

Solutions for ship construction



THINK CONNECTED.

Quality meets flexibility and experience. OBO solutions for ship construction

There are branches of industry, in which the safety of the manufactured goods is paramount. These surely include ship construction. On the high seas, each component used must function perfectly and reliably – even if there is an emergency. OBO has the right systems for the special requirements of electrical systems on ships.

Think connected

OBO stands for networked thinking - all over the world our systems provide a reliable backbone for building and system technology for industry, commerce and infrastructure systems.



Contents

Comprehensive solutions from the bow to the stern, from the keel to the deck.

They are almost never seen, but provide a good safe feeling on the high seas: OBO ship systems

- create passive safety,
- function reliably if there is a fault,
- ensure a reliable power supply and error-free data transmission and
- fulfil all the requirements of modern fire protection.

Our selection for your project:

This solutions catalogue contains a selection of our products for ship construction. You can find over 30,000 additional products for all areas of electrical installations in our seven main catalogues or on the Internet.

Mounting systems

Cable tray systems

Cable ladder systems

Connection, fastening and cable routing systems

Lightning and surge protection

Directories



Specific requirements, specific solutions

With regard to ship construction, experience has shown us that each project is individual and will have its own requirements for technical equipment.

The OBO consultants and developers know exactly what is required and include important requirements into the product design from the very start.

A perfectly equipped testing centre is ready for this, in which not only our standard products are tested, but also project-specific special solutions as well.



Our motto: Always do it better

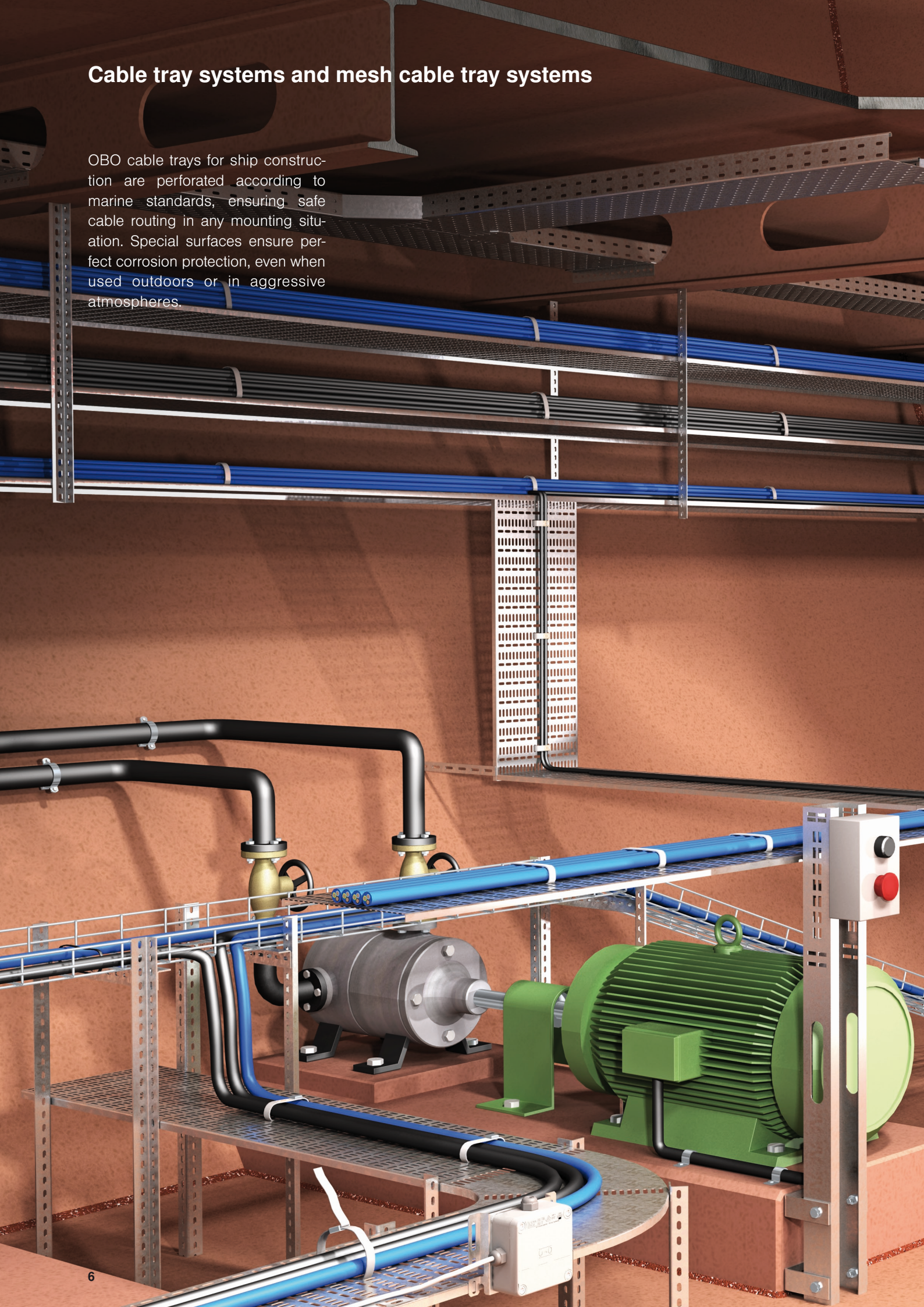
We like short routes – in any phase of a project. This is why, at OBO, everything comes from one source. This ranges from personal on-site consultancy, through planning and highly modern, flexible production, right up to quality assurance and logistics. With comprehensive in-house storage capacities and an extremely high availability at specialist wholesalers, OBO products are always available quickly and anywhere in the world. And OBO Customer Services is available to offer help and advice for special requirements.

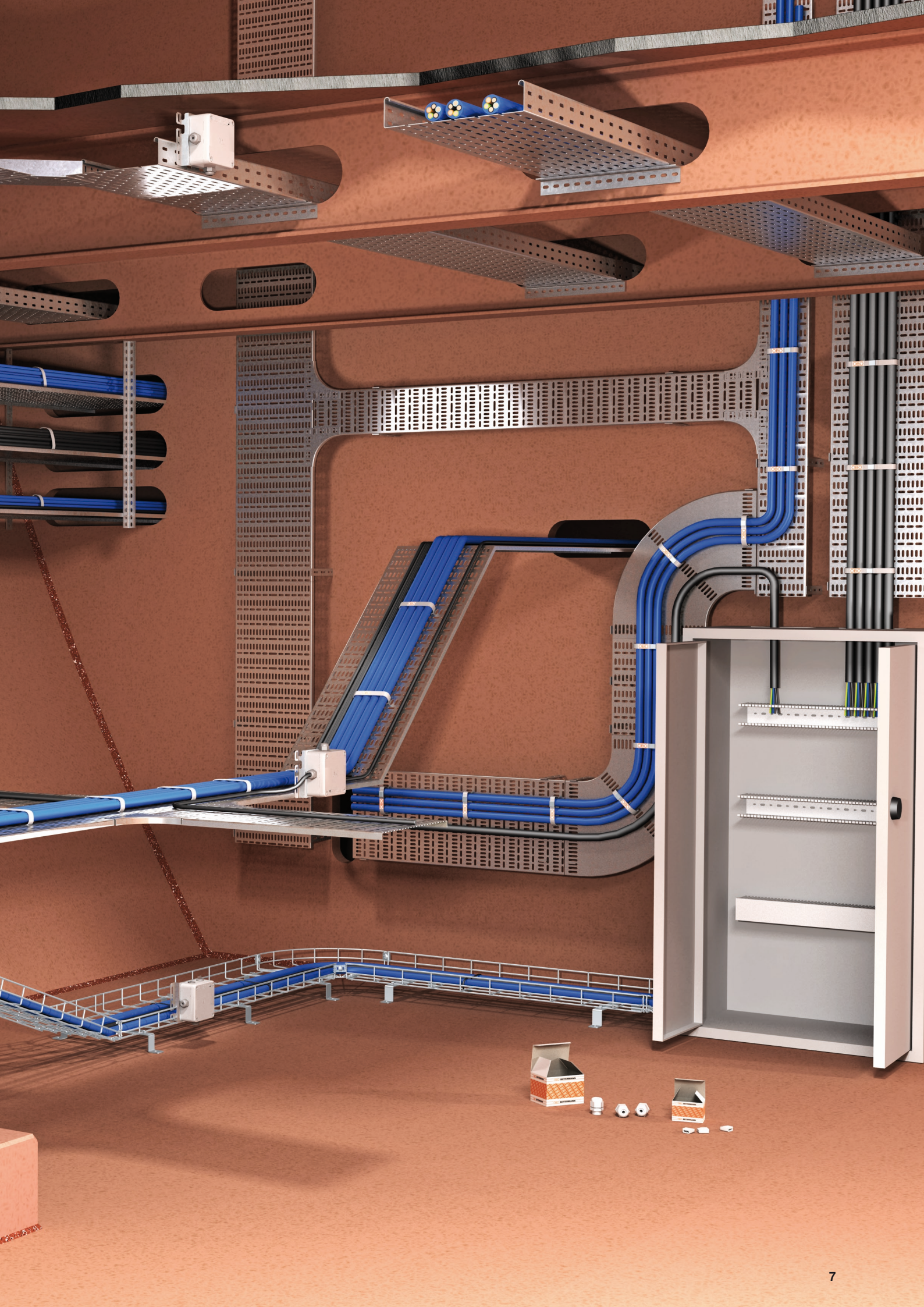
We want to be the best. Therefore, we always take a critical look at our services and products – without any compromises.



Cable tray systems and mesh cable tray systems

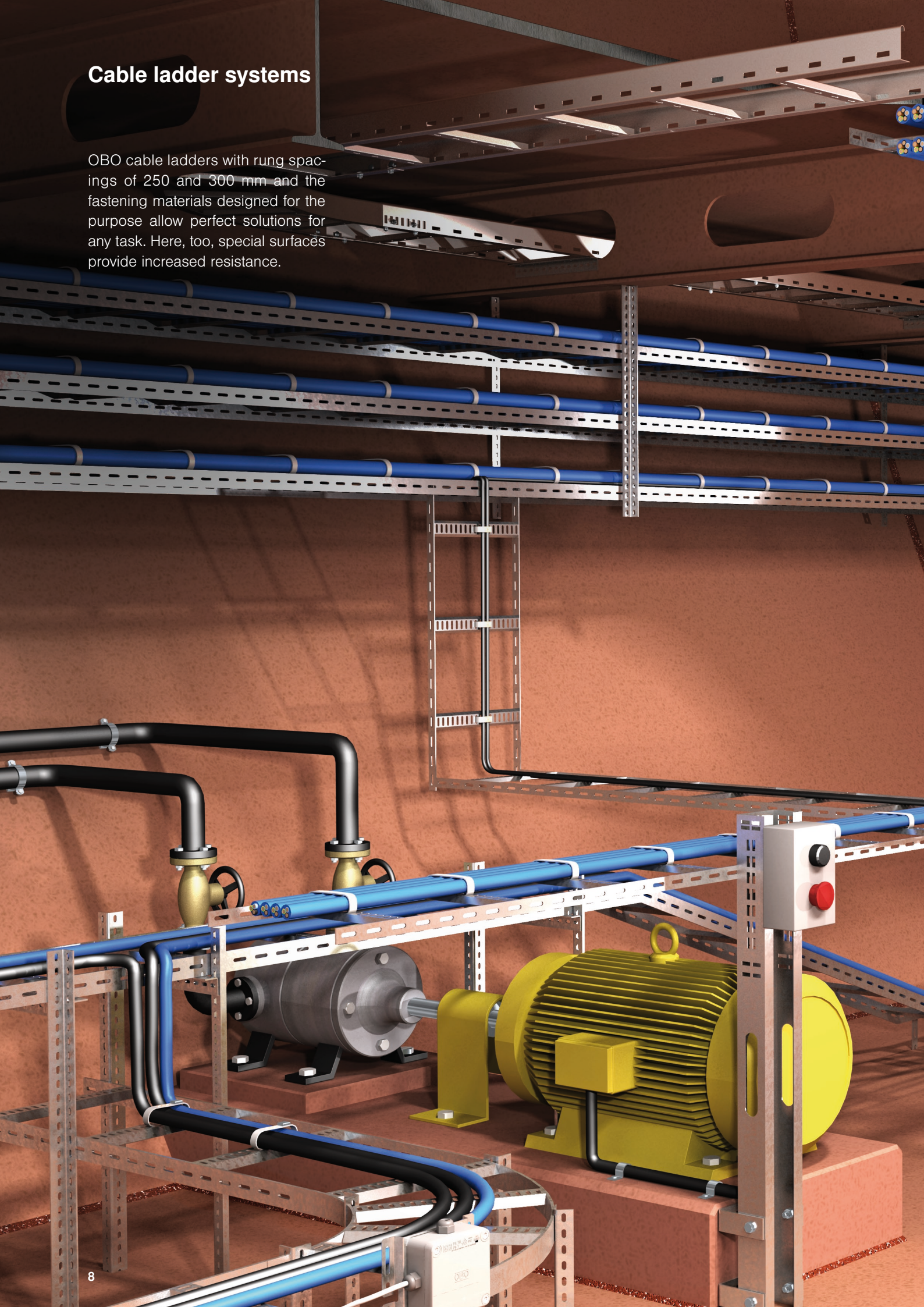
OBO cable trays for ship construction are perforated according to marine standards, ensuring safe cable routing in any mounting situation. Special surfaces ensure perfect corrosion protection, even when used outdoors or in aggressive atmospheres.

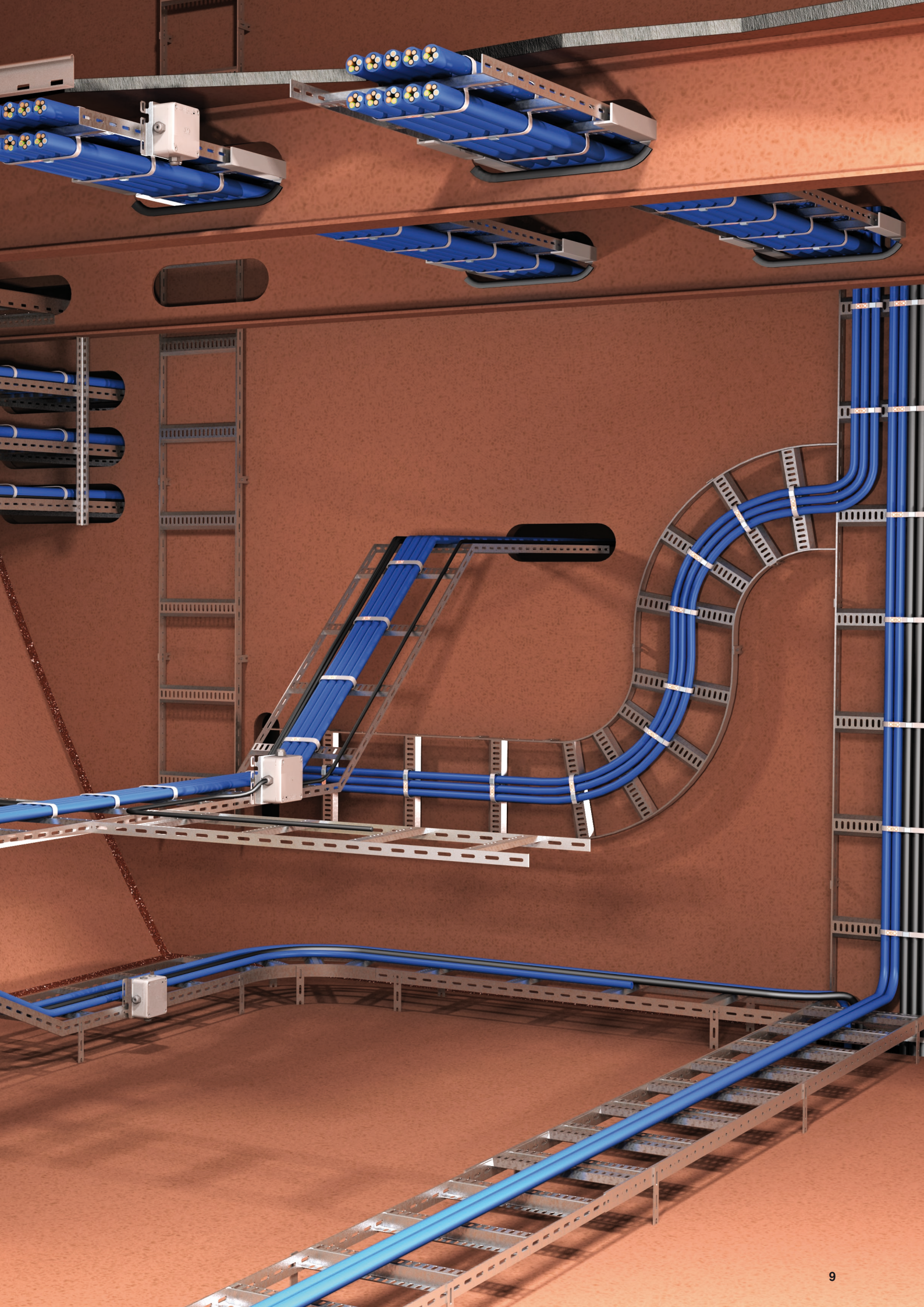




Cable ladder systems

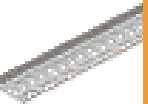



OBO cable ladders with rung spacings of 250 and 300 mm and the fastening materials designed for the purpose allow perfect solutions for any task. Here, too, special surfaces provide increased resistance.







Mounting systems

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Mounting systems

Mounting systems



Angle profile

Type	Length mm	Pack. m	Weight kg/100 m	Item No.
WESP 50 40 FT	3000	1	246.340	7105 67 3

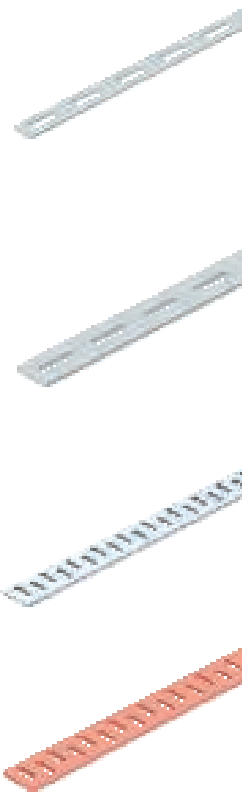
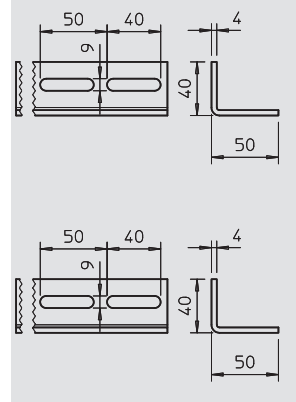
ST Steel **FT** Hot-dip galvanised /m

Angle profile with double perforation row to create suspension and support constructions.

Type	Length mm	Pack. m	Weight kg/100 m	Item No.
WESP 50 40 SG	3000	1	239.340	7105 67 5

ST Steel **SG** Pre-treated for welding /m

Angle profile with double perforation row to create suspension and support constructions.



Construction and suspension profile

Type	Length mm	Version	Pack. m	Weight kg/100 m	Item No.
SLH 42 FT	2000	Perforated	1	51.500	7103 61 1

ST Steel **FT** Hot-dip galvanised /m

Perforated rail profile of ship ladder, SL 42, for creation of suspension and support structures.

The rail profile is available in unpainted steel and in stainless steel on request.

Type	Length mm	Version	Pack. m	Weight kg/100 m	Item No.
SLH 62 FT	3000	Perforated	1	136.000	7103 64 3

ST Steel **FT** Hot-dip galvanised /m

Perforated side rail of ship cable ladder, SL 62, for creation of suspension and support structures.

The rail profile is available in unpainted steel and in stainless steel on request.

Type	Length mm	Pack. m	Weight kg/100 m	Item No.
FESP 40 5 FT	3000	1	0.000	7104 35 6

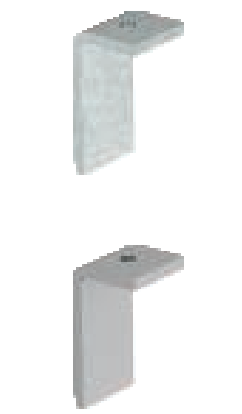
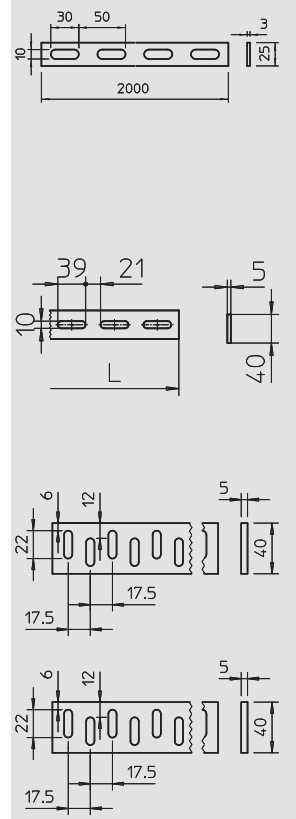
ST Steel **FT** Hot-dip galvanised /m

Flat iron profile with double, side-offset slot row to create suspended and support constructions.

Type	Length mm	Pack. m	Weight kg/100 m	Item No.
FESP 40 5 SG	3000	1	0.000	7104 35 8

ST Steel **SG** Pre-treated for welding /m

Flat iron profile with double, side-offset slot row to create suspended and support constructions.



Welding angle

Type	Dimension mm	Pack. pcs	Weight kg/100 pcs.	Item No.
ASW FT	25 x 50	10	5.700	6015 35 0

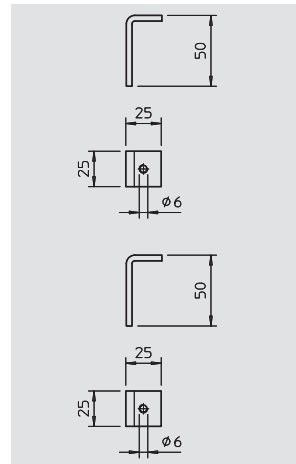
ST Steel **FT** Hot-dip galvanised /pc.

Connection bracket for mounting ship's cable ladders and marine tracks, for welding to steel constructions in ship construction.

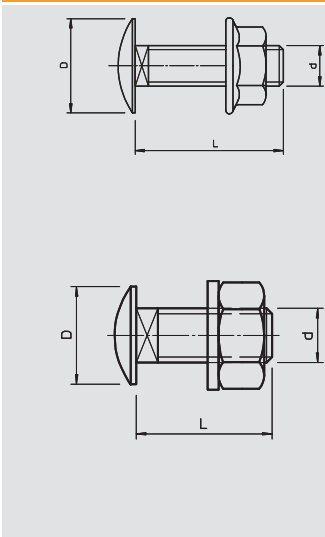
Type	Dimension mm	Pack. pcs	Weight kg/100 pcs.	Item No.
ASW BK	25 x 50	10	5.300	6015 35 2

ST Steel Bright /pc.

Connection bracket for mounting ship's cable ladders and marine tracks, for welding to steel constructions in ship construction.



12 LSB Lösungskatalog Schiffsbau_International / en / 07/04/2010 (LLExpport_01016)



Truss-head bolt

Type	Grade	Dimension mm	Dimension L mm	Dimension d mm	Dimension D mm	Pack. pcs	Weight kg/100 pcs.	Item No.
FRSB 6X12 F	5.6	M6 x 12	12	6	13.5	100	0.990	6406 12 2
FRSB 6X15 F	5.6	M6 x 15	15	6	13.5	100	0.800	6406 15 7
FRSB 6X20 F	5.6	M6 x 20	20	6	13.5	100	1.000	6406 20 3

ST Steel **F** Hot-dip galvanised /100 pc.

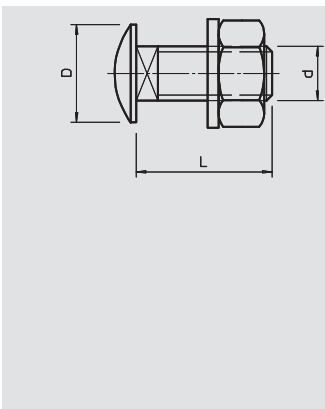
Truss-head bolt with square neck including nut-and-washer assembly.

Type	Grade	Dimension mm	Dimension L mm	Dimension d mm	Dimension D mm	Pack. pcs	Weight kg/100 pcs.	Item No.
FRS 8X20 F	5.6	M8 x 20	20	8	20	50	2.100	6406 97 1
FRS 8X25 F	8.8	M8 x 25	25	8	20	50	2.300	6406 99 8
FRS 8X35 F	5.6	M8 x 35	35	8	20	50	2.700	6407 04 8
FRS 10X30 F	8.8	M10 x 30	30	10	24	50	4.400	6407 57 9

ST Steel **F** Hot-dip galvanised /100 pc.

Truss-head bolt with square neck. With washer and hexagonal nut.

The truss-head bolt can be used in combination with hot-dip and double-dip galvanised articles.

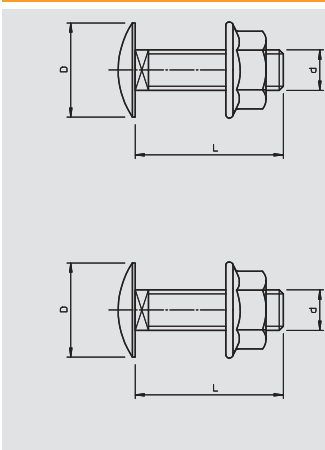


Truss-head bolt

Type	Dimension mm	Dimension L mm	Dimension d mm	Dimension D mm	Pack. pcs	Weight kg/100 pcs.	Item No.
FRSB 6X12 VA4301	M6 x 12	12	6	13.5	100	0.760	6406 52 1
FRSB 6X16 VA4301	M6 x 16	15	6	13.5	100	0.900	6406 55 6
FRSB 6X20 VA4301	M6 x 20	20	6	13.5	100	1.000	6406 60 2
FRS 8X20 VA4301	M8 x 20	20	8	20	50	2.100	6406 80 7
FRS 10X30 VA4301	M10 x 30	30	10	24	50	4.500	6406 72 6
FRSB 6X12 VA4401	M6 x 12	12	6	16	100	0.796	6406 14 2
FRSB 6X16 VA4401	M6 x 16	16	6	16	100	0.800	6406 19 3
FRS 6X20 VA4401	M6 x 20	20	6	16	100	1.000	6406 61 0
FRS 10X20 VA4401	M10 x 20	20	10	24	50	4.000	6406 87 0

V2A Stainless steel, 1.4301 **V4A** Stainless steel 1.4401 /100 pc.

Truss-head bolt with square neck including washer and hexagonal nut.



Truss-head bolt, with combination nut

Type	Grade	Dimension mm	Dimension L mm	Dimension d mm	Dimension D mm	Pack. pcs	Weight kg/100 pcs.	Item No.
FRSB 6X12 VA4301	1.4301	M6 x 12	12	6	16	100	0.830	6406 13 8
FRSB 6X16 VA4301	1.4301	M6 x 16	16	6	16	100	0.800	6406 18 9

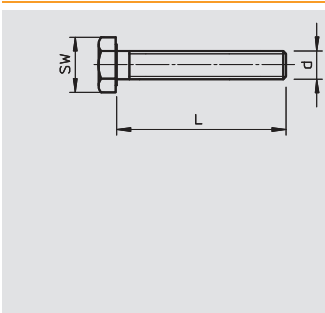
V2A Stainless steel, 1.4301 /100 pc.

Truss-head bolt with square neck including nut-and-washer assembly.

Type	Dimension mm	Dimension L mm	Dimension d mm	Dimension D mm	Pack. pcs	Weight kg/100 pcs.	Item No.
FRSB 6X12 VA4401	M6 x 12	12	6	16	100	0.796	6406 14 2
FRSB 6X16 VA4401	M6 x 16	16	6	16	100	0.800	6406 19 3

V4A Stainless steel 1.4401 /100 pc.

Truss-head bolt with square neck including combination nut.

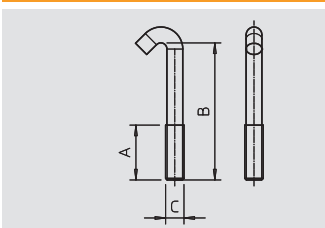


Hexagonal bolt

Type	Dimension mm	Dimension L mm	Dimension d mm	SW mm	Pack. pcs	Weight kg/100 pcs.	Item No.
SKS 6X12 F	M6 x 10	12	6	10	100	0.810	3156 49 4
SKS 6X20 F	M6 x 20	20	6	10	100	0.900	3156 51 6
SKS 6X30 F	M6 x 30	30	6	10	100	1.100	3156 52 4
SKS 8X16 F	M8 x 16	16	8	13	50	1.190	3158 62 4
SKS 8X20 F	M8 x 20	20	8	13	50	1.270	3158 63 2

ST Steel **F** Hot-dip galvanised /100 pc.

Hexagonal bolt for universal fixing of structure components.



Hook screw

Type	Pack. pcs	Weight kg/100 pcs.	Item No.
HS M6 45 VA4571	1	0.970	1154 97 0

V4A Stainless steel, 1.4571 /100 pc.

Hook screw for fastening cable tracks on the bracket.



