NATIONAL TECHNICAL ASSESSMENT
ITB-KOT-2019/0808 rev. 2

This National Technical Assessment has been issued in accordance with the Regulation of the Minister of Infrastructure and Construction of 17 November 2016 on National Technical Assessments (Journal of Laws of 2016, Item 1968) by the Building Research Institute in Warsaw, at the request of:

SIKLA GmbH

In der Lache 17, 78056 VS Schwenningen, Germany

SIKLA Polska Sp. z o.o.

ul. Spółdzielcza 55, 58-500 Jelenia Góra

National Technical Assessment ITB-KOT-2019/0808 rev. 2 is a positive assessment of the performance of the following construction products for their intended use:

SIKLA system elements for supports and ducts installation

Date of validity of the National Technical Assessment:

27th of June 2029

DIRECTOR

of the Building Institute
Robert Geryło
D.Eng.

Stamp of ITB

Warsaw, 27th of June 2024 r.

Building Research Institute
Filtrowa str.1, 00-611 Warsaw
tel.: 22 825 04 71; NIP: 525 000 93 58; KRS: 0000158785

1. Technical description of the product

The subject of this National Technical Assessment are the components of the SIKLA pipe support system. The products covered by the National Technical Assessment are manufactured by SIKLA GmbH, In der Lache 17, 78056 VS Schwenningen, Germany, at its production plant in Germany.

The authorised representative of the manufacturer in Poland is SIKLA Polska Sp. z o.o., ul. Spółdzielcza 55, 58-500 Jelenia Góra.

The National Technical Assessment shall cover the product types specified by the manufacturer and derived from the performance characteristics given in section 3 and the combination of materials and components. The National Technical Assessment covers the following products:

- channels MS 27 and 41, single and double channel, (fig. A1 ÷ A17),
- channel nut NT 27 and NT 27 VA (fig. A18),
- speed nut NT CC 27 (fig. A19),
- channel nut NT 41 (fig. A20),
- speed nut NT CC 41 (fig. A21),
- speed nut NT CC 41 VA (fig. A21),
- speed nut NT CC 41 HCP (fig. A21),
- channel nut NT HZ 41 (fig. A22),
- channel nut NT HZ 41 VA (fig. A22),
- channel nut NT HZ 41 HCP (fig. A22),
- connector CN CC 41 (fig. A23)
- angle connector CN CC 41-2 and CN CC 41-2 W (fig. A24),
- angle connector CN CC 27-90˚ and CN CC 27-90˚ W (fig. A25),
- angle connector CN CC 41-90˚ (fig. A26),
- angle connector CN CC 41 Stabil and CN CC 41 W Stabil (fig. A27),
- T-head bolt TBO HZ 41 (fig. A28),
- T-head bolt TBO HZ 41 VA (fig. A29),
- T-head bolt TBO HZ 41 HCP (fig. A29),
- T-head bolt HM 27 (fig. A30),
- blockset PBS CC 41 (fig. A31),
- block PB 27 (fig. A32),
- block PB 41 (fig. A33),
- block PBH 41 (fig. A34),
- beam clip P VA (fig. A35),
- beam clip SPA 5P HCP and SPA 5P AU HCP (fig. A36),
- corner bracket EW 41 (fig. A37),
- fixing brackets MW (fig. A38),
- fixing brackets MW VA (fig. A38),
- fixing brackets HCP (fig. A38),
- fixing brackets MW S (fig. A39),

- fixing brackets MW S HCP (fig. A39),
- duo clamps SRS (fig. A40),
- duo clamps SRS with lining (fig. A41),
- duo clamps ERS with lining (fig. A42),
- pipe clamps Ratio S (fig. A43),
- pipe clamps Ratio S-K (fig. A44),
- pipe clamps Ratio S M8 (fig. A45),
- pipe clamps Ratio LS (fig. A46),
- pipe clamps Ratio LS Silicone (fig. A46),
- pipe clamps Stabil D-3G (fig. A47),
- pipe clamps Stabil D-3G with lining (fig. A48),
- pipe clamps Stabil D-3G HCP with lining (fig. A49),
- pipe clamps Stabil D VA (fig. A50),
- pipe clamps Stabil D-2G/3G VA (fig. A51),
- pipe clamps Stabil D-2G/3G VA with lining (fig. A52),
- pipe clamps Stabil D-2G/3G VA Silicone (fig. A53),
- pipe clamps Stabil D-M16 (fig. A54),
- pipe clamps Stabil D-M16 with lining (fig. A55),
- pipe clamps Stabil D-M16 Silicone (fig. A56),
- pipe clamps Stabil RB-A (fig. A57),
- pipe clamps Stabil RB-A HCP (fig. A58),
- pipe clamps Stabil I-1/2" HCP (fig. A59),
- pipe clamps Stabil I-1/2" VA (fig. A60),
- pipe clamps Stabil Form C LK (fig. A61),
- chilled water clamps RB (fig. A62),
- chilled water clamps LKS 13, LKS 19 and LKS 32 (fig. A63),
- chilled water clamps SKS Top - 2C (fig. A64),
- chilled water fixed point clamps FKS (fig. A65) ,
- pipe loops RSL N (fig. A66),
- pipe loops RSL N HCP (fig. A67),
- U-clamps RUC I (fig. A68),
- U-bolts RUB: RUB, RUB L, RUB VA and RUB DIN 3570 HCP (fig. A69 ÷ A71),
- height adjusters HRS 0 (fig. A72),
- height adjusters HRS P (fig. A73),
- slide element GLE LC (fig. A74),
- slide element GLE J (fig. A75),
- slide set GS 1G (fig. A76),
- slide sets GS 2G, GS 2G VA, GS 2G2, GS 2G2 VA, GS ULTRAglide 2G and GS ULTRAglide 2G2 (fig. A77),

- slide sets GS 2G-PL, GS 2G-PL HCP, GS 2G-PL VA, GS 2G2-PL, GS 2G2-PL HCP, 2G2-PL VA, GS ULTRAglide 2G-PL and GS ULTRAglide 2G2-PL (fig. A78),
- slide sets GS H3G, GS H3G2, GS H3G VA and GS H3G2 VA, GS ULTRAglide H3G and GS ULTRAglide H3G2 (fig. A79),
- slide sets GS H3G-PL GS H3G2-PL, GS H3G-PL VA, GS H3G2-PL VA, GS ULTRAglide H3G-PL and GS ULTRAglide H3G2-PL (fig. A80),
- slide element GS 41 (fig. A81),
- slide element GS 41 VA (fig. A82),
- slide sets GS F 1G and GS F 1G2 (fig. A83),
- slide sets GS F 2G and GS 2G2 (fig. A84),
- insulated foots SHB SQF 350 and SHB SQF 500 (fig. A85),
- mounting plates GPL (fig. A86),
- mounting plates GPL HCP and GPL VA (fig. A87),
- mounting plate GPL Stabil HCP (fig. A88),
- flat fittings ECO CC 1, ECO CC 2 and ECO CC 3 (fig. A89),
- beam clamps TCS 0 (fig. A90),
- beam clamps TCS 1, TCS 1 HCP and TCS 1 VA (fig. A90),
- beam clamps TCS 2 and TCS 2 HCP (fig. A91),
- beam clamps TCS F (VdS/FM) (fig. A92),
- U-holders SB 27 (fig. A93),
- U-holders SB 41 (fig. A94),
- U-holders SB 41 HCP (fig. A95),
- U-holders SB F 80 (fig. A96),
- U-holders SB F 100 (fig. A97),
- universal joints UG (fig. A98),
- universal joints UG VA (fig. A99),
- joint JOI 41 T HCP (fig. A100),
- threaded hooks GH (fig. A101),
- hook sleeve SP (fig. A102),
- toggle studs KD (fig. A103),
- roof hanger TRH (M8, M10, RM 8, RM 10, MS, M8H and M10H (fig. A104),
- acoustic absorption element AKE (fig. A105),
- rubber-metal combination element GMT (fig. A106),
- sound absorber SDE 0 (fig. A107),
- sound absorbers SDE 1 - M10 and SDE 1 - 3G (fig. A108),
- sound absorber SDE 2 - FP 1 (fig. A109),
- sound absorber SDE 2 - SBV/SBZ (fig. A110),
- sound absorber SDE 2 - UG 16 (fig. A111),
- support brackets WK, WK HCP and WK VA (fig. A112 ÷ A118),
- socket angle ST (fig. A119),

- cantilever brackets AK (fig. A120),
- cantilever brackets AK HCP (fig. A121),
- cantilever brackets AK VA (fig. A122),
- cantilever brackets AK 27-1,25 (fig. A123),
- clamping end SKL (fig. A124),
- bracket SFK (fig. A125),
- end supports WBD (fig. A126),
- end supports WBD HCP (fig. A127),
- end supports WBD VA (fig. A128),
- end supports WBD C HCP (fig. A129),
- T-brackets MOS CC (fig. A130),
- holding brackets HK 27, HK BL and HK VA (fig. A131),
- holding brackets HK 41 and HK HCP (fig. A132),
- channel brackets SH and SH HCP (fig. A133),
- link eyes SCB (fig. A134),
- eye bolts SCR (fig. A135),
- clamping unit KL (fig. 136),
- tension tie rod disc IR (fig. A137),
- cross tee IR-M (fig. A138),
- cross tee IR-E (fig. A139),
- suspension holding bracket IR-RA (fig. A140),
- adapters AD IG/IG (fig. A141),
- adapters AD IG/IG HCP (fig. A142),
- adapters AD IG/IG VA (fig. A143),
- reducers AD IG/AG (fig. A144),
- reducers AD IG/AG VA (fig. A145).

The dimensions of the SIKLA system components are given in Annex A. The dimensional tolerances of the elements correspond to tolerance class m according to PN-ISO 965-2:2001. Deviations of the remaining dimensions of components covered by this National Technical Assessment correspond to tolerance class *m* according to PN-EN 22768-1:1999 standard.

The materials of which the SIKLA system components are made are given in Annex B, Table B1.
SIKLA system components are used with the supplementary accessories shown in Annex D (fig. D1-D9).

2. Intended use of the product

The SIKLA system components are designed for suspension of pipes in accordance with the performance characteristics specified in section 3.

The design load capacity of SIKLA system components are given in Annex C.

For corrosion protection reasons, SIKLA fastening system components made of steel and cast iron with zinc coating can be used in corrosion conditions cat. C1, C2 and C3 according to standard PN-EN ISO 9223:2012.

For corrosion protection reasons, SIKLA fastening system components made of steel with zinc coating should be used according to standard PN-EN ISO 14713-1:2017 and PN-EN ISO 9223:2012

Components of Sikla system made of stainless steel should be used according to Annex A of standard PN-EN 1993-1-4:2007+NA:2010+A1:2015:2021, in corrosive environments:

- C1 ÷ C3 acc. PN-EN ISO 9223:2012 – for stainless steel grade 1.4310 acc. PN-EN 10088-1:2014,
- C1 ÷ C4 acc. PN-EN ISO 9223:2012 – for steel grade 1.4401, 1.4362, 1.4404 and 1.4571 acc. PN-EN 10088-1:2014 and cast steel 1.4581 acc. PN-EN 10283:2019,
- C1 ÷ C5 acc. PN-EN ISO 9223:2012 – for steel grade 1.4529 acc. PN-EN 10088-1:2014.

The products covered by this National Technical Assessment shall be used in accordance with a technical design developed taking into account:

– Polish standards and technical and construction regulations, in particular the Regulation of the Minister of Infrastructure of 12 April 2002 on technical conditions to be met by buildings and their location (Journal of Laws of 2022, Item 1225),
– the provisions of this National Technical Assessment of Building Research Institute,
– the recommendations contained in the technical manual drawn up by the manufacturer and supplied to the recipients.

3. The performance of the product and the methods used for its assessment

3.1. Product performance characteristic

3.1.1. Characteristic and design load capacity. Design load capacity of Sikla system components are given in Annex C. Design load capacity determined based on characteristic load capacity are given including safety factor 2,0

3.1.2. Durability. For components including zinc coatings with thicknesses not less than those given in Annex B, table B, ensure durability of the components to the extent specified in Section 2

3.2. Methods used to assess the performance

3.2.1. Characteristic and design load capacity. The characteristic load test is carried out in conditions corresponding to the service conditions applying the loads specified by the manufacturer. The test is carried out using two criteria: the ultimate limit state (destructive force) and additionally, in the case of covers, the serviceability limit state criterion (deformation not exceeding 2% of the diameter and not exceeding 1.5 mm, and the higher value is taken). Characteristic values are determined using the statistical method, assuming the 0,05 quantile of the normal distribution. To determine the design resistances, the characteristic values obtained from the tests (ultimate limit state criterion) must be divided by a safety factor as defined in point 3.1.1.

3.2.2. Durability. The zinc coating thickness test is performed according to PN-EN ISO 2178:2016, PN-EN ISO 3497:2004 or PN-EN ISO 2808:2020.

4. Packing, transportation and storage, labelling of products

The products covered by this National Technical Assessment should be delivered in the manufacturer's original packaging and stored and transported in accordance with the manufacturer's instructions.
The method of marking products with the construction mark should be in accordance with the Regulation of the Minister of Infrastructure and Construction of 17 November 2016 on the method of declaring the performance of construction products and the method of marking them with the construction mark (Journal of Laws of 2023, Item 873).

The marking of the product with the construction mark shall be accompanied by following information:

- the last two digits of the year in which the construction mark was first affixed to the construction product,
- the name and registered address of the manufacturer or an identification mark enabling the name and registered address of the manufacturer to be unequivocally identified,
- name and designation of the construction product type,
- number and year of issue of the national technical assessment according to which the performance was declared (ITB-KOT-2019/0808 rev. 2),
- number of the national declaration of performance,
- the level or class of performance declared,
- the address of the manufacturer's website if the national declaration of performance is made available on it.

A safety data sheet and/or information on hazardous substances contained in a construction product, as referred to in Article 31 or 33 of Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) and establishing a European Chemicals Agency, should be supplied or, where appropriate, made available together with the national declaration of performance.

Furthermore, the labelling of a construction product which is a hazardous mixture under the REACH Regulation should be in accordance with the requirements of Regulation (EC) No 1272/2008 of the European Parliament and of the Council on classification, labelling and packaging of substances and mixtures (CLP), amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

5. Assessment and verification of constancy of performance

5.1. National system of assessment and verification of constancy of performance

According to the Regulation of the Minister of Infrastructure and Construction of 17 November 2016 on the method of declaring the performance of construction products and the method of marking them with the construction mark (Journal of Laws of 2023, Item 873) system 3 of assessment and verification

of constancy of performance shall be applied.

5.2. Type testing

The performance characteristics assessed in point 3 shall be type-tested for products as long as there is no change in raw materials, components, production line or plant.

5.3. Factory production control

The manufacturer shall have a factory production control system in place at the manufacturing site. All the elements, requirements and provisions adopted by the manufacturer shall be documented in a systematic manner in the form of policies and procedures, including records of testing. The factory production control shall be adapted to the production technology and shall ensure that the declared performance of the product is maintained in series production.

The factory production control shall include the specification and testing of raw materials and components, in-process inspection and testing (according to Section 5.4) carried out by the manufacturer in accordance with an established test plan and according to the rules and procedures laid down in the factory production control documentation.

The results of production control should be systematically recorded. The records of the register should confirm that the products meet the criteria for assessment and verification of constancy of performance. Individual products or batches of products and related production details must be fully identifiable and reproducible.

5.4. Follow-up tests

The tests should be carried out in accordance with an established test plan, according rules and procedure defined in Factory Production Control documentation not less than shown in Table 1.

Table 1

Scope of testing	Frequency
Shape and dimensions	Each production batch [1)]
Zinc layer thickness	Each production batch [1)]
Characteristic load capacity	Every 5 years
[1)] Batch quantity should be defined in Factory Production Control documentation	

6. Comments

6.1. The National Technical Assessment ITB-KOT-2019/0808 Rev. 2 replaces National Technical Assessment ITB-KOT-2019/0808 Rev. 1.

6.2. The National Technical Assessment ITB-KOT-2019/0808 Rev. 2 is a positive assessment of the performance of those essential characteristics of the SIKLA system components which, in accordance with the intended use resulting from the provisions of the Assessment, affect the fulfilment of the basic requirements by the construction works in which the products will be used.

6.3. The National Technical Assessment ITB-KOT-2019/0808 Rev.2 is not a document authorising the marking of a construction product with a construction mark.
In accordance with the Act on construction products of 16 April 2004 (Journal of Laws of 2021, Item 1213) the products covered by this National Technical Assessment may be placed on the market or made available on the domestic market if the manufacturer has assessed and verified the constancy of performance, drawn up a national declaration of performance in accordance with the National Technical Assessment ITB-KOT-2019/0808 Rev.2 and labelled the products with the construction mark, in accordance with applicable regulations

6.4. The National Technical Assessment ITB-KOT-2023/2586 rev. 1 does not infringe the rights arising from provisions on industrial property protection, in particular the Act of 30 June 2000. - Industrial Property Law (Journal of Laws of 2023, Item 1170). It is the responsibility of the users of this National Technical Assessment to ensure these rights.

6.5. By issuing a National Technical Assessment, the Building Research Institute is not responsible for any possible infringement of exclusive and acquired rights

6.6. The National Technical Assessment does not relieve the product manufacturer of its responsibility for the correct quality of the products and building contractors of their responsibility for their correct application..

6.7. The validity of the National Technical Assessment may be renewed for further periods not exceeding 5 years.

7. List of documents used in the proceedings

7.1. Reports, test reports, assessment and classifications

1) 0536/23/Z00NZK rev.2 Technical opinion. Building Structures, Geotechnics and Concrete Department laboratory of ITB, Warsaw 2023.
2) LZK01-00536/23/Z00NZK. Test report. Building Structures, Geotechnics and Concrete Department laboratory of ITB, Warsaw 2023.
3) LZK02-00536/23/Z00NZK. Test report. Building Structures, Geotechnics and Concrete Department laboratory of ITB, Warsaw 2023.
4) LZM00-00605/23/Z00NZM. Test report. Building Materials Laboratory (LZM) of ITB, Warsaw 2023.
5) LZM00-00702/22/Z00NZM. Test report. Building Structures, Geotechnics and Concrete Department laboratory of ITB, Warsaw 2022.
6) LZK00-00745/19/Z00NZK. Test report. Building Structures, Geotechnics and Concrete Department of ITB Warsaw 2019.
7) 00745/19/Z00NZK. Research work – load capacity of installation components. Building Structures, Geotechnics and Concrete Department of ITB Warsaw 2019.
8) LZM00-00715/19/Z00NZM. Test report. Department of Building Materials Engineering. Warsaw 2019.

9) 00676/14/Z00NK. Technical opinion. Opinion issued for national approval amendment, scope: installation ducts suspension sets SIKLA. Building Structures Department of ITB, Warsaw 2014.
10) 3397/BS/07. Test report. Department - Laboratory of Fire Service Technical Equipment and Technical Fire Protection BS CNBOP, Józefów 2007.
11) NW-0608/A/06. SIKLA system tests. SIKLA system testing. Department of Structures and Strength Tests Department of ITB, Warsaw 2007.

7.2. Standards and related documents

PN-EN 22768-1:1999	*General Tolerances. Tolerances for linear and angular dimensions without individual tolerance indications*
PN-ISO 965-2:2001	*ISO general purpose metric screw threads. Tolerances. Part 2: Limits of sizes for general purpose external and internal screw threads. Medium quality.*
PN-EN ISO 14713-1:2017	*Zinc coatings. Guidelines and recommendations for the protection against corrosion of iron and steel in structures. Parts 1: General principles of design and corrosion resistance*
PN-EN ISO 9223:2012	*Corrosion of metals and alloys. Corrosivity of atmospheres. Classification, determination and estimation.*
PN-EN 1993-1-4:2007 +NA:2010+A1:2015 +A2:2021	*Eurocode 3. Design of steel structures. Part 1-4: General rules. Supplementary rules for stainless steel*
PN-EN ISO 2808:2020	*Paints and varnishes. Determination of film thickness*
PN-EN ISO 3497:2004	*Metallic coatings. Measurement of coating thickness. X-ray spectrometric methods.*
PN-EN 10149-2:2014	*Hot rolled flat products made of high yield strength steels for cold forming. Parts 2: Technical delivery conditions for thermomechanically rolled steels*
PN-EN 10088-1:2014	*Stainless steels. Part 1: List of stainless steels*
PN-EN 10025-2:2019	*Hot rolled products of structural steels. Part 2: Technical delivery conditions for non-alloy structural steels*
PN-EN 1562:2019	*Founding. Malleable cast irons*
PN-EN 1563:2018	*Founding. Spheroidal graphite cast irons*
PN-EN 10111:2009	*Continuously hot rolled low carbon steel sheet and strip for cold forming. Technical delivery conditions*
PN-EN 10346:2015	*Continuously hot-dip coated steel flat products for cold forming. Technical delivery conditions*
PN-EN ISO 898-1:2013	*Mechanical properties of fasteners made of carbon steel and alloy steel. Part 1: Bolts, screws and studs with specified property classes. Coarse thread and fine pitch thread.*
PN-EN ISO 898-2:2023	*Fasteners. Mechanical properties of fasteners made of carbon steel and alloy steel. Part 2: Nuts with specified property classes*

PN-EN ISO 3506-1:2020	*Fasteners. Mechanical properties of corrosion-resistant stainless steel fasteners. Part 1: Bolts, screws and study with specified grades and property classes*
PN-EN 10283:2019	*Corrosion resistant steel castings*
PN-EN ISO 683-4:2018	*Heat-treatable steels, alloy steels and free-cutting steels. Part 4: Free-cutting steels*
PN-EN 10130:2009	*Cold-rolled low carbon steel flat products for cold forming. Technical delivery conditions.*
ITB-KOT-2019/0808 rev. 1	*SIKLA pipe supports system components*

Annexes

Annex A.

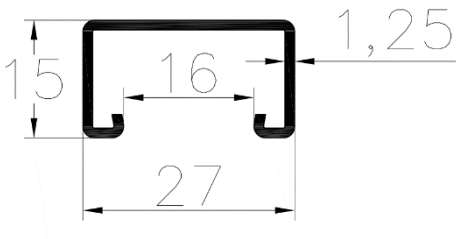


Fig. A1. Channel MS A4 27/15/1,25

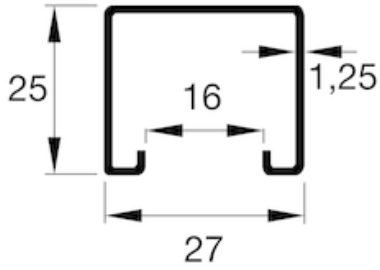


Fig. A2. Channel MS 27/25/1,25

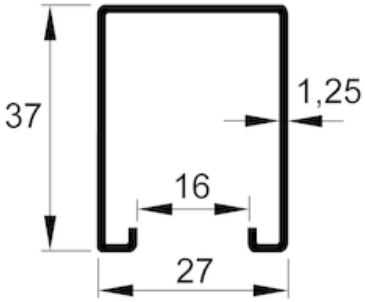


Fig. A3. Channel MS 27/37/1,25

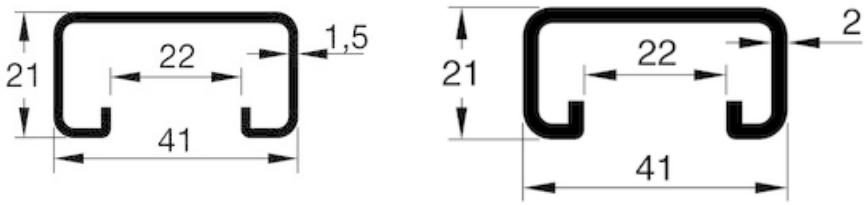


Fig. A4. Channels MS 41/21/1,5; MS 41/21/2,0; MS A4 41/21/2,0
and MS HCP 41/21/2,0

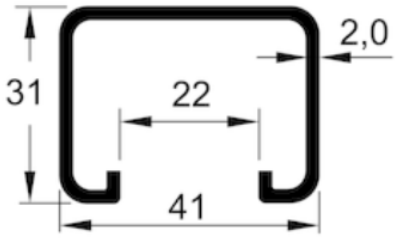


Fig. A5. Channels MS 41/31/2,0 and MS HCP 41/31/2,0

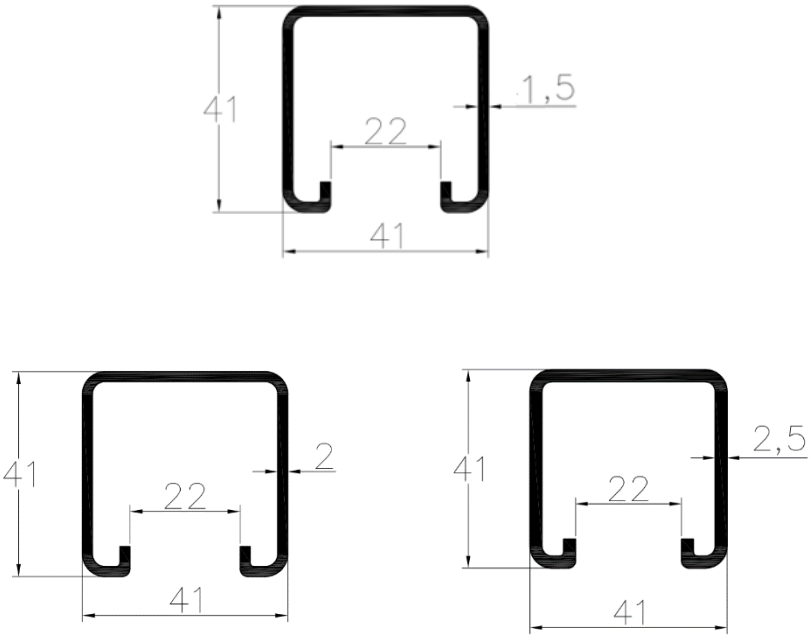


Fig. A6. Channel MS 41/41/1,5; MS 41/41/2,0; MS A4 41/41/2,0; MS HCP 41/41/2,0; MS 41/41/2,5 and MS HCP 41/41/2,5

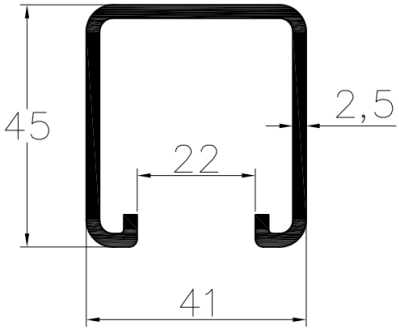


Fig. A7. Channel MS 41/45/2,5

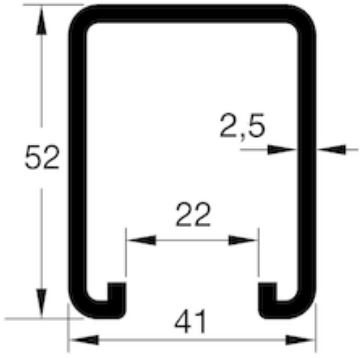


Fig. A8. Channel MS 41/52/2,5

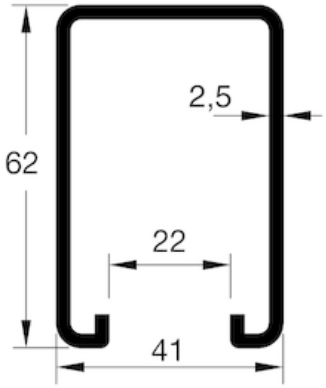


Fig. A9. Channels MS 41/62/2,5; MS A4 41/62/2,5 and MS HCP 41/62/2,5

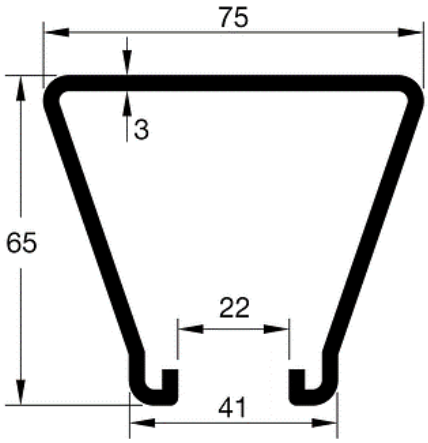


Fig. A10. Channel MS 41-65/75/3,0

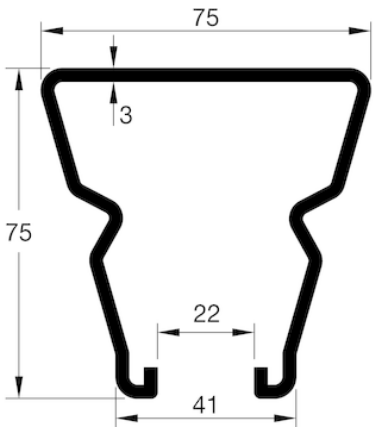


Fig. A11. Channels MS 41-75/75/3,0 and MS HCP 41-75/75/3,0

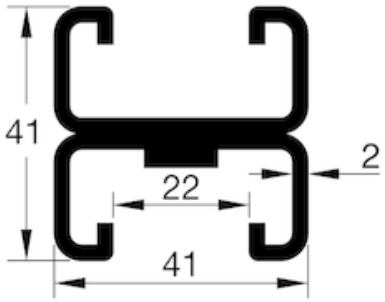


Fig. A12. Channels MS 41/21/2,0 D and MS HCP 41/21/2,0 D (double)

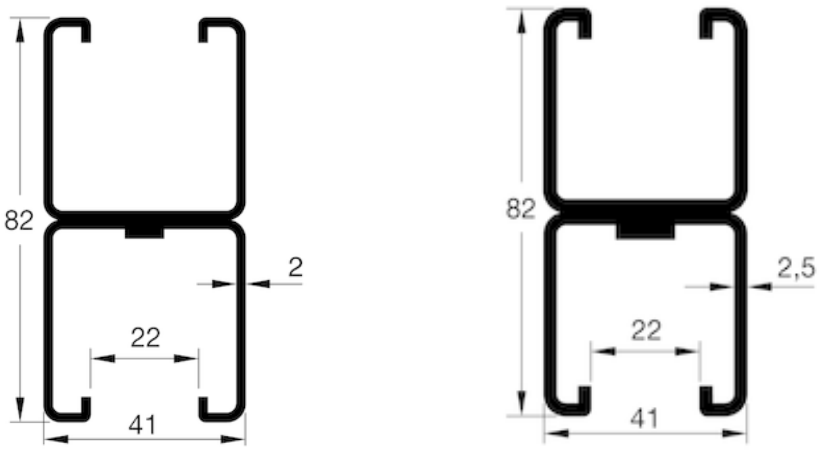


Fig. A13. Channels MS 41/41/2,0 D; MS A4 41/41/2,0 D; MS HCP 41/41/2,0 D;
MS HCP 41/41/2,5 D and MS 41/41/2,5 D (double)

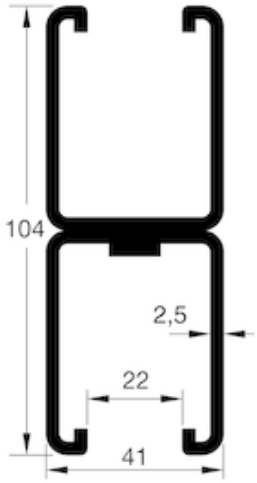


Fig. A14. Channel MS 41/52/2,5 D (double)

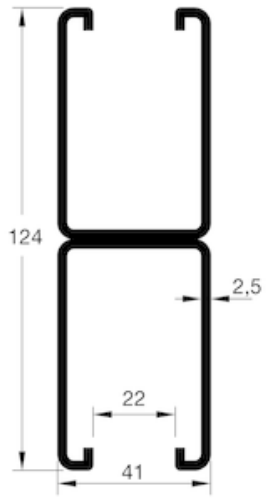


Fig. A15. Channels MS 41/62/2,5 D and MS A4 41/62/2,5 D (double)

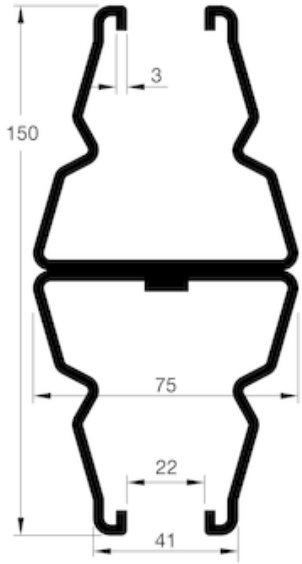


Fig. A16. Channel MS 41-75/65/3,0 D (double)

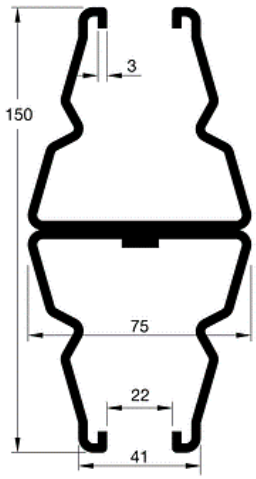
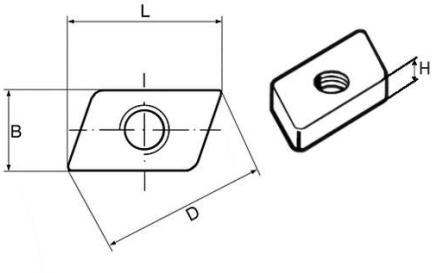
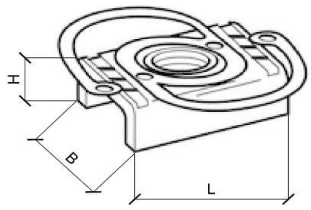


Fig. A17. Channel MS 41-75/75/3,0 D (double)



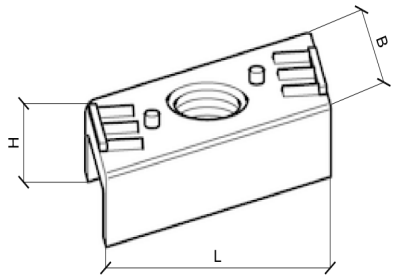
Designation	L [mm]	B [mm]	D [mm]	H [mm]
NT 27-M8	24	13,5	27	9
NT 27-M10	24	15	27	9
NT VA 27-M8	24	13,5	27	9
NT VA 27-M10	24	15	27	9

Fig. A18. Chunnel nuts NT 27 and NT 27 VA



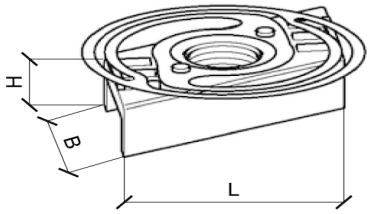
Designation	L [mm]	B [mm]	H [mm]	Thickness [mm]
NT CC 27-M6	22	18	6	3
NT CC 27-M8	22	18	6	3
NT CC 27-M10	22	18	6	3

Fig. A19. Speed nuts NT CC 27



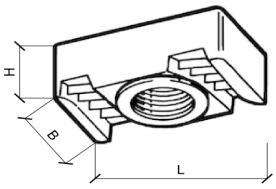
Designation	L [mm]	B [mm]	H [mm]	Thickness [mm]
NT 41-M8	38	24	9	3
NT 41-M10	38	24	9	3

Fig. A20. Channel nuts NT 41



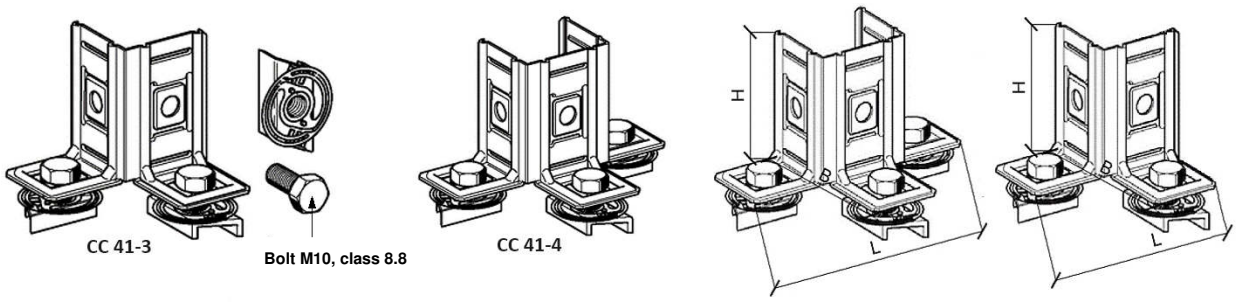
Designation	L [mm]	B [mm]	H [mm]	Thickness [mm]
CC 41-M6	34	24	9	3
CC 41-M8	34	24	9	3
CC 41-M10	34	24	9	3
CC 41-M12	34	24	9	3
CC 41-M16	34	24	9	3

Fig. A21. Speed nuts NT CC 41, NT CC 41 VA and NT CC 41 HCP



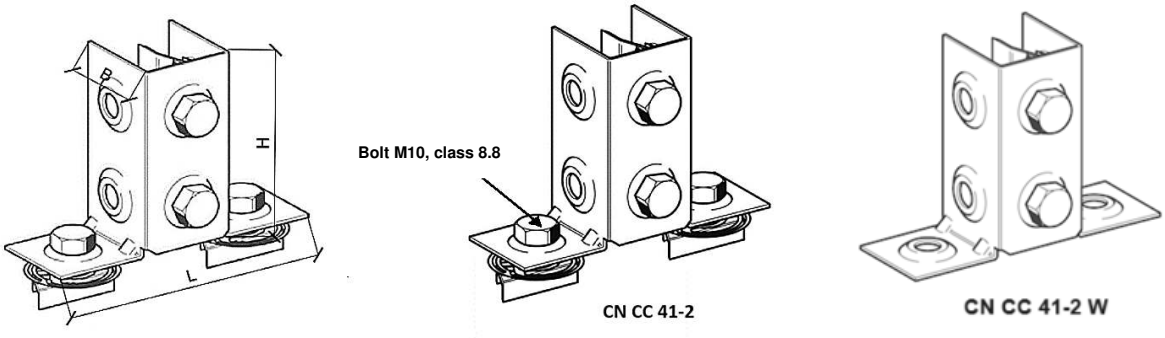
Designation	L [mm]	B [mm]	H [mm]
CC 41-M8	34	24	9
CC 41-M10	34	24	9
CC 41-M12	34	24	9
CC 41-M16	34	24	9

Fig. A22. Channel nuts NT HZ 41, NT HZ 41 VA and NT HZ 41 HCP



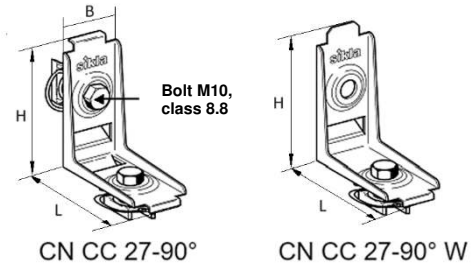
Designation	L [mm]	B [mm]	H [mm]	Thickness [mm]
CC 41-3	94	84	70	2
CC 41-4	128	84	70	2

Fig. A23. Connectors CN CC 41



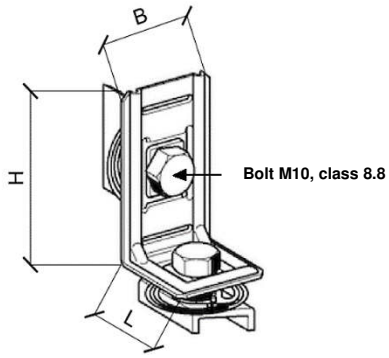
Designation	L [mm]	B [mm]	H [mm]	Thickness [mm]
CN CC 41-2	134	44	90	4
CN CC 41-2 W	134	44	90	4

Fig. A24. Angle connectors CN CC 41-2 and CN CC 41-2 W



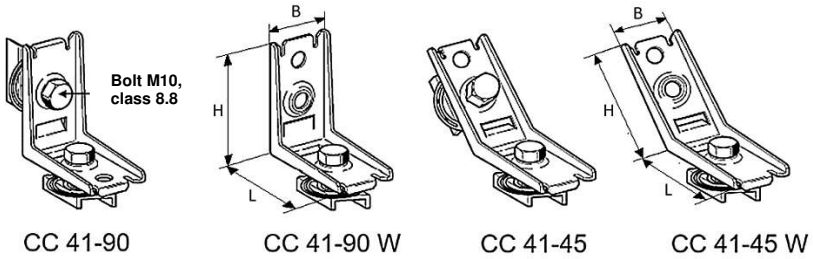
Designation	L [mm]	B [mm]	H [mm]	Thickness [mm]
CC 27-90˚	54	27	54	2
CC 27-90˚ W	54	27	54	2

Fig. A25. Angle connectors CN CC 27-90° and CN CC 27-90°W



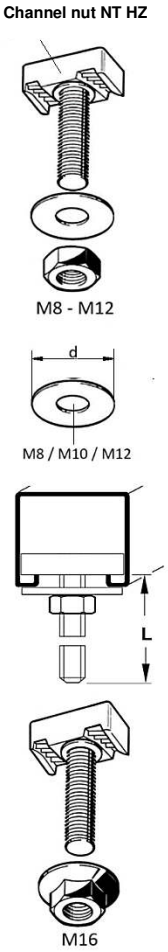
Designation	L [mm]	B [mm]	H [mm]	Thickness [mm]
CC 41-90˚	41	41	70	1,5

Fig. A26. Angle connectors CN CC 41-90°



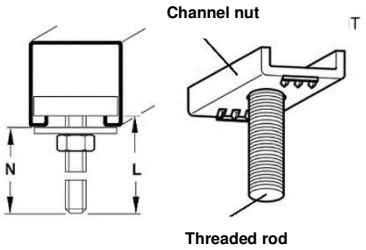
Designation	L [mm]	B [mm]	H [mm]	Thickness [mm]
CC 41-90 Stabil	73	41	73	2,5
CC 41-90 W Stabil	73	42	73	2,5
CC 41-45 Stabil	73	42	73	2,5
CC 41-45 W Stabil	73	42	73	2,5

Fig. A27. Angle connectors CN CC 41 Stabil and CN CC 41 W Stabil



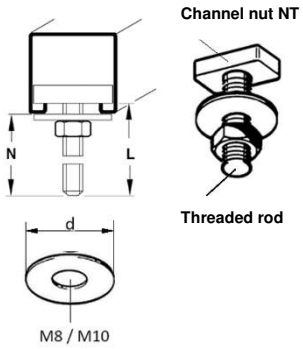
Designation	L (thread) [mm]	Bolt	Bolt class	Nut	Nut class	Washer M x d [mm x mm]
HZ 41 M 8 x 15	15	M8	4.6	M8	4	M8 x 30
HZ 41 M 8 x 20	20	M8	4.6	M8	4	M8 x 30
HZ 41 M 8 x 25	25	M8	4.6	M8	4	M8 x 30
HZ 41 M 8 x 35	35	M8	4.6	M8	4	M8 x 30
HZ 41 M 8 x 55	55	M8	4.6	M8	4	M8 x 30
HZ 41 M 8 x 75	75	M8	4.6	M8	4	M8 x 30
HZ 41 M 8 x 95	95	M8	4.6	M8	4	M8 x 30
HZ 41 M 10 x 15	15	M10	4.6	M10	4	M10 x 30
HZ 41 M 10 x 20	20	M10	4.6	M10	4	M10 x 30
HZ 41 M 10 x 25	25	M10	4.6	M10	4	M10 x 30
HZ 41 M 10 x 35	35	M10	4.6	M10	4	M10 x 30
HZ 41 M 10 x 55	55	M10	4.6	M10	4	M10 x 30
HZ 41 M 10 x 75	75	M10	4.6	M10	4	M10 x 30
HZ 41 M 10 x 95	95	M10	4.6	M10	4	M10 x 30
HZ 41 M 12 x 20	20	M12	4.6	M12	4	M12 x 30
HZ 41 M 12 x 25	25	M12	4.6	M12	4	M12 x 30
HZ 41 M 12 x 35	35	M12	4.6	M12	4	M12 x 30
HZ 41 M 12 x 55	55	M12	4.6	M12	4	M12 x 30
HZ 41 M 12 x 75	75	M12	4.6	M12	4	M12 x 30
HZ 41 M 12 x 95	95	M12	4.6	M12	4	M12 x 30
HZ 41 M 16 x 25	25	M16	4.6	M16	4	-
HZ 41 M 16 x 35	35	M16	4.6	M16	4	-
HZ 41 M 16 x 55	55	M16	4.6	M16	4	-
HZ 41 M 16 x 75	75	M16	4.6	M16	4	-
HZ 41 M 16 x 95	95	M16	4.6	M16	4	-

