30	●	**9ZG655BTSPTL**	100	500

With button head (TX30), Ø 19 mm, Zn-Al coated.

BTS 6 E

Type d_0-L	d_sxL (mm)	h_1 (mm)	h_{nom} (mm)	$t_{fix} \geq$ (mm)	Wrench	ETA	Code	Pack (pcs.)	Packaging (pcs.)
6-35	7.5x35	40	35	M6(L=5 mm)	SW10	●	**9ZG635M6BTSE**	150	750
6-35	7.5x35	40	35	M8(L=15 mm)	SW10	●	**9ZG635M8BTSE**	100	500

With external thread, Ø 14 mm washer, Zn-Al coated.

Large BTS 6 E

Type d_0-L	d_sxL (mm)	h_1 (mm)	h_{nom} (mm)	Stud	Wrench	ETA	Code	Pack (pcs.)	Packaging (pcs.)
6-135	7.5 x 135	40	35	M6 (L = 6 mm)	SW10	●	**9ZG6135M6BTSE**	50	250
6-155	7.5 x 155	40	35	M6 (L = 6 mm)	SW10	●	**9ZG6155M6BTSE**	50	250
6-175	7.5 x 175	40	35	M6 (L = 6 mm)	SW10	●	**9ZG6175M6BTSE**	50	250
6-195	7.5 x 195	40	35	M6 (L = 6 mm)	SW10	●	**9ZG6195M6BTSE**	50	200
6-85	7.5 x 85	40	35	M8 (L = 16 mm)	SW10	●	**9ZG685M8BTSE**	50	250
6-135	7.5 x 135	40	35	M8 (L = 16 mm)	SW10	●	**9ZG6135M8BTSE**	50	250
6-155	7.5 x 155	40	35	M8 (L = 16 mm)	SW10	●	**9ZG6155M8BTSE**	50	250
6-175	7.5 x 175	40	35	M8 (L = 16 mm)	SW10	●	**9ZG6175M8BTSE**	50	200
6-195	7.5 x 195	40	35	M8 (L = 16 mm)	SW10	●	**9ZG6195M8BTSE**	50	200

The BTS 6 adjustment tool is not compatible.

BTS 6 H

Type d_0-L	d_sxL (mm)	h_1 (mm)	h_{nom} (mm)	Inner thread	Wrench	ETA	Code	Pack (pcs.)	Packaging (pcs.)
6-35	7.5 x 35	40	35	M6 (L = 10 mm)	SW10	●	**9ZG635M6BTSH**	150	750
6-35	7.5 x 35	40	35	M8 (L = 15 mm)	SW10	●	**9ZG635M8BTSH**	100	500
6-50	7.5 x 50	55	50	M8 (L = 15 mm)	SW10	●	**9ZG650M8BTSH**	100	500
6-35	7.5 x 35	40	35	M10 (L = 15 mm)	SW13	●	**9ZG635M10BTSH**	100	500

With inner thread, washer M6 and M8: Ø 14 mm; M10: Ø 17 mm, Zn-Al coated.

BTS 6 H M8/M10

Type d_0-L	d_sxL (mm)	h_1 (mm)	h_{nom} (mm)	Inner thread	Wrench	ETA	Code	Pack (pcs.)	Packaging (pcs.)
6-35	7.5 x 35	40	35	M8/M10 (L = 18 mm)	SW13	●	**9ZG635M810BTSH**	100	500
6-50	7.5 x 50	55	50	M8/M10 (L = 18 mm)	SW13	●	**9ZG650M810BTSH**	100	500

BTS 6 accessories



Code: 6115SDSBTS6
6 mm diameter drill bit, special for adapter.
Useful length 105 mm.



Code: 910LLTRBCA
Suitable for all BTS 6 sizes with SW10.



Code: 9ATRBCA
Special adapter.
Place over the drill bit and the socket wrench.

Installation



Drills and screws with the same tool.

BTS 6 accessories

Scan the QR code and access the installation video

Box presentation

BTS 6 accessories

d_0 (mm)	L (mm)	Code	Pack (pcs.)
6	175	**6115SDSBTS6**	1
13	145	**9ATRBCA**	1
18	65	**910LLTRBCA**	1

Accessories for BTS 6 concrete screw

Loads, spacing and edge distance

Denom.	Permitted load in any direction (1) (2)		Permitted bending moment	Distance between anchors		Distance to edges		Concrete thickness	Max. impact-driver torque
	h_{nom} 35 mm F_{Per} (kN)	h_{nom} 50 mm F_{Per} (kN)	M_{Per} (kN)	S_{cr} (mm)	S_{min} (mm)	C_{cr} (mm)	C_{min} (mm)	h_{min} (mm)	$T_{imp} \leq$ (Nm)
BTS 6-35	0.85	–	5.7	160	40	80	40	100	150
BTS 6-40	0.85	–	5.7	160	40	80	40	100	150
BTS 6-50	0.85	1.90	5.7	160	40	80	40	100	150
BTS 6-55	0.85	1.90	5.7	160	40	80	40	100	150

For multiple uses in non-structural applications in cracked concrete C20/25–C50/60.
(1) Permitted loads without influence of spacing and edge distance.
(2) The load values include the partial safety factors for resistances according to the approval and a partial safety factor for action of γF = 1.4
If the characteristic distances (Ccr or Scr) are not met, the loads must be reduced. Minimum distances (S_{min} and C_{min}) must always be respected.

Loads, spacing and edge distance

Denom.	Permitted load in any direction (1) (2)	Permited bending moment	Distance between anchors		Distance to edges	
	h_{nom} 35 mm F_{Per} (kN)	M_{Per} (kN)	S_{cr} (mm)	S_{min} (mm)	C_{cr} (mm)	C_{min} (mm)
BTS 6	1.02	5.7	200	200	150	150

For multiple use in non-structural applications in precast hollow-core concrete slabs C45/55.
(1) Permitted loads without influence of spacing and edge distance.
(2) The load values include the partial safety factors for resistances according to the approval and a partial safety factor for action γF = 1.4
If the characteristic distances (C_{cr} or S_{cr}) are not met, the loads must be reduced. Minimum distances (S_{min} and C_{min}) must always be respected.
Loads, spacing and edge distance for non-structural applications in precast hollow-core concrete slabs: w / e ≤ 4.2 / concrete ≥ C45/55 / bottom flange thickness ≥ 35 mm.

Large Format Pack Direct screw for concrete Ø 6 threaded rod M8 BFM8BTSH







Features

- Practical pack for contractors with a stackable design that facilitates storage, transport and handling.
- The pack is designed for fastening MEP installations with M8 threaded rods.
- Sustainable option. Bucket designed to be reused.

Bucket Presentation - Large format

Large Format BTS 6 threaded rod BFM8BTSH

Content	Code	Pack (pcs.)
x500 pcs Direct screw for concrete BTS6-H M8 **x1 BTS6 accessory kit:** **x1 SDS drill bit for installing BTS6** **x1 Anchor adapter for BTS6** **x1 LLTRB socket wrench**	**BFZG635M8BTSH**	1

Large Format Pack Direct screw for concrete Ø 6 threaded rod M8+M10 BFM810BTSH







Features

- Practical pack for contractors with a stackable design that facilitates storage, transport and handling.
- The pack is designed for fastening MEP installations with M8+M10 threaded rods.
- Sustainable option. Bucket designed to be reused.