Mounting systems

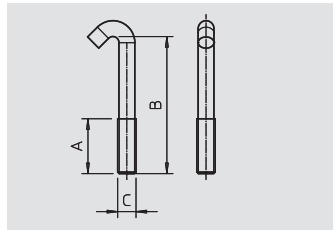


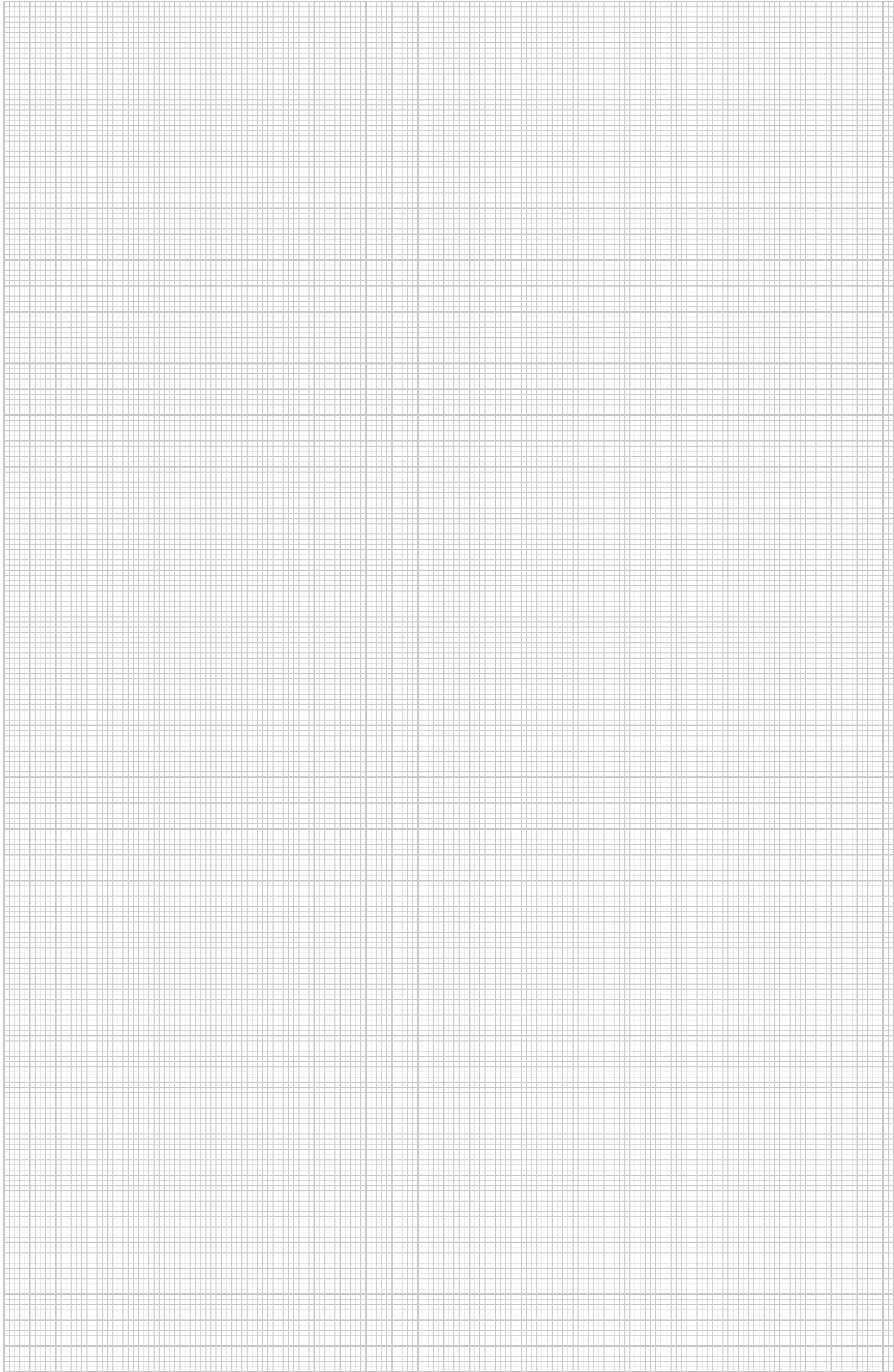
Hook screw

Type	Thread	Pack.	Weight	Item No.
		pcs	kg/100 pcs.	
HS M8 60 VA4571	M8	1	2.330	1154 97 5

V4A Stainless steel, 1.4571 /pc.

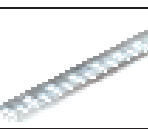



Hook screw for fastening cable tracks on the bracket.







Cable tray systems

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		Cable tray SKS Straight and angle connector	20 21



Cable tray systems

Cable tray systems



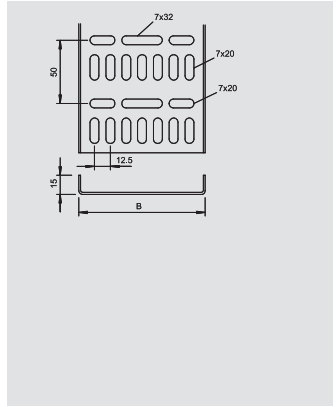
Cable tray, marine standard

Type	Width mm	Length mm	Plate thickness mm	Weight kg/100 m	Item No.
MKR 15 050 FS	50	3000	1	49.000	6045 95 2
MKR 15 075 FS	75	3000	1	64.000	6045 96 0
MKR 15 100 FS	100	3000	1	76.000	6045 97 9
MKR 15 150 FS	150	3000	1	104.000	6045 99 5
MKR 15 200 FS	200	3000	1	131.000	6046 00 2
MKR 15 300 FS	300	3000	1.5	275.000	6046 02 9

ST Steel **FS** Strip-galvanised /m

Perforated metal cable tray according to marine standard. Cable tray with 7 x 20 mm base perforation for cable ventilation and simplified mounting.

The cable track is manufactured according to the VG standard 88900. The side rail of the cable track is unperforated.



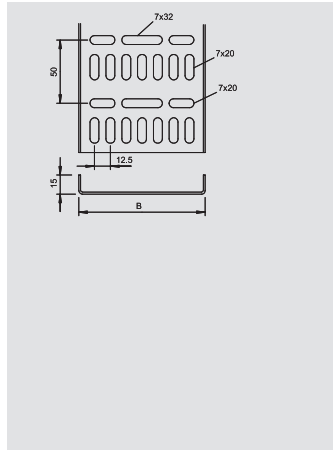
Cable tray, marine standard

Type	Width mm	Length mm	Plate thickness mm	Weight kg/100 m	Item No.
MKR 15 050 FT	50	2000	1.25	65.500	6045 05 7
MKR 15 075 FT	75	2000	1.25	84.700	6045 07 3
MKR 15 100 FT	100	2000	1.25	104.000	6045 10 3
MKR 15 125 FT	125	2000	1.25	125.500	6045 13 8
MKR 15 150 FT	150	2000	1.5	162.500	6045 15 4
MKR 15 200 FT	200	2000	1.5	205.500	6045 20 0
MKR 15 250 FT	250	2000	1.5	253.000	6045 25 1
MKR 15 300 FT	300	2000	1.5	292.700	6045 30 8

ST Steel **FT** Hot-dip galvanised /m

Perforated metal cable tray according to marine standard. Cable tray with 7 x 20 mm base perforation for cable ventilation and simplified mounting.

The cable track is manufactured according to the VG standard 88900. The side rail of the cable track is unperforated.



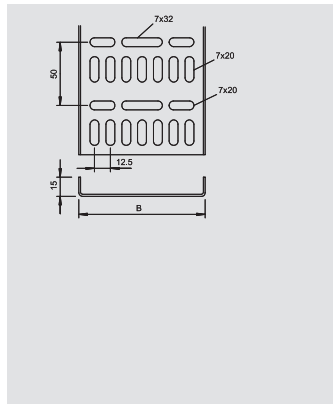
Cable tray, marine standard

Type	Width mm	Length mm	Plate thickness mm	Weight kg/100 m	Item No.
MKR 15 050 ALU	50	2000	1.25	25.500	6045 70 7
MKR 15 075 ALU	75	2000	1.25	33.000	6045 71 5
MKR 15 100 ALU	100	2000	1.25	39.500	6045 72 3
MKR 15 150 ALU	150	2000	1.5	70.500	6045 75 8
MKR 15 200 ALU	200	2000	1.5	89.500	6045 76 6
MKR 15 250 ALU	250	2000	1.5	108.000	6045 77 4

Al Aluminium /m

Perforated metal cable tray according to marine standard. Cable tray with 7 x 20 mm base perforation for cable ventilation and simplified mounting.

The cable track is manufactured according to the VG standard 88900. The side rail of the cable track is unperforated.



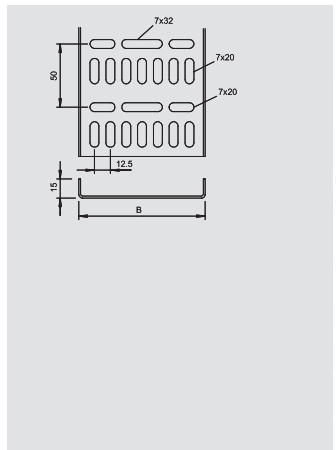
Cable tray, marine standard

Type	Width mm	Plate thickness mm	Length mm	Weight kg/100 m	Item No.
MKR 15 050VA4301	50	1.25	3000	61.300	6045 83 0
MKR 15 075VA4301	75	1.25	3000	80.000	6045 83 2
MKR 15 100VA4301	100	1.25	3000	95.000	6045 83 4
MKR 15 125VA4301	125	1.25	3000	113.800	6045 83 6
MKR 15 150VA4301	150	1.5	3000	156.000	6045 83 8
MKR 15 200VA4301	200	1.5	3000	196.500	6045 84 0
MKR 15 250VA4301	250	1.5	3000	237.000	6045 84 2
MKR 15 300VA4301	300	1.5	3000	275.000	6045 84 4

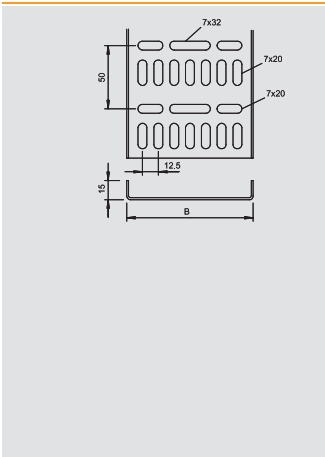
V2A Stainless steel, 1.4301 Bright /m

Perforated metal cable tray according to marine standard. Cable tray with 7 x 20 mm base perforation for cable ventilation and simplified mounting.

The cable track is manufactured according to the VG standard 88900. The side rail of the cable track is unperforated.



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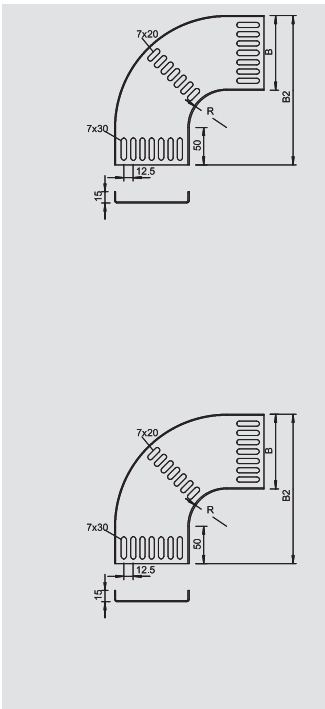
Cable tray, marine standard

Type	Width mm	Plate thickness mm	Length mm	Weight kg/100 m	Item No.
MKR 15 050VA4571	50	1.25	3000	61.300	6045 85 0
MKR 15 075VA4571	75	1.25	3000	80.000	6045 85 2
MKR 15 100VA4571	100	1.25	3000	95.000	6045 85 4
MKR 15 125VA4571	125	1.25	3000	113.800	6045 85 6
MKR 15 150VA4571	150	1.5	3000	156.000	6045 85 8
MKR 15 200VA4571	200	1.5	3000	196.500	6045 86 0
MKR 15 250VA4571	250	1.5	3000	237.000	6045 86 2
MKR 15 300VA4571	300	1.5	3000	275.000	6045 86 4

V4A Stainless steel, 1.4571 Bright /m

Perforated metal cable tray according to marine standard. Cable tray with 7 x 20 mm base perforation for cable ventilation and simplified mounting.

The cable track is manufactured according to the VG standard 88900. The side rail of the cable track is unperforated.



Bend 90 °

Type	Width mm	Pack. pcs	Weight kg/100 pcs.	Item No.
RB 90 75 050 FS	51	1	14.600	7061 14 6
RB 90 75 075 FS	76	1	21.300	7061 05 0
RB 90 75 100 FS	101	1	28.400	7061 24 4
RB 90 75 125 FS	126	1	56.500	7061 25 2
RB 90 75 150 FS	151	1	73.300	7061 36 0
RB 90 75 200 FS	201	1	102.400	7061 44 9
RB 90 75 250 FS	252	1	163.800	7061 54 6
RB 90 75 300 FS	302	1	206.000	7061 64 3

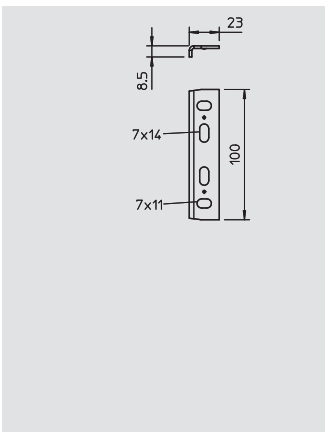
ST Steel **FS** Strip-galvanised /pc.

90° bend, horizontal, for all ship construction cable tray types according to the marine standard of 15 mm side height.

Type	Width mm	Pack. pcs	Weight kg/100 pcs.	Item No.
RB 90 75 050 FT	51	1	16.000	7061 14 5
RB 90 75 075 FT	76	1	23.300	7061 04 8
RB 90 75 100 FT	101	1	31.100	7061 24 2
RB 90 75 200 FT	201	1	110.600	7061 44 7
RB 90 75 250 FT	252	1	176.900	7061 54 4
RB 90 75 300 FT	302	1	222.500	7061 64 1

ST Steel **FT** Hot-dip galvanised /pc.

90° bend, horizontal, for ship construction cable trays according to the marine standard of 15 mm side height.



Screw connector

Type	Dimension mm	Pack. pcs	Weight kg/100 pcs.	Item No.
SV MKR FS	16 x 29 x 60	1	4.900	6066 24 2

ST Steel **FS** Strip-galvanised /pc.

Type	Dimension mm	Pack. pcs	Weight kg/100 pcs.	Item No.
SV MKR FT	16 x 29 x 60	50	5.000	6066 24 0

ST Steel **FT** Hot-dip galvanised /pc.

Straight connector for straight connection of cable trays, according to the marine standard, and fittings with a side height of 15 mm.



Cable tray systems

Cable tray systems

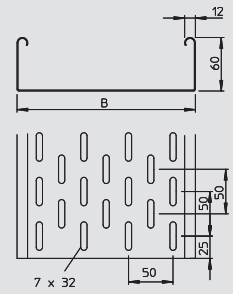


Cable tray MKS

Type	Width mm	Plate thickness mm	Length mm	Useful cross- section cm ²	Weight kg/100 m	Item No.
MKS 605 FS	50	1	3000	28	143.200	6055 05 2
MKS 610 FS	100	1	3000	58	173.000	6055 10 9
MKS 615 FS	150	1	3000	88	227.600	6055 14 1
MKS 620 FS	200	1	3000	118	238.600	6055 20 6
MKS 630 FS	300	1	3000	178	304.600	6055 30 3
MKS 640 FS	400	1	3000	238	368.000	6055 40 0
MKS 650 FS	500	1	3000	298	433.500	6055 50 8
MKS 660 FS	600	1	3000	358	498.000	6055 52 4

ST Steel **FS** Strip-galvanised /m

MKS 60 = Medium-duty cable tray system with a side height of 60 mm. FS version includes RV 60 straight connector set.

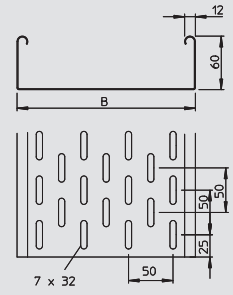


Cable tray MKS

Type	Width mm	Plate thickness mm	Length mm	Useful cross- section cm ²	Weight kg/100 m	Item No.
MKS 605 FT	50	1	3000	28	133.000	6055 51 6
MKS 610 FT	100	1	3000	58	188.000	6055 53 2
MKS 615 FT	150	1	3000	88	215.600	6055 55 9
MKS 620 FT	200	1	3000	118	261.000	6055 57 5
MKS 630 FT	300	1	3000	178	331.000	6055 61 3
MKS 640 FT	400	1	3000	238	402.000	6055 66 4
MKS 650 FT	500	1	3000	298	510.000	6055 69 9
MKS 660 FT	600	1	3000	358	527.600	6055 71 0

ST Steel **FT** Hot-dip galvanised /m

MKS 60 = Medium-duty cable tray system in 60 mm Side height. FS version includes RV 60 straight connector set.



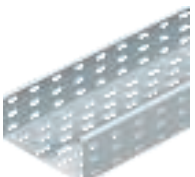
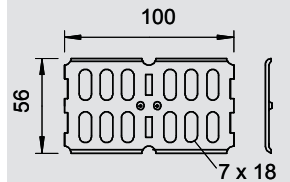
Straight connector

Type	Side height mm	Pack. pcs	Weight kg/100 pcs.	Item No.
RLVK 60 FS	60	10	9.200	6067 09 3
RLVK 60 FT	60	10	10.700	6067 60 3

ST Steel **FS** Strip-galvanised **FT** Hot-dip galvanised /pc.

Straight connector for straight connection of cable trays, fittings and barrier strips with a side height of 60 mm.

Including appropriate fastening material.



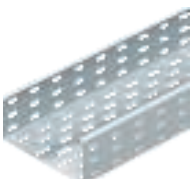
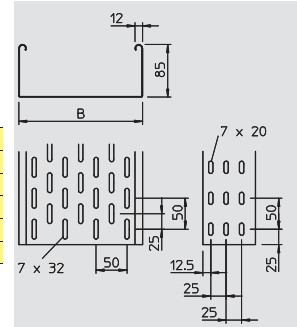
Cable tray SKS

Type	Width mm	Plate thickness mm	Length mm	Useful cross- section cm ²	Weight kg/100 m	Item No.
SKS 810 FS	100	1.5	3000	83	311.800	6058 10 8
SKS 820 FS	200	1.5	3000	186	410.000	6058 20 5
SKS 830 FS	300	1.5	3000	253	508.100	6058 30 2
SKS 840 FS	400	1.5	3000	338	605.300	6058 39 6
SKS 850 FS	500	1.5	3000	423	704.700	6058 50 7
SKS 860 FS	600	1.5	3000	508	802.700	6058 60 4

ST Steel **FS** Strip-galvanised /m

SKS 85 = Heavy-duty cable tray system with 85 mm side height.

FS version includes connector, type RLVL 85.

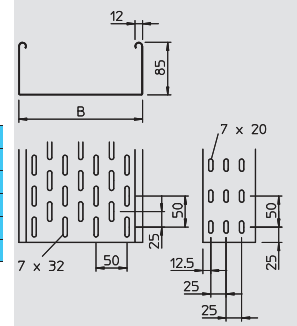


Cable tray SKS

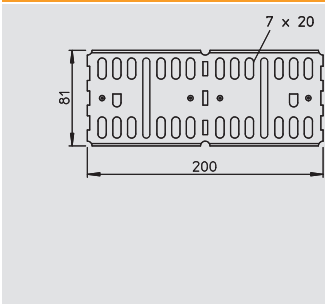
Type	Width mm	Plate thickness mm	Length mm	Useful cross- section cm ²	Weight kg/100 m	Item No.
SKS 810 FT	100	1.5	3000	83	330.500	6058 62 0
SKS 820 FT	200	1.5	3000	186	434.600	6058 64 7
SKS 830 FT	300	1.5	3000	253	538.500	6058 66 3
SKS 840 FT	400	1.5	3000	338	641.600	6058 69 8
SKS 850 FT	500	1.5	3000	423	746.800	6058 72 8
SKS 860 FT	600	1.5	3000	508	850.800	6058 74 4

ST Steel **FT** Hot-dip galvanised /m

SKS 85 = Heavy-duty cable tray system with 85 mm side height.



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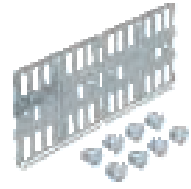
Straight and angle connector

Type	Side height mm	Pack.	Weight	Item No.
		pcs	kg/100 pcs.	
RLVL 85 FS	85	10	26.500	6067 12 3
RLVL 85 FT	85	10	23.500	6067 81 6

ST Steel **FS** Strip-galvanised **FT** Hot-dip galvanised /pc.


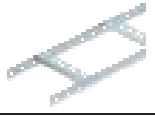
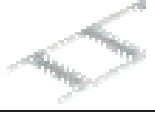
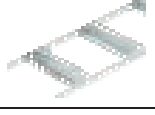


Straight and angle connector for cable trays, fittings and barrier strips with a side height of 85 mm.

Including appropriate fastening material.



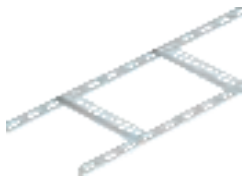


Cable ladder systems

	Cable ladder systems	Cable ladder, light duty	24
		Cable ladder, standard	24
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		Tightening strap	27
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Cable ladder systems



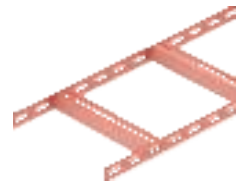
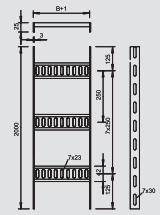
Cable ladder, light duty

Type	Width mm	Length mm	Rail thickness mm	Weight kg/100 m	Item No.
SL 42 075 FT	75	2000	3	114.000	7097 11 5
SL 42 100 FT	100	2000	3	118.000	7097 12 3
SL 42 150 FT	150	2000	3	126.000	7097 13 1
SL 42 200 FT	200	2000	3	135.000	7097 15 8
SL 42 250 FT	250	2000	3	138.000	7097 16 6
SL 42 300 FT	300	2000	3	148.000	7097 17 4

ST Steel **FT** Hot-dip galvanised /m

Shipping cable ladder with perforated side rail of side height 25 mm with welded, perforated trapezoidal rungs which open in a downwards direction.

The shipping cable ladder is also available in aluminium and stainless steel on request. Bends are also available on request.



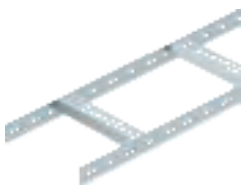
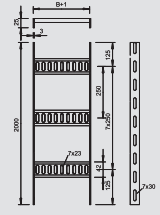
Cable ladder, light duty

Type	Width mm	Length mm	Rail thickness mm	Weight kg/100 m	Item No.
SL 42/075	75	2000	3	112.000	7097 02 6
SL 42/100	100	2000	3	115.000	7097 03 4
SL 42/150	150	2000	3	125.000	7097 04 2
SL 42/200	200	2000	3	132.000	7097 05 0
SL 42/250	250	2000	3	136.000	7097 06 9
SL 42/300	300	2000	3	145.000	7097 07 7

ST Steel **SG** Pre-treated for welding /m

Shipping cable ladder with perforated side rail of side height 25 mm with welded, perforated trapezoidal rungs which open in a downwards direction.

The shipping cable ladder is also available in aluminium and stainless steel on request. Bends are also available on request.



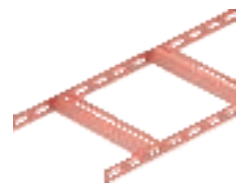
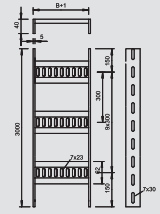
Cable ladder, standard

Type	Width mm	Length mm	Weight kg/100 m	Item No.
SL 62 110 FT	110	3000	298.300	7097 40 9
SL 62 210 FT	210	3000	330.200	7097 42 5
SL 62 310 FT	310	3000	361.800	7097 43 3
SL 62 410 FT	410	3000	393.700	7097 44 1
SL 62 510 FT	510	3000	425.600	7097 46 8
SL 62 610 FT	610	3000	457.200	7097 47 6

ST Steel **FT** Hot-dip galvanised /m

Shipping cable ladder with perforated side rail of side height 40 mm with welded, perforated trapezoidal rungs which open in a downwards direction.

The shipping cable ladder is also available in aluminium and stainless steel on request. Bends are also available on request.



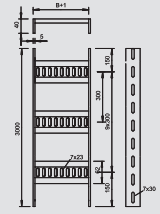
Cable ladder, standard

Type	Width mm	Length mm	Weight kg/100 m	Item No.
SL 62/110	110	3000	292.600	7097 21 2
SL 62/210	210	3000	323.900	7097 23 9
SL 62/310	310	3000	354.800	7097 24 7
SL 62/410	410	3000	386.100	7097 25 5
SL 62/510	510	3000	417.400	7097 26 3
SL 62/610	610	3000	448.400	7097 27 1

ST Steel **SG** Pre-treated for welding /m

Shipping cable ladder with perforated side rail of side height 40 mm with welded, perforated trapezoidal rungs which open in a downwards direction.

The shipping cable ladder is also available in aluminium on request. Bends are also available on request.

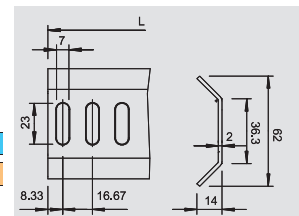


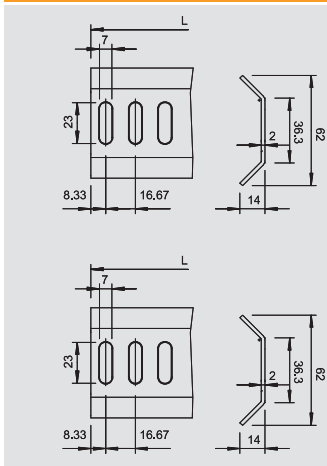
Rung, standard

Type	Length mm	Pack. m	Weight kg/100 m	Item No.
SLSP 62 300 FT	3000	1	104.800	7102 77 1
SLSP 62 300 SG	3000	1	98.900	7102 67 4

ST Steel **SG** Pre-treated for welding **FT** Hot-dip galvanised /m

Light-duty rung with 7 x 32 mm perforation. For welding in cable ladders, type SL 62, and for static constructions.





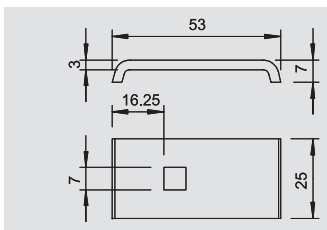
Rung, standard

Type	Length	Pack.	Weight	Item No.
	mm	m	kg/100 m	
SLSP 62 300 V2A	3000	1	98.900	7102 56 2

V2A Stainless steel, 1.4301 Bright /m
Light-duty rung with 7 x 32 mm perforation. For welding in cable ladders, type SL 62, and for static constructions.

Type	Length	Pack.	Weight	Item No.
	mm	m	kg/100 m	
SLSP 62 300 V4A	3000	1	98.900	7102 58 2

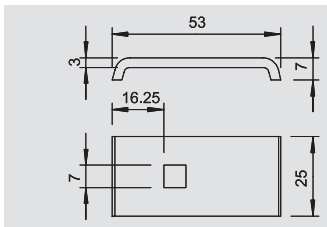
V4A Stainless steel, 1.4571 Bright /m
Light-duty rung with 7 x 32 mm perforation. For welding in cable ladders, type SL 62, and for static constructions.



Cable ladder clamp

Type	Width	Pack.	Weight	Item No.
	mm	pcs	kg/100 pcs.	
KL 42 FT	25	50	3.100	7103 36 0

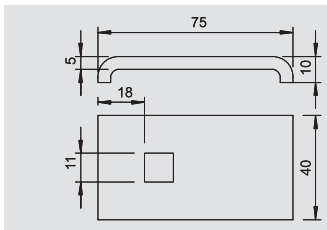
ST Steel **FT** Hot-dip galvanised /pc.
Cable ladder bracket to fasten the cable ladder SL 42.



Cable ladder clamp

Type	Width	Pack.	Weight	Item No.
	mm	pcs	kg/100 pcs.	
KL 42 VA 4571	25	1	0.000	7103 36 8

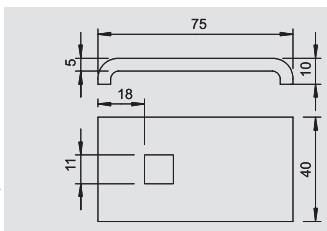
V4A Stainless steel, 1.4571 Bright /pc.
Cable ladder bracket to fasten the cable ladder SL 42.



Cable ladder clamp

Type	Width	Pack.	Weight	Item No.
	mm	pcs	kg/100 pcs.	
KL 62 FT	40	50	14.800	7103 38 7

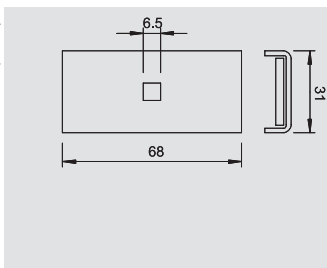
ST Steel **FT** Hot-dip galvanised /pc.
Cable ladder bracket to fasten the cable ladder SL 62.



Cable ladder clamp

Type	Width	Pack.	Weight	Item No.
	mm	pcs	kg/100 pcs.	
KL 62 VA 4571	40	1	0.000	7103 39 3

V4A Stainless steel, 1.4571 Bright /pc.
Cable ladder bracket to fasten the cable ladder SL 62.



Connector

Type	Width	Pack.	Weight	Item No.
	mm	pcs	kg/100 pcs.	
SLV 42 FT	31	10	10.000	7103 48 4

ST Steel **FT** Hot-dip galvanised /pc.
Straight connector as external connector to connect cable ladders of type SL 42 and fittings with a side height of 25 mm.
The screw fastening ensures the continuity of the equipotential bonding.



Cable ladder systems

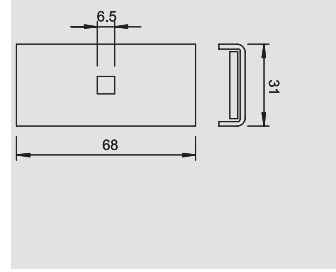
Cable ladder systems



Connector

Type	Width	Pack.	Weight	Item No.
	mm	pcs	kg/100 pcs.	
SLV 42 VA 4571	31	1	0.000	7103 49 2

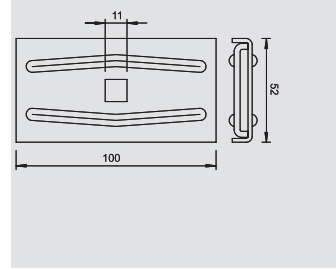
V4A Stainless steel, 1.4571 Bright /pc.
 Straight connector as external connector to connect cable ladders and fittings with a side height of 25 mm.
 The screw fastening ensures the continuity of the equipotential bonding.



Connector

Type	Width	Pack.	Weight	Item No.
	mm	pcs	kg/100 pcs.	
SLV 62 FT	52	30	27.200	7103 52 2

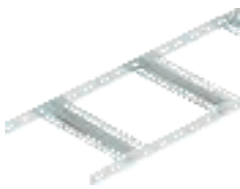
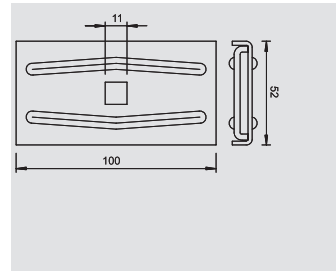
ST Steel **FT** Hot-dip galvanised /pc.
 Straight connector as external connector to connect cable ladders of type SL 62 and fittings with a side height of 40 mm.
 The screw fastening ensures the continuity of the equipotential bonding.



Connector

Type	Width	Pack.	Weight	Item No.
	mm	pcs	kg/100 pcs.	
SLV 62 VA 4571	52	1	0.000	7103 52 9

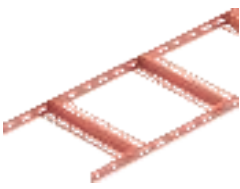
V4A Stainless steel, 1.4571 Bright /pc.
 Straight connector as external connector to connect cable ladders and fittings with a side height of 40 mm.
 The screw fastening ensures the continuity of the equipotential bonding.