Fig. A28. T-head bolt TBO HZ 41



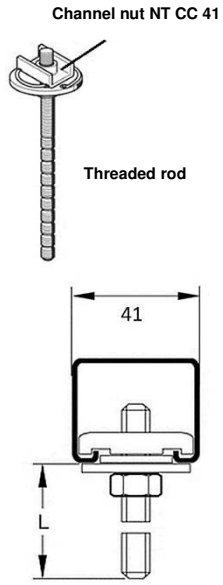
Designation	L [mm]	N [mm]	Thread	Class
TBO HZ 41 VA (stainless steel)				
HZ 41 M8 x 35	40	35	M8	A4-80
HZ 41 M10 x 35	40	35	M10	A4-80
HZ 41 M12 x 35	40	35	M12	
TBO HZ 41 HCP (hot deep galvanizing steel)				
HZ 41 M10 x 35	40	35	M10	4.6
HZ 41 M12 x 35	40	35	M12	4.6

Fig. A29. T-head bolt TBO HZ 41 VA and TBO HZ 41 HCP



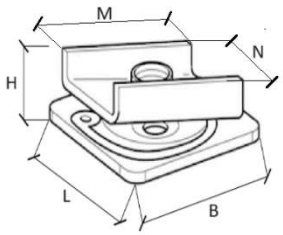
Designation	L [mm]	N [mm]	Thread	Class	Washer M x d [mm x mm]
HM 27 M8 x 10/14	15	10	M8	4.6	M8 x 25
HM 27 M8 x 15/14	20	15	M8	4.6	M8 x 25
HM 27 M8 x 25/14	30	25	M8	4.6	M8 x 25
HM 27 M10 x 15/14	20	15	M10	4.6	M10 x 25
HM 27 M10 x 25/14	30	25	M10	4.6	M10 x 25

Fig. A30. T-head bolt HM 27



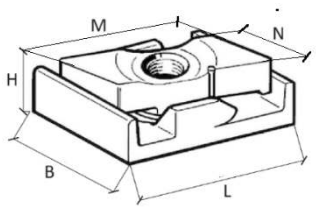
Designation	L [mm]	Thread	Class
M8 x 35	35	M8	4.6
M8 x 75	75	M8	4.6
M8 x 125	125	M8	4.6
M8 x 175	175	M8	4.6
M8 x 275	275	M8	4.6
M10 x 35	35	M10	4.6
M10 x 75	75	M10	4.6
M10 x 125	125	M10	4.6
M10 x 175	175	M10	4.6
M10 x 275	275	M10	4.6

Fig. A31. Blockset PBS CC 41



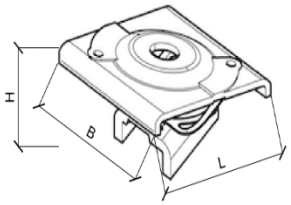
Designation	L [mm]	B [mm]	H [mm]	M [mm]	N [mm]	Thread	Thickness [mm]
M8	27	27	12	24	15	M8	1,5
M10	27	27	12	24	15	M10	1,5

Fig. A32. Block PB 27



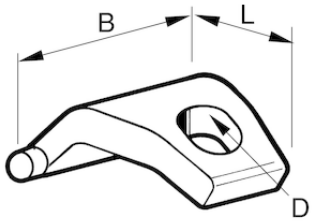
Designation	L [mm]	B [mm]	H [mm]	M [mm]	N [mm]	Thread	Thickness [mm]
PB 41 M8	51	35	22	36	21	M8	4
PB 41 M10	51	35	22	36	21	M10	4
PB 41 M12	51	35	22	36	21	M12	4

Fig. A33. Block PB 41



Designation	L [mm]	B [mm]	H [mm]	Thread	Thickness [mm]
PBH 41 M8	45	41	22	M8	2
PBH 41 M10	45	41	22	M10	2
PBH 41 M12	45	41	22	M12	2

Fig. A34. Block PBH 41



Designation	D [mm]	L [mm]	B [mm]	Thickness [mm]
P VA	13	62	50	12

Fig. A35. Beam clip P VA

Designation	D [mm]	L [mm]	B [mm]
SPA 5P HCP M12	13	60	44
SPA 5P HCP M16	17	72	48
SPA 5P AU HCP M12	13	60	44
SPA 5P AU HCP M16	17	72	48

Fig. A36. Beam clip SPA 5P HCP and SPA 5P AU HCP

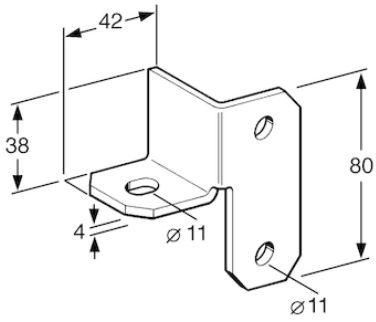
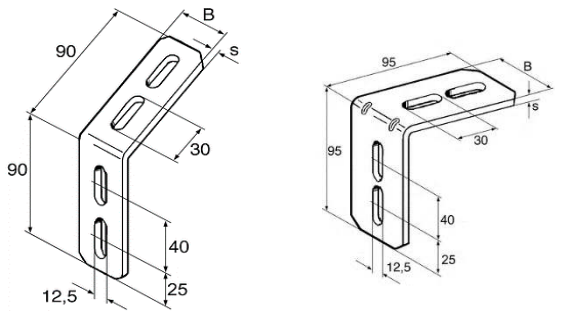
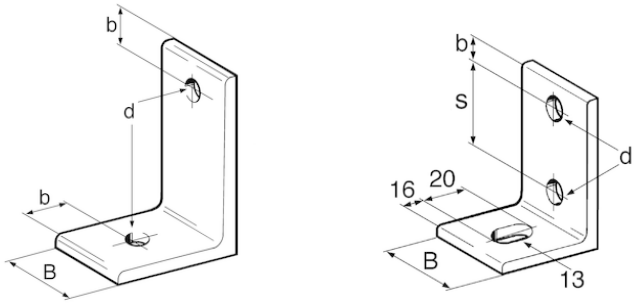


Fig. A37. Corner bracket EW 41



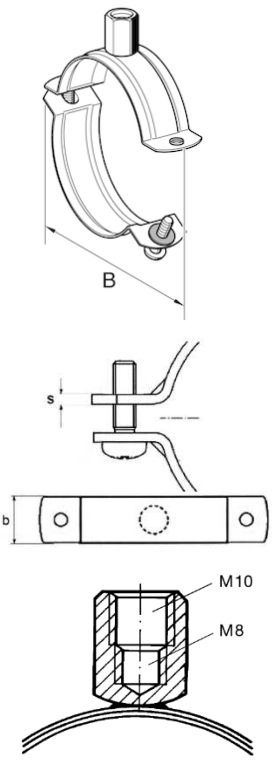
Designation	B [mm]	s [mm]
MW 90/90/45°	40	5
MW 95/95/90°	40	5

Fig. A38. Fixing brackets MW, MW VA and MW HCP



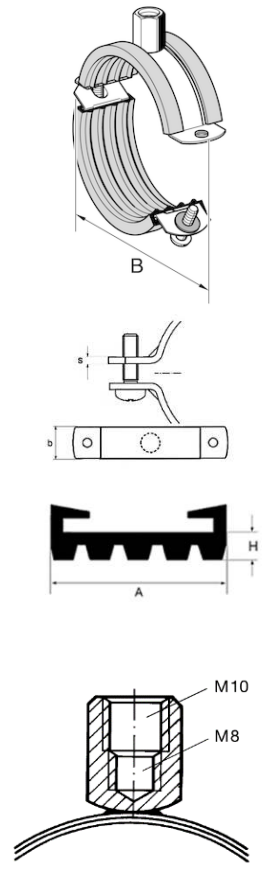
Designation	B [mm]	b [mm]	d [mm]	s [mm]	Thickness [mm]
MW S 45/30/90°	30	13	11	-	5
MW S 60/30/90°	30	10	11	30	5
MW S 70/40/90°	40	17	10,5	-	6
MW S 60/40/90° / MW S HCP 60/40/90°	40	20	13	-	6
MW S 90/60/90° / MW S HCP 90/60/90°	40	15	13	50	6

Fig. A39. Fixing brackets MW S and MW S HCP



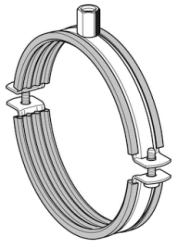
Size range [mm]	Material b x s [mm x mm]	B [mm]	Bolt class	Bolt	Connection
13 ÷ 18	20 x 1,5	53	4.6	M5	M8/M10
19 ÷ 22	20 x 1,5	55	4.6	M5	M8/M10
23 ÷ 26	20 x 1 ,5	59	4.6	M5	M8/M10
27 ÷ 30	20 x 1,5	63	4.6	M5	M8/M10
32 ÷ 36	20 x 1,5	69	4.6	M5	M8/M10
40 ÷ 44	20 x 1,5	76	4.6	M6	M8/M10
48 ÷ 54	20 x 1,5	92	4.6	M6	M8/M10
55 ÷ 59	20 x 1,5	99	4.6	M6	M8/M10
60 ÷ 66	20 x 1,5	105	4.6	M6	M8/M10
68 ÷ 73	20 x 1,5	112	4.6	M6	M8/M10
75 ÷ 80	25 x 2,0	125	4.6	M6	M8/M10
84 ÷ 89	25 x 2,0	134	4.6	M6	M8/M10
90 ÷ 98	25 x 2,0	141	4.6	M6	M8/M10
94 ÷ 101	25 x 2,0	147	4.6	M6	M8/M10
102 ÷ 108	25 x 2,0	151	4.6	M6	M8/M10
110 ÷ 115	25 x 2,0	160	4.6	M6	M8/M10
118 ÷ 125	25 x 2,5	173	4.6	M6	M8/M10
129 ÷ 136	25 x 2,5	186	4.6	M6	M8/M10
138 ÷ 144	25 x 2,5	193	4.6	M6	M8/M10
144 ÷ 153	25 x 2,5	203	4.6	M6	M8/M10
159 ÷ 167	25 x 2,5	215	4.6	M6	M8/M10

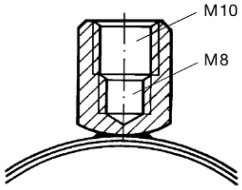
Fig. A40. Duo clamps SRS

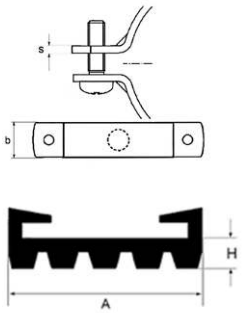


Size range [mm]	Material b x s [mm x mm]	B [mm]	A [mm]	H [mm]	Bolt class	Bolt	Connection
12 ÷ 15	20 x 1,5	55	23	1,5	4.6	M5	M8/M10
15 ÷ 19	20 x 1,5	59	23	1,5	4.6	M5	M8/M10
20 ÷ 23	20 x 1,5	63	23	1,5	4.6	M5	M8/M10
25 ÷ 28	20 x 1,5	69	23	1,5	4.6	M5	M8/M10
32 ÷ 35	20 x 1,5	76	23	1,5	4.6	M5	M8/M10
40 ÷ 45	20 x 1,5	92	23	1,5	4.6	M6	M8/M10
48 ÷ 52	20 x 1,5	99	23	1,5	4.6	M6	M8/M10
52 ÷ 58	20 x 1,5	105	23	1,5	4.6	M6	M8/M10
60 ÷ 64	20 x 1,5	112	23	1,5	4.6	M6	M8/M10
67 ÷ 72	25 x 2,0	125	29,5	3,0	4.6	M6	M8/M10
73 ÷ 80	25 x 2,0	134	29,5	3,0	4.6	M6	M8/M10
81 ÷ 87	25 x 2,0	141	29,5	3,0	4.6	M6	M8/M10
86 ÷ 91	25 x 2,0	147	29,5	3,0	4.6	M6	M8/M10
102 ÷ 108	25 x 2,0	160	29,5	3,0	4.6	M6	M8/M10
110 ÷ 115	25 x 2,5	173	29,5	3,0	4.6	M6	M8/M10
120 ÷ 128	25 x 2,5	186	29,5	3,0	4.6	M6	M8/M10
135 ÷ 143	25 x 2,5	203	29,5	3,0	4.6	M6	M8/M10
149 ÷ 161	25 x 2,5	215	29,5	3,0	4.6	M6	M8/M10
162 ÷ 170	25 x 2,5	229	29,5	3,0	4.6	M6	M8/M10
198 ÷ 207	25 x 2,5	268	29,5	3,0	4.6	M6	M8/M10
207 ÷ 219	25 x 2,5	282	29,5	3,0	4.6	M6	M8/M10

Fig. A41. Duo clamps SRS with lining

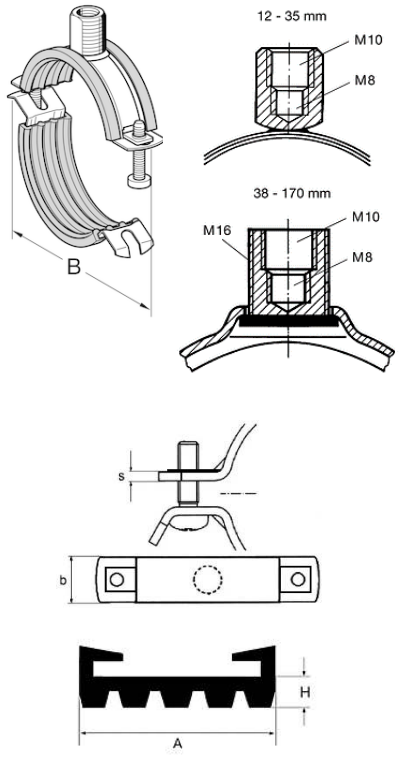






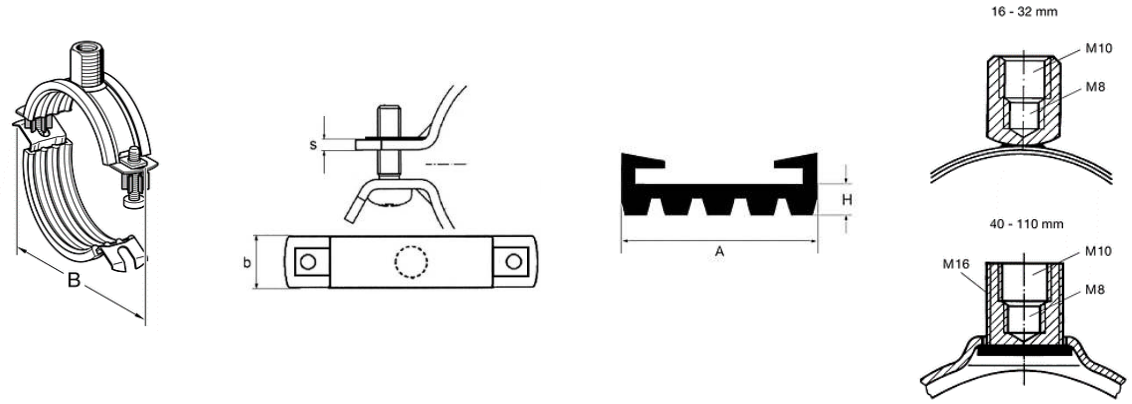
Size range [mm]	Material b x s [mm x mm]	A [mm]	H [mm]	Bolt class	Bolt	Connection
11 ÷ 15	20 x 1,0	23	1,5	4.6	M5	M8/M10
15 ÷ 19	20 x 1,0	23	1,5	4.6	M5	M8/M10
20 ÷ 24	20 x 1,0	23	1,5	4.6	M5	M8/M10
25 ÷ 28	20 x 1,0	23	1,5	4.6	M5	M8/M10
32 ÷ 35	20 x 1,0	23	1,5	4.6	M5	M8/M10
39 ÷ 46	20 x 1,2	23	1,5	4.6	M6	M8/M10
48 ÷ 53	20 x 1,2	23	1,5	4.6	M6	M8/M10
54 ÷ 58	20 x 1,2	23	1,5	4.6	M6	M8/M10
59 ÷ 66	20 x 1,2	23	1,5	4.6	M6	M8/M10
75 ÷ 80	20 x 1,5	23	1,5	4.6	M6	M8/M10
87 ÷ 92	20 x 1,5	23	1,5	4.6	M6	M8/M10
107 ÷ 115	20 x 1,5	23	1,5	4.6	M6	M8/M10

Fig. A42. Duo clamps ERS with lining



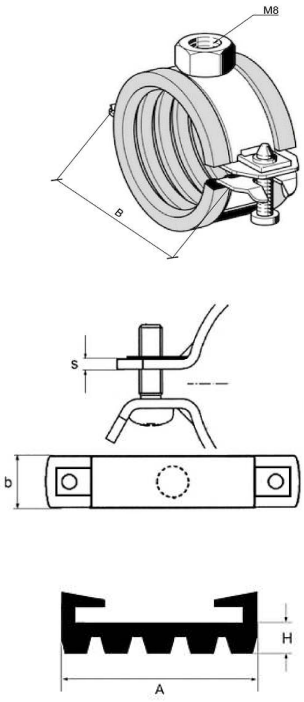
Size range [mm]	Material b x s [mm x mm]	B [mm]	A [mm]	H [mm]	Bolt class	Bolt	Connection
12 ÷ 20	20 x 1,5	55	23	1,5	4.6	M5	M8/M10
21 ÷ 27	20 x 1,5	61	23	1,5	4.6	M5	M8/M10
28 ÷ 35	20 x 1,5	71	23	1,5	4.6	M5	M8/M10
38 ÷ 45	20 x 1,5	82	23	1,5	4.6	M6	M8/M10/M16
48 ÷ 56	20 x 1,5	93	23	1,5	4.6	M6	M8/M10/M16
57 ÷ 63	20 x 1,5	104	23	1,5	4.6	M6	M8/M10/M16
64 ÷ 71	20 x 1,5	112	23	1,5	4.6	M6	M8/M10/M16
73 ÷ 80	20 x 1,5	121	23	1,5	4.6	M6	M8/M10/M16
83 ÷ 90	25 x 2,0	141	29,5	3,0	4.6	M6	M8/M10/M16
108 ÷ 114	30 x 2,0	170	32,8	4,5	4.6	M6	M8/M10/M16
116 ÷ 125	30 x 2,0	179	32,8	4,5	4.6	M6	M8/M10/M16
127 ÷ 135	30 x 2,0	190	32,8	4,5	4.6	M6	M8/M10/M16
140 ÷ 146	30 x 2,0	205	32,8	4,5	4.6	M6	M8/M10/M16
159 ÷ 170	30 x 2,0	230	32,8	4,5	4.6	M6	M8/M10/M16

Fig. A43. Pipe clamps Ratio S



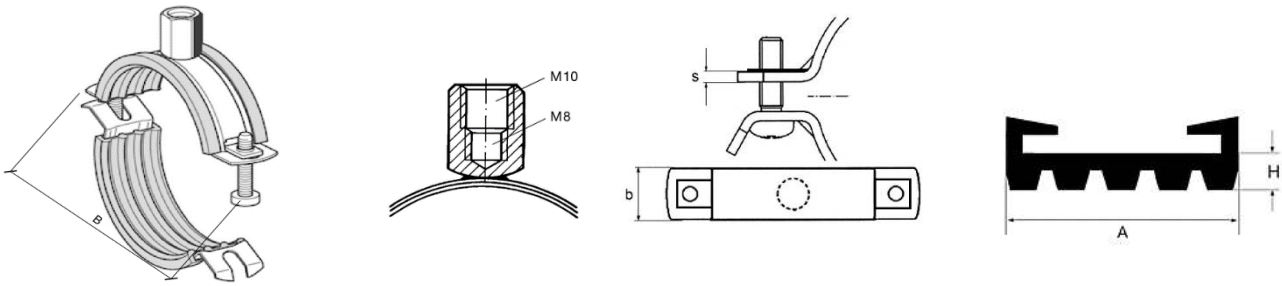
Designation [mm]	Material b x s [mm x mm]	B [mm]	A [mm]	H [mm]	Bolt class	Bolt	Connection
16	20 x 1,5	55	23	1,5	4.6	M5	M8/M10
20	20 x 1,5	61	23	1,5	4.6	M5	M8/M10
25	20 x 1,5	61	23	1,5	4.6	M5	M8/M10
32	20 x 1,5	71	23	1,5	4.6	M5	M8/M10
40	20 x 1,5	82	23	1,5	4.6	M6	M8/M10/M16
50	20 x 1,5	93	23	1,5	4.6	M6	M8/M10/M16
56	20 x 1,5	104	23	1,5	4.6	M6	M8/M10/M16
63	20 x 1,5	112	23	1,5	4.6	M6	M8/M10/M16
75	20 x 1,5	121	23	1,5	4.6	M6	M8/M10/M16
90	25 x 2,0	141	29,5	3,0	4.6	M6	M8/M10/M16
110	30 x 2,0	170	32,8	4,5	4.6	M6	M8/M10/M16

Fig. A44. Pipe clamps Ratio S-K



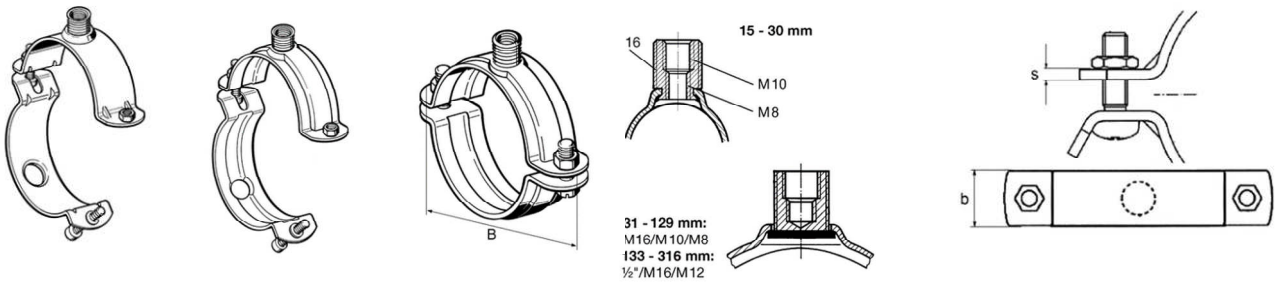
Size range [mm]	Material b x s [mm x mm]	B [mm]	A [mm]	H [mm]	Bolt class	Bolt	Connection
10 ÷ 12	20 x 1,0	44	23	1,5	4.6	M5	M8
13 ÷ 16	20 x 1,0	48	23	1,5	4.6	M5	M8
17 ÷ 19	20 x 1,0	52	23	1,5	4.6	M5	M8
20 ÷ 24	20 x 1,0	56	23	1,5	4.6	M5	M8
25 ÷ 30	20 x 1,0	60	23	1,5	4.6	M5	M8
31 ÷ 38	20 x 1,0	64	23	1,5	4.6	M6	M8
40 ÷ 46	20 x 1,0	68	23	1,5	4.6	M6	M8
48 ÷ 51	20 x 1,0	72	23	1,5	4.6	M6	M8
58 ÷ 63	20 x 1,0	76	23	1,5	4.6	M6	M8

Fig. A45. Pipe clamps Ratio S M8



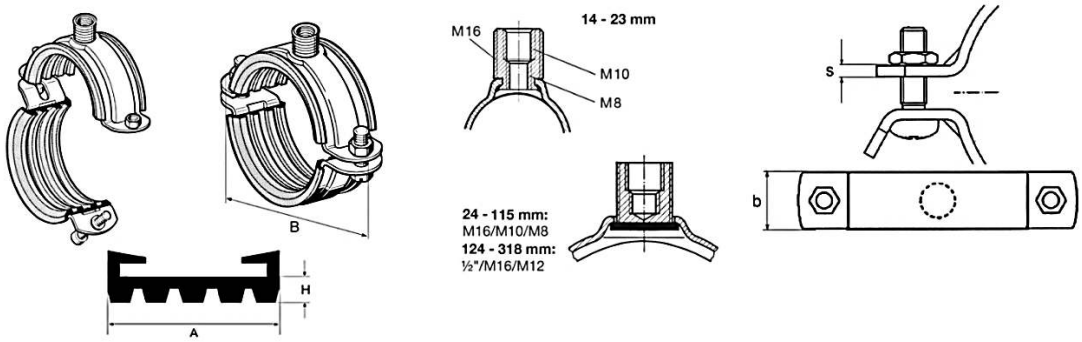
Clamp		Size range [mm]	Material b x s [mm x mm]	B [mm]	A [mm]	H [mm]	Bolt class	Bolt	Connection
Pipe clamp Ratio LS	Pipe Clamp Ratio LS Silicone	12 ÷ 20	20 x 1,5	57	23	1,5	4.6	M5	M8/M10
		21 ÷ 27	20 x 1,5	64	23	1,5	4.6	M5	M8/M10
		28 ÷ 35	20 x 1,5	75	23	1,5	4.6	M5	M8/M10
		38 ÷ 45	20 x 1,5	86	23	1,5	4.6	M6	M8/M10
		48 ÷ 56	20 x 1,5	95	23	1,5	4.6	M6	M8/M10
		57 ÷ 63	20 x 1,5	104	23	1,5	4.6	M6	M8/M10
		64 ÷ 71	20 x 1,5	113	23	1,5	4.6	M6	M8/M10
		74 ÷ 84	20 x 1,5	121	23	1,5	4.6	M6	M8/M10
		83 ÷ 90	25 x 2,0	132	23	1,5	4.6	M6	M8/M10
	-	108 ÷ 114	25 x 2,0	141	29,5	3,0	4.6	M6	M8/M10

Fig. A46. Pipe clamps Ratio LS and Ratio LS Silicone



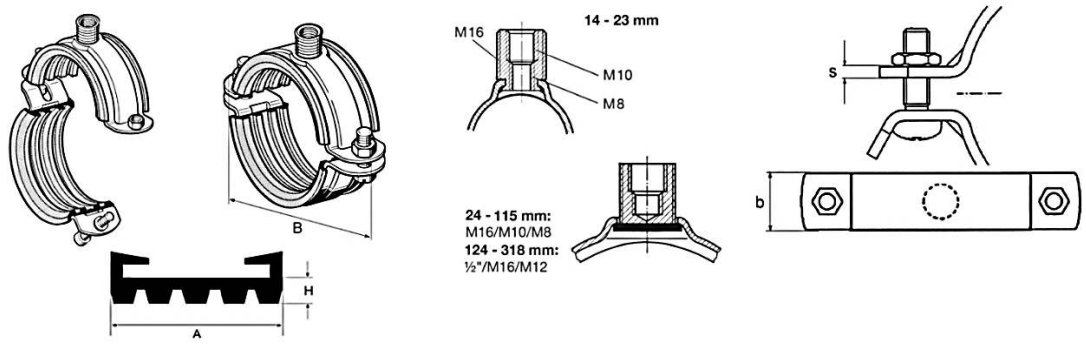
Size range [mm]	Material b x s [mm x mm]	B [mm]	Bolt class	Bolt	Nut class	Nut	Connection
15 ÷ 19	25 x 2,0	57	4.6	M6	5	M6	M16/M10/M8
20 ÷ 24	25 x 2,0	63	4.6	M6	5	M6	M16/M10/M8
25 ÷ 30	30 x 2,5	69	4.6	M6	5	M6	M16/M10/M8
31 ÷ 35	30 x 2,5	74	4.6	M6	5	M6	M16/M10/M8
40 ÷ 45	30 x 2,5	85	4.6	M6	5	M6	M16/M10/M8
48 ÷ 53	30 x 2,5	94	4.6	M6	5	M6	M16/M10/M8
54 ÷ 59	30 x 2,5	101	4.6	M6	5	M6	M16/M10/M8
60 ÷ 65	30 x 2,5	108	4.6	M6	5	M6	M16/M10/M8
67 ÷ 72	30 x 2,5	114	4.6	M6	5	M6	M16/M10/M8
76 ÷ 81 M [1)]	30 x 3,0	137	8.8	M8	8	M8	M16/M10/M8
82 ÷ 87 M [1)]	30 x 3,0	143	8.8	M8	8	M8	M16/M10/M8
88 ÷ 93 M [1)]	30 x 3,0	149	8.8	M8	8	M8	M16/M10/M8
102 ÷ 108 M [1)]	30 x 3,0	163	8.8	M8	8	M8	M16/M10/M8
110 ÷ 116 M [1)]	30 x 3,0	171	8.8	M8	8	M8	M16/M10/M8
124 ÷ 129 M [1)]	30 x 3,0	184	8.8	M8	8	M8	M16/M10/M8
133 ÷ 140	40 x 4,0	210	8.8	M10	8	M10	½"/M16/M12
140 ÷ 148	40 x 4,0	218	8.8	M10	8	M10	½"/M16/M12
149 ÷ 155	40 x 4,0	225	8.8	M10	8	M10	½"/M16/M12
159 ÷ 165	40 x 4,0	235	8.8	M10	8	M10	½"/M16/M12
167 ÷ 173	40 x 4,0	243	8.8	M10	8	M10	½"/M16/M12
176 ÷ 184	40 x 4,0	255	8.8	M12	8	M12	½"/M16/M12
188 ÷ 194	40 x 4,0	265	8.8	M12	8	M12	½"/M16/M12
199 ÷ 205	40 x 4,0	276	8.8	M12	8	M12	½"/M16/M12
207 ÷ 216	40 x 4,0	287	8.8	M12	8	M12	½"/M16/M12
219 ÷ 225	40 x 4,0	296	8.8	M12	8	M12	½"/M16/M12
244 ÷ 250	40 x 4,0	321	8.8	M12	8	M12	½"/M16/M12
267 ÷ 273	40 x 4,0	344	8.8	M12	8	M12	½"/M16/M12
278 ÷ 284	40 x 4,0	355	8.8	M12	8	M12	½"/M16/M12
297 ÷ 303	40 x 4,0	374	8.8	M12	8	M12	½"/M16/M12
310 ÷ 316	40 x 4,0	387	8.8	M12	8	M12	½"/M16/M12
[1)] M – Metric thread							

Fig. A47. Pipe clamps Stabil D-3G



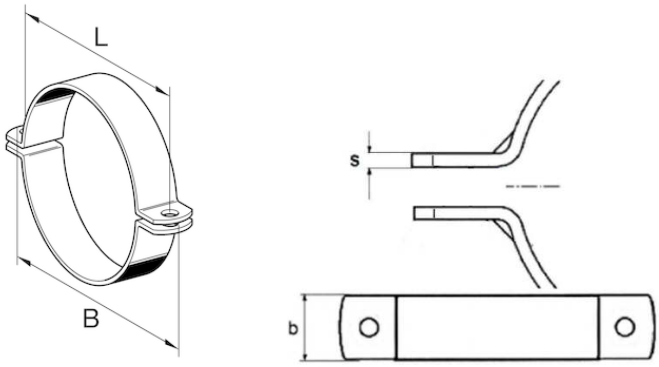
Size range [mm]	Material w x th [mm x mm]	B [mm]	A [mm]	H [mm]	Bolt class	Bolt	Nut class	Nut	Connection
14 ÷ 18	25 x 2,0	63	31	4,5	4.6	M6	5	M6	M16/M10/M8
19 ÷ 23	25 x 2,0	69	31	4,5	4.6	M6	5	M6	M16/M10/M8
24 ÷ 28	30 x 2,5	74	38	4,0	4.6	M6	5	M6	M16/M10/M8
29 ÷ 33	30 x 2,5	81	38	4,0	4.6	M6	5	M6	M16/M10/M8
33 ÷ 37	30 x 2,5	85	38	4,0	4.6	M6	5	M6	M16/M10/M8
40 ÷ 45	30 x 2,5	94	38	4,0	4.6	M6	5	M6	M16/M10/M8
47 ÷ 52	30 x 2,5	104	38	4,0	4.6	M6	5	M6	M16/M10/M8
53 ÷ 58	30 x 2,5	110	38	4,0	4.6	M6	5	M6	M16/M10/M8
60 ÷ 65	30 x 2,5	117	38	4,0	4.6	M6	5	M6	M16/M10/M8
67 ÷ 72 M [1)]	30 x 3,0	137	38	4,0	8.8	M8	8	M8	M16/M10/M8
73 ÷ 78 M [1)]	30 x 3,0	143	38	4,0	8.8	M8	8	M8	M16/M10/M8
79 ÷ 85 M [1)]	30 x 3,0	149	38	4,0	8.8	M8	8	M8	M16/M10/M8
88 ÷ 93 M [1)]	30 x 3,0	157	38	4,0	8.8	M8	8	M8	M16/M10/M8
100 ÷ 106 M [1)]	30 x 3,0	171	38	4,0	8.8	M8	8	M8	M16/M10/M8
108 ÷ 115 M [1)]	30 x 3,0	180	38	4,0	8.8	M8	8	M8	M16/M10/M8
124 ÷ 129	40 x 4,0	210	48	6,0	8.8	M10	8	M10	½"/M16/M12
131 ÷ 137	40 x 4,0	218	48	6,0	8.8	M10	8	M10	½"/M16/M12
138 ÷ 144	40 x 4,0	225	48	6,0	8.8	M10	8	M10	½"/M16/M12
148 ÷ 154	40 x 4,0	235	48	6,0	8.8	M10	8	M10	½"/M16/M12
156 ÷ 162	40 x 4,0	243	48	6,0	8.8	M10	8	M10	½"/M16/M12
165 ÷ 171	40 x 4,0	255	48	6,0	8.8	M12	8	M12	½"/M16/M12
177 ÷ 183	40 x 4,0	265	48	6,0	8.8	M12	8	M12	½"/M16/M12
188 ÷ 194	40 x 4,0	276	48	6,0	8.8	M12	8	M12	½"/M16/M12
196 ÷ 203	40 x 4,0	287	48	6,0	8.8	M12	8	M12	½"/M16/M12
205 ÷ 214	40 x 4,0	296	48	6,0	8.8	M12	8	M12	½"/M16/M12
219 ÷ 225	40 x 4,0	307	48	6,0	8.8	M12	8	M12	½"/M16/M12
244 ÷ 250	40 x 4,0	332	48	6,0	8.8	M12	8	M12	½"/M16/M12
267 ÷ 273	40 x 4,0	355	48	6,0	8.8	M12	8	M12	½"/M16/M12
278 ÷ 284	40 x 4,0	366	48	6,0	8.8	M12	8	M12	½"/M16/M12
299 ÷ 305	40 x 4,0	387	48	6,0	8.8	M12	8	M12	½"/M16/M12
307 ÷ 318	40 x 4,0	400	48	6,0	8.8	M12	8	M12	½"/M16/M12
[1)] M – Metric thread									

Fig. A48. Pipe clamps Stabil D-3G with lining



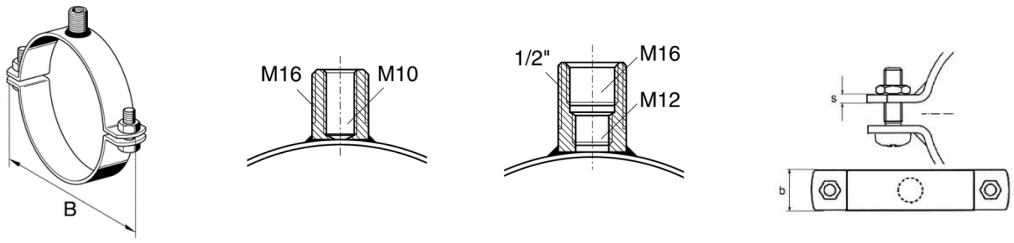
Size range [mm]	Material w x th [mm x mm]	B [mm]	A [mm]	H [mm]	Bolt class	Bolt	Nut class	Nut	Connection
14 ÷ 18	25 x 2,0	63	31	4,5	4.6	M6	5	M6	M16/M10/M8
19 ÷ 23	25 x 2,0	69	31	4,5	4.6	M6	5	M6	M16/M10/M8
24 ÷ 28	30 x 2,5	74	38	4,0	4.6	M6	5	M6	M16/M10/M8
29 ÷ 33	30 x 2,5	81	38	4,0	4.6	M6	5	M6	M16/M10/M8
33 ÷ 37	30 x 2,5	85	38	4,0	4.6	M6	5	M6	M16/M10/M8
40 ÷ 45	30 x 2,5	94	38	4,0	4.6	M6	5	M6	M16/M10/M8
47 ÷ 52	30 x 2,5	104	38	4,0	4.6	M6	5	M6	M16/M10/M8
53 ÷ 58	30 x 2,5	110	38	4,0	4.6	M6	5	M6	M16/M10/M8
60 ÷ 65	30 x 2,5	117	38	4,0	4.6	M6	5	M6	M16/M10/M8
67 ÷ 72 M [1)]	30 x 3,0	137	38	4,0	8.8	M8	8	M8	M16/M10/M8
73 ÷ 78 M [1)]	30 x 3,0	143	38	4,0	8.8	M8	8	M8	M16/M10/M8
79 ÷ 85 M [1)]	30 x 3,0	149	38	4,0	8.8	M8	8	M8	M16/M10/M8
88 ÷ 93 M [1)]	30 x 3,0	157	38	4,0	8.8	M8	8	M8	M16/M10/M8
100 ÷ 106 M [1)]	30 x 3,0	171	38	4,0	8.8	M8	8	M8	M16/M10/M8
108 ÷ 115 M [1)]	30 x 3,0	180	38	4,0	8.8	M8	8	M8	M16/M10/M8
124 ÷ 129	40 x 4,0	210	48	6,0	8.8	M10	8	M10	½"/M16/M12
131 ÷ 137	40 x 4,0	218	48	6,0	8.8	M10	8	M10	½"/M16/M12
138 ÷ 144	40 x 4,0	225	48	6,0	8.8	M10	8	M10	½"/M16/M12
148 ÷ 154	40 x 4,0	235	48	6,0	8.8	M10	8	M10	½"/M16/M12
156 ÷ 162	40 x 4,0	243	48	6,0	8.8	M10	8	M10	½"/M16/M12
165 ÷ 171	40 x 4,0	255	48	6,0	8.8	M12	8	M12	½"/M16/M12
177 ÷ 183	40 x 4,0	265	48	6,0	8.8	M12	8	M12	½"/M16/M12
188 ÷ 194	40 x 4,0	276	48	6,0	8.8	M12	8	M12	½"/M16/M12
196 ÷ 203	40 x 4,0	287	48	6,0	8.8	M12	8	M12	½"/M16/M12
205 ÷ 214	40 x 4,0	296	48	6,0	8.8	M12	8	M12	½"/M16/M12
219 ÷ 225	40 x 4,0	307	48	6,0	8.8	M12	8	M12	½"/M16/M12
244 ÷ 250	40 x 4,0	332	48	6,0	8.8	M12	8	M12	½"/M16/M12
267 ÷ 273	40 x 4,0	355	48	6,0	8.8	M12	8	M12	½"/M16/M12
278 ÷ 284	40 x 4,0	366	48	6,0	8.8	M12	8	M12	½"/M16/M12
299 ÷ 305	40 x 4,0	387	48	6,0	8.8	M12	8	M12	½"/M16/M12
307 ÷ 318	40 x 4,0	400	48	6,0	8.8	M12	8	M12	½"/M16/M12
[1)] M - Thread metryczny									

Fig. A49. Pipe clamps Stabil D-3G HCP with lining



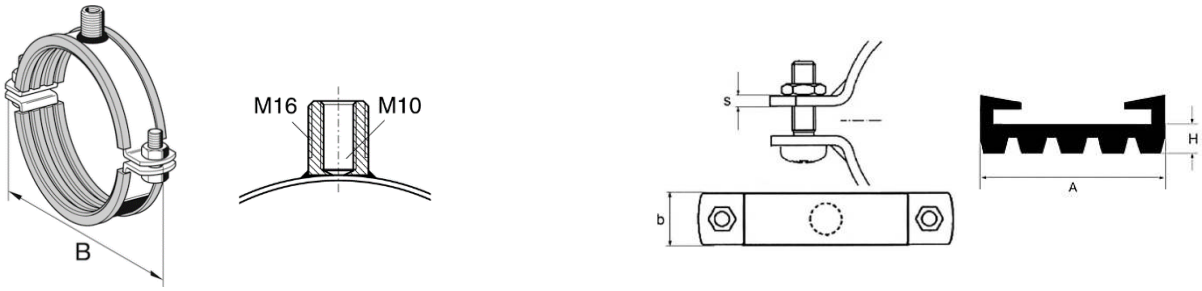
Size range [mm]	Material b x s [mm x mm]	B [mm]	L [mm]
18 ÷ 22	25 x 3,0	70	50
24 ÷ 28	25 x 3,0	77	57
30 ÷ 34	25 x 3,0	84	64
35 ÷ 37	25 x 3,0	87	67
40 ÷ 44	25 x 3,0	95	75
47 ÷ 51	25 x 3,0	102	82
54 ÷ 58	25 x 3,0	109	89
59 ÷ 63	25 x 3,0	115	95
67 ÷ 71	25 x 3,0	123	103
74 ÷ 78	30 x 3,0	140	116
81 ÷ 85	30 x 3,0	147	123
86 ÷ 90	30 x 3,0	152	128
94 ÷ 98	30 x 3,0	160	136
102 ÷ 108	30 x 3,0	170	146
108 ÷ 114	30 x 3,0	176	152
116 ÷ 122	30 x 3,0	184	160
133 ÷ 140	40 x 4,0	217	184
145 ÷ 152	40 x 4,0	229	196
159 ÷ 169	40 x 4,0	245	212
170 ÷ 180	40 x 4,0	257	224
198 ÷ 207	40 x 4,0	284	251
210 ÷ 219	40 x 4,0	304	269
222 ÷ 231	40 x 4,0	316	281
247 ÷253	40 x 4,0	334	301
271 ÷277	40 x 4,0	363	328
312 ÷318	40 x 4,0	404	367
322 ÷ 329	40 x 4,0	412	377