Bucket Presentation - Large format

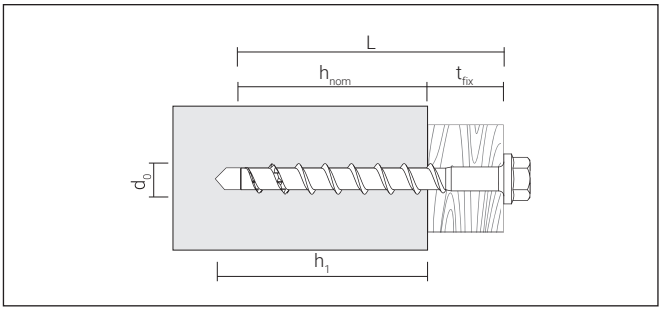
Large Format BTS 6 threaded rod BFM810BTSH

Content	Code	Pack (pcs.)
x300 pcs Direct screw for concrete BTS6-H M8-M10 **x1 BTS6 accessory kit:** **x1 SDS drill bit for installing BTS6** **x1 Anchor adapter for BTS6** **x1 LLTRB socket wrench**	**BFZG635M810BTSH**	1

Direct screw anchor for concrete BTS 8 / 10 / 14


BTS B


BTS ST



d_0: Hole diameter
L: Length

t_{fix}: Max. fixture thi kness
h_{nom}: Embedment depth

h_1: Hole depth

Features

- Approved option 1 for cracked and non-cracked concrete.
- Reduces installation time for high-load anchors by 50%; drill and fix.
- Through-fixing. Immediate load capacity.
- No torque control required.
- Multifunctional and versatile for different concrete thicknesses.
- Recommended when space is limited.
- Easy and secure threading in concrete.
- Impact driver recommended.

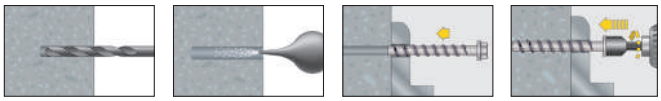




Suitable for materials

- Concrete
- Dense natural stone

Installation



Box presentation

BTS B

Type	d_0 (mm)	h_1 (mm)	h_{nom} (mm)	L (mm)	$t_{fix} \geq$ (mm)	Wrench	ETA	Code	Pack (pcs.)	Packaging (pcs.)
8-50/- (2)	8	55 /- / -	45 /- / -	50	5 / - / -	SW 13	●	**9ZG850BTSB**	50	250
8-70/5	8	55 / 65 / 75	45 / 55 / 65	70	25 / 15 / 5	SW 13	●	**9ZG870BTSB**	50	250
8-80/15	8	55 / 65 / 75	45 / 55 / 65	80	35 / 25 / 15	SW 13	●	**9ZG880BTSB**	50	250
8-90/25	8	55 / 65 / 75	45 / 55 / 65	90	45 / 35 / 25	SW 13	●	**9ZG890BTSB**	50	250
10-60/- (2)	10	65 / - / -	55 / - / -	60	5 / - / -	SW 15	●	**9ZG1060BTSB**	50	250
10-90/5	10	65 / 85 / 95	55 / 75 / 85	90	35 / 15 / 5	SW 15	●	**9ZG1090BTSB**	40	200
10-100/15	10	65 / 85 / 95	55 / 75 / 85	100	45 / 25 / 15	SW 15	●	**9ZG10100BTSB**	40	200
10-120/35	10	65 / 85 / 95	55 / 75 / 85	120	65 / 45 / 35	SW 15	●	**9ZG10120BTSB**	40	200
10-140/55	10	65 / 85 / 95	55 / 75 / 85	140	85 / 65 / 55	SW 15	●	**9ZG10140BTSB**	30	150
10-160/75	10	65 / 85 / 95	55 / 75 / 85	160	105 / 85 / 75	SW 15	●	**9ZG10160BTSB**	30	150
10-180/95 (1)	10	65 / 85 / 95	55 / 75 / 85	180	125 / 105 / 95	SW 15	●	**9ZG10180BTSB**	20	100
10-200/115 (1)	10	65 / 85 / 95	55 / 75 / 85	200	145 / 125 / 115	SW 15	●	**9ZG10200BTSB**	20	80
10-240/155 (1)	10	65 / 85 / 95	55 / 75 / 85	240	185 / 165 / 155	SW 15	●	**9ZG10240BTSB**	20	80
10-280/195 (1)	10	65 / 85 / 95	55 / 75 / 85	280	225 / 205 / 195	SW 15	●	**9ZG10280BTSB**	20	80
14-80/- (2)	14	85 / - / -	75 / - / -	80	5 / - / -	SW 21	●	**9ZG1480BTSB**	20	100
14-110/- (2)	14	85 / 110 / -	75 / 100 / -	110	35 / 10 / -	SW 21	●	**9ZG14110BTSB**	20	100

With hex head and stamped washer. Zinc-plated, Zn-Al coated.
Head diameter: BTS 8: Ø 16.2 mm; BTS 10: Ø 20.0 mm; BTS 14: Ø 30.0 mm.
(1) With wide washer according to ISO 7094 (DIN 440) for timber construction.
(2) Without seismic approval.

BTS B A4 Stainless Steel

Type	d_0 (mm)	h_1 (mm)	h_{nom} (mm)	L (mm)	$t_{fix} \geq$ (mm)	Wrench	ETA	Code	Pack (pcs.)	Packaging (pcs.)
8-80/15	8	55 / 65 / 75	45 / 55 / 65	80	35 / 25 / 15	SW 13	●	**9X880BTSB**	50	250
10-90/5	10	65 / 85 / 95	55 / 75 / 85	90	35 / 15 / 5	SW 15	●	**9X1090BTSB**	40	200
10-100/15	10	65 / 85 / 95	55 / 75 / 85	100	45 / 25 / 15	SW 15	●	**9X10100BTSB**	40	200

With hex head and stamped washer.
Head diameter: BTS 8: Ø 16.2 mm; BTS 10: Ø 20.0 mm; BTS 14: Ø 30.0 mm.

Box presentation

BTS ST

Type	d_0 (mm)	h_1 (mm)	h_{nom} (mm)	L (mm)	$t_{fix} \geq$ (mm)	Wrench	ETA	Code	Pack (pcs.)	Packaging (pcs.)
8-80/15	8	55 / 65 / 75	45 / 55 / 65	80	35 / 25 / 15	TX 40	●	**9880BTSST**	50	250
10-90/5	10	65 / 85 / 95	55 / 75 / 85	90	35 / 15 / 5	TX 50	●	**91090BTSST**	40	200

With countersunk head, zinc-plated.
Zn-Al coating.
Head diameter: BTS ST 8: Ø 19.5 mm; BTS ST 10: Ø 21.5 mm.