Cable ladder with Z rung, light duty

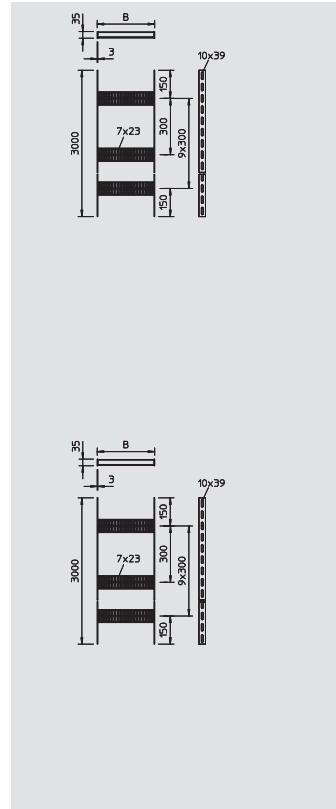
Type	Width	Length	Weight	Item No.
	mm	mm	kg/100 m	
SLZ L 100 FT	100	3000	0.000	7098 00 2
SLZ L 150 FT	150	3000	0.000	7098 00 4
SLZ L 200 FT	200	3000	0.000	7098 00 6
SLZ L 300 FT	300	3000	0.000	7098 00 8
SLZ L 400 FT	400	3000	0.000	7098 01 0
SLZ L 500 FT	500	3000	0.000	7098 01 2
SLZ L 600 FT	600	3000	0.000	7098 01 4

ST Steel **FT** Hot-dip galvanised /m
 Light duty shipping cable ladder with perforated side rail of side height 35 mm with welded, perforated Z rungs.
 The shipping cable ladder is also available in stainless steel on request. Bends are also available on request.

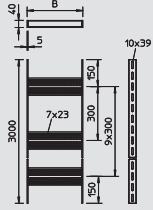


Type	Width	Length	Weight	Item No.
	mm	mm	kg/100 m	
SLZ L 100 SG	100	3000	0.000	7098 03 2
SLZ L 150 SG	150	3000	0.000	7098 03 4
SLZ L 200 SG	200	3000	0.000	7098 03 6
SLZ L 300 SG	300	3000	0.000	7098 03 8
SLZ L 400 SG	400	3000	0.000	7098 04 0
SLZ L 500 SG	500	3000	0.000	7098 04 2
SLZ L 600 SG	600	3000	0.000	7098 04 4

ST Steel **SG** Pre-treated for welding /m
 Light duty shipping cable ladder with perforated side rail of side height 35 mm with welded, perforated Z rungs.
 The shipping cable ladder is also available in stainless steel on request. Bends are also available on request.



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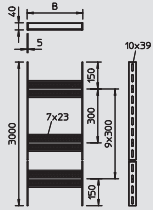
Cable ladder with Z rung, standard

Type	Width mm	Length mm	Weight kg/100 m	Item No.
SLZ 100 SG	100	3000	0.000	7098 16 2
SLZ 200 SG	200	3000	0.000	7098 16 4
SLZ 300 SG	300	3000	0.000	7098 16 6
SLZ 400 SG	400	3000	0.000	7098 16 8
SLZ 500 SG	500	3000	0.000	7098 17 0
SLZ 600 SG	600	3000	0.000	7098 17 2
SLZ 700 SG	700	3000	0.000	7098 17 4
SLZ 800 SG	800	3000	0.000	7098 17 6
SLZ 900 SG	900	3000	0.000	7098 17 8
SLZ 1000 SG	1000	3000	0.000	7098 18 0
SLZ 1200 SG	1200	3000	0.000	7098 18 2

ST Steel **SG** Pre-treated for welding /m

Shipping cable ladder with perforated side rail of side height 40 mm with welded, perforated Z rungs.

The shipping cable ladder is also available in stainless steel on request. Bends are also available on request.

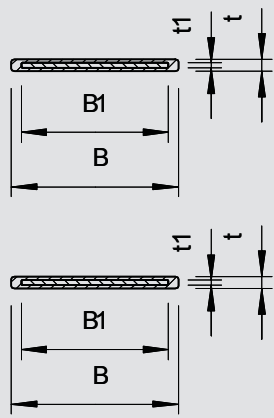


Type	Width mm	Length mm	Weight kg/100 m	Item No.
SLZ 100 FT	100	3000	0.000	7098 13 2
SLZ 200 FT	200	3000	0.000	7098 13 4
SLZ 300 FT	300	3000	0.000	7098 13 6
SLZ 400 FT	400	3000	0.000	7098 13 8
SLZ 500 FT	500	3000	0.000	7098 14 0
SLZ 600 FT	600	3000	0.000	7098 14 2
SLZ 700 FT	700	3000	0.000	7098 14 4
SLZ 800 FT	800	3000	0.000	7098 14 6
SLZ 900 FT	900	3000	0.000	7098 14 8
SLZ 1000 FT	1000	3000	0.000	7098 15 0
SLZ 1200 FT	1200	3000	0.000	7098 15 2

ST Steel **FT** Hot-dip galvanised /m

Shipping cable ladder with perforated side rail of side height 40 mm with welded, perforated Z rungs.

The shipping cable ladder is also available in stainless steel on request. Bends are also available on request.

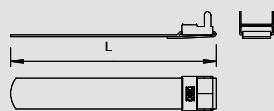


Tightening strap

Type	Dimension mm	Minimum breaking load kN	Colour	Box qty. m	Pack. m	Weight kg/100 m	Item No.
574 G STGR	17 x 1.0	1350	Stone grey	250	25	5.880	6490 01 8
574 03 SW	17 x 1.0	2250	Black	250	25	6.950	6490 02 6
574 03 BA	17 x 1.0	2250	Blue anthracite	250	25	6.950	6490 03 4
574 03 BR	17 x 1.0	2250	Chestnut brown	—	1	0.000	6490 02 8

V4A Stainless steel, 1.4571 **V2A** Stainless steel 1.4310 /100 m

Tightening strap made of rustproof steel and with plastic covering for fastening on cable trays and ladders.

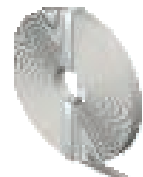
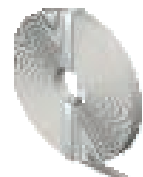
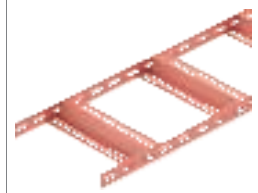


Tightening strap in fixed lengths

Type	Dimension mm	Length mm	Colour	Box qty. pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
574 03 30 BA	17 x 1.0	300	Blue anthracite	500	25	2.700	6490 10 7
574 03 45 BA	17 x 1.0	450	Blue anthracite	250	25	3.600	6490 12 3
574 05 55 GNBG	16.5 x 1.2	550	Green-beige	250	25	5.800	6490 15 8
574 05 65 GNBG	16.5 x 1.2	650	Green-beige	250	25	6.600	6490 17 4

V2A Stainless steel 1.4310 /100 pc.

Tightening strap, 574/03/VA and 574/05/VA, completely preterminated with tightening strap lock.



Cable ladder systems

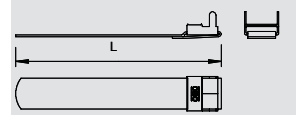


Tightening strap in fixed lengths

Type	Dimension mm	Length mm	Colour	Box qty. pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
574 03 30 STGR	17 x 1.0	300	Stone grey	—	1	0.000	6490 10 9
574 03 45 STGR	17 x 1.0	450	Stone grey	—	1	0.000	6490 12 5
574 03 55 STGR	17 x 1.0	550	Stone grey	—	1	0.000	6490 13 5
574 03 65 STGR	17 x 1.0	650	Stone grey	—	1	0.000	6490 14 5

ST Steel **G** Electrogalvanised /100 pc.

Tightening strap, 574/03/, electrogalvanised, completely pre-terminated with tightening strap lock.

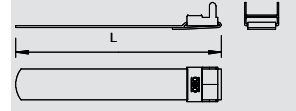


Tightening strap in fixed lengths

Type	Dimension mm	Length mm	Colour	Box qty. pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
574 03 30 SW	17 x 1.0	300	Black	—	1	0.000	6490 11 1
574 03 45 SW	17 x 1.0	450	Black	—	1	0.000	6490 12 7
574 03 55 SW	17 x 1.0	550	Black	—	1	0.000	6490 13 7
574 03 65 SW	17 x 1.0	650	Black	—	1	0.000	6490 14 7

V2A Stainless steel, 1.4301 /100 pc.

Tightening strap, 574/03/VA and 574/05/VA, completely pre-terminated with tightening strap lock.



Tightening strap lock

Type	Box qty. pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
192	1200	100	1.006	6490 90 5

ST Steel **DD** Zinc-aluminium coated, double-dip /100 pc.

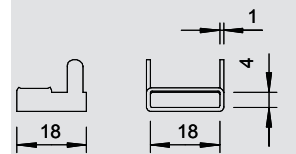
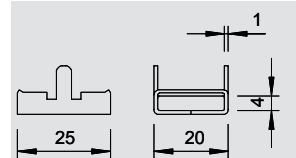
Tightening strap lock for mounting under the ceiling.



Type	Box qty. pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
197 VA4301	1800	100	0.560	6490 96 4

V2A Stainless steel, 1.4301 /100 pc.

Tightening strap lock for single-sided locking of tightening strap in problematic areas.



Spring chuck

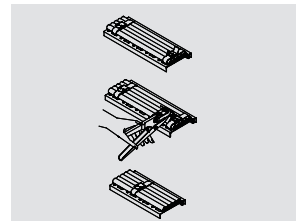
Type	Pack. pcs	Weight kg/100 pcs.	Item No.
575	1	29.700	6498 01 9

ST Steel /pc.

For tightening strap 574/...

Mounting of the tightening strap:

1. Cut the strap to the right length, push it through the lock and turn it over.
2. Loop the strap around the cable, push the loose end through the lock.
3. Tighten the end of the strap with the pliers.
4. Turn the end of the taut strap with the pliers. Remove the pliers.
5. Complete turnover the turned end of the strap with the hammer, secure the end of the strap by hitting the two standing lobes of the lock.

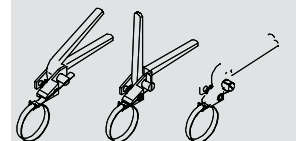


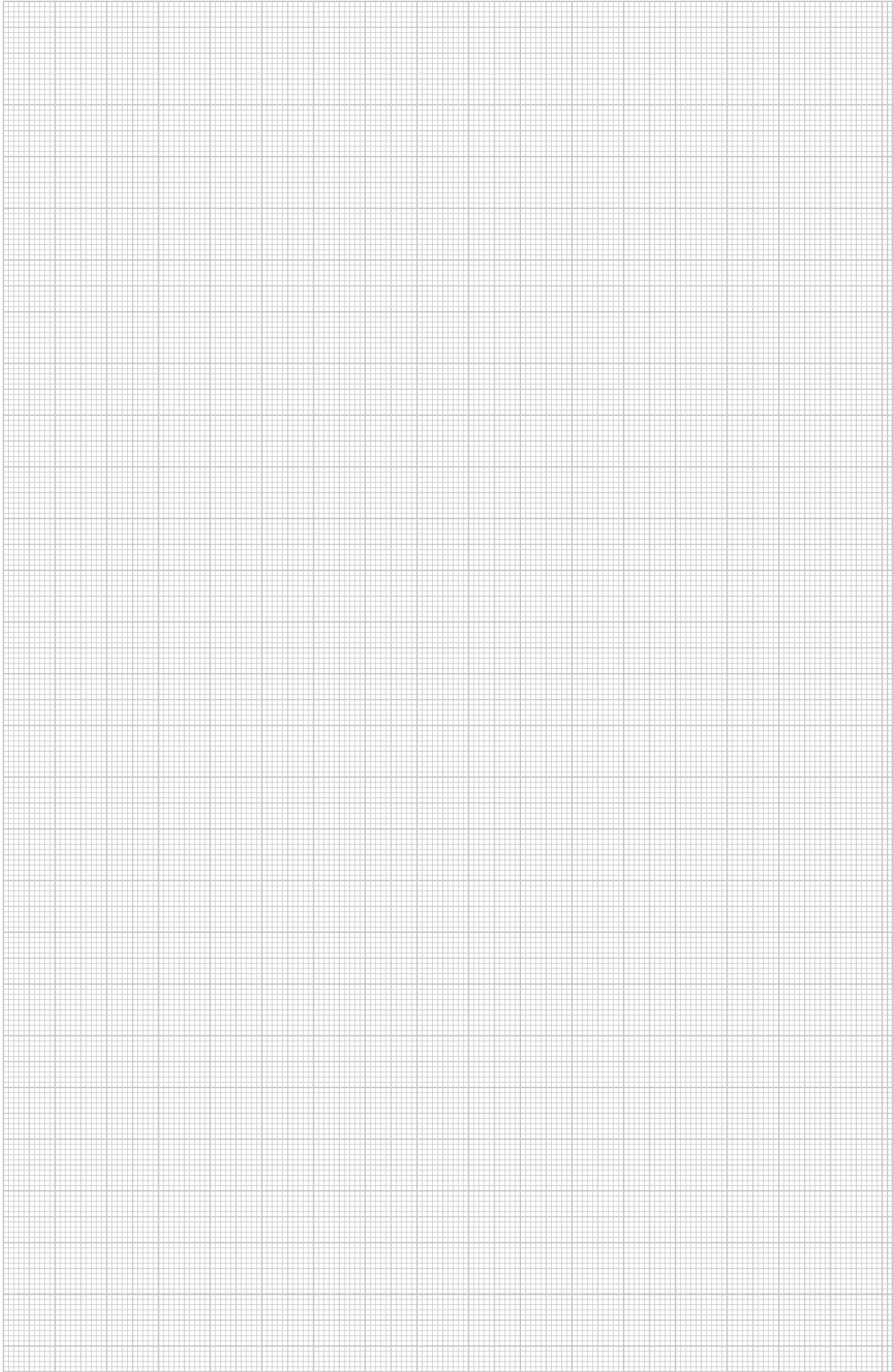
Spring chuck

Type	Pack. pcs	Weight kg/100 pcs.	Item No.
576	1	132.000	6498 02 7

ST Steel /pc.

For tightening strap 574/...









Connection, fastening and cable routing systems Junction box

32





Junction box

Type	Version	Entries	Colour	Box qty.	Pack.	Weight	Item No.
				pcs	pcs	kg/100 pcs.	
T 25	Standard	4 x M25	Light grey	125	5	4.190	2007 02 9
T 25 RW	—	4 x M25	Pure white	125	5	4.190	2007 50 9
T 25 F	960 °C flame-resistant	4 x M25	Light grey	125	5	4.190	2007 31 2
T 25 RO-LGR	With red lid	4 x M25	Red grey	125	5	4.190	2007 62 2
T 25 UV RW	UV-resistant	4 x M25	Pure white	125	5	4.190	2007 40 8
T 25 KL	With terminal strip	4 x M25	Light grey	125	5	6.400	2007 43 0

PP Polypropylene /100 pc.

The junction boxes are made of a thermoplastic polypropylene polymer with plug-in seals made of ethylene vinyl acetate (EVA). This plastic is soft, which means that it is malleable. This allows installation of cables either directly through the 4 x M25 seals, or the seals can be cut with a knife at the pre-marked points, in order to create an insertion opening for cables or pipes. In addition, cable glands can be inserted through the openings instead of the seals and locked with a locknut from inside.

The cable junction boxes can be screwed onto an M6 thread or mounted on mounting plates in the openings on the floor using steel bolts 3.5 x 9.5.

Clear internal dimensions: Ø63 x 45 mm.

Cover with labelling panel.

Standard version: flame-resistant, testing temperature 650 °C.

F version: highly flame-resistant, testing temperature 960 °C.

Type	Version	Entries	Colour	Box qty.	Pack.	Weight	Item No.
				pcs	pcs	kg/100 pcs.	
T 40	Standard	7 x M25	Light grey	80	5	6.700	2007 04 5
T 40 RW	—	7 x M25	Pure white	80	5	6.700	2007 51 7
T 40 F	960 °C flame-resistant	7 x M25	Light grey	80	5	6.700	2007 32 0
T 40 RO-LGR	With red lid	7 x M25	Red grey	80	5	6.700	2007 63 0
T 40 UV RW	UV-resistant	7 x M25	Pure white	80	5	6.700	2007 41 0
T 40 KL	With terminal strip	7 x M25	Light grey	80	5	8.900	2007 43 2

PP Polypropylene /100 pc.

The junction boxes are made of a thermoplastic polypropylene polymer with plug-in seals made of ethylene vinyl acetate (EVA). This allows installation of cables either directly through the 7 x M25 seals, or the seals can be cut with a knife at the pre-marked points, in order to create an insertion opening for cables or pipes. Alternatively, cable glands can be pushed through the openings instead of the seals and locked with a locknut from the inside.

The junction boxes can be mounted on mounting plates in the openings on the floor using steel screws 3.5 x 9.5.

Clear internal dimensions: 77 x 77 x 46 mm

Cover with labelling panel and lead-sealed.

Standard version: flame-resistant, testing temperature 650 °C.

F version: highly flame-resistant, testing temperature 960 °C.

Type	Version	Entries	Colour	Box qty.	Pack.	Weight	Item No.
				pcs	pcs	kg/100 pcs.	
T 60	Standard	7 x M25	Light grey	60	5	12.300	2007 06 1
T 60 RW	—	7 x M25	Pure white	60	5	12.300	2007 52 5
T 60 F	960 °C flame-resistant	7 x M25	Light grey	60	5	12.300	2007 33 9
T 60 RO-LGR	With red cover	7 x M25	Red grey	60	5	12.300	2007 63 8
T 60 UV RW	UV-resistant	7 x M25	Pure white	60	5	12.300	2007 41 2
T 60 KL	With terminal strip	7 x M25	Light grey	60	5	16.700	2007 43 4

PP Polypropylene /100 pc.

The junction boxes are made of a thermoplastic polypropylene polymer with plug-in seals made of ethylene vinyl acetate (EVA). This allows installation of cables either directly through the 7 x M25 seals, or the seals can be cut with a knife at the pre-marked points, in order to create an insertion opening for cables or pipes. Alternatively, cable glands can be pushed through the openings instead of the seals and locked with a locknut from the inside.

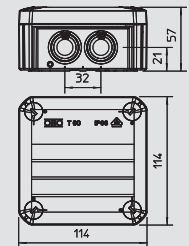
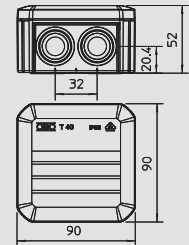
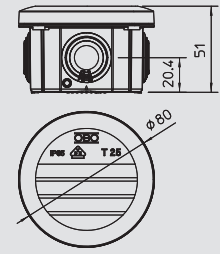
The junction boxes can be mounted on mounting plates in the openings on the floor using steel screws 3.5 x 9.5.

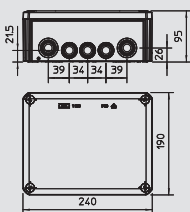
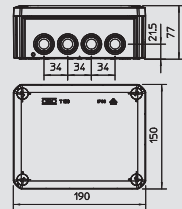
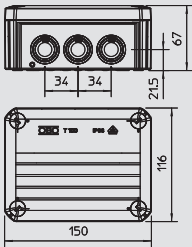
Clear internal dimensions: 100 x 100 x 48 mm

Cover with labelling panel and lead-sealed.

Standard version: flame-resistant, testing temperature 650 °C.

F version: highly flame-resistant, testing temperature 960 °C.





Junction box

Type	Version	Entries	Colour	Box qty. pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
T 100	Standard	10 x M25	Light grey	40	1	16.270	2007 07 7
T 100 M25-M32	Large entry	8 x M25 2 x M32	Light grey	40	1	16.300	2007 08 1
T 100 RW	—	10 x M25	Pure white	40	1	16.270	2007 53 3
T 100 F	960 °C flame-resistant	10 x M25	Light grey	40	1	16.270	2007 34 7
T 100 RO-LGR	With red lid	10 x M25	Red grey	40	1	16.270	2007 64 4
T 100 UV RW	UV-resistant	10 x M25	Pure white	40	1	16.500	2007 41 4
T 100 KL	With terminal strip	10 x M25	Light grey	40	1	40.000	2007 43 6

PP Polypropylene /100 pc.

The junction boxes are made of a thermoplastic polypropylene polymer with plug-in seals made of ethylene vinyl acetate (EVA). This allows installation of cables either directly through the 10 x M25 seals, or the seals can be cut with a knife at the pre-marked points, in order to create an insertion opening for cables or pipes. Alternatively, cable glands can be pushed through the openings instead of the seals and locked with a locknut from the inside.

The junction boxes can be mounted on mounting plates in the openings on the floor using steel screws 3.5 x 9.5.

Clear internal dimensions: 136 x 102 x 57 mm

Cover with labelling panel and lead-sealed.

Standard version: flame-resistant, testing temperature 650 °C.

F version: highly flame-resistant, testing temperature 960 °C.

Type	Version	Entries	Colour	Box qty. pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
T 160	Standard	7 x M25 5 x M32	Light grey	20	1	30.000	2007 09 3
T 160 M32	Large entry	10 x M32	Light grey	20	1	30.000	2007 09 7
T 160 RW	—	7 x M25 5 x M32	Pure white	20	1	30.000	2007 54 1
T 160 F	960 °C flame-resistant	7 x M25 5 x M32	Light grey	20	1	30.000	2007 35 5
T 160 RO-LGR	With red lid	7 x M25 5 x M32	Red grey	20	1	30.000	2007 64 9
T 160 UV RW	UV-resistant	7 x M25 5 x M32	Pure white	20	1	29.500	2007 41 6
T 160 KL	With terminal strip	7 x M25 5 x M32	Light grey	20	1	64.200	2007 44 0

PP/GF Polypropylene, Glass-fibre reinforced /100 pc.

The junction boxes are made of a thermoplastic polypropylene polymer with plug-in seals made of ethylene vinyl acetate (EVA). This allows installation of cables either directly through the 7x M25 + 5x M32 seals, or the seals can be cut with a knife at the pre-marked points, in order to create an insertion opening for cables or pipes. Alternatively, cable glands can be pushed through the openings instead of the seals and locked with a locknut from the inside.

The junction boxes can be mounted on mounting plates in the openings on the floor using steel screws 3.5 x 9.5.

Clear internal dimensions: 176 x 135 x 67 mm

Cover with labelling panel and lead-sealed.

Standard version: flame-resistant, testing temperature 650 °C.

F version: highly flame-resistant, testing temperature 960 °C.

Type	Version	Entries	Colour	Box qty. pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
T 250	Standard	9 x M25 7 x M32	Light grey	8	1	50.000	2007 10 9
T 250 RW	—	9 x M25 7 x M32	Pure white	8	1	50.000	2007 55 4
T 250 F	960 °C flame-resistant	9 x M25 7 x M32	Light grey	8	1	50.000	2007 36 3
T 250 RO-LGR	With red lid	9 x M25 7 x M32	Red grey	8	1	50.000	2007 65 7
T 250 UV RW	UV-resistant	9 x M25 7 x M32	Pure white	8	1	44.800	2007 41 8
T 250 KL	With terminal strip	9 x M25 7 x M32	Light grey	8	1	79.500	2007 44 4

PP/GF Polypropylene, Glass-fibre reinforced /100 pc.

The junction boxes are made of a thermoplastic polypropylene polymer with plug-in seals made of ethylene vinyl acetate (EVA). This allows installation of cables either directly through the 9x M25 + 7x M32 seals, or the seals can be cut with a knife at the pre-marked points, in order to create an insertion opening for cables or pipes. Alternatively, cable glands can be pushed through the openings instead of the seals and locked with a locknut from the inside.

The junction boxes can be mounted on mounting plates in the openings on the floor using steel screws 3.5 x 9.5.

Clear internal dimensions: 225 x 173 x 86 mm

Cover with labelling panel and lead-sealed.

Standard version: flame-resistant, testing temperature 650 °C.

F version: highly flame-resistant, testing temperature 960 °C.



Connection, fastening and cable routing systems

Junction box

Type	Version	Entries	Colour	Box qty.	Pack.	Weight	Item No.
				pcs	pcs	kg/100 pcs.	
T 350	Standard	16 x M32 8 x M40	Light grey	5	1	63.000	2007 12 5
T 350 RW	—	16 x M32 8 x M40	Pure white	5	1	63.000	2007 56 8
T 350 F	960 °C flame-resistant	16 x M32 8 x M40	Light grey	5	1	63.000	2007 37 1
T 350 RO-LGR	With red lid	16 x M32 8 x M40	Red grey	5	1	63.000	2007 66 5
T 350 UV RW	UV-resistant	16 x M32 8 x M40	Pure white	5	1	63.000	2007 42 0
T 350 KL	With terminal strip	16 x M32 8 x M40	Light grey	5	1	120.000	2007 44 8

PP/GF Polypropylene, Glass-fibre reinforced /100 pc.

The junction boxes are made of a thermoplastic polypropylene polymer with plug-in seals made of ethylene vinyl acetate (EVA). This allows installation of cables either directly through the 16x M32 + 8x M40 seals, or the seals can be cut with a knife at the pre-marked points, in order to create an insertion opening for cables or pipes. Alternatively, cable glands can be pushed through the openings instead of the seals and locked with a locknut from the inside.

The junction boxes can be mounted on mounting plates in the openings on the floor using steel screws 3.5 x 9.5.

Clear internal dimensions: 267 x 182 x 110 mm

Cover with labelling panel and lead-sealed.

Standard version: flame-resistant, testing temperature 650 °C.

F version: highly flame-resistant, testing temperature 960 °C.

Type	Version	Entries	Colour	Box qty.	Pack.	Weight	Item No.
				pcs	pcs	kg/100 pcs.	
T 40 OE	Closed	None	Light grey	80	5	6.300	2007 22 3

PP Polypropylene /100 pc.

The cable junction boxes are made of a thermoplastic polypropylene polymer with closed side walls. This means that openings can be made wherever they are required. These openings can be closed off with EDK plug-in seals to allow cable installation through the seal. In addition, cable glands can be inserted through the openings instead of the seals and locked with a locknut from inside.

The cable junction boxes can be screwed onto an M6 thread or mounted on mounting plates in the openings on the floor using steel bolts 3.5 x 9.5.

Clear internal dimensions: 77 x 77 x 46 mm.

Cover with labelling panel.

Standard version: flame-resistant, testing temperature 650 °C.

Type	Version	Entries	Colour	Box qty.	Pack.	Weight	Item No.
				pcs	pcs	kg/100 pcs.	
T 60 OE	Closed	None	Light grey	60	5	12.000	2007 23 9

PP Polypropylene /100 pc.

The junction boxes are made of a thermoplastic polypropylene polymer with closed side walls. This means that the required openings can be made wherever they are required. EDK plug-in seals or cable glands with locknuts can be inserted in these openings, to allow cable insertion. The junction boxes can be mounted on mounting plates in the openings on the floor using steel screws 3.5 x 9.5.

Clear internal dimensions: 100 x 100 x 46 mm

Cover with labelling panel and lead-sealed.

Standard version: flame-resistant, testing temperature 650 °C.

Type	Version	Entries	Colour	Box qty.	Pack.	Weight	Item No.
				pcs	pcs	kg/100 pcs.	
T 100 OE	Closed	None	Light grey	40	1	16.200	2007 25 5

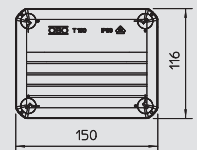
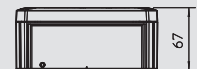
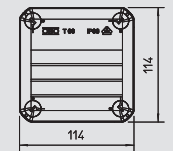
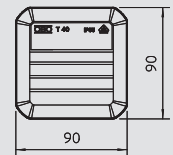
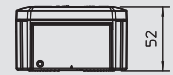
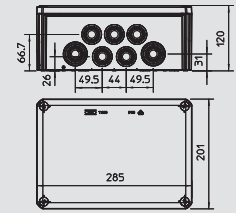
PP Polypropylene /100 pc.

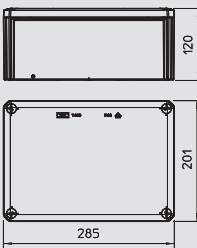
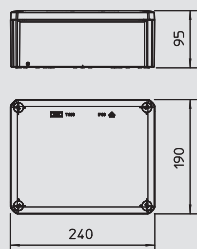
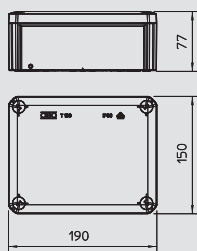
The junction boxes are made of a thermoplastic polypropylene polymer with closed side walls. This means that the required openings can be made wherever they are required. EDK plug-in seals or cable glands with locknuts can be inserted in these openings, to allow cable insertion. The junction boxes can be mounted on mounting plates in the openings on the floor using steel screws 3.5 x 9.5.

Clear internal dimensions: 136 x 102 x 57 mm

Cover with labelling panel and lead-sealed.

Standard version: flame-resistant, testing temperature 650 °C.





Junction box

Type	Version	Entries	Colour	Box qty. pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
T 160 OE	Closed	None	Light grey	20	1	30.000	2007 27 1

PP/GF Polypropylene, Glass-fibre reinforced /100 pc.

The junction boxes are made of a thermoplastic polypropylene polymer with closed side walls. This means that the required openings can be made wherever they are required. EDK plug-in seals or cable glands with locknuts can be inserted in these openings, to allow cable insertion. The junction boxes can be mounted on mounting plates in the openings on the floor using steel screws 3.5 x 9.5.

Clear internal dimensions: 176 x 135 x 67 mm

Cover with labelling panel and lead-sealed.

Standard version: flame-resistant, testing temperature 650 °C.

Type	Version	Entries	Colour	Box qty. pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
T 250 OE	Closed	None	Light grey	8	1	48.300	2007 28 7

PP/GF Polypropylene, Glass-fibre reinforced /100 pc.

The junction boxes are made of a thermoplastic polypropylene polymer with closed side walls. This means that the required openings can be made wherever they are required. EDK plug-in seals or cable glands with locknuts can be inserted in these openings, to allow cable insertion. The junction boxes can be mounted on mounting plates in the openings on the floor using steel screws 3.5 x 9.5.

Clear internal dimensions: 225 x 173 x 86 mm

Cover with labelling panel and lead-sealed.

Standard version: flame-resistant, testing temperature 650 °C.

Type	Version	Entries	Colour	Box qty. pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
T 350 OE	Closed	None	Light grey	5	1	58.800	2007 30 3

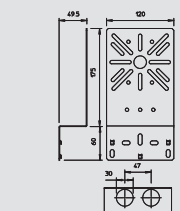
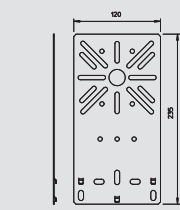
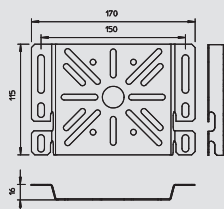
PP/GF Polypropylene, Glass-fibre reinforced /100 pc.

The junction boxes are made of a thermoplastic polypropylene polymer with closed side walls. This means that the required openings can be made wherever they are required. EDK plug-in seals or cable glands with locknuts can be inserted in these openings, to allow cable insertion. The junction boxes can be mounted on mounting plates in the openings on the floor using steel screws 3.5 x 9.5.