Fig. A50. Pipe clamps Stabil D VA



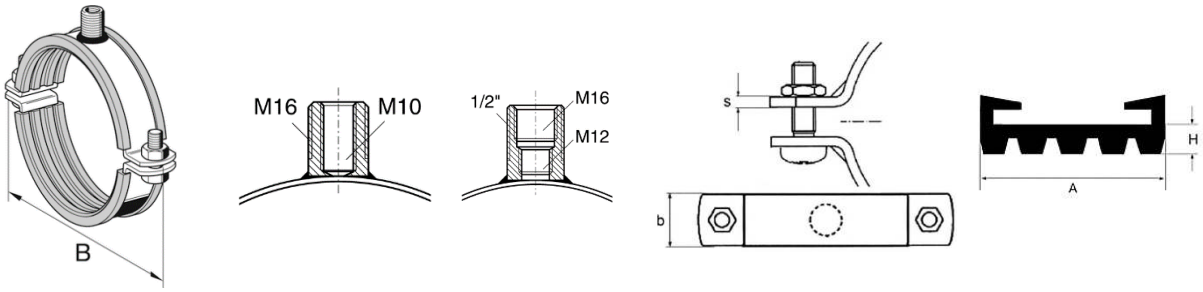
Size range [mm]	Material b x s [mm x mm]	B [mm]	Bolt class	Bolt	Nut class	Nut	Connection
18 ÷ 22	25 x 3,0	70	A4-80	M8 x 25	A4-80	M8	M16/M10
24 ÷ 28	25 x 3,0	77	A4-80	M8 x 25	A4-80	M8	M16/M10
30 ÷ 34	25 x 3,0	84	A4-80	M8 x 25	A4-80	M8	M16/M10
35 ÷ 37	25 x 3,0	87	A4-80	M8 x 25	A4-80	M8	M16/M10
40 ÷ 44	25 x 3,0	95	A4-80	M8 x 25	A4-80	M8	M16/M10
47 ÷ 51	25 x 3,0	102	A4-80	M8 x 25	A4-80	M8	M16/M10
54 ÷ 58	25 x 3,0	109	A4-80	M8 x 25	A4-80	M8	M16/M10
59 ÷ 63	25 x 3,0	115	A4-80	M8 x 25	A4-80	M8	M16/M10
67 ÷ 71	25 x 3,0	123	A4-80	M8 x 25	A4-80	M8	M16/M10
74 ÷ 78	30 x 3,0	140	A4-80	M10 x 30	A4-80	M10	M16/M10
81 ÷ 85	30 x 3,0	147	A4-80	M10 x 30	A4-80	M10	M16/M10
86 ÷ 90	30 x 3,0	152	A4-80	M10 x 30	A4-80	M10	½"/M16/M12
94 ÷ 98	30 x 3,0	160	A4-80	M10 x 30	A4-80	M10	½"/M16/M12
102 ÷ 108	30 x 3,0	170	A4-80	M10 x 30	A4-80	M10	½"/M16/M12
108 ÷ 114	30 x 3,0	176	A4-80	M10 x 30	A4-80	M10	½"/M16/M12
116 ÷ 122	30 x 3,0	184	A4-80	M10 x 30	A4-80	M10	½"/M16/M12
133 ÷ 140	40 x 4,0	217	A4-80	M12 x 35	A4-80	M12	½"/M16/M12
145 ÷ 152	40 x 4,0	229	A4-80	M12 x 35	A4-80	M12	½"/M16/M12
159 ÷ 169	40 x 4,0	245	A4-80	M12 x 35	A4-80	M12	½"/M16/M12
170 ÷ 180	40 x 4,0	257	A4-80	M12 x 35	A4-80	M12	½"/M16/M12
198 ÷ 207	40 x 4,0	284	A4-80	M12 x 35	A4-80	M12	½"/M16/M12
210 ÷ 219	40 x 4,0	304	A4-80	M16 x 40	A4-80	M16	½"/M16/M12
222 ÷ 231	40 x 4,0	316	A4-80	M16 x 40	A4-80	M16	½"/M16/M12

Fig. A51. Pipe clamps Stabil D-2G/3G VA



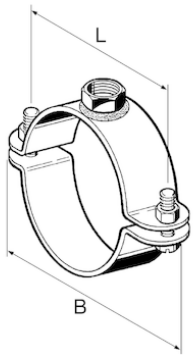
Size range [mm]	Material b x s [mm x mm]	B [mm]	A [mm]	H [mm]	Bolt class	Bolt	Nut class	Nut	Connection
18 ÷ 20	25 x 3,0	77	31	4,5	A4-80	M8 x 25	A4-80	M8	M16/M10
21 ÷ 24	25 x 3,0	84	31	4,5	A4-80	M8 x 25	A4-80	M8	M16/M10
25 ÷ 29	25 x 3,0	87	31	4,5	A4-80	M8 x 25	A4-80	M8	M16/M10
31 ÷ 35	25 x 3,0	95	31	4,5	A4-80	M8 x 25	A4-80	M8	M16/M10
38 ÷ 42	25 x 3,0	102	31	4,5	A4-80	M8 x 25	A4-80	M8	M16/M10
46 ÷ 50	25 x 3,0	109	31	4,5	A4-80	M8 x 25	A4-80	M8	M16/M10
51 ÷ 55	25 x 3,0	115	31	4,5	A4-80	M8 x 25	A4-80	M8	M16/M10
58 ÷ 63	25 x 3,0	123	31	4,5	A4-80	M8 x 25	A4-80	M8	M16/M10
74 ÷ 78	30 x 3,0	147	38	4,0	A4-80	M10 x30	A4-80	M10	M16/M10
86 ÷ 90	30 x 3,0	160	38	4,0	A4-80	M10 x30	A4-80	M10	½”/M16/M12
100 ÷ 106	30 x 3,0	176	38	4,0	A4-80	M10 x30	A4-80	M10	½”/M16/M12
108 ÷ 114	30 x 3,0	184	38	4,0	A4-80	M10 x30	A4-80	M10	½”/M16/M12
133 ÷ 140	40 x 4,0	229	48	6,0	A4-80	M12 x35	A4-80	M12	½”/M16/M12
158 ÷ 168	40 x 4,0	257	48	6,0	A4-80	M12 x35	A4-80	M12	½”/M16/M12
198 ÷ 207	40 x 4,0	304	48	6,0	A4-80	M16 x40	A4-80	M16	½”/M16/M12
210 ÷ 219	40 x 4,0	316	48	6,0	A4-80	M16 x40	A4-80	M16	½”/M16/M12

Fig. A52. Pipe clamps Stabil D-2G/3G VA with lining



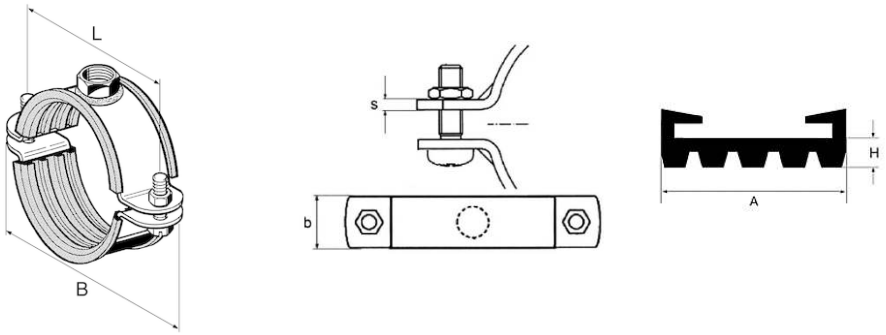
Size range [mm]	Material b x s [mm x mm]	B [mm]	A [mm]	H [mm]	Bolt class	Bolt	Nut class	Nut	Connection
18 ÷ 20	25 x 3,0	77	31	4,5	A4-80	M8 x 25	A4-80	M8	M16/M10
21 ÷ 24	25 x 3,0	84	31	4,5	A4-80	M8 x 25	A4-80	M8	M16/M10
25 ÷ 29	25 x 3,0	87	31	4,5	A4-80	M8 x 25	A4-80	M8	M16/M10
31 ÷ 35	25 x 3,0	95	31	4,5	A4-80	M8 x 25	A4-80	M8	M16/M10
38 ÷ 42	25 x 3,0	102	31	4,5	A4-80	M8 x 25	A4-80	M8	M16/M10
46 ÷ 50	25 x 3,0	109	31	4,5	A4-80	M8 x 25	A4-80	M8	M16/M10
51 ÷ 55	25 x 3,0	115	31	4,5	A4-80	M8 x 25	A4-80	M8	M16/M10
58 ÷ 63	25 x 3,0	123	31	4,5	A4-80	M8 x 25	A4-80	M8	M16/M10
74 ÷ 78	30 x 3,0	147	38	4,0	A4-80	M10 x 30	A4-80	M10	M16/M10
86 ÷ 90	30 x 3,0	160	38	4,0	A4-80	M10 x 30	A4-80	M10	½"/M16/M12
100 ÷ 106	30 x 3,0	176	38	4,0	A4-80	M10 x 30	A4-80	M10	½"/M16/M12
108 ÷ 114	30 x 3,0	184	38	4,0	A4-80	M10 x 30	A4-80	M10	½"/M16/M12
133 ÷ 140	40 x 4,0	229	48	6,0	A4-80	M12 x 35	A4-80	M12	½"/M16/M12
158 ÷ 168	40 x 4,0	257	48	6,0	A4-80	M12 x 35	A4-80	M12	½"/M16/M12
198 ÷ 207	40 x 4,0	304	48	6,0	A4-80	M16 x 40	A4-80	M16	½"/M16/M12
210 ÷ 219	40 x 4,0	316	48	6,0	A4-80	M16 x 40	A4-80	M16	½"/M16/M12

Fig. A53. Pipe clamps Stabil D-2G/3G VA Silicone



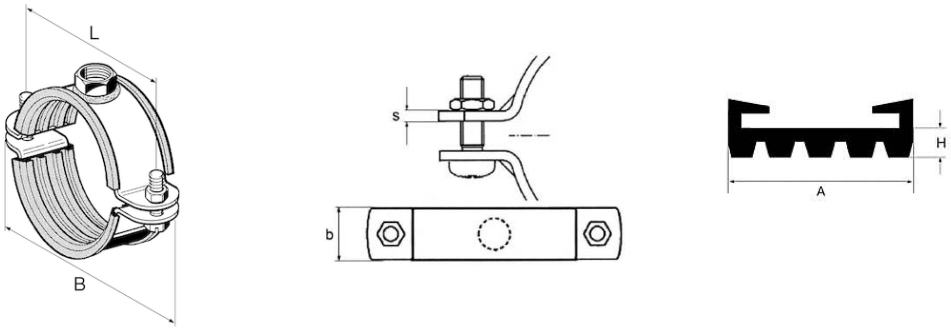
Size range [mm]	Material b x s [mm x mm]	B [mm]	L [mm]	Bolt class	Bolt	Nut class	Nut	Connection
19 ÷ 23	25 x 3	64	45	8.8	M8	8	M8	M16
26 ÷ 30	25 x 3	70	52	8.8	M8	8	M8	M16
33 ÷ 38	25 x 3	78	60	8.8	M8	8	M8	M16
39 ÷ 44	25 x 3	82	65	8.8	M8	8	M8	M16
45 ÷ 50	25 x 3	93	75	8.8	M8	8	M8	M16
54 ÷ 58	25 x 3	100	82	8.8	M8	8	M8	M16
60 ÷ 64	25 x 3	118	90	8.8	M8	8	M8	M16
65 ÷ 72	30 x 3	128	98	8.8	M10	8	M10	M16
70 ÷ 77	30 x 3	135	106	8.8	M10	8	M10	M16
85 ÷ 92	30 x 3	148	119	8.8	M10	8	M10	M16
97 ÷ 104	30 x 3	163	134	8.8	M10	8	M10	M16
105 ÷ 108	30 x 3	168	139	8.8	M10	8	M10	M16
110 ÷ 117	30 x 3	177	148	8.8	M10	8	M10	M16
118 ÷ 125	30 x 3	190	160	8.8	M10	8	M10	M16
122 ÷ 129	30 x 3	192	162	8.8	M10	8	M10	M16
133 ÷ 140	40 x 4	218	182	8.8	M12	8	M12	M16
148 ÷ 155	40 x 4	233	197	8.8	M12	8	M12	M16
158 ÷ 165	40 x 4	240	203	8.8	M12	8	M12	M16
168 ÷ 175	40 x 4	249	212	8.8	M12	8	M12	M16
173 ÷ 180	40 x 4	262	225	8.8	M12	8	M12	M16
188 ÷ 195	40 x 4	276	240	8.8	M12	8	M12	M16
195 ÷ 202	40 x 4	278	242	8.8	M12	8	M12	M16
208 ÷ 215	40 x 4	297	260	8.8	M12	8	M12	M16
218 ÷ 227	40 x 4	301	275	8.8	M12	8	M12	M16
228 ÷ 235	40 x 4	316	280	8.8	M12	8	M12	M16
245 ÷ 252	40 x 4	338	300	8.8	M12	8	M12	M16
258 ÷ 265	40 x 4	353	316	8.8	M12	8	M12	M16
271 ÷ 277	40 x 4	351	325	8.8	M12	8	M12	M16
285 ÷ 291	40 x 4	377	341	8.8	M12	8	M12	M16
316 ÷ 326	50 x 5	440	390	8.8	M16	8	M16	M16
348 ÷ 356	50 x 5	471	421	8.8	M16	8	M16	M16
360 ÷ 368	50 x 5	483	431	8.8	M16	8	M16	M16
399 ÷ 407	50 x 5	520	470	8.8	M16	8	M16	M16
411 ÷ 419	70 x 6	532	482	8.8	M16	8	M16	M16
500 ÷ 508	70 x 6	619	569	8.8	M16	8	M16	M16
513 ÷ 521	70 x 6	631	581	8.8	M16	8	M16	M16

Fig. A54. Pipe clamps Stabil D-M16



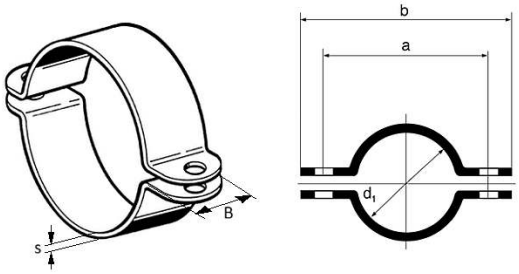
Size range [mm]	Material b x s [mm x mm]	B [mm]	L [mm]	A [mm]	H [mm]	Bolt class	Bolt	Nut class	Nut	Connection
15 ÷ 19	25 x 3	63	45	31	4,5	8.8	M8	8	M8	M16
19 ÷ 22	25 x 3	70	53	31	4,5	8.8	M8	8	M8	M16
26 ÷ 30	25 x 3	78	60	31	4,5	8.8	M8	8	M8	M16
33 ÷ 38	25 x 3	82	64	31	4,5	8.8	M8	8	M8	M16
38 ÷ 42	25 x 3	92	74	31	4,5	8.8	M8	8	M8	M16
44 ÷ 50	25 x 3	99	81	31	4,5	8.8	M8	8	M8	M16
51 ÷ 58	25 x 3	107	88	31	4,5	8.8	M8	8	M8	M16
59 ÷ 63	30 x 3	122	98	38	4,0	8.8	M10	8	M10	M16
64 ÷ 71	30 x 3	135	105	38	4,0	8.8	M10	8	M10	M16
75 ÷ 85	30 x 3	150	120	38	4,0	8.8	M10	8	M10	M16
88 ÷ 94	30 x 3	163	133	38	4,0	8.8	M10	8	M10	M16
98 ÷ 105	30 x 3	168	138	38	4,0	8.8	M10	8	M10	M16
100 ÷ 112	30 x 3	180	150	38	4,0	8.8	M10	8	M10	M16
114 ÷ 116	30 x 3	189	159	38	4,0	8.8	M10	8	M10	M16
121 ÷ 135	40 x 4	218	188	48	6,0	8.8	M10	8	M10	M16
139 ÷ 145	40 x 4	229	194	48	6,0	8.8	M12	8	M12	M16
145 ÷ 153	40 x 4	240	205	48	6,0	8.8	M12	8	M12	M16
154 ÷ 161	40 x 4	247	212	48	6,0	8.8	M12	8	M12	M16
160 ÷ 168	40 x 4	263	227	48	6,0	8.8	M12	8	M12	M16
176 ÷ 181	40 x 4	290	250	48	6,0	8.8	M12	8	M12	M16
193 ÷ 200	40 x 4	299	263	48	6,0	8.8	M12	8	M12	M16
204 ÷ 213	40 x 4	320	284	48	6,0	8.8	M12	8	M12	M16
214 ÷ 221	40 x 4	324	288	48	6,0	8.8	M12	8	M12	M16
244 ÷ 251	40 x 4	368	332	48	6,0	8.8	M12	8	M12	M16
271 ÷ 277	40 x 4	396	360	48	6,0	8.8	M12	8	M12	M16
298 ÷ 310	50 x 5	431	387	58	6,0	8.8	M12	8	M12	M16
320 ÷ 326	50 x 5	454	404	58	6,0	8.8	M12	8	M12	M16
345 ÷ 356	50 x 5	482	432	58	6,0	8.8	M12	8	M12	M16
359 ÷ 368	50 x 5	496	446	58	6,0	8.8	M12	8	M12	M16
398 ÷ 407	50 x 5	534	484	58	6,0	8.8	M16	8	M16	M16
410 ÷ 419	70 x 6	546	496	78	6,0	8.8	M16	8	M16	M16
498 ÷ 508	70 x 6	631	581	78	6,0	8.8	M16	8	M16	M16
512 ÷ 521	70 x 6	645	595	78	6,0	8.8	M16	8	M16	M16

Fig. A55. Pipe clamps Stabil D-M16 with lining



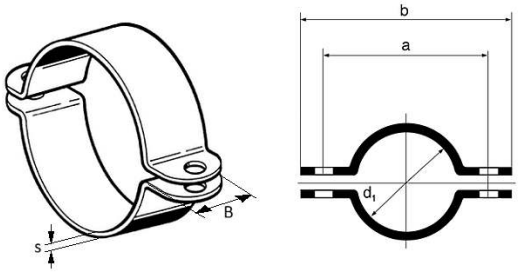
Size range [mm]	Material b x s [mm x mm]	B [mm]	L [mm]	A [mm]	H [mm]	Bolt class	Bolt	Nut class	Nut	Connection
15 ÷ 19	25 x 3	63	45	31	4,5	8.8	M8	8	M8	M16
19 ÷ 22	25 x 3	70	53	31	4,5	8.8	M8	8	M8	M16
26 ÷ 30	25 x 3	78	60	31	4,5	8.8	M8	8	M8	M16
33 ÷ 38	25 x 3	82	64	31	4,5	8.8	M8	8	M8	M16
38 ÷ 42	25 x 3	92	74	31	4,5	8.8	M8	8	M8	M16
44 ÷ 50	25 x 3	99	81	31	4,5	8.8	M8	8	M8	M16
51 ÷ 58	25 x 3	107	88	31	4,5	8.8	M8	8	M8	M16
59 ÷ 63	30 x 3	122	98	38	4,0	8.8	M10	8	M10	M16
64 ÷ 71	30 x 3	135	105	38	4,0	8.8	M10	8	M10	M16
75 ÷ 85	30 x 3	150	120	38	4,0	8.8	M10	8	M10	M16
88 ÷ 94	30 x 3	163	133	38	4,0	8.8	M10	8	M10	M16
98 ÷ 105	30 x 3	168	138	38	4,0	8.8	M10	8	M10	M16
100 ÷ 112	30 x 3	180	150	38	4,0	8.8	M10	8	M10	M16
114 ÷ 116	30 x 3	189	159	38	4,0	8.8	M10	8	M10	M16
121 ÷ 135	40 x 4	218	188	48	6,0	8.8	M10	8	M10	M16
139 ÷ 145	40 x 4	229	194	48	6,0	8.8	M12	8	M12	M16
145 ÷ 153	40 x 4	240	205	48	6,0	8.8	M12	8	M12	M16
154 ÷ 161	40 x 4	247	212	48	6,0	8.8	M12	8	M12	M16
160 ÷ 168	40 x 4	263	227	48	6,0	8.8	M12	8	M12	M16
176 ÷ 181	40 x 4	290	250	48	6,0	8.8	M12	8	M12	M16
193 ÷ 200	40 x 4	299	263	48	6,0	8.8	M12	8	M12	M16
204 ÷ 213	40 x 4	320	284	48	6,0	8.8	M12	8	M12	M16
214 ÷ 221	40 x 4	324	288	48	6,0	8.8	M12	8	M12	M16
244 ÷ 251	40 x 4	368	332	48	6,0	8.8	M12	8	M12	M16
271 ÷ 277	40 x 4	396	360	48	6,0	8.8	M12	8	M12	M16
298 ÷ 310	50 x 5	431	387	58	6,0	8.8	M12	8	M12	M16
320 ÷ 326	50 x 5	454	404	58	6,0	8.8	M12	8	M12	M16
345 ÷ 356	50 x 5	482	432	58	6,0	8.8	M12	8	M12	M16
359 ÷ 368	50 x 5	496	446	58	6,0	8.8	M12	8	M12	M16
398 ÷ 407	50 x 5	534	484	58	6,0	8.8	M16	8	M16	M16
410 ÷ 419	70 x 6	546	496	78	6,0	8.8	M16	8	M16	M16
498 ÷ 508	70 x 6	631	581	78	6,0	8.8	M16	8	M16	M16
512 ÷ 521	70 x 6	645	595	78	6,0	8.8	M16	8	M16	M16

Fig. A56. Pipe clamps Stabil D-M16 Silicone



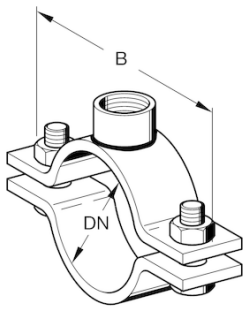
d1 [mm]	Range [mm]	Material B x s [mm x mm]	a [mm]	b [mm]	Bolt hole
18	14 ÷ 18	30 x 5,0	52	80	M10
22	18 ÷ 22	30 x 5,0	56	86	M10
27	23 ÷ 27	30 x 5,0	65	93	M10
34	30 ÷ 34	30 x 5,0	74	102	M10
39	35 ÷ 39	30 x 5,0	80	108	M10
44	40 ÷ 44	30 x 5,0	86	114	M10
49	45 ÷ 49	30 x 5,0	91	119	M10
61	57 ÷ 61	40 x 5,0	103	136	M12
71	67 ÷ 71	40 x 5,0	114	147	M12
77	72 ÷ 77	40 x 5,0	119	152	M12
89	84 ÷ 89	40 x 5,0	132	165	M12
102	96 ÷ 102	50 x 5,0	145	178	M12
109	102 ÷ 109	50 x 5,0	152	185	M12
115	109 ÷ 115	50 x 5,0	159	192	M12
134	128 ÷ 134	50 x 5,0	178	211	M12
140	134 ÷ 140	50 x 5,0	184	217	M12
163	157 ÷ 163	50 x 5,0	208	241	M12
169	164 ÷ 169	50 x 5,0	222	255	M12
194	188 ÷ 194	50 x 8,0	248	281	M12
221	215 ÷ 221	50 x 8,0	275	308	M12
254	246 ÷ 254	50 x 8,0	308	341	M12
266	259 ÷ 266	50 x 8,0	321	354	M12
273	266 ÷ 273	60 x 8,0	328	361	M12
324	317 ÷ 324	60 x 8,0	385	425	M16
356	349 ÷ 356	60 x 8,0	417	457	M16
374	366 ÷ 374	60 x 8,0	435	475	M16
407	397 ÷ 407	70 x 8,0	468	508	M16
429	419 ÷ 429	70 x 8,0	490	530	M16
457	447 ÷ 457	70 x 8,0	518	558	M16
508	498 ÷ 508	70 x 8,0	569	609	M16
530	520 ÷ 530	70 x 8,0	591	631	M16
541	531 ÷ 541	70 x 8,0	603	643	M16
610	600 ÷ 610	70 x 8,0	672	712	M16

Fig. A57. Pipe clamps Stabil RB-A



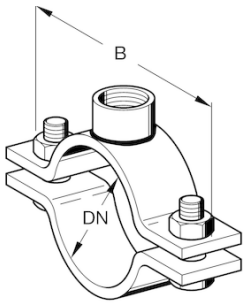
d1 [mm]	Range [mm]	Material B x s [mm x mm]	a [mm]	b [mm]	Bolt hole
18	13 ÷ 18	30 x 5,0	52	80	M10
22	18 ÷ 22	30 x 5,0	56	86	M10
27	23 ÷ 27	30 x 5,0	65	93	M10
34	30 ÷ 34	30 x 5,0	74	102	M10
39	35 ÷ 39	30 x 5,0	80	108	M10
44	40 ÷ 44	30 x 5,0	86	114	M10
49	45 ÷ 49	30 x 5,0	91	119	M10
61	57 ÷ 61	40 x 5,0	103	136	M12
71	67 ÷ 71	40 x 5,0	114	147	M12
77	72 ÷ 77	40 x 5,0	119	152	M12
89	84 ÷ 89	40 x 5,0	132	165	M12
102	90 ÷ 102	50 x 5,0	145	178	M12
109	102 ÷ 109	50 x 5,0	152	185	M12
115	109 ÷ 115	50 x 5,0	159	192	M12
134	128 ÷ 134	50 x 5,0	178	211	M12
140	134 ÷ 140	50 x 5,0	184	217	M12
163	157 ÷ 163	50 x 5,0	208	241	M12
169	163 ÷ 169	50 x 5,0	222	255	M12
194	188 ÷ 194	50 x 8,0	248	281	M12
221	215 ÷ 221	50 x 8,0	275	308	M12
254	246 ÷ 254	50 x 8,0	308	341	M12
266	259 ÷ 266	50 x 8,0	321	354	M12
273	266 ÷ 273	60 x 8,0	328	361	M12
324	317 ÷ 324	60 x 8,0	385	425	M16
356	349 ÷ 356	60 x 8,0	417	457	M16
374	366 ÷ 374	60 x 8,0	435	475	M16
407	397 ÷ 407	70 x 8,0	468	508	M16
429	419 ÷ 429	70 x 8,0	490	530	M16
457	447 ÷ 457	70 x 8,0	518	558	M16
508	498 ÷ 508	70 x 8,0	569	609	M16
530	520 ÷ 530	70 x 8,0	591	631	M16
541	531 ÷ 541	70 x 8,0	603	643	M16
610	600 ÷ 610	70 x 8,0	672	712	M16

Fig. A58. Pipe clamps Stabil RB-A HCP



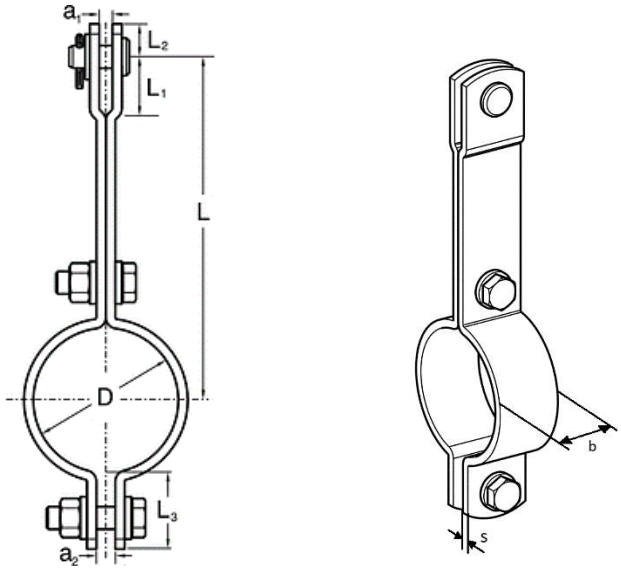
Designation	Material b x s [mm x mm]	DN [mm]	B [mm]	Bolt class	Bolt	Nut class	Nut	Connection
22	30 x 5,0	15	85	8.8	M10	8	M10	½”
27	30 x 5,0	20	92	8.8	M10	8	M10	½”
34	30 x 5,0	25	100	8.8	M10	8	M10	½”
44	30 x 5,0	32	112	8.8	M10	8	M10	½”
49	30 x 5,0	40	117	8.8	M10	8	M10	½”
61	40 x 5,0	50	139	8.8	M12	8	M12	½”
77	40 x 5,0	65	156	8.8	M12	8	M12	½”
89	40 x 5,0	80	168	8.8	M12	8	M12	½”
115	50 x 5,0	100	194	8.8	M12	8	M12	½”

Fig. A59. Pipe clamps Stabil I-1/2" HCP



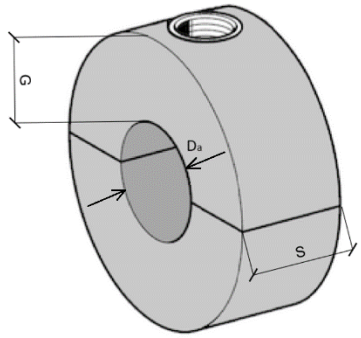
Designation	Material b x s [mm x mm]	DN [mm]	B [mm]	Bolt class	Bolt	Nut class	Nut	Connection
22	30 x 5,0	15	85	A4-80	M10	A4-80	M10	½”
27	30 x 5,0	20	92	A4-80	M10	A4-80	M10	½”
34	30 x 5,0	25	100	A4-80	M10	A4-80	M10	½”
44	30 x 5,0	32	112	A4-80	M10	A4-80	M10	½”
49	30 x 5,0	40	117	A4-80	M10	A4-80	M10	½”
61	40 x 5,0	50	139	A4-80	M12	A4-80	M12	½”
77	40 x 5,0	65	156	A4-80	M12	A4-80	M12	½”
89	40 x 5,0	80	168	A4-80	M12	A4-80	M12	½”
115	50 x 5,0	100	194	A4-80	M12	A4-80	M12	½”

Fig. A60. Pipe clamps Stabil I-1/2" VA



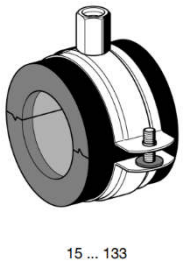
Designation	D [mm]	a1 [mm]	a2 [mm]	L [mm]	L1 [mm]	L2 [mm]	L3 [mm]	Material b x s [mm x mm]	Bolt	Bolt class	Nut	Nut class
22	22	7	10	90	29	12	33	30 x 5	M10	8.8	M10	8
27	27	7	10	93	29	12	34	30 x 5	M10	8.8	M10	8
34	34	7	10	107	29	12	35	30 x 5	M10	8.8	M10	8
44	44	7	10	113	29	12	36	30 x 5	M10	8.8	M10	8
49	49	7	10	126	29	12	36	30 x 5	M10	8.8	M10	8
61	61	7	10	144	28	18	40	40 x 5	M12	8.8	M12	8
77	77	7	10	183	28	18	41	40 x 5	M12	8.8	M12	8
89	89	7	10	189	28	18	41	40 x 5	M12	8.8	M12	8
115	115	11	16	221	38	23	41	50 x 6	M12	8.8	M12	8
140	140	11	16	234	38	23	41	50 x 6	M12	8.8	M12	8
169	169	11	16	249	38	23	41	50 x 6	M12	8.8	M12	8
220	220	11	16	280	38	23	47	50 x 8	M12	8.8	M12	8
273	273	11	16	311	38	23	56	60 x 8	M16	8.8	M16	8
324	324	11	16	336	38	23	56	60 x 8	M16	8.8	M16	8

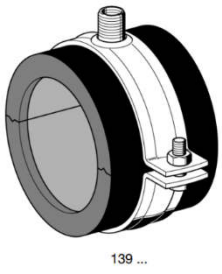
Fig. A61. Pipe clamps Stabil Form C LK

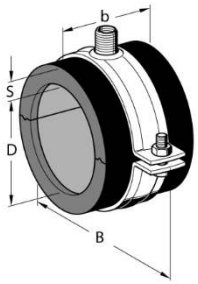


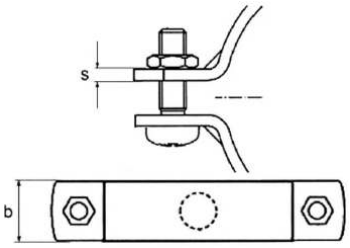
Designation	Insulation G [mm]	Width S [mm]	Diameter D_a [mm]	Connection
15/30	30	40	15	½”/M10/M8
17/30	30	40	17	½”/M10/M8
18/30	30	40	18	½”/M10/M8
21/30	30	40	21	½”/M10/M8
22/30	30	40	22	½”/M10/M8
27/30	30	40	27	½”/M10/M8
28/30	30	40	28	½”/M10/M8
33/30	30	40	33	½”/M10/M8
35/30	30	40	35	½”/M10/M8
42/30	30	40	42	½”/M10/M8
48/30	30	40	48	½”/M10/M8
54/30	30	40	54	½”/M10/M8
57/30	30	30	57	½”/M10/M8
60/30	30	50	60	½”/M10/M8
76/30	30	50	76	½”/M10/M8
89/30	30	50	89	½”/M10/M8
114/40	40	60	114	½”/M10/M8
133/40	40	60	133	½”/M10/M8
139/40	40	60	139	½”/M10/M8
159/40	40	60	159	½”/M12
168/40	40	60	168	½”/M12
204/60	60	100	204	¾”/M16
219/60	60	100	219	¾”/M16

Fig. A62. Chilled water clamps RB









Designation	D [mm]	B [mm]	b [mm]	Insulation S [mm]	Bolt	Bolt class	Nut	Nut class	Connection
LKS 13-15	15	76	50	13	M5x15	4.6	-	-	M8/M10
LKS 13-16	16	76	50	13	M5x15	4.6	-	-	M8/M10
LKS 13-18	18	76	50	13	M5x15	4.6	-	-	M8/M10
LKS 13-20	20	76	50	13	M6x20	4.6	-	-	M8/M10
LKS 13-22	22	91,5	50	13	M6x20	4.6	-	-	M8/M10
LKS 13-25	25	91,5	50	13	M6x20	4.6	-	-	M8/M10
LKS 13-26	26	91,5	50	13	M6x20	4.6	-	-	M8/M10
LKS 13-28	28	99	50	13,5	M6x20	4.6	-	-	M8/M10
LKS 13-30	30	99	50	13,5	M6x20	4.6	-	-	M8/M10
LKS 13-32	32	99	50	13,5	M6x20	4.6	-	-	M8/M10
LKS 13-35	35	105	50	13,5	M6x20	4.6	-	-	M8/M10
LKS 13-38	38	105	50	14	M6x20	4.6	-	-	M8/M10
LKS 13-40	40	112	50	14	M6x20	4.6	-	-	M8/M10
LKS 13-42	42	112	50	14	M6x20	4.6	-	-	M8/M10
LKS 13-44	44,5	112	50	14	M6x20	4.6	-	-	M8/M10
LKS 13-48	48,3	125	50	14	M6x25	4.6	-	-	M8/M10
LKS 13-50	50	134	50	14	M6x25	4.6	-	-	M8/M10
LKS 13-54	54	134	50	14	M6x25	4.6	-	-	M8/M10
LKS 13-57	57	134	50	15	M6x25	4.6	-	-	M8/M10
LKS 13-60	60,3	141	50	15	M6x25	4.6	-		M8/M10
LKS 13-64	64	141	50	15	M6x25	4.6	-	-	M8/M10
LKS 13-70	70	146,5	50	15	M6x25	4.6	-	-	M8/M10
LKS 13-76	76,1	151	50	15	M6x25	4.6	-	-	M8/M10
LKS 13-80	80	159,5	50	15	M6x25	4.6	-	-	M8/M10
LKS 13-89	88,9	173	50	15	M6x30	4.6	-	-	M8/M10
LKS 13-102	101,6	186	100	15,5	M6x30	4.6	-	-	M8/M10
LKS 13-108	108	193	100	15,5	M6x30	4.6	-	-	M8/M10
LKS 13-110	110	193	100	15,5	M6x30	4.6	-	-	M8/M10
LKS 13-114	114,3	193	100	15,5	M6x30	4.6	-	-	M8/M10
LKS 13-125	125	215	100	16	M6x40	4.6	-	-	M8/M10
LKS 13-133	133	215	100	16	M6x40	4.6	-	-	M8/M10
LKS 13-139	139,7	243	100	16	M10x40	8.8	M10	8	M12/M16/1/2”
LKS 13-160	159	265	100	16	M12x45	8.8	M12	8	M12/M16/1/2”
LKS 13-168	168,3	276	100	16	M12x45	8.8	M12	8	M12/M16/1/2”

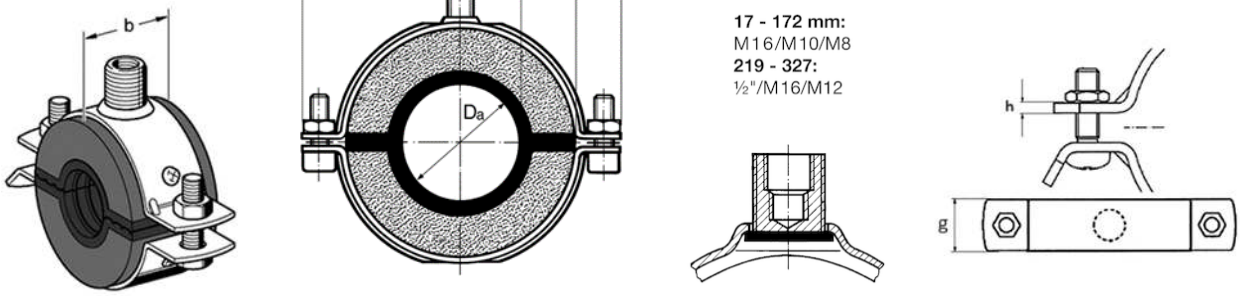
Fig. A63. Chilled water clamps LKS 13, LKS 19 i LKS 32

Designation	D [mm]	B [mm]	b [mm]	Insulation S [mm]	Bolt	Bolt class	Nut	Nut class	Connection
LKS 19-15	15	91,5	50	19	M6x20	4.6	-	-	M8/M10
LKS 19-16	16	91,5	50	19	M6x20	4.6	-	-	M8/M10
LKS 19-18	18	99	50	19,5	M6x20	4.6	-	-	M8/M10
LKS 19-20	20	99	50	19,5	M6x20	4.6	-	-	M8/M10
LKS 19-22	22	105	50	19,5	M6x20	4.6	-	-	M8/M10
LKS 19-25	25	105	50	19,5	M6x20	4.6	-	-	M8/M10
LKS 19-26	26	105	50	19,5	M6x20	4.6	-	-	M8/M10
LKS 19-28	28	112	50	20	M6x20	4.6	-	-	M8/M10
LKS 19-30	30	112	50	20	M6x20	4.6	-	-	M8/M10
LKS 19-32	32	112	50	20	M6x20	4.6	-	-	M8/M10
LKS 19-35	35	125	50	20	M6x25	4.6	-	-	M8/M10
LKS 19-38	38	125	50	21,5	M6x25	4.6	-	-	M8/M10
LKS 19-40	40	134	50	21,5	M6x25	4.6	-	-	M8/M10
LKS 19-42	42	134	50	21,5	M6x25	4.6	-	-	M8/M10
LKS 19-44	44,5	134	50	21,5	M6x25	4.6	-	-	M8/M10
LKS 19-48	48,3	141	50	21,5	M6x25	4.6	-	-	M8/M10
LKS 19-50	50	146,5	50	21,5	M6x25	4.6	-	-	M8/M10
LKS 19-54	54	146,5	50	21,5	M6x25	4.6	-	-	M8/M10
LKS 19-57	57	146,5	50	22	M6x25	4.6	-	-	M8/M10
LKS 19-60	60,3	151	50	22	M6x25	4.6	-		M8/M10
LKS 19-64	64	151	50	22	M6x25	4.6	-	-	M8/M10
LKS 19-70	70	159,5	50	22	M6x25	4.6	-	-	M8/M10
LKS 19-76	76,1	173	50	22	M6x30	4.6	-	-	M8/M10
LKS 19-80	80	173	50	22	M6x30	4.6	-	-	M8/M10
LKS 19-89	88,9	186	50	22	M6x30	4.6	-	-	M8/M10
LKS 19-102	101,6	203	100	22,5	M6x30	4.6	-	-	M8/M10
LKS 19-108	108	203	100	22,5	M6x30	4.6	-	-	M8/M10
LKS 19-110	110	203	100	22,5	M6x30	4.6	-	-	M8/M10
LKS 19-114	114,3	215	100	22,5	M6x40	4.6	-	-	M8/M10
LKS 19-125	125	229	100	23	M6x40	4.6	-	-	M8/M10
LKS 19-133	133	229	100	23	M6x40	4.6	-	-	M8/M10
LKS 19-139	139,7	265	100	23	M12x45	8.8	M12	8	M12/M16/1/2”
LKS 19-160	159	276	100	23	M12x45	8.8	M12	8	M12/M16/1/2
LKS 19-168	168,3	287	100	23	M12x45	8.8	M12	8	M12/M16/1/2
LKS 19-180	180	307	100	25	M12x45	8.8	M12	8	M12/M16/1/2
LKS 19-200	200	321	100	25	M12x40	8.8	M12	8	M12/M16/1/2
LKS 19-219	219	344	100	23	M12x40	8.8	M12	8	M12/M16/1/2
LKS 19-225	225	355	100	25	M12x40	8.8	M12	8	M12/M16/1/2
LKS 19-250	250	374	100	25	M12x40	8.8	M12	8	M12/M16/1/2
LKS 19-273	273	440	100	23	M16x40	8.8	M16	8	M16

c.d. fig. A63. Chilled water clamp LKS 13, LKS 19 and LKS 32

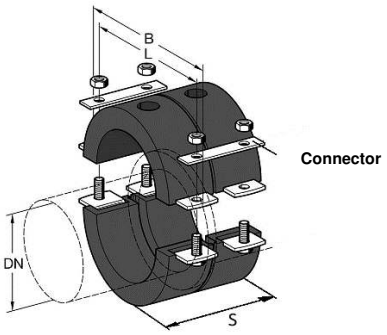
Designation	D [mm]	B [mm]	b [mm]	Insulation S [mm]	Bolt	Bolt class	Nut	Nut class	Connection
LKS 32-15	15	125	50	31	M6x25	4.6	-	-	M8/M10
LKS 32-18	18	125	50	31	M6x25	4.6	-	-	M8/M10
LKS 32-22	22	134	50	31	M6x25	4.6	-	-	M8/M10
LKS 32-25	25	134	50	31	M6x25	4.6	-	-	M8/M10
LKS 32-28	28	141	50	31	M6x25	4.6	-	-	M8/M10
LKS 32-30	30	146,5	50	34	M6x25	4.6	-	-	M8/M10
LKS 32-35	35	151	50	34	M6x25	4.6	-	-	M8/M10
LKS 32-38	38	159,5	50	36	M6x25	4.6	-	-	M8/M10
LKS 32-42	42	159,5	50	36	M6x25	4.6	-	-	M8/M10
LKS 32-44	44,5	173	50	37	M6x30	4.6	-	-	M8/M10
LKS 32-48	48,3	173	50	37	M6x30	4.6	-	-	M8/M10
LKS 32-54	54	186	50	38	M6x30	4.6	-	-	M8/M10
LKS 32-57	57	186	50	38	M6x30	4.6	-	-	M8/M10
LKS 32-60	60,3	186	50	38	M6x30	4.6	-	-	M8/M10
LKS 32-64	64	193	50	39	M6x30	4.6	-	-	M8/M10
LKS 32-70	70	203	50	39	M6x30	4.6	-	-	M8/M10
LKS 32-76	76,1	215	50	42	M6x40	4.6	-	-	M8/M10
LKS 32-80	80	215	50	42	M6x40	4.6	-	-	M8/M10
LKS 32-89	88,9	229	50	42	M6x40	4.6	-	-	M8/M10
LKS 32-108	108	265	100	42	M12x45	8.8	M12	8	M12/M16/1/2”
LKS 32-114	114	276	100	43	M12x45	8.8	M12	8	M12/M16/1/2”
LKS 32-133	133	296	100	44	M12x45	8.8	M12	8	M12/M16/1/2”
LKS 32-139	139,7	296	100	43	M12x45	8.8	M12	8	M12/M16/1/2”
LKS 32-160	159	321	100	45	M12x45	8.8	M12	8	M12/M16/1/2”
LKS 32-168	168,3	332	100	45	M12x45	8.8	M12	8	M12/M16/1/2”
LKS 32-219	219	387	100	46	M12x45	8.8	M12	8	M12/M16/1/2”
LKS 32-273	273	482	100	45	M16x40	8.8	M16	8	M16

c.d. fig. A63. Chilled water clamps LKS 13, LKS 19 and LKS 32



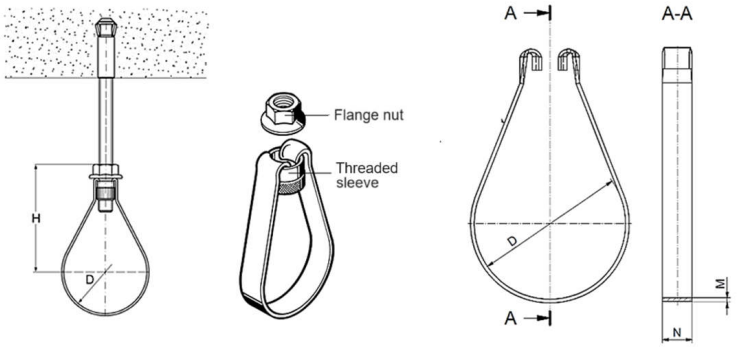
Range [mm]	DN	Insulation b x s [mm x mm]	Clamp g x h [mm x mm]	B [mm]	Bolt	Bolt class	Nut	Nut class	Connection
17 ÷ 22	3/8"-1/2"	40 x 20	30 x 2,5	104	6x30	8.8	M6	8	M16/M10/M8
23 ÷ 26	-	40 x 20	30 x 2,5	111	6x30	8.8	M6	8	M16/M10/M8
27 ÷ 32	3/4"	40 x 20	30 x 2,5	111	6x30	8.8	M6	8	M16/M10/M8
33 ÷ 38	1"	40 x 20	30 x 2,5	117	6x30	8.8	M6	8	M16/M10/M8
38 ÷ 42	-	40 x 20	30 x 3,0	169	8x40	8.8	M8	8	M16/M10/M8
42 ÷ 47	1 1/4"	40 x 30	30 x 3,0	169	8x40	8.8	M8	8	M16/M10/M8
48 ÷ 54	1 1/2"	40 x 30	30 x 3,0	169	8x40	8.8	M8	8	M16/M10/M8
57 ÷ 62	2"	50 x 30	30 x 3,0	190	8x40	8.8	M8	8	M16/M10/M8
63 ÷ 68	-	50 x 30	30 x 3,0	190	8x40	8.8	M8	8	M16/M10/M8
70 ÷ 75	-	50 x 30	30 x 3,0	190	8x40	8.8	M8	8	M16/M10/M8
76 ÷ 81	2 1/2"	50 x 30	40 x 4,0	207	10x45	8.8	M10	8	M16/M10/M8
89 ÷ 94	3"	50 x 30	40 x 4,0	222	10x45	8.8	M10	8	M16/M10/M8
107 ÷ 112	-	60 x 40	40 x 4,0	263	10x50	8.8	M10	8	M16/M10/M8
113 ÷ 117	4"	60 x 40	40 x 4,0	273	10x50	8.8	M10	8	M16/M10/M8
125 ÷ 128	-	60 x 40	40 x 4,0	301	10x50	8.8	M10	8	M16/M10/M8
133 ÷ 137	-	60 x 40	40 x 4,0	295	10x50	8.8	M10	8	M16/M10/M8
138 ÷ 142	5"	60 x 40	40 x 4,0	295	10x50	8.8	M10	8	M16/M10/M8
157 ÷ 161	-	60 x 40	40 x 4,0	329	10x50	8.8	M10	8	M16/M10/M8
168 ÷ 172	6"	60 x 40	40 x 4,0	329	10x50	8.8	M10	8	M16/M10/M8
219 ÷ 222	8"	100 x 60	50 x 5,0	428	12x50	8.8	M12	8	½"/M16/M12
272 ÷ 275	10"	100 x 60	50 x 5,0	481	12x50	8.8	M12	8	½"/M16/M12
324 ÷ 327	-	100 x 60	50 x 5,0	534	12x50	8.8	M12	8	½"/M16/M12