BTS ST A4 Stainless Steel

Type	d_0 (mm)	h_1 (mm)	h_{nom} (mm)	L (mm)	$t_{fix} \geq$ (mm)	Wrench	ETA	Code	Pack (pcs.)	Packaging (pcs.)
8-80/15	8	55 / 65 / 75	45 / 55 / 65	80	35 / 25 / 15	TX 40	●	**9X880BTSST**	50	250
10-90/5	10	65 / 85 / 95	55 / 75 / 85	90	35 / 15 / 5	TX 50	●	**9X1090BTSST**	40	200

With countersunk head.
BTS ST type: A4 stainless steel.
Head diameter: BTS ST 8: Ø 19.5 mm; BTS ST 10: Ø 21.5 mm.

Recommended loads, installation parameters

			BTS 8			BTS 10			BTS 14		
Ø Drill	d_0	(mm)		8			10			14	
Ø Thread	d_s	(mm)		10.6			12.6			16.6	
Through-hole	$d_f \leq$	(mm)		12			14			18	
Embedment depth	h_{nom}	(mm)	45	55	65	55	75	85	75	100	115
Permitted tension load in cracked concrete [1],[2],[3]											
C20/25	N_{per}	(kN)	2.4	4.3	5.7	4.3	8.0	9.6	7.6	12.0	15.1
Permitted tension load in non-cracked concrete [1],[2],[3]											
C20/25	N_{per}	(kN)	3.6	5.7	7.6	5.7	9.5	11.9	10.6	16.9	21.2
Shear load in cracked concrete											
C20/25	V_{per}	(kN)	3.5	4.8	6.4	4.8	15.9	19.2	7.6	24.1	30.3
Shear load in non-cracked concrete											
C20/25	Vp_{er}	(kN)	5.0	6.8	9.0	6.8	19.4	19.4	10.6	32.0	32.0
Permitted bending moment	M_{per}	(Nm)		15			32			106	
Distances between anchors and to edge											
Distance between anchors [4]	$s_{cr,N}$	(mm)	105	129	156	129	180	204	174	237	276
Edge distance [4]	$c_{cr,N}$	(mm)	53	65	78	65	90	102	87	119	138
Min. distance between anchors [4]	s_{min}	(mm)	40	50	50	50	50	50	50	70	70
Min. edge distance [4]	c_{min}	(mm)	40	50	50	50	50	50	50	70	70
Minimum concrete thickness	h_{min}	(mm)	100	100	100	100	130	130	130	150	170
Max. installation torque for impact driver	$T_{inst} \leq$	(Nm)		300			400			500	

Female plug with expander cone SAPK / SAP / ESW



SAPK



SAP



ESW



ESWP

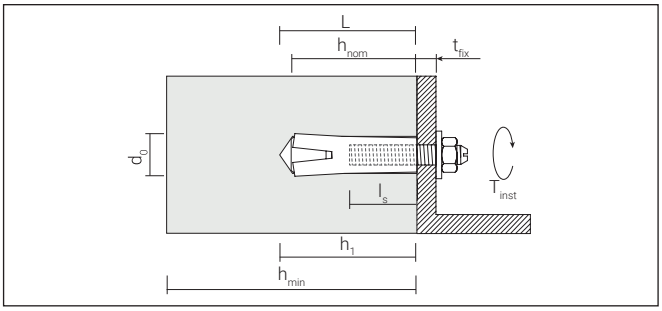
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European Technical Approval Option 7 for non-cracked concret

M8-M10-M12-M16

For multiple uses for non-structural applications in cracked concret

M6-M8-M10



d_0: Hole diameter
L: Length
t_{fix}: Max. fixture thickness
h_{nom}: Embedment depth
h_1: Hole depth
l_s: Insertion depth
h_{min}: Minimum structural thickness
T_{inst}: Tightening torque

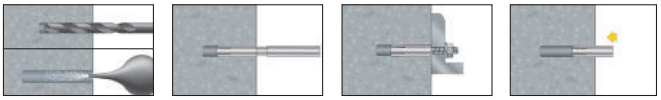




Features

- The SA plus drop-in anchor is approved option 7 for non-cracked concrete and for multiple uses in non-structural applications in cracked concrete.
- Allows a small hole and shallow embedment.
- The expansion tool is required for correct installation.
- References 9825SAPK and 91025SAPK have reduced embedment, ideal for precast hollow-core slabs.

Installation



Box presentation

SAPK Zinc-plated with flange

d_0 (mm)	$h_1 \geq$ (mm)	L (mm)	l_s min - max. (mm)	Rosca	Code	Pack (pcs.)	Packaging (pcs.)
8	27	25	6-11	M6	**96SAPK**	100	1,800
10	27	25	6-12	M8	**9825SAPK**	100	1,800
10	32	30	8-13	M8	**98SAPK**	100	1,000
12	27	25	8-12	M10	**91025SAPK**	50	900
12	43	40	10-16	M10	**910SAPK**	50	500
15	54	50	12-23	M12	**912SAPK** (1)	50	300
20	70	65	16-32	M16	**916SAPK** (1)	25	150

(1) Does not comply with ETA approval.
Approved for cracked concrete.

Box presentation

ESW For SAP / SAPK

Denom.	Code	Pack (pcs.)
ESW 6	**96ESW**	1
ESW 8	**98ESW**	1
ESW 10	**910ESW**	1
ESW 12	**912ESW**	1
ESW 16	**916ESW**	1

SAP Zinc-plated

d_0 (mm)	$h_1 \geq$ (mm)	L (mm)	l_s min - max. (mm)	Thread	Code	Pack (pcs.)	Packaging (pcs.)
8	27	25	6-11	M6	**96SAP**	100	1,800
10	32	30	8-13	M8	**98SAP**	100	1,000
12	43	40	10-16	M10	**910SAP**	50	500
15	54	50	12-23	M12	**912SAP** (1)	50	300
20	70	65	16-32	M16	**916SAP** (1)	25	150

(1) Does not comply with ETA approval.
Approved for cracked concrete.

ESWP For SAP / SAPK

Denom.	Code	Pack (pcs.)
ESW PRO 6	**96ESWP**	1
ESW PRO 8	**98ESWP**	1
ESW PRO 10	**910ESWP**	1
ESW PRO 12	**912ESWP**	1
ESW PRO 16	**916ESWP**	1

Blister pack presentation

SAPK

Ø (mm)	Code	Package (units)	Package (blisters)	Packaging (pcs.)
8	**6SAPK**	10	15	150
10	**8SAPK**	8	15	120
12	**10SAPK**	6	15	90

Loads, spacing and edge distance

Denom.	Permitted tension load (1) (2) (3)	Permited shear load (1) (2)		Permited bending moment (2)		Spacing	Edge distance	Min. structural thickness	Thightening torque	Ø Through - hole
	Screw 4.6-8.8 F_{per} (kN)	Screw 4.6 V_{per} (kN)	Screw 8.8 V_{per} (kN)	Screw 4.6 M_{per} (kN)	Screw 8.8 M_{per} (kN)	S_{min} (mm)	C_{min} (mm)	h_{min} (mm)	T_{inst} (Nm)	d_1 (mm)
SAP/SAK plus 8	3.6	3.1	4.0	6.4	17.1	105	105	100	8	9
SAP/SAK plus 10	4.8	4.5	4.5	12.8	34.2	105	140	100	15	12
SAP/SAK plus 12	6.3	7.3	7.3	22.4	59.8	125	175	120	35	14
SA/SAK plus 16	10.5	12.2	12.2	56.8	151.7	180	230	160	60	18

For single anchoring in non-cracked concrete C20/25.
(1) Permitted loads for single anchors without influence of spacing and edge distance.
(2) The load values include the partial safety factors for resistances according to the approval and a partial safety factor for action of γF = 1.4.
(3) For higher concrete strengths up to C50/55, the values increase by max. 55%. h_{min}, S_{min} and C_{min} must be observed.