Clear internal dimensions: 267 x 182 x 110 mm

Cover with labelling panel and lead-sealed.

Standard version: flame-resistant, testing temperature 650 °C.



Mounting plates

Type	Height mm	Width mm	Pack. pcs	Weight kg/100 pcs.	Item No.
MP UNI FS	115	170	40	13.300	7084 77 3

ST Steel **FS** Strip-galvanised /pc.

Mounting plate, for fastening on the side rail of cable support systems.

Please order the truss-head bolt, type FR5B 6 x 12, separately.

Type	Height mm	Width mm	Pack. pcs	Weight kg/100 pcs.	Item No.
MP FL FS	235	120	40	19.200	7084 75 7

ST Steel **FS** Strip-galvanised /pc.

Flat mounting plate, for fixing on the side rail of the cable tray.

Please order the truss-head bolt, type FRS B6 x 12, separately.

Type	Height mm	Width mm	Pack. pcs	Weight kg/100 pcs.	Item No.
MP WI KL. FS	210	120	20	20.200	7084 76 5

ST Steel **FS** Strip-galvanised /pc.

Curved mounting plate, for fastening on the side rail of the cable tray.

Please order the truss-head bolt, type FRS B6 x 12, separately.



Connection, fastening and cable routing systems

Connection, fastening and cable routing systems

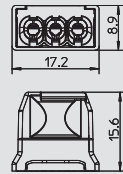


Screwless terminal

Type	Colour	Box qty.	Pack.	Weight	Item No.
		pcs	pcs	kg/100 pcs.	
61 325 LGR	Light grey	2000	100	0.135	2054 48 5

PA Polyamide /100 pc.

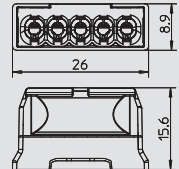
Screwless terminal to connect single-strand cables.
 Nominal cross-section:
 3 x 0.5 mm² to 2.5 mm² single-wire cable.
 3 x 1.5 mm² to 2.5 mm² rigid, multi-wire cable.
 Rated voltage 450 V
 Rated current 24 A
 Stripping length: 8–9 mm
 Inspection opening: Phase tester and testing pin (max. Ø 2 mm)



Type	Colour	Box qty.	Pack.	Weight	Item No.
		pcs	pcs	kg/100 pcs.	
61 525 LGR	Light grey	2000	100	0.300	2054 50 7

PA Polyamide /100 pc.

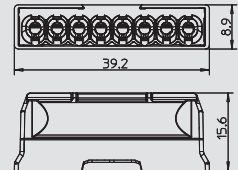
Screwless terminal to connect single-strand cables.
 Nominal cross-section:
 5 x 0.5 mm² to 2.5 mm² single-wire cable
 5 x 1.5 mm² to 2.5 mm² rigid, multi-wire cable
 Rated voltage 450 V
 Rated current 24 A
 Stripping length: 8–9 mm
 Inspection opening: phase tester and testing pin (max. Ø 2 mm)



Type	Colour	Box qty.	Pack.	Weight	Item No.
		pcs	pcs	kg/100 pcs.	
61 825 LGR	Light grey	1000	50	0.490	2054 52 3

PA Polyamide /100 pc.

Screwless terminal to connect single-strand cables.
 Nominal cross-section:
 8 x 0.5 mm² to 2.5 mm² single-wire cable.
 8 x 1.5 mm² to 2.5 mm² rigid, multi-wire cable.
 Rated voltage 450 V
 Rated current 24 A
 Stripping length: 8–9 mm
 Inspection opening: phase tester and testing pin (max. Ø 2 mm)

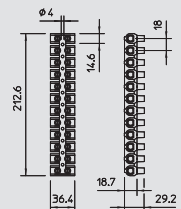


Terminal strip

Type	Colour	Box qty.	Pack.	Weight	Item No.
		pcs	pcs	kg/100 pcs.	
80 CE SW	Black	50	10	17.400	2056 59 3

PP Polypropylene /100 pc.

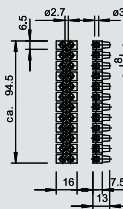
Tested to EN 60998.
 Brass terminals, steel screws, electrogalvanised, 12-pole, individual terminals detachable from strips.
 Captive upwards screw.
 Max. approved ambient temperature to EN 60998: –5 to +80 °C.
 Nominal cross-section 35 mm².
 Nominal voltage 1000 V.
 Nominal current 125 A.
 Max. attachment each side: 35 mm² multi-wire or 25 mm² fine-wire without wire end sleeve.



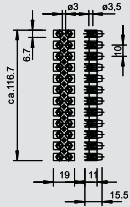
Type	Colour	Box qty.	Pack.	Weight	Item No.
		pcs	pcs	kg/100 pcs.	
72 VDE	Transparent	500	10	2.000	2055 92 9

PA Polyamide /100 pc.

Brass terminals, steel screws, galvanised and blue passivated, 12-pole, individual terminals detachable.
 Captive upwards screw.
 Nominal cross-section 4 mm².
 Nominal voltage 450 V.
 Nominal current 32 A.
 Max. attachment each side: 4 mm² single wire or 2.5 mm² fine wire with wire end sleeve
 Maximum approved ambient temperature to EN 60998: –5 to +85 °C.



12 LSB Lösungskatalog Schiffsbau_International / en / 07/04/2010 (LLExpport_01016)

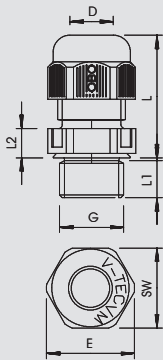
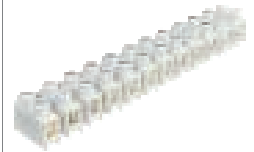


Terminal strip

Type	Colour	Box qty. pcs	Pack.	Weight	Item No.
			pcs	kg/100 pcs.	
74 D	Transparent	200	10	3.680	2056 17 8

PA Polyamide /100 pc.

With wire protection clamp.
 Tested to EN 60998.
 Brass terminals, steel screws, galvanised and blue passivated, 12-pole, individual terminals detachable.
 Captive upwards screw.
 Nominal cross-section 4 mm².
 Nominal voltage 450 V.
 Nominal current 32 A.
 Max. attachment each side: 4 mm² single-wire or 4 mm² fine-wire without wire end sleeve.
 Maximum approved ambient temperature to EN 60998: -5 to +85 °C.

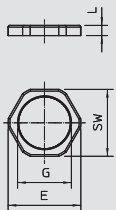


Cable gland, plastic

Type	Thread	Colour	Box qty. pcs	Pack.	Weight	Item No.
				pcs	kg/100 pcs.	
V-TEC VM12 LGR	M12 x 1,5	Light grey	500	50	0.318	2022 86 2
V-TEC VM16 LGR	M16 x 1,5	Light grey	500	50	0.638	2022 86 4
V-TEC VM20 LGR	M20 x 1,5	Light grey	600	50	0.861	2022 86 6
V-TEC VM25 LGR	M25 x 1,5	Light grey	300	25	1.344	2022 86 8
V-TEC VM32 LGR	M32 x 1,5	Light grey	240	20	2.230	2022 87 0
V-TEC VM40 LGR	M40 x 1,5	Light grey	120	10	3.467	2022 87 2
V-TEC VM50 LGR	M50 x 1,5	Light grey	60	5	5.466	2022 87 4
V-TEC VM63 LGR	M63 x 1,5	Light grey	60	5	8.306	2022 87 6

PA Polyamide /100 pc.

With metric connecting thread to IEC 423 robust cap-nut cable gland with large sealing area. Strain relief, wringing protection and tightness over the whole clamping area. Sealing ring of chloroprene/nitrile rubber. Moulded sealing on the intermediate support, so no connection thread sealing ring needed, tested to VDE DIN EN 50262, protection rating IP 68 at 5 bar/1 hr. Max. permitted ambient temperature -20 °C to +65 °C.

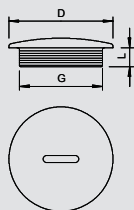


Locknut, plastic

Type	Thread	Colour	Box qty. pcs	Pack.	Weight	Item No.
				pcs	kg/100 pcs.	
116 M12 LGR PA	M12x1,5	Light grey	2000	100	0.100	2048 90 6
116 M16 LGR PA	M16x1,5	Light grey	1000	100	0.160	2048 91 4
116 M20 LGR PA	M20x1,5	Light grey	1200	100	0.250	2048 92 2
116 M25 LGR PA	M25x1,5	Light grey	1000	100	0.350	2048 93 0
116 M32 LGR PA	M32x1,5	Light grey	500	50	0.610	2048 94 9
116 M40 LGR PA	M40x1,5	Light grey	250	25	1.683	2048 95 7
116 M50 LGR PA	M50x1,5	Light grey	250	25	0.890	2048 96 5
116 M63 LGR PA	M63x1,5	Light grey	200	25	1.830	2048 97 3

PA Polyamide /100 pc.

Locknut DIN 46319, with metric thread IEC 423.



Screw plug, plastic

Type	Thread	Dimen-	Dimen-	Colour	Box qty. pcs	Pack.	Weight	Item No.
		sion D mm	sion L mm			pcs	kg/100 pcs.	
108 M12 PS	M12 x 1,5	15	6	Light grey	3000	100	0.146	2033 00 3
108 M16 PS	M16 x 1,5	20	6	Light grey	1800	100	0.161	2033 00 7
108 M20 PS	M20 x 1,5	24	6	Light grey	1200	100	0.209	2033 01 1
108 M25 PS	M25 x 1,5	30	8	Light grey	1000	100	0.355	2033 01 6
108 M32 PS	M32 x 1,5	37	8	Light grey	500	50	0.352	2033 02 1
108 M40 PS	M40 x 1,5	46	8	Light grey	300	25	1.280	2033 02 6
108 M50 PS	M50 x 1,5	56	10	Light grey	300	25	1.400	2033 03 2
108 M63 PS	M63 x 1,5	70	12	Light grey	300	25	1.850	2033 03 8

PS Polystyrene /100 pc.

Screw plug in accordance with DIN 46320, with metric thread to IEC 423.



Connection, fastening and cable routing systems

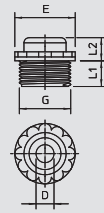
Screw-in nipple, plastic



Type	Thread	Colour	Box qty. pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
90 M12 GE	M12 x 1,5	Light grey	3000	100	0.170	2032 37 8
90 M16 GE	M16 x 1,5	Light grey	2600	100	0.192	2032 38 0
90 M20 GE	M20 x 1,5	Light grey	1600	100	0.268	2032 38 2
90 M25 GE	M25 x 1,5	Light grey	500	50	0.513	2032 38 4
90 M32 GE	M32 x 1,5	Light grey	250	25	0.694	2032 38 6
90 M40 GE	M40 x 1,5	Light grey	120	10	0.875	2032 38 8

PE Polyethylene /100 pc.

With perforation membranes, the opening D is pre-marked, but closed.
Grip seal to screw into metric thread to IEC 423.
With self-sealing cone at the end of the thread, therefore no connection thread sealing ring required.
Protection rating achievable with careful mounting: IP54.



Cable gland, brass

Type	Thread	Surface finish	Box qty. pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
V-TEC VM12 MS	M12 x 1,5	Nickel-plated	500	50	1.200	2086 01 8
V-TEC VM16 MS	M16 x 1,5	Nickel-plated	600	50	1.640	2086 02 4
V-TEC VM20 MS	M20 x 1,5	Nickel-plated	250	25	3.140	2086 03 0
V-TEC VM25 MS	M25 x 1,5	Nickel-plated	300	25	4.260	2086 03 6
V-TEC VM32 MS	M32 x 1,5	Nickel-plated	160	20	7.160	2086 04 2
V-TEC VM40 MS	M40 x 1,5	Nickel-plated	60	5	12.240	2086 04 8
V-TEC VM50 MS	M50 x 1,5	Nickel-plated	45	5	22.700	2086 05 4
V-TEC VM63 MS	M63 x 1,5	Nickel-plated	40	5	30.300	2086 06 0

CuZn Brass N Nickel-plated /100 pc.

With metric connecting thread to IEC 423 robust cap-nut cable gland with large sealing area.
Strain relief, wringing protection and tightness over the whole clamping area. Neoprene sealing ring. Polyamide terminal insert. With pre-mounted sealing ring on connection thread, VDE-tested to DIN EN 50262, protection rating IP 68 at 5 bar for 1 hr.

* Prices according to DEL notation.

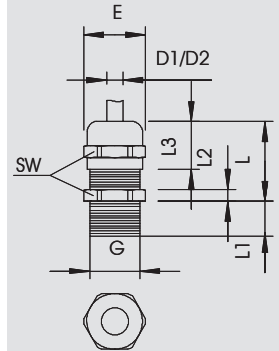
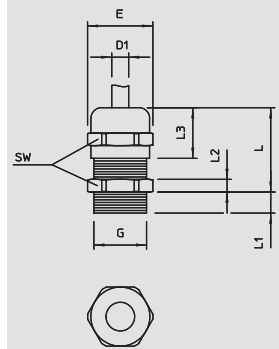
Type	Thread	Surface finish	Box qty. pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
V-TEC VM LM12 MS	M12 x 1,5	Nickel-plated	500	50	1.300	2086 11 1
V-TEC VM LM16 MS	M16 x 1,5	Nickel-plated	600	50	1.940	2086 11 7
V-TEC VM LM20 MS	M20 x 1,5	Nickel-plated	300	25	3.360	2086 12 3
V-TEC VM LM25 MS	M25 x 1,5	Nickel-plated	250	25	4.800	2086 12 9
V-TEC VM LM32 MS	M32 x 1,5	Nickel-plated	120	10	7.840	2086 13 5
V-TEC VM LM40 MS	M40 x 1,5	Nickel-plated	60	5	13.400	2086 14 1
V-TEC VM LM50 MS	M50 x 1,5	Nickel-plated	45	5	24.000	2086 14 7
V-TEC VM LM63 MS	M63 x 1,5	Nickel-plated	40	5	32.100	2086 15 3

CuZn Brass N Nickel-plated /100 pc.

With metric connecting thread to IEC 423 robust cap-nut cable gland with large sealing area.
Strain relief, wringing protection and tightness over the whole clamping area. For thicker housing wall thicknesses in conjunction with locknuts. Neoprene sealing ring. Polyamide terminal insert.
With pre-mounted sealing ring on connection thread, VDE-tested to DIN EN 50262, protection rating IP 68 at 5 bar for 1 hr.

With long connection thread.

* Prices according to DEL notation.



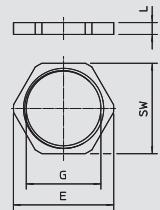
Locknut, brass

Type	Thread	Surface finish	Box qty. pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
169 MS M12	M12 x 1,5	Nickel-plated	2600	100	0.220	2091 60 7
169 MS M16	M16 x 1,5	Nickel-plated	4800	100	0.310	2091 61 5
169 MS M20	M20 x 1,5	Nickel-plated	3200	100	0.580	2091 62 3
169 MS M25	M25 x 1,5	Nickel-plated	1800	100	0.880	2091 63 1
169 MS M32	M32 x 1,5	Nickel-plated	1200	100	1.120	2091 65 8
169 MS M40	M40 x 1,5	Nickel-plated	600	50	1.920	2091 66 6
169 MS M50	M50 x 1,5	Nickel-plated	500	50	3.070	2091 67 4
169 MS M63	M63 x 1,5	Nickel-plated	250	25	5.720	2091 68 2

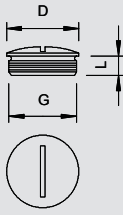
CuZn Brass N Nickel-plated /100 pc.

Locknuts DIN 46319 with metric thread IEC 423.

* Price according to DEL notation.



Connection, fastening and cable routing systems

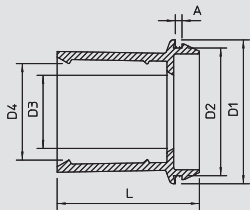


Screw plug, brass

Type	Thread	Dimension D mm	Dimension L mm	Surface finish	Box qty. pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
168 MS M12	M12 x 1,5	16	5	Nickel-plated	3000	100	0.390	2090 51 7
168 MS M16	M16 x 1,5	20	6	Nickel-plated	2000	100	0.640	2090 53 8
168 MS M20	M20 x 1,5	22	6.5	Nickel-plated	1000	100	0.930	2090 54 6
168 MS M25	M25 x 1,5	28	7	Nickel-plated	500	50	1.850	2090 55 4
168 MS M32	M32 x 1,5	35	8	Nickel-plated	200	50	2.810	2090 56 2
168 MS M40	M40 x 1,5	45	8	Nickel-plated	100	50	5.290	2090 57 0
168 MS M50	M50 x 1,5	55	9	Nickel-plated	100	25	6.310	2090 58 9
168 MS M63	M63 x 1,5	68	10	Nickel-plated	50	25	12.570	2090 59 7

CuZn Brass **N** Nickel-plated /100 pc.

Screw plug in accordance with DIN 46320, with metric thread to DIN EN 60423 or ISO 68.
* Prices according to DEL notation.

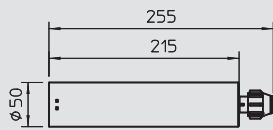


Plug-in seal

Type	Size	For Ø mm	Colour	Box qty. pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
EDR 25 16-20 LGR	M25	—	Light grey	50	50	0.520	2011 50 6
EDR 25 20-25 LGR	M25	—	Light grey	50	50	0.680	2011 51 4
EDR 32 20-25 LGR	M32	—	Light grey	50	50	1.020	2011 52 2
EDR 32 25-32 LGR	M32	—	Light grey	50	50	1.170	2011 53 0
EDR 40 25-32 LGR	M40	—	Light grey	25	25	1.950	2011 53 8
EDR 40 32-40 LGR	M40	—	Light grey	25	25	2.200	2011 54 6

PVC Polyvinylchloride /100 pc.

Plug-in seals are used to run pipes tight to the junction box.



Aquasit casting compound

Type	Contents	Pack. pcs	Weight kg/100 pcs.	Item No.
KVM	0.25	1	42.000	2363 01 0

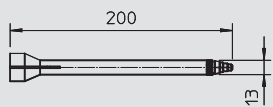
/pc.

Aquasit is a two-component casting compound in a cartridge for applications in areas with continuous and extremely high levels of moisture. It can also be used for mechanical shock and vibrations.

The cartridge is suitable for use in standard cartridge pistols. The unopened aluminium packaging can be stored for up to a year at room temperature. After opening the cartridge, the material must be used within 24 hours.

Aquasit properties:

Protection rating: IP68 at 1.8 bar/1,000 h
 Rated voltage: 400 V
 Penetration resistance: >20 kv/mm to VDE 0291 Part 2
 Operating temperature: -40 to +90 °C
 Processing temperature: 0 to +40 °C
 Halogen-free, silicon-free, isocyanate-free
 Environmentally friendly and without the need to be labelled



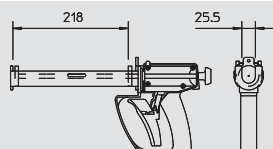
Mixer pipe

Type	Pack. PU	Weight kg/100 PUs	Item No.
KVM-M	1	17.000	2363 01 5

/VPE

10 mixer pipes in the set.

Simple, automatic mixing of OBO AQUASIT when pressing out the compound from the cartridge.



Cartridge pistol

Type	Pack. pcs	Weight kg/100 pcs.	Item No.
KVM-P	2	100.000	2363 01 9

/pc.

High-quality 1-K cartridge for use with the AQUASIT cold casting compound. The cartridge pistol can also be used with normal 300 mm cartridges.



Connection, fastening and cable routing systems



Electrical insulating and sealing compound

Type	Colour	Box qty. pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
115 GR-GN	Natural	90	10	11.020	2340 03 8

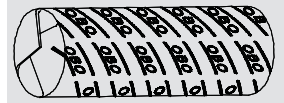
/100 pc.

In rods.

Permanently elastic, fibre-free sealing kit on a polymer and a mineral basis to fill cavities in installations, e.g. cable glands or similar components, to prevent the entry of dirt and water, Colour: Green-grey

Characteristics of the sealing kit:

- Halogen-, acid- and silicone-free
- Can also be processed at low temperatures
- Permanent heat resistance to +80 °C
- Corrosion-resistant
- Low water consumption
- Good insulation properties
- Puncture strength 16 kV/mm to VDE 0291 Part 2
- Can be stored almost indefinitely



Steel armoured pipes

Type	Dimension M	Dimension L mm	Dimension I mm	Dimension t mm	Coding	Pack. m	Weight kg/100 m	Item No.
SM16 FT	M16x1,5	3000	13	1.25	—	51	43.800	2047 33 6
SM20 FT	M20x1,5	3000	14	1.25	—	51	57.800	2047 33 9
SM25 FT	M25x1,5	3000	19	1.25	—	30	73.200	2047 34 2
SM32 FT	M32x1,5	3000	19	1.35	—	21	102.000	2047 34 5
SM40 FT	M40x1,5	3000	19	1.35	—	15	128.700	2047 34 8
SM50 FT	M50x1,5	3000	24	1.45	—	15	173.600	2047 35 1
SM63 FT	M63x1,5	3000	27	1.85	—	9	264.300	2047 35 4

ST Steel **FT** Hot-dip galvanised /100 m

Electrical installation pipe with threaded ends to EN 61386 (Code: 5557) for mechanical protection of cables.

One connection sleeve is already screwed onto each pipe.

Type	Dimension M	Dimension L mm	Dimension I mm	Dimension t mm	Pack. m	Weight kg/100 m	Item No.
SM16 VA	M16x1,5	3000	13	1.5	51	53.600	2047 65 7
SM20 VA	M20x1,5	3000	14	1.5	51	68.400	2047 65 8
SM25 VA	M25x1,5	3000	19	1.5	30	86.900	2047 66 0
SM32 VA	M32x1,5	3000	19	1.5	21	112.800	2047 66 1
SM40 VA	M40x1,5	3000	19	1.5	15	142.400	2047 66 2

V2A Stainless steel, 1.4301 /100 m

Stainless steel electrical installation pipe with threaded ends to EN 61386 (Code: 5557) for mechanical protection of cables.

One connection sleeve is already screwed onto each pipe.

Type	Dimension D mm	Dimension L mm	Dimension t mm	Pack. m	Weight kg/100 m	Item No.
S16 FT	16	3000	0.95	51	35.300	2047 30 6
S20 FT	20	3000	0.95	51	44.600	2047 30 9
S25 FT	25	3000	1.05	30	62.000	2047 31 2
S32 FT	32	3000	1.15	21	87.500	2047 31 5
S40 FT	40	3000	1.25	15	119.500	2047 31 8
S50 FT	50	3000	1.25	15	150.300	2047 32 1
S63 FT	63	3000	1.35	9	212.700	2047 32 4

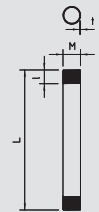
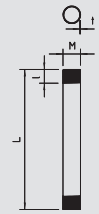
ST Steel **FT** Hot-dip galvanised /100 m

Electrical installation pipe without threaded ends to EN 61386 (Code: 5557) for mechanical protection of cables.

Type	Dimension D mm	Dimension L mm	Dimension t mm	Pack. m	Weight kg/100 m	Item No.
S16 VA	16	3000	1	51	37.000	2047 65 0
S20 VA	20	3000	1	51	46.900	2047 65 1
S25 VA	25	3000	1	30	59.200	2047 65 2
S32 VA	32	3000	1.25	21	94.800	2047 65 3
S40 VA	40	3000	1.25	15	119.500	2047 65 4

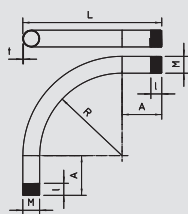
V2A Stainless steel, 1.4301 /100 m

Stainless steel electrical installation pipe without threaded ends to EN 61386 (Code: 5557) for mechanical protection of cables.



Connection, fastening and cable routing systems

Steel armoured pipes



Type	Dimension M	Dimension L	Dimension I	Dimension A	Dimension R	Dimension t	Pack.	Weight	Item No.
		mm	mm	mm	mm	mm	pcs	kg/100 pcs.	
SBM16 FT	M16x1,5	178	13	65	97	1.25	10	8.000	2047 50 1
SBM20 FT	M20x1,5	183	14	53	110	1.25	25	10.500	2047 50 2
SBM25 FT	M25x1,5	207	17	59	123	1.25	25	25.000	2047 50 3
SBM32 FT	M32x1,5	245	19	69	144	1.35	25	42.000	2047 50 4
SBM40 FT	M40x1,5	288	19	83	165	1.35	10	65.000	2047 50 5
SBM50 FT	M50x1,5	346	24	106	190	1.45	5	122.000	2047 50 6
SBM63 FT	M63x1,5	467	27	175	229	1.85	5	209.000	2047 50 7

ST Steel **FT** Hot-dip galvanised /100 pc.

Accessory part: 90° bend for electrical installation pipes with threaded ends to EN 61386 (Code: 5557).

One connection sleeve is already screwed onto each pipe bend.

Type	Dimension M	Dimension L	Dimension I	Dimension A	Dimension R	Dimension t	Pack.	Weight	Item No.
		mm	mm	mm	mm	mm	pcs	kg/100 pcs.	
SBM16 VA	M16x1,5	178	13	65	97	1.5	10	8.000	2047 69 0
SBM20 VA	M20x1,5	183	14	53	110	1.5	25	10.500	2047 69 2
SBM25 VA	M25x1,5	207	17	59	123	1.5	25	25.000	2047 69 3
SBM32 VA	M40x1,5	245	19	69	144	1.5	25	42.000	2047 69 4
SBM40 VA	M40x1,5	288	19	83	165	1.5	10	65.000	2047 69 5

V2A Stainless steel, 1.4301 /100 pc.

Accessory part: 90° bend, stainless steel, for electrical installation pipes with threaded ends to EN 61386 (Code: 5557).

One connection sleeve is already screwed onto each pipe bend.

Type	Dimension D	Dimension L	Dimension A	Dimension R	Dimension t	Pack.	Weight	Item No.
	mm	mm	mm	mm	mm	pcs	kg/100 pcs.	
SB16 FT	16	178	65	97	0.95	10	7.000	2047 48 5
SB20 FT	20	183	53	110	0.95	25	9.400	2047 48 6
SB25 FT	25	207	59	123	1.05	25	24.500	2047 48 7
SB32 FT	32	245	69	144	1.15	25	41.500	2047 48 8
SB40 FT	40	288	83	165	1.25	10	64.500	2047 48 9
SB50 FT	50	346	106	190	1.45	5	121.500	2047 49 0
SB63 FT	63	467	175	229	1.35	5	208.000	2047 49 1

ST Steel **FT** Hot-dip galvanised /100 pc.

Accessory part: 90° bend for electrical installation pipes without threaded ends to EN 61386 (Code: 5557).

Type	Dimension D	Dimension L	Dimension A	Dimension R	Dimension t	Pack.	Weight	Item No.
	mm	mm	mm	mm	mm	pcs	kg/100 pcs.	
SB16 VA	16	178	65	97	1.5	10	10.900	2047 68 2
SB20 VA	20	183	53	110	1.5	25	13.800	2047 68 3
SB25 VA	25	207	59	123	1.5	25	19.500	2047 68 4
SB32 VA	32	245	69	165	1.5	25	37.000	2047 68 5
SB40 VA	40	288	83	165	1.5	10	54.600	2047 68 6

V2A Stainless steel, 1.4301 /100 pc.

Accessory part: 90° bend, stainless steel, for electrical installation pipes without threaded ends to EN 61386 (Code: 5557).

Type	Dimension M	Dimension L	Dimension D	Dimension t	Pack.	Weight	Item No.
		mm	mm	mm	pcs	kg/100 pcs.	
SVM16 FT	M16x1,5	32	18.1	1.55	50	2.500	2047 47 0
SVM20 FT	M20x1,5	34	22.1	1.55	50	3.500	2047 47 1
SVM25 FT	M25x1,5	40	27.1	1.55	50	4.500	2047 47 2
SVM32 FT	M32x1,5	44	34.1	1.55	25	5.500	2047 47 3
SVM40 FT	M40x1,5	50	43.3	2.25	25	18.000	2047 47 4
SVM50 FT	M50x1,5	54	53.6	2.5	10	28.000	2047 47 5
SVM63 FT	M63x1,5	65	66.6	2.5	5	32.000	2047 47 6

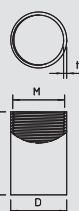
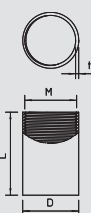
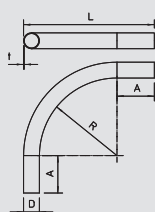
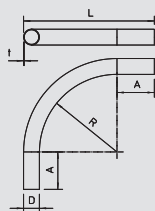
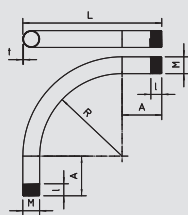
ST Steel **FT** Hot-dip galvanised /100 pc.

Accessory part: Pipe connection sleeve with thread to EN 61386 (Code: 5557) to connect electrical installation pipes and 90° bends.

Type	Dimension M	Dimension L	Dimension D	Dimension t	Pack.	Weight	Item No.
		mm	mm	mm	pcs	kg/100 pcs.	
SVM16 VA	M16x1,5	32	18.1	1.5	50	2.000	2047 67 3
SVM20 VA	M20x1,5	40	27.1	1.5	50	2.600	2047 67 4
SVM25 VA	M25x1,5	40	27.1	1.5	50	3.800	2047 67 6
SVM32 VA	M32x1,5	44	33.1	1.5	25	5.300	2047 67 7
SVM40 VA	M40x1,5	50	43.3	1.5	25	7.700	2047 67 8

V2A Stainless steel, 1.4301 /100 pc.

Accessory part: Stainless steel pipe connection sleeve with thread to EN 61386 (Code: 5557) to connect electrical installation pipes and 90° bends.



Connection, fastening and cable routing systems

Connection, fastening and cable routing systems

Steel armoured pipes



Type	Dimension D mm	Dimension L mm	Dimension t mm	Pack. pcs	Weight kg/100 pcs.	Item No.
SV16 FT	18.6	50	1.05	50	2.200	2047 45 5
SV20 FT	22.6	54	1.05	50	3.000	2047 45 6
SV25 FT	28.3	64	1.25	50	3.200	2047 45 7
SV32 FT	35	74	1.25	25	4.800	2047 45 8
SV40 FT	44	95	1.25	25	15.000	2047 45 9
SV50 FT	54	110	1.55	10	25.000	2047 46 0
SV63 FT	67	116	1.55	5	29.500	2047 46 1

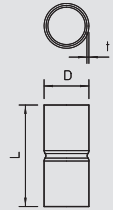
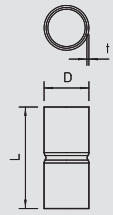
ST Steel **FT** Hot-dip galvanised /100 pc.

Accessory part: Pipe connection sleeve without thread to EN 61386 (Code: 5557) to connect electrical installation pipes and 90° bends.