Fig. A64. Chilled water clamps SKS Top - 2C



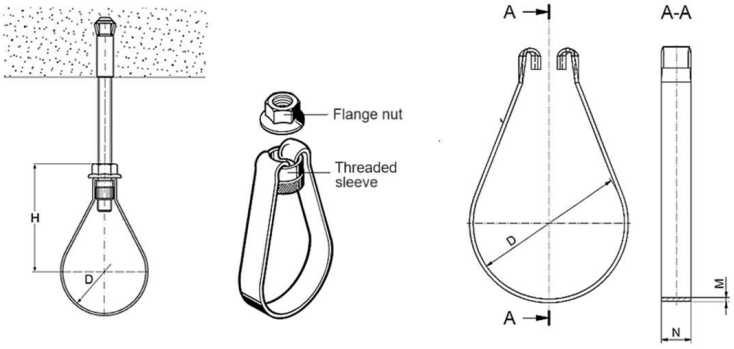
DN [mm]	L [mm]	B [mm]	S [mm]	Bolt	Bolt class	Nut	Nut class	Insulation [mm]
76,1	171	202	100	M10	8.8	M10	8	30
88,9	179	206	100	M10		M10		30
108	200	220	100	M10		M10		30
114,3	230	274	120	M12		M12		40
133	264	300	120	M12		M12		40
139,7	264	300	120	M12		M12		40
168,3	288	328	120	M12		M12		40
219,1	399	439	200	M12		M12		60
273	453	493	200	M16		M16		60
323,9	504	544	200	M16		M16		60

Fig. A65. Chilled water fixed point clamps FKS



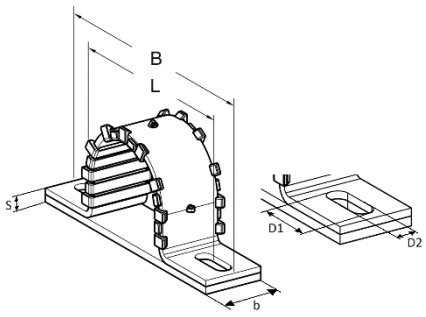
Designation	D [mm]	M [mm]	N [mm]	H [mm]	Flange nut	Flange nut class	Threaded sleeve
26,9	27	1,5	12	65	M8/M10	8	M8/M10
33,7	34	1,5	12	65	M8/M10	8	M8/M10
42,4	43	1,5	12	65	M8/M10	8	M8/M10
48,3	49	1,5	12	70	M8/M10	8	M8/M10
60,3	61	1,5	12	79	M8/M10	8	M8/M10
76,1	77	2,5	15	98	M8/M10	8	M8/M10
88,9	90	2,5	15	113	M8/M10	8	M8/M10
108	110	2,5	15	142	M8/M10	8	M8/M10
114,3	115	2,5	15	142	M8/M10	8	M8/M10
133	135	2,5	15	155	M12	8	M12
139,7	142	2,5	15	155	M12	8	M12
159	161	2,5	15	185	M12	8	M12
168,3	170	2,5	15	185	M12	8	M12
219,1	221	2,5	25	239	M16	8	M16

Fig. A66. Pipe loops RSL N



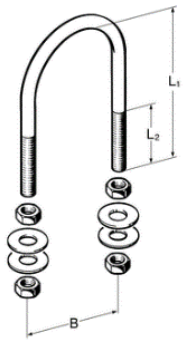
Designation	D [mm]	M [mm]	N [mm]	H [mm]	Flange nut	Flange nut class	Threaded sleeve
26,9	27	1,5	12	65	M8/M10	8	M8/M10
33,7	34	1,5	12	65	M8/M10	8	M8/M10
42,4	43	1,5	12	65	M8/M10	8	M8/M10
48,3	49	1,5	12	70	M8/M10	8	M8/M10
60,3	61	1,5	12	79	M8/M10	8	M8/M10
76,1	77	2,5	15	98	M8/M10	8	M8/M10
88,9	90	2,5	15	113	M8/M10	8	M8/M10
108	110	2,5	15	142	M8/M10	8	M8/M10
114,3	115	2,5	15	142	M8/M10	8	M8/M10
133	135	2,5	15	155	M12	8	M12
139,7	142	2,5	15	155	M12	8	M12
159	161	2,5	15	185	M12	8	M12
168,3	170	2,5	15	185	M12	8	M12
219,1	221	2,5	25	239	M16	8	M16

Fig. A67. Pipe loop RSL N HCP



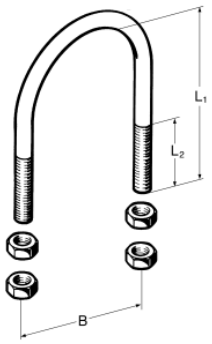
Designation	Dimensions b x s [mm x mm]	B [mm]	L [mm]	D1 [mm]	D2 [mm]
27	40 x 4	134	91	31	11
33	40 x 4	140	97	31	11
40	40 x 4	147	104	31	11
48	40 x 4	155	112	31	11
55	40 x 4	161	118	31	11
67	40 x 4	173	130	31	11
83	40 x 4	189	146	31	11
95	40 x 4	202	159	31	11
121	40 x 4	227	184	31	11
152	40 x 4	259	216	31	11
181	40 x 4	287	244	31	11
232	40 x 4	338	295	31	11
286	40 x 4	392	349	31	11
336	40 x 4	443	400	31	11

Fig. A68. U-clamps RUC I



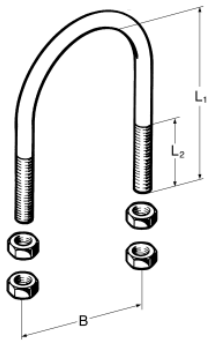
Designation	DN	B [mm]	L_1 [mm]	L_2 [mm]	Thread	Nut	Nut class	Washer diameter
21,3	1/2"	30	45	30	M8	M8	8	16
26,9	3/4"	35	60	40	M8	M8	8	16
33,7	1"	42	90	65	M8	M8	8	16
33,7	1”	48	90	65	M10	M10	8	20
42,4	1 1/4"	51	100	70	M8	M8	8	16
42,4	1 1/4"	56	100	70	M10	M10	8	20
48,3	1 1/2"	57	105	70	M8	M8	8	16
48,3	1 1/2|”	62	105	70	M10	M10	8	20
60,3	2"	71	120	70	M10	M10	8	20
76,1	2 1/2"	87	135	70	M10	M10	8	20
88,9	3"	100	150	70	M10	M10	8	20
114,3	4"	126	195	90	M12	M12	8	24
108	-	121	151	55	M12	M12	8	24
139,7	5"	152	220	90	M12	M12	8	24
133	-	146	172	55	M12	M12	8	24
159	-	172	197	55	M12	M12	8	24
168,3	6"	180	250	90	M12	M12	8	24
219,1	8"	233	300	95	M12	M12	8	24
219,1	8”	239	300	95	M16	M16	8	30
274	10"	302	314	70	M16	M16	8	30
323,9	12"	352	365	70	M16	M16	8	30

Fig. A69. U-bolts RUB L



Part		Designation	DN	B [mm]	L_1 [mm]	L_2 [mm]	Thread	Nut	Nut class	
									RUB	RUB VA
U-bolts RUB	U-bolts RUB VA	21,3	1/2"	30	45	30	M8	M8	8	A4-80
		26,9	3/4"	35	60	40	M8	M8	8	A4-80
		33,7	1"	42	67	40	M8	M8	8	A4-80
		42,4	1 1/4"	51	76	40	M8	M8	8	A4-80
		48,3	1 1/2"	57	82	40	M8	M8	8	A4-80
		60,3	2"	71	95	45	M10	M10	8	A4-80
		76,1	2 1/2"	87	111	45	M10	M10	8	A4-80
		88,9	3"	100	123	45	M10	M10	8	A4-80
		114,3	4"	126	157	55	M12	M12	8	A4-80
		108	-	121	151	55	M12	M12	8	A4-80
		139,7	5"	152	180	55	M12	M12	8	A4-80
		133	-	146	172	55	M12	M12	8	A4-80
		159	-	172	197	55	M12	M12	8	A4-80
		168,3	6"	180	207	55	M12	M12	8	A4-80
		219,1	8"	233	267	55	M12	M12	8	A4-80
	-	274	10"	302	314	70	M20	M20	8	-
	-	323,9	12"	352	365	70	M20	M20	8	-

Fig. A70. U-bolts RUB and RUB VA



Designation	DN	B [mm]	L_1 [mm]	L_2 [mm]	Thread	Nut	Nut class
21,3	1/2"	30	45	30	M8	M8	8
26,9	3/4"	40	60	40	M10	M10	8
33,7	1"	48	66	40	M10	M10	8
42,4	1 1/4"	56	76	50	M10	M10	8
48,3	1 1/2"	62	82	50	M10	M10	8
60,3	2"	76	97	50	M12	M12	8
76,1	2 1/2"	94	113	50	M12	M12	8
88,9	3"	106	126	50	M12	M12	8
114,3	4"	136	155	60	M16	M16	8
139,7	5"	164	175	60	M16	M16	8
168,3	6"	192	201	60	M16	M16	8
193,7	202	218	233	60	M16	M16	8
219,1	8"	248	263	70	M20	M20	8
274	10"	302	314	70	M20	M20	8
323,9	12"	352	365	70	M20	M20	8
355,6	378	402	411	70	M24	M24	8
406,4	428	452	463	70	M24	M24	8
508	530	554	565	70	M24	M24	8

Fig. A71. U-bolts RUB DIN 3570 HCP

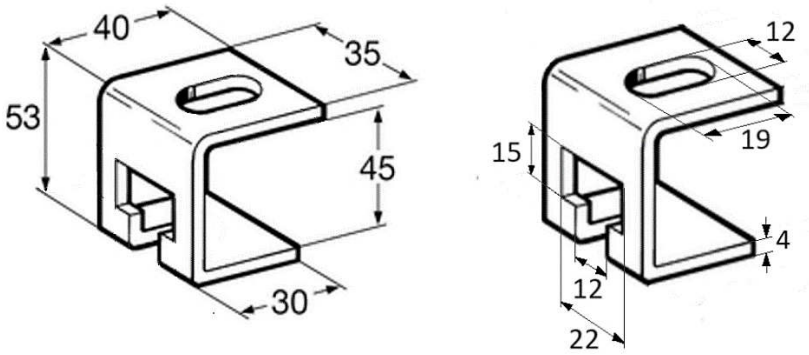
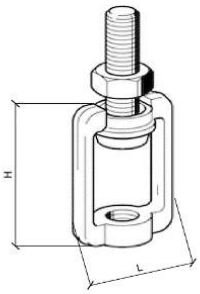
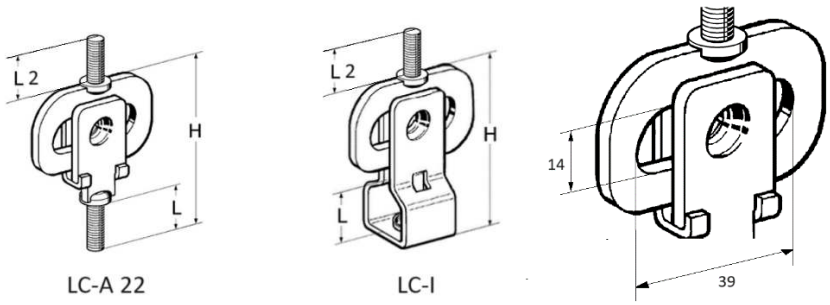


Fig. A72. Height adjuster HRS 0



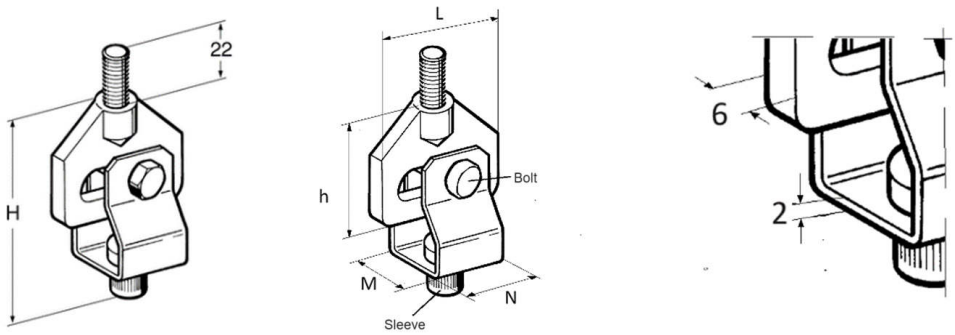
Designation	L [mm]	H [mm]	Thread	Bolt class	Nut	Nut class
HRS P M8	33	51	M8	8.8	M8	8
HRS P M10	33	51	M10	8.8	M10	8

Fig. A73. Height adjuster HRS P



Designation	Upper thread x L2	Lower thread x L	Height H [mm]	Height L2 [mm]	Bolt class	Thickness [mm]
GLE LC-A 22	M8 x 22	M8 x 22	76	22	4.6	3
GLE LC-I	M8 x 22	M8 / 15 [1)]	68	22	4.6	3
[1)] Height regulation range						

Fig. A74. Slide element GLE LC



Designation	Connection	H [mm]	h [mm]	L [mm]	M [mm]	N [mm]	Threaded sleeve
GLE J 8	M8	85	51	55	26	30	M8
GLE J 10	M10	85	51	55	26	30	M10
GLE J 12	M12	95	51	55	40	35	M12
GLE J 16	M12	95	51	55	40	35	M16

Fig. A75. Slide element GLE J

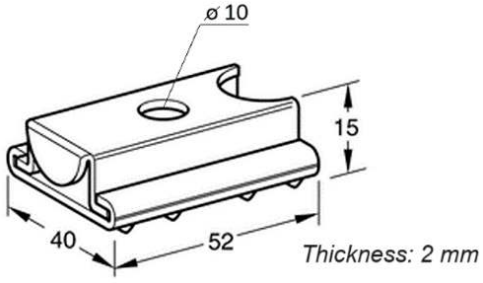


Fig. A76. Slide set GS 1G

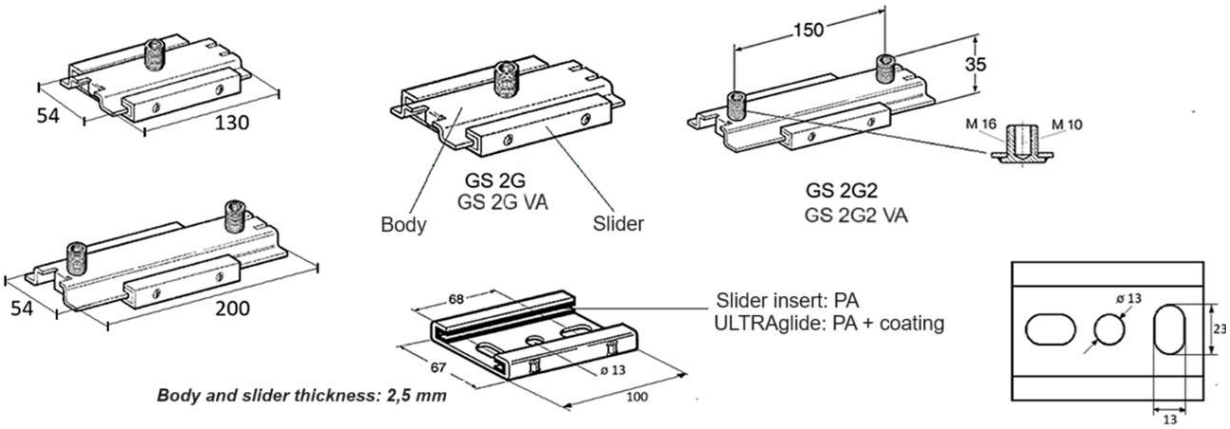


Fig. A77. Slide sets GS 2G, GS 2G VA, GS 2G2, GS 2G2 VA, GS ULTRAglide 2G and GS ULTRAglide 2G2

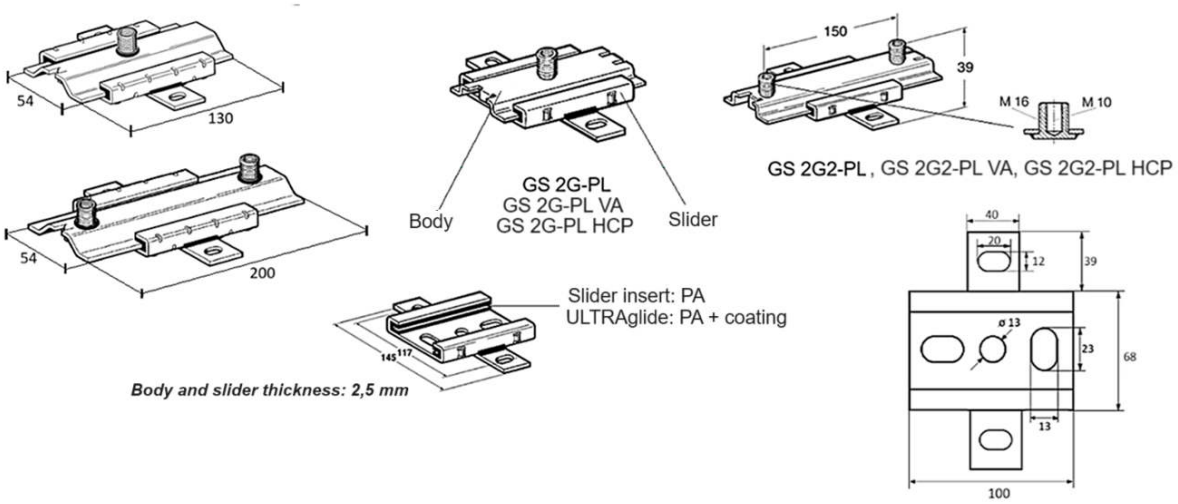


Fig. A78. Slide sets GS 2G-PL, GS 2G-PL HCP, GS 2G-PL VA, GS 2G2-PL, GS 2G2-PL HCP, GS 2G2-PL VA, GS ULTRAglide 2G-PL and GS ULTRAglide 2G2-PL

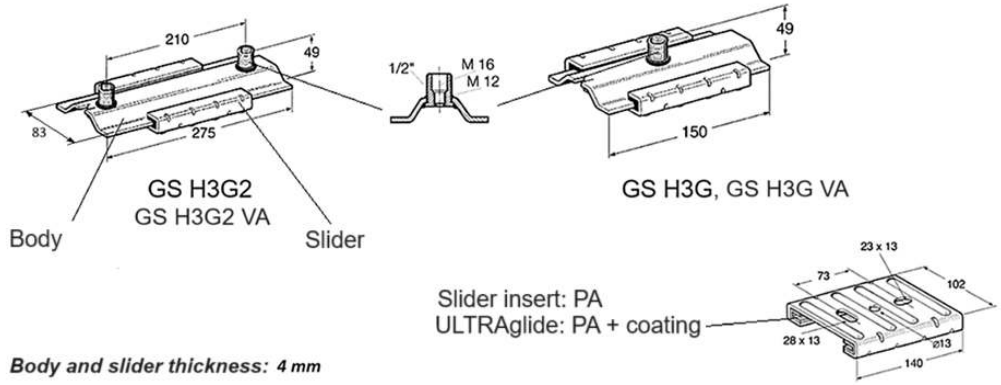


Fig. A79. Slide sets GS H3G, GS H3G2, GS H3G VA i GS H3G2 VA, GS ULTRAglide H3G and GS ULTRAglide H3G2

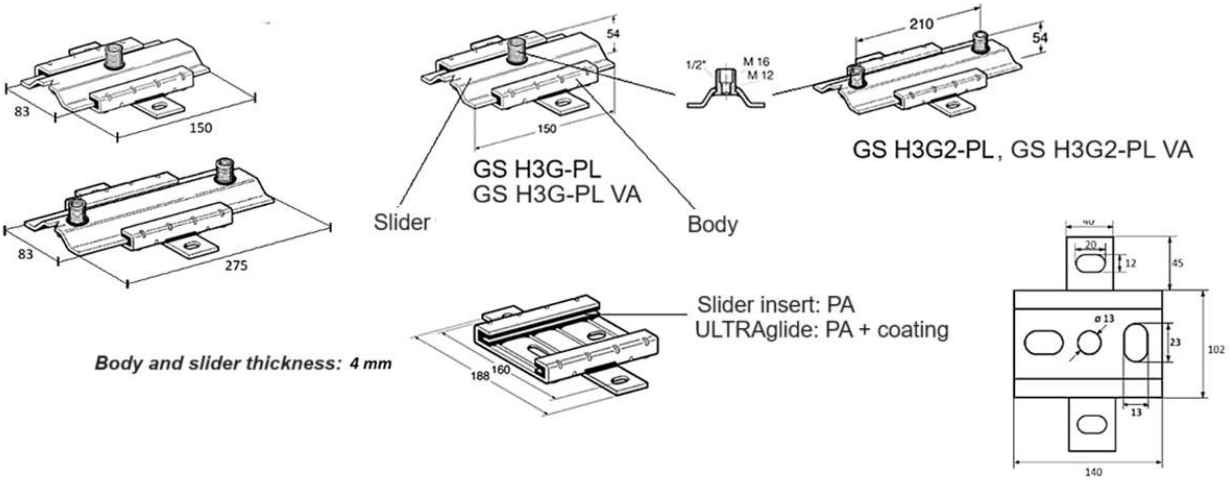


Fig. A80. Slide sets GS H3G-PL, GS H3G2-PL, GS H3G-PL VA, GS H3G2-PL VA, GS ULTRAglide H3G-PL and GS ULTRAglide H3G2-PL

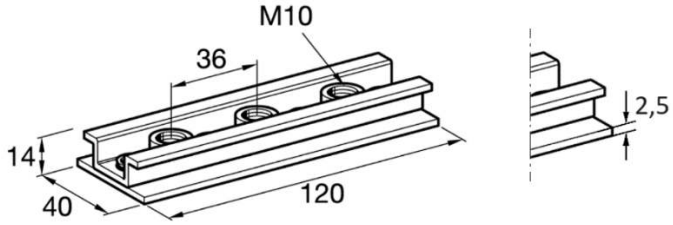


Fig. A81. Slide element GS 41

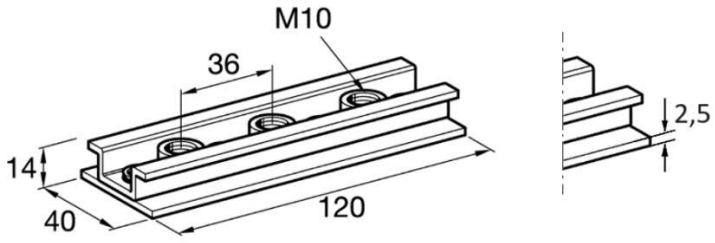
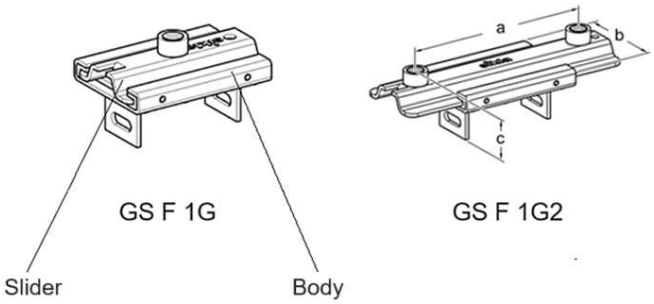


Fig. A82. Slide element GS 41 VA



Designation	a [mm]	b [mm]	c [mm]	Thickness [mm]	Connection thread
GS F80 1G	-	102	80,5	4	½"
GS F80 1G2	210	102	80,5	4	½"
GS F100 1G	-	102	85,5	4	½"
GS F100 1G2	210	102	85,5	4	½"

Fig. A83. Slide sets GS F 1G and GS F 1G2

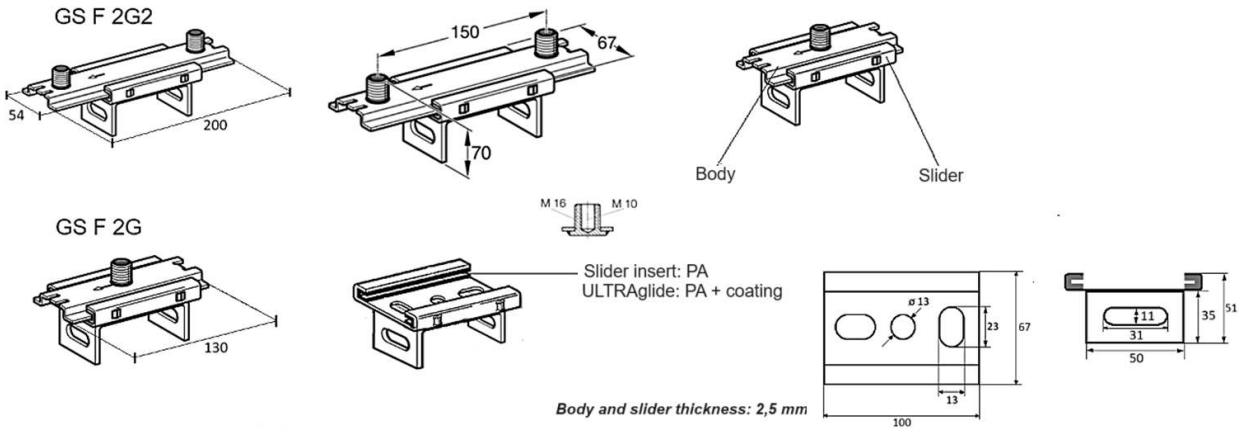
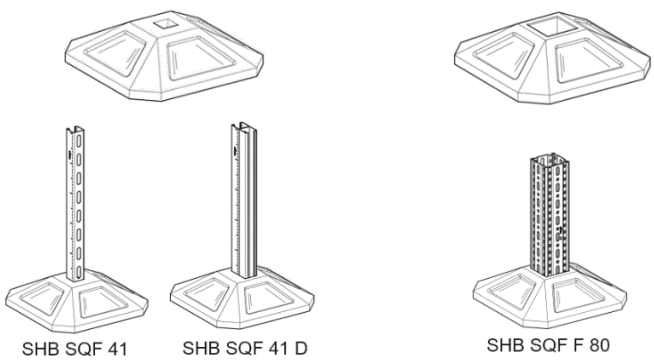
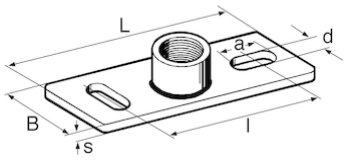


Fig. A84. Slide sets GS F 2G and GS 2G2



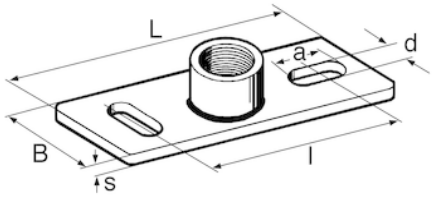
Designation	Plate dim. [mm x mm]	Hole [mm x mm]
SHB SQF 41-350	350 x 350	41 x 41
SHB SQF 41-500	500 x 500	41 x 41
SHB SQF 41 D-350	350 x 350	41 x 82
SHB SQF 41 D-500	500 x 500	41 x 82
SHB SQF F80-350	350 x 350	80 x 80
SHB SQF F80-500	500 x 500	80 x 80
SHB SQF 46-350	350 x 350	46 x 46
SHB SQF 46-500	500 x 500	46 x 46

Fig. A85. Insulated foots SHB SQF 350 and SHB SQF 500



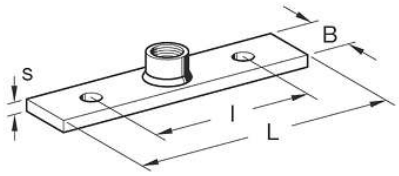
Designation	L x B x s [mm x mm x mm]	d x a [mm x mm]	l [mm]	Connection thread
GPL Normal M8	80 x 30 x 3	9 x 16	54	M8
GPL Normal M10	80 x 30 x 3	9 x 16	54	M10
GPL Normal 2G M8/M10	80 x 30 x 3	9 x 16	54	M8/M10
GPL Normal M10 RL	80 x 30 x 3	ø 4,5	54	M10
GPL Normal R 1/2"	80 x 30 x 3	9 x 16	54	½”
GPL Stabil M10	120 x 40 x 4	11 x 25	80	M10
GPL Stabil M12	120 x 40 x 4	11 x 25	80	M12
GPL Stabil M16	120 x 40 x 5	11 x 25	80	M16
GPL Stabil R 1/2"	120 x 40 x 5	11 x 25	80	½”
GPL Stabil R 3/4"	120 x 40 x 5	11 x 25	80	¾”
GPL Stabil R 1"	120 x 40 x 5	11 x 25	80	1”

Fig. A86. Mounting plates GPL



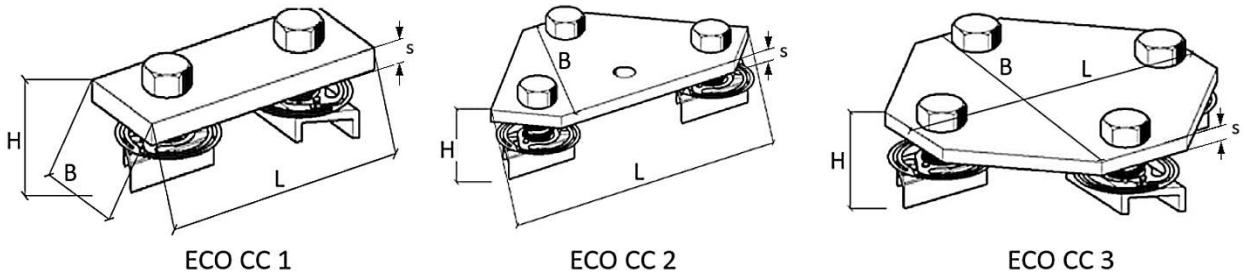
Designation	L x B x s [mm x mm x mm]	d x a [mm x mm]	l [mm]	Connection thread
GPL VA Stabil M8	120 x 40 x 4	11 x 25	80	M8
GPL HCP Stabil M10 / GPL VA Stabil M10	120 x 40 x 4	11 x 25	80	M10
GPL HCP Stabil M12 / GPL VA Stabil M12	120 x 40 x 4	11 x 25	80	M12
GPL HCP Stabil M16 / / GPL VA Stabil M16	120 x 40 x 5	11 x 25	80	M16
GPL HCP Stabil R 1/2" / GPL VA Stabil R 1/2"	120 x 40 x 5	11 x 25	80	½”
GPL VA Stabil R 3/4”	120 x 40 x 4	11 x 25	80	¾”

Fig. A87. Mounting plates GPL HCP and GPL VA



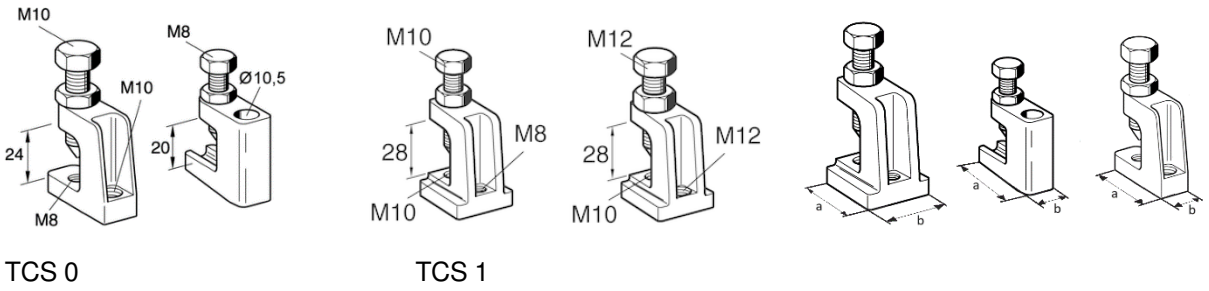
Designation	L x B [mm x mm]	s [mm]	l [mm]	Hole diameter [mm]	Connection thread
GPL Stabil R1/2”-100	200 x 40	8	112	13	½”

Fig. A88. Mounting plate GPL Stabil HCP



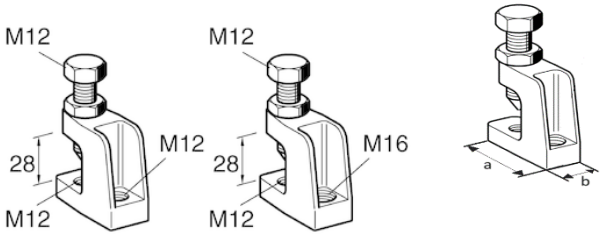
Designation	L [mm]	B [mm]	H [mm]	s [mm]	Bolt	Bolt class
ECO CC 1	101	40	23	5	M10	8.8
ECO CC 2	147	83	23	5	M10	
ECO CC 3	125	125	23	5	M10	

Fig. A89. Flat fittings ECO CC 1, ECO CC 2 and ECO CC 3



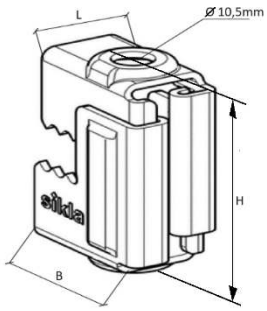
Designation	a x b [mm x mm]	Bolt	Bolt class	Nut	Nut class
TCS 0	46 x 18	M8/M10	8.8	M8/M10	8
TCS 1 and TCS 1 HCP	44 x 33	M10/M12	8.8	M10/M12	8
TCS 1 VA	44 x 33	M10/M12	A4 70	M10/M12	A4-40

Fig. A90. Beam clamps TCS 0, TCS 1, TCS 1 HCP and TCS 1 VA



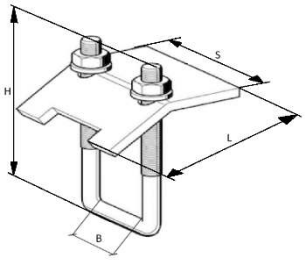
Designation	a x b [mm x mm]	Bolt	Bolt class	Nut	Nut class
TCS 2	59 x 26	M12	8.8	M12	8
TCS 2 HCP	59 x 26	M12	8.8	M12	8

Fig. A91. Beam clamps TCS 2 and TCS 2 HCP



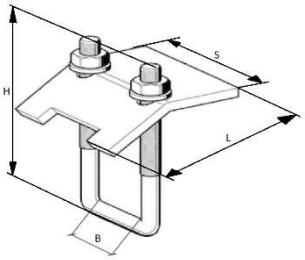
Designation	L [mm]	B [mm]	H [mm]	Thickness [mm]
TCS F VdS/FM	26	40	55	2

Fig. A92. Beam clamp TCS F (VdS/FM)



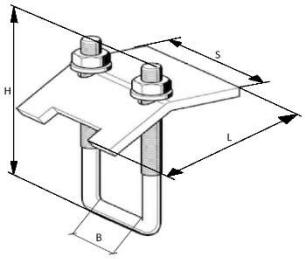
Designation	H [mm]	B [mm]	L [mm]	S [mm]	Plate thickness [mm]	Thread	Nut	Nut class
SB 27-M8	78	30	85	65	5	M8	M8	8

Fig. A93. U-holder SB 27



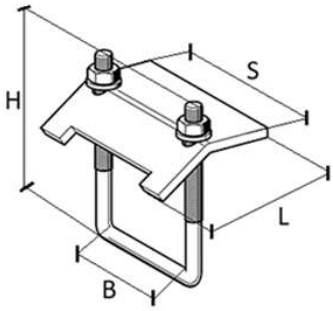
Designation	H [mm]	B [mm]	L [mm]	S [mm]	Plate thickness [mm]	Thread	Nut	Nut class
SB 41-M8	116	43	77	80	6	M8	M8	8
SB 41-M10	116	43	77	80	6	M10	M10	8
SB 41D-M10	180	43	77	80	6	M10	M10	8

Fig. A94. U-holders SB 41

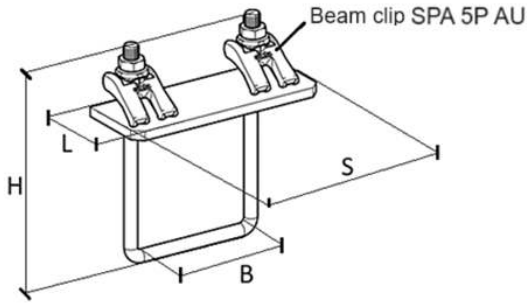


Designation	H [mm]	B [mm]	L [mm]	S [mm]	Plate thickness [mm]	Thread	Nut	Nut class
SB 41 HCP-M10	116	43	77	80	6	M10	M10	8

Fig. A95. U-holder SB 41 HCP



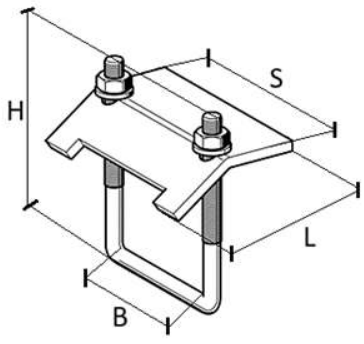
SB F 80-16, 80/30-16



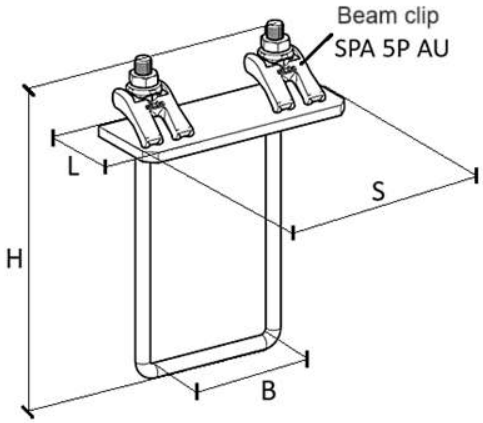
SB F 80-40, 80-30/40

Designation	H [mm]	B [mm]	L [mm]	S [mm]	Thread	Nut	Nut class	Plate thickness [mm]
SB F 80-16	130	101	78	120	M10	M10	8	6
SB F 80-40	175	106	60	155	M12	M12	8	10
SB F 80/30-16	80	101	78	120	M10	M10	8	6
SB F 80/30-40	125	106	60	155	M12	M12	8	10

Fig. A96. U-holders SB F 80



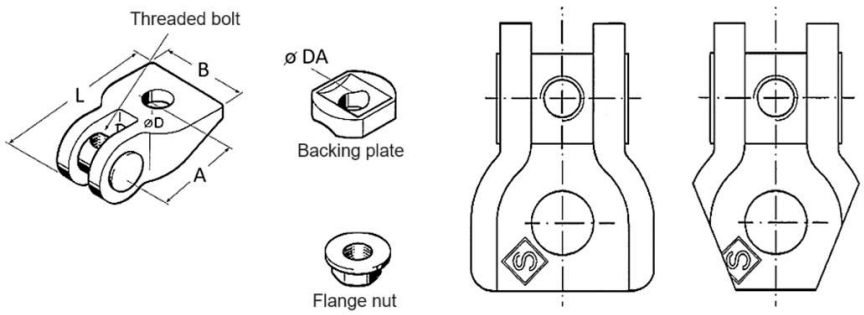
SB F 100-16



SB F 100-40, 100/160-40

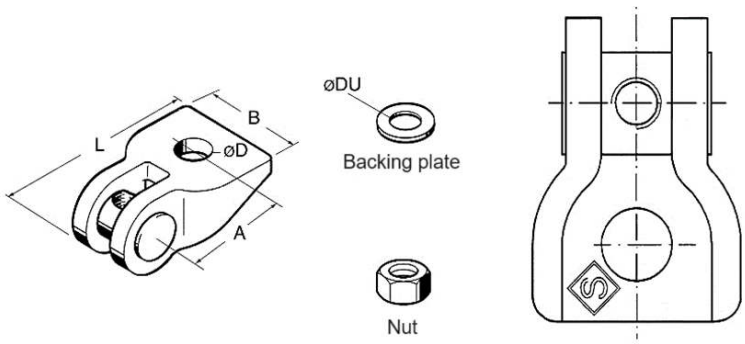
Designation	H [mm]	B [mm]	L [mm]	S [mm]	Thread	Nut	Nut class	Plate thickness [mm]
SB F 100-16	150	121	72	140	M10	M10	8	6
SB F 100-40	195	126	60	175	M12	M12	8	10
SB F 100/160-40	255	126	60	175	M12	M12	8	10