Loads, spacing and edge distance

Denom.	Permitted load in any direction (1) (2))	Permitted bending moment (2)		Spacing	Edge distance	Min. structural thickness	Tightening torque	Ø Through-hole
	Screw 4.6-8.8 F_{per} (kN)	Screw 4.6 M_{per} (kN)	Screw 8.8 M_{per} (kN)	S_{min} (mm)	C_{min} (mm)	h_{min} (mm)	T_{inst} (Nm)	d_1 (mm)
SAP/SAK plus 6	0.5	2.6	7.0	70	105	100	4	7
SAK plus 8-25	1.0	6.4	17.1	120	110	100	8	9
SAP/SAK plus 8	1.2	6.4	17.1	105	105	100	8	9
SAK plus 10-25	1.0	12.8	34.2	130	140	100	15	12
SAP/SAK plus 10	3.0	12.8	34.2	105	140	100	15	12

Multiple use for non-structural applications in cracked concrete C20/25–C50/60.
(1) Permitted loads for single anchors without influence of spacing and edge distance.
(2) The load values include the partial safety factors for resistances according to the approval and a partial safety factor for action of γF = 1.4.
For higher concrete strengths up to C50/55, the values increase by max. 55%. h_{min}, S_{min} and C_{min} must be observed.

Loads, spacing and edge distance

Denom.	Permitted load in any direction (1) (2))	Permitted bending moment (2)		Spacing	Edge distance	Min. structural thickness	Tightening torque	Ø Through-hole
	Screw 4.6-8.8 F_{per} (kN)	Screw 4.6 M_{per} (kN)	Screw 8.8 M_{per} (kN)	S_{min} (mm)	C_{min} (mm)	h_{min} (mm)	T_{inst} (Nm)	d_1 (mm)
SAK plus 8-25	1.0	6.4	17.1	120	110	100	8	9
SAK plus 10-25	1.0	12.8	34.2	130	140	100	15	12

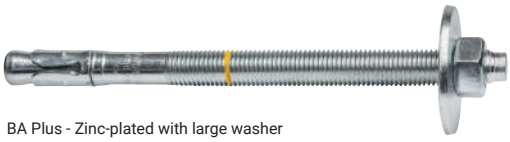
For multiple use in non-structural applications in precast hollow concrete slabs C45/55.
(1) Permissible loads without influence of spacing and edge distance.
(2) The load values include the partial safety factors for resistances according to the approval and a partial safety factor for action of γF = 1.4.
h_{min}, S_{min} and C_{min} must be observed.

Anchor stud BA Plus



BA Plus - Zinc-plated

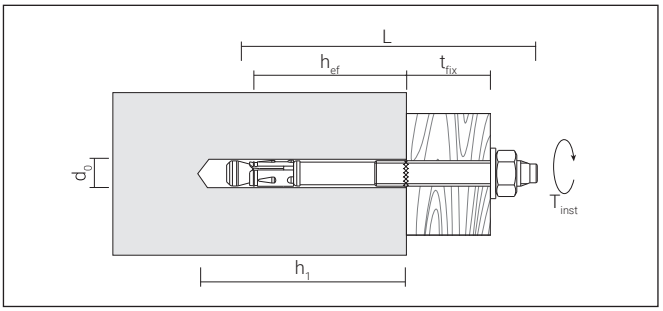
ETA-12/0142 M8-M16



BA Plus - Zinc-plated with large washer

Features

- Suitable for a wide variety of installations in diameters M6–M20.
- The rounded expansion cone facilitates anchor installation.
- Depth marking on the anchor simplifies pre-installation.
- A long threaded section provides greater installation flexibility.
- Approved option 7 for non-cracked concrete.



d_0: Hole diameter
L: Length
t_{fix}: Max. fixture thickness

h_{ef}: Effective embedment depth
h_1: Hole depth
T_{inst}: Tightening torque





Installation



Box presentation

BA Plus Zinc-plated

d_0 (mm)	$h_1 \geq$ (mm)	$h_{ef} \geq$ (mm)	L (mm)	t_{fix} (mm)	$T_{inst} \geq$ (Nm)	Code	Packaging (pcs.)
6	38	25	45	5	15	**9645BAP** (1)	500
6	48	35	60	10	15	**9660BAP**	500
6	48	35	70	20	15	**9670BAP**	500
6	48	35	80	30	15	**9680BAP**	500
6	48	35	90	40	15	**9690BAP**	500
6	48	35	100	50	15	**96100BAP**	500
6	48	35	120	70	15	**96120BAP**	500
6	48	35	140	90	15	**96140BAP**	400
8	40	25	50	5	-	**9850BAP** (1)	500
8	60	45	75	10	15	**9875BAP**	250
8	60	45	85	20	15	**9885BAP**	250
8	60	45	95	30	15	**9895BAP**	250
8	60	45	115	50	15	**98115BAP**	200
8	60	45	135	70	15	**98135BAP**	200
10	42	27	60	10	-	**91060BAP** (1)	250
10	55	40	75	10	-	**91075BAP** (1)	250
10	65	50	85	10	30	**91085BAP**	200
10	65	50	92	17	30	**91092BAP**	200
10	65	50	105	30	30	**910105BAP**	125
10	65	50	125	50	30	**910125BAP**	125
10	65	50	145	70	30	**910145BAP**	125
10	65	50	155	80	30	**910155BAP**	125
10	65	50	175	100	30	**910175BAP**	125
10	65	50	215*	140	30	**910215BAP**	100
12	58	38	70	2	-	**91270BAP** (1)	250
12	90	70	90	22	50	**91290BAP**	125
12	90	70	100	30	50	**912100BAP**	100
12	90	70	110	10	50	**912110BAP**	100
12	90	70	120	20	50	**912120BAP**	100
12	90	70	130	30	50	**912130BAP**	100
12	90	70	150	50	50	**912150BAP**	100
12	90	70	180	80	50	**912180BAP**	100
12	90	70	200	100	50	**912200BAP**	80
12	90	70	220*	120	50	**912220BAP**	80
12	90	70	240*	140	50	**912240BAP**	100
12	90	70	260*	160	50	**912260BAP**	80
12	90	70	300*	200	50	**912300BAP**	30
12	90	70	320*	220	50	**912320BAP**	15

(1) Does not comply with ETA approval.
* Large washer for carpentry.