Type	Dimension D mm	Dimension L mm	Dimension t mm	Pack. pcs	Weight kg/100 pcs.	Item No.
SV16 VA	18.6	50	1.05	50	2.100	2047 66 5
SV20 VA	22.6	54	1.05	50	2.800	2047 66 6
SV25 VA	28.3	64	1.25	50	5.300	2047 66 8
SV32 VA	35	74	1.25	25	9.200	2047 66 9
SV40 VA	44	95	1.25	25	12.200	2047 67 0

V2A Stainless steel, 1.4301 /100 pc.

Accessory part: Stainless steel pipe connection sleeve without thread to EN 61386 (Code: 5557) to connect electrical installation pipes and 90° bends.



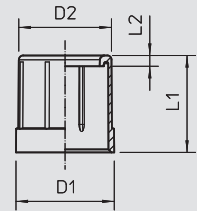
Steel armoured pipe bush, plastic



Type	Size	Colour	Box qty. pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
129 M16 SW	M16	Black	1000	100	0.235	2047 93 4
129 M20 SW	M20	Black	1200	100	0.326	2047 94 2
129 M25 SW	M25	Black	600	50	0.614	2047 95 0
129 M32 SW	M32	Black	600	50	1.070	2047 96 9
129 M40 SW	M40	Black	50	50	1.444	2047 97 7
129 M50 SW	M50	Black	25	25	2.176	2047 98 5
129 M64 SW	M63	Black	25	25	2.808	2047 99 3

PE Polyethylene /100 pc.

Cable protection connector for attachment to electrical installation pipes to DIN EN 60423 or IEC 423 and other pipes of the same external diameters.



Profile rail



Type	Version	Interface	Dimension b x h mm	Material thickness mm	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
2068 L 200 FT	Perforated	FT	35 x 18	1.5	200	25	17.800	1119 69 6
2068 L 300 FT	Perforated	FT	35 x 18	1.5	300	25	26.700	1119 69 3
2068 L 400 FT	Perforated	FT	35 x 18	1.5	400	10	35.600	1119 69 0
2068 L 500 FT	Perforated	FT	35 x 18	1.5	500	10	44.500	1119 68 7
2068 L 600 FT	Perforated	FT	35 x 18	1.5	600	10	53.400	1119 68 4
2068 L 700 FT	Perforated	FT	35 x 18	1.5	700	10	62.300	1119 68 1
2068 L 800 FT	Perforated	FT	35 x 18	1.5	800	10	71.200	1119 67 8
2068 L 900 FT	Perforated	FT	35 x 18	1.5	900	10	80.100	1119 67 5

ST Steel **FT** Hot-dip galvanised /100 pc.

Profile rail, perforated, slot width 16.5 mm.

Static values:

$$A = 1,01 \text{ cm}^2$$

$$I_y = 0,4418 \text{ cm}^4$$

$$I_z = 1,8384 \text{ cm}^4$$

$$W_y = 0,423 \text{ cm}^3$$

$$W_z = 1,0505 \text{ cm}^3$$

Type	Version	Interface	Dimension b x h mm	Material thickness mm	Length mm	Pack. m	Weight kg/100 m	Item No.
2068 L 1M FT	Perforated	FT	35 x 18	1.5	1000	10	89.000	1119 67 2
2068 L 2M FT	Perforated	FT	35 x 18	1.5	2000	20	89.000	1119 65 6

ST Steel **FT** Hot-dip galvanised /100 m

Profile rail with 16.5 mm slot width.

Profilschiene mit 16-17 mm Schlitzweite.

Static values:

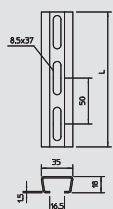
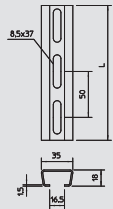
$$A = 0,964 \text{ cm}^2$$

$$I_y = 0,4945 \text{ cm}^4$$

$$I_z = 1,8461 \text{ cm}^4$$

$$W_y = 0,4415 \text{ cm}^3$$

$$W_z = 1,0549 \text{ cm}^3$$



Connection, fastening and cable routing systems

Fastening clip



Type	For Ø	Size	Box qty.	Pack.	Weight	Item No.
	mm		pcs	pcs	kg/100 pcs.	
822 10 FT	10	—	1200	100	1.075	1014 01 3
822 16 FT	15,2	M16	400	100	1.733	1014 09 9
822 20 FT	20	M20	600	100	2.125	1014 13 7
822 25 FT	25	M25	500	50	2.400	1014 50 1
822 32 FT	32	M32	100	100	5.490	1014 52 8
822 40 FT	40	M40	100	100	6.590	1014 53 6
822 50 FT	50	M50	100	100	7.690	1014 54 4
822 63 FT	63	M63	100	100	9.260	1014 55 2

ST Steel **FT** Hot-dip galvanised /100 pc.

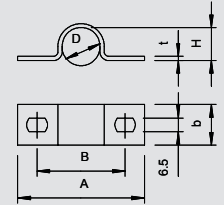
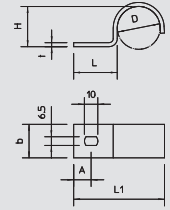
Single-lobe fastening clip for cables and pipes



Type	For Ø	Hole size	Material thickness	Box qty.	Pack.	Weight	Item No.
	mm	mm	mm	pcs	pcs	kg/100 pcs.	
823 16 FT	16	6,5 x 10	2	500	50	2.260	1015 09 5
823 20 FT	20	6,5 x 10	2	500	50	2.662	1015 13 3
823 25 FT	25	6,5 x 10	3	250	25	6.770	1015 49 4
823 32 FT	32	6,5 x 10	3	100	100	7.469	1015 49 6
823 40 FT	40	6,5 x 10	3	100	100	8.460	1015 49 8
823 54 FT	54	6,5 x 10	3	100	100	10.760	1015 42 7
823 50 FT	50	6,5 x 10	3	100	100	9.808	1015 50 0
823 63 FT	63	6,5 x 10	3	100	100	11.553	1015 50 8

ST Steel **FT** Hot-dip galvanised /100 pc.

Two-lobe fastening clips for cables and pipes



Clamp clip



Type	Clamping range D	Dimension A	Dimension B	Dimension C	Dimension G	Dimension t	Dimension H	Dimension L	Pack.	Weight	Item No.
	mm	mm	mm	mm	mm	mm	mm	mm	pcs	kg/100 pcs.	
2056 12 FT	8-12	23	16	34	M6	1.5	40	34	100	3.540	1160 12 5
2056 16 FT	12-16	23	20	34	M6	1.5	44	34	100	3.820	1160 16 8
2056 22 FT	16-22	23	27	34	M6	1.5	50	34	100	4.508	1160 22 2
2056 28 FT	22-28	23	33	34	M6	2	58	34	100	6.240	1160 28 1
2056 34 FT	28-34	23	39	34	M8	2	58	34	100	7.680	1160 34 6
2056 40 FT	34-40	23	45	45	M8	2	72	37.5	100	8.260	1160 40 0
2056 46 FT	40-46	23	51	40	M8	2	79	44.5	100	10.900	1160 45 1
2056 52 FT	46-52	23	57	40	M8	2	79	44.5	100	11.900	1160 52 4
2056 58 FT	52-58	23	64	40	M8	2.5	93	45.5	100	14.300	1160 58 3
2056 64 FT	58-64	23	70	40	M8	2.5	99	45.5	100	15.600	1160 64 8
2056 70 FT	64-70	25	76	40	M8	2.5	106	45.5	50	18.200	1160 70 2
2056 76 FT	70-76	25	82	40	M8	2.5	114	45.5	25	20.600	1160 76 1
2056 82 FT	76-82	25	88	40	M8	2.5	121	45.5	25	22.000	1160 82 6
2056 90 FT	82-90	25	97	40	M8	3	130	57.5	25	26.200	1160 90 7
2056 100 FT	90-100	25	107	40	M8	3	140	57.5	25	27.800	1160 99 0

ST Steel **FT** Hot-dip galvanised /100 pc.

Suitable for all C profile rails with slot width 16–17 mm.

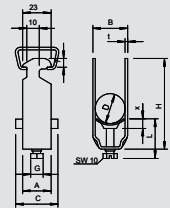
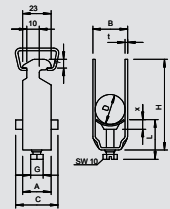
Hot-dip galvanised steel clip and bolt, polypropylene pressure trough, halogen-free, colour light grey RAL 7035.

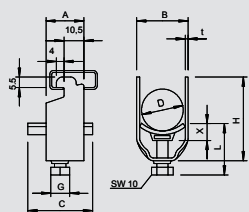
Type	Clamping range D	Dimension A	Dimension B	Dimension C	Dimension G	Dimension t	Dimension H	Dimension L	Pack.	Weight	Item No.
	mm	mm	mm	mm	mm	mm	mm	mm	pcs	kg/100 pcs.	
2056 12 VA	8-12	23	16	34	M6	1.5	40	34	100	3.300	1159 51 8
2056 16 VA	12-16	23	20	34	M6	1.5	44	34	100	3.600	1159 52 6
2056 22 VA	16-22	23	27	34	M6	1.5	50	34	100	4.200	1159 53 4
2056 28 VA	22-28	23	33	34	M6	2	58	34	100	6.500	1159 54 2
2056 34 VA	28-34	23	39	34	M8	2	66	37.5	100	7.400	1159 55 0
2056 40 VA	34-40	23	45	34	M8	2	72	37.5	100	8.000	1159 56 9
2056 46 VA	40-46	23	51	34	M8	2	79	44.5	100	10.900	1159 57 7
2056 52 VA	46-52	23	57	40	M8	2	86	45.5	100	11.400	1159 58 5
2056 58 VA	52-58	23	64	40	M8	2.5	93	45.5	100	14.500	1159 59 3
2056 64 VA	58-64	23	70	40	M8	2.5	99	45.5	100	15.600	1159 60 7
2056 70 VA	64-70	25	76	40	M8	2.5	106	45.5	50	18.200	1159 61 5
2056 76 VA	70-76	25	82	40	M8	2.5	114	45.5	25	20.800	1159 62 3

V2A Stainless steel, 1.4301 /100 pc.

Suitable for all C profile rails with slot width 16–17 mm.

Clip and bolt. Polypropylene pressure sleeve, halogen-free, colour light grey RAL 7035.



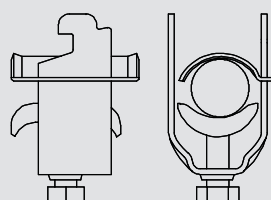


Clamp clip

Type	Clamping range D	Dimension A	Dimension B	Dimension C	Dimension G	Dimension t	Dimension H	Dimension L	Pack.	Weight	Item No.
	mm	mm	mm	mm	mm	mm	mm	mm	pcs	kg/100 pcs.	
2056N 12 VA	8-12	20	16	34	M6	1.5	34	34	100	2.700	1166 01 8
2056N 16 VA	12-16	20	20	34	M6	1.5	38	34	100	3.800	1166 02 6
2056N 22 VA	16-22	20	27	34	M6	1.5	44	34	100	4.400	1166 03 4
2056N 28 VA	22-28	20	33	34	M6	2	51	34	100	6.500	1166 04 2
2056N 34 VA	28-34	20	39	34	M8	2	59	37.5	100	8.000	1166 05 0
2056N 40 VA	34-40	20	45	34	M8	2	66	37.5	100	8.300	1166 06 9
2056N 46 VA	40-46	20	51	40	M8	2	72	37.5	100	11.700	1166 07 7
2056N 52 VA	46-52	20	57	40	M8	2	79	38.5	100	11.150	1166 08 5
2056N 58 VA	52-58	23	64	40	M8	2.5	86	45.5	100	15.200	1166 09 3
2056N 64 VA	58-64	23	70	40	M8	2.5	92	45.5	100	15.250	1166 10 7

V2A Stainless steel, 1.4301 /100 pc.

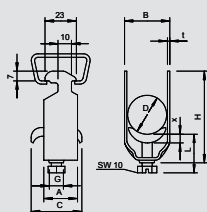
Suitable for all C profile rails with slot width 11–12 mm; at least 6.5 mm clear internal height and at least 18.5 mm clear internal width;
stainless steel clip and bolt, polypropylene pressure trough, halogen-free, light grey RAL 7035.



Type	Clamping range D	Dimension A	Dimension B	Dimension C	Dimension G	Dimension t	Dimension H	Dimension L	Pack.	Weight	Item No.
	mm	mm	mm	mm	mm	mm	mm	mm	pcs	kg/100 pcs.	
2056N SAS 8 VA	4-8	20	12	28	M6	1.5	30	32.5	100	2.900	1167 00 6
2056N SAS 12 VA	8-12	20	16	34	M6	1.5	34	34	100	3.700	1167 01 4
2056N SAS 16 VA	12-16	20	20	34	M6	1.5	38	34	100	4.200	1167 02 2
2056N SAS 22 VA	16-22	20	27	34	M6	1.5	44	34	100	4.850	1167 03 0
2056N SAS 28 VA	22-28	20	33	34	M6	2	51	34	100	6.600	1167 04 9

V2A Stainless steel, 1.4301 /100 pc.

For electrical connection of the braided shield of stripped cables, Delivery complete with counter-trough; pressure trough and VA counter-trough. A cable screen for protection against electromagnetic influences, can also contribute towards equipotential bonding as both ends are connected to the reference potential.



Type	Clamping range D	Dimension A	Dimension B	Dimension C	Dimension G	Dimension t	Dimension H	Dimension L	Pack.	Weight	Item No.
	mm	mm	mm	mm	mm	mm	mm	mm	pcs	kg/100 pcs.	
2056 M 12 VA	8-12	23	16	30	M6	1.5	44	32.5	50	3.200	1159 71 2
2056 M 16 VA	12-16	23	20	30	M6	1.5	44	32.5	50	3.500	1159 71 6
2056 M 22 VA	16-22	23	27	30	M6	1.5	60	32.5	50	4.400	1159 72 2
2056 M 28 VA	22-28	23	33	30	M6	2	58	44	50	6.100	1159 72 8
2056 M 34 VA	28-34	23	39	35	M8	2	66	44	50	7.700	1159 73 4
2056 M 40 VA	34-40	23	45	35	M8	2	72	44	25	8.600	1159 74 0
2056 M 46 VA	40-46	23	51	35	M8	2	79	44	25	9.600	1159 74 6
2056 M 52 VA	46-52	23	57	35	M8	2	86	44	25	10.400	1159 75 2
2056 M 58 VA	52-58	23	64	35	M8	2	93	44	15	13.100	1159 75 8
2056 M 64 VA	58-64	23	70	35	M8	2.5	99	56	15	14.500	1159 76 4
2056 M 70 VA	64-70	25	76	35	M8	2.5	106	56	15	16.100	1159 77 0
2056 M 76 VA	70-76	25	82	40	M8	2.5	114	56	10	18.300	1159 77 6

V2A Stainless steel, 1.4301 /100 pc.

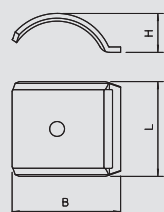
Suitable for all C profile rails with slot width 16–17 mm. Clip, bolt and pressure trough all made of rust-proof stainless steel.



Type	Clamping range D	Dimension L	Dimension B	Dimension H	Colour	Box qty.	Pack.	Weight	Item No.
	mm	mm	mm	mm		pcs	pcs	kg/100 pcs.	
2058FW 12 LGR	8-12	34	16.5	5	Light grey	2700	100	0.156	1197 12 6
2058FW 16 LGR	12-16	34	20	5	Light grey	2700	100	0.183	1197 16 9
2058FW 22 LGR	16-22	34	25.5	5.8	Light grey	2700	100	0.200	1197 22 3
2058FW 28 LGR	22-28	34	31.5	7.2	Light grey	1800	100	0.233	1197 28 2
2058FW 34 LGR	28-34	34	37	8.4	Light grey	1200	100	0.360	1197 34 7
2058FW 40 LGR	34-40	34	42.5	9.7	Light grey	1200	100	0.410	1197 40 1
2058FW 46 LGR	40-46	40	48	11	Light grey	1200	100	0.540	1197 46 0
2058FW 52 LGR	46-52	40	51.5	9.8	Light grey	1600	100	0.576	1197 52 5
2058FW 58 LGR	52-58	40	57	10.6	Light grey	1600	100	0.603	1197 58 4
2058FW 64 LGR	58-64	40	61.2	10.4	Light grey	600	50	0.680	1197 64 9
2058FW 70 LGR	64-70	40	67.2	10.4	Light grey	400	50	0.764	1197 70 3
2058FW 76 LGR	70-76	40	71.4	11	Light grey	500	25	0.924	1197 76 2
2058FW 82 LGR	76-82	40	75.6	11	Light grey	500	25	0.998	1197 82 7
2058FW 90 LGR	82-90	40	82.6	12	Light grey	500	25	1.070	1197 90 8
2058FW 100 LGR	90-100	40	89.5	12	Light grey	500	25	1.150	1197 99 1

PP Polypropylene /100 pc.

Irrespective of the rail, universally applicable by pushing onto a limb of the U clamp clip.



Type	Clamping range D	Dimension L	Dimension B	Dimension H	Box qty.	Pack.	Weight	Item No.
	mm	mm	mm	mm	pcs	pcs	kg/100 pcs.	
2058FW M 8 VA	4-8	35	13	2.25	1500	100	0.130	1197 09 6
2058FW M 12 VA	8-12	35	17.5	6.5	1200	100	0.160	1197 13 4
2058FW M 16 VA	12-16	35	21.5	7.7	1000	100	0.180	1197 17 7
2058FW M 22 VA	16-22	35	28	8.8	1200	100	0.200	1197 23 1
2058FW M 28 VA	22-28	35	34	10.4	1000	100	0.233	1197 29 0

V2A Stainless steel, 1.4301 /100 pc.

Irrespective of the rail, universally applicable by pushing onto a limb of the U clamp clip.



Connection, fastening and cable routing systems

Cable and pipe spacer clip



Type	Clamping range D mm	Hole size mm	Material thickness mm	Size	Bolt	Box qty. pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
733 16 G	14-16	6,5 x 10	1.5	M16	M5 x 14	500	50	2.430	1361 16 3
733 21 G	19-21	6,5 x 10	1.5	M20	M5 x 14	500	50	2.730	1361 20 1
733 29 G	24-29	6,5 x 10	1.5	M25	M5 x 18	450	50	3.480	1361 29 5
733 38 G	30-38	6,5 x 10	1.5	M32	M5 x 18	250	25	4.040	1361 38 4
733 48 G	39-48	6,5 x 10	1.5	M40	M5 x 18	300	25	4.810	1361 48 1
733 54 G	48-54	6,5 x 14	1.5	M50	M5 x 18	300	25	5.800	1361 51 1
733 63 G	63	8 x 18	2	M63	M5 x 18	160	20	6.940	1361 63 5

ST Steel **G** Electrogalvanised /100 pc.

Steel bolt material.

*Size M16 are not suitable for nail device.

* Sizes M16 to PG16 not suitable for bolt-firing tool.



Type	Clamping range D mm	Hole size mm	Material thickness mm	Size	Bolt	Box qty. pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
733 16 VA	14-16	6,5 x 10	1.5	M16	M5 x 12	500	50	2.430	1362 01 1
733 21 VA	19-21	6,5 x 10	1.5	M20	M5 x 16	500	50	2.740	1362 04 6
733 29 VA	24-29	6,5 x 10	1.5	M25	M5 x 16	450	50	3.475	1362 06 2
733 38 VA	30-38	6,5 x 10	1.5	M32	M5 x 18	250	25	4.500	1362 07 0
733 48 VA	39-48	6,5 x 10	1.5	M40	M5 x 18	300	25	5.200	1362 08 9
733 54 VA	48-54	6,5 x 14	1.5	M50	M5 x 18	300	25	5.800	1362 09 7
733 63 VA	63	8 x 18	2	M63	M5 x 18	160	20	6.940	1362 12 7

V2A Stainless steel, 1.4301 /100 pc.

Bolt material: VA

* Size M16 not suitable for nail device.

* Sizes M16 to PG16 not suitable for bolt-firing tool.



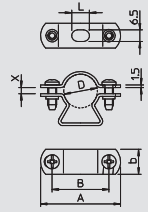
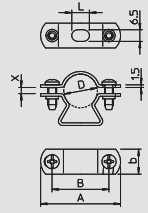
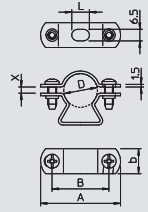
Type	Clamping range D mm	Hole size mm	Material thickness mm	Size	Bolt	Box qty. pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
733 16 ALU	14-16	6,5 x 10	1.5	M16	M5 x 12	500	50	0.980	1362 52 6
733 21 ALU	19-21	6,5 x 10	1.5	M20	M5 x 16	500	50	1.100	1362 54 2
733 29 ALU	24-29	6,5 x 10	1.5	M25	M5 x 16	450	50	1.390	1362 56 9
733 38 ALU	30-38	6,5 x 10	1.5	M32	M5 x 18	250	25	1.620	1362 57 7
733 48 ALU	39-48	6,5 x 10	1.5	M40	M5 x 18	300	25	1.950	1362 58 5
733 54 ALU	48-54	6,5 x 14	1.5	M50	M5 x 18	300	25	2.320	1362 59 3
733 63 ALU	63	8 x 18	2	M63	M5 x 18	160	20	2.990	1362 61 5

Al Aluminium /100 pc.

Bolt material: VA

* Size M16 not suitable for nail device.

* Sizes M16 to PG16 not suitable for bolt-firing tool and nail device.



starQuick clip



Type	Size	Clamping range D mm	Breaking load kN	Colour	Box qty. pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
SQ-10 LGR	10	9.5-12	0.5	Light grey	1200	100	0.560	2146 05 3
SQ-12 LGR	12-14	11.5-15	0.55	Light grey	1200	100	0.540	2146 06 1
SQ-15 LGR	15-16	14-16.5	0.6	Light grey	1200	100	0.580	2146 09 6
SQ-17 LGR	17-19	16-20	0.7	Light grey	800	100	0.640	2146 11 8
SQ-20 LGR	20-23	19.5-23.5	0.8	Light grey	600	50	0.670	2146 13 4
SQ-25 LGR	25-28	24-28	0.85	Light grey	600	50	0.970	2146 20 7
SQ-28 LGR	28-32	27.5-32	0.9	Light grey	400	50	1.070	2146 21 5
SQ-32 LGR	32-35	31.2-35.8	1	Light grey	400	50	1.230	2146 25 8
SQ-36 LGR	35-40	35-40.1	1.1	Light grey	300	25	1.510	2146 29 0
SQ-40 LGR	40-44	39.3-44.5	1.2	Light grey	200	25	1.710	2146 32 0
SQ-47 LGR	45-50	44-50	1.2	Light grey	200	25	1.980	2146 36 3
SQ-51 LGR	50-54	48-55	1.4	Light grey	180	15	2.250	2146 44 4
SQ-59 LGR	59-65	58.5-65	1.5	Light grey	180	15	3.300	2146 48 7

PA Polyamide /100 pc.

Can be arranged next to each other to size SQ-28.

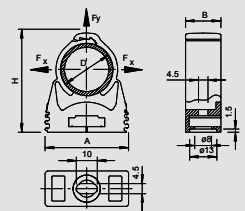
Break load: with bolt DIN 96; diameter 4.5 mm, minimum break load at 20°.

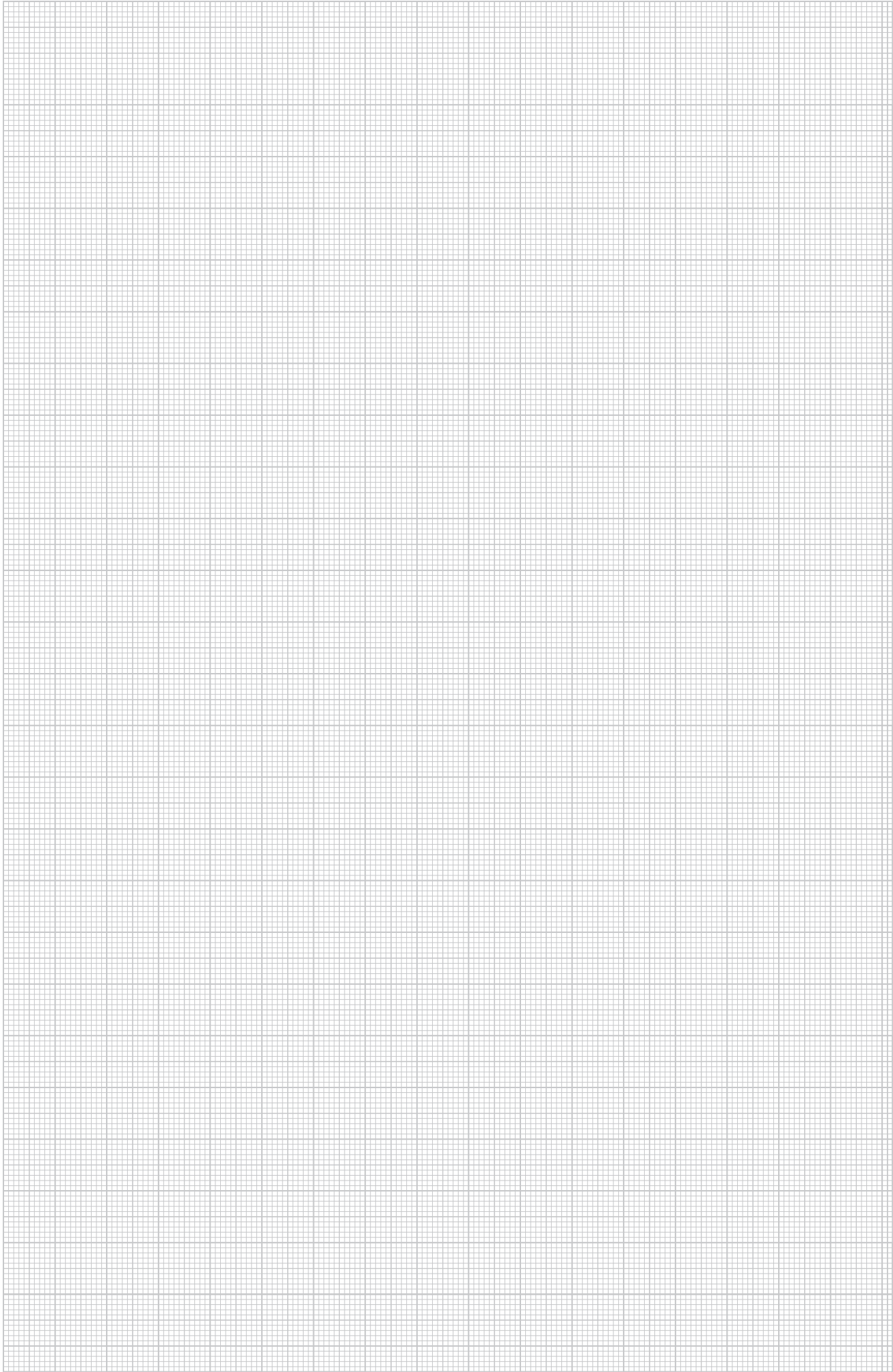
starQuick clip Type SQ... a comprehensive programme of quality clips ideal for the use in outside areas such as parking garages, under bridges and on the exterior of steel structures. Climate conditions have no chance: the starQuick clips are made from UV weather-resistant polyamide.

The starQuick clips are available in 13 different sizes with a clamping range of 10-65 mm, allowing a problem-free installation on different pipe systems. starQuick is suitable for plastic and metal pipes, as well as electrical and sanitary installations. The clips can be installed on the wall and ceiling. Mounting is amazingly fast and uncomplicated, without the use of a tool. Mounting of multiple pipes is also really easy:

- By arranging the single clips
- By using the double bracket, allowing a firm hold and spacing by heavy loads.
- A rail system allows for an open spacing and numbering of the clips.




starQuick is reliable and can support heavy loads. A patented safety system guarantees that the pipes stay where they are. The pipe is secure in the all around closed clip.







Surge protection device for energy technology, arrester, Type 1 (industry)

	Earthing and equipotential bonding	Cross-connectors	50
		Equipotential bonding rail for outside installation	50
		Strip earthing clip	50
	Surge protection in energy technology	Lightning current and surge arrester / V50, 280 V	51
		Surge arrester / V20, 280V	51
		Surge arrester / VF	51
	Surge protection in data and video technology and MSR systems	TV technology	52
		HF technology	52
		Network technology	52



Earthing and equipotential bonding

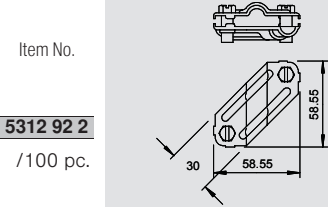


Cross-connectors

Type	Fit	Material symbol	Inter-face	Pack.	Weight	Item No.
				pcs	kg/100 pcs.	
250 VA	Rd 8-10/FL30	V2A	—	25	10.260	5312 92 2

V2A Stainless steel, 1.4301

- Fit: Rd 8-10 x Rd 8-10
- Fit: Rd 8-10 x FL 30
- Fit: FL 30 x FL 30
- Installed with 2 hex-head screws M8 x 20 (F)



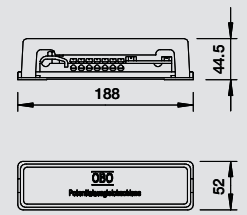
Equipotential bonding rail for outside installation

Type	Colour	Pack.	Weight	Item No.
		pcs	kg/100 pcs.	
1809 A	Black	1	23.000	5015 11 1

V2A Stainless steel, 1.4301

Connection options:

- 7 single or multi-core conductors to 25 mm² or fine-core conductors to 16 mm²
- 1 round conductor Rd 8-10
- 1 flat strip to FL30 or round conductor Rd 8-10
- Base plate and covering hood from polystyrene
- Colour: black, UV-resistant
- Screws and over-piece from VA
- Capable of carrying lightning current 100 kA (10/350)

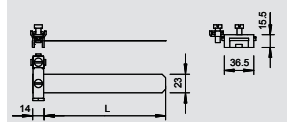


Strip earthing clip

Type	for pipe Ø		Pack.	Weight	Item No.
	inch	mm			
927 2	3/8-4	17.2-114	10	8.550	5057 52 3

V2A Stainless steel, 1.4301

- For pipes of Ø 3/8 - 6"
- Connection options: Max. 2 cables 2.5-25 mm²
- Round conductor Rd 8
- Clip element, bolts and tightening strap made of rustproof stainless steel (VA)

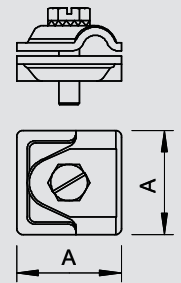


Variable quick connector

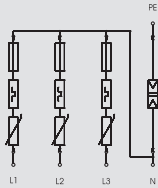
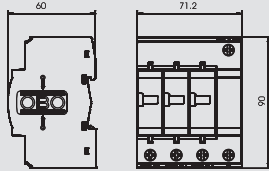
Type	Fit	Dimension A	Material symbol	Pack.	Weight	Item No.
				pcs	kg/100 pcs.	
249 8-10 VA	Rd 8-10	40	V2A	50	10.700	5311 55 1

V2A Stainless steel, 1.4301

- For T, cross and parallel connectors
- Quick installation using hex-head screw M10 x 30, high-grade stainless steel
- Conforms to the requirements according to DIN VDE 0185-305 (IEC 62305)



Lightning current and surge arrester / V50, 280 V



Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V50-B+C 1+NPE	280	1 + NPE	1	31.300	5093 65 3
V50-B+C 3+NPE	280	3+NPE	1	55.000	5093 65 4

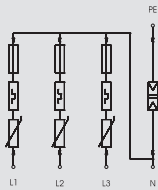
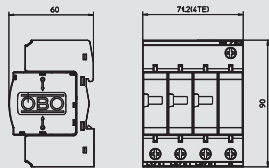
/pc.