Fig. A97. U-holders SB F 100



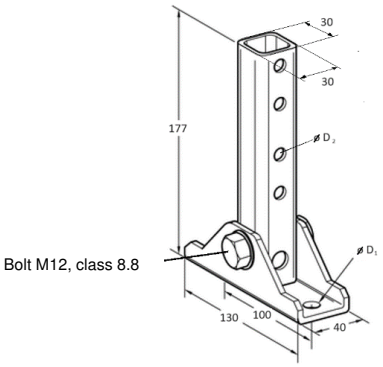
Designation	A [mm]	B [mm]	ø D [mm]	L [mm]	ø DA [mm]	Threaded bolt	Nut	Nut class
UG M8	26	40	10,5	51	10,5	M8	M8	8
UG M10	26	40	10,5	51	10,5	M10	M10	8
UG M12	33	50	17	71	16,5	M12	M12	8
UG M16	33	50	17	71	16,5	M16	M16	8
UG FP M12	33	50	17	71	16,5	M12	M12	8
UG FP M16	33	50	17	71	16,5	M16	M16	8

Fig. A98. Universal joint UG



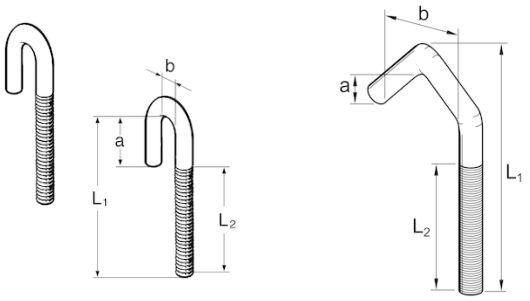
Designation	A [mm]	B [mm]	ø D [mm]	L [mm]	ø DU [mm]	Nut	Nut class
UG VA M8	26	40	12,5	51	10,5	M8	A4-80
UG VA M10	26	40	12,5	51	10,5	M10	A4-80
UG VA M12	33	50	17	71	16,5	M12	A4-80
UG VA M16	33	50	17	71	16,5	M16	A4-80

Fig. A99. Universal joints UG VA



Designation	ø D1 [mm]	ø D2 [mm]	Plate thickness [mm]	Profile thickness [mm]
JOI 41 T HCP	10,5	9,0	4	3

Fig. A100. Joint JOI 41 T HCP



Designation	L1 [mm]	L2 [mm]	a [mm]	b [mm]
GH M8 x 75	75	50	15	12
GH M8 x 115	115	70	25	12
GH M10 x 120	110	65	22	46
GH M10 x 150	150	90	30	15

Fig. A101. Threaded hooks GH

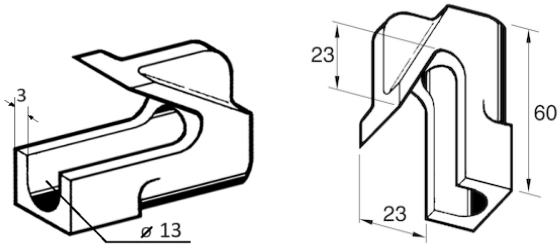
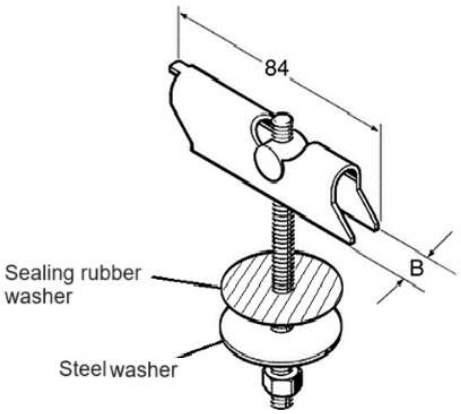
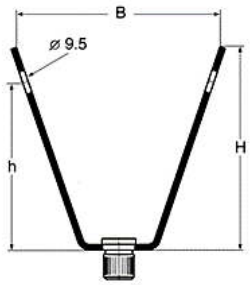


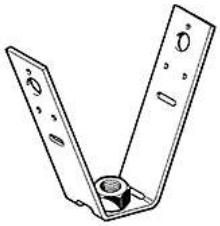
Fig. A102. Hook sleeve SP



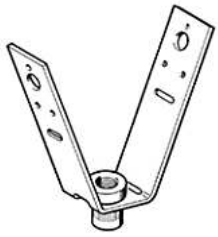
Designation	Threaded rod length [mm]	Threaded rod diameter ø [mm]	Rod class	Nut	Nut class	Mounting hole [mm]	B [mm]	Washer diameter [mm]
KD M8 x 100	100	M8	8.8	M8	8	22	14	40
KD M8 x 200	200	M8	8.8	M8	8	22	14	40
KD TD10 x 100	100	M10	8.8	M10	8	25	16	40
KD TD10 x 200	200	M10	8.8	M10	8	25	16	40

Fig. A103. Toggle studs KD



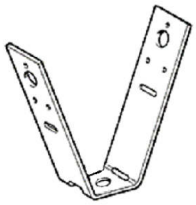


M8, M10



RM 8, RM 10

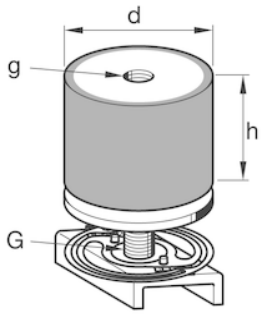
MS



M8 H, M10 H

Designation	H [mm]	B [mm]	h [mm]	Connection	Flat bar width [mm]	Flat bar thickness [mm]
M8	90	90	75	M8	25	2,5
M10	90	90	75	M10	25	2,5
RM 8	90	90	75	M8	25	2,5
RM 10	90	90	75	M10	25	2,5
MS	90	90	75	ø 11	25	2,5
M8H	90	90	75	ø 8	25	2,5
M10H	90	90	75	ø 10	25	2,5

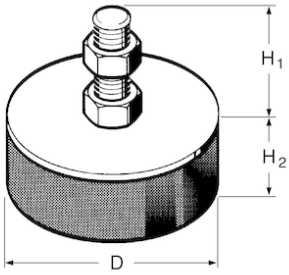
Fig. A104. Roof hanger TRH (M8, M10, RM 8, RM 10, MS, M8H, M10H)



Lower plate not included as the set of AKE

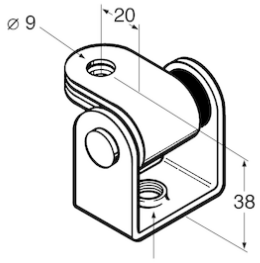
Designation	d [mm]	h [mm]	Inner thread g	Inner thread length [mm]	Outer thread G	Outer thread length [mm]
AKE	40	30	M8	10	M8	23

Fig. A105. Acoustic absorption element AKE



Designation	Connection	D [mm]	H1 [mm]	H2 [mm]	Nut	Nut class
GMT M12	M12	75	37	25	M12	8

Fig. A106. Rubber-metal combination element GMT



Designation	Thread	Dimensions [mm x mm x mm]
SDE 0	M8	32 x 20 x 2

Fig. A107. Sound absorber SDE 0

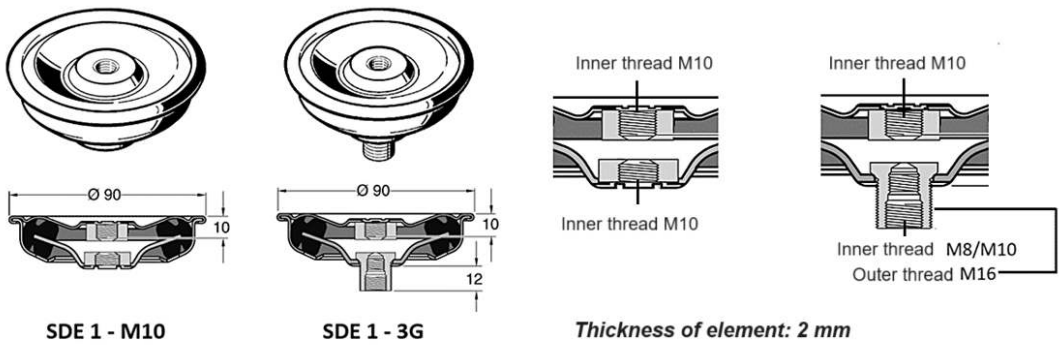
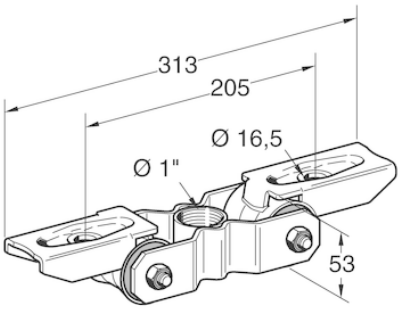
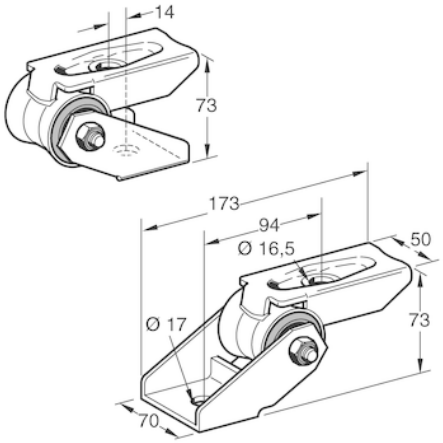


Fig. A108. Sound absorber SDE 1 - M10 and SDE 1- 3G



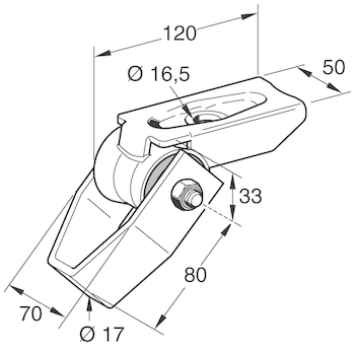
Designation	Thickness [mm]	Bolt class	Bolt	Nut class	Nut
SDE 2 - FP 1	4	8.8	M10	8	M10

Fig. A109. Sound absorber SDE 2 - FP 1



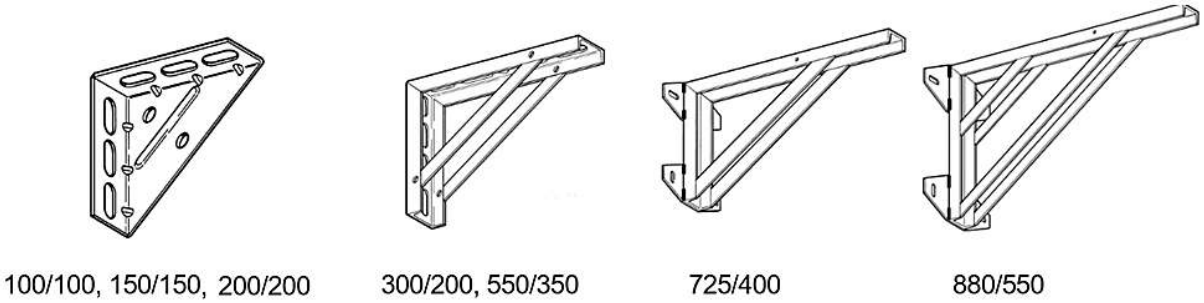
Designation	Thickness [mm]	Bolt class	Bolt	Nut class	Nut
SDE 2 - SBV/SBZ	4	8.8	M10	8	M10

Fig. A110. Sound absorber SDE 2 - SBV/SBZ



Designation	Thickness [mm]	Bolt class	Bolt	Nut class	Nut
SDE 2 - UG 16	4	8.8	M10	8	M10

Fig. A111. Sound absorber SDE 2 - UG 16



Designation	Horizontal arm length [mm]	Vertical arm length [mm]	Profile
100/100, 100/100 VA	100	100	-
100/100-40	100	100	-
150/150, 150/150 VA, 150/150 HCP	150	150	-
200/200	200	200	-
300/200	300	200	U 50/25
550/350, 550/350 HCP	550	350	U 50/25
725/400 HCP	725	400	U 65/42
880/550 HCP	880	550	U 65/42

Support brackets and holes dimensions: fig. A112 ÷ fig. A117

Fig. A112. Supports brackets WK, WK HCP and WK VA

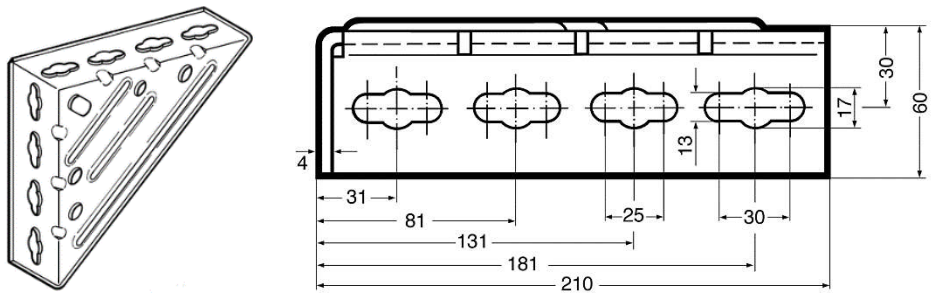


Fig. A113. Supports bracket WK 200/200

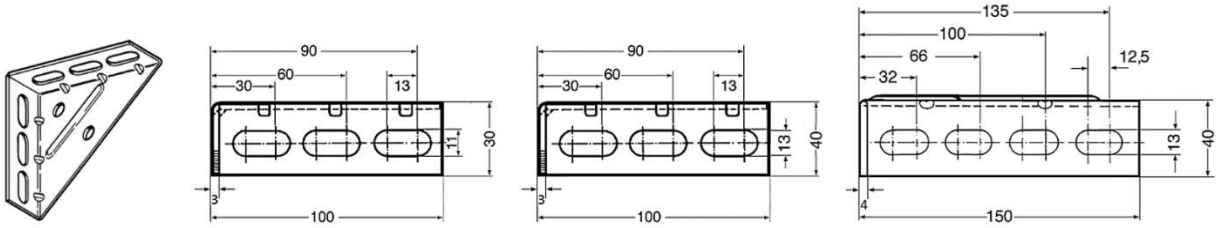


Fig. A114. Supports brackets WK 100/100, WK 100/100-40, WK 150/150, WK 150/150 HCP, WK 100/100 VA and WK 150/150 VA

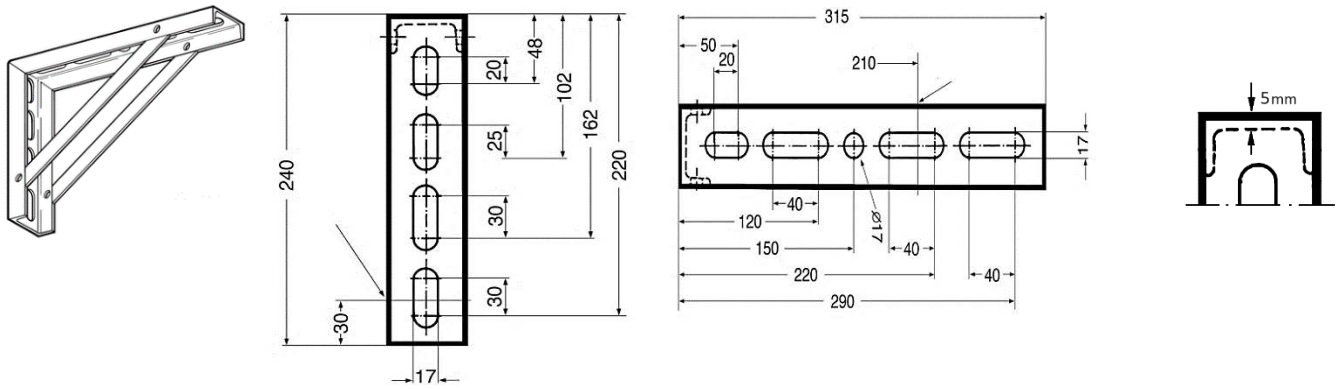


Fig. A115. Supports bracket WK 300/200

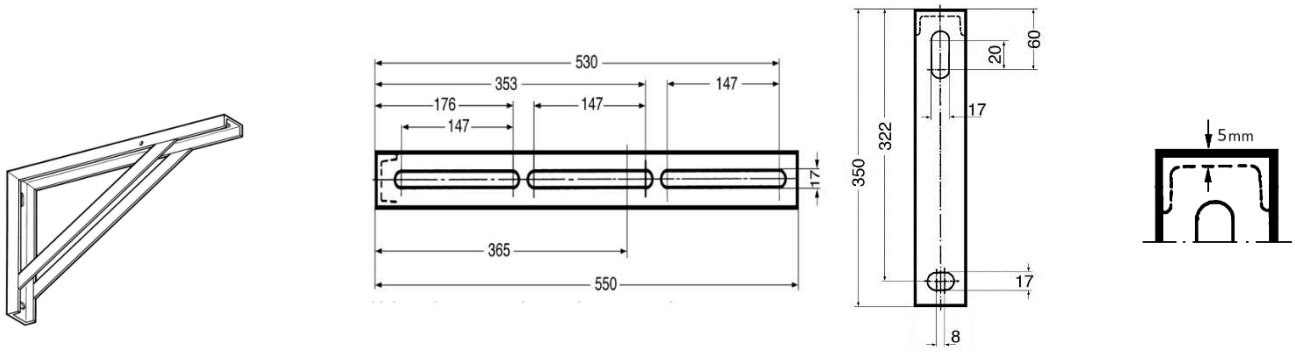


Fig. A116. Supports bracket WK 550/350 and WK550/350 HCP

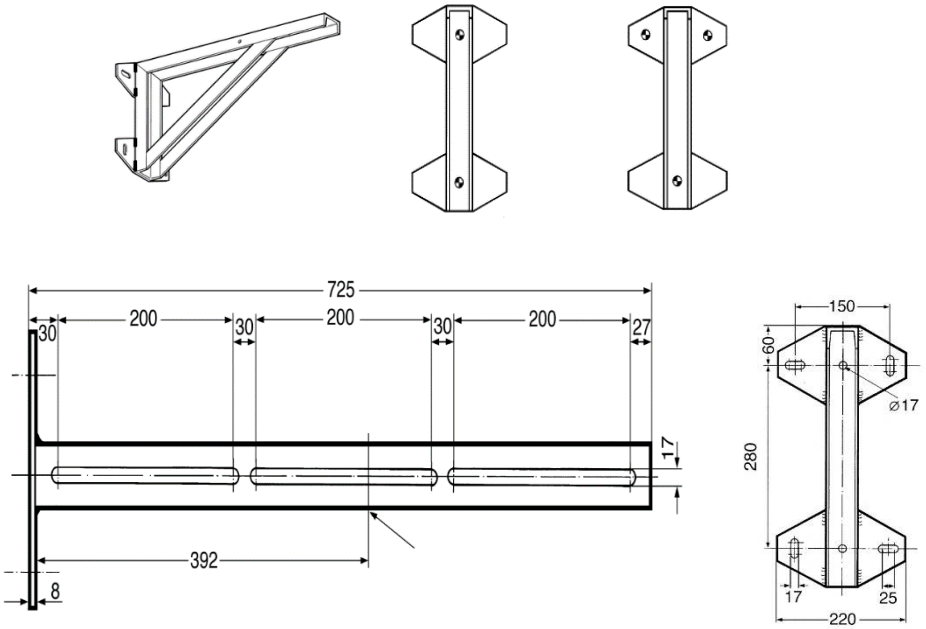


Fig. A117. Supports bracket WK 725/400 HCP

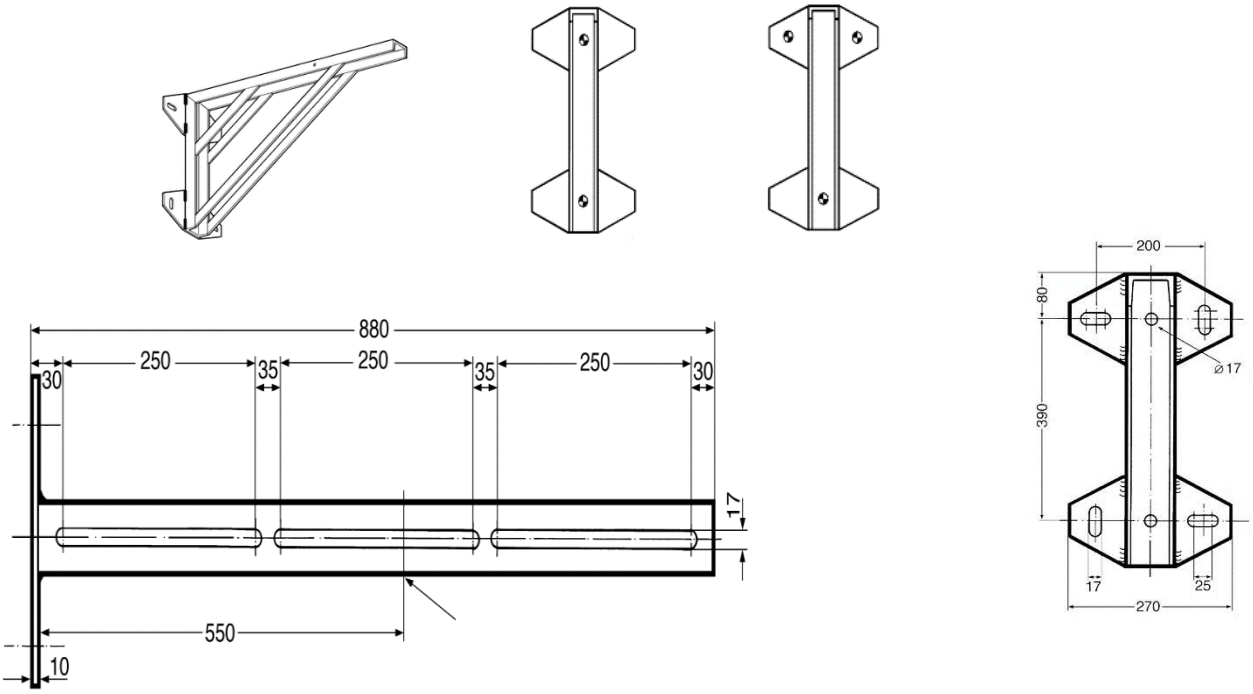
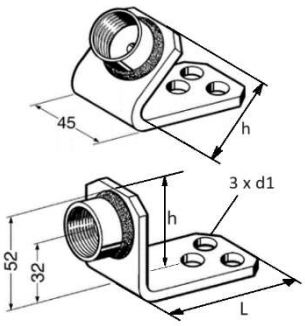
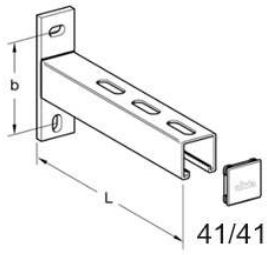


Fig. A118. Supports bracket WK 880/550 HCP



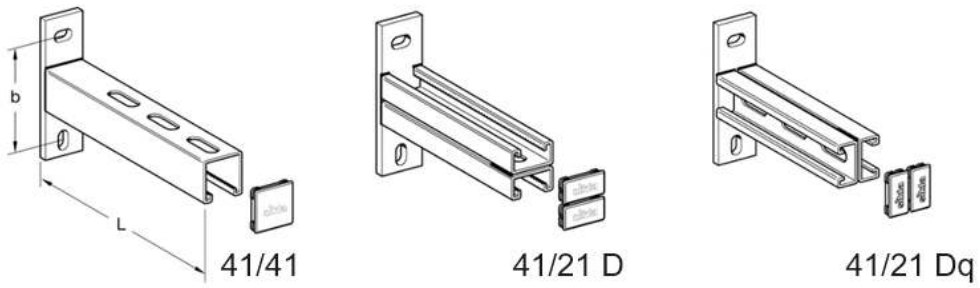
Designation	L [mm]	h [mm]	d1 [mm]	Thickness [mm]	Connection
½" 45	73	50	13	6	½"
¾" 45	73	50	13	6	¾"
1" 45	73	50	13	6	1"
½" 90	73	50	13	6	½"

Fig. A119. Socket angle ST



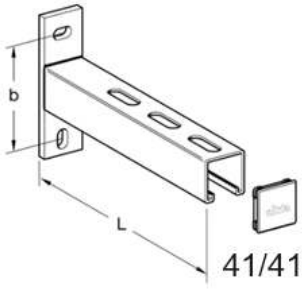
Designation	Plate holes [mm x mm]	Plate dimensions [mm x mm x mm]	b [mm]	L [mm]	Profile thickness [mm]	Hole [mm x mm]
27/25 - 200	13 x 18	88 x 30 x 6	64	203	2	10 x 15
27/25 - 250	13 x 18	88 x 30 x 6	64	253	2	10 x 15
27/25 - 300	13 x 18	88 x 30 x 6	64	303	2	10 x 15
27/25 - 500	13 x 18	88 x 30 x 6	64	503	2	10 x 15
27/25 - 700	13 x 18	88 x 30 x 6	64	703	2	10 x 15
27/37 - 300	13 x 18	88 x 30 x 6	64	304	2	10 x 15
27/37 - 500	13 x 18	88 x 30 x 6	64	504	2	10 x 15
27/37 - 700	13 x 18	88 x 30 x 6	64	704	2	10 x 15
27/37 - 800	13 x 18	88 x 30 x 6	64	804	2	10 x 15
41/41 - 200	13 x 18	134 x 40 x 8	100	196	2	13 x 18
41/41 - 260	13 x 18	134 x 40 x 8	100	258	2	13 x 18
41/41 - 320	13 x 18	134 x 40 x 8	100	321	2	13 x 18
41/41 - 445	13 x 18	134 x 40 x 8	100	446	2	13 x 18
41/41 - 570	13 x 18	134 x 40 x 8	100	571	2	13 x 18
41/41 - 820	13 x 18	134 x 40 x 8	100	821	2	13 x 18
41/41 - 1010	13 x 18	134 x 40 x 8	100	1008	2	13 x 18
41/62 - 320	13 x 18	134 x 40 x 8	100	321	2	13 x 18
41/62 - 445	13 x 18	134 x 40 x 8	100	446	2	13 x 18
41/62 - 570	13 x 18	134 x 40 x 8	100	571	2	13 x 18
41/62 - 820	13 x 18	134 x 40 x 8	100	821	2	13 x 18
41/62 - 1010	13 x 18	134 x 40 x 8	100	1008	2	13 x 18

Fig. A120. Cantilever brackets AK



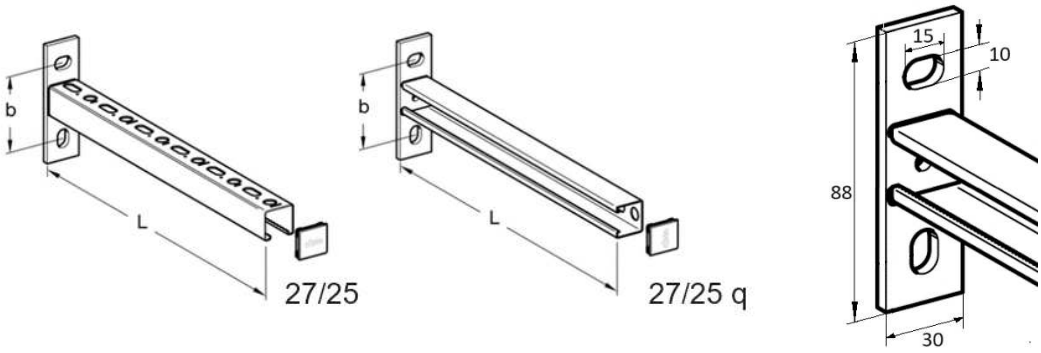
Designation	Plate holes [mm x mm]	Plate dimensions [mm x mm x mm]	b [mm]	L [mm]	Profile thickness [mm]	Hole [mm x mm]
41/41 - 320	13 x 18	134 x 40 x 8	100	320	2	13 x 39
41/41 - 570	13 x 18	134 x 40 x 8	100	570	2	13 x 39
41/41 - 820	13 x 18	134 x 40 x 8	100	820	2	13 x 39
41/62 - 320	13 x 18	134 x 40 x 8	100	320	2	13 x 39
41/62 - 570	13 x 18	134 x 40 x 8	100	570	2	13 x 39
41/62 - 820	13 x 18	134 x 40 x 8	100	820	2	13 x 39
41/21 D - 320	13 x 18	134 x 40 x 8	100	320	2	13 x 39
41/21 D - 570	13 x 18	134 x 40 x 8	100	570	2	13 x 39
41/21 Dq - 320	13 x 18	134 x 40 x 8	100	320	2	13 x 39
41/21 Dq - 570	13 x 18	134 x 40 x 8	100	570	2	13 x 39
D – double channel q - profile 90 deg. rotation						

Fig. A121. Cantilever brackets AK HCP



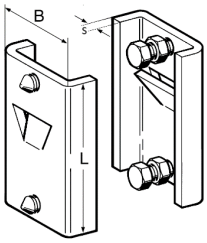
Designation	Plate holes [mm x mm]	Plate dimensions [mm x mm x mm]	b [mm]	L [mm]	Profile thickness [mm]	Hole [mm x mm]
41/41 - 200	132 x 40 x 8	13 x 18	196	100	2	13 x 39
41/41 - 260	132 x 40 x 8	13 x 18	258	100	2	13 x 39
41/41 - 320	132 x 40 x 8	13 x 18	321	100	2	13 x 39
41/41 - 445	132 x 40 x 8	13 x 18	446	100	2	13 x 39

Fig. A122. Cantilever brackets AK VA



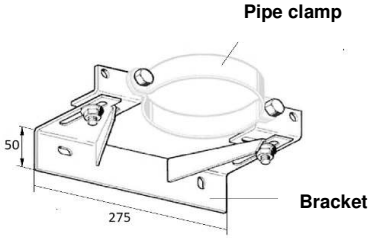
Designation	L [mm]	b [mm]	Profile thickness [mm]	Plate thickness [mm]	Plate hole [mm x mm]
27/25 - 200	203	64	1,25	5	10 x 15
27/25 - 250	253	64	1,25	5	10 x 15
27/25 - 300	303	64	1,25	5	10 x 15
27/25 - 500	503	64	1,25	5	10 x 15
27/25 - 700	703	64	1,25	5	10 x 15
27/25 q - 300	303	64	1,25	5	10 x 15
27/37 - 300	304	64	1,25	5	10 x 15
27/37 - 500	504	64	1,25	5	10 x 15
27/37 - 700	704	64	1,25	5	10 x 15
27/37 - 800	804	64	1,25	5	10 x 15
q – profile 90 deg. rotation (for part 27/25 - 300)					

Fig. A123. Cantilever brackets AK 27-1,25



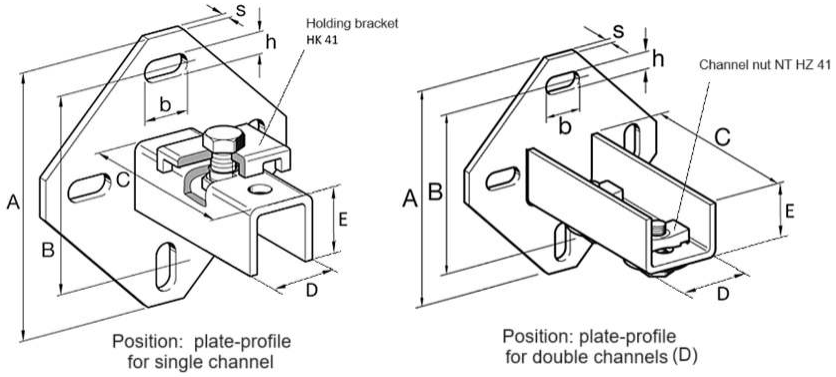
Designation	L [mm]	B [mm]	S [mm]	Bolt class	Bolt	Nut class	Nut
SKL	100	62	6	8.8	M10	8	M10

Fig. A124. Clamping end SKL



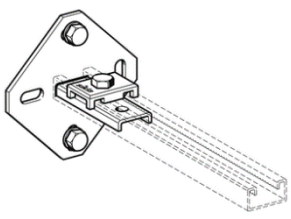
Designation	Thickness [mm]	Bolt	Bolt class	Nut	Nut class
SFK	4	M10	8.8	M10	8
Bracket supplied without pipe clamp Stabil D-A					

Fig. A125. Bracket SFK

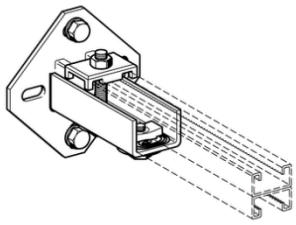


Profile thickness: 4 mm

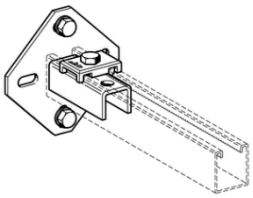
Designation	A [mm]	s [mm]	B [mm]	b [mm]	h [mm]	C [mm]	D [mm]	E [mm]	Bolt class	Nut class	Bolt / nut
41/21-31	135	6	100	25	11	95	34	11	8.8	8	M10
41/41-45	135	6	100	25	11	95	34	31			M10
41/52	170	6	120	25	13	131	34	41			M12
41/62	170	6	120	25	13	131	34	51			M12
41-75/65	210	8	170	25	13	131	34	55			M12
41-75/75	210	8	170	25	13	131	34	65			M12
41/21-31 D	135	6	100	25	11	125	50	36			M10
41/41-45 D	210	8	170	25	13	125	50	76			M10
41/52 D	210	8	170	25	13	135	50	98			M12
41/62 D	255	8	205	25	13	135	50	118			M12
41-75/65D	255	8	205	25	13	135	50	124			M12
41-75/75 D	255	8	205	25	13	135	50	144			M12
D – for double channels											



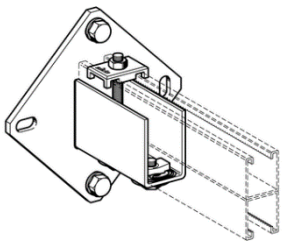
End support WBD 41/21-31



End support WBD 41/21-31D

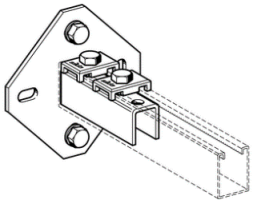


End support WBD 41/41-45

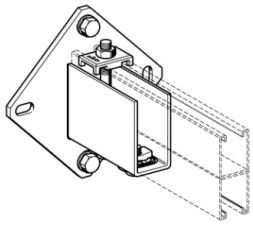


End support WBD 41/41-45D

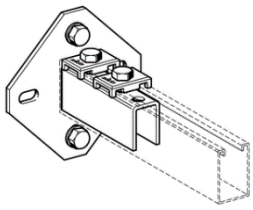
Fig. A126. End supports



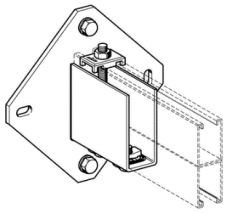
End support WBD 41/52



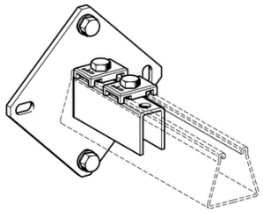
End support WBD 41/52 D



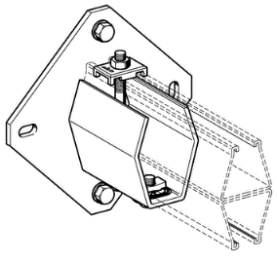
End support WBD 41/62



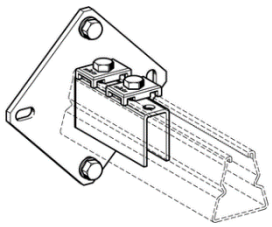
End support WBD 41/62 D



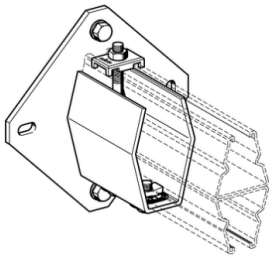
End support WBD 41-75/65



End support WBD 41-75/65D

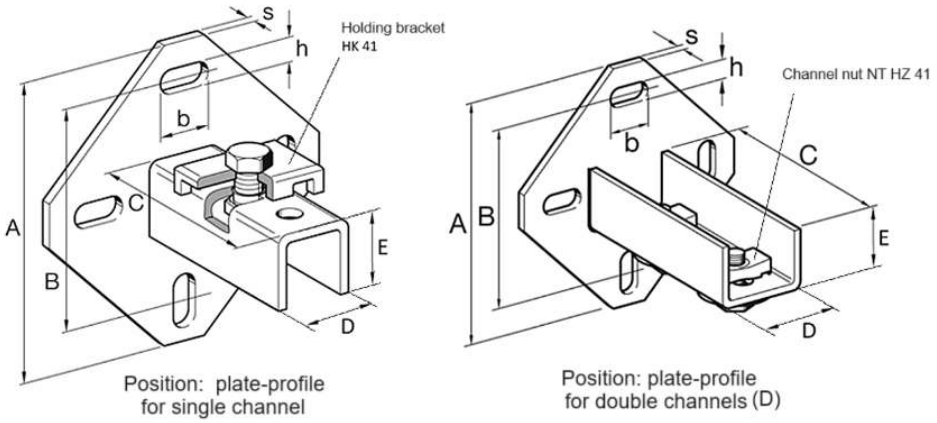


End support WBD 41-75/75



End support WBD 41-75/75D

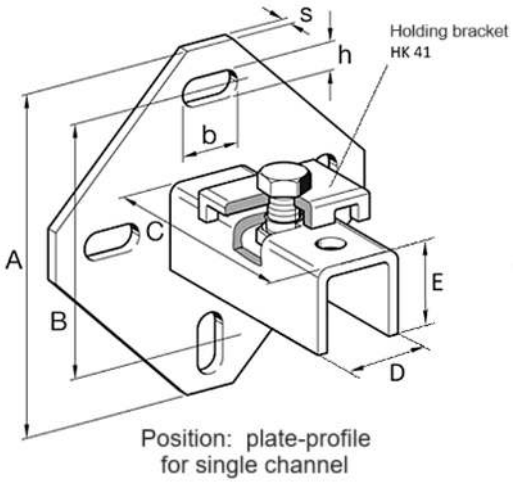
c.d. fig. A126. End supports WBD



Profile thickness: 4 mm

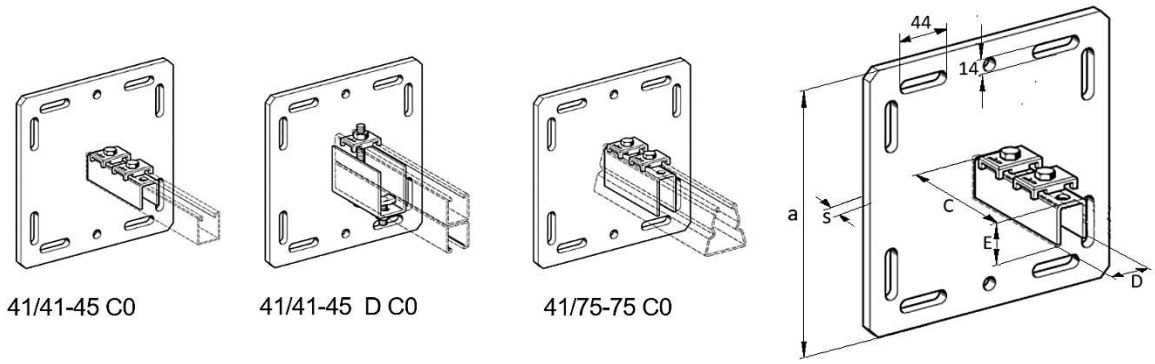
Designation	A [mm]	s [mm]	B [mm]	b [mm]	h [mm]	C [mm]	D [mm]	E [mm]	Bolt class	Nut class	Bolt / nut
41/21-31	135	6	100	25	11	95	34	11	8.8	8	M10
41/41-45	135	6	100	25	11	95	34	31			M10
41/62	170	6	120	25	13	131	34	51			M12
41/41-45 D	102	8	170	25	13	125	50	76			M10
D – for double channels											

Fig. A127. End support WBD HCP



Designation	A [mm]	s [mm]	B [mm]	b [mm]	h [mm]	C [mm]	D [mm]	E [mm]	Bolt class	Nut class	Bolt / nut
41/41-62	135	6	100	25	11	125	34	51	A4-80	A4-80	M10

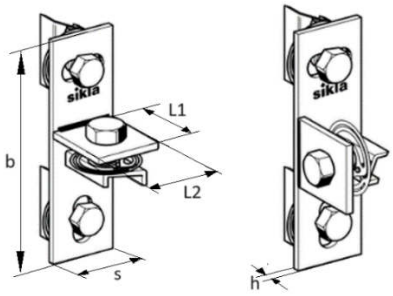
Fig. A128. End support WBD VA



41/41-45 C0 41/41-45 D C0 41/75-75 C0

Designation	Channel	Plate dimensions a x a x s [mm]	C [mm]	D [mm]	E [mm]	Profile thickness [mm]	Nut class	Nut	Bolt class	Bolt
41/41-45 C0	41/41/2,5 41/45/3,0	220 x 220 x 12	142	34	31	4	8	M12	8.8	M12
41-75/75 C0	41-75/75/3,0	220 x 220 x 12	125	34	61	4	8	M10	8.8	M10
41/41-45 D C0	41/41/2,5 D 41/45/3,0 D	220 x 220 x 12	125	51	76	4	8	M10	8.8	M10
D – for double channels										

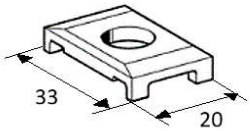
Fig. A129. End supports WBD C HCP



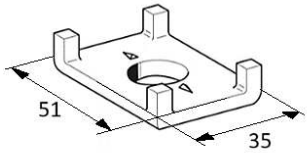
CC-MH 41 CC-MV 41

Designation	Channel	Plate dimensions b x s x h [mm x mm x mm]	L1 [mm]	L2 [mm]	Bolt	Bolt class
CC-MH 41	41/21 - 41/52	135 x 40 x 4	46	40	M10	8.8
CC-MV 41	41/21 - 41/52	135 x 40 x 4	46	40	M10	

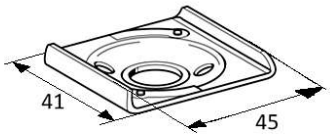
Fig. A130. T-brackets MOS CC



HK 27



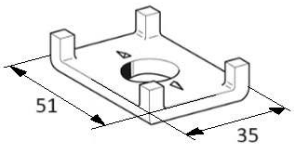
HK BL



HK VA

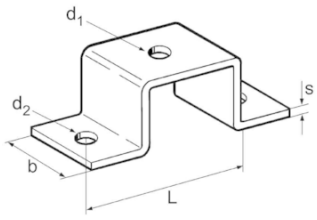
Designation	Channel [mm]	Hole diameter [mm]	Thickness [mm]
HK 27/10	27	11	3
HK BL 8	41	9	2
HK BL 10	41	10,5	2
HK BL 12	41	12,5	2
HK 41/10 VA	41	11	5
HK 41/12 VA	41	13	5
HK 41/16 VA	41	17	5

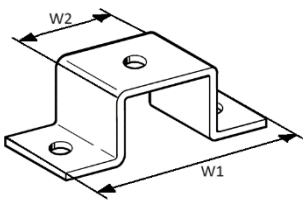
Fig. A131. Holding brackets HK 27, HK BL and HK VA



Designation	Channel [mm]	Hole diameter [mm]	Thickness [mm]
41/10	41	11	5
41/12	41	13	5
41/16	41	17	5

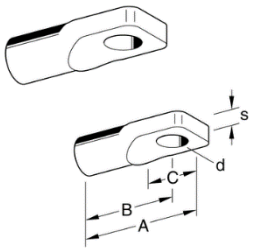
Fig. A132. Holding brackets HK 41 and HK HCP





