MALTEP

EARTHING, BONDING AND LIGHTNING PROTECTION

EDITION 2019

ESP
ELECTRICAL SAFETY PRODUCTS

MALTEP

Earthing
Equipotential Bonding

Lightning Protection

Exothermic Welding

Welcome !

Overview of the Company

MALTEP, a French company founded in 2004, and located in Alsace in the heart of Europe, specializes in the design, manufacture and distribution of electrical protection equipment:

- Grounding
- Lightning protection
- Bonding
- Electromagnetic compatibility

Our Customer

With more than 1200 active customers in 55 different countries, we are proud to contribute to the safety of people, equipement and to the reliability of electrical infrastructures, all over the world.

Our Division

Integrated since 2015 to the ESP (electrical safety products) division of the novarc French group, we work in partnership with the largest players in the electrical sector, to whom we bring our technical expertise, our responsiveness and our ability to manage complex projects.

Our business lines

Our products are designed within our design office to meet the requirements of the current international standards or the specific specifications of our customers, and are used in many sectors of activity:

- Electricity generation (nuclear, hydro, wind, photovoltaic, etc.)
- Transmission of electricity (HTB lines and substations)
- Electricity distribution (HTA/BT lines and substations)
- Oil and gas installations
- Civil engineering
- Telecommunications (GSM, radio, TNT)
- Data centers
- Automobile and rail transport
- Industrial piping

Our specificities

In addition, we are also able to create bespoke designs according to EXISTING drawings and specification, in very short deadlines, thanks to the flexibility of our organisation and our industrial means .

We rely on an efficient supply chain that respects the people and the environment, with partners that we select rigorously, and evaluate regularly.

In 2019, MALTEP, an agile, modern and forward-looking company will continue its digital transformation and modernization of its industrial and logistical means to continue to offer you premium service.

On behalf of our entire team, we thank you for the confidence you have shown to us on a daily basis.

Matthieu Lavieuville
Chief Executive Officer

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Flat tinned copper braided mesh, PVC Coated				
Cross Section (mm^2)	Nominal dimensions (mm)	(ml)	(Kg/100m)	Part Number
10	12 x 3.5	100	12	TPE10PVC
16	17 x 3.5	100	18	TPE16PVC
25	27 x 4	50	29	TPE25PVC
35	29 x 4	50	39	TPE35PVC
50	28 x 7	50	56	TPE50PVC
75	33 x 8	25	82	TPE75PVC

Alternative cross sections and dimensions available on-demand.

Round tinned copper braided mesh, PVC Coated				
Cross Section (mm^2)	Diameter over insulation (mm)	(ml)	(Kg/100m)	Part Number
10	7	50	12	TRE10PVC
16	8	50	17	TRE16PVC
25	10	50	29	TRE25PVC
35	12	50	39	TRE35PVC
50	13	50	55	TRE50PVC
75	15	25	81	TRE75PVC
95	18	25	101	TRE95PVC
120	21,5	touret	127	TRE120PVC

Alternative cross sections and dimensions available on-demand.

Flat tinned copper braided mesh

Cross Section (mm^2)	Nominal dimensions (mm)	(ml)	(Kg/100m)	Part Number
2.5	4.5 x 1.3	100	2.5	TPE25/10
5	8 x 1.4	100	5	TPE5
10	12 x 1.8	25, 50, 100	10	TPE10
16	15 x 2	25, 50, 100	16	TPE16
25	22 x 2.3	25, 50	25	TPE25
35	27 x 2.8	25, 50	35	TPE35
50	30 x 3.5	25, 50	50	TPE50
70	30 x 5	25	70	TPE70
75	33 x 5	25	75	TPE75
95	38 x 5	25	95	TPE95
120	40 x 6	10	120	TPE120
150	50 x 6	10	150	TPE150
185	50 x 8	10	185	TPE185

Alternative cross sections and dimensions available on-demand.

Round tinned copper braided mesh

Cross Section (mm^2)	Nominal diameter (mm)	(ml)	(Kg/100m)	Part Number
6	4	50, 100	6	TRE6
10	5	50, 100	10	TRE10
16	6	25, 50	16	TRE16
25	8	25, 50	25	TRE25
35	9	25	35	TRE35
50	11	25	50	TRE50
75	13,5	25	75	TRE75
95	15	25	95	TRE95
120	17,5	touret	120	TRE120

Alternative cross sections and dimensions available on-demand.