Combination arrester set, lightning and surge arrester Type 1+2 to DIN EN 61643-11 (B+C to VDE 0675 part 6).

- For lightning protection equipotential bonding to VDE 0185-305 (IEC 62305)
- Lightning current arresting capacity 12.5 kA (10/350) per pole and 50 kA (10/350) in total
- Universally suitable for TN and TT systems
- With new MultiBase base with multi-connection terminals
- Complete unit, consisting of cover and base, pre-mounted and ready for connection
- Arrester, connectable with dynamic cut-off unit
- With visual function display
- Voltage protection level < 1,3 kV
- Encapsulated, non-extinguishing zinc oxide varistor arrester for use in distributor housings
- Labelled connections

Application: Equipotential bonding in buildings, even those with external lightning protection of class III and IV, and in standard distributor housings.

Surge arrester / V20, 280V



Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-C 1+NPE-280	280	1+NPE	1	22.300	5094 65 0
V20-C 3+NPE-280	280	3 + NPE	1	41.700	5094 65 6

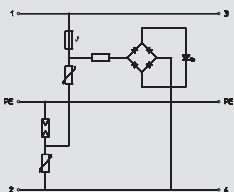
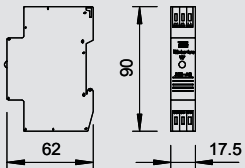
/pc.

V 20-C/...: Surge protection device Type 2 (Class C) to VDE 0675 part 6-11 (DIN EN 61643-11).

- With new MultiBase base part and Multi-connection clamps
- Complete unit consisting of upper part and base, pre-mounted and ready for connection
- VDE-tested
- Suitable for TN- and TT network systems
- Plug-in upper part; upper part can be separated from base without tools
- Including thermal and dynamic separating device
- With visual display of defects
- High current conductivity and long service life
- Marked connections

Application example: residential buildings, single-family homes without outer lightning protection system.

Surge arrester / VF



Type	U max AC V	U max DC V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
VF12-AC DC	13.5	18	12 V version	1	9.000	5097 45 2
VF24-AC/DC	34	46	24 V version	1	8.000	5097 60 6

/pc.

Surge protection device, fine protection Type 3 to EN 61643-11 (Class D to VDE 0675, Parts 6-11)

- Suitable for DC and AC voltage systems
- With visual function display
- With installation-friendly, screwless connection terminals
- In a space-saving 17.5 mm grid
- Y circuit

Application: Universal use on 35 mm hat profile rail in every normal commercially available distributor housings.



Surge protection in data and video technology and MSR systems



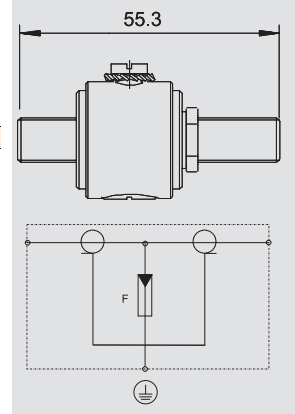
TV technology

Type	Connection system	transmission frequency	Pack.	Weight	Item No.
		f	pcs	kg/100 pcs.	
DS-F W/W	SAT-F	0 - 4 GHz	1	9.000	5093 27 2

/pc.

Coaxial data cable protection devices

- Basic protection
- High pulsed current carrying capacity 2 x 2.5 kA (10/350 μ s)
- Simple installation (adapter plug), m = plug/f = female connector
- Various plug combinations
- With F connector
- Optimised transmission behaviour
- Including OBO M25 Quick clip for simple installation



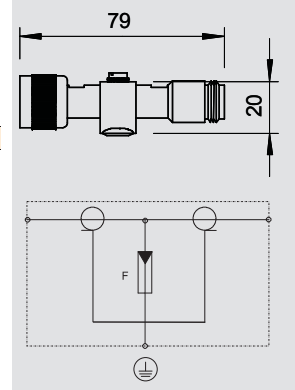
HF technology

Type	Connection system	transmission frequency	Pack.	Weight	Item No.
		f	pcs	kg/100 pcs.	
DS-N M/W	N connector	0 - 5,3 GHz	1	12.200	5093 99 6

/pc.

Coaxial data cable protection devices for basic protection

- Basic protection
- High pulsed current carrying capacity 2 x 2.5 kA (10/350 μ s)
- Simple mounting (adapter plug), m = plug/f = female connector
- Optimised transmission behaviour
- 5-year guarantee
- With V connector
- Including OBO M25 Quick clip for simple installation



Network technology

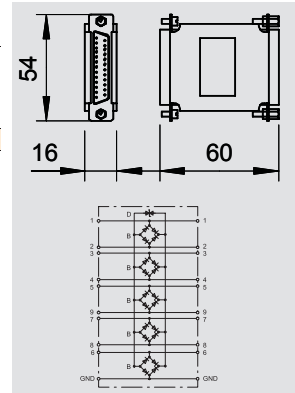
Type	Highest continuous voltage V	Version	Pack.	Weight	Item No.
			pcs	kg/100 pcs.	
SD25-V24 25	18	SUB-D-25; V24 RS232	1	8.000	5080 27 4

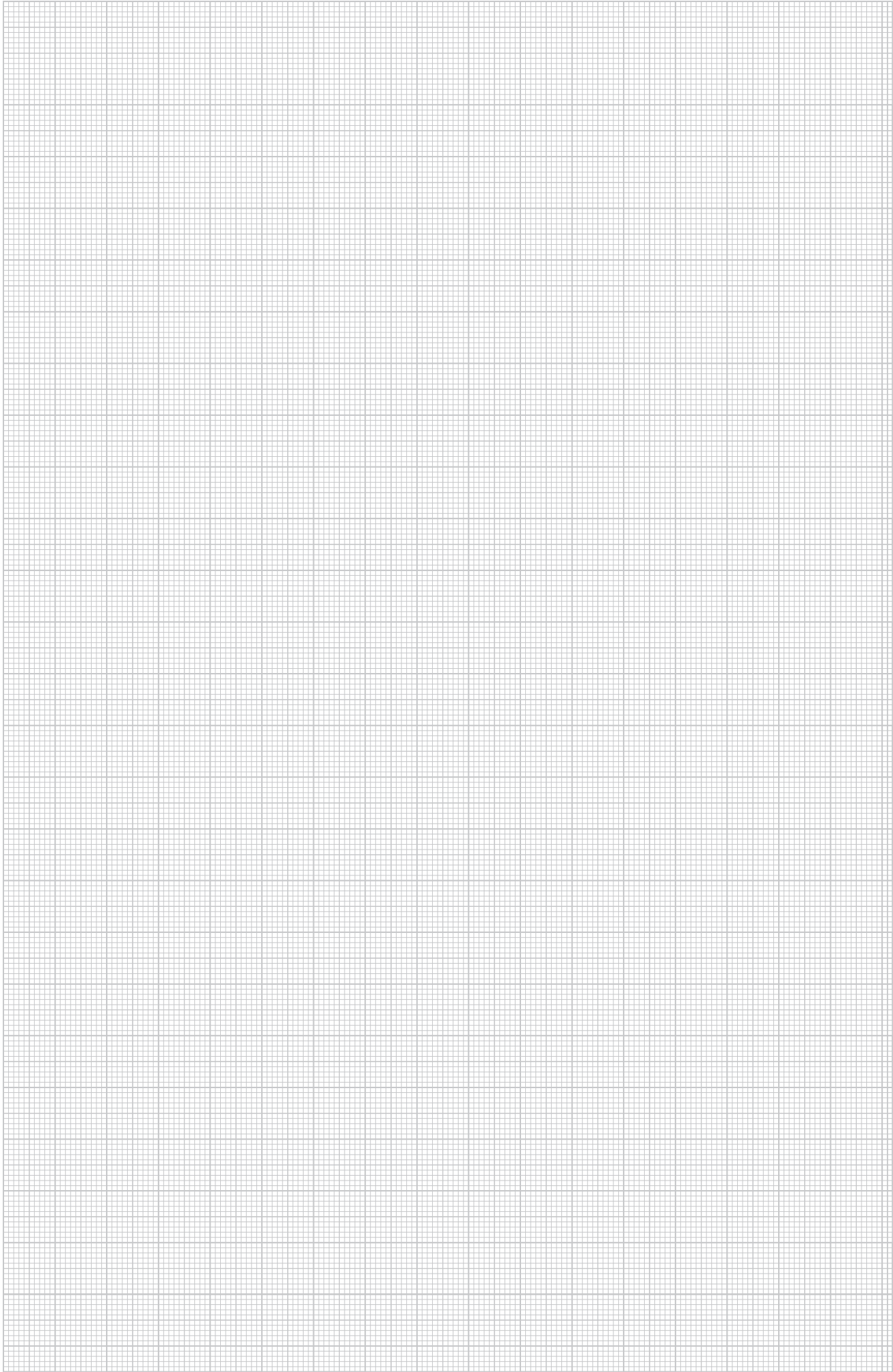
/pc.

Data cable protection devices, serial interface

- Different connection systems available
- Low protection level





Application: PLC, alarm systems, controllers







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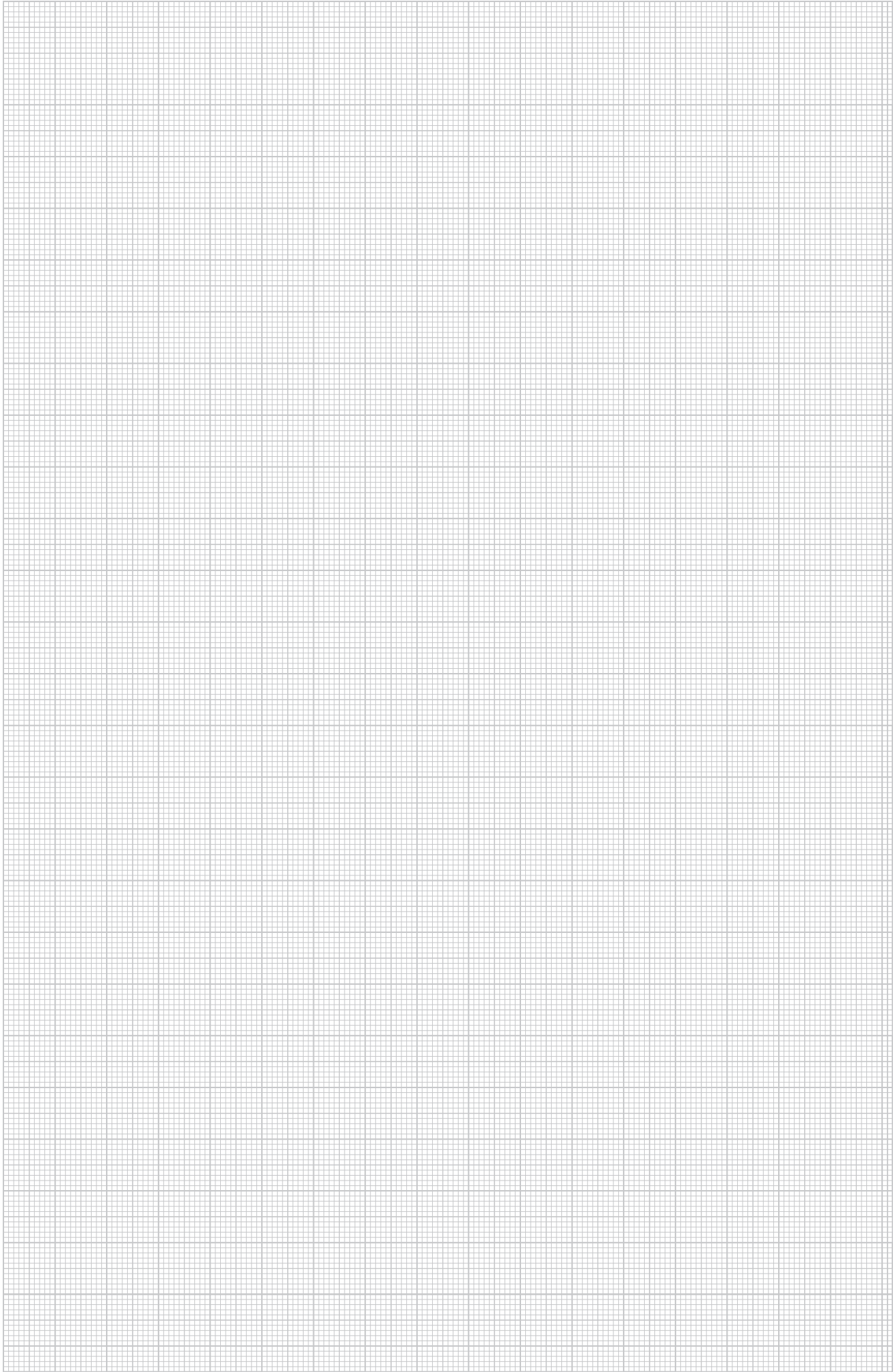
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Numeric directory

Structure of the EAN number: Country code **40**

Manufacturer code **1219** (for articles beginning with **0: 1010**)

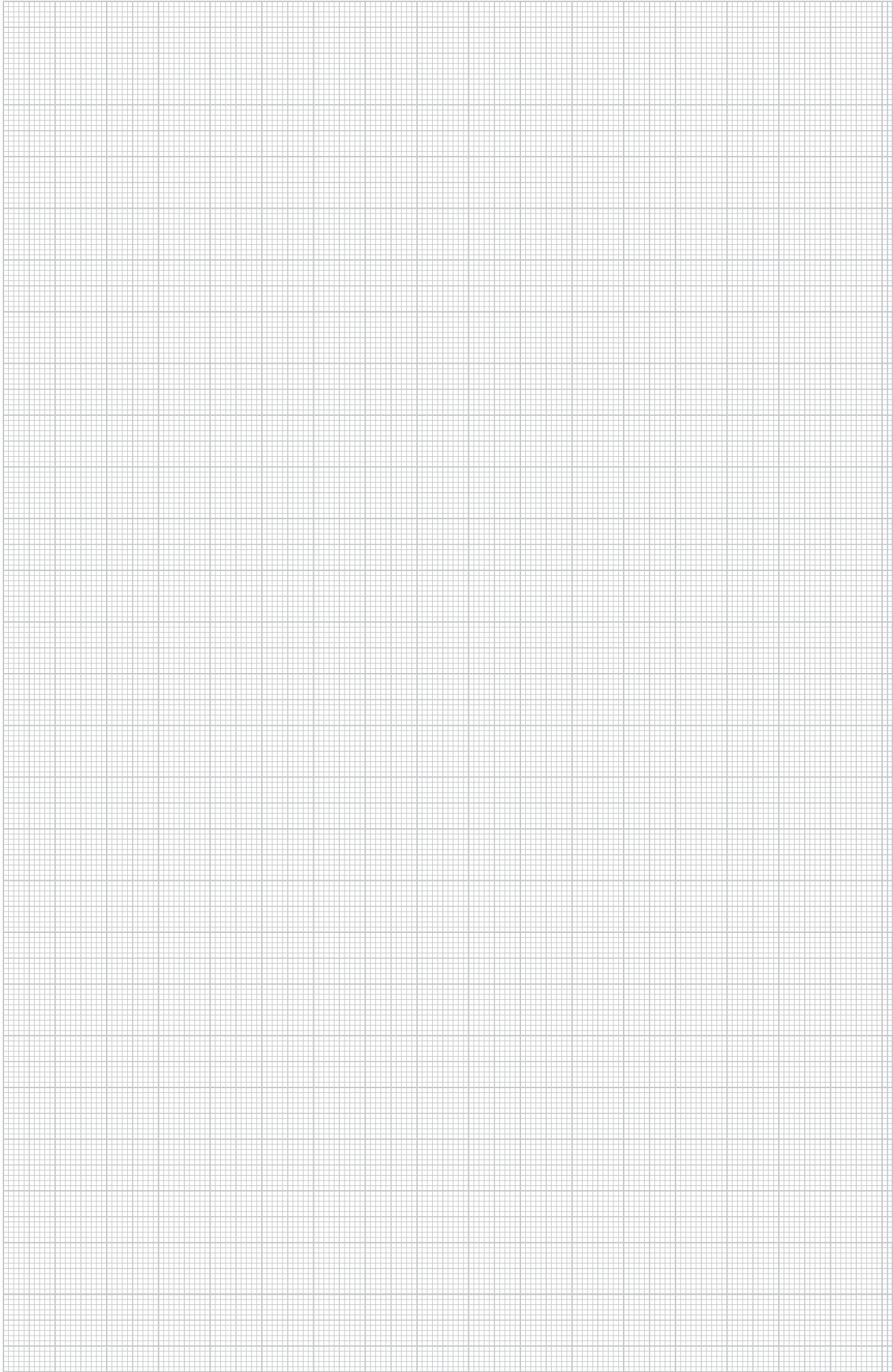
Individual EAN-C **5647589**

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		/100 m		5083535	1197 52 5		45	5303299	2007 64 9		33	5381297	2047 50 5		41
5047650	1119 70 2		43	5083597	1197 58 4		45	5303305	2007 65 7		33	5381303	2047 50 6		41
5047711	1119 72 9		43	5083658	1197 64 9		45	5303312	2007 66 5		34	5381334	2047 50 7		41
				5083719	1197 70 3		45							/100 m	
		/100 pc.		5083771	1197 76 2		45	5246909	2011 50 6		39	5622246	2047 65 0		40
5732549	1154 97 0		13	5083832	1197 82 7		45	5246916	2011 51 4		39	5622253	2047 65 1		40
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5732570	1154 97 5		14	5083955	1197 99 1		45	5246930	2011 53 0		39	5622291	2047 65 3		40
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5063674	1159 52 6		44	5116233	1361 29 5		46					5622352	2047 66 0		40
5063735	1159 53 4		44	5116295	1361 38 4		46	5533177	2022 86 2		37	5622369	2047 66 1		40
5063797	1159 54 2		44	5116356	1361 48 1		46	5533238	2022 86 4		37	5622376	2047 66 2		40
5063858	1159 55 0		44	5116417	1361 51 1		46	5533658	2022 86 6		37			/100 pc.	
5063919	1159 56 9		44	5116530	1361 63 5		46	5533719	2022 86 8		37	5622406	2047 66 5		42
5063971	1159 57 7		44					5533771	2022 87 0		37	5622413	2047 66 6		42
5064039	1159 58 5		44	5116714	1362 01 1		46	5533832	2022 87 2		37	5622420	2047 66 8		42
5064091	1159 59 3		44	5116837	1362 04 6		46	5533894	2022 87 4		37	5622437	2047 66 9		42
5064152	1159 60 7		44	5116950	1362 06 2		46	5533955	2022 87 6		37	5622444	2047 67 0		42
5064213	1159 61 5		44	5117018	1362 07 0		46					5622475	2047 67 3		41
5064275	1159 62 3		44	5117070	1362 08 9		46	5481454	2032 37 8		38	5622482	2047 67 4		41
5668190	1159 71 2		45	5117131	1362 09 7										

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		/100 pc.				/100 pc.				/m				/100 pc.	
5622659	2047 69 5		41	5036616	2204 00 0			5706762	6045 85 4		19	6199815	6406 12 2		13
5468851	2047 93 4		42	5210672	2204 01 0			5706779	6045 85 6		19				
5468912	2047 94 2		42					5706786	6045 85 8		19	6077595	6406 13 8		13
5468974	2047 95 0		42	5228011	2340 03 8		40	5706793	6045 86 0		19	6078370	6406 14 2		13
5469155	2047 96 9		42					5706809	6045 86 2		19	6199877	6406 15 7		13
5469216	2047 97 7		42			/pc.		5706830	6045 86 4		19	6077717	6406 18 9		13
5469278	2047 98 5		42	5577768	2363 01 0		39	6561971	6045 95 2		18	6078431	6406 19 3		13
5469339	2047 99 3		42			/VPE		6562039	6045 96 0		18	6199990	6406 20 3		13
				5686354	2363 01 5		39	6562091	6045 97 9		18	6200238	6406 52 1		13
						/pc.		6562213	6045 99 5		18	6200290	6406 55 6		13
5874157	2048 90 6		37	5687771	2363 01 9		39					6200351	6406 60 2		13
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5944539	2048 92 2		37					6562398	6046 02 9		18	6200535	6406 72 6		13
5944591	2048 93 0		37			/100 pc.						6200719	6406 80 7		13
5944652	2048 94 9		37	5255857	3156 49 4		13					6822072	6406 87 0		13
5088998	2048 95 7		37	5255970	3156 51 6		13	6387618	6055 05 2		20	6201310	6406 97 1		13
5089056	2048 96 5		37	5256038	3156 52 4		13					6201372	6406 99 8		13
5089117	2048 97 3		37					6059652	6055 10 9		20				
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				5256632	3158 63 2		13	6387731	6055 14 1		20	6201976	6407 57 9		13
5879916	2054 48 5		36					6059713	6055 20 6		20				
5825319	2054 50 7		36					6059775	6055 30 3		20				
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5432258	2055 92 9		36					6059898	6055 50 8		20	6498079	6490 02 6		27
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								6059959	6055 52 4		20	6209538	6490 10 7	/100 pc.	27
5808992	2086 01 8		38	5916215	5080 27 4		52	6060016	6055 53 2		20	5705468	6490 10 9		28
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5810254	2086 11 1		38	5240099	5094 65 6		51	6061099	6058 10 8		20	6209651	6490 15 8		27
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5810735	2086 12 9		38	5447610	5097 60 6		51	6061273	6058 39 6		20	6209835	6490 96 4		28
5810858	2086 13 5		38					6061334	6058 50 7		20				
5810971	2086 14 1		38					6061396	6058 60 4		20			/pc.	
5811152	2086 14 7		38			/100 pc.		6061457	6058 62 0		20	6209897	6498 01 9		28
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5474135	2091 60 7		38	6053711	6045 07 3		18					5706892	7061 44 9		19
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5931751	2091 62 3		38	6053834	6045 13 8		18	6065592	6067 12 3		21	5706908	7061 54 6		19
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5595717	2146 20 7		46	5706687	6045 83 4		18	6016501	6178 61 6			6506651	7097 04 2		24
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5595830	2146 25 8		46	5706700	6045 83 8		18	6016860	6178 62 4			6506774	7097 06 9		24
5204275	2146 29 0		46	5706717	6045 84 0		18	6016983	6178 62 6			6506835	7097 07 7		24
5595892	2146 32 0		46	5706724	6045 84 2		18	6017102	6178 62 8			6506897	7097 11 5		24
5204398	2146 36 3		46	5706731	6045 84 4		18	6017225	6178 63 0			6506958	7097 12 3		24
5595953	2146 44 4		46	5706748	6045 85 0		19					6507016	7097 13 1		24
5204510	2146 48 7		46	5706755	6045 85 2		19					6507078	7097 15 8		24

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6980246	7097 40 9		24
6980369	7097 42 5		24
6980420	7097 43 3		24
6980482	7097 44 1		24
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5707646	7098 00 2		26
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5708087	7098 14 2		27
5708094	7098 14 4		27
5708100	7098 14 6		27
5708117	7098 14 8		27
5708124	7098 15 0		27
5708131	7098 15 2		27
5708148	7098 16 2		27
5708155	7098 16 4		27
5708162	7098 16 6		27
5708179	7098 16 8		27
5708186	7098 17 0		27
5708193	7098 17 2		27
5708209	7098 17 4		27
5708216	7098 17 6		27
5708223	7098 17 8		27
5708230	7098 18 0		27
5708247	7098 18 2		27
5708544	7102 56 2		25
5708551	7102 58 2		25
6303731	7102 67 4		24
6420131	7102 77 1		24
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6509355	7103 36 0		25
5708575	7103 36 8		25
6509294	7103 38 7		25
5708599	7103 39 3		25
6509232	7103 48 4		25
5708636	7103 49 2		26
6239412	7103 52 2		26
5708650	7103 52 9		26
		/m	
6582136	7103 61 1		12
6468911	7103 64 3		12
5705529	7104 35 6		12
5705536	7104 35 8		12
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5705574	7105 67 5		12



Type listing

Structure of the EAN number: Country code **40**

Manufacturer code **1219** (for articles beginning with **0: 1010**)

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61 325 LGR	Light grey 2000/ PA	5879916	2054 48 5	/100 pc.	36	168 MS M40	M40 x 1,5 45/ CuZn / N	5473411	2090 57 0	/100 pc.	39
						168 MS M50	M50 x 1,5 55/ CuZn / N	5474012	2090 58 9		39
61 525 LGR	Light grey 2000/ PA	5825319	2054 50 7		36	168 MS M63	M63 x 1,5 68/ CuZn / N	5474074	2090 59 7		39
61 825 LGR	Light grey 1000/ PA	5477976	2054 52 3		36	169 MS M12	M12 x 1,5/ CuZn / N	5474135	2091 60 7		38
						169 MS M16	M16 x 1,5/ CuZn / N	5931690	2091 61 5		38
72 VDE	Transparent 500/ PA	5432258	2055 92 9		36	169 MS M20	M20 x 1,5/ CuZn / N	5931751	2091 62 3		38
						169 MS M25	M25 x 1,5/ CuZn / N	5931812	2091 63 1		38
74 D	Transparent 200/ PA	5184393	2056 17 8		37	169 MS M32	M32 x 1,5/ CuZn / N	5931874	2091 65 8		38
						169 MS M40	M40 x 1,5/ CuZn / N	5474197	2091 66 6		38
80 CE SW	Black 50/ PP	5300106	2056 59 3		36	169 MS M50	M50 x 1,5/ CuZn / N	5474791	2091 67 4		38
						169 MS M63	M63 x 1,5/ CuZn / N	5474852	2091 68 2		38
90 M12 GE	M12 x 1,5 Light grey/ PE	5481454	2032 37 8		38						
90 M16 GE	M16 x 1,5 Light grey/ PE	5481515	2032 38 0		38	192	1200/ St / DD	6209774	6490 90 5		28
90 M20 GE	M20 x 1,5 Light grey/ PE	5481577	2032 38 2		38	197 VA4301	1800/ V2A	6209835	6490 96 4		28
90 M25 GE	M25 x 1,5 Light grey/ PE	5481638	2032 38 4		38	249 8-10 VA	40/ V2A	5417910	5311 55 1		50
90 M32 GE	M32 x 1,5 Light grey/ PE	5481690	2032 38 6		38	250 VA	/ V2A	5418757	5312 92 2		50
90 M40 GE	M40 x 1,5 Light grey/ PE	5481812	2032 38 8		38						
108 M12 PS	M12 x 1,5 15/ PS	5409274	2033 00 3		37	574 03 30 BA	17 x 1.0 300/ V2A	6209538	6490 10 7		27
						574 03 30 STGR	17 x 1.0 300/ St / G	5705468	6490 10 9		28
108 M16 PS	M16 x 1,5 20/ PS	5424031	2033 00 7		37	574 03 30 SW	17 x 1.0 300/ V2A	5705475	6490 11 1		28
108 M20 PS	M20 x 1,5 24/ PS	5426554	2033 01 1		37	574 03 45 BA	17 x 1.0 450/ V2A	6209590	6490 12 3		27
						574 03 45 STGR	17 x 1.0 450/ St / G	5705482	6490 12 5		28
108 M25 PS	M25 x 1,5 30/ PS	5426615	2033 01 6		37	574 03 45 SW	17 x 1.0 450/ V2A	5705499	6490 12 7		28
108 M32 PS	M32 x 1,5 37/ PS	5431299	2033 02 1		37	574 03 55 STGR	17 x 1.0 550/ St / G	5705505	6490 13 5		28
						574 03 55 SW	17 x 1.0 550/ V2A	5705895	6490 13 7		28
108 M40 PS	M40 x 1,5 46/ PS	5434177	2033 02 6		37	574 03 65 STGR	17 x 1.0 650/ St / G	5705512	6490 14 5		28
108 M50 PS	M50 x 1,5 56/ PS	5452478	2033 03 2		37	574 03 65 SW	17 x 1.0 650/ V2A	5705901	6490 14 7		28
108 M63 PS	M63 x 1,5 70/ PS	5464778	2033 03 8		37					/100 m	
						574 03 BA	17 x 1.0 2250/ V2A	6209415	6490 03 4		27
						574 03 BR	17 x 1.0 2250/ V4A	5705888	6490 02 8		27
115 GR-GN	Natural 90	5228011	2340 03 8		40	574 03 SW	17 x 1.0 2250/ V2A	6498079	6490 02 6		27
116 M12 LGR PA	M12x1,5 Light grey/ PA	5874157	2048 90 6		37					/100 pc.	
116 M16 LGR PA	M16x1,5 Light grey/ PA	5874218	2048 91 4		37	574 05 55 GNBG	16.5 x 1.2 550/ V2A	6209651	6490 15 8		27
116 M20 LGR PA	M20x1,5 Light grey/ PA	5944539	2048 92 2		37	574 05 65 GNBG	16.5 x 1.2 650/ V2A	6209712	6490 17 4		27
116 M25 LGR PA	M25x1,5 Light grey/ PA	5944591	2048 93 0		37	574 G STGR	17 x 1.0 1350/ St / G	6209354	6490 01 8	/100 m	27
116 M32 LGR PA	M32x1,5 Light grey/ PA	5944652	2048 94 9		37	575	/ St	6209897	6498 01 9	/pc.	28
116 M40 LGR PA	M40x1,5 Light grey/ PA	5088998	2048 95 7		37	576	/ St	6209958	6498 02 7		28
116 M50 LGR PA	M50x1,5 Light grey/ PA	5089056	2048 96 5		37						
116 M63 LGR PA	M63x1,5 Light grey/ PA	5089117	2048 97 3		37	733 16 ALU	14-16 6,5 x 10/ Al	5450252	1362 52 6	/100 pc.	46
129 M16 SW	M16 Black/ PE	5468851	2047 93 4		42	733 16 G	14-16 6,5 x 10/ St / G	5115991	1361 16 3		46
129 M20 SW	M20 Black/ PE	5468912	2047 94 2		42	733 16 VA	14-16 6,5 x 10/ V2A	5116714	1362 01 1		46
129 M25 SW	M25 Black/ PE	5468974	2047 95 0		42	733 21 ALU	19-21 6,5 x 10/ Al	5450375	1362 54 2		46
129 M32 SW	M32 Black/ PE	5469155	2047 96 9		42	733 21 G	19-21 6,5 x 10/ St / G	5116110	1361 20 1		46
129 M40 SW	M40 Black/ PE	5469216	2047 97 7		42	733 21 VA	19-21 6,5 x 10/ V2A	5116837	1362 04 6		46
129 M50 SW	M50 Black/ PE	5469278	2047 98 5		42	733 29 ALU	24-29 6,5 x 10/ Al	5450498	1362 56 9		46
129 M64 SW	M63 Black/ PE	5469339	2047 99 3		42	733 29 G	24-29 6,5 x 10/ St / G	5116233	1361 29 5		46
						733 29 VA	24-29 6,5 x 10/ V2A	5116950	1362 06 2		46
168 MS M12	M12 x 1,5 16/ CuZn / N	5471738	2090 51 1		39	733 38 ALU	30-38 6,5 x 10/ Al	5450559	1362 57 7		46
168 MS M16	M16 x 1,5 20/ CuZn / N	5471790	2090 53 8		39						
168 MS M20	M20 x 1,5 22/ CuZn / N	5472810	2090 54 6		39	733 38 G	30-38 6,5 x 10/ St / G	5116295	1361 38 4		46
168 MS M25	M25 x 1,5 28/ CuZn / N	5472933	2090 55 4		39						
168 MS M32	M32 x 1,5 35/ CuZn / N	5472995	2090 56 2		39						