Box presentation

BA Plus Zinc-plated

d_0 (mm)	$h_1 \geq$ (mm)	$h_{ef} \geq$ (mm)	L (mm)	t_{fix} (mm)	$T_{inst} \geq$ (Nm)	Code	Packaging (pcs.)
16	75	50	95	10	-	**91695BAP** (1)	75
16	75	50	110	25	90	**916110BAP**	50
16	110	85	135	15	90	**916135BAP**	50
16	110	85	150	30	90	**916150BAP**	50
16	110	85	180	60	90	**916180BAP**	50
16	110	85	200	80	90	**916200BAP**	50
16	110	85	220*	100	90	**916220BAP**	40
16	110	85	270*	150	90	**916270BAP**	40
16	110	85	320*	200	-	**916320BAP**	40
20	90	60	110	10	-	**920110BAP** (1)	40
20	130	100	160	20	-	**920160BAP**	40
20	130	100	215	75	-	**920215BAP**	24
20	130	100	270	130	-	**920270BAP**	20

(1) Does not comply with ETA approval.
* Large washer for carpentry.

Box presentation

BA Plus Hot-dip galvanized

d_0 (mm)	$h_1 \geq$ (mm)	$h_{ef} \geq$ (mm)	L (mm)	T_{fix} (mm)	Thread	Code	Pack (pcs.)	Packaging (pcs.)
8	60	45	72	10	M 8	**9HD872BAZ**	50	250
8	60	45	92	30	M 8	**9HD892BAZ**	50	250
8	60	45	112	50	M 8	**9HD8112BAZ**	40	200
8	60	45	147	85	M 8	**9HD8147BAZ**	40	200
10	75	60	92	10	M 10	**9HD1092BAZ**	40	200
10	75	60	102	20	M 10	**9HD10102BAZ**	25	125
10	75	60	112	30	M 10	**9HD10112BAZ**	25	125
10	75	60	132	50	M 10	**9HD10132BAZ**	25	125
10	75	60	162	80	M 10	**9HD10162BAZ**	25	125
12	90	70	103	5	M 12	**9HD12103BAZ**	20	100
12	90	70	118	20	M 12	**9HD12118BAZ**	20	80
12	90	70	128	30	M 12	**9HD12128BAZ**	20	100
12	90	70	148	50	M 12	**9HD12148BAZ**	20	100
12	90	70	163	65	M 12	**9HD12163BAZ**	20	100
12	90	70	178	80	M 12	**9HD12178BAZ**	20	100
16	110	85	123	5	M 16	**9HD16123BAZ**	10	50
16	110	85	138	20	M 16	**9HD16138BAZ**	10	50
16	110	85	178	60	M 16	**9HD16178BAZ**	10	50

Presented in bags

BA Plus Zinc-plated

Ø (mm)	Code	Bag (units)	Pack (pcs.)	Packaging (pcs.)
10	**10145BAP**	2	15	30
16	**16135BAP**	2	15	30

Installation data

BA Plus		Dimensions					
		M6	M8	M10	M12	M16	M20
Tightening torque	T_{inst} (Nm)	8	15	30	50	110	180
Socket wrench	SW	10	13	17	19	24	30
Hole diameter of the fixture	(mm)	7	9	12	14	18	22
Washer Ø x thickness	(mm)	12x1,6	16x1,6	20x2/34x3	24x2,5/44x4	30x3/56x5	37x3

Distance between anchor and edge

BA Plus		Dimensions					
		M6	M8	M10	M12	M16	M20
Distance between anchors	S_{cr} (mm)	105	135	150	210	255	300
	S_{min} (mm)	50	50	120	70	100	160
Edge distance	C_{cr} (mm)	53	68	75	105	128	150
	C_{min} (mm)	50	50	90	90	100	150
Minimum thickness	h_{min} (mm)	100	100	120	160	200	200
Permitted loads in concrete C20/25 (1) (2) (3)	Tension N_{per} (kN)	3.6	7.3	7.6	11.4	12.7	19.8
	Shear V_{per} (kN	3.0	6.5	8.5	9.5	14.6	24.0
Permitted bending moment	M_{per} (Nm)	4.7	13.4	23.9	46.8	95.1	127.3

(1) Permitted loads for a single anchor without influence of spacing and edge distance.
(2) The load values include the partial safety factors of the resistances according to the ETA assessment and a partial safety factor on the action of γF = 1.4.
(3) For higher concrete strengths up to C50/60, the values increase by a maximum of 55%.

Recommended loads

BA Plus		Dimensions					
		M6	M8	M10	M12	M16	M20
Tension	N_{per} (kN) (1) (2)	1.5	1.5	1.8	2.4	4.0	6.0
Shear	V_{per} (kN)	1.5	1.5	1.8	2.4	4.0	6.0
Embedment depth	h_{eff} (mm)	25	25	27	38	50	60

(1) As stated in ETA-12/0142 approval.
(2) Takes into account the safety factors specified in the approval, as well as a partial safety factor on the action of ℰF = 1.4.

Multimaterial frame plug MFR



SB TX Galv. / A4 / HD

European Technical Approval
For concrete and mansory



SB SSKS Galv. / A4 / HD

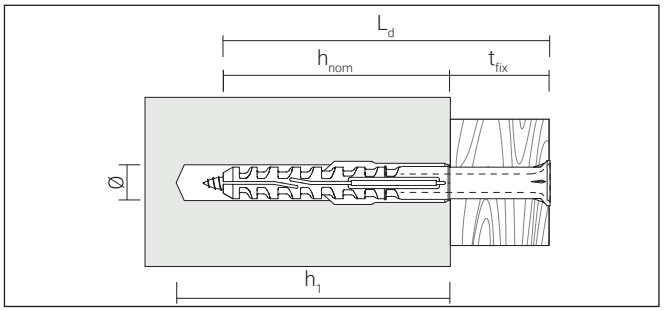
Concrete



FB SSKS Galv. / A4 / HD

Masonry

BEST NYLON QUALITY · HALOGEN FREE · R 90 · A4 STAINLESS STEEL · MADE IN GERMANY



MFR 8: d_s=6 mm | MFR 10: d_s=7 mm | MFR 14: d_s=10 mm

h_{nom}: Embedment depth
t_{fix}: Max. fixture thickness
h_1: Hole depth
L_d: Anchor length

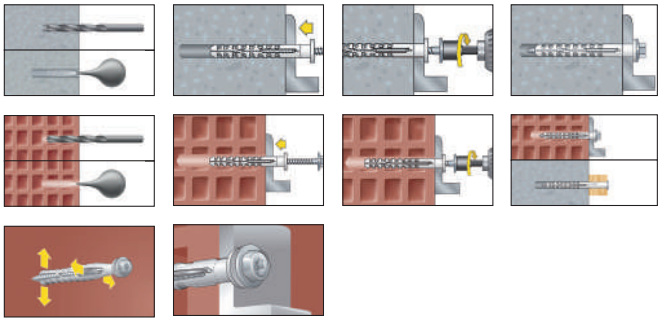




Features

- Multipurpose frame plug (MFR) that allows universal installation of façade substructures, as well as wooden and metal elements, in all common base materials.
- Anti-rotation fins to prevent spinning.
- Flanged version FB prevents contact between screw and profile, avoiding contact corrosion.
- Withstands temperatures from −40°C to +80°C.
- Long and early expansion zone achieved through the side wings, ensuring reliable and secure anchoring.
- Approved by Hörmann for fire-rated doors in solid base materials.
- MFR 8: setting depth 50 mm; MFR 10: setting depth 50 mm and 70 mm; MFR 14: setting depth 70 mm.
- Almost all lengths come pre-assembled.
- Suitable for prestressed precast concrete slabs.
- Suitable for installing window and door frames.