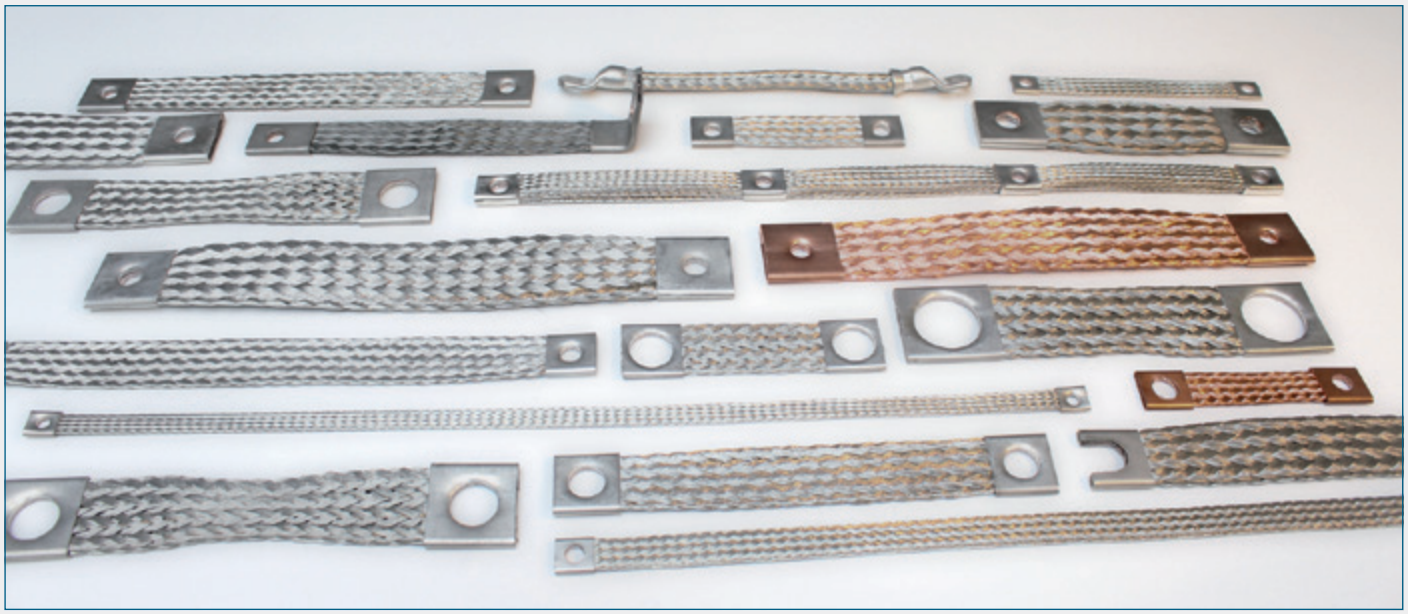


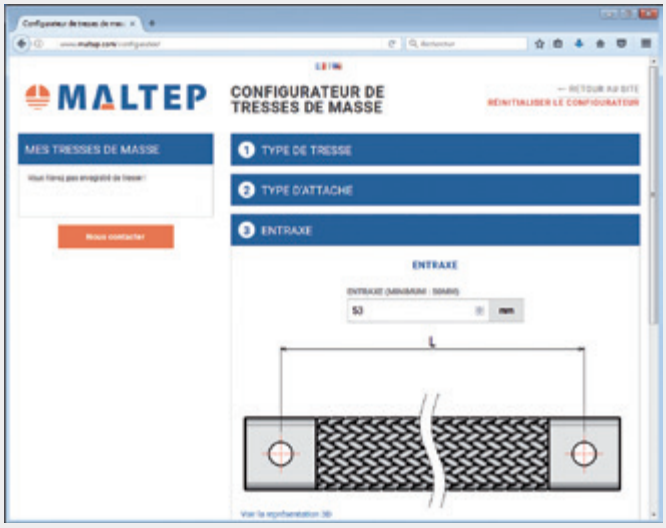
Table of correspondances	
Bolt	Hole diameter (mm)
M5	5.3
M6	6.5
M8	8.5
M10	10.5
M12	13
M14	15
M16	17
M18	19
M20	21
M22	23
M24	25
M27	29
M30	32
M33	35
M36	39

Within a short lead-time, we can manufacture on-demand flexible tinned copper earth braids according to your own drawings and specification, with a cross section ranging from 6 to 240mm² and more.

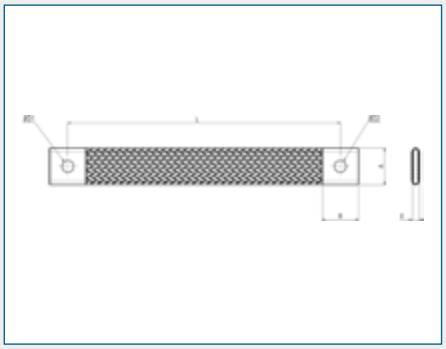
For your quotation request, if you don't have a drawing, please provide us with:

- The type of the braided mesh (round or flat)
- The cross section of the braided mesh
- The length between axis (from 50mm up to several meters)
- The quantity for each type
- The connection holes diameter (see table of correspondances)

Online earth braids configurator available on www.maltep.com/configurator



Available on mobile and tablet!



Flexible tinned copper earth braids

Manufactured from flat tinned Copper Braided Mesh (strands of 15/100 or 20/100mm) with crimped and punched tinned copper connectors at both ends

Earth braid Cross section (mm^2)	Holes Dia. (mm) D1	D2	Length between axis (mm) L	Connectors dimensions (mm) A	B	E		(Kg/100)	Part Number
10	6.5	6.5	100	14	15	3.5	50 - 100	1.63	TME10100-6
10	6.5	6.5	150	14	15	3.5	50 - 100	2.11	TME10150-6
10	6.5	6.5	200	14	15	3.5	50 - 100	2.59	TME10200-6
10	6.5	6.5	250	14	15	3.5	50 - 100	3.07	TME10250-6
10	6.5	6.5	300	14	15	3.5	50 - 100	3.55	TME10300-6
16	8.5	8.5	100	17	17	4	50 - 100	2.52	TME16100-8
16	8.5	8.5	150	17	17	4	50 - 100	3.20	TME16150-8
16	8.5	8.5	200	17	17	4	50 - 100	3.88	TME16200-8
16	8.5	8.5	250	17	17	4	50 - 100	4.56	TME16250-8
16	8.5	8.5	300	17	17	4	50 - 100	5.24	TME16300-8
16	8.5	8.5	350	17	17	4	50 - 100	5.92	TME16350-8
16	8.5	8.5	400	17	17	4	50 - 100	6.60	TME16400-8
25	8.5	8.5	100	23	25	4	25 - 50	5.16	TME25100-8
25	8.5	8.5	150	23	25	4	25 - 50	6.36	TME25150-8
25	8.5	8.5	200	23	25	4	25 - 50	7.56	TME25200-8
25	8.5	8.5	250	23	25	4	25 - 50	8.76	TME25250-8
25	8.5	8.5	300	23	25	4	25 - 50	9.96	TME25300-8
25	8.5	8.5	350	23	25	4	25 - 50	11.16	TME25350-8
25	8.5	8.5	400	23	25	4	25 - 50	12.36	TME25400-8
35	10.5	10.5	100	27	25	4.2	25 - 50	6.70	TME35100-10
35	10.5	10.5	150	27	25	4.2	25 - 50	8.42	TME35150-10
35	10.5	10.5	200	27	25	4.2	25 - 50	10.13	TME35200-10
35	10.5	10.5	250	27	25	4.2	25 - 50	11.85	TME35250-10
35	10.5	10.5	300	27	25	4.2	25 - 50	13.56	TME35300-10
35	10.5	10.5	350	27	25	4.2	25 - 50	15.28	TME35350-10
35	10.5	10.5	400	27	25	4.2	25 - 50	17.00	TME35400-10
50	10.5	10.5	100	33	30	5	25	9.85	TME50100-10
50	10.5	10.5	150	33	30	5	25	12.15	TME50150-10
50	10.5	10.5	200	33	30	5	25	14.50	TME50200-10
50	10.5	10.5	250	33	30	5	25	16.80	TME50250-10
50	10.5	10.5	300	33	30	5	25	19.10	TME50300-10
50	10.5	10.5	350	33	30	5	25	21.45	TME50350-10
50	10.5	10.5	400	33	30	5	25	23.75	TME50400-10
50	10.5	10.5	500	33	30	5	25	28.40	TME50500-10
70	13	13	150	32	30	5.5	25	15.75	TME70150-12
70	13	13	200	32	30	5.5	25	19.70	TME70200-12
70	13	13	250	32	30	5.5	25	22.40	TME70250-12
70	13	13	300	32	30	5.5	25	25.70	TME70300-12
70	13	13	400	32	30	5.5	25	32.35	TME70400-12
70	13	13	500	32	30	5.5	25	39.00	TME70500-12