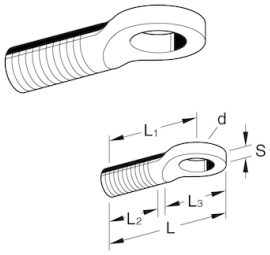
Designation	b x s [mm x mm]	L [mm]	W1 [mm]	W2 [mm]	ø d_1 [mm]	ø d_2 [mm]
41/21	40 x 4	80	110	50	11	11
41/31	40 x 4	80	110	50	11	11
41/41 i 41/21 D	40 x 4	80	110	50	11	11
41/45	40 x 4	80	110	50	11	11
41/52	40 x 4	80	110	50	11	11
41/62	40 x 4	80	110	50	11	11
41-75/65	50 x 5	120	115	50	13	13
41-75/75	50 x 5	120	115	50	13	13
41/41 D	40 x 4	80	110	50	11	11
41/45 D	40 x 4	84	115	50	13	13
41/52 D	40 x 4	84	115	50	13	13
41/62 D	40 x 4	84	115	50	13	13
41-75/65 D	50 x 5	120	115	50	13	13
41-75/75 D	50 x 5	120	115	50	13	13
D - for double channel						

Fig. A133. Channel brackets SH i SH HCP



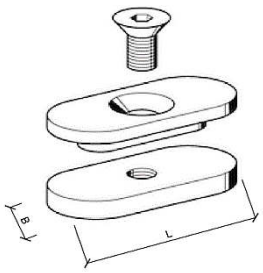
Designation	A [mm]	B [mm]	C [mm]	s [mm]	d [mm]	Thread [mm]
M8	46,5	35,5	22	5,5	11	12
M10	50,5	39,5	22	6,5	12	15
M12	56,1	43,5	23	7,5	13	21

Fig. A134. Link eyes SCB



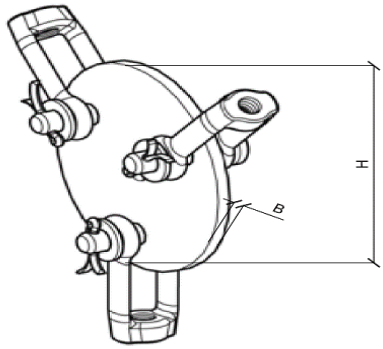
Designation	L [mm]	L_1 [mm]	L_2 [mm]	L_3 [mm]	d [mm]	s [mm]	Thread
M8	45	34	20	21	8,5	3,3	M8
M10	48	36	20	25	12	4,2	M10

Fig. A135. Eye bolts SCR



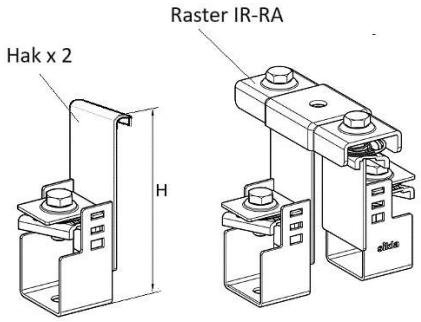
Designation	B [mm]	L [mm]	Bolt class	Bolt	Thread length [mm]	Hole diameter [mm]
KL 1	26	55	8.8	M8	11	18

Fig. A136. Clamping unit KL



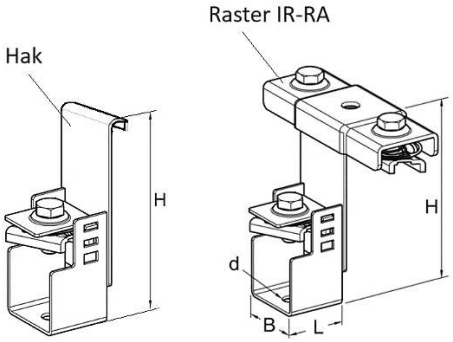
Designation	B [mm]	H [mm]	Thread	Bolt
IR M10	5	100	M10	M10

Fig. A137. Tension tie rod disc IR



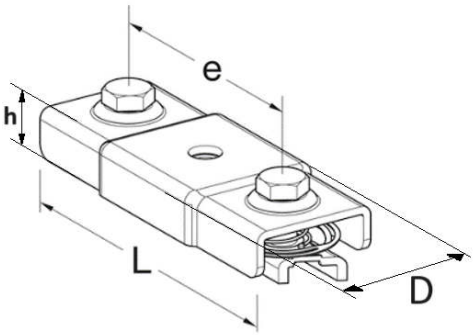
Designation	H [mm]	B [mm]	L [mm]	d [mm]	Thickness [mm]	Bolt	Bolt class
IR-M 41/52 D	104	43	40	11	2	M10	8.8
IR-M 41/62 D	124	43	40	11	2	M10	8.8

Fig. A138. Cross tee IR-M



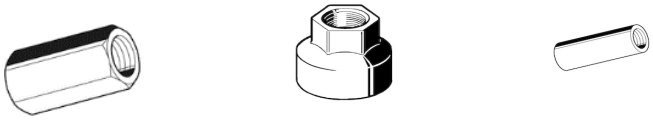
Designation	H [mm]	B [mm]	L [mm]	d [mm]	Thickness [mm]	Bolt	Bolt class
IR-E 41/52 D	104	43	40	11	2	M10	8.8
IR-E 41/62 D	124	43	40	11	2	M10	8.8

Fig. A139. Cross tee IR-E



Designation	L [mm]	e [mm]	D [mm]	H [mm]	Thickness [mm]	Hole thread	Bolt	Bolt class
IR-RA M10	135	96	52	20	3	M10	M10	8.8

Fig. A140. Suspension holding bracket IR-RA

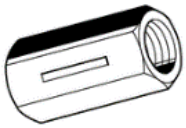


Form A Form B Form C

Designation	Form	Inner thread	Length [mm]
M16/M10	A	M16/M10	35
M16/M12	A	M16/M12	35
M16/M16	A	M16/M16	30
3/8"/M16	A	3/8"/M16	40
1/2"/M10	A	1/2"/M10	35
1/2"/M12	A	1/2"/M12	35
1/2"/M16	A	1/2"/M16	40
1/2"/1/2"	A	1/2"/1/2"	35
3/4"/M10	A	3/4"/M10	35
3/4"/M12	A	3/4"/M12	35

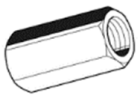
Designation	Form	Inner thread	Length [mm]
3/4"/M16	A	3/4"/M16	35
3/4"/3/8"	A	3/4"/3/8"	35
3/4"/1/2"	A	3/4"/1/2"	35
1"/M10	B	1"/M10	40
1"/M12	B	1"/M12	40
1"/M16	B	1"/M16	40
1"/3/8"	B	1"/3/8"	40
1"/1/2"	B	1"/1/2"	40
3/8"/M16	C	3/8"/M16	100
3/8"/1/2"	C	3/8"/1/2"	100

Fig. A141. Adapters AD IG/IG

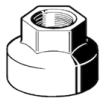


Designation	Inner thread	Inner thread length [mm]	Length [mm]
M10 x 30	M10	30	30
M12 x 35	M12	35	35
M16 x 40	M16	40	40

Fig. A142. Adapters AD IG/IG HCP



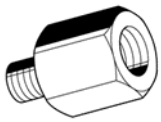
Form A



Form B

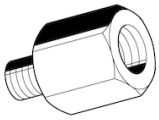
Designation	Form	Inner thread	Length [mm]
M16/M12	A	M16/M12	35
M16/M16	A	M16/M16	30
1/2"/M16	A	1/2"/M16	40
1/2"/1/2"	A	1/2"/1/2"	35
1/2"/M12	A	1/2"/M12	35
3/4"/M16	A	3/4"/M16	35
1"/M16	B	1"/M16	40
1"/1/2"	B	1"/1/2"	40

Fig. A143. Adapters AD IG/IG VA



Designation	Inner thread	Inner thread length [mm]	Outer thread	Outer thread length [mm]	Total length [mm]
8/10	M8	10	M10	8	23
10/8	M10	8	M8	11	26
10/16	M10	10	M16	12	32
16/10	M16	13	M10	8	36

Fig. A144. Reducers AD IG/AG



Designation	Inner thread	Inner thread length [mm]	Outer thread	Outer thread length [mm]	Total length [mm]
12/8	M12	13	M18	8	30
12/10	M12	13	M10	8	30

Fig. A145. Reducers AD IG/AG VA

Annex B.

Table B1

No.	Item designation		Material	Standard	Coating method	Coating thickness [µm]
1	*2*		*3*	*4*	*5*	*6*
1	Channels MS 27 i 41 single and double		steel S235JR (1.0038)	PN-EN 10025-2:2019	galvanic	≥ 12
2	Channels MS 41 single and double (HCP)		steel S235JR (1.0038)	PN-EN 10025-2:2019	hot-dip	≥ 70
3	Chanels MS 27 i 41 single and double stainless steel (A4)		steel 1.4404 / 1.4571 / 1.4529	PN-EN 10088-1:2014	-	-
4	Channel nut NT 27		steel S355MC (1.0976) / S420MC (1.0980)	PN-EN 10149-2:2014	galvanic	≥ 12
5	Channel nut NT 41		steel S355MC (1.0976) / S420MC (1.0980)	PN-EN 10149-2:2014	galvanic	≥ 8
6	Channel nut NT 27 VA		steel 1.4404	PN-EN 10088-1:2014	-	-
7	Speed nut NT CC 27	speed nut	steel S355MC (1.0976) / S420MC (1.0980)	PN-EN 10149-2:2014	galvanic	≥ 8
		spring	steel 1.4310	PN-EN 10088-1:2014	-	-
8	Speed nut NT CC 41	speed nut	steel S355MC (1.0976) / S420MC (1.0980)	PN-EN 10149-2:2014	galvanic	≥ 8
		spring	steel 1.4310	PN-EN 10088-1:2014	-	-
9	Speed nut NT CC 41 VA	speed nut	steel 1.4404	PN-EN 10088-1:2014	-	-
		spring	steel 1.4310			
10	Speed nut NT CC 41 HCP	speed nut	steel S355MC (1.0976) / S420MC (1.0980)	PN-EN 10149-2:2014	hot-dip	≥ 15
		spring	steel 1.4310	PN-EN 10088-1:2014	-	-
11	Channel nut NT HZ 41		steel S235JR (1.0038)	PN-EN 10025-2:2019	galvanic	≥ 8
12	Channel nut NT HZ 41 VA		steel 1.4571 / 1.4401	PN-EN 10088-1:2014	-	-
13	Channel nut NT HZ 41 HCP		steel S235JR (1.0038)	PN-EN 10025-2:2019	hot-dip	≥ 15
14	Angle connector CN CC 41-2 and CN CC 41-2 W	body	steel S235JR (1.0038)	PN-EN 10025-2:2019	galvanic	≥ 12
		channel nut	steel S355MC (1.0976) / S420MC (1.0980)	PN-EN 10149-2:2014		
		bolt	steel, class 8.8	PN-EN ISO 898-1:2013		
		spring	steel 1.4310	PN-EN 10088-1:2014		
15	Angle connector CN CC 27-90˚ and CN CC 27-90˚ W	body	steel S235JR (1.0038)	PN-EN 10025-2:2019	galvanic	≥ 12
		channel nut	steel S355MC (1.0976) / S420MC (1.0980)	PN-EN 10149-2:2014		
		bolt	steel, class 8.8	PN-EN ISO 898-1:2013		
		spring	steel 1.4310	PN-EN 10088-1:2014		
16	Angle connector CN CC 41 and CN CC 41-90˚	body	steel S235JR (1.0038)	PN-EN 10025-2:2019	galvanic	≥ 12
		channel nut	steel S355MC (1.0976) / S420MC (1.0980)	PN-EN 10149-2:2014		
		bolt	steel, class 8.8	PN-EN ISO 898-1:2013		
		spring	steel 1.4310	PN-EN 10088-1:2014		

c.d. Table B1

No.	Item designation		Material	Standard	Coating method	Coating thickness [µm]
1	*2*		*3*	*4*	*5*	*6*
17	Angle connector CN CC 41 Stabil and CN CC 41 W Stabil	body	steel S235JR (1.0038)	PN-EN 10025-2:2019	galvanic	≥ 12
		channel nut	steel S355MC (1.0976) / S420MC (1.0980)	PN-EN 10149-2:2014		
		bolt	steel, class 8.8	PN-EN ISO 898-1:2013		
		spring	steel 1.4310	PN-EN 10088-1:2014		
18	T-head bolt TBO HZ 41	channel nut	steel S355MC (1.0976) / S420MC (1.0980)	PN-EN 10149-2:2014	galvanic	≥ 8
		bolt	steel, class 4.6	PN-EN ISO 898-1:2013		
19	T-head bolt TBO HZ 41 VA	channel nut	steel 1.4404	PN-EN 10088-1:2014	-	-
		bolt	steel, class 4.6	PN-EN ISO 898-1:2013		
20	T-head bolt TBO HZ 41 HCP	channel nut	steel 1.4404	PN-EN 10088-1:2014	hot-dip	≥ 15
		bolt	steel, class 4.6	PN-EN ISO 898-1:2013		
21	T-head bolt HM 27	channel nut	steel S355MC (1.0976) / S420MC (1.0980)	PN-EN 10149-2:2014	galvanic	≥ 8
		bolt	steel, class 4.6	PN-EN ISO 898-1:2013		
22	Blockset PBS CC 41	rod	steel S355MC (1.0976) / S420MC (1.0980)	PN-EN 10149-2:2014	galvanic	≥ 8
		spring	steel 1.4310	PN-EN 10088-1:2014	-	-
23	Block PB 27	plate	steel S355MC (1.0976) / S420MC (1.0980)	PN-EN 10149-2:2014	galvanic	≥ 8
		body	steel S355MC (1.0976) / S420MC (1.0980)	PN-EN 10149-2:2014		
		spring	steel 1.4310	PN-EN 10088-1:2014	-	-
24	Block PB 41	body	cast iron EN-GJMB-350-10	PN-EN 1562:2019	galvanic	≥ 8
		plate	steel S355MC (1.0976) / S420MC (1.0980)	PN-EN 10149-2:2014		
		spring	steel 1.4310	PN-EN 10088-1:2014	-	-
25	Block PBH 41	body	steel S355MC (1.0976) / S420MC (1.0980)	PN-EN 10149-2:2014	galvanic	≥ 8
		plate	steel S355MC (1.0976) / S420MC (1.0980)	PN-EN 10149-2:2014		
		spring	steel 1.4310	PN-EN 10088-1:2014	-	-
26	Beam clip P VA		cast steel 1.4581	PN-EN 10283:2019	-	-
27	Beam clip SPA 5P HCP and SPA 5P AU HCP		steel S355J2	PN-EN 10025-2:2019	hot-dip	≥ 15
28	Corner bracket EW 41		steel DD11	PN-EN 10111:2009	galvanic	≥ 8
			steel S235JR (1.0038)	PN-EN 10025-2:2019		
29	Fixing bracket MW		steel DD11	PN-EN 10111:2009	galvanic	≥ 12
			steel S235JR (1.0038)	PN-EN 10025-2:2019		
30	Fixing bracket MW VA		steel 1.4571 / 1.4401	PN-EN 10088-1:2014	-	-
31	Fixing bracket MW HCP		steel DD11	PN-EN 10111:2009	hot-dip	≥ 15
			steel S235JR (1.0038)	PN-EN 10025-2:2019		

c.d. Table B1

No.	Item designation		Material	Standard	Coating method	Coating thickness [µm]
1	*2*		*3*	*4*	*5*	*6*
32	Fixing bracket MW S		steel S235JR (1.0038)	PN-EN 10025-2:2019	galvanic	≥ 8
33	Fixing bracket MW S HCP		steel S235JR (1.0038)	PN-EN 10025-2:2019	hot-dip	≥ 15
34	Duo clamps SRS	clamps	steel S235JR (1.0038)	PN-EN 10025-2:2019	galvanic	≥ 12
		nut	steel 11SMnPb30 (1.0718)	PN-EN ISO 683-4:2018		
			steel, class 5	PN-EN ISO 898-2:2023		
		bolt	steel, class 4.6	PN-EN ISO 898-1:2013		
35	Duo clamps SRS with lining	clamps	steel S235JR (1.0038)	PN-EN 10025-2:2019	galvanic	≥ 12
		nut	steel 11SMnPb30 (1.0718)	PN-EN ISO 683-4:2018		
			steel, class 5	PN-EN ISO 898-2:2023		
		bolt	steel, class 4.6	PN-EN ISO 898-1:2013		
		clamps	steel S235JR (1.0038)	PN-EN 10025-2:2019		
		lining	EPDM	-	-	-
36	Duo clamps ERS with lining	clamps	steel S235JR (1.0038)	PN-EN 10025-2:2019	galvanic	≥ 12
		bolt	steel, class 4.6	PN-EN ISO 898-1:2013		
		lining	EPDM	-	-	-
37	Pipe clamps Ratio S	clamps	steel S235JR (1.0038)	PN-EN 10025-2:2019	galvanic	≥ 12
		bolt	steel, class 4.6	PN-EN ISO 898-1:2013		
		spring	steel 1.4310	PN-EN 10088-1:2014	-	-
		lining	EPDM	-	-	-
38	Pipe clamps S-K	clamps	steel S235JR (1.0038)	PN-EN 10025-2:2019	galvanic -	≥ 12
		bolt	steel, class 4.6	PN-EN ISO 898-1:2013		
		spring	steel 1.4310	PN-EN 10088-1:2014		
		washer	PP	-	-	-
		linning	EPDM	-	-	-
39	Pipe clamps S M8	clamps	steel S235JR (1.0038)	PN-EN 10025-2:2019	galvanic	≥ 12
		bolt	steel, class 4.6	PN-EN ISO 898-1:2013		
		lining	EPDM	-	-	-
40	Pipe clamps LS	clamps	steel S235JR (1.0038)	PN-EN 10025-2:2019	galvanic	≥ 12
		bolt	steel, class 4.6	PN-EN ISO 898-1:2013		
		lining	EPDM	-	-	-
41	Pipe clamps LS Silicone	clamps	steel S235JR (1.0038)	PN-EN 10025-2:2019	galvanic	≥ 12
		bolt	steel, class 4.6	PN-EN ISO 898-1:2013		
		lining	Silicone	-	-	-
42	Pipe clamps D-3G	clamps	steel S235JR (1.0038)	PN-EN 10025-2:2019	galvanic	≥ 12
		nut	steel 11SMnPb30 (1.0718)	PN-EN ISO 683-4:2018		
			steel, class 5 i 8	PN-EN ISO 898-2:2023		
		bolt	steel, class 4.6 i 8.8	PN-EN ISO 898-1:2013		

c.d. Table B1

No.	Item designation		Material	Standard	Coating method	Coating thickness [µm]
1	*2*		*3*	*4*	*5*	*6*
43	Pipe clamps D-3G	clamps	steel S235JR (1.0038)	PN-EN 10025-2:2019	hot-dip	≥ 15
		nut	steel 11SMnPb30 (1.0718)	PN-EN ISO 683-4:2018		
			steel, class 5 and 8	PN-EN ISO 898-2:2023		
		bolt	steel, class 4.6 and 8.8	PN-EN ISO 898-1:2013		
44	Pipe clamps Stabil D-3G with lining	clamps	steel S235JR (1.0038)	PN-EN 10025-2:2019	galvanic	≥ 12
		nut	steel 11SMnPb30 (1.0718)	PN-EN ISO 683-4:2018		
			steel, class 5 i 8	PN-EN ISO 898-2:2023		
		bolt	steel, class 4.6 and 8.8	PN-EN ISO 898-1:2013		
		lining	EPDM	-	-	-
45	Pipe clamps Stabil D-3G HCP with lining	clamps	steel S235JR (1.0038)	PN-EN 10025-2:2019	hot-dip	≥ 15
		nut	steel 11SMnPb30 (1.0718)	PN-EN ISO 683-4:2018		
			steel, class 5 i 8	PN-EN ISO 898-2:2023		
		bolt	steel, class 4.6 and 8.8	PN-EN ISO 898-1:2013		
		lining	EPDM	-	-	-
46	Pipe clamps Stabil D VA		steel 1.4401 / 1.4571	PN-EN 10088-1:2014	-	-
47	Pipe clamps Stabil D-2G/3G VA	clamps	steel 1.4401 / 1.4571	PN-EN 10088-1:2014	-	-
		nut	steel 1.4404, class A4-80	PN-EN 10088-1:2014 PN-EN ISO 898-2:2023 PN-EN ISO 3506-1:2020		
		bolt	steel, class A4-80	PN-EN ISO 3506-1:2020		
48	Pipe clamps Stabil D-2G/3G VA with lining	clamps	steel 1.4401 / 1.4571	PN-EN 10088-1:2014	-	-
		nut	steel 1.4404, class A4-80	PN-EN 10088-1:2014 PN-EN ISO 3506-1:2020		
		bolt	Steel, class A4-80	PN-EN ISO 3506-1:2020		
		lining	EPDM	-		
49	Pipe clamps Stabil D-2G/3G VA Silicone	clamps	steel 1.4401 / 1.4571	PN-EN 10088-1:2014	-	-
		nut	steel 1.4404, class A4-80	PN-EN 10088-1:2014 PN-EN ISO 3506-1:2020		
		bolt	steel, class A4-80	PN-EN ISO 3506-1:2020		
		lining	Silicone	-		
50	Pipe clamps Stabil D-M16	clamps	steel S235JR (1.0038)	PN-EN 10025-2:2019	galvanic	≥ 12
		nut	steel 11SMnPb30 (1.0718)	PN-EN ISO 683-4:2018		
			steel, class 8	PN-EN ISO 898-2:2023		
		bolt	steel, class 8.8	PN-EN ISO 898-1:2013		
51	Pipe clamps Stabil D-M16 with lining	clamps	steel S235JR (1.0038)	PN-EN 10025-2:2019	galvanic	≥ 12
		nut	steel 11SMnPb30 (1.0718)	PN-EN ISO 683-4:2018		
			steel, class 8	PN-EN ISO 898-2:2023		
		bolt	steel, class 8.8	PN-EN ISO 898-1:2013		
		lining	EPDM	-	-	-

c.d. Table B1

No.	Item designation		Material	Standard	Coating method	Coating thickness [µm]
1	*2*		*3*	*4*	*5*	*6*
52	Pipe clamps Stabil D-M16 Silicone	clamps	steel S235JR (1.0038)	PN-EN 10025-2:2019	galvanic	≥ 12
		nut	steel 11SMnPb30 (1.0718)	PN-EN ISO 683-4:2018		
			steel, class 8	PN-EN ISO 898-2:2023		
		bolt	steel, class 8.8	PN-EN ISO 898-1:2013		
		lining	Silicone	-	-	-
53	Pipe clamps Stabil RB-A		steel S235JR (1.0038)	PN-EN 10025-2:2019	galvanic	≥ 12
54	Pipe clamps Stabil RB-A HCP		steel S235JR (1.0038)	PN-EN 10025-2:2019	hot-dip	≥ 15
55	Pipe clamps Stabil I-1/2" HCP	clamps	steel S235JR (1.0038)	PN-EN 10025-2:2019	hot-dip	≥ 15
		nut	steel 11SMnPb30 (1.0718)	PN-EN ISO 683-4:2018		
			steel, class 8	PN-EN ISO 898-2:2023		
		bolts	steel, class 8.8	PN-EN ISO 898-1:2013		
56	Pipe clamps Stabil I-1/2" VA	clamps	steel 1.4401 / 1.4571	PN-EN 10088-1:2014	-	-
		nut	steel 1.4404, class A4-80	PN-EN 10088-1:2014 PN-EN ISO 3506-1:2020		
		bolt	steel, class A4-80	PN-EN ISO 3506-1:2020		
57	Pipe clamps Stabil Form C LK	clamps	steel S235JR (1.0038)	PN-EN 10025-2:2019	hot-dip	≥ 15
		nut	steel 11SMnPb30 (1.0718)	PN-EN ISO 683-4:2018		
			steel, class 8	PN-EN ISO 898-2:2023		
		bolt	steel, class 8.8	PN-EN ISO 898-1:2013		
58	Chilled water clamp RB	clamps	steel S235JR (1.0038)	PN-EN 10025-2:2019	galvanic	≥ 12
		lining	PUR	-	-	-
59	Chilled water clamp LKS 13, LKS 19 i LKS 32	clamps	steel S235JR (1.0038)	PN-EN 10025-2:2019	galvanic	≥ 12
		nut	steel 11SMnPb30 (1.0718)	PN-EN ISO 683-4:2018		
			steel, class 8	PN-EN ISO 898-2:2023		
		bolt	steel, class 4.6 and 8.8	PN-EN ISO 898-1:2013		
		lining	elastomer	-	-	-
60	Chilled water clamp SKS Top - 2C	clamps	steel S235JR (1.0038)	PN-EN 10025-2:2019	galvanic	≥ 12
		nut	steel 11SMnPb30 (1.0718)	PN-EN ISO 683-4:2018		
			steel, class 8	PN-EN ISO 898-2:2023		
		bolt	steel, class 8.8	PN-EN ISO 898-1:2013		
		lining	elastomer	-	-	-

c.d. Table B1

No.	Item designation		Material	Standard	Coating method	Coating thickness [µm]
1	*2*		*3*	*4*	*5*	*6*
61	Chilled water fixed point clamp FKS	clamps	steel S235JR (1.0038)	PN-EN 10025-2:2019	galvanic	≥ 12
		nut	steel 11SMnPb30 (1.0718)	PN-EN ISO 683-4:2018		
			steel, class 8	PN-EN ISO 898-2:2013		
		bolt	steel, class 8.8	PN-EN ISO 898-1:2013		
		lining	elastomer	-	-	-
62	Pipe loop RSL N	loop	steel DX51D / DX52D / S235JR (1.0038)	PN-EN 10346:2015 PN-EN 10025-2:2019	galvanic	≥ 12
		threaded sleeve	steel 11SMnPb30 (1.0718)	PN-EN ISO 683-4:2018		
		flange nut	steel 11SMnPb30 (1.0718)	PN-EN ISO 683-4:2018		
			steel, class 8	PN-EN ISO 898-2:2023		
63	Pipe loop RSL N HCP	loop	steel DX51D / DX52D / S235JR (1.0038)	PN-EN 10346:2015 PN-EN 10025-2:2019	hot-dip	≥ 15
		threaded sleeve	steel 11SMnPb30 (1.0718)	PN-EN ISO 683-4:2018		
		flange nut	steel 11SMnPb30 (1.0718)	PN-EN ISO 683-4:2018		
			steel, class 8	PN-EN ISO 898-1:2013		
64	U-clamps RUC I	body	steel S235JR (1.0038)	PN-EN 10025-2:2019	hot-dip	≥ 15
		lining	PA 6	-	-	-
65	U-bolts RUB	threaded rod	steel, class 8.8	PN-EN ISO 898-1:2013	galvanic	≥ 12
		nut	steel 11SMnPb30 (1.0718)	PN-EN ISO 683-4:2018		
			steel, class 8	PN-EN ISO 898-2:2023		
		washer	steel DD11	PN-EN 10111:2009		
66	U-bolts RUB L	threaded rod	steel, class 8.8	PN-EN ISO 898-1:2013	galvanic	≥ 12
		nut	steel 11SMnPb30 (1.0718)	PN-EN ISO 683-4:2018		
			steel, class 8	PN-EN ISO 898-2:2023		
		washer	steel DD11	PN-EN 10111:2009		
67	U-bolts RUB VA	threaded rod	steel 1.4571 / 1.4401, class A4-80	PN-EN 10088-1:2014 PN-EN ISO 3506-1:2020	-	-
		nut	steel, class A4-80	PN-EN ISO 3506-1:2020		
68	U-bolts RUB DIN 3570 HCP	threaded rod	steel, class A4-80	PN-EN ISO 898-1:2013	hot-dip	≥ 15
		nut	steel, class 8	PN-EN ISO 898-2:2023		
			steel 11SMnPb30 (1.0718)	PN-EN ISO 683-4:2018		
69	Height adjuster HRS 0		steel DD11	PN-EN 10111:2009	galvanic	≥ 8
70	Height adjuster HRS P	body	cast iron EN-GJS-400-15	PN-EN 1563:2018	galvanic	≥ 8
		bolt	steel, class 8.8	PN-EN ISO 898-1:2013		
		nut	steel 11SMnPb30 (1.0718)	PN-EN ISO 683-4:2018		
			steel, class 8	PN-EN ISO 898-2:2023		

c.d. Table B1

No.	Item designation		Material	Standard	Coating method	Coating thickness [µm]
1	*2*		*3*	*4*	*5*	*6*
71	Slide element GLE LC		steel DD11	PN-EN 10111:2009	galvanic	≥ 8
72	Slide element GLE J	body	steel DD11	PN-EN 10111:2009	galvanic	≥ 12
		threaded sleeve	steel 11SMnPb30 (1.0718)	PN-EN ISO 683-4:2018		
73	Slide set GS 1G		steel S235JR	PN-EN 10025-2:2019	galvanic	≥ 12
74	Slide set GS 2G and GS 2G2	body	steel DD11 / DD13	PN-EN 10111:2009	galvanic	≥ 8
		slider	polyamide PA 6 GF 30	-	-	-
75	Slide set GS 2G VA and GS 2G2 VA	body	steel 1.4571 / 1.4404 +1D	PN-EN 10088-1:2014	-	-
		slider	polyamide PA 6 GF 30	-		
76	Slide set GS ULTRAglide 2G and GS ULTRAglide 2G2	body	steel DD11 / DD13	PN-EN 10111:2009	galvanic	≥ 12
		slider	polyamide PA 6 GF 30	-	-	-
77	Slide set GS 2G-PL and GS 2G2-PL	body	steel DD11 / DD13	PN-EN 10111:2009	galvanic	≥ 12
		slider	polyamide PA 6 GF 30	-	-	-
78	Slide set GS 2G-PL HCP and GS 2G2-PL HCP	body	steel DD11 / DD13	PN-EN 10111:2009	hot-dip	≥ 15
		slider	polyamide PA 6 GF 30	-	-	-
79	Slide set GS 2G-PL VA and GS 2G2-PL VA	body	steel 1.4571 / 1.4404 +1D	PN-EN 10088-1:2014	-	-
		slider	polyamide PA 6 GF 30	-		
80	Slide set GS ULTRAglide 2G-PL and GS ULTRAglide 2G2-PL	body	steel DD11 / DD13	PN-EN 10111:2009	galvanic	≥ 12
		slider	polyamide PA 6 GF 30	-	-	-
81	Slide set GS H3G and GS H3G2	body	steel DD11 / DD13	PN-EN 10111:2009	galvanic	≥ 12
		slider	polyamide PA 6 GF 30	-	-	-
82	Slide set GS H3G VA and GS H3G2 VA	body	steel 1.4571 / 1.4404 +1D	PN-EN 10088-1:2014	-	-
		slider	polyamide PA 6 GF 30	-		
83	Slide set GS ULTRAglide H3G and GS ULTRAglide H3G2	body	steel DD11 / DD13	PN-EN 10111:2009	galvanic	≥ 12
		slider	polyamide PA 6 GF 30	-	-	-
84	Slide set GS H3G-PL and GS H3G2-PL	body	steel DD11 / DD13	PN-EN 10111:2009	galvanic	≥ 12
		slider	polyamide PA 6 GF 30	-	-	-
85	Slide set GS H3G-PL VA and GS H3G2-PL VA	body	steel 1.4571 / 1.4404 +1D	PN-EN 10088-1:2014	-	-
		slider	polyamide PA 6 GF 30	-		
86	Slide set GS ULTRAglide H3G-PL andGS ULTRAglide H3G2-PL	body	steel DD11 / DD13	PN-EN 10111:2009	galvanic	≥ 12
		slider	polyamide PA 6 GF 30	-	-	-

c.d. Table B1

No.	Item designation		Material	Standard	Coating method	Coating thickness [µm]
1	*2*		*3*	*4*	*5*	*6*
87	Slide element GS 41		steel S235JR (1.0038)	PN-EN 10025-2:2019	galvanic	≥ 12
88	Slide element GS 41 VA		steel 1.4571 / 1.4401 / 1.4404	PN-EN 10088-1:2014	-	-
89	Slide sets GS F 1G and GS F 1G2	body	steel DD11 / DD13	PN-EN 10111:2009	galvanic	≥ 12
		slider	PA 6GF 30	-	-	-
90	Slide sets GS F 2G and GS F 2G2	body	steel DD11 / DD13	PN-EN 10111:2009	galvanic	≥ 12
		slider	PA 6GF 30	-	-	-
91	Insulated foods SHB SQF 350 and SHB SQF 500		SBR	-	-	-
92	Mounting plates GPL	threaded sleeves	steel DD11	PN-EN 10111:2009	galvanic	≥ 12
		plate	steel S235JRG2	PN-EN 10025-2:2019		
93	Mounting plates GPL HCP	threaded sleeves	steel DD11	PN-EN 10111:2009	hot-dip	≥ 15
		plate	steel S235JRG2	PN-EN 10025-2:2007		
94	Mounting plates GPL VA		steel 1.4571+1D	PN-EN 10088-1:2014	-	-
95	Mounting plates GPL Stabil HCP	threaded sleeves	steel DD11	PN-EN 10111:2009	hot-dip	≥ 70
		plate	steel S235JRG2	PN-EN 10025-2:2007		
96	Flat fittings ECO CC 1, ECO CC 2 and ECO CC 3	plate	steel DD11	PN-EN 10111:2009	galvanic	≥ 12
		bolt	steel, class 8.8	PN-EN ISO 898-1:2013		
		spring	steel 1.4310	PN-EN 10088-1:2014	-	-
97	Beam clamps TCS 0	body	cast iron EN-GJMB-550-4	PN-EN 1562:2019	galvanic	≥ 12
		bolt	steel, class 8.8	PN-EN ISO 898-1:2013		
		nut	steel 11SMnPb30 (1.0718)	PN-EN ISO 683-4:2018		
			steel, class 8	PN-EN ISO 898-2:2023		
98	Beam clamps TCS 1	body	cast iron EN-GJMB-550-4	PN-EN 1562:2019	galvanic	≥ 12
		bolt	steel, class 8.8	PN-EN ISO 898-1:2013		
		nut	steel 11SMnPb30 (1.0718)	PN-EN ISO 683-4:2018		
			steel, class 8	PN-EN ISO 898-2:2023		
99	Beam clamps TCS 2	body	cast iron EN-GJMB-550-4	PN-EN 1562:2019	galvanic	≥ 12
		bolt	steel, class 8.8	PN-EN ISO 898-1:2013		
		nut	steel 11SMnPb30 (1.0718)	PN-EN ISO 683-4:2018		
			steel, class 8	PN-EN ISO 898-2:2023		

c.d. Table B1

No.	Item designation		Material	Standard	Coating method	Coating thickness [µm]
1	*2*		*3*	*4*	*5*	*6*
100	Beam clamps TCS 2 HCP	body	cast iron EN-GJMB-550-4	PN-EN 1562:2019	hot-dip	≥ 15
		bolt	steel, class 8.8	PN-EN ISO 898-1:2013		
		nut	steel 11SMnPb30 (1.0718)	PN-EN ISO 683-4:2018		
			steel, class 8	PN-EN ISO 898-2:2023		
101	Beam clamps TCS 1 HCP	body	cast iron EN-GJMB-550-4	PN-EN 1562:2019	hot-dip -	≥ 15
		bolt	steel, class 8.8	PN-EN ISO 898-1:2013		
		nut	steel 11SMnPb30 (1.0718)	PN-EN ISO 683-4:2018		
			steel, class 8	PN-EN ISO 898-2:2023		
102	Beam clamps TCS 1 VA	body	steel 1.4404	PN-EN 10088-1:2014	-	-
		bolt	steel, class A4-70	PN-EN ISO 3506-1:2020	-	-
		nut	steel 1.4404, class A4-70	PN-EN 10088-1:2014 PN-EN ISO 3506-1:2020	-	-
103	Beam clamps TCS F (VdS/FM)		steel DX51D / DX52D	PN-EN 10346:2015	galvanic	≥ 12
104	U-holders SB 27	plate	steel 1.0335	PN-EN 10111:2009	galvanic	≥ 12
		rod	steel, class 8.8	PN-EN ISO 898-1:2013		
		nut	steel, class 8	PN-EN ISO 898-2:2023		
105	U-holders SB 41	plate	steel 1.0335	PN-EN 10111:2009	galvanic	≥ 12
		rod	steel, class 8.8	PN-EN ISO 898-1:2013		
		nut	steel, class 8	PN-EN ISO 898-2:2023		
106	U-holders SB 41 HCP	plate	steel 1.0335	PN-EN 10111:2009	hot-dip	≥ 15
		rod	steel, class 8.8	PN-EN ISO 898-1:2013		
		nut	steel, class 8	PN-EN ISO 898-2:2023		
107	U-holders SB F 80	plate	steel 1.0335	PN-EN 10111:2009	hot-dip	≥ 15
		rod	steel, class 8.8	PN-EN ISO 898-1:2013		
		nut	steel, class 8	PN-EN ISO 898-2:2023		
		beam clip	steel S355J2	PN-EN 10025-2:2019		
108	U-holders SB F 100	plate	steel 1.0335	PN-EN 10111:2009	hot-dip	≥ 15
		rod	steel, class 8.8	PN-EN ISO 898-1:2013		
		nut	steel, class 8	PN-EN ISO 898-2:2023		
		beam clip	steel S355J2	PN-EN 10025-2:2019		
109	Universal joints UG	body	Cast iron EN-GJMB-350-10	PN-EN 1562:2012	galvanic	≥ 12
		bolt	steel S235JR (1.0038)	PN-EN 10025-2:2019		
110	Universal joints UG VA		steel 1.4571	PN-EN 10088-1:2014	-	-

c.d. Table B1

No.	Item designation		Material	Standard	Coating method	Coating thickness [µm]
1	*2*		*3*	*4*	*5*	*6*
111	Joint JOI 41 T HCP		steel S235JRG	PN-EN 10025-2:2019	galvanic flakes	≥ 15
			steel DD11	PN-EN 10111:2009		
112	Threaded hooks GH		steel S235JR (1.0038)	PN-EN 10025-2:2019	galvanic	≥ 8
113	Hook sleeve SP		cast steel GS-45	PN-EN 10293:2015	galvanic	≥ 8
114	Toggle studs KD	rod	steel 11SMnPb30 (1.0718)	PN-EN ISO 683-4:2018	galvanic	≥ 8
		body	steel DD11	PN-EN 10111:2009		
		nut	steel, class 8	PN-EN ISO 898-2:2023		
		steel washer	steel DD11	PN-EN 10111:2009		
		rubber washer	rubber	-	-	-
115	Roof hanger TRH (M8, M10, RM 8, RM 10, MS, M8H, M10H)		steel DX51D+Z275	PN-EN 10346:2015	galvanic	≥ 20
			steel 1.0711	PN-EN 10027-2:2015		
116	Acoustic absorption element AKE	steel body	steel S235JR (1.0038)	PN-EN 10025-2:2019	galvanic	≥ 8
		rubber	rubber	-	-	-
117	Rubber-metal combination element GMT	steel body	steel S235JR (1.0038)	PN-EN 10025-2:2019	galvanic	≥ 8
		bolt	steel, class 4.6	PN-EN ISO 898-1:2013		
		nut	steel, class 5	PN-EN ISO 898-2:2023		
		rubber	rubber	-	-	-
118	Sound absorber SDE 0	steel body	steel DD11	PN-EN 10111:2009	galvanic	≥ 8
		rubber	SBR / EPDM	-	-	-
119	Sound absorber SDE 1 - M10 and SDE 1-3G	steel body	steel DD11	PN-EN 10111:2009	galvanic	≥ 12
		rubber	SBR / EPDM	-	-	-
120	Sound absorber SDE 2 - FP 1	steel body	steel S275JR / S235JR (1.0038)	PN-EN 10025-2:2019	galvanic -	≥ 12
		nut	steel, class 5	PN-EN ISO 898-2:2023		
		rubber	elastomer Vulkocell	-	-	-
121	Sound absorber SDE 2 - SBV/SBZ	body	S275JR / S235JR (1.0038)	PN-EN 10025-2:2019	galvanic	≥ 12
		nut	steel, class 5	PN-EN ISO 898-2:2023		
		rubber	elastomer Vulkocell	-	-	-
122	Sound absorber SDE 2 - UG 16	Steel body	steel S275JR / S235JR (1.0038)	PN-EN 10025-2:2019	galvanic	≥ 12
		nut	steel, class 5	PN-EN ISO 898-2:2023		
		rubber	elastomer Vulkocell	-	-	-
123	Support brackets WK 100/100 VA and WK 150/150 VA		steel 1.4571	PN-EN 10088-1:2014	-	-
124	Support bracket WK 200/200		steel DD11	PN-EN 10111:2009	galvanic	≥ 12
125	Support brackets WK 100/100, 100/100-40 and 150/150		steel DD11	PN-EN 10111:2009	galvanic	≥ 12
126	Support bracket WK 150/150 HCP		steel DD11	PN-EN 10111:2009	hot-dip	≥ 15
127	Support bracket WK 300/200		steel S235JR (1.0038)	PN-EN 10025-2:2019	galvanic	≥ 12

c.d. Table B1

No.	Item designation		Material	Standard	Coating method	Coating thickness [µm]
1	*2*		*3*	*4*	*5*	*6*
128	Support bracket WK 550/350		steel S235JR (1.0038)	PN-EN 10025-2:2019	galvanic	≥ 12
129	Support bracket WK 550/350 HCP		steel DD11	PN-EN 10111:2009	hot-dip	≥ 15
130	Support bracket WK 725/400 HCP		steel DD11	PN-EN 10111:2009	hot-dip	≥ 15
131	Support bracket WK 880/550 HCP		steel DD11	PN-EN 10111:2009	hot-dip	≥ 15
132	Socket angle ST		steel S235JR (1.0038)	PN-EN 10025-2:2019	galvanic	≥ 12
133	Cantilever brackets AK		steel S235JR (1.0038)	PN-EN 10025-2:2019	galvanic	≥ 12
134	Cantilever brackets AK HCP		steel S235JR (1.0038)	PN-EN 10025-2:2019	hot-dip	≥ 15
135	Cantilever brackets AK VA		steel 1.4571 / 1.4362 / 1.4401 / 1.4404+2B	PN-EN 10088-1:2014	-	-
136	Cantilever brackets AK 27-1,25		steel S235JR (1.0038)	PN-EN 10025-2:2019	galvanic	≥ 8
137	Clamping end SKL	body	steel S235JR (1.0038)	PN-EN 10025-2:2019	galvanic	≥ 12
		bolt	steel, class 8.8	PN-EN ISO 898-1:2013		
		nut	steel, class 8	PN-EN ISO 898-2:2023		
138	Bracket SFK	body	steel S235JR (1.0038)	PN-EN 10025-2:2019	galvanic	≥ 12
		bolt	steel, class 8.8	PN-EN ISO 898-1:2013		
		nut	steel, class 8	PN-EN ISO 898-2:2023		
139	End supports WBD	plate	steel S235JR (1.0038)	PN-EN 10025-2:2019	galvanic	≥ 12
		bolt	steel, class 8.8	PN-EN ISO 898-1:2013		
140	End supports WBD HCP	plate	steel S235JR (1.0038)	PN-EN 10025-2:2019	hot-dip	≥ 15
		bolt	steel, class 8.8	PN-EN ISO 898-1:2013		
141	End supports WBD VA	plate	steel 1.4571	PN-EN 10088-1:2014	-	-
		bolt	steel, class A4-80	PN-EN ISO 3506-1:2020		
142	End supports WBD C HCP	plate	steel S235JR (1.0038)	PN-EN 10025-2:2019	hot-dip	≥ 15
		bolt	steel, class 8.8	PN-EN ISO 898-1:2013		
143	T-brackets MOS CC	body	steel S235JR (1.0038)	PN-EN 10025-2:2019	galvanic	≥ 12
		bolt	steel, class 8.8	PN-EN ISO 898-1:2013		
		plate	steel S355MC (1.0976) / S420MC (1.0980)	PN-EN 10149-2:2014		
		spring	steel 1.4310	PN-EN 10088-1:2014	-	-
144	Holding bracket HK 27		cast iron EN-GJMB-350-10	PN-EN 1562:2019	galvanic	≥ 12

c.d. Table B1

No.	Item designation		Material	Standard	Coating method	Coating thickness [µm]
1	*2*		*3*	*4*	*5*	*6*
145	Holding bracket HK BL		steel S355MC (1.0976) / S420MC (1.0980)	PN-EN 10149-2:2014	galvanic	≥ 12
146	Holding bracket HK VA		cast steel 1.4581	PN-EN 10283:2019	-	-
147	Holding bracket HK 41		cast iron EN-GJMB-350-10	PN-EN 1562:2019	galvanic	≥ 12
148	Holding bracket HK HCP		cast iron EN-GJMB-350-10	PN-EN 1562:2019	hot-dip	≥ 15
149	Channel brackets SH		steel 1.0038	PN-EN 10048:2001	galvanic	≥ 12
150	Channel brackets SH HCP		steel 1.0038	PN-EN 10048:2001	hot-dip	≥ 15
151	Link eyes SCB		steel 1.0301	PN-EN 10277-2:2009	galvanic	≥ 8
152	Eye bolt SCR		steel 1.0303	PN-EN 10263-2:2004	galvanic	≥ 8
153	Clamping unit KL		steel 1.0303	PN-EN 10263-2:2017	galvanic	≥ 4
154	Tension tie rod disc IR	disc	steel S235JR (1.0038)	PN-EN 10025-2:2019	galvanic	≥ 12
		tie	steel S235JRG2 / S355J2G3	PN-EN 10025-2:2019	galvanic	≥ 12
155	Cross tee IR-M	raster, hooks	steel S235JR (1.0038)	PN-EN 10025-2:2019	galvanic	≥ 12
		bolt	steel, class 8.8	PN-EN ISO 898-1:2013		
		plate	steel S355MC (1.0976) / S420MC (1.0980)	PN-EN 10149-2:2014		
		spring	steel 1.4310	PN-EN 10088-1:2014	-	-
156	Cross tee IR-E	raster, hooks	steel S235JR (1.0038)	PN-EN 10025-2:2019	galvanic	≥ 12
		bolt	steel, class 8.8	PN-EN ISO 898-1:2013		
		plate	steel S355MC (1.0976) / S420MC (1.0980)	PN-EN 10149-2:2014		
		spring	steel 1.4310	PN-EN 10088-1:2014	-	-
157	Suspension holding bracket IR-RA	raster	steel S235JR (1.0038)	PN-EN 10025-2:2019	galvanic	≥ 12
		bolt	steel, class 8.8	PN-EN ISO 898-1:2013		
		plate	steel S355MC (1.0976) / S420MC (1.0980)	PN-EN 10149-2:2014		
		spring	steel 1.4310	PN-EN 10088-1:2014	-	-
158	Adapter AD IG/IG		steel 11SMnPb30 (1.0718)	PN-EN ISO 683-4:2018	galvanic	≥ 8
159	Adapter AD IG/IG VA		steel 1.4571	PN-EN 10088-1:2014	-	-
160	Adapter AD IG/IG HCP		steel 11SMnPb30 (1.0718)	PN-EN ISO 683-4:2018	hot-dip	≥ 15
161	Reducer AD IG/AG		steel 11SMnPb30 (1.0718)	PN-EN ISO 683-4:2018	galvanic	≥ 8
162	Reducer AD IG/AG VA		steel 1.4571	PN-EN 10088-1:2014	-	-

Annex C.