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733 38 VA	30-38 6,5 x 10/ V2A	5117018	1362 07 0	/100 pc.	46	2056 34 VA	28-34 23/ V2A	5063858	1159 55 0	/100 pc.	44
733 48 ALU	39-48 6,5 x 10/ Al	5450610	1362 58 5		46	2056 40 FT	34-40 23/ ST / FT	5064756	1160 40 0		44
733 48 G	39-48 6,5 x 10/ St / G	5116356	1361 48 1		46	2056 40 VA	34-40 23/ V2A	5063919	1159 56 9		44
733 48 VA	39-48 6,5 x 10/ V2A	5117070	1362 08 9		46	2056 46 FT	40-46 23/ ST / FT	5064817	1160 45 1		44
733 54 ALU	48-54 6,5 x 14/ Al	5450672	1362 59 3		46	2056 46 VA	40-46 23/ V2A	5063971	1159 57 7		44
733 54 G	48-54 6,5 x 14/ St / G	5116417	1361 51 1		46	2056 52 FT	46-52 23/ ST / FT	5064879	1160 52 4		44
733 54 VA	48-54 6,5 x 14/ V2A	5117131	1362 09 7		46	2056 52 VA	46-52 23/ V2A	5064039	1159 58 5		44
733 63 ALU	63-63 8 x 18/ Al	5590293	1362 61 5		46	2056 58 FT	52-58 23/ ST / FT	5064930	1160 58 3		44
733 63 G	63-63 8 x 18/ St / G	5116530	1361 63 5		46	2056 58 VA	52-58 23/ V2A	5064091	1159 59 3		44
733 63 VA	63-63 8 x 18/ V2A	5117254	1362 12 7		46	2056 64 FT	58-64 23/ ST / FT	5064992	1160 64 8		44
822 10 FT	10/ St / FT	5013693	1014 01 3		44	2056 64 VA	58-64 23/ V2A	5064152	1159 60 7		44
822 16 FT	15,2 M16/ St / FT	5013877	1014 09 9		44	2056 70 FT	64-70 25/ ST / FT	5065050	1160 70 2		44
822 20 FT	20 M20/ St / FT	5013990	1014 13 7		44	2056 70 VA	64-70 25/ V2A	5064213	1159 61 5		44
822 25 FT	25 M25/ St / FT	5567011	1014 50 1		44	2056 76 FT	70-76 25/ ST / FT	5065111	1160 76 1		44
822 32 FT	32 M32/ St / FT	5567073	1014 52 8		44	2056 76 VA	70-76 25/ V2A	5064275	1159 62 3		44
822 40 FT	40 M40/ St / FT	5567134	1014 53 6		44	2056 82 FT	76-82 25/ ST / FT	5065173	1160 82 6		44
822 50 FT	50 M50/ St / FT	5567493	1014 54 4		44	2056 90 FT	82-90 25/ ST / FT	5065234	1160 90 7		44
822 63 FT	63 M63/ St / FT	5567554	1014 55 2		44	2056 M 12 VA	8-12 23/ V2A	5668190	1159 71 2		45
823 16 FT	16 6,5 x 10/ St / FT	5015130	1015 09 5		44	2056 M 16 VA	12-16 23/ V2A	5668206	1159 71 6		45
823 20 FT	20 6,5 x 10/ St / FT	5015253	1015 13 3		44	2056 M 22 VA	16-22 23/ V2A	5668213	1159 72 2		45
823 25 FT	25 6,5 x 10/ St / FT	5567615	1015 49 4		44	2056 M 28 VA	22-28 23/ V2A	5668220	1159 72 8		45
823 32 FT	32 6,5 x 10/ St / FT	5567738	1015 49 6		44	2056 M 34 VA	28-34 23/ V2A	5668268	1159 73 4		45
823 40 FT	40 6,5 x 10/ St / FT	5567790	1015 49 8		44	2056 M 40 VA	34-40 23/ V2A	5668275	1159 74 0		45
823 50 FT	50 6,5 x 10/ St / FT	5567851	1015 50 0		44	2056 M 46 VA	40-46 23/ V2A	5668282	1159 74 6		45
823 54 FT	54 6,5 x 10/ St / FT	5015550	1015 42 7		44	2056 M 52 VA	46-52 23/ V2A	5668299	1159 75 2		45
823 63 FT	63 6,5 x 10/ St / FT	5567912	1015 50 8		44	2056 M 58 VA	52-58 23/ V2A	5668305	1159 75 8		45
927 2	/ V2A	5388630	5057 52 3		50	2056 M 64 VA	58-64 23/ V2A	5668312	1159 76 4		45
1268 L 1M VA	/ V2A	5627074	1104 49 8	/100 m	43	2056 M 70 VA	64-70 25/ V2A	5668329	1159 77 0		45
1268 L 2M VA	/ V2A	5627081	1104 50 1		43	2056 M 76 VA	70-76 25/ V2A	5668336	1159 77 6		45
1809 A	Black/ V2A	5959427	5015 11 1	/pc.	50	2056N 12 VA	8-12 20/ V2A	5069256	1166 01 8		45
2033 M	16 25/ V2A	5036616	2204 00 0	/100 pc.		2056N 16 VA	12-16 20/ V2A	5069317	1166 02 6		45
2034 M	10 50/ V2A	5210672	2204 01 0			2056N 22 VA	16-22 20/ V2A	5069379	1166 03 4		45
2056 100 FT	90-100 25/ ST / FT	5065296	1160 99 0		44	2056N 28 VA	22-28 20/ V2A	5069430	1166 04 2		45
2056 12 FT	8-12 23/ ST / FT	5064459	1160 12 5		44	2056N 34 VA	28-34 20/ V2A	5069492	1166 05 0		45
2056 12 VA	8-12 23/ V2A	5063612	1159 51 8		44	2056N 40 VA	34-40 20/ V2A	5069553	1166 06 9		45
2056 16 FT	12-16 23/ ST / FT	5064510	1160 16 8		44	2056N 46 VA	40-46 20/ V2A	5069614	1166 07 7		45
2056 16 VA	12-16 23/ V2A	5063674	1159 52 6		44	2056N 52 VA	46-52 20/ V2A	5069676	1166 08 5		45
2056 22 FT	16-22 23/ ST / FT	5064572	1160 22 2		44	2056N 58 VA	52-58 23/ V2A	5069737	1166 09 3		45
2056 22 VA	16-22 23/ V2A	5063735	1159 53 4		44	2056N 64 VA	58-64 23/ V2A	5069799	1166 10 7		45
2056 28 FT	22-28 23/ ST / FT	5064633	1160 28 1		44	2056N SAS 12 VA	8-12 20/ V2A	5432432	1167 01 4		45
2056 28 VA	22-28 23/ V2A	5063797	1159 54 2		44	2056N SAS 16 VA	12-16 20/ V2A	5432494	1167 02 2		45
2056 34 FT	28-34 23/ ST / FT	5064695	1160 34 6		44	2056N SAS 22 VA	16-22 20/ V2A	5432555	1167 03 0		45
						2056N SAS 28 VA	22-28 20/ V2A	5432616	1167 04 9		45
						2056N SAS 8 VA	4-8 20/ V2A	5432371	1167 00 6		45
						2058FW 100 LGR	90-100 40/ PP	5083955	1197 99 1		45
						2058FW 12 LGR	8-12 34/ PP	5083115	1197 12 6		45
						2058FW 16 LGR	12-16 34/ PP	5083177	1197 16 9		45
						2058FW 22 LGR	16-22 34/ PP	5083238	1197 22 3		45
						2058FW 28 LGR	22-28 34/ PP	5083290	1197 28 2		45
						2058FW 34 LGR	28-34 34/ PP	5083351	1197 34 7		45

Type listing

Structure of the EAN number: Country code 40

Manufacturer code 1219 (for articles beginning with 0: 1010)

Individual EAN-C 5647589

Type	Dimensions/Colour/Div.	EAN-C.	Art. no.	Price	Page	Type	Dimensions/Colour/Div.	EAN-C.	Art. no.	Price	Page
2058FW 40 LGR	34-40 34/ PP	5083412	1197 40 1	/100 pc.	45	EDR 40 25-32 LGR	M40/ PVC	5246947	2011 53 8	/100 pc.	39
2058FW 46 LGR	40-46 40/ PP	5083474	1197 46 0		45	EDR 40 32-40 LGR	M40/ PVC	5246954	2011 54 6		39
2058FW 52 LGR	46-52 40/ PP	5083535	1197 52 5		45					/m	
2058FW 58 LGR	52-58 40/ PP	5083597	1197 58 4		45	FESP 40 5 FT	3000/ St / FT	5705529	7104 35 6		12
2058FW 64 LGR	58-64 40/ PP	5083658	1197 64 9		45	FESP 40 5 SG	3000/ St / SG	5705536	7104 35 8		12
2058FW 70 LGR	64-70 40/ PP	5083719	1197 70 3		45					/100 pc.	
2058FW 76 LGR	70-76 40/ PP	5083771	1197 76 2		45	FRS 10X20 VA4401	M10 x 20 20/ V4A	6822072	6406 87 0		13
2058FW 82 LGR	76-82 40/ PP	5083832	1197 82 7		45	FRS 10X30 F	M10 x 30/ St / F	6201976	6407 57 9		13
2058FW 90 LGR	82-90 40/ PP	5083894	1197 90 8		45	FRS 10X30 VA4301	M10 x 30 30/ V2A	6200535	6406 72 6		13
2058FW M 12 VA	8-12 35/ V2A	5514091	1197 13 4		45	FRS 6X20 VA4401	M6 x 20 20/ V4A	6603077	6406 61 0		13
2058FW M 16 VA	12-16 35/ V2A	5514152	1197 17 7		45	FRS 8X20 F	M8 x 20/ St / F	6201310	6406 97 1		13
2058FW M 22 VA	16-22 35/ V2A	5514213	1197 23 1		45	FRS 8X20 VA4301	M8 x 20 20/ V2A	6200719	6406 80 7		13
2058FW M 28 VA	22-28 35/ V2A	5514275	1197 29 0		45						
2058FW M 8 VA	4-8 35/ V2A	5514039	1197 09 6		45	FRS 8X25 F	M8 x 25/ St / F	6201372	6406 99 8		13
2060 2M VA	/ V2A	5627098	1105 12 5	/100 m	43	FRS 8X35 F	M8 x 35/ St / F	6201433	6407 04 8		13
2060 L 2M VA	/ V2A	5627104	1106 62 8		43	FRSB 6X12 F	M6 x 12/ St / F	6199815	6406 12 2		13
2068 L 1M FT	/ ST / FT	5053958	1119 67 2		42	FRSB 6X12 VA4301	M6 x 12 12/ V2A	6200238	6406 52 1		13
2068 L 200 FT	/ ST / FT	5060673	1119 69 6	/100 pc.	42	FRSB 6X12 VA4301	M6 x 12/ V2A	6077595	6406 13 8		13
2068 L 2M FT	/ ST / FT	5047599	1119 65 6	/100 m	42	FRSB 6X12 VA4401	M6 x 12 12/ V4A	6078370	6406 14 2		13
2068 L 2M VA	/ V2A	5047650	1119 70 2		42	FRSB 6X12 VA4401	M6 x 12 12/ V4A	6078370	6406 14 2		13
2068 L 300 FT	/ ST / FT	5060611	1119 69 3	/100 pc.	42	FRSB 6X15 F	M6 x 15/ St / F	6199877	6406 15 7		13
2068 L 400 FT	/ ST / FT	5060376	1119 69 0		42	FRSB 6X16 VA4301	M6 x 16 15/ V2A	6200290	6406 55 6		13
2068 L 500 FT	/ ST / FT	5060253	1119 68 7		42	FRSB 6X16 VA4301	M6 x 16/ V2A	6077717	6406 18 9		13
2068 L 600 FT	/ ST / FT	5059417	1119 68 4		42	FRSB 6X16 VA4401	M6 x 16 16/ V4A	6078431	6406 19 3		13
2068 L 6M VA	/ V2A	5047711	1119 72 9	/100 m	43	FRSB 6X16 VA4401	M6 x 16 16/ V4A	6078431	6406 19 3		13
2068 L 700 FT	/ ST / FT	5059356	1119 68 1	/100 pc.	42	FRSB 6X20 F	M6 x 20/ St / F	6199990	6406 20 3		13
2068 L 800 FT	/ ST / FT	5059295	1119 67 8		42	FRSB 6X20 VA4301	M6 x 20 20/ V2A	6200351	6406 60 2		13
2068 L 900 FT	/ ST / FT	5056119	1119 67 5		42	HS M6 45 VA4571	/ V4A	5732549	1154 97 0		13
2069 T100 GTP	/ St / GTP	5440994	1115 38 2		43	HS M8 60 VA4571	M8/ V4A	5732570	1154 97 5	/pc.	14
2069 T160 GTP	/ St / GTP	5441007	1115 38 4		43	KL 42 FT	25/ St / FT	6509355	7103 36 0		25
2069 T250 GTP	/ St / GTP	5441038	1115 38 6		43	KL 42 VA 4571	25/ V4A	5708575	7103 36 8		25
2069 T350 GTP	/ St / GTP	5441045	1115 38 8		43	KL 62 FT	40/ St / FT	6509294	7103 38 7		25
2069 T60 GTP	/ St / GTP	5440987	1115 38 0		43	KL 62 VA 4571	40/ V4A	5708599	7103 39 3		25
ASW BK	25 x 50/ St	5696599	6015 35 2	/pc.	12	KVM		5577768	2363 01 0		39
ASW FT	25 x 50/ St / FT	5696582	6015 35 0		12	KVM-M		5686354	2363 01 5	/NPE	39
DS-F WW		5022619	5093 27 2		52	KVM-P		5687771	2363 01 9	/pc.	39
DS-N MW		5805991	5093 99 6		52	LKV H 50037	Light grey 2000/ PC/ABS	6016266	6178 61 2	/m	
EDR 25 16-20 LGR	M25/ PVC	5246909	2011 50 6	/100 pc.	39	LKV H 50050	Light grey 2000/ PC/ABS	6016389	6178 61 4		
EDR 25 20-25 LGR	M25/ PVC	5246916	2011 51 4		39	LKV H 50075	Light grey 2000/ PC/ABS	6016501	6178 61 6		
EDR 32 20-25 LGR	M32/ PVC	5246923	2011 52 2		39	LKV H 75037	Light grey 2000/ PC/ABS	6016747	6178 62 2		
EDR 32 25-32 LGR	M32/ PVC	5246930	2011 53 0		39	LKV H 75050	Light grey 2000/ PC/ABS	6016860	6178 62 4		
					39	LKV H 75075	Light grey 2000/ PC/ABS	6016983	6178 62 6		
					39	LKV H 75100	Light grey 2000/ PC/ABS	6017102	6178 62 8		
					39	LKV H 75125	Light grey 2000/ PC/ABS	6017225	6178 63 0		
					39	MKR 15 050 ALU	50 2000/ Al	6381975	6045 70 7		18
					39	MKR 15 050 FS	50 3000/ St / FS	6561971	6045 95 2		18

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Type	Dimensions/Colour/Div.	EAN-C.	Art. no.	Price	Page	Type	Dimensions/Colour/Div.	EAN-C.	Art. no.	Price	Page
MP WI KL. FS	210 120/ ST / FS	6146833	7084 76 5	/m	18	MP WI KL. FS	210 120/ ST / FS	6146833	7084 76 5	/pc.	35
MP FL FS	235 120/ ST / FS	6146772	7084 75 7		35	MP FL FS	235 120/ ST / FS	6146772	7084 75 7		35
MP UNI FS	115 170/ ST / FS	6146895	7084 77 3		35	MP UNI FS	115 170/ ST / FS	6146895	7084 77 3		35
RB 90 75 050 FS	51/ St / FS	5703983	7061 14 6		18	RB 90 75 050 FS	51/ St / FS	5703983	7061 14 6		19
RB 90 75 050 FT	51/ St / FT	6223879	7061 14 5		18	RB 90 75 050 FT	51/ St / FT	6223879	7061 14 5		19
RB 90 75 075 FS	76/ St / FS	5706854	7061 05 0		18	RB 90 75 075 FS	76/ St / FS	5706854	7061 05 0		19
RB 90 75 075 FT	76/ St / FT	6223817	7061 04 8		18	RB 90 75 075 FT	76/ St / FT	6223817	7061 04 8		19
RB 90 75 100 FS	101/ St / FS	5706861	7061 24 4		19	RB 90 75 100 FS	101/ St / FS	5706861	7061 24 4		19
RB 90 75 100 FT	101/ St / FT	6223930	7061 24 2		19	RB 90 75 100 FT	101/ St / FT	6223930	7061 24 2		19
RB 90 75 125 FS	126/ St / FS	5706878	7061 25 2		19	RB 90 75 125 FS	126/ St / FS	5706878	7061 25 2		19
RB 90 75 150 FS	151/ St / FS	5706885	7061 36 0		19	RB 90 75 150 FS	151/ St / FS	5706885	7061 36 0		19
RB 90 75 200 FS	201/ St / FS	5706892	7061 44 9		19	RB 90 75 200 FS	201/ St / FS	5706892	7061 44 9		19
RB 90 75 200 FT	201/ St / FT	6224050	7061 44 7		19	RB 90 75 200 FT	201/ St / FT	6224050	7061 44 7		19
RB 90 75 250 FS	252/ St / FS	5706908	7061 54 6		19	RB 90 75 250 FS	252/ St / FS	5706908	7061 54 6		19
RB 90 75 250 FT	252/ St / FT	6224111	7061 54 4		19	RB 90 75 250 FT	252/ St / FT	6224111	7061 54 4		19
RB 90 75 300 FS	302/ St / FS	5706915	7061 64 3		19	RB 90 75 300 FS	302/ St / FS	5706915	7061 64 3		19
RB 90 75 300 FT	302/ St / FT	6224173	7061 64 1		19	RB 90 75 300 FT	302/ St / FT	6224173	7061 64 1		19
RLVK 60 FS	60-60 / St / FS	6065417	6067 09 3		18	RLVK 60 FS	60-60 / St / FS	6065417	6067 09 3		20
RLVK 60 FT	60-60 / ST / FT	6065899	6067 60 3		19	RLVK 60 FT	60-60 / ST / FT	6065899	6067 60 3		20
RLVL 85 FS	85-85 / ST / FS	6065592	6067 12 3		18	RLVL 85 FS	85-85 / ST / FS	6065592	6067 12 3		21
RLVL 85 FT	85-85 / ST / FT	6066131	6067 81 6		18	RLVL 85 FT	85-85 / ST / FT	6066131	6067 81 6		21
S16 FT	16 3000/ St / FT	5069270	2047 30 6		18	S16 FT	16 3000/ St / FT	5069270	2047 30 6	/100 m	40
S16 VA	16 3000/ V2A	5622246	2047 65 0		19	S16 VA	16 3000/ V2A	5622246	2047 65 0		40
S20 FT	20 3000/ St / FT	5069287	2047 30 9		18	S20 FT	20 3000/ St / FT	5069287	2047 30 9		40
S20 VA	20 3000/ V2A	5622253	2047 65 1		18	S20 VA	20 3000/ V2A	5622253	2047 65 1		40
S25 FT	25 3000/ St / FT	5069294	2047 31 2		19	S25 FT	25 3000/ St / FT	5069294	2047 31 2		40
S25 VA	25 3000/ V2A	5622260	2047 65 2		18	S25 VA	25 3000/ V2A	5622260	2047 65 2		40
S32 FT	32 3000/ St / FT	5069300	2047 31 5		18	S32 FT	32 3000/ St / FT	5069300	2047 31 5		40
S32 VA	32 3000/ V2A	5622291	2047 65 3		18	S32 VA	32 3000/ V2A	5622291	2047 65 3		40
S40 FT	40 3000/ St / FT	5069331	2047 31 8		18	S40 FT	40 3000/ St / FT	5069331	2047 31 8		40
S40 VA	40 3000/ V2A	5622307	2047 65 4		18	S40 VA	40 3000/ V2A	5622307	2047 65 4		40
S50 FT	50 3000/ St / FT	5069348	2047 32 1		18	S50 FT	50 3000/ St / FT	5069348	2047 32 1		40
S63 FT	63 3000/ St / FT	5069355	2047 32 4		18	S63 FT	63 3000/ St / FT	5069355	2047 32 4		40
SB16 FT	16 178/ St / FT	5381181	2047 48 5		20	SB16 FT	16 178/ St / FT	5381181	2047 48 5	/100 pc.	41
SB16 VA	16 178/ V2A	5622543	2047 68 2		20	SB16 VA	16 178/ V2A	5622543	2047 68 2		41
SB20 FT	20 183/ St / FT	5381198	2047 48 6		20	SB20 FT	20 183/ St / FT	5381198	2047 48 6		41
SB20 VA	20 183/ V2A	5622550	2047 68 3		20	SB20 VA	20 183/ V2A	5622550	2047 68 3		41
SB25 FT	25 207/ St / FT	5381204	2047 48 7		20	SB25 FT	25 207/ St / FT	5381204	2047 48 7		41
SB25 VA	25 207/ V2A	5622567	2047 68 4		20	SB25 VA	25 207/ V2A	5622567	2047 68 4		41
SB32 FT	32 245/ St / FT	5381211	2047 48 8		20	SB32 FT	32 245/ St / FT	5381211	2047 48 8		41
SB32 VA	32 245/ V2A	5622574	2047 68 5		20	SB32 VA	32 245/ V2A	5622574	2047 68 5		41
SB40 FT	40 288/ St / FT	5381228	2047 48 9		20	SB40 FT	40 288/ St / FT	5381228	2047 48 9		41
SB40 VA	40 288/ V2A	5622581	2047 68 6		20	SB40 VA	40 288/ V2A	5622581	2047 68 6		41
SB50 FT	50 346/ St / FT	5381235	2047 49 0		20	SB50 FT	50 346/ St / FT	5381235	2047 49 0		41
SB63 FT	63 467/ St / FT	5381242	2047 49 1		20	SB63 FT	63 467/ St / FT	5381242	2047 49 1		41
SBM16 FT	M16x1,5 178/ St / FT	5381259	2047 50 1		20	SBM16 FT	M16x1,5 178/ St / FT	5381259	2047 50 1		41

Type listing

Structure of the EAN number: Country code 40

Manufacturer code 1219 (for articles beginning with 0: 1010)

Individual EAN-C 5647589

Type	Dimensions/Colour/Div.	EAN-C.	Art. no.	Price	Page	Type	Dimensions/Colour/Div.	EAN-C.	Art. no.	Price	Page
SBM16 VA	M16x1,5 178/ V2A	5622611	2047 69 0	/100 pc.	41	SL 42/250	250 2000/ St / SG	6506774	7097 06 9	/m	24
SBM20 FT	M20x1,5 183/ St / FT	5381266	2047 50 2		41	SL 42/300	300 2000/ St / SG	6506835	7097 07 7		24
SBM20 VA	M20x1,5 183/ V2A	5622628	2047 69 2		41	SL 62 110 FT	110 3000/ St / FT	6980246	7097 40 9		24
SBM25 FT	M25x1,5 207/ St / FT	5381273	2047 50 3		41	SL 62 210 FT	210 3000/ St / FT	6980369	7097 42 5		24
SBM25 VA	M25x1,5 207/ V2A	5622635	2047 69 3		41	SL 62 310 FT	310 3000/ St / FT	6980420	7097 43 3		24
SBM32 FT	M32x1,5 245/ St / FT	5381280	2047 50 4		41	SL 62 410 FT	410 3000/ St / FT	6980482	7097 44 1		24
SBM32 VA	M40x1,5 245/ V2A	5622642	2047 69 4		41	SL 62 510 FT	510 3000/ St / FT	6508099	7097 46 8		24
SBM40 FT	M40x1,5 288/ St / FT	5381297	2047 50 5		41	SL 62 610 FT	610 3000/ St / FT	6508150	7097 47 6		24
SBM40 VA	M40x1,5 288/ V2A	5622659	2047 69 5		41	SL 62/110	110 3000/ St / SG	6506477	7097 21 2		24
SBM50 FT	M50x1,5 346/ St / FT	5381303	2047 50 6		41	SL 62/210	210 3000/ St / SG	6979769	7097 23 9		24
SBM63 FT	M63x1,5 467/ St / FT	5381334	2047 50 7		41	SL 62/310	310 3000/ St / SG	6979820	7097 24 7		24
						SL 62/410	410 3000/ St / SG	6979882	7097 25 5		24
SD25-V24 25		5916215	5080 27 4	/pc.	52	SL 62/510	510 3000/ St / SG	6979943	7097 26 3		24
						SL 62/610	610 3000/ St / SG	6980000	7097 27 1		24
SKS 6X12 F	M6 x 10 12/ ST / F	5255857	3156 49 4	/100 pc.	13	SLH 42 FT	2000/ ST / FT	6582136	7103 61 1		12
SKS 6X20 F	M6 x 20 20/ ST / F	5255970	3156 51 6		13	SLH 62 FT	3000/ ST / FT	6468911	7103 64 3		12
SKS 6X30 F	M6 x 30 30/ ST / F	5256038	3156 52 4		13	SLSP 62 300 FT	3000/ St / FT	6420131	7102 77 1		24
						SLSP 62 300 SG	3000/ St / SG	6303731	7102 67 4		24
						SLSP 62 300 V2A	3000/ V2A	5708544	7102 56 2		25
						SLSP 62 300 V4A	3000/ V4A	5708551	7102 58 2		25
SKS 810 FS	100 1,5/ ST / FS	6061099	6058 10 8	/m	20						
SKS 810 FT	100 1,5/ ST / FT	6061457	6058 62 0		20	SLV 42 FT	31/ St / FT	6509232	7103 48 4	/pc.	25
SKS 820 FS	200 1,5/ ST / FS	6061150	6058 20 5		20	SLV 42 VA 4571	31/ V4A	5708636	7103 49 2		26
SKS 820 FT	200 1,5/ ST / FT	6061518	6058 64 7		20						
SKS 830 FS	300 1,5/ ST / FS	6061211	6058 30 2		20	SLV 62 FT	52/ St / FT	6239412	7103 52 2		26
SKS 830 FT	300 1,5/ ST / FT	6061570	6058 66 3		20	SLV 62 VA 4571	52/ V4A	5708650	7103 52 9		26
SKS 840 FS	400 1,5/ ST / FS	6061273	6058 39 6		20						
SKS 840 FT	400 1,5/ ST / FT	6061631	6058 69 8		20					/m	
SKS 850 FS	500 1,5/ ST / FS	6061334	6058 50 7		20	SLZ 100 FT	100 3000/ St / FT	5708032	7098 13 2		27
SKS 850 FT	500 1,5/ ST / FT	6061693	6058 72 8		20	SLZ 100 SG	100 3000/ St / SG	5708148	7098 16 2		27
SKS 860 FS	600 1,5/ ST / FS	6061396	6058 60 4		20	SLZ 1000 FT	1000 3000/ St / FT	5708124	7098 15 0		27
SKS 860 FT	600 1,5/ ST / FT	6061754	6058 74 4		20	SLZ 1000 SG	1000 3000/ St / SG	5708230	7098 18 0		27
						SLZ 1200 FT	1200 3000/ St / FT	5708131	7098 15 2		27
						SLZ 1200 SG	1200 3000/ St / SG	5708247	7098 18 2		27
SKS 8X16 F	M8 x 16 16/ ST / F	5256571	3158 62 4	/100 pc.	13	SLZ 200 FT	200 3000/ St / FT	5708049	7098 13 4		27
SKS 8X20 F	M8 x 20 20/ ST / F	5256632	3158 63 2		13	SLZ 200 SG	200 3000/ St / SG	5708155	7098 16 4		27
						SLZ 300 FT	300 3000/ St / FT	5708056	7098 13 6		27
						SLZ 300 SG	300 3000/ St / SG	5708162	7098 16 6		27
SL 42 075 FT	75 2000/ St / FT	6506897	7097 11 5	/m	24	SLZ 400 FT	400 3000/ St / FT	5708063	7098 13 8		27
SL 42 100 FT	100 2000/ St / FT	6506958	7097 12 3		24	SLZ 400 SG	400 3000/ St / SG	5708179	7098 16 8		27
SL 42 150 FT	150 2000/ St / FT	6507016	7097 13 1		24	SLZ 500 FT	500 3000/ St / FT	5708070	7098 14 0		27
SL 42 200 FT	200 2000/ St / FT	6507078	7097 15 8		24	SLZ 500 SG	500 3000/ St / SG	5708186	7098 17 0		27
SL 42 250 FT	250 2000/ St / FT	6507139	7097 16 6		24	SLZ 600 FT	600 3000/ St / FT	5708087	7098 14 2		27
SL 42 300 FT	300 2000/ St / FT	6979646	7097 17 4		24	SLZ 600 SG	600 3000/ St / SG	5708193	7098 17 2		27
SL 42/075	75 2000/ St / SG	6506538	7097 02 6		24	SLZ 700 FT	700 3000/ St / FT	5708094	7098 14 4		27
SL 42/100	100 2000/ St / SG	6506590	7097 03 4		24	SLZ 700 SG	700 3000/ St / SG	5708209	7098 17 4		27
SL 42/150	150 2000/ St / SG	6506651	7097 04 2		24	SLZ 800 FT	800 3000/ St / FT	5708100	7098 14 6		27
SL 42/200	200 2000/ St / SG	6506712	7097 05 0		24	SLZ 800 SG	800 3000/ St / SG	5708216	7098 17 6		27
						SLZ 900 FT	900 3000/ St / FT	5708117	7098 14 8		27
						SLZ 900 SG	900 3000/ St / SG	5708223	7098 17 8		27
						SLZ L 100 FT	100 3000/ St / FT	5707646	7098 00 2		26