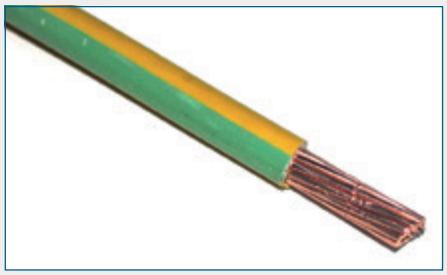
Stranded bare copper cable

Cross Section (mm^2)	Number and strand diameter (mm)	Outer diameter (mm)	(Kg/m)	(ml)	Part Number
6	7 x 1.07	3.11	0.054	100 / tourets	CCR6
10	7 x 1.43	4.10	0.087	100 / tourets	CCR10
16	7 x 1.71	5.10	0.144	25 / 50 / tourets	CCR16
25	7 x 2.13	6.40	0.225	25 / 50 / tourets	CCR25
29	19 x 1.40	7	0.267	50 / tourets	CC29
35	7 x 2.50	7.60	0.305	50 / tourets	CCR35
50	19 x 1.77	9.20	0.420	50 / tourets	CCR50
70	19 x 2.14	10.90	0.610	50 / tourets	CCR70
95	19 x 2.52	12.50	0.830	50 / tourets	CCR95
120	37 x 2.05	14.20	1.065	tourets	CCR120-37
150	19 x 3.24	15.90	1.260	tourets	CCR150
150	37 x 2.21	16.00	1.260	tourets	CCR150-37
185	37 x 2.50	17.70	1.620	tourets	CCR185
240	37 x 2.83	19.80	2.200	tourets	CCR240
300	37 x 3.21	22.50	2.650	tourets	CCR300

Alternative packing options available on demand.

Hot-dip galvanized steel cable

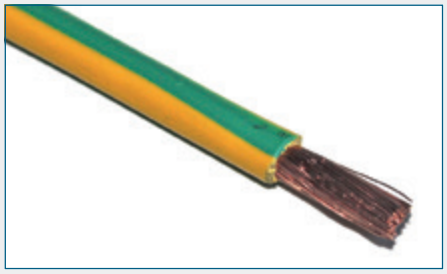
Cross Section (mm^2)	Number and strand diameter (mm)	Outer diameter (mm)	(Kg/m)	(ml)	Part Number
35	19 x 1.6	8.50	0.31	100 / tourets	CG35
50	19 x 2	9.50	0.46	100 / tourets	CG50
70	19 x 2.20	11	0.6	50 / tourets	CG70
95	19 x 2.55	12.75.	0.8	50 / tourets	CG95
130	7x3.2 + 12x2.80	15.20	1.09	tourets	CG130



Semi-rigid insulated yellow/green stranded copper cable (VR)

Cross Section (mm^2)	Number and strand diameter (mm)	Outer diameter (mm)	(Kg/m)	(ml)	Part Number
6	19 x 0.64	4.80	0.07	100 / tourets	CC6VJ
10	49 x 0.51	5.80	0.11	100 / tourets	CC10VJ
16	7 x 1.40	6.70	0.17	50 / tourets	CC16VJ
25	19 x 1.40	8.30	0.26	50 / tourets	CC25VJ
35	7x 2.14	9.40	0.36	50 / tourets	CC35VJ
50	19 x 1.78	11.00	0.48	50 / tourets	CC50VJ
70	19 x 2.14	12.50	0.68	tourets	CC70VJ
95	19 x 2.50	14.70	0.94	tourets	CC95VJ
120	37 x 2.03	16.10	1.18	tourets	CC120VJ
150	37 x 2.27	18.10	1.44	tourets	CC150VJ
185	37 x 2.52	20.10	1.79	tourets	CC185VJ
240	61 x 2.24	22.40	2.38	tourets	CC240VJ

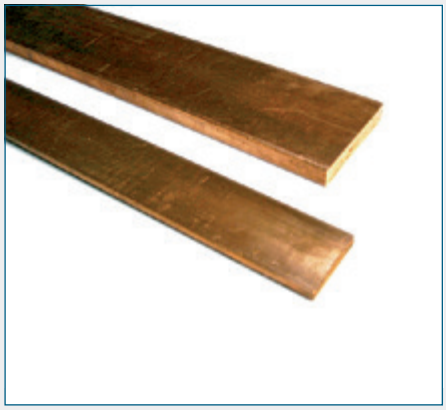
Alternative packing options available on demand.



Flexible insulated yellow/green stranded copper cable (VK)

Cross Section (mm^2)	Number and strand diameter (mm)	Outer diameter (mm)	(Kg/m)	(ml)	Part Number
6	84 x 0.3	4.70	0.07	100 / tourets	CCS6VJ
10	80 x 0.4	6.10	0.11	100 / tourets	CCS10VJ
16	112 x 0.41	7.10	0.17	50 / tourets	CCS16VJ
25	204 x 0.395	8.90	0.25	50 / tourets	CCS25VJ
35	286 x 0.395	10.00	0.34	50 / tourets	CCS35VJ
50	408 x 0.395	12.00	0.46	50 / tourets	CCS50VJ
70	356 x 0.5	13.80	0.68	tourets	CCS70VJ
95	485 x 0.5	15.60	0.94	tourets	CCS95VJ
120	614 x 0.5	17.30	1.18	tourets	CCS120VJ

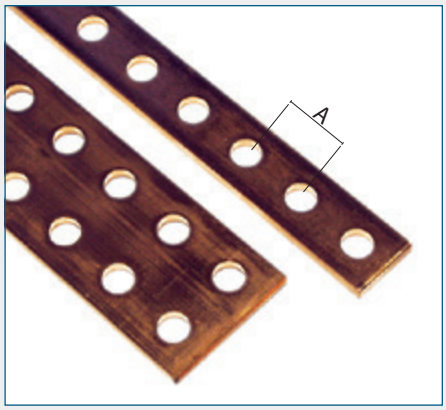
Alternative packing options available on demand.



Hard drawn copper bar

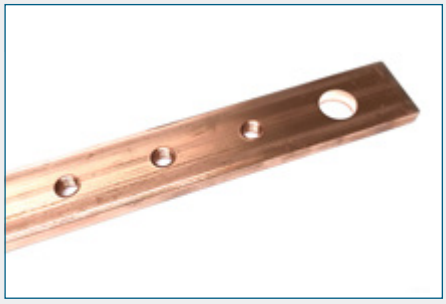
Dimensions (mm)	Material Composition	(Kg/m)	(ml)	Part Number
25 x 3	Pure copper, 1/2 state, H12 hardness	0.668	3	CU253
30 x 4	Pure copper, 1/2 state, H12 hardness	1.068	3	CU304
40 x 5	Pure copper, 1/2 state, H12 hardness	1.780	3	CU405
50 x 5	Pure copper, 1/2 state, H12 hardness	2.225	3	CU505
80 x 5	Pure copper, 1/2 state, H12 hardness	3.56	3	CU805
100 x 5	Pure copper, 1/2 state, H12 hardness	4.45	3	CU1005
100 x 10	Pure copper, 1/2 state, H12 hardness	8.90	3	CU10010

Alternative dimensions, length of 4 or 6ml or alternative metallurgic states available on demand.