Table C1. Chanel design capacity - MS 27 and MS 41

No.	Designation	Designed point capacity load (1), kN	Design flexural capacity load (2), kN
1	*2*	*3*	*4*
Galvanic zinc coating channels			
1	Channel MS 27/25/1,25	1,5	0,3
2	Channel MS 27/37/1,25	1,5	0,6
3	Channel MS 41/21/1,5	2,0	0,4
4	Channel MS 41/21/2,0	4,0	0,4
5	Channel MS 41/31/2,0	4,0	0,4
6	Channel MS 41/41/1,5	2,0	0,4
7	Channel MS 41/41/2,0	4,0	1,5
8	Channel MS 41/41/2,5	6,0	1,8
9	Channel MS 41/45/2,5	6,0	2,0
10	Channel MS 41/52/2,5	6,0	2,5
11	Channel MS 41/62/2,5	6,0	3,1
12	Channel MS 41-75/65/3,0	10,0	5,7
13	Channel MS 41-75/75/3,0	10,0	5,9
14	Channel MS 41/21/2,0 D (3)	4,0	1,7
15	Channel MS 41/41/2,0 D (3)	4,0	4,0
16	Channel MS 41/41/2,5 D (3)	6,0	5,1
17	Channel MS 41/45/2,5 D (3)	6,0	6,0
18	Channel MS 41/52/2,5 D (3)	6,0	6,0
19	Channel MS 41/62/2,5 D (3)	6,0	6,0
20	Channel MS 41-75/65/3,0 D (3)	10,0	10,0
21	Channel MS 41-75/75/3,0 D (3)	10,0	10,0
Hot-dip galvanizing channels (HCP)			
22	Channel MS HCP 41/21/2,0	4,0	0,4
23	Channel MS HCP 41/31/2,0	4,0	0,4
24	Channel MS HCP 41/41/2,0	4,0	1,5
25	Channel MS HCP 41/41/2,5	6,0	1,8
26	Channel MS HCP 41/62/2,5	6,0	3,1
27	Channel MS HCP 41-75/75/3,0	10,0	5,9
28	Channel MS HCP 41/21/2,0 D (3)	4,0	1,7
29	Channel MS HCP 41/41/2,5 D (3)	6,0	5,1
30	Channel MS HCP 41-75/75/3,0 D (3)	10,0	10,0
Stainless steel channels (A4)			
31	Channel MS A4 27/15/1,25	1,5	0,08
32	Channel MS A4 41/21/2,0	4,0	0,4
33	Channel MS A4 41/41/2,0	4,0	1,4
34	Channel MS A4 41/62/2,5	6,0	3,2
35	Channel MS A4 41/41/2,0 D (3)	4,0	5,3
36	Channel MS A4 41/62/2,5 D (3)	6,0	6,0

(1) – channel capacity load resulting from T-head bolt and hook bolt
(2) – channel capacity load resulting from bending 1m long section of channel (concentrated force load)
(3) – D – designation of double channels

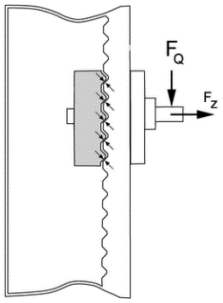


Fig. C1. Force diagram (ref. to Tables: C2 ÷ C22)

Table C2. Design capacity load channel nuts NT 41

No.	Channel thickness [mm]	M8	M10	M8	M10
		F_Z [kN]	F_Z [kN]	F_Q [kN]	F_Q [kN]
1	*2*	*3*	*4*	*5*	*6*
1	1,5	3,0	3,0	2,9	2,9
2	2,0	5,8	5,8	3,4	3,4
3	2,5	5,8	5,8	4,1	4,1
4	3,0	5,8	5,8	4,4	4,4

Table C3. Design capacity load channel nuts NT 27 and NT 27 VA

No.	Designation	F_Z [kN]	F_Q [kN]
1	*2*	*3*	*4*
1	NT 27-M8	1,5	0,8
2	NT 27-M10	1,5	0,8
3	NT VA 27-M8	1,5	0,8
4	NT VA 27-M10	1,5	0,8

Table C4. Design capacity load speed nuts NT CC 27

No.	Designation	F_Z [kN]
1	*2*	*3*
1	NT CC 27-M6	1,5
2	NT CC 27-M8	1,5
3	NT CC 27-M10	1,5

Table C5. Design capacity load speed nuts NT CC 41 and NT CC 41 HCP

No.	Channel thickness [mm]	M6	M8	M10	M12	M16
		F_Z [kN]	F_Z [kN]	F_Z [kN]	F_Z [kN]	F_Z [kN]
1	*2*	*3*	*4*	*5*	*6*	*7*
1	1,5	3,0	3,0	3,0	7,5	7,5
2	2,0	3,2	5,8	5,8	10,0	10,0
3	2,5	3,2	5,8	5,8	11,0	11,0
4	3,0	3,2	5,8	5,8	13,0	13,0

Table C6. Design capacity load speed nuts NT CC 41 and NT CC 41 HCP

No.	Channel thickness [mm]	M6	M8	M10	M12	M16
		F_Q [kN]	F_Q [kN]	F_Q [kN]	F_Q [kN]	F_Q [kN]
1	*2*	*3*	*4*	*5*	*6*	*7*
1	1,5	0,7	1,8	2,9	7,5	6,0
2	2,0	0,9	2,1	3,4	9,0	6,0
3	2,5	1,0	2,6	4,1	9,0	6,0
4	3,0	1,1	2,8	4,4	9,0	6,0

Table C7. Design capacity load speed nuts NT CC 41 VA

No.	Channel thickness [mm]	M6	M8	M10	M6	M8	M10
		F_Z [kN]	F_Z [kN]	F_Z [kN]	F_Q [kN]	F_Q [kN]	F_Q [kN]
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*
1	2	3,2	5,8	5,8	0,9	2,1	3,4
2	2,5	3,2	5,8	5,8	1,0	2,6	4,1

Table C8. Design capacity load channel nuts NT HZ 41 i NT HZ 41 HCP

No.	Channel thickness [mm]	M8	M10	M12	M16
		F_Z [kN]	F_Z [kN]	F_Z [kN]	F_Z [kN]
1	*2*	*3*	*4*	*5*	*6*
1	1,5	3,0	6,0	7,5	7,5
2	2,0	7,5	7,5	10,0	10,0
3	2,5	8,5	8,5	11,0	11,0
4	3,0	8,5	8,5	13,0	13,0

Table C9. Design capacity load channel nuts NT HZ 41 i NT HZ 41 HCP

No.	Channel thickness [mm]	M8	M10	M12	M16
		F_Q [kN]	F_Q [kN]	F_Q [kN]	F_Q [kN]
1	*2*	*3*	*4*	*5*	*6*
1	1,5	4,0	5,5	7,5	6,0
2	2,0	4,0	5,5	9,0	6,0
3	2,5	4,0	5,5	9,0	6,0
4	3,0	4,0	5,5	9,0	6,0

Table C10. Design capacity load channel nuts NT HZ 41 VA

No.	Channel thickness [mm]	M12	M16	M12	M16
		F_Z [kN]	F_Z [kN]	F_Q [kN]	F_Q [kN]
1	*2*	*3*	*4*	*5*	*6*
1	2,0	10,0	10,0	9,0	6,0
2	2,5	11,0	11,0	9,0	6,0

Table C11. Design capacity load connectors and angle connectors CN CC 41, CN CC 41-2, CN CC 41-2 W, CN CC 27-90°, CN CC 27-90° W and CN CC 41-90°

No.	Designation	Design capacity load [kN]
1	*2*	*3*
1	CN CC 41	Fz = 2 kN per node
2	CN CC 41-2	Fq = 3,0 kN per connector
3	CN CC 41-2W	Fq = 3,0 kN per connector
4	CN CC 27-90°	Fz = 0,8 kN per connector
5	CN CC 27-90°W	Fz = 0,8 kN per connector
6	CN CC 41-90°	F = 4 kN as centre capacity load per crosshead with 2 connectors CC 90°

Table C12. Design capacity load angle connectors CN CC 41 Stabil and CN CC 41 W Stabil

No.	Channel thickness [mm]	F_Z [kN]	F_Q [kN]
1	*2*	*3*	*4*
1	1,5	3,0	2,3
2	2,0	3,5	2,3
3	2,5	3,5	3,5
4	3,0	3,5	3,5

Table C13. Design capacity load T-head bolt TBO HZ 41

No.	Designation	F_Z [kN]	F_Q [kN]
1	*2*	*3*	*4*
1	HZ 41 M8	5,8	1,5
2	HZ 41 M10	9,3	2,5
3	HZ 41 M12	10,0	3,0
4	HZ 41 M16	10,0	3,0

Table C14. Design capacity load T-head bolt TBO HZ 41 VA

No.	Channel thickness [mm]	M8	M10	M12	M8	M10	M12
		F_Z [kN]			F_Q [kN]		
1	*2*	*3*	*4*	*5*	*6*	*5*	*6*
1	1,5	4,7	4,7	7,5	1,8	2,9	7,5
2	2,0	5,8	5,8	10,0	2,1	3,4	9,0
3	2,5	5,8	5,8	11,0	2,6	4,1	9,0
4	3,0	5,8	5,8	13,0	2,8	4,4	9,0

Table C15. Design capacity load T-head bolt TBO HZ 41 HCP

No.	Channel thickness [mm]	F_z [kN]	F_Q [kN]
1	*2*	*3*	*4*
1	1,5	3,0	2,9
2	2,0	5,8	3,4
3	2,5	5,8	4,1
4	3,0	5,8	4,4

Table C16. Design capacity load T-head bolt HM 27

No.	Designation	F_Z [kN]
1	*2*	*3*
1	HM 27 M8 x 10/14	2,6
2	HM 27 M8 x 15/14	2,6
3	HM 27 M8 x 25/14	2,6
4	HM 27 M10 x 15/14	3,4
5	HM 27 M10 x 25/14	3,4

Table C17. Design capacity load blockset PBS CC 41

No.	Designation	F_Z [kN]
1	*2*	*3*
1	PBS CC 41 M8	3,3
2	PBS CC 41 M10	4,5

Table C18. Design capacity load block PB 27

No.	Designation	F_Z [kN]	F_Q [kN]
1	*2*	*3*	*4*
1	PB 27	1,5	0,8

Table C19. Design capacity load block PB 41

No.	Designation	F_Z [kN]	F_Q [kN]
1	*2*	*3*	*4*
1	PB 41 M8	5,8	1,5
2	PB 41 M10	9,3	2,5
3	PB 41 M12	10,0	3,0

Table C20. Design capacity load block PBH 41

No.	Minimum channel 41 thickness [mm]	F_Z [kN]	F_Q [kN]
1	*2*	*3*	*4*
1	1,5	3,0	2,0
2	2,0	5,8	2,0
3	≥ 2,5	5,8	2,0

Table C21. Design capacity load beam clip P VA

No.	Tensile design capacity load [kN]
1	*2*
1	5,0

Table C22. Design capacity load beam clip SPA 5P HCP and SPA 5P AU HCP

No.	Designation	Tensile design capacity load [kN]
1	*2*	*3*
1	SPA 5P HCP M12	13,8
2	SPA 5P HCP M16	16,7
3	SPA 5P AU HCP M12	16,2
4	SPA 5P AU HCP M16	19,5

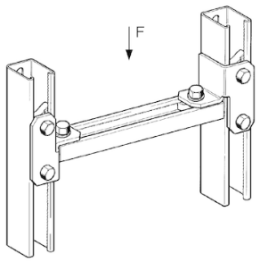


Fig. C2. Force diagram (ref. to Table C23)

Table C23. Design capacity load corner bracket EW 41

No.	Design capacity load F [kN]
1	*2*
1	2,5

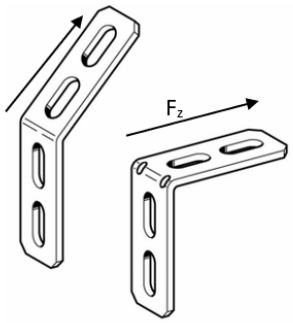


Fig. C3. Force diagram (ref. to Table C24)

Table C24. Design capacity load fixing bracket MW, MW VA and MW HCP

No.	Design capacity load F_Z [kN]
1	*2*
1	4,5

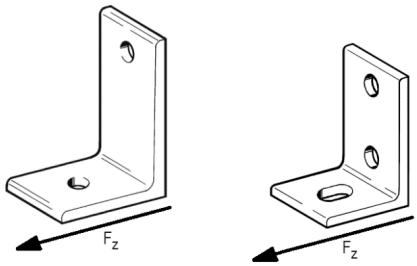


Fig. C4. Force diagram (ref. to Table C25 and C26)

Table C25. Design capacity load fixing bracket MW S

No.	Designation	Design capacity load F_Z [kN]
1	*2*	*3*
1	MW S 45/30/90	3,5
2	MW S 60/30/90	3,5
3	MW S 70/40/90	2,0
4	MW S 60/40/90	7,5
5	MW S 90/60/90	7,5

Table C26. Design capacity load fixing bracket MW S HCP

No.	Designation	Design capacity load F_Z [kN]
1	*2*	*3*
1	MW S HCP 60/40/90	7,5
2	MW S HCP 90/60/90	7,5

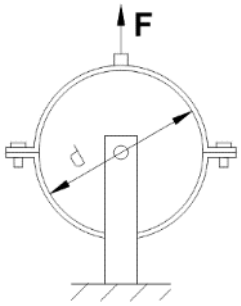


Fig. C5. Force diagram (ref, to Table C27 ÷ C53)

Table C27. Design capacity load duo clamp SRS

No.	Diameter [mm]	Tensile design capacity load [kN]
1	*2*	*3*
1	13 ÷ 73	0,60
2	75 ÷ 167	2,50

Table C28. Design capacity load duo clamp SRS with lining

No.	Diameter [mm]	Tensile design capacity load [kN]
1	*2*	*3*
1	12 ÷ 64	0,45
2	67 ÷ 108	0,90
3	110 ÷ 219	1,00

Table C29. Design capacity load duo clamp ERS with lining

No.	Diameter [mm]	Tensile design capacity load [kN]
1	*2*	*3*
1	11 ÷ 35	0,55
2	39 ÷ 66	0,80
3	75 ÷ 115	0,90

Table C30. Design capacity load pipe clamp Ratio S

No.	Diameter [mm]	Tensile design capacity load [kN]
1	*2*	*3*
1	12 ÷ 35	0,80
2	38 ÷ 90	1,30
3	108 ÷ 170	2,20

Table C31. Design capacity load pipe clamp Ratio S-K

No.	Diameter [mm]	Tensile design capacity load [kN]
1	*2*	*3*
1	16 ÷ 75	0,65
2	90	1,00
3	110	1,20

Table C32. Design capacity load pipe clamp Ratio S M8

No.	Diameter [mm]	Tensile design capacity load [kN]
1	*2*	*3*
1	10 ÷ 63	0,37

Table C33. Design capacity load pipe clamp Ratio LS

No.	Diameter [mm]	Tensile design capacity load [kN]
1	*2*	*3*
1	12 ÷ 84	0,60
2	83 ÷ 90	0,95
3	108 ÷ 114	1,15

Table C34. Design capacity load pipe clamp Ratio LS Silicone

No.	Diameter [mm]	Tensile design capacity load [kN]
1	*2*	*3*
1	12 ÷ 84	0,60
2	83 ÷ 90	0,95

Table C35. Design capacity load pipe clamp Stabil D-3G

No.	Diameter [mm]	Tensile design capacity load [kN]
1	*2*	*3*
1	15 ÷ 30	2,0
2	31 ÷ 129	5,0
3	133 ÷ 173	8,0
4	176 ÷ 316	12,5

Table C36. Design capacity load pipe clamp Stabil D-3G with lining

No.	Diameter [mm]	Tensile design capacity load [kN]
1	*2*	*3*
1	14 ÷ 23	1,8
2	24 ÷ 65	2,0
3	67 ÷ 115	2,0
4	124 ÷ 162	2,9
5	165 ÷ 214	3,5
6	219 ÷ 318	7,5

Table C37. Design capacity load pipe clamp Stabil D-3G HCP with lining

No.	Diameter [mm]	Tensile design capacity load [kN]
1	*2*	*3*
1	14 ÷ 23	1,8
2	24 ÷ 65	2,0
3	67 ÷ 115	2,0
4	124 ÷ 162	2,9
5	165 ÷ 318	8,0

Table C38. Design capacity load pipe clamp D VA

No.	Diameter [mm]	Tensile design capacity load [kN]
1	*2*	*3*
1	18 ÷ 71	5,0
2	74 ÷ 231	6,0
3	247 ÷ 329	8,0

Table C39. Design capacity load pipe clamp Stabil D-2G/3G VA

No.	Diameter [mm]	Tensile design capacity load [kN]
1	*2*	*3*
1	18 ÷-78	5,0
2	81 ÷ 122	6,0
3	133 ÷ 207	8,0
4	210 ÷ 231	11,0

Table C40. Design capacity load pipe clamp Stabil D-2G/3G VA with lining

No.	Diameter [mm]	Tensile design capacity load [kN]
1	*2*	*3*
1	18 ÷ 63	1,5
2	74 ÷ 114	2,0
3	133 ÷ 168	4,0
4	198 ÷ 219	6,0

Table C41. Design capacity load pipe clamp Stabil D-2G/3G VA Silicone

No.	Diameter [mm]	Tensile design capacity load [kN]
1	*2*	*3*
1	18 ÷ 63	1,5
2	74 ÷ 114	2,0
3	133 ÷ 168	4,0
4	198 ÷ 219	6,0

Table C42. Design capacity load pipe clamp Stabil D-M16

No.	Diameter [mm]	Tensile design capacity load [kN]
1	*2*	*3*
1	19 ÷ 64	3,5
2	65 ÷ 129	4,5
3	133 ÷ 291	7,0
4	316 ÷ 407	9,0
5	411 ÷ 521	15,0

Table C43. Design capacity load pipe clamp Stabil D-M16 with lining

No.	Diameter [mm]	Tensile design capacity load [kN]
1	*2*	*3*
1	15 ÷ 58	3,5
2	59 ÷ 116	4,5
3	121 ÷ 277	7,5
4	298 ÷ 407	9,0
5	410 ÷ 521	15,0

Table C44. Design capacity load pipe clamp Stabil D-M16 Silicone

No.	Diameter [mm]	Tensile design capacity load [kN]
1	*2*	*3*
1	15 ÷ 58	3,5
2	59 ÷ 116	4,5
3	121 ÷ 277	7,5
4	298 ÷ 407	10,0
5	410 ÷ 521	10,0

Table C45. Design capacity load pipe clamp Stabil RB-A

No.	Diameter [mm]	Tensile design capacity load [kN]
1	*2*	*3*
1	14 ÷ 49	11,0
2	57 ÷ 89	15,5
3	96 ÷ 163	22,0
4	164 ÷ 273	42,0
5	317 ÷ 610	42,0

Table C46. Design capacity load pipe clamp Stabil RB-A HCP

No.	Diameter [mm]	Tensile design capacity load [kN]
1	*2*	*3*
1	13 ÷ 49	11,0
2	57 ÷ 89	15,5
3	90 ÷ 169	22,0
4	188 ÷ 610	42,0

Table C47. Design capacity load pipe clamp Stabil I-1/2" HCP and Stabil I-1/2" VA

No.	Designation	Material b x s [mm x mm]	Bolt	B [mm]	Tensile design capacity load [kN]
1	*2*	*3*	*4*	*5*	*6*
1	22	30 x 5	M10 x 35	85	4,7
2	27	30 x 5	M10 x 35	92	4,7
3	34	30 x 5	M10 x 35	100	4,7
4	44	30 x 5	M10 x 35	112	4,7
5	49	30 x 5	M10 x 35	117	4,7
6	61	40 x 5	M12 x 40	139	8,0
7	77	40 x 5	M12 x 40	156	8,0
8	89	40 x 5	M12 x 40	168	8,0
9	115	50 x 5	M12 x 40	194	11,0

Table C48. Design capacity load pipe clamp Stabil Form C LK

No.	Diameter [mm]	Tensile design capacity load [kN]
1	*2*	*3*
1	22 ÷ 89	4,0
2	115 ÷ 169	5,4
3	220 ÷ 324	9,3

Table C49. Design capacity load chilled water clamps RB

No.	Designation	Tensile design capacity load [kN]
1	*2*	*3*
1	15/30	0,27
2	17/30	0,27
3	18/30	0,28
4	21/30	0,33
5	22/30	0,34
6	27/30	0,42
7	28/30	0,44
8	33/30	0,53
9	35/30	0,55
10	42/30	0,66
11	48/30	0,75
12	54/30	0,87
13	57/30	0,89
14	60/30	1,20
15	76/30	1,48
16	89/30	1,73
17	114/40	2,67

c.d. Table C49. Design capacity load chilled water clamps RB

No.	Designation	Tensile design capacity load [kN]
1	*2*	*3*
18	133/40	3,11
19	139/40	3,27
20	159/40	3,72
21	168/40	4,40
22	204/60	5,20
23	219/60	5,26

Table C50. Design capacity load chilled water clamps LKS

No.	LKS 13	Tensile design capacity load [kN]	LKS 19	Tensile design capacity load [kN]	LKS 32	Tensile design capacity load [kN]
1	*2*	*3*	*4*	*5*	*6*	*7*
1	LKS 13-15	0,08	LKS 19-15	0,08	LKS 32-15	0,08
2	LKS 13-16	0,08	LKS 19-16	0,08	LKS 32-18	0,09
3	LKS 13-18	0,09	LKS 19-18	0,09	LKS 32-22	0,12
4	LKS 13-20	0,10	LKS 19-20	0,10	LKS 32-25	0,13
5	LKS 13-22	0,10	LKS 19-22	0,12	LKS 32-28	0,15
6	LKS 13-25	0,11	LKS 19-25	0,13	LKS 32-30	0,16
7	LKS 13-26	0,11	LKS 19-26	0,13	LKS 32-35	0,18
8	LKS 13-28	0,11	LKS 19-28	0,14	LKS 32-38	0,20
9	LKS 13-30	0,12	LKS 19-30	0,14	LKS 32-42	0,22
10	LKS 13-32	0,12	LKS 19-32	0,15	LKS 32-44	0,23
11	LKS 13-35	0,13	LKS 19-35	0,15	LKS 32-48	0,24
12	LKS 13-38	0,13	LKS 19-38	0,16	LKS 32-54	0,28
13	LKS 13-40	0,14	LKS 19-40	0,16	LKS 32-57	0,30
14	LKS 13-42	0,14	LKS 19-42	0,17	LKS 32-60	0,32
15	LKS 13-44	0,44	LKS 19-44	0,17	LKS 32-64	0,34
16	LKS 13-48	0,47	LKS 19-48	0,18	LKS 32-70	0,35
17	LKS 13-50	0,60	LKS 19-50	0,23	LKS 32-76	1,10
18	LKS 13-54	0,63	LKS 19-54	0,24	LKS 32-80	1,13
19	LKS 13-57	0,65	LKS 19-57	0,75	LKS 32-89	1,20
20	LKS 13-60	0,68	LKS 19-60	0,77	LKS 32-108	2,16
21	LKS 13-64	0,71	LKS 19-64	0,80	LKS 32-110	2,19
22	LKS 13-70	0,75	LKS 19-70	0,85	LKS 32-114	2,24
23	LKS 13-76	0,80	LKS 19-76	0,90	LKS 32-133	2,48
24	LKS 13-80	0,83	LKS 19-80	0,93	LKS 32-139	2,56
25	LKS 13-89	0,90	LKS 19-89	1,00	LKS 32-160	2,80
26	LKS 13-102	1,00	LKS 19-102	1,10	LKS 32-168	2,92
27	LKS 13-108	1,05	LKS 19-108	1,15	LKS 32-219	3,56
28	LKS 13-110	1,07	LKS 19-110	1,16	LKS 32-273	4,23
29	LKS 13-114	1,10	LKS 19-114	1,20		
30	LKS 13-125	1,19	LKS 19-125	1,28		
31	LKS 13-133	1,25	LKS 19-133	1,34		
32	LKS 13-139	2,08	LKS 19-139	2,23		
33	LKS 13-160	2,32	LKS 19-160	2,48		
34	LKS 13-168	2,44	LKS 19-168	2,59		
			LKS 19-180	2,74		
			LKS 19-200	2,99		
			LKS 19-219	3,23		
			LKS 19-225	3,30		
			LKS 19-250	3,62		
			LKS 19-273	3,91		

Table C51. Design capacity load chilled water clamps SKS Top - 2C

No.	Diameter range [mm]	Tensile design capacity load [kN]
1	*2*	*3*
1	17 ÷ 22	0,29
2	23 ÷ 26	0,39
3	27 ÷ 32	0,45
4	33 ÷ 38	0,55
5	38 ÷ 42	0,64
6	42 ÷ 47	0,71
7	48 ÷ 54	0,81
8	57 ÷ 62	1,20
9	63 ÷ 68	1,32
10	70 ÷ 75	1,47
11	76 ÷ 81	1,60
12	89 ÷ 94	1,87
13	107 ÷ 112	2,70
14	113 ÷ 117	2,85
15	125 ÷ 128	3,15
16	133 ÷ 137	3,35
17	138 ÷ 142	3,48
18	157 ÷ 161	3,96
19	168 ÷ 172	4,23
20	219 ÷ 222	7,18
21	272 ÷ 275	8,00
22	324 ÷ 327	8,00

Table C52. Design capacity load chilled water fixed point clamps FKS

No.	Diameter [mm]	Design capacity load in longitudinal axis direction of the pipe [kN]
1	*2*	*3*
1	76,1	2,0
2	88,9	2,0
3	108	2,5
4	114,3	3,0
5	133	3,5
6	139,7	5,0
7	168,3	5,5
8	219,1	9,5
9	273	13,0
10	323,9	14,5

Table C53. Design capacity load pipe loop RSL N and RSL N HCP

No.	Diameter [mm]	Tensile design capacity load [kN]
1	*2*	*3*
1	26,9 ÷ 60,3	2,0
2	76,1 ÷ 114,3	3,5
3	133 ÷ 168,3	5,0
4	219,1	8,5

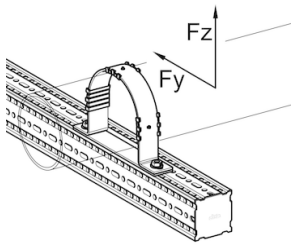


Fig. C6. Force diagram (ref. to Table C54)

Table C54. Design capacity load U-clamp RUC I

No.	Diameter [mm]	Design capacity load Fy [kN]	Design capacity load Fz [kN]
1	*2*	*3*	*4*
1	27 ÷ 121	0,6	2,3
2	152 ÷ 336	0,2	0,8

Table C55. Design capacity load U-bolt RUB

RUB and RUB L

No.	DN [mm]	Tensile design capacity load [kN]
1	*2*	*3*
1	21,3	16,5
2	26,9	16,5
3	33,7	16,5
4	42,4	16,5
5	48,3	16,5
6	60,3	26,0
7	76,1	26,0
8	88,9	26,0
9	114,3	38,0
10	108	38,0
11	139,7	38,0
12	133	38,0
13	159	38,0
14	168,3	38,0
15	219,1	38,0
16	274	70,6
17	323,9	70,6

RUB DIN 3570 HCP

No.	DN [mm]	Tensile design capacity load [kN]
1	*2*	*3*
1	21,3 i 26,9	26,0
2	33,7	26,0
3	42,4	26,0
4	48,3	26,0
5	60,3	38,0
6	76,1	38,0
7	88,9	38,0
8	114,3	70,6
9	139,7	70,6
10	168,3	70,6
11	193,7	70,6
12	219,1	110,2
13	274	110,2
14	323,9	110,2
15	355,6	158,8
16	406,4	158,8
17	508,0	158,8

RUB VA

No.	DN [mm]	Tensile design capacity load [kN]
1	*2*	*3*
1	21,3	14,6
2	26,9	14,6
3	33,7	14,6
4	42,4	14,6
5	48,3	14,6
6	60,3	23,2
7	76,1	23,2
8	88,9	23,2
9	114,3	33,7
10	108	33,7
11	139,7	33,7
12	133	33,7
13	159	33,7
14	168,3	33,7
15	219,1	33,7
16	274	98,0

Table C56. Design capacity load height adjuster HRS 0 and HRS P

No.	Designation	Tensile design capacity load [kN]
1	*2*	*3*
1	HRS 0	1,5
2	HRS P M8 i HRS P M10	4,0

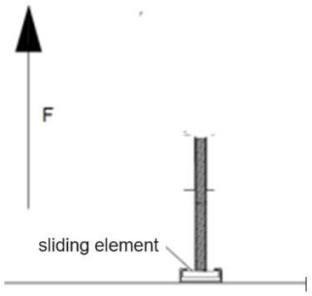


Fig. C7. Force diagram (ref. to Table C57 ÷ C60)

Table C57. Design capacity load slide element GLE LC and GLE J

No.	Designation	Tensile design capacity load [kN]
1	*2*	*3*
1	GLE LC-A 22	1,0
2	GLE LC-I	1,0
3	GLE J 8	3,5
4	GLE J 10	3,5
5	GLE J 12	6,0
6	GLE J 16	6,0

Table C58. Design capacity load slide set GS 1G, GS 2G, GS 2G VA, GS 2G2, GS 2G2 VA, GS ULTRAglide 2G, GS ULTRAglide 2G2, GS 2G-PL, GS 2G-PL VA, GS 2G2-PL, GS 2G2-PL HCP, GS 2G2-PL VA, GS ULTRAglide 2G-PL, GS ULTRAglide 2G2-PL, GS H3G, GS H3G2, GS H3G VA, GS H3G2 VA, GS ULTRAglide H3G, GS ULTRAglide H3G2 i GS H3G-PL, GS H3G2-PL, GS H3G-PL VA, GS H3G2-PL VA, GS ULTRAglide H3G-PL, GS ULTRAglide H3G2-PL

No.	Designation	Tensile design capacity load [kN]	Compression design capacity load [kN]
1	*2*	*3*	*4*
1	GS 1G	0,6	1,2
2	GS 2G	0,6	1,2
3	GS 2G2	0,6	1,2
4	GS 2G VA	0,6	1,2
5	GS 2G2 VA	0,6	1,2
6	GS ULTRAglide 2G	0,6	1,2
7	GS ULTRAglide 2G2	0,6	1,2
8	GS 2G-PL	0,6	1,2
9	GS 2G2-PL	0,6	1,2
10	GS 2G2-PL HCP	0,6	1,2
11	GS 2G-PL VA	0,6	1,2
12	GS 2G2-PL VA	0,6	1,2
13	GS ULTRAglide 2G-PL	0,6	1,2
14	GS ULTRAglide 2G2-PL	0,6	1,2
15	GS H3G	5,0	9,0
16	GS H3G2	5,0	9,0
17	GS H3G VA	5,0	9,0
18	GS H3G2 VA	5,0	9,0
19	GS ULTRAglide H3G	5,0	9,0
20	GS ULTRAglide H3G2	5,0	9,0
21	GS H3G-PL	5,0	9,0
22	GS H3G2-PL	5,0	9,0
23	GS H3G-PL VA	5,0	9,0
24	GS H3G2-PL VA	5,0	9,0
25	GS ULTRAglide H3G-PL	5,0	9,0
26	GS ULTRAglide H3G2-PL	5,0	9,0

Table C59. Design capacity load slide element GS 41 and GS 41VA

No.	Fixing	Tensile design capacity load [kN]	Compression design capacity load [kN]
1	*2*	*3*	*4*
1	Single	6,0	4,0
2	Double	8,0	4,0
3	Single with foot plate	-	8,0

Table C60. Design capacity load slide set GS F 1G, GS F 1G2, GS F 2G and GS F 2G2

No.	Designation	Standing position design capacity load [kN]	Suspended position design capacity load [kN]
1	*2*	*3*	*4*
1	GS F 80 1G	17,0	5,4
2	GS F 80 1G2	12,0	8,4
3	GS F 100 1G	17,0	5,7
4	GS F 100 1G2	12,0	8,7
5	GS F 80 2G	1,2	0,6
6	GS F 80 2G2	1,2	0,6
7	GS F 100 2G2	1,2	0,6
G2 – two-threaded connection			

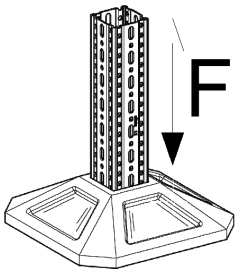


Fig. C8. Force diagram (ref. to Table C61)

Table C61. Design capacity load insulated foots SHB SQF 350 and SHB SQF 500

No.	Designation	Compression design capacity load [kN]
1	*2*	*3*
1	SHB SQF 350	16,0
2	SHB SQF 500	16,0

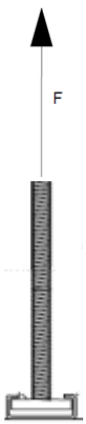


Fig. C9. Force diagram (ref. to Table C62 ÷ C66)

Table C62. Design capacity load mounting plate GPL

No.	Designation	Tensile design capacity load [kN]
1	*2*	*3*
1	GPL Normal M8	1,5
2	GPL Normal M10 / M10 RL	1,5
3	GPL Normal 2G M8/M10	1,5
4	GPL Normal R 1/2"	1,5
5	GPL Stabil M10	4,0
6	GPL Stabil M12	5,0
7	GPL Stabil M16	8,5
8	GPL Stabil R 1/2"	8,5
9	GPL Stabil R 3/4"	8,5
10	GPL Stabil R 1"	8,5

Table C63. Design capacity load mounting plate GPL HCP

No.	Designation	Tensile design capacity load [kN]
1	*2*	*3*
1	GPL HCP Stabil M10	4,0
2	GPL HCP Stabil M12	4,0
3	GPL HCP Stabil M16	8,5
4	GPL HCP Stabil R 1/2"	8,5

Table C64. Design capacity load mounting plate GPL VA

No.	Designation	Tensile design capacity load [kN]
1	*2*	*3*
1	GPL VA Stabil M8	3,0
2	GPL VA Stabil M10	3,0
3	GPL VA Stabil M12	3,0
4	GPL VA Stabil M16	4,5
5	GPL VA Stabil R 1/2"	4,5
6	GPL VA Stabil R 3/4”	6,2

Table C65. Design capacity load mounting plate GPL Stabil HCP

No.	Designation	Tensile design capacity load [kN]
1	*2*	*3*
1	GPL Stabil R 1/2"-100	18,0

Table C66. Design capacity load flat fittings ECO CC 1, ECO CC 2 and ECO CC 3

No.	Designation	Tensile design capacity load [kN]
1	*2*	*3*
1	ECO CC1, CC 2, CC 3	2,0 / node

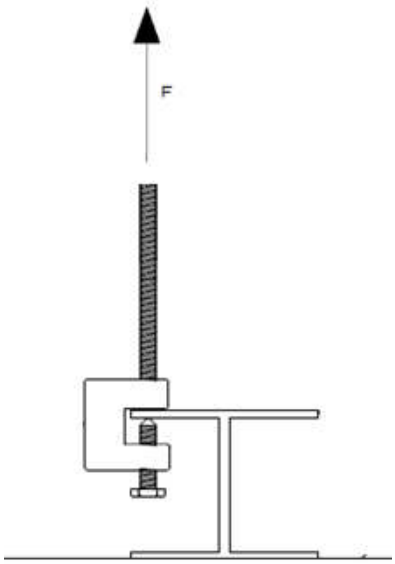


Fig. C10. Force diagram (ref. to Table B67 ÷ B69)

Table C67. Design capacity load beam clamp TCS

No.	Designation	Tensile design capacity load [kN]
1	*2*	*3*
1	TCS 0	3,5
2	TCS 1	5,0
3	TCS 2	8,5
4	TCS 1 HCP	5,0
5	TCS 1 VA	5,0
6	TCS 2 HCP	8,5
7	TCS F (VdS/FM)	3,5

Table C68. Design capacity load beam clamp SB 27, SB 41 and SB 41 HCP

No.	Designation	Tensile design capacity load [kN]
1	*2*	*3*
1	SB 27-M8	2,0
2	SB 41-M8	3,5
3	SB 41-M10	5,0
4	SB 41D-M10	5,0
5	SB 41 HCP-M10	5,0

Table C69. Design capacity load beam clamp SB F 80 and SB F 100

No.	Designation	Tensile design capacity load [kN]
1	*2*	*3*
1	SB F 80-16	9,5
2	SB F 80-40	16,0
3	SB F 80/30-16	9,5
4	SB F 80/30-40	16,0
5	SB F 100-16	9,5
6	SB F 100-40	16,0
7	SB F 100/160-40	16,0

Table C70. Design capacity load universal joints UG and UG VA

No.	Designation	Tensile design capacity load [kN]
1	*2*	*3*
1	UG M8	5,8
2	UG M10	8,0
3	UG M12	13,0
4	UG M16	13,0
5	UG FP M12	10,0
6	UG FP M16	10,0
7	UG VA M8	5,8
8	UG VA M10	8,0
9	UG VA M12	13,0
10	UG VA M16	13,0

Fig. C11. Force diagram (ref. to Table B71)

Table C71. Design capacity load joint JOI 41 T HCP

No.	Designation	Shear design capacity load [kN]
1	*2*	*3*
1	JOI 41 T HCP	4,4

Table C72. Design capacity load threaded hook GH

No.	Designation	Tensile design capacity load [kN]
1	*2*	*3*
1	GH M8 x 75, GH M8 x 115	2,5
2	GH M10 x 120, GH M10 x 150	4,0

Table C73. Design capacity load hook sleeve SP

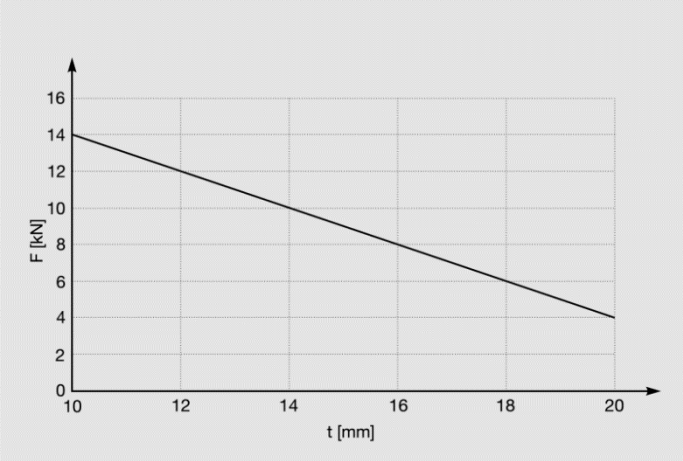


Table C74. Design capacity load toggle studs KD

No.	Designation	Tensile design capacity load [kN]
1	*2*	*3*
1	KD M8 x 100, KD M8 x 200	0,8
2	KD TD10 x 100, KD TD10 x 200	0,8

Table C75. Design capacity load roof hanger TRH (M8, M10, RM 8, RM 10, MS, M8H, M10H)

No.	Designation	Tensile design capacity load [kN]
1	*2*	*3*
1	TRH M8	0,8
2	TRH M10	0,8
3	TRH RM 8	0,8
4	TRH RM 10	0,8
5	TRH MS	0,3
6	TRH M8H	0,2
7	TRH M10H	0,2

Table C76. Design capacity load acoustic absorption element AKE

No.	Compression design capacity load [kN]	Deformation [mm]
1	*2*	*3*
1	0,15 ÷ 0,70	0,50 ÷ 2,60

Table C77. Design capacity load rubber-metal combination element GMT

No.	Designation	Compression design capacity load [kN]	Modulus of elasticity c [kN/mm]
1	*2*	*3*	*4*
1	GMT M12	5,0	2,2

Table C78. Design capacity load sound absorber SDE 0 and SDE 1 - M10 and SDE 1 - 3G

No.	Designation	Compression design capacity [kN]
1	*2*	*3*
1	SDE 0	1,0
2	SDE1 - M10 and SDE 1 - 3G pull	2,5
3	SDE 1 - M10 and SDE 1 - 3G pressure	3,0
4	SDE 1 - M10 and SDE 1 - 3G feed	0,5