Installation

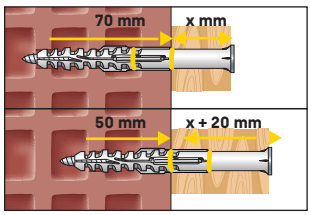


Suitable for materials

- Concrete
- Hollow brick
- Solid brick
- Limestone
- Aerated concrete
- Hollow block
- Stone

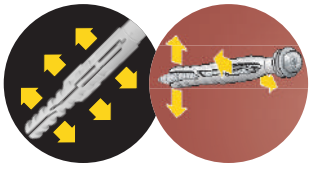
New features

- MFR Ø 10, now with double embedment.
- Anti-rotation fins to prevent spinning.



MFR Ø 10 IMPROVED

Now with double embedment.



New anti-rotation fins to prevent spinning.

Box presentation

MFR SB TX Zinc-plated

Ø (mm)	h_1≥ (mm)	h_{nom}≥ (mm)	t_{fix} (mm)	L_d (mm)	Drive socket	Code	Pack (pcs.)	Packaging (pcs.)
8	60	50	10	60	TX30	**9860MFRST**	100	800
8	60	50	30	80	TX30	**9880MFRST**	100	800
8	60	50	50	100	TX30	**98100MFRST**	50	400
8	60	50	70	120	TX30	**98120MFRST**	50	400
10	60	50	10	60	TX40	**91060MFRST**	50	400
10	60/80	50/70	30/10	80	TX 40	**91080MFRST**	50	400
10	60/80	50/70	50/30	100	TX 40	**910100MFRST**	50	400
10	60/80	50/70	65/45	115	TX 40	**910115MFRST**	50	400
10	60/80	50/70	85/65	135	TX 40	**910135MFRST**	50	400
10	60/80	50/70	110/90	160	TX 40	**910160MFRST**	50	400
10	60/80	50/70	150/130	200	TX 40	**910200MFRST50**	50	200
10	60/80	50/70	190/170	240	TX 40	**910240MFRST50**	50	200
10	60/80	50/70	230/210	280	TX 40	**910280MFRST50**	50	200
10	60/80	50/70	270/250	320	TX 40	**910320MFRST50**	50	200
14	80	70	10	80	TX 50	**91480MFRST**	25	200
14	80	70	40	110	TX 50	**914110MFRST**	25	200
14	80	70	70	140	TX 50	**914140MFRST**	25	200
14	80	70	100	170	TX 50	**914170MFRST**	25	200
14	80	70	130	200	TX 50	**914200MFRST**	25	200
14	80	70	160	230	TX 50	**914230MFRST**	25	200
14	80	70	200	270	TX 50	**914270MFRST**	25	200

With countersunk plug and countersunk head screw.

Box presentation

MFR SB SSKS Zinc-plated

Ø (mm)	h_1≥ (mm)	h_{nom}≥ (mm)	t_{fix} (mm)	L_d (mm)	Drive socket	Code	Pack (pcs.)	Packaging (pcs.)
8	60	50	10	60	SW10/TX 30	**9860MFRSB**	100	800
8	60	50	30	80	SW10/TX 30	**9880MFRSB**	100	800
8	60	50	50	100	SW10/TX 30	**98100MFRSB**	50	400
8	60	50	70	120	SW10/TX 30	**98120MFRSB**	50	400
10	60	50	10	60	SW13/TX 40	**91060MFRSB**	50	400
10	60/80	50/70	30/10	80	SW13/TX 40	**91080MFRSB**	50	400
10	60/80	50/70	50/30	100	SW13/TX 40	**910100MFRSB**	50	400
10	60/80	50/70	65/45	115	SW13/TX 40	**910115MFRSB**	50	400
10	60/80	50/70	85/65	135	SW13/TX 40	**910135MFRSB**	50	400
10	60/80	50/70	110/90	160	SW13/TX 40	**910160MFRSB**	50	400
10	60/80	50/70	150/130	200	SW13/TX 40	**910200MFRSB50**	50	200
10	60/80	50/70	190/170	240	SW13/TX 40	**910240MFRSB50**	50	200
14	80	70	10	80	SW17/TX 50	**91480MFRSB**	25	200
14	80	70	40	110	SW17/TX 50	**914110MFRSB**	25	200
14	80	70	70	140	SW17/TX 50	**914140MFRSB**	25	200
14	80	70	100	170	SW17/TX 50	**914170MFRSB**	25	200
14	80	70	130	200	SW17/TX 50	**914200MFRSB**	25	200
14	80	70	160	230	SW17/TX 50	**914230MFRSB**	25	200
14	80	70	200	270	SW17/TX 50	**914270MFRSB**	25	200

With countersunk plug and hex head screw.

MFR SB TX A4 Stainless Steel

Ø (mm)	h_1≥ (mm)	h_{nom}≥ (mm)	t_{fix} (mm)	L_d (mm)	Drive socket	Code	Pack (pcs.)	Packaging (pcs.)
8	60	50	30	80	TX 30	**9X880MFRST**	100	800
8	60	50	50	100	TX 30	**9X8100MFRST**	50	400
8	60	50	50	120	TX 30	**9X8120MFRST**	50	400
10	60	50	10	60	TX 40	**9X1060MFRST**	50	400
10	60/80	50/70	30/10	80	TX 40	**9X1080MFRST**	50	400
10	60/80	50/70	50/30	100	TX 40	**9X10100MFRST**	50	400
10	60/80	50/70	65/45	115	TX 40	**9X10115MFRST**	50	400
10	60/80	50/70	85/65	135	TX 40	**9X10135MFRST**	50	400
10	60/80	50/70	110/90	160	TX 40	**9X10160MFRST**	50	400
10	60/80	50/70	150/130	200	TX 40	**9X10200MFRST**	50	200

With countersunk plug and countersunk head screw.

MFR SB SSKS A4 Stainless Steel

Ø (mm)	h_1≥ (mm)	h_{nom}≥ (mm)	t_{fix} (mm)	L_d (mm)	Drive socket	Code	Pack (pcs.)	Packaging (pcs.)
10	60	50	10	60	SW13/TX 40	**9X1060MFRSB**	50	400
10	60/80	50/70	30/10	80	SW13/TX 40	**9X1080MFRSB**	50	400
10	60/80	50/70	50/30	100	SW13/TX 40	**9X10100MFRSB**	50	400
10	60/80	50/70	65/45	115	SW13/TX 40	**9X10115MFRSB**	50	400
10	60/80	50/70	85/65	135	SW13/TX 40	**9X10135MFRSB**	50	400
10	60/80	50/70	110/90	160	SW13/TX 40	**9X10160MFRSB**	50	400

With countersunk plug and hex head screw.

MFR SB TX Hot-dip galvanized

Ø (mm)	h_1≥ (mm)	h_{nom}≥ (mm)	t_{fix} (mm)	L_d (mm)	Drive socket	Code	Pack (pcs.)	Packaging (pcs.)
10	80	70	30	100	TX 40	**9HD10100MFRST**	50	400
10	80	70	65	135	TX 40	**9HD10135MFRST**	50	400
10	80	70	90	160	TX 40	**9HD10160MFRST**	50	400

With countersunk plug and countersunk head screw.