Perforated copper bars
Length of 1750mm

Dimensions (mm)	Holes dia. (mm)	Distance between axes A (mm)	(Kg)		Part Number
Single perforation					
25 x 5	10.5	25	1.66	1	PT1750-10/255
Double perforation					
50 x 5	10.5	25	3.32	1	PT1750-10/505
80 x 5	10.5	25	5.30	1	PT1750-10/805
100 x 5	10.5	25	6.64	1	PT1750-10/1005



Threaded copper bars
Length of 990mm

Dimensions (mm)	Holes dia. (mm)	Distance between axes A (mm)	(Kg)		Part Number
20 x 5	M6	25	0.76	1	PT990-M6/20X5
32 x 5	M6	25	1.22	1	PT990-M6/32X5

On demand manufacturing

We can manufacture a wide range of hard drawn copper or 304/316 stainless steel bars according to your drawings or specifications.

Round conductors

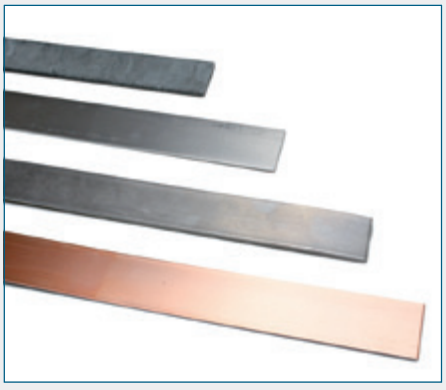
Standard packing in coils except for TR8003
Compliant with IEC EN62561-2, for equipotential bonding and lightning protection installations (except for 6mm diameter)

Dimensions (mm)	Material	(Kg/m)	(ml)	Part Number
Dia. 6	Annealed electrolytic copper	0.25	100 - 120	TR6100
Dia. 8	Annealed electrolytic copper	0.448	50 - 60	TR8100
Dia. 8	Tinned annealed electrolytic copper	0.448	70	TRE8100
Dia. 8	3m Annealed hard drawn electrolytic copper bar	0.448	3	TR8003
Dia 8	Aluminium	0.135	150 -160	TRAL8150
Dia 10	Aluminium	0.215	100 -110	TRAL10100
Dia. 8	8 Hot-dip galvanized steel	0.395	100-130	TRG8130
Dia. 8	304 Stainless steel	0.395	100-130	TRI8130
Dia. 8	316 Stainless steel	0.395	100-110	TRI8130-A4
Dia. 10	316 Stainless steel	0.617	100-110	TRI10100-A4
Dia. 10	316 Stainless steel	0.617	50	TRI1050-A4

Flat conductors

Standard packing in coils
Compliant with IEC EN62561-2, for equipotential bonding and lightning protection installations

Dimensions (mm)	Material	(Kg/m)	(ml)	Part Number
30 x 2	Annealed electrolytic copper	0.534	50	CU302
30 x 2	Tinned annealed electrolytic copper	0.534	50 - 70	CUE302
30 x 2	304 Stainless steel	0.471	80	I302
30 x 2	316 Stainless steel	0.471	80	I302-A4
30 x 3.5	316 Stainless steel	0.825	30 - 60	I3035-A4
30 x 3	Aluminium	0.243	80	AL303
30 x 3.5	70µm Hot-dip galvanized steel	0.83	30 - 60	AG3035
40 x 4	70µm Hot-dip galvanized steel	1.28	40	AG404
40 x 5	70µm Hot-dip galvanized steel	1.58	30	AG405



Stainless steel earth rods

Non-extensible stainless steel earth rods

Made of Z33 C13 stainless steel, one end is pointed to ease driving into ground during installation

Length (mm)	Nominal dia. (mm)	Real dia. (mm)	(Kg)		Part Number
1000	16	16	1.50	5	PI1610
1500	16	16	2.25	5	PI1615
2000	16	16	3.00	5	PI1620

On demand : specific manufacturing and alternative length possible.

Non-extensible 316(A4) stainless steel earth rods

Made of 316 stainless steel, one end is pointed to ease driving into ground during installation
Compliant with IEC EN62561-2

Length (mm)	Nominal dia. (mm)	Real dia. (mm)	(Kg)		Part Number
1000	16	16	1.50	1	PI1610-A4
1500	16	16	2.25	1	PI1615-A4
2000	16	16	3.00	1	PI1620-A4

On demand : specific manufacturing and alternative length possible.

Extensible 316(A4) stainless steel earth rods

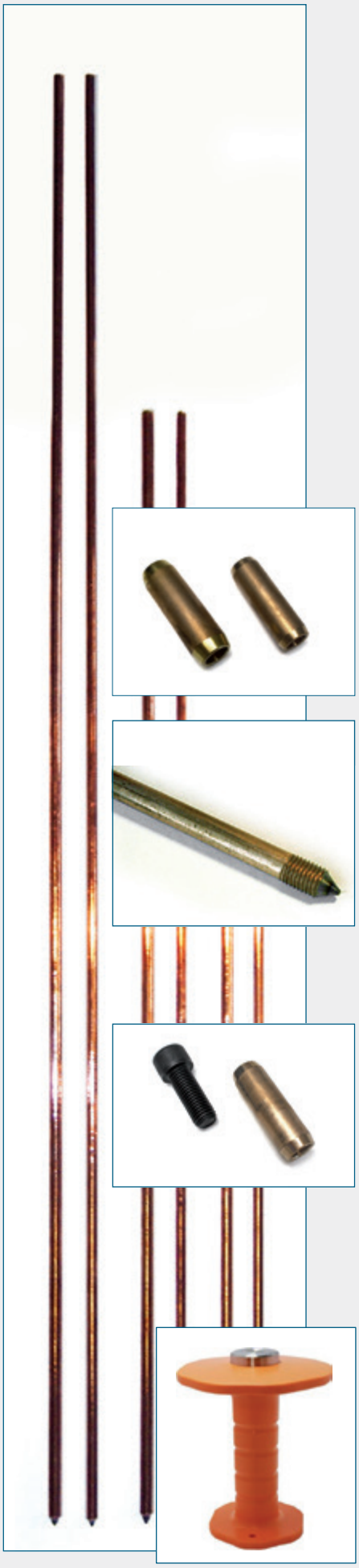
Made of Z33 C13 stainless steel as recommended per the French electrical company EDF
With one bore end to connect the next earth rods and the other pointed end to ease driving into ground during installation

Length (mm)	Nominal dia. (mm)	Real dia. (mm)	(Kg)		Part Number
1000	16	16	1.50	5	PI1610A
1500	16	16	2.25	5	PI1615A
2000	16	16	3.00	5	PI1620A

Driving head

to protect the end during driving of the earth rod into ground

Designation	(Kg)		Part Number
Earth rod with a diameter of 16 or 19mm	0.40	5	BOU34
For extensible earth rod with a diameter of 16 or 19mm	0.46	5	BOU34A



250µm copper-bonded steel earth rods

The core is made with highly mechanical resistant steel bonded with a minimum thickness of 254µm electrolytic copper, manufactured according to the UL SPEC 467 norm.