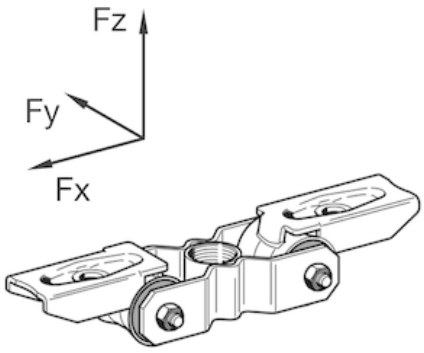


Fig. C12. Force diagram (ref. to Table C79)

Table C79. Design capacity load sound absorber SDE 2 - FP 1

No.	Designation	+/- Fx [kN]	Fy [kN]	+/- Fz [kN]
1	*2*	*3*	*4*	*5*
1	SDE 2 - FP 1	20	-	20

Table C80. Design capacity load sound absorber SDE 2 - SBV/SBZ

No.	Designation	Tensile and compression design capacity load [kN]
1	*2*	*3*
1	SDE 2 - SBV/SBZ	10

Table C81. Design capacity load sound absorber SDE 2 - UG 16

No.	Designation	Tensile and compression design capacity load single element [kN]	Tensile and compression design capacity load pair [kN]
1	*2*	*3*	*4*
1	SDE 2 - UG 16	10	25

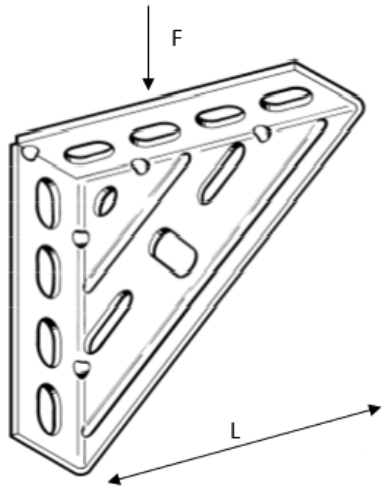
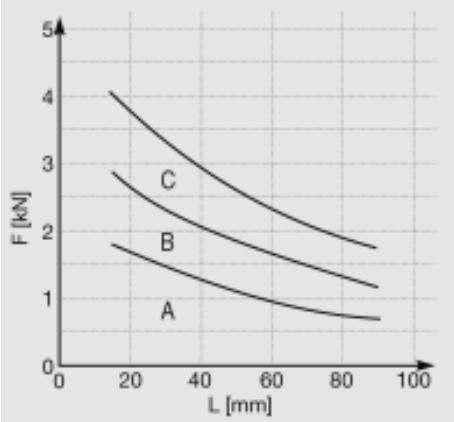


Fig. C13. Force diagram (ref. to Table C82 ÷ C95)

Table C82. Design capacity load support brackets WK, WK HCP and WK VA

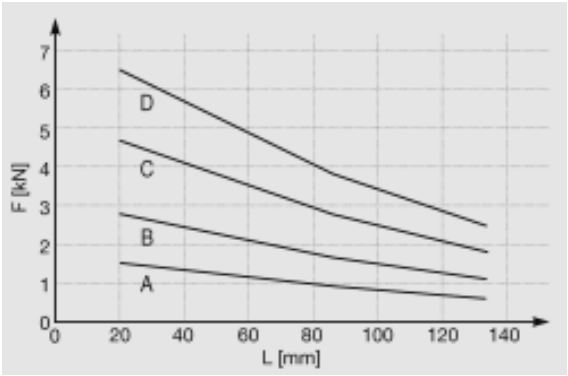


Design capacity load on diagram:
F – bending design capacity load
L – arm length

Table C83. Support brackets WK100/100, WK 100/100-40, WK100/100-40 HCP and WK100/100 VA

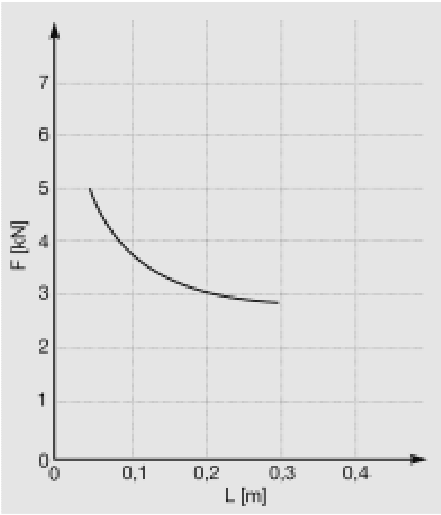
Curve	Location and load class of anchors fixing support brackets to the wall [kN]	Anchor spacing [mm]	Maximum deflection arrow [mm]	σ_{dop} [N/mm^2]
A	top 1,5 down 1,5	70	1	≤ 160
B	top 2,5 down 1,5			
C	top 3,5 down 1,5			

Table C84. Support brackets WK 150/150, WK150/150 HCP, WK150/150 VA



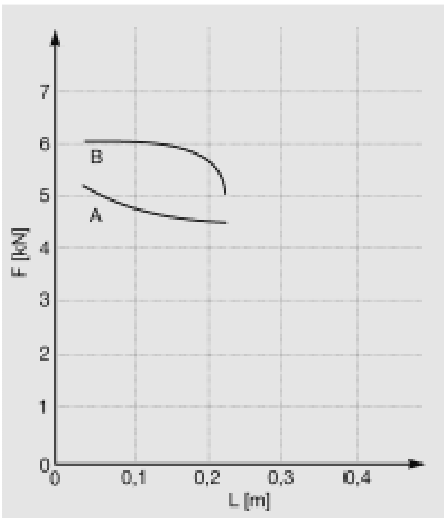
Curve	Location and load class of anchors fixing support brackets to the wall [kN]	Anchor spacing [mm]	Maximum deflection arrow [mm]	σ_{dop} [N/mm^2]
A	top 1,5 down1,5	115	1,5	≤ 160
B	top 2,5 down 1,5			
C	top 3,5 down 1,5			
D	top 6,0 down 3,5			

Table C85. Support bracket WK 300/200



Location, quantity and load class of anchors fixing support brackets to the wall by short arm [kN]	Anchors spacing [mm]
top 1 x 6,0	180
down 1 x 3,5	

Table C86. Support bracket WK 300/200



Krzywa	Location, quantity and load class of anchors fixing support brackets to the wall by long arm [kN]	Anchor spacing [mm]
A	top1 x 3,5	260
	down 1 x 3,5	
B	top 1 x 6,0	
	down 1 x 6,0	

Table C87. Support brackets WK 550/350 and WK 550/350 HCP

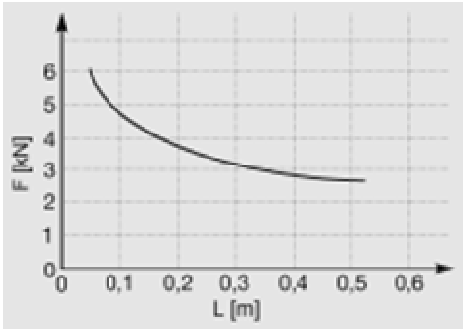
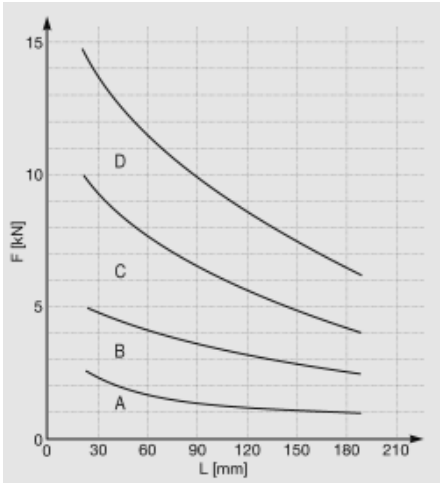
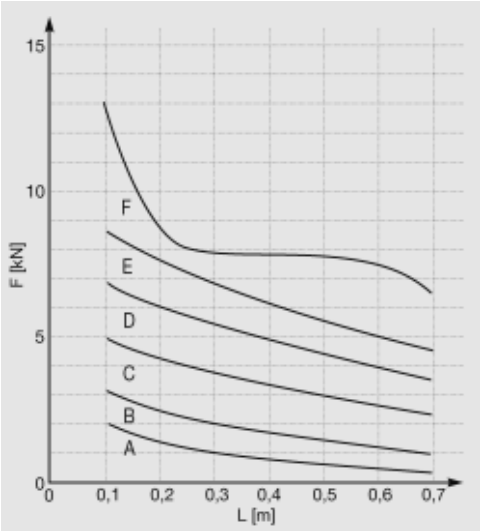


Table C88. Support brackets WK 200/200



Curve	Location and load class of anchors fixing support brackets to the wall [kN]	Anchor spacing [mm]	Maximum deflection arrow [mm]	σ_{dop} [N/mm^2]
A	top 1,5 down 1,5	165	2	≤ 160
B	top 3,5 down 2,5			
C	top 6,0 down 6,0			
D	top 9,0 down 9,0			

Table C89. Support bracket WK 725/400 HCP



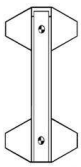
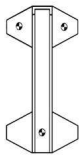
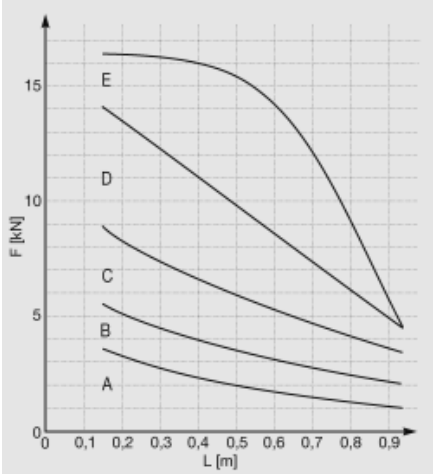
Curve	Location and load class of anchors fixing support brackets to the wall [kN]		Maximum deflection arrow [mm]
	 Two anchors fixing	 Three anchors fixing	
A	top 1 x 1,5 down 1 x 1,5	-	L/3000
B	top 1 x 3,5 down 1 x 1,5	top 2 x 1,5 down 1 x 1,5	L/2000
C	top 1 x 6,0 down 1 x 2,5	top 2 x 3,5 down 1 x 1,5	L/1000
D	top 1 x 9,0 down 1 x 3,5	top 2 x 6,0 down 1 x 2,5	L/900
E	top 1 x 13,0 down 1 x 3,5	top 2 x 9,0 down 1 x 3,5	L/700
F	-	top 2 x 13,0 down1 x 6,0	L/500

Table C90. Design capacity load support bracket WK 880/550 HCP



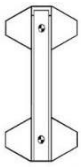
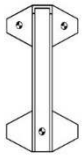
Curve	Location and load class of anchors fixing support brackets to the wall [kN]		Maximum deflection arrow [mm]
	 Two anchors fixing	 Three anchors fixing	
A	top 1 x 3,5 down 1 x 1,5	top 2 x 2,5 down 1 x 1,5	L/1000
B	top 1 x 6,0 down 1 x 2,5	top 2 x 3,5 down 1 x 2,5	L/600
C	top 1 x 9,0 down 1 x 3,5	top 2 x 6,0 down 1 x 3,5	L/400
D	top 1 x 13,0 down 1 x 6,0	top2 x 9,0 down 1 x 6,0	L/300
E	-	top 2 x 13,0 down 1 x 9,0	L/300

Table C91. Socket angle ST

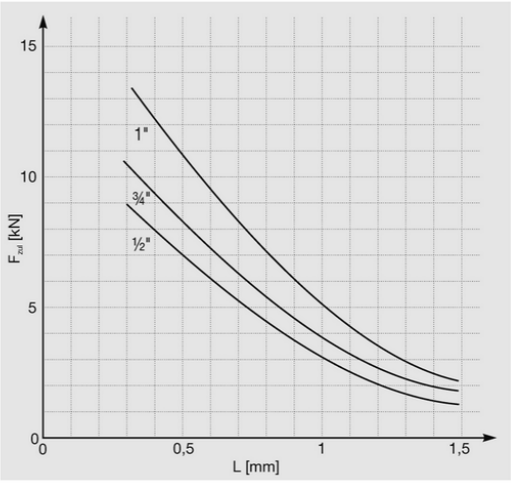
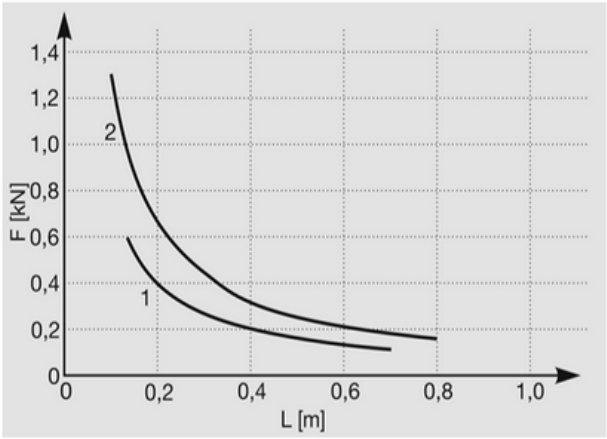
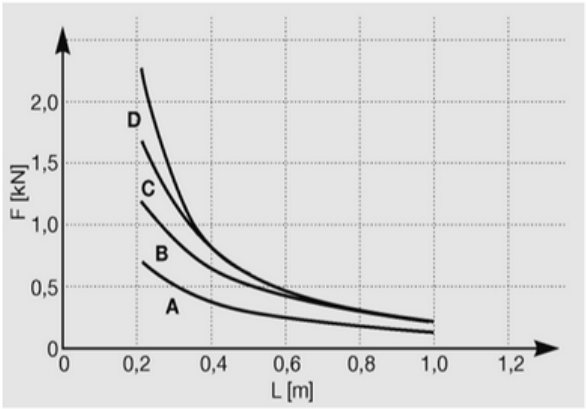


Table C92. Cantilever brackets AK: AK 27/25 and AK 27/37



1 - AK 27/25
2 - AK 27/37

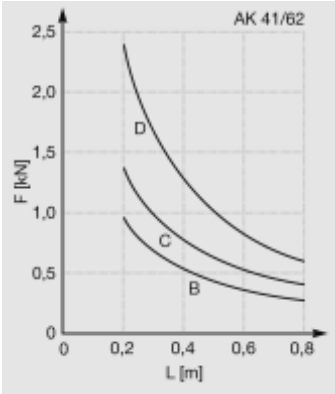
Table C93. Cantilever brackets AK 41/41, AK 41/41 HCP, AK 41/41 VA



Anchor load class

A = 1,5 kN
B = 2,5 kN
C = 3,5 kN
D = 6,0 kN

Table C94. Cantilever brackets AK 41/62 and AK 41/62 HCP

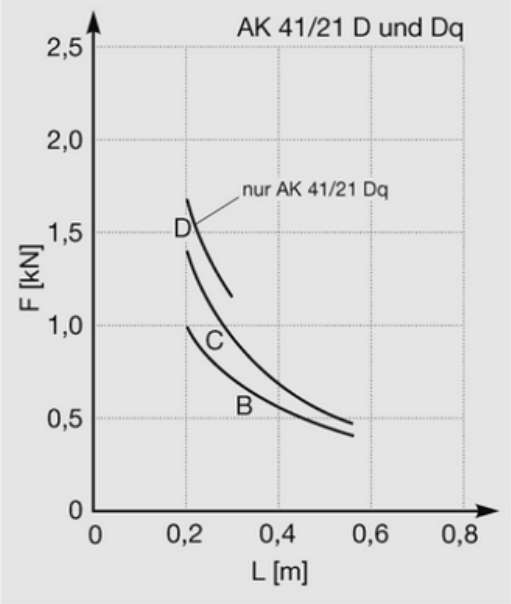


Anchor load class

A = 1,5 kN
B = 2,5 kN
C = 3,5 kN
D = 6,0 kN

Table C95. Cantilever brackets AK HCP

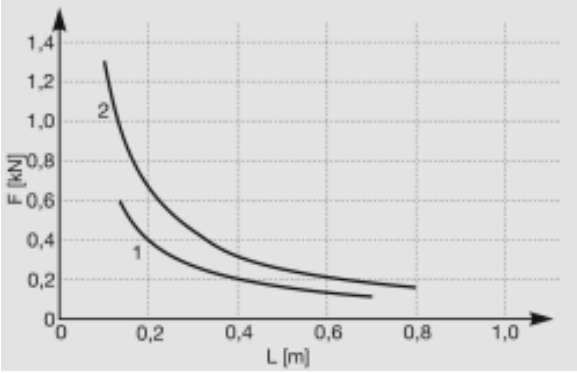
v. 41/21 D and Dq



Anchor load class

A = 1,5 kN
B = 2,5 kN
C = 3,5 kN
D = 6,0 kN

Table C96. Cantilever brackets AK 27-1,25



1 – v. 27/25
2 – v. 27/37

Table C97. Design capacity load clamping end SKL.

No.	Description	Shear design capacity [kN]
1	*2*	*3*
1	2 sets SKL (4 consoles SKL + channel MS 41/41/2,5 or MS 41/45/2,5)	5,0
2	1 set SKL (2 consoles SKL + channel MS 41/41/2,5 or MS 41/45/2,5))	2,5

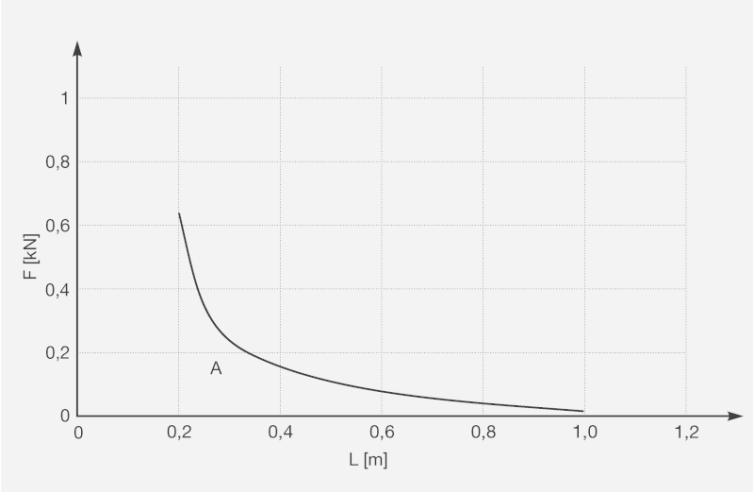
Table C98. Design capacity load bracket SFK

No.	Designation	Bending design capacity load [kN]
1	*2*	*3*
1	SFK	2,0

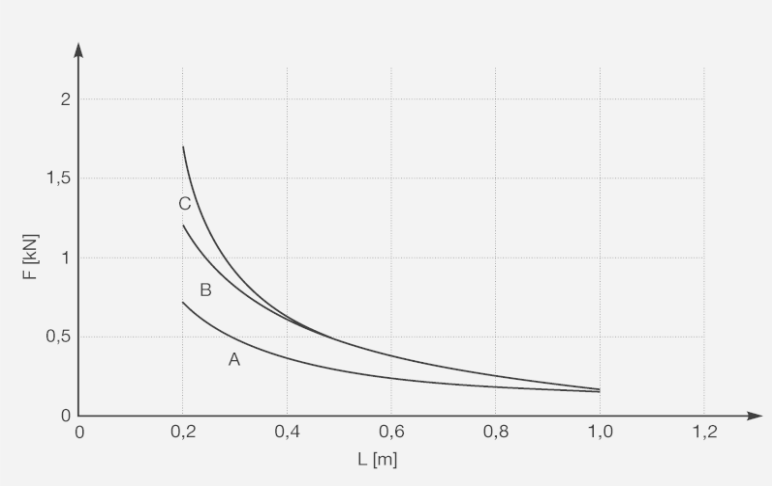
Table C99. Anchor class for end supports described in Tables C100, C101, C102 and C103

Curve	Load class for each anchor [kN]
A	1,5
B	2,5
C	3,5
D	6,0
E	9,0

Table C100. Design capacity load end supports WBD, WBD HCP, WBD VA and WBD C HCP

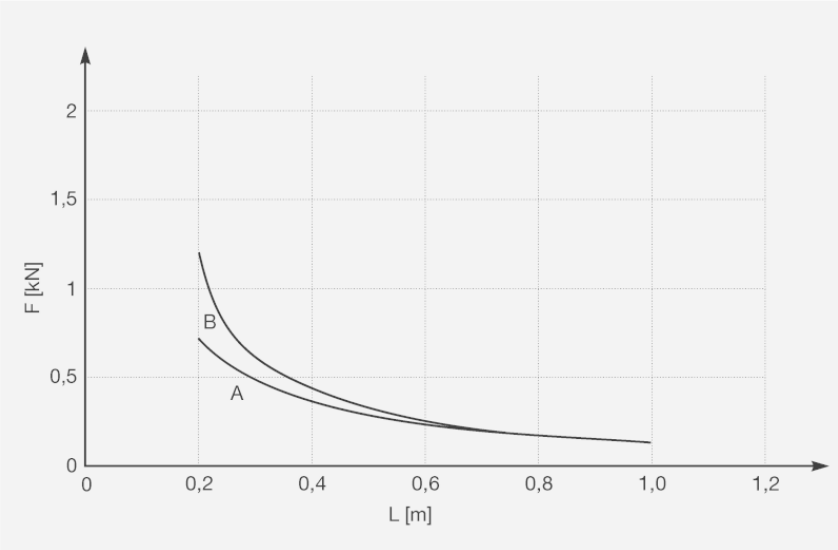


Loads diagram in set with channel 41/21/2,0 or 41/31/2,0

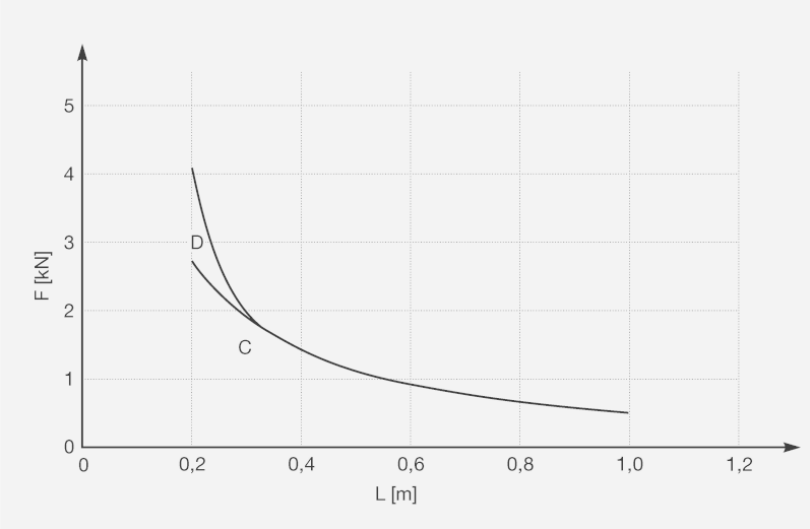


Loads diagram in set with channel 41/21/2,0 D

c.d. Table C100. Design capacity end supports WBD, WBD HCP, WBD VA and WBD C HCP



Loads diagram in set with channel 41/41/2,5 or 41/45/2,5



Loads diagram in set with channel 41/41/2,5 D or 41/45/2,5 D

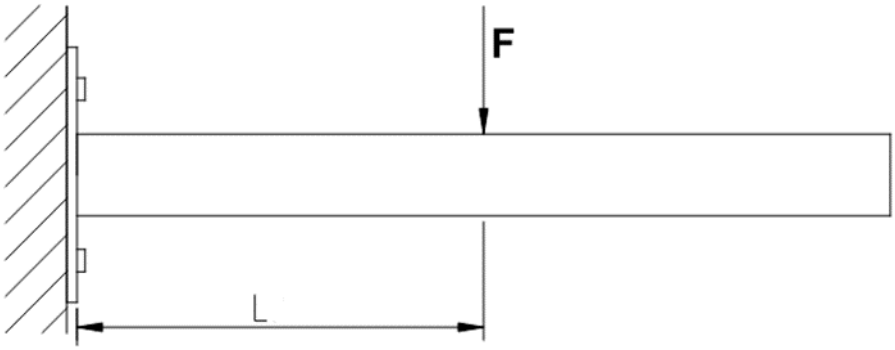
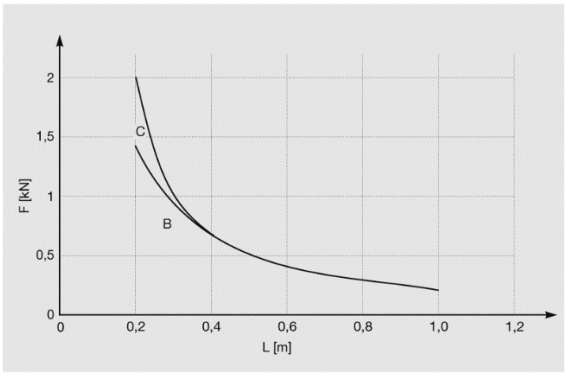
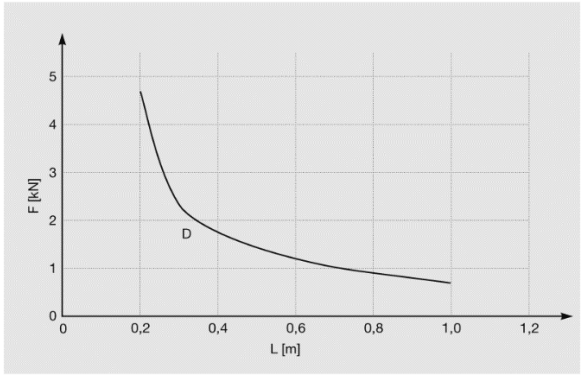


Fig. C14. Force diagram (ref. Table C101 ÷ C104)

Table C101. Design capacity load end supports WBD 41/52

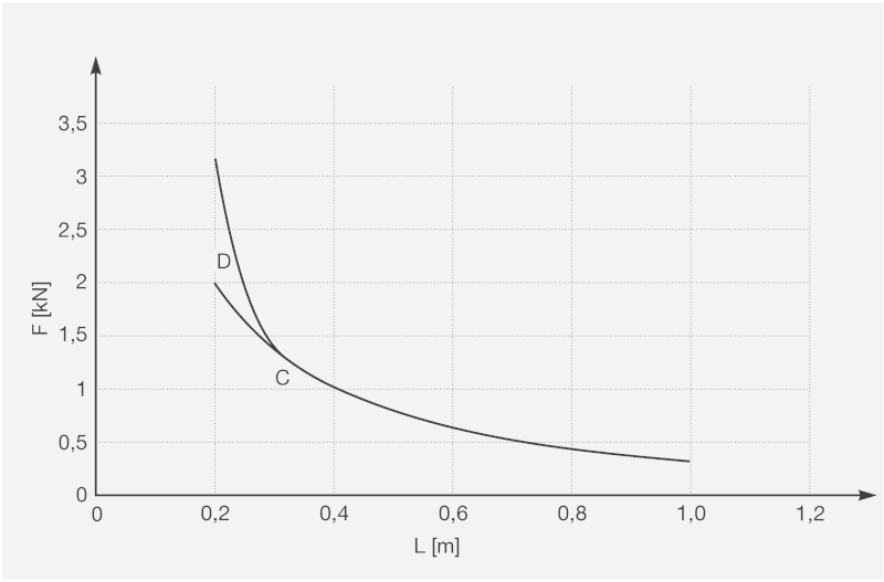
No.	Designation	Tensile design capacity load [kN]
1	*2*	*3*
1	41/21-31 to 41/41-45	2
2	41/52 to 41-75/75	4



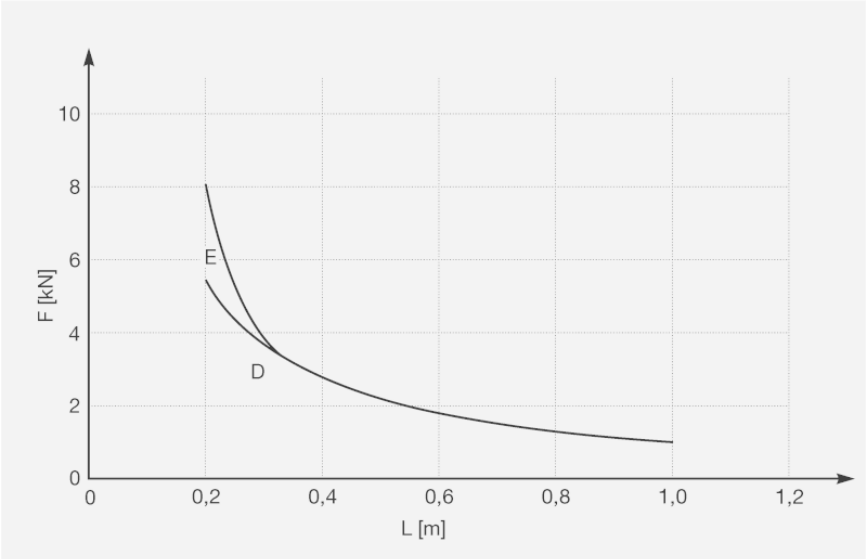


Loads diagrams WBD 41/52 in set with channel 41/52/2,5 and 41/52/2,5 D

Table C102. Design capacity load end supports WBD 41/62

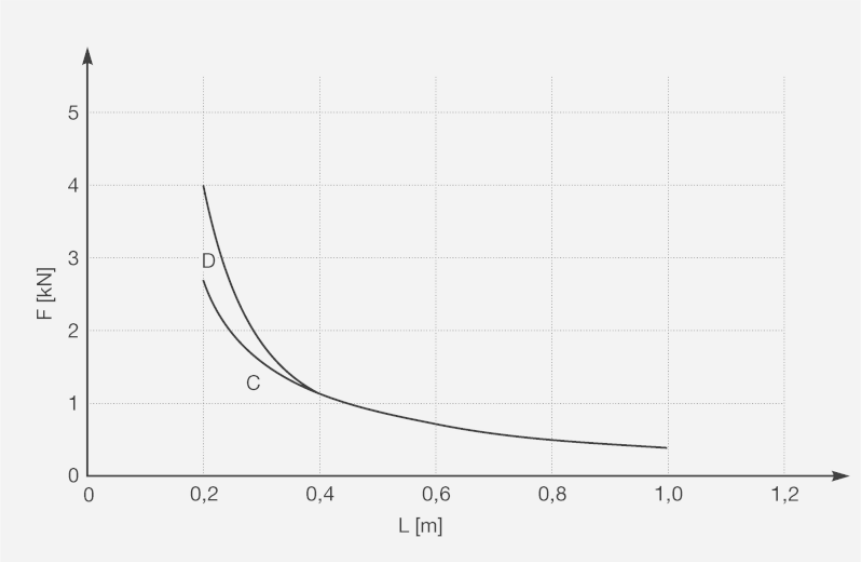


Loads diagrams in set with channel 41/62/2,5

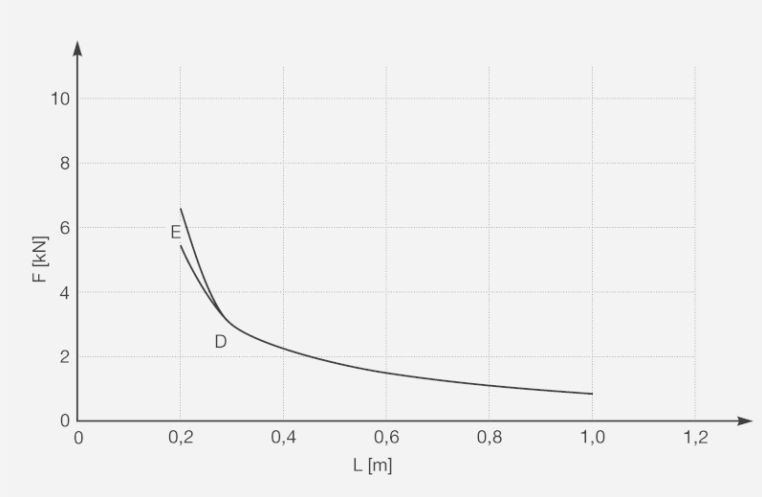


Loads diagrams in set with channel 41/62/2,5 D

Table C103. Design capacity load end support WBD 41-75/65

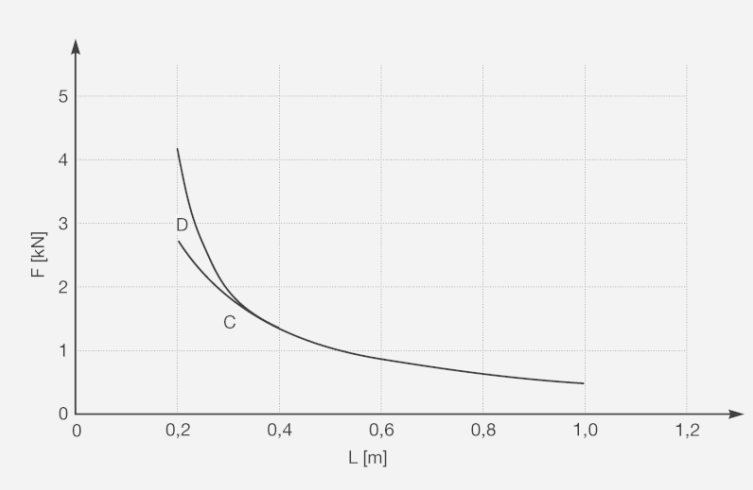


Loads diagrams in set with channel 41-75/65/3,0



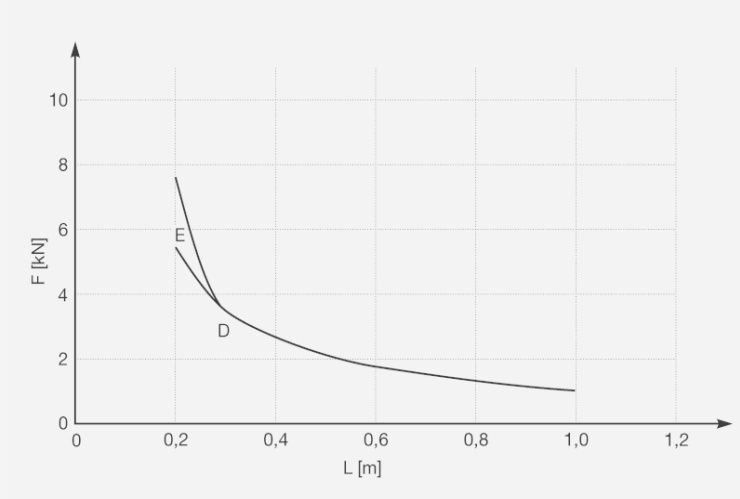
Loads diagrams in set with channel 41-75/65/3,0 D

Table C104. Design capacity load end support WBD 41-75/75



Loads diagrams in set with channel 41-75/75/3,0

c.d. Table C104. Design capacity load end support WBD 41-75/75



Loads diagrams in set with channel 41-75/75/3,0 D

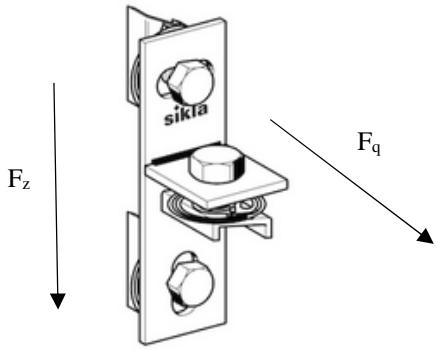


Fig. C15. Force diagram (ref. Table C105)

Table C105. Design capacity load T-brackets MOS CC

No.	Designation	Design capacity load	
		F_Z [kN]	F_Q [kN]
1	*2*	*3*	*4*
1	MOS CC – MH 41	1,5	0,8
2	MOS CC – MV 41	1,5	0,8

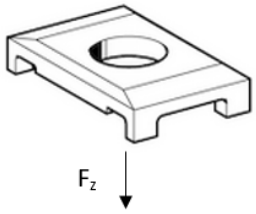


Fig. C16. Force diagram (ref. Table C106 ÷ C107)

Table C106. Design capacity load holding brackets HK 27, HK BL and HK VA

No.	Designation	Design capacity load F_z [kN]
1	*2*	*3*
1	HK BL 8	4,0
2	HK 27/10, HK BL 10, HK 41/10 VA	6,0
3	HK BL 12, HK 41/12 VA	6,0
4	HK 41/16 VA	6,0

Table C107 Design capacity load holding brackets HK 41 and HK HCP

No.	Designation	Design capacity load F_z [kN]
1	*2*	*3*
1	41/10	12,5
3	41/12	18,1
4	41/16	33,8

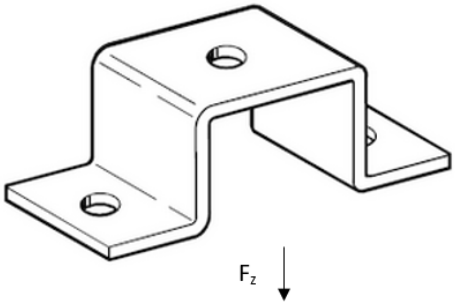


Fig. C17. Force diagram (ref. Table C108)

Table C108. Design capacity load channel brackets SH and SH HCP

No.	Designation	Design capacity load	
		F_z [kN]	F_Q [kN]
1	*2*	*3*	*4*
1	41/21	5,8	4,4
2	41/31	5,8	4,4
3	41/41 – 41/21D*	5,8	4,4
4	41/45	5,8	4,4
5	41/52	5,8	4,4
6	41/62	5,8	4,4
7	41-75/65	13,0	9,0
8	41-75/75	13,0	9,0
9	41/41 D*	5,8	4,4
10	41/45 D*	5,8	4,4
11	41/52D*	5,8	4,4
12	41/62 D*	5,8	4,4
13	41-75/65 D*	13,0	9,0
14	41-75/75 D*	13,0	9,0
* – dedicated to double channel (D)			

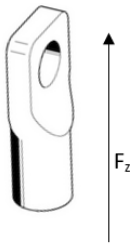


Fig. C18. Force diagram (ref. Table C109 and C110)

Table C109. Design capacity load link eye SCB

No.	Designation	Design capacity load F_z [kN]
1	*2*	*3*
1	SCB M8	8,0
2	SCB M10	12,5
3	SCB M12	16,1

Table C110. Design capacity load eye bolt SCR

No.	Designation	Design capacity load F_z [kN]
1	*2*	*3*
1	SCR M8	8,0
2	SCR M10	12,5

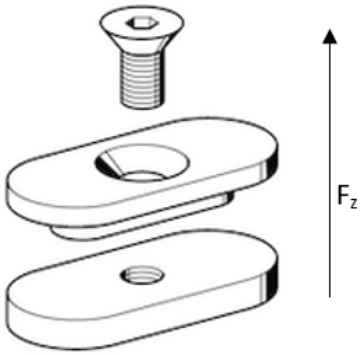


Fig. C19. Force diagram (ref. Table C111)

Table C111. Design capacity load clamping unit KL

No.	Designation	Design capacity load	
		F_z [kN]	F_Q [kN]
1	*2*	*3*	*4*
1	KL1	8,0	5,0

Table C112. Design capacity load tension tie rod disc IR

No.	Designation	Design capacity load for point F_z [kN]
1	*2*	*3*
1	IR M10	13,6

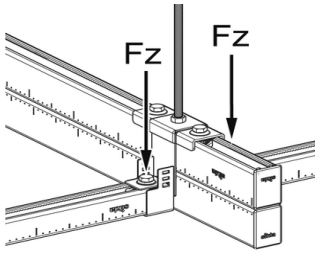


Fig. C20. Force diagram (ref. Table C113 and C115)

Table C113. Design capacity load cross tee IR-M

No.	Designation	Design capacity load for point F_z [kN]
1	*2*	*3*
1	IR-M 41/52 D	6,0
2	IR-M 41/62 D	6,0

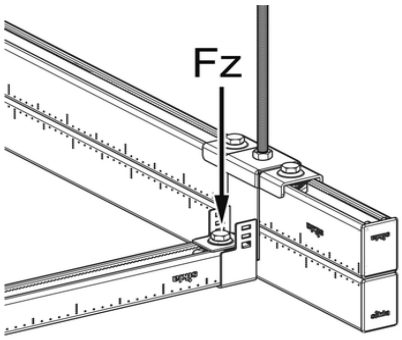


Fig. C21. Force diagram (ref. Table C114)

Table C114. Design capacity load cross tee IR-E

No.	Designation	Design capacity load for point F_z [kN]
1	*2*	*3*
1	IR-E 41/52 D	6,0
2	IR-E 41/52 D	6,0

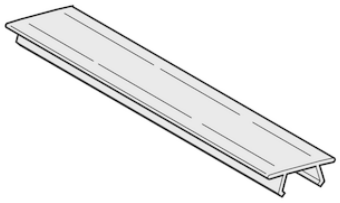
Table C115. Design capacity load suspension holding bracket IR-RA

No.	Designation	Tensile design capacity load F_z [kN]
1	*2*	*3*
2	IR-RA M10	12

Table C116. Design capacity load adapters AD IG/AG AG/IG, IG/IG, IG/IG HCP and AD IG/AG VA and IG/IG VA

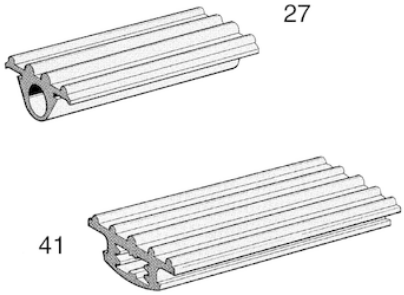
No.	Designation	Steel mechanical class
1	*2*	*3*
1	Adapter AD IG/IG Adapter AD IG/IG VA Adapter AD IG/IG HCP AD AG/IG AD IG/AG AD IG/AG VA	5.8

Annex D.



Material: HDPE

Fig. D1. Channel cover MSA 41



Material: rubber SBR/EPDM

Fig. D2. Channel lining SAL

Designation	H [mm]	Ribs
STD 1	4,5	4
STD 2	4	4
STD 3	6	5
STD 4	7	5
STD 5	7	7

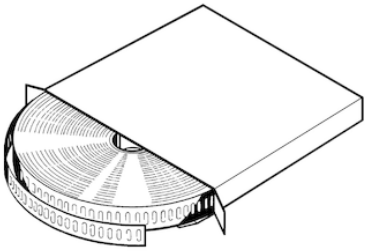
Fig. D3. Channel lining SAL SBR/EPDM

Designation	H [mm]	Ribs
STD 1	4,5	4
STD 2	4	4
STD 3	6	5
STD 4	7	5

Fig. D4. Silicone profile SAL

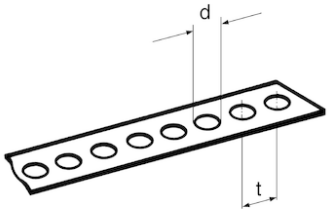
Designation	Width [mm]	Thickness [mm]
20 x 3,0	20	3
20 x 4,0	20	4
20 x 6,0	20	6
25 x 3,0	25	3
30 x 3,0	30	3

Fig. D5. Cellular Rubber MSK



Material: aluminium / stainless steel A2

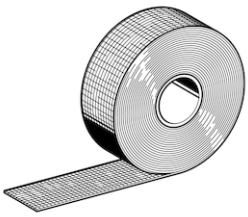
Fig. D6. Fixing Strap LOH



Width [mm]	d [mm]	t [mm]
19	7	13

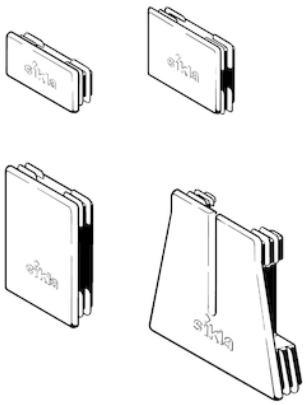
Material: zinc coated carbon steel (zing coating thickness min 8 µm)

Fig. D7. Perforated tape BND



Designation	Width [mm]	Thickness [mm]
30 x 2,0	30	2
40 x 2,0	40	2
50 x 2,0	50	2
60 x 2,0	60	2
70 x 2,0	70	2

Fig. D8. Glass fabric tape GSK



Material: HDPE

Fig. D9. End cap for channels ADK