MFR SB SSKS Hot-dip galvanized

Ø (mm)	h_1≥ (mm)	h_{nom}≥ (mm)	t_{fix} (mm)	L_d (mm)	Drive socket	Code	Pack (pcs.)	Packaging (pcs.)
10	80	70	30	100	SW13/TX 40	**9HD10100MFRSB**	50	400
10	80	70	65	135	SW13/TX 40	**9HD10135MFRSB**	50	400
10	80	70	90	160	SW13/TX 40	**9HD10160MFRSB**	50	400

With countersunk plug and hex head screw.

MFR FB SSKS Zinc-plated

Ø (mm)	h_1≥ (mm)	h_{nom}≥ (mm)	t_{fix} (mm)	L_d (mm)	Drive socket	Code	Pack (pcs.)	Packaging (pcs.)
8	60	50	10	60	SW10/TX30	**9860MFRFB**	100	800
8	60	50	30	80	SW10/TX30	**9880MFRFB**	100	800
10	60	50	10	60	SW13/TX 40	**91060MFRFB**	50	400
10	60/80	50/70	30/10	80	SW13/TX 40	**91080MFRFB**	50	400
10	60/80	50/70	50/30	100	SW13/TX 40	**910100MFRFB**	50	400
10	60/80	50/70	65/45	115	SW13/TX 40	**910115MFRFB**	50	400
10	60/80	50/70	85/45	135	SW13/TX 40	**910135MFRFB**	50	400
14	80	70	10	80	SW17/TX 50	**91480MFRFB**	25	200
14	80	70	40	110	SW17/TX 50	**914110MFRFB**	25	200
14	80	70	70	140	SW17/TX 50	**914140MFRFB**	25	200

With countersunk plug and hex head screw.

Blister pack presentation

MFR SB TX Zinc-plated

Ø (mm)	Code	Package (units)	Package (blisters)	Packaging (pcs.)
8	**5860MFRST4**	4	10	40
8	**5880MFRST4**	4	10	40
10	**51060MFRST4**	4	10	40
10	**51080MFRST4**	4	10	40
10	**510100MFRST4**	4	10	40
10	**510115MFRST4**	4	10	40
10	**510135MFRST4**	4	10	40
10	**510160MFRST4**	4	10	40

Box presentation

MFR FB SSKS A4 Stainless Steel

Ø (mm)	h_1≥ (mm)	h_{nom}≥ (mm)	t_{fix} (mm)	L_d (mm)	Drive socket	Code	Pack (pcs.)	Packaging (pcs.)
10	60	50	10	60	SW13/TX 40	**9X1060MFRFB**	50	400
10	60/80	50/70	30/10	80	SW13/TX 40	**9X1080MFRFB**	50	400
10	60/80	50/70	50/30	100	SW13/TX 40	**9X10100MFRFB**	50	400
10	60/80	50/70	65/45	115	SW13/TX 40	**9X10115MFRFB**	50	400
10	60/80	50/70	85/65	135	SW13/TX 40	**9X10135MFRFB**	50	400

With countersunk plug and countersunk head screw.

Blister pack presentation

MFR SB SSKS Zinc-plated

Ø (mm)	Code	Package (units)	Package (blisters)	Packaging (pcs.)
8	**5860MFRSB4**	4	10	40
10	**51080MFRSB4**	4	10	40
10	**510100MFRSB4**	4	10	40
10	**510115MFRSB4**	4	10	40
10	**510135MFRSB4**	4	10	40
10	**510160MFRSB4**	4	10	40

MFR FB SSKS Zinc-plated

Ø (mm)	Code	Package (units)	Package (blisters)	Packaging (pcs.)
8	**5880MFRFB4**	4	10	40
10	**51060MFRFB4**	4	10	40

Recommended loads

Denom.	h_{nom} (mm)	Concrete ≥C16/20		Solid brick		Calcium silicate solid brick		Hollow brick HLz 12	Hollow brick Gero tochana	Ladrillo hueco Gero Tejala	Calcium silicate hollow brick KSL 12	Hollow concrete block Hbn 25	Light-weight hollow concrete block	Aerated concrete			Precast prestressed hollow core slabs	Permitted bending moment for zinc-plated srews
		N_{per} (kN)	V_{per} (kN)	MZ 10 F_{per} (kN)	MZ 20 F_{per} (kN)	KS 10 F_{per} (kN)	KS 20 F_{per} (kN)	F_{per} (kN)	F_{per} (kN)	F_{per} (kN)	F_{per} (kN)	F_{per} (kN)	F_{per} (kN)	AAC2 F_{per} (kN)	AAC4 F_{per} (kN)	AAC46 F_{per} (kN)	N_{per} (kN)	M_{per} (kN)
MFR8	50	0.99	3.31	0.26	0.43	0.57	0.86	0.14	0.26	0.26	0.21	0.34	0.26	0.11	0.43	0.71	1.39	8.05
MFR10	50	0.99	4.86	0.57	0.86	0.71	1.14	0.34	0.34	0.21	0.43	0.71	0.21	–	–	–	0.79	8.74
MFR10	70	1.59	4.86	0.57	0.86	0.57	0.86	0.21	–	–	0.26	0.21	–	0.14	0.43	0.71	0.48	8.74
MFR14	70	1.79	8.69	0.86	1.29	0.86	1.29	0.21	–	–	0.34	–	–	0.11	0.43	0.71	–	20.97

Permitted load in all directions, N_{per} = permitted tension load, V_{per} = permitted shear load according to ETA assessment for zinc-plated screws.
(For MFR with hot-dip galvanized screw. These values may be used as recommended loads).
The values apply to a wall average temperature range of max. +24°C (temporarily +40°C).
If the sustained average temperature is +50°C (temporarily +80°C), the load capacities are reduced.
In this case, consult the assessment. For more information on masonry (brick types and sizes), consult the assessment.

Spacing and edge distance

Type	Anchor depth h_{nom} (mm)	Distances	Concrete ≥C16/20 (mm)	Solid brick Mz/KS		Hollow brick HLz / Calcium silicate hollow brick KSL		Aerated concrete					
								AAC2		AAC4		AAC6	
				Single anchor (mm)	Group anchor (mm)	Single anchor (mm)	Group anchor (mm)	Single anchor (mm)	Group anchor (mm)	Single anchor (mm)	Group anchor (mm)	Single anchor (mm)	Group anchor (mm)
MFR 8	50	Parallel spacing between anchors a / $s_{2,min}$	50	250	400	250	400	250	400	250	400	250	400
MFR 10	50		50	250	400	250	200	–	–	-	–	–	–
MFR 10	70		50	250	400	250	400	250	200	250	300	250	400
MFR 14	70		100	250	400	250	480*/400	250	200	250	300	250	400
MFR 8	50	Perpendicular spacing between anchors a / $s_{1,min}$	50	250	200	250	200	250	200	250	200	250	200
MFR 10	50		50	250	200	250	200	–	–	–	–	–	–
MFR 10	70		50	250	200	250	200	250	100	250	150	250	200
MFR 14	70		100	250	200	250	240*/200	250	100	250	150	250	200
MFR 8	50	Minimum edge distance c_{min}	60	100	100	100	100	50	–	90	–	150	–
MFR 10	50		50	100	100	100	100	–	–	–	-	–	–
MFR 10	70		60	100	100	100	100	50	50	75	75	100	100
MFR 14	70		100	100	100	120*/100	120*/100	50	50	75	75	100	100
MFR 8	50	Minimum thickness h_{min}	100	Depends on the brick type		Depends on the brick type		240	240	240	240	240	240
MFR 10	50		100					–	–	–	–	–	–
MFR 10	70		110					100	100	100	100	100	100
MFR 14	70		120					100	100	100	100	100	100

* Values for HLz 12.