Standard earth rods

One end is pointed to ease driving into ground during installation

Length (mm)	Nominal diameter (mm)	Real diameter (mm)	(Kg)		Part Number
1000	16	14.2	1.30	5	PC5810
1500	16	14.2	1.90	5	PC5815
2000	16	14.2	2.55	5	PC5820
1000	19	17.2	1.80	5	PC3410
1500	19	17.2	2.70	5	PC3415
2000	19	17.2	3.70	5	PC3420

On demand : specific manufacturing and alternative length possible.

Copper alloy earth rod coupler for standard earth rods

Designation	(Kg)		Part Number
5/8" (16mm) diameter	0.10	5	MC58
3/4" (19mm) diameter	0.15	5	MC34

Extensible earth rods using threaded coupler

Threaded at both ends to connect with the next earth rod using coupler
One end is pointed to ease driving into ground during installation

Length (mm)	Nominal diameter (mm)	Real diameter (mm)	(Kg)		Part Number
1500	19	17.2	2.70	5	PC3415F

Copper alloy coupling for threaded earth rods

Designation	(Kg)		Part Number
19mm (3/4") diameter	0.15	5	MF34

Driving head for threaded earth rods

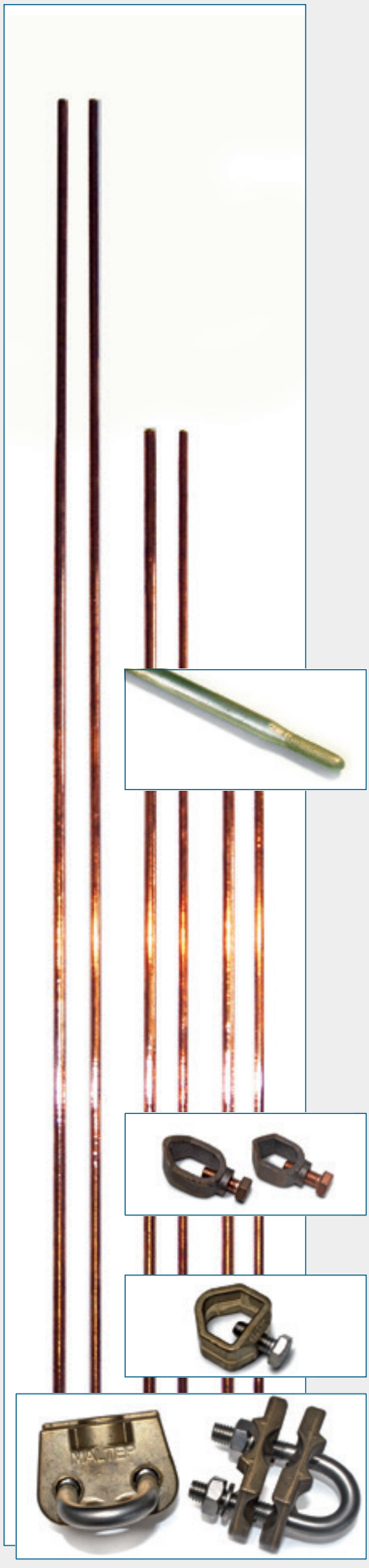
Designation	(Kg)		Part Number
19mm (3/4") diameter	0.12	5	VF34

Protective and insulated driving head

Protective and insulated driving head

Safely push your earth rod into ground with our isolated handle

Designation	(Kg)		Part Number
Protective insulated (17kV) handle, dimension 130x60mm, earth rod max. diameter of 24mm max. Provided with an integrated anvil	0.54	1	ISPI



250µm copper-bonded steel earth rods

The core is made with highly mechanical resistant steel bonded with a minimum thickness of 254µm electrolytic copper, manufactured according to the UL SPEC 467 norm.

Self extensible earth rods
Threaded at one end to connect with the next earth rod by impingement
The other end is pointed to ease driving into ground during installation

Length (mm)	Nominal diameter (mm)	Real diameter (mm)	(Kg)		Part Number
1000	19	17.2	1.80	5	PC3410A
1500	19	17.2	2.70	5	PC3415A

350µm copper-bonded steel earth rods

The core is made with highly mechanical resistant steel bonded with a minimum thickness of 350µm electrolytic copper as recommended per the French electrical company EDF.

350µm min. self extensible earth rods
Threaded at one end to connect with the next earth rod by impingement
The other end is pointed to ease driving into ground during installation

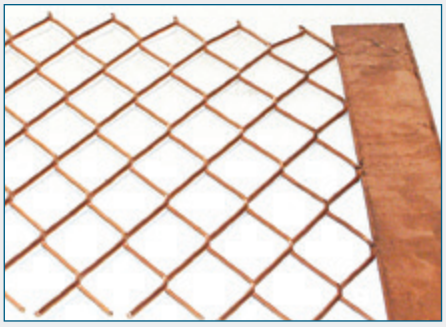
Length (mm)	Nominal diameter (mm)	Real diameter (mm)	(Kg)		Part Number
1000	19	17.3	1.80	5	PCE3410A
1500	19	17.3	2.70	5	PCE3415A

Earth rod clamps

Earth rod clamps
Body made of copper alloy highly resistant to corrosion, processed or stainless steel screws

Designation	(Kg)		Part Number
Clamp for 5/8" (16mm) dia. earth rod max. with cable from 16mm² up to 70mm² max.	0.06	5	COS1670Z
Clamp for 3/4" (18mm) dia. earth rod max. with cable from 25mm² up to 95mm² max.	0.08	5	COS2595Z
Clamp for 14mm to 20mm dia. earth rod with 30x8mm tape conductor max.	0.13	5	COS302
U bolt clamp for earth rod with a 20mm dia. max with a cable from 95mm² to 240mm² with an axial or radial path	0.34	5	COS95240

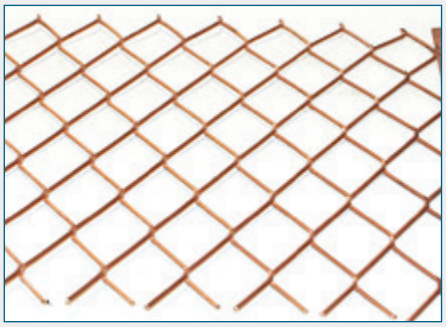
Connection solutions



Copper earth grid with connecting band

Manufactured with pure electrolytic copper
Full band on the length to ease connection