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Type	Dimensions/Colour/Div.	EAN-C.	Art. no.	Price	Page	Type	Dimensions/Colour/Div.	EAN-C.	Art. no.	Price	Page
SLZ L 100 SG	100 3000/ St / SG	5707745	7098 03 2	/m	26	SV16 VA	18,6 50/ V2A	5622406	2047 66 5	/100 pc.	42
SLZ L 150 FT	150 3000/ St / FT	5707684	7098 00 4		26	SV20 FT	22,6 54/ St / FT	5380993	2047 45 6		42
SLZ L 150 SG	150 3000/ St / SG	5707752	7098 03 4		26	SV20 VA	22,6 54/ V2A	5622413	2047 66 6		42
SLZ L 200 FT	200 3000/ St / FT	5707691	7098 00 6		26	SV25 FT	28,3 64/ St / FT	5381006	2047 45 7		42
SLZ L 200 SG	200 3000/ St / SG	5707769	7098 03 6		26	SV25 VA	28,3 64/ V2A	5622420	2047 66 8		42
SLZ L 300 FT	300 3000/ St / FT	5707707	7098 00 8		26	SV32 FT	35 74/ St / FT	5381037	2047 45 8		42
SLZ L 300 SG	300 3000/ St / SG	5707776	7098 03 8		26	SV32 VA	35 74/ V2A	5622437	2047 66 9		42
SLZ L 400 FT	400 3000/ St / FT	5707714	7098 01 0		26	SV40 FT	44 95/ St / FT	5381044	2047 45 9		42
SLZ L 400 SG	400 3000/ St / SG	5707783	7098 04 0		26	SV40 VA	44 95/ V2A	5622444	2047 67 0		42
SLZ L 500 FT	500 3000/ St / FT	5707721	7098 01 2		26	SV40 FT	44 95/ St / FT	5381044	2047 45 9		42
SLZ L 500 SG	500 3000/ St / SG	5707790	7098 04 2		26	SV40 VA	44 95/ V2A	5622444	2047 67 0		42
SLZ L 600 FT	600 3000/ St / FT	5707738	7098 01 4		26	SV50 FT	54 110/ St / FT	5381051	2047 46 0		42
SLZ L 600 SG	600 3000/ St / SG	5707806	7098 04 4		26	SV50 VA	54 110/ V2A	5622451	2047 67 1		42
						SV63 FT	67 116/ St / FT	5381068	2047 46 1		42
SM16 FT	M16x1,5 3000/ St / FT	5152880	2047 33 6	/100 m	40	SVM16 FT	M16x1,5 32/ St / FT	5381099	2047 47 0		41
SM16 VA	M16x1,5 3000/ V2A	5622338	2047 65 7		40	SVM16 VA	M16x1,5 32/ V2A	5622475	2047 67 3		41
SM20 FT	M20x1,5 3000/ St / FT	5152910	2047 33 9		40	SVM20 FT	M20x1,5 34/ St / FT	5381105	2047 47 1		41
SM20 VA	M20x1,5 3000/ V2A	5622345	2047 65 8		40	SVM20 VA	M20x1,5 40/ V2A	5622482	2047 67 4		41
SM25 FT	M25x1,5 3000/ St / FT	5152927	2047 34 2		40	SVM25 FT	M25x1,5 40/ St / FT	5381112	2047 47 2		41
SM25 VA	M25x1,5 3000/ V2A	5622352	2047 66 0		40	SVM25 VA	M25x1,5 40/ V2A	5622499	2047 67 6		41
SM32 FT	M32x1,5 3000/ St / FT	5152934	2047 34 5		40	SVM32 FT	M32x1,5 44/ St / FT	5381129	2047 47 3		41
SM32 VA	M32x1,5 3000/ V2A	5622369	2047 66 1		40	SVM32 VA	M32x1,5 44/ V2A	5622505	2047 67 7		41
SM40 FT	M40x1,5 3000/ St / FT	5152941	2047 34 8		40	SVM40 FT	M40x1,5 50/ St / FT	5381150	2047 47 4		41
SM40 VA	M40x1,5 3000/ V2A	5622376	2047 66 2		40	SVM40 VA	M40x1,5 50/ V2A	5622512	2047 67 8		41
SM50 FT	M50x1,5 3000/ St / FT	5152972	2047 35 1		40	SVM50 FT	M50x1,5 54/ St / FT	5381167	2047 47 5		41
SM63 FT	M63x1,5 3000/ St / FT	5152989	2047 35 4		40	SVM63 FT	M63x1,5 65/ St / FT	5381174	2047 47 6		41
SQ-10 LGR	10 9,5-12 / PA	5595359	2146 05 3	/100 pc.	46	T 100	/ PP	5246794	2007 07 7		33
SQ-12 LGR	12-14 11,5-15 / PA	5595410	2146 06 1		46	T 100 F	/ PP	5286547	2007 34 7		33
SQ-15 LGR	15-16 14-16,5 / PA	5595472	2146 09 6		46	T 100 KL	/ PP	5441212	2007 43 6		33
SQ-17 LGR	17-19 16-20 / PA	5595533	2146 11 8		46	T 100 M25-M32	/ PP	5470632	2007 08 1		33
SQ-20 LGR	20-23 19,5-23,5 / PA	5595656	2146 13 4		46	T 100 OE	/ PP	5246855	2007 25 5		34
SQ-25 LGR	25-28 24-28 / PA	5595717	2146 20 7		46	T 100 RO-LGR	/ PP	5303282	2007 64 4		33
SQ-28 LGR	28-32 27,5-32 / PA	5595779	2146 21 5		46	T 100 RW	/ PP	5286677	2007 53 3		33
SQ-32 LGR	32-35 31,2-35,8 / PA	5595830	2146 25 8		46	T 100 UV RW	/ PP	5441106	2007 41 4		33
SQ-36 LGR	35-40 35-40,1 / PA	5204275	2146 29 0		46	T 160	/ PP/GF	5246800	2007 09 3		33
SQ-40 LGR	40-44 39,3-44,5 / PA	5595892	2146 32 0		46	T 160 F	/ PP/GF	5286554	2007 35 5		33
SQ-47 LGR	45-50 44-50 / PA	5204398	2146 36 3		46	T 160 KL	/ PP/GF	5682189	2007 44 0		33
SQ-51 LGR	50-54 48-55 / PA	5595953	2146 44 4		46	T 160 M32	/ PP/GF	5470649	2007 09 7		33
SQ-59 LGR	59-65 58,5-65 / PA	5204510	2146 48 7		46	T 160 OE	/ PP/GF	5246862	2007 27 1		35
SV MKR FS	16 x 29 x 60/ St / FS	5706847	6066 24 2	/pc.	19	T 160 RO-LGR	/ PP/GF	5303299	2007 64 9		33
SV MKR FT	16 x 29 x 60/ St / FT	6064939	6066 24 0		19	T 160 RW	/ PP/GF	5286684	2007 54 1		33
						T 160 UV RW	/ PP/GF	5441113	2007 41 6		33
SV16 FT	18,6 50/ St / FT	5380986	2047 45 5	/100 pc.	42	T 25	/ PP	5246770	2007 02 9		32
						T 25 F	/ PP	5286486	2007 31 2		32

Type listing

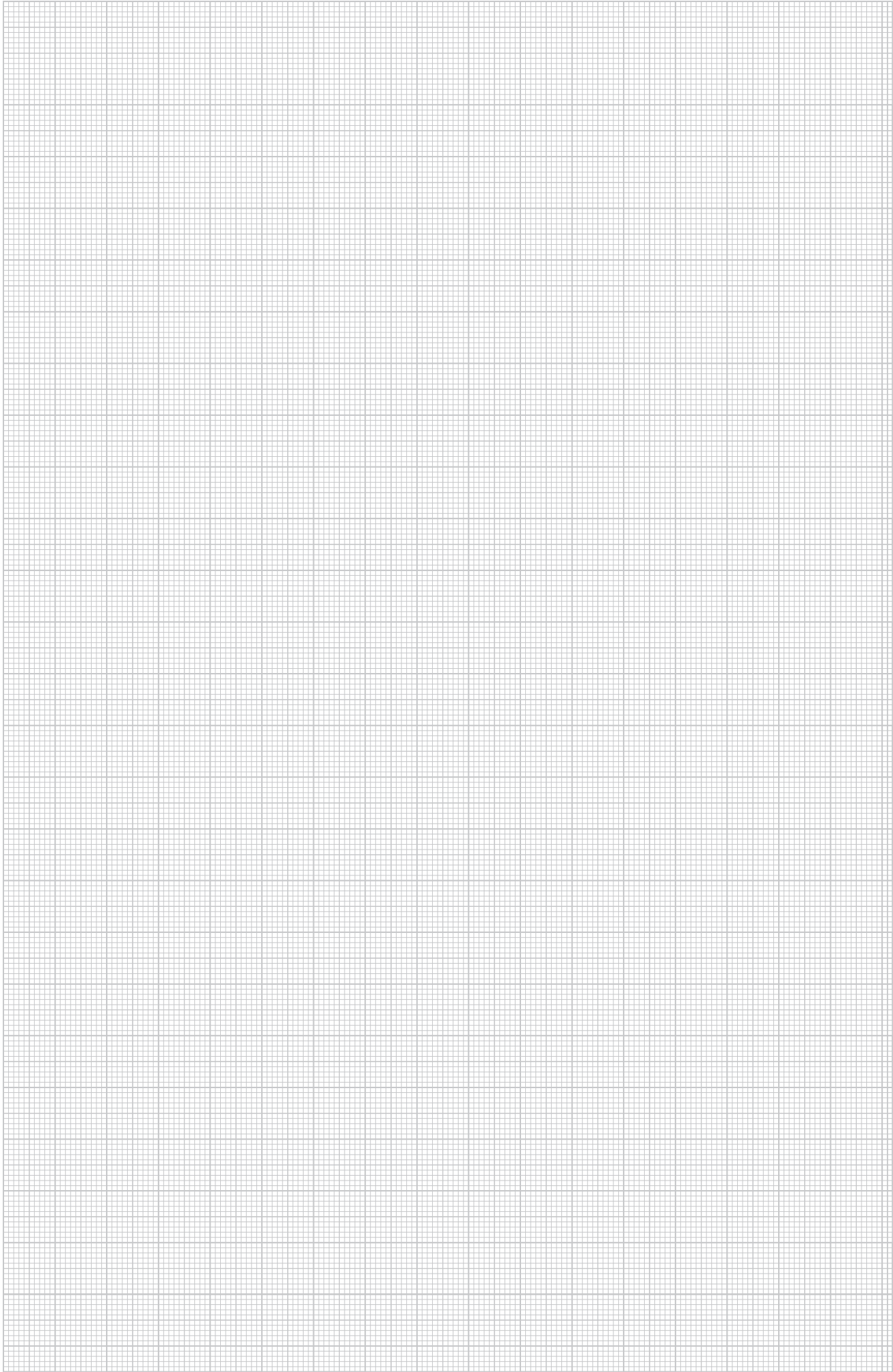
Structure of the EAN number: Country code **40**

Manufacturer code **1219** (for articles beginning with **0: 1010**)

Individual EAN-C **5647589**

Type	Dimensions/Colour/Div.	EAN-C.	Art. no.	Price	Page	Type	Dimensions/Colour/Div.	EAN-C.	Art. no.	Price	Page
T 25 KL	/ PP	5441168	2007 43 0	/100 pc.	32	V-TEC VM LM25 MS	M25 x 1,5/ CuZn / N	5810735	2086 12 9	/100 pc.	38
T 25 RO-LGR	/ PP	5303237	2007 62 2		32	V-TEC VM LM32 MS	M32 x 1,5/ CuZn / N	5810858	2086 13 5		38
T 25 RW	/ PP	5286615	2007 50 9		32	V-TEC VM LM40 MS	M40 x 1,5/ CuZn / N	5810971	2086 14 1		38
T 25 UV RW	/ PP	5441052	2007 40 8		32	V-TEC VM LM50 MS	M50 x 1,5/ CuZn / N	5811152	2086 14 7		38
T 250	/ PP/GF	5246817	2007 10 9		33	V-TEC VM LM63 MS	M63 x 1,5/ CuZn / N	5811213	2086 15 3		38
T 250 F	/ PP/GF	5286561	2007 36 3		33	V-TEC VM12 LGR	M12 x 1,5 Light grey/ PA	5533177	2022 86 2		37
T 250 KL	/ PP/GF	5682196	2007 44 4		33	V-TEC VM12 MS	M12 x 1,5/ CuZn / N	5808992	2086 01 8		38
T 250 OE	/ PP/GF	5246879	2007 28 7		33	V-TEC VM16 LGR	M16 x 1,5 Light grey/ PA	5533238	2022 86 4		37
T 250 RO-LGR	/ PP/GF	5303305	2007 65 7		33	V-TEC VM16 MS	M16 x 1,5/ CuZn / N	5809234	2086 02 4		38
T 250 RW	/ PP/GF	5286721	2007 55 4		33	V-TEC VM20 LGR	M20 x 1,5 Light grey/ PA	5533658	2022 86 6		37
T 250 UV RW	/ PP/GF	5441120	2007 41 8		33	V-TEC VM20 MS	M20 x 1,5/ CuZn / N	5809418	2086 03 0		38
T 350	/ PP/GF	5246824	2007 12 5		34	V-TEC VM25 LGR	M25 x 1,5 Light grey/ PA	5533719	2022 86 8		37
T 350 F	/ PP/GF	5286608	2007 37 1		34	V-TEC VM25 MS	M25 x 1,5/ CuZn / N	5809593	2086 03 6		38
T 350 KL	/ PP/GF	5682202	2007 44 8		34	V-TEC VM32 LGR	M32 x 1,5 Light grey/ PA	5533771	2022 87 0		37
T 350 OE	/ PP/GF	5246886	2007 30 3		35	V-TEC VM32 MS	M32 x 1,5/ CuZn / N	5809777	2086 04 2		38
T 350 RO-LGR	/ PP/GF	5303312	2007 66 5		34	V-TEC VM40 LGR	M40 x 1,5 Light grey/ PA	5533832	2022 87 2		37
T 350 RW	/ PP/GF	5286738	2007 56 8		34	V-TEC VM40 MS	M40 x 1,5/ CuZn / N	5809890	2086 04 8		38
T 350 UV RW	/ PP/GF	5441151	2007 42 0		34	V-TEC VM50 LGR	M50 x 1,5 Light grey/ PA	5533894	2022 87 4		37
T 40	/ PP	5246756	2007 04 5		32	V-TEC VM50 MS	M50 x 1,5/ CuZn / N	5810070	2086 05 4		38
T 40 F	/ PP	5286493	2007 32 0		32	V-TEC VM63 LGR	M63 x 1,5 Light grey/ PA	5533955	2022 87 6		37
T 40 KL	/ PP	5441175	2007 43 2		32	V-TEC VM63 MS	M63 x 1,5/ CuZn / N	5810131	2086 06 0		38
T 40 OE	/ PP	5246831	2007 22 3		34	WDK-H30045	Pure white 2000/ PC/ABS	5237402	6175 00 8	/m	
T 40 RO-LGR	/ PP	5303244	2007 63 0		32	WDK-H40060	Pure white 2000/ PC/ABS	5237419	6175 01 4		
T 40 RW	/ PP	5286622	2007 51 7		32	WDK-H60090	Pure white 2000/ PC/ABS	5237457	6175 02 6		
T 40 UV RW	/ PP	5441069	2007 41 0		32	WESP 50 40 FT	3000/ St / FT	5705567	7105 67 3		12
T 60	/ PP	5246787	2007 06 1		32	WESP 50 40 SG	3000/ St / SG	5705574	7105 67 5		12
T 60 F	/ PP	5286509	2007 33 9		32						
T 60 KL	/ PP	5441182	2007 43 4		32						
T 60 OE	/ PP	5246848	2007 23 9		34						
T 60 RO-LGR	/ PP	5303275	2007 63 8		32						
T 60 RW	/ PP	5286660	2007 52 5		32						
T 60 UV RW	/ PP	5441090	2007 41 2		32						
V20-C 1+NPE-280		5382973	5094 65 0	/pc.	51						
V20-C 3+NPE-280		5240099	5094 65 6		51						
V50-B+C 1+NPE		5688426	5093 65 3		51						
V50-B+C 3+NPE		5425120	5093 65 4		51						
VF12-AC DC	13,5 18	5457992	5097 45 2		51						
VF24-AC/DC	34 46	5447610	5097 60 6		51						
V-TEC VM LM12 MS	M12 x 1,5/ CuZn / N	5810254	2086 11 1	/100 pc.	38						
V-TEC VM LM16 MS	M16 x 1,5/ CuZn / N	5810377	2086 11 7		38						
V-TEC VM LM20 MS	M20 x 1,5/ CuZn / N	5810438	2086 12 3		38						

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Terms and conditions of sale and delivery of the companies OBO BETTERMANN GmbH & Co. KG and OBO BETTERMANN Projekt und Systemtechnik GmbH, and OBO Befestigungselemente GmbH, Menden

1. All our supplies and services shall be governed exclusively by the following terms and conditions, including our additional terms and conditions for cable tray business transactions. Any terms and conditions of business and purchasing of the customer shall be valid only if we have acknowledged them in writing. Our quotations are without engagement; they are mere invitations to submit contract offers. Any and all transactions and agreements, including those entered into by our employees and agents shall only be binding upon our written confirmation or invoicing. The foregoing provision shall also apply to any modifications of the agreed formal requirements.

2. The documents and data pertaining to the quotation, such as illustrations, brochures, drawings, dimensions, loading capacity values and weight details are approximate only, unless they are expressly stipulated to be binding.

Samples are non-binding samples for inspection. Any purchase according to sample will be subject to customary deviations and deviations resulting from normal production processes. The properties of the sample shall be no guaranteed quality of the purchase object unless expressly stated otherwise in the confirmation of order. Samples must be returned to us at the latest within four weeks in perfect condition. If they are not returned within this period in proper condition, we shall be entitled to charge the purchase price for the sample in accordance with our current price list. All information on our products, in particular the illustrations, drawings, weight, dimension and performance data included in our quotations and printed matter shall be regarded as approximate average values and shall not represent any quality guarantee.

With regard to products made according to customer drawings, samples and other instructions of the customer, we will not provide any warranty nor assume any liability for the due and proper functioning of the product or for any other defects if and to the extent they are based upon the customer's specifications. The customer shall indemnify us from any third party claims, including claims for product liability as may be asserted against us for damages resulting from the products unless we have caused such damages by intent or gross negligence. The customer shall warrant that the manufacture and supply of products made in accordance with his instructions will not infringe any proprietary rights of third parties. Should any proprietary rights be asserted against us, we shall be entitled, without any legal review of the third party claims, to withdraw from the contract after hearing the customer, unless the third party withdraws the claims asserted against us under its proprietary rights within eight days by written declaration. The customer shall compensate us for any damage sustained as a result of the assertion of proprietary rights. In case of withdrawal, the work we have carried out so far shall be remunerated. Further rights under the statutory provisions shall not be affected thereby.

Any moulds, tools and design data produced by us for the execution of the order shall be our exclusive property. Unless expressly agreed otherwise, the customer shall not have any claims thereto, even if he has contributed to the costs of producing any such moulds, tools and design data.

3. The packing, shipping route and means of transportation shall be left to our discretion in the absence of any other agreements. They shall be charged at their cost price. We will take back undamaged cases, when being returned carriage paid, at 2/3 of the amount invoiced. The one-way or pool pallets used for transport shall be either exchanged upon taking delivery or returned. The smallest packing units stocked and listed may not be broken up for rationalisation reasons. In case of orders for different quantities, the nearest packing unit will be supplied.

We reserve the right to deviate from the agreed delivery quantity, in particular in the case of custom-made products, to a customary extent or in conformity with national or international standards. In case of a demand for adhering to a precise quantity, an express reference is necessary and subject to confirmation.

Master and call orders shall oblige the customer to accept the total quantity on which the master/call order is based. Where no particular call orders are specified in the contract, the total quantity of the master call order must be called within twelve months. If the customer fails to adhere to call deadlines, we shall be entitled to deliver and charge the total quantity in full after four weeks from written notice with reference to the consequences of any failure to call. Our rights arising from any default of the customer shall not be affected thereby.

4. Unless otherwise agreed, our prices are quoted ex works and do not include packing and insurance. The value added tax at the rate applicable on the date of dispatch will be added to our prices. The purchaser shall ensure the correctness of his VAT identification number, which he must notify to us immediately without being asked. He shall undertake to inform both us and the competent domestic tax authority without delay of any change in his name, address and VAT identification number.

Delivery shall be franco domicile within Germany, i.e. carriage and packing prepaid, if the net order value is in excess of € 1,200. For small orders below € 100 (net excluding value added tax), we shall invoice a lower quantity surcharge of € 10 (net) per order. Upon transfer of our supplies and services to a carrier or forwarding agent, at the latest upon their leaving our warehouse or supply plant, the risk shall pass to the recipient, even in case of deliveries free place of destination.

5. Delivery periods and delivery deadlines shall be approximate only unless we have expressly stated in writing that they are binding. Delivery periods shall commence upon receipt of our confirmation of order, but not before clarification of all execution details, ex place of delivery. The customer shall only be entitled to withdraw from the contract after having granted a reasonable extension of time. We reserve the right to make partial deliveries. Claims for damages and reimbursement of expenses - for any reason whatsoever - shall be subject to the provisions set out in article 10.

In the event of any circumstances that are beyond our control within the scope of normal operating risks and obstruct or make impracticable any delivery, we shall be entitled to suspend delivery by the duration of such obstruction plus a reasonable start-up period or to withdraw from the contract for the part not yet fulfilled. The purchaser can demand a statement from us as to whether we wish to deliver within a reasonable period or withdraw. If we fail to make such a statement, the purchaser may withdraw. Our notice to the purchaser shall be deemed to be sufficient evidence that we have been prevented from delivering.

Delivery time is extended in case of such events as labour disputes, strikes and lockouts, orders from the authorities, difficulties with the procurement of materials, spoiled work or post-processing, shutdowns and staff shortage as well as shortage of means of transport, and general occurrence of unforeseen events beyond our scope of influence, by the length of duration of these events.

6. Payments shall be made upon receipt of invoice less a 3% cash discount for payment within 10 days or net after 30 days from date of invoice. Erection work and all paid labour work must be paid within 10 days without deduction of any cash discount. In case of non-cash payments, the date of the credit note will be deemed to be the date of receipt of payment. Payments received shall always be credited first against costs, then against interest and then against the earliest liability. Cheques and bills of exchange shall only be accepted as means of payment. Any payment by bill of exchange shall be subject to a prior separate and written agreement, whereby all bill costs shall be borne by the customer and no discount can be granted. The customer shall have no right to refuse performance and no right of retention - for any legal reason whatsoever - unless we have acknowledged his claim beforehand in writing or his claim has the force of law.

The customer shall only be entitled to set off claims which have the force of law, are undisputed or acknowledged by us in writing.

7. We shall retain title to the goods supplied by us until all our claims arising from our business transactions with the customer have been satisfied - current account clause - and all bills of exchange or cheques submitted for payment by the customer have been honoured.

Any treatment or processing of goods subject to our retention of title (reserved goods) shall be carried out for us as the manufacturer in accordance with § 950 BGB (German Civil Code) without any obligation on our part. If our reserved goods are to be regarded as the main item or the main item is owned by the customer, full title to the new item shall pass to us when it is created. In other cases, we shall acquire a co-ownership interest in the new item in the proportion of the sales value of our reserved goods to the other goods used for the new item at the time of processing, intermingling, joining or mixing. The customer shall take custody of our ownership or co-ownership interest free of charge; it shall be treated as reserved goods.

Before transfer of title, our goods shall be neither pledged nor assigned as collateral without our prior consent. In addition, any third party rights or pledges shall be notified to us immediately and we shall be given all details and provided all documents necessary for intervention; otherwise the customer must bear our loss. In the latter case, our total claims against the customer shall also be immediately payable.

The customer shall be entitled to sell or to use our reserved goods in the ordinary course of business subject to the condition that the relevant claims are transferred in accordance with article 8 below. This right shall lapse upon the customer's failure to promptly meet his payment obligations towards us or in the event of any cheque or bill protests or his suspension of payments. In such cases, we shall be entitled to take back the goods provisionally at the

customer's expense and to sell them at our duly exercised discretion after a corresponding reminder has been sent to the customer. We will then pass the due amount to the customer's credit.

8. If our goods are sold before payment of our claim, the customer shall be obliged to retain our title against his purchaser until the goods have been paid for in full by the purchaser. The claim arising against the purchaser from such resale as well as any other ancillary rights or security interests of the customer resulting from the sale and any claims for compensation in case of damage to or destruction of our reserved property, including the relevant insurance sum shall hereby be assigned to us. We hereby accept this assignment. Where our co-ownership interest is sold, the relevant claims shall be assigned in the amount corresponding to the value of our interest.

The customer shall, at our request, inform us of his purchasers, notify them of the assignment made and provide us with any and all documents required to assert our rights.

As long as the customer meets his contractual obligations without delay, he shall be authorised to collect the claims assigned. He shall keep the amounts collected on our behalf separately and remit them to us immediately as soon and as far as our claims become due. The authorisation shall lapse in case of any cheque or bill protest of the customer or his definite suspension of payments. The customer shall bear the costs incurred for any action taken against third parties and shall advance them upon request.

If the security provided to us by the retention of title and the anticipatory assignment should exceed the claims to be secured by more than 20%, we shall, at the customer's request, release paid supplies of our choice. Upon payment of all our claims by the customer, assigned claims shall pass to the customer.

9. Any complaints for obvious defects regarding the quantity or quality of our supplies and services that are identifiable upon careful inspection shall without delay, but at the latest within the period of limitation of eight days from arrival of the goods at the address of the customer or the person appointed by him, be notified in writing to us, not to our representatives. Slight deviations in dimensions and designs within the scope of defined technical tolerances shall not give rise to any right of complaint. Any rejected goods may only be returned to us with our prior written authorisation.

In case of justified complaints within the prescribed period, we shall, at our option, take remedial action by way of subsequent performance, by rectifying the defect, supplying non-defective goods or providing a credit note for the lower value calculated.

We shall be entitled to refuse subsequent performance in accordance with the statutory provisions. If we refuse subsequent performance, if any subsequent performance remains unsuccessful or if the customer cannot be reasonably expected to accept any subsequent performance, the latter shall be entitled to withdraw from the contract in compliance with the provisions of the following sentences. The customer shall only be entitled to withdraw from the contract - where a withdrawal is not excluded by law - upon the unsuccessful expiry of a reasonable period for subsequent performance set by him, unless this period was not required under the statutory provisions (§§ 281 para. 2, 323 para. 2, 440, 441 para. 1 BGB (German Civil Code)).

In case of his withdrawal, the customer shall be liable for any deterioration, destruction or loss of use resulting from any negligence or intent on his part. Any claims for damages or reimbursement of expenses of the customer shall be subject to the provisions set out in article 10.

In the case of any fraudulent concealment of a defect or in the case of any provision of a quality guarantee for the goods sold at the time of the passing of risk within the meaning of § 444 BGB (German Civil Code) (seller's declaration that the object sold has a specific property at the time of the passing of risk and that the seller, regardless of any fault on his part, intends to be answerable for any and all consequences resulting from its absence), the customer's rights shall be exclusively governed by the statutory provisions.

We shall - in addition to the statutory grounds for refusal - also be entitled to refuse subsequent performance if and as long as the customer fails to send us, at our request, the rejected goods or a sample thereof; the customer shall have no right of withdrawal for any such refusal. We may further refuse any subsequent performance if the goods concerned have been altered or modified without our consent unless the customer can prove that the defect was not caused by such alteration or modification.

The limitation period for any claims arising from defects shall be one year; in the case of goods which have been used in accordance with their intended purpose for a building and have caused its defectiveness, the limitation period shall be two years. The provisions of §§ 478, 479 BGB (German Civil Code) on recourse in the chain of suppliers shall not be affected thereby.

10. In the case of a pre-contractual, contractual or non-contractual breach of duty, including unsatisfactory delivery, tortious conduct and producer's liability, we shall only be liable for compensatory damages and reimbursement of expenses - subject to further contractual or statutory liability requirements - in the case of intent, gross negligence or slightly negligent breach of a material contractual duty (contractual duty the infringement of which jeopardises the fulfilment of the object of the contract). However - except in the case of intent - our liability shall be limited to the typical contractual damage that was foreseeable at the time the contract was entered into. The purchaser shall not be permitted to make a claim for expenses incurred in vain.

Except for any breach of material duties, our liability for slight negligence shall be excluded, but in any case be limited to the amount of the purchase price.

Any claim asserted by the customer or a third party for payment of a contractual penalty shall be excluded.

With regard to damages caused by delay, we shall only be liable for slight negligence up to the amount of 5% of the purchase price agreed with us.

The exclusions and limitations of liability set forth above shall not apply in the event that a guarantee is given with respect to the quality of the object sold within the meaning of § 444 BGB (German Civil Code) if a defect is fraudulently concealed or in the event of injury to life, physical injury or injury to health, or strict liability under the German Product Liability Act.

Any and all claims for damages against us, for any legal reason whatsoever, shall become statute-barred at the latest after one year from delivery of the goods to the customer, in the case of tortious liability from the time of knowledge, or grossly negligent ignorance, of the circumstances giving rise to the claim and the person liable to pay damages. This provision shall not apply in the case of liability for intent and in the event that a guarantee is given for the quality of the object sold, in the case of fraudulent concealment of a defect or in the event of injury to life, physical injury or injury to health, or strict liability under the German Product Liability Act. Any shorter limitation periods shall take precedence.

11. We shall be entitled to process and store any customer data obtained with regard to or in connection with the business relationship in accordance with the German Federal Data Protection Act, irrespective of whether such data is provided by the purchaser himself or by any third parties.

12. Place of performance for delivery and payment is Menden/Sauerland. The court of competent jurisdiction for any and all disputes, including disputes with regard to bills of exchange and cheques, is the Local Court (Amtsgericht) of Menden or, at our option, the District Court (Landgericht) of Arnsberg, irrespective of the value of the object in dispute. We shall, however, also be entitled to take legal proceedings against the customer at the place of his registered office.

German law shall be exclusively applicable. The application of international purchase laws is hereby excluded.

Should, for any reason whatsoever, individual provisions of our terms and conditions of sale and delivery be invalid, the validity and binding nature of the other provisions shall not be affected thereby. The customer agrees, that the invalid provision shall be replaced by a valid provision that comes as close as possible to the economic meaning of the invalid provision.

13. The prices of products made of brass and copper are subject to certain fluctuations that are based on the relevant DEL listings. The prices of our brass articles are based on a DEL listing of € 150 for Ms 58, those of our copper products on a DEL value for electrolyte copper of € 200.

In case of any increase or reduction in these prices by more than € 15, a five per cent surcharge or deduction shall be made for each 15 points. The calculation of any such surcharges or deductions shall be based on the DEL listing of the date of our receipt of the order.

Valid from August 2004



QR-Code

With the QR Code you have direct access to our products on the Internet.

You can find further information on the QR Code at www.obo-bettermann.com.

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