ResiFIX® VY Vinylester



VY300SF



VY410SF

MADE IN GERMANY

HIGH LOADS

1350 kg

M10-90
C20/25

F 120

European Technical Approval Option 1 for non-cracked concret
M8-M30, Ø8-Ø32

European Technical Approval Option 7 for non-cracked concret
M8-M30, Ø8-Ø32

European Technical Approval for mansory
M8-M16

European Technical Approval Post-installed rebar connectio
Ø 8 - Ø 25

FIXING seismic C1

A+ A B C





Features

- Styrene-free, fire-resistant.
- CE approved for concrete and hollow materials.
- Cures even in water.
- Ideal fixing for vibrating elements.
- 18-month shelf life.
- Resin suitable for solid concrete and high loads.
- Corrugated.

Box presentation

VY Vinylester without styrene

Denom.	Code	Packaging (pcs.)
VY300SF	**300VSF***	12
VY410SF	**410VYSF**	12

*With 2 nozzles.

Accessories ResiFIX® for solid material RESI AST



A4 STAINLESS STEEL

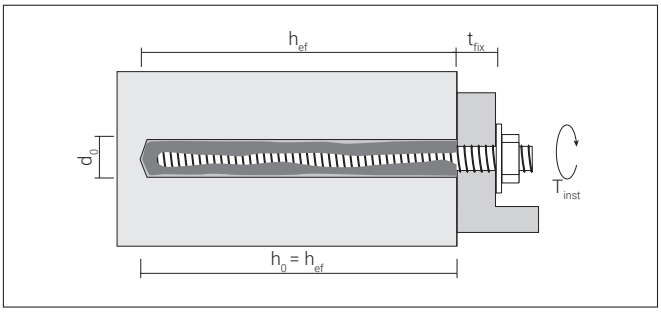
R 120

European Technical Approval For mansory

European Technical Approval Option 1 for non- cracked concret

European Technical Approval Option 1 for cracked concret

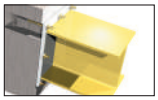
FIXING seismic C1



Application system for solid material



Fixing of corrugated bars.



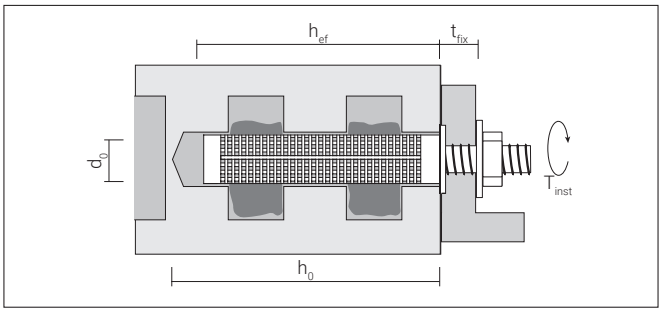
Heavy-duty fixings near edges.



Fixings with high vibration resistance.



Fixing of urban furniture.



d_0: Hole diameter
t_{fix}: Max. fixture thickness
h_{ef}: Effective embedment depth

h_0: Hole depth
t_{inst}: Tightening torque

Box presentation

RESI AST Zinc-plated with nut and washer

Ø (mm)	Sleeve (mm)	t_{fix} (mm)	Code	Pack (pcs.)	Packaging (pcs.)
10	SH 12-80	20	**98110RAST**	10	100
10	SH 12-80	40	**98130RAST**	10	100
12	SH 16-85	10	**910110RAST**	10	100
12	SH 16-85	30	**910130RAST**	10	100
12	SH 16-85	70	**910170RAST**	10	100
12	SH 16-85	100	**910200RAST**	10	60
14	SH 20-85	5	**912130RAST**	10	100
14	SH 20-85	35	**912160RAST**	10	100
14	SH 20-85	85	**912210RAST**	10	60
18	SH 20-85	15	**916160RAST**	10	60
18	SH 20-85	45	**916190RAST**	10	60

RESI AST Stainless Steel A4 with nut and washer

Ø (mm)	$h_{ef,min.}$ (mm)	t_{fix} $h_{ef,min.}$ (mm)	$h_{ef,stand}$ (mm)	t_{fix} $h_{ef,stand}$ (mm)	Solid brick		Perforated brick		Code	Pack (pcs.)	Packaging (pcs.)
					d_0 - h (mm)	t_{fix} (mm)	Sleeve (mm)	t_{fix} (mm)			
10	60	40	80	20	10-85	20	SH 12-80	20	**9X8110RAST**	10	100
10	60	60	80	40	10-85	40	SH 12-80	40	**9X8130RAST**	10	100
12	60	40	90	10	12-95	10	SH 16-85	10	**9X10110RAST**	10	100
12	60	60	90	30	12-95	30	SH 16-85	30	**9X10130RAST**	10	100

Accessories ResiFIX® for hollow materials

Plastic sleeve SH



SH



916330SH

Box presentation

SH

Ø (mm)	Ø Stud	Code	Pack (pcs.)	Packaging (pcs.)
13	M6 - M8	**91260SH**	24	432
13	M6 - M8	**91280SH**	24	432
16	M8 - M10	**91585SH**	12	216
16	M8 - M10	**915130SH**	12	144
16	M8 - M10	**916330SH**	1	100
20	M12 - M16	**92085SH**	12	216
20	M12 - M16	**920130SH**	20	160
20	M12 - M16	**920200SH**	20	160

Application system for hollow material



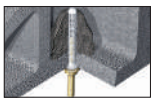
Exterior housing. Always with sleeve.



Awning fixings.



Interior housing.



Fixing in industrial buildings and parking areas.

Metal sleeve TMR



Features

- For long-length chemical fixings.
- Can be cut to size (1 m)

Box presentation

TMR

Ø (mm)	Ø Stud	Code	Pack (pcs.)
12	M6-M8	**12TMRMEA**	10
16	M8-M12	**16TMRMEA**	10

Notes

Notes





Looking for efficient solutions?

Trust the support range

Our products are designed to enable fast, safe and high-quality installation. In addition, we provide our technical team, engineering services and on-site support to solve any requirement related to the system.

Contact us for more information, engineering service or technical advice.

Scan the QR code
and request the help you need

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CELO Fixings

TECHNICAL SUPPORT
ON-SITE SERVICE
ENGINEERING SERVICE

Need help?

Check our schedule. We are here to assist you.

Monday to Thursday	Friday
8:00 h - 13:30 h	07.30 h - 14.00 h
14:30 h - 18:00 h	

Small Things Matter

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