Dimensions (mm)	Strip dimensions (mm)	Mesh (mm)	(Kg)		Part Number
2000 x 1000	3 x 3	115 x 55	8.00	1	GCB2010
1000 x 1000	3 x 3	115 x 55	4.00	1	GCB1010
500 x 1000	3 x 3	115 x 55	2.00	1	GCB0510



Copper earth grid without connecting band

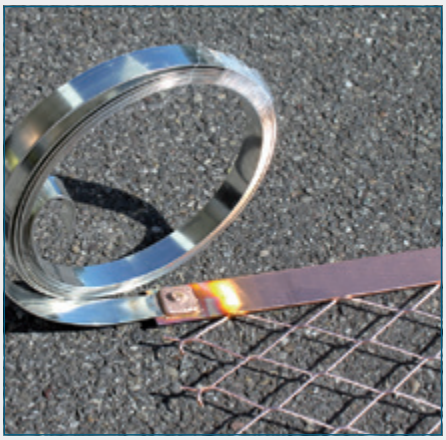
Manufactured with pure electrolytic copper

Dimensions (mm)	Strip dimensions (mm)	Mesh (mm)	(Kg)		Part Number
2000 x 1000	3 x 3	115 x 55	5.20	1	GC2010
1000 x 1000	3 x 3	115 x 55	4.00	1	GC1010
500 x 1000	3 x 3	115 x 55	2.00	1	GC0510

Coper earth plates

Manufactured with pure electrolytic copper

Dimensions (mm)	Plate thickness (mm)	(Kg)		Part Number
2000 x 1000	2	35.00	1	PLC20102
2000 x 1000	3	53.00	1	PLC20103
2000 x 1000	4	71.00	1	PLC20104

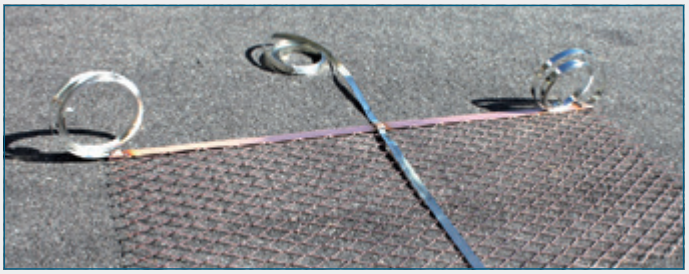


On-demand pre-mounted earth grids and plates

We manufacture on-demand earth grids and plates equipped with earthing cables or tape conductors directly connected using exothermic welding.

Provide us with the following details when requesting a quote:

- the dimension of the earth grid or plate
- the cross section and the type of conductor to be welded
- the length of the conductors
- the required configuration and the quantity of conductors to be welded

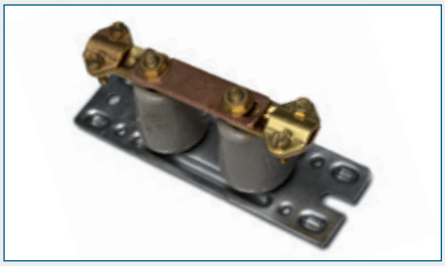


Low voltage insulators (female/female)

Fiberglass, halogen-free polyester resin
Self extinguishing (standard UL-94)-temperature:-40 °c to + 130 °C
Water absorption according to ASTM570: < 0.2%-tracking resistance ASTMD2302:3W/min

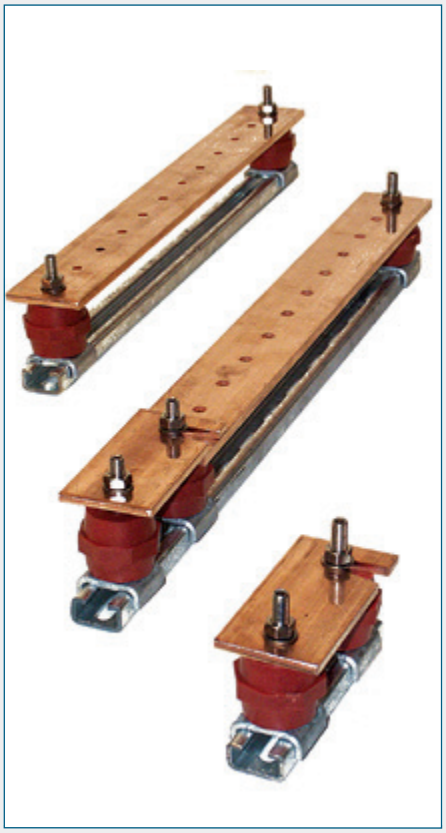
Height (mm)	Internal thread and depth	Nominal voltage (kV)	Dielectric strength (kV)	Width (mm)	(Kg)		Part Number
25	M6X6	1	6	22	0.020	25	IFFM625
35	M6X10	1,5	12	40	0.087	25	IFFM635
	M8x10	1,5	12	40	0.087	25	IFFM835
	M8X10	1,5	12	32	0.072	25	IFFM835H
50	M8X10	2	15	50	0.185	10	IFFM850
	M10X14	2	15	50	0.19	10	IFFM1050
	M12X15	2	15	50	0.201	10	IFFM1250
75	M12X20	3	20	46	0.250	4	IFFM1275

On demand: the above part numbers are available with brass or stainless steel insert as well as alternative colors.



Disconnecting links

Conductors range (mm^2)	Dimensions L x l x H	(Kg)		Part Number
16 - 35	125 x 30 x 26	0.12	1 - 10	BT2535
16 - 70	150 x 34 x 65	0.27	1	BT3570
16 - 70	150 x 45 x 70	0.31	1	BTL3570



Equipotential bonding bars

Composed of a flat red copper conductor with a cross section of 50x5mm, perforated with a row of central holes of diameter 6.5mm, mounted on two low voltage insulators with fixing rail in hot-dip galvanized steel with slotted holes (9x25mm) for an easy set up
Stainless steel hardware. Mounted with stainless steel bolts

Length (mm)	Number of free holes	(Kg)		Part Number
Version without disconnecting links:				
280	6	1.25	1	**BET6**
420	10	1.75	1	**BET10**
595	15	2.25	1	**BET15**
770	20	2.80	1	**BET20**
945	25	3.35	1	**BET25**
Version with disconnecting links:				
350	6	1.65	1	**BETC6**
490	10	2.15	1	**BETC10**
665	15	2.65	1	**BETC15**
840	20	3.20	1	**BETC20**
1015	25	3.75	1	**BETC25**
Disconnecting links only:				
105	-	0.70	1	**BTC**

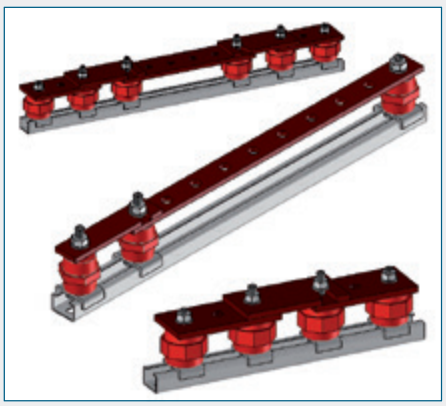
On-demand: Holes of 8.5 dia. or 12.5mm, tinned or threaded plates.

Copper earthing plates

Manufactured with red copper with a cross section of 100x10mm with 20 holes of dia. 10.5mm for connections. As an option, the plates can be equipped with four insulators (H = 35mm) mounted with stainless steel hardware. Mounted with stainless steel bolts

Designation	(Kg)		Part Number
Bare copper earthing plate, length 300mm	2.67	1	**PT300-10**
Copper earthing plate mounted on 4xM8 female to female insulators with a 35mm height	3.00	1	**PTI300-10**

On-demand: Holes of 8.5 dia. or 12.5mm, tinned or threaded plates.



On-demand equipotential bonding bars and earthing plates

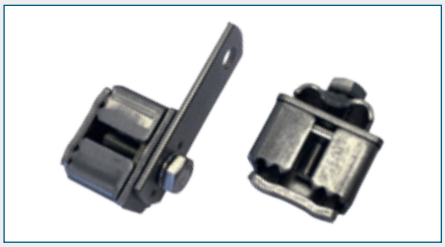
We can manufacture, based on your drawings and specification, copper, tinned copper or stainless steel earthing plates.

In the same way, we also provide equipotential bonding bars mounted on insulators with or without the fixing rail.

Upon request, we can fully pre-equipped with stainless steel or copper alloy bolts.

Earthing collars
Suitable for indoor use only

Cross section range (mm^2)	Tightening range on conduit (mm)	(Kg)		Part Number
2.5 - 16	12 - 28	0.03	10	CMT1228
2.5 - 16	18 - 48	0.06	10	CMT1848
2.5 - 16	18 - 114	0.07	10	CMT18114
2.5 - 16	18 - 165	0.08	10	CMT18165



Clamp for equipotential bonding on steel structure
To connect conductor on metallic frame, as per IEC EN62561-1
Body and bolts in A2 stainless steel

Designation	(Kg)		Part Number
To connect conductor on metallic frame, as per IEC EN62561-1. Body and bolts in A2 stainless steel	0.09	50	MS450I
Terminal clamp in A2 stainless steel with clamping jaw (hole of 11mm) for steel structure from 5 to 19mm and conductors from 8 to 10mm in diameter	0.30	25	GPH519I
Terminal clamp in A2 stainless steel with clamping jaw (hole of 11mm) for steel structure from 5 to 19mm and conductors from 8 to 10mm in diameter	0.25	25	GPH519I_8-10

On demand: clamps in galvanized steel and alternative tightening range.

Wedge clamp for conductors
For use in concrete foundation only

Designation	(Kg)		Part Number
Wedge clamp to connect conductors in cross or parallel shape: Two flat conductors with a width of 30mm One flat conductors with a width of 30mm with a round conductor with a diameter from 8 to 10mm	0.21	25	RCFG30/8-10

Clamp for tape conductor to rebar

Designation	(Kg)		Part Number
Clamp in steel for tape conductor of width 30 to 40 max. onto rebar of dia. 6 to 25mm max.	0.126	25	RFB6-25/40
Clamp in galvanized steel for tape conductor of width 30 to 40 max. onto rebar of dia. 6 to 25mm max.	0.126	25	RFB6-25/40G
Clamp in steel for tape conductor with a width of 30mm or for round conductor with a diameter of 10mm max onto rebar with a diameter from 6 to 20mm	0.126	25	RFBP6-20/30G

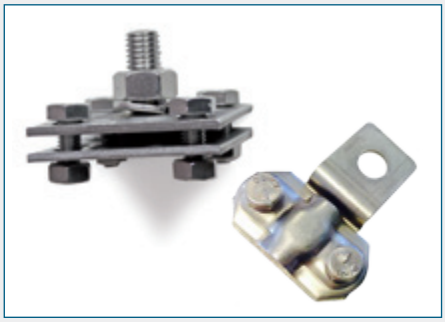
Stainless steel fixed earth terminal for concrete installation

To connect to rebars, according to IEC EN62561-1, provided with its protection cap
Alternative earth terminal available on request

Designation	(Kg)		Part Number
A4 stainless steel 80mm dia. flask with an M12 central threading on 20mm then M10 on 20mm. The connecting stem has a 10mm dia with a length of 200m	0,30	1 - 25	PTCM10-M12
A4 stainless steel 80mm dia. flask with an M16 central threading on 40mm. The connecting stem has a 10mm dia with a length of 200m	0.40	1	PTCM16
A4 stainless steel 80mm dia. flask with an M12 central threading on 20mm then M10 on 20mm mounted on a clamp for tape conductor with a width of 30mm and rebars with a dia. from 8 to 12mm max.	0,47	1	PTCM12-RCI
A4 stainless steel 80mm dia. flask with an M16 central threading on 20mm mounted on a clamp for tape conductor with a width of 30mm and rebars with a dia. from 8 to 12mm max.	0,52	1	PTCM16-RCI

Fixed earth terminal clamps for cables or rebars

Designation	(Kg)		Part Number
Fixed earth terminal clamp (cross, tee or parallel) between the stem of the earthing terminal and rebar. Range capacity 8-10mm dia. / 8-10mm dia. Body in hot-dip galvanized steel, tightening done using stainless steel screw	0.10	25	MVG8-10
Fixed earth terminal clamp (cross, tee or parallel) between the stem of the earth terminal and rebar. Range capacity 8-10mm dia. / 12-16mm dia. Body in hot-dip galvanized steel, tightening done using stainless steel screw	0.12	25	MVG8-16
Fixed earth terminal clamp (cross, tee or parallel) between the stem of the earth terminal and rebar. Range capacity 8-16mm dia. / 12-15mm dia. Body in hot-dip galvanized steel, tightening done using stainless steel screw	0.45	25	MVG8-25



Clamp for tape conductor to fixed earth terminal

Designation	(Kg)		Part Number
Stainless steel clamp for tape conductor with a width of 30mm on fixed earth terminal. Tightening done using 4xM8 stainless steel bolts. On demand : M10 central stud available	0.25	1 - 10	SPCAI-M12
A2 stainless steel clamp (also available in A4) for round (dia 8-10mm) and flat (width of 30mm) conductor	0.25	1 - 10	RZR30810A4

Heavy duty square clamps

According to IEC EN62561-2

Material	Range (mm)			Bolts			Part Number
	round/round	round/flat	flat/flat				
2xM8 hot-dip galvanized steel bolts with threaded base plate model							
Hot-dip galvanized steel	D8-10/D8-10	D8-10/30	30/30	M8x25	0.14	50	RD30/8-10

Connection clamp for tape or round conductor to rebars

Designation	(Kg)		Part Number
Galvanized steel connection clamp for tape with a width of 30mm or cable with a diameter from 20 to 40mm to rebar with a diameter from 6 to 20mm	0.307	25	RD40/10-40

C crimp connectors

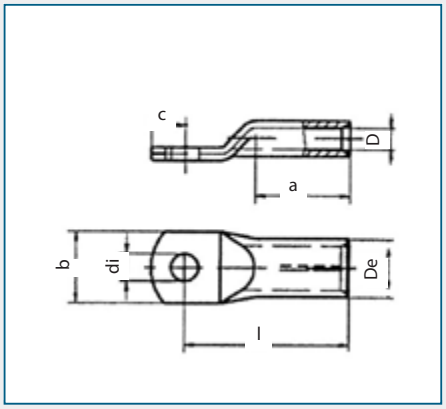
Cable nominal cross section (mm^2)	Combined cross section min-max (mm^2)		Min. capacity (mm^2)		Max. capacity (mm^2)		(Kg/100)		Part Number	
			1	2	1	2			Tinned copper	Copper
16	19	32	10	9	16	16	2	50	C16E	--
			16	2 x 1.5						
25	35	50	25	10	25	25	2	50	C25E	--
25	33	56	25	10	29	29	2.20	50	C25EGM	--
			27	6	35	16				
			30	2 x 1.5	30	16				
35	53	70	30	25	35	35	3.70	50	C35E	--
			50	2 x 1.5	50	16				
50	66	100	50	16	50	50	3.60	50	C50E	--
			63	2 x 1.5	70	30				
					75	25				
70	85	140	70	25	70	70	9.20	25	C70E	C70
75	105	170	75	30	95	75	15.50	25	C75E	C75
			70	35	95	70				
			90	16						
95	150	190	75	75	95	95	14	25	C95E	C95
120	156	240	120	35	120	120	16	25	C120E	C120
			150	6	150	50				
150	225	300	150	75	150	150	12	10	C150E	C150
185/95	260	300	185	75	185	95	13	10	C185-95E	C185-95
185	210	370	115	95	185	185	25	10	C185E	C185
			150	60	185	150				
240	387	480	240	150	240	240	22	10	C240E	C240

NEW

Crimping tool for MALTEP's lugs and compression sleeves

Crimp our products with our range of efficient and portable crimping tools

Discover our range of mechanical and electro-hydraulic crimping tool and dies for our lugs and compression sleeves, refer to section: Services and recommendations , at the end of this catalogue.

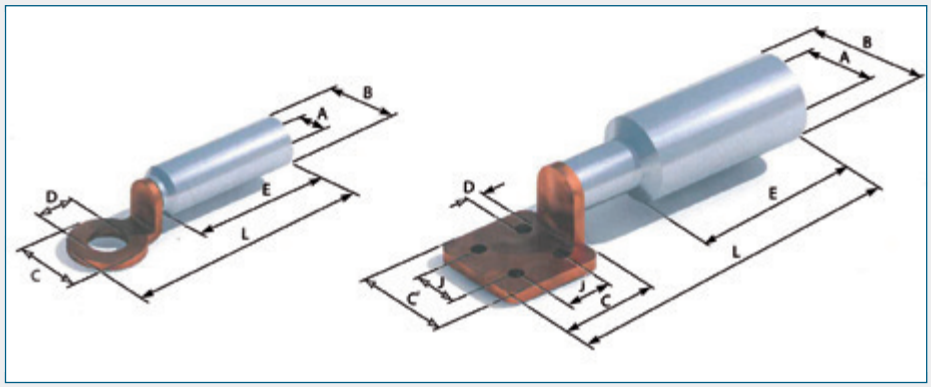


Tinned copper tubular compression lugs

Manufactured in tinned copper, NFC20-130 compliant

Cross Section (mm^2)	Di (mm)	D (mm)	De (mm)	b (mm)	a (mm)	c (mm)	l (mm)	(Kg/100)		Part Number
6	5.3	3.3	5.5	13	11	6.5	24	0.35	100	COT6-5
	6.5	3.3	5.5	13	11	7.5	25	0.36	100	COT6-6
	8.5	3.3	5.5	13	11	10	28	0.42	100	COT6-8
	10.5	3.3	5.5	16	11	12	30	0.43	100	COT6-10
10	6.5	4.2	6.8	12	12	6.50	24	0.49	100	COT10-6
	8.5	4.2	6.8	15	12	10	27	0.60	100	COT10-8
	10.5	4.2	6.8	16	12	12	29	0.72	100	COT10-10
	13	4.2	6.8	19	12	13	31	0.66	100	COT10-12
16	6.5	5.5	8	12	14	6.25	27	0.68	100	COT16-6
	8.5	5.5	8	16	14	8.50	29	0.77	100	COT16-8
	10.5	5.5	8	16	14	10.50	31	0.79	100	COT16-10
	13	5.5	8	19	14	12	32	0.80	100	COT16-12
25	6.5	6.6	9.5	13	15	6.25	30	1.05	100	COT25-6
	8.5	6.6	9.5	16	15	10	32	1.24	100	COT25-8
	10.5	6.6	9.5	17	15	12	34	1.33	100	COT25-10
	13	6.6	9.5	19	15	13	35	1.30	100	COT25-12
35	6.5	7.9	11	15	17	7.50	32	1.33	100	COT35-6
	8.5	7.9	11	17	17	10	34	1.45	100	COT35-8
	10.5	7.9	11	17	17	12	37	1.60	100	COT35-10
	13	7.9	11	19	17	13	38	1.65	100	COT35-12
50	8.5	9.2	12.5	18	19	10	37	1.95	100	COT50-8
	10.5	9.2	12.5	18	19	12	40	2.20	100	COT50-10
	13	9.2	12.5	19	19	13	41	2.31	100	COT50-12
	17	9.2	12.5	26	19	16	43	2.50	100	COT50-16
70	8.5	11	15	21	21	10	41	3.18	100	COT70-8
	10.5	11	15	21	21	12	43	3.38	100	COT70-10
	13	11	15	22	21	13	46	3.58	100	COT70-12
	17	11	15	28	21	16	50	3.85	100	COT70-16
95	8.5	13.1	17	25	25	10	46	4.25	50	COT95-8
	10.5	13.1	17	25	25	12	48	4.45	50	COT95-10
	13	13.1	17	25	25	13	50	4.65	50	COT95-12
	17	13.1	17	25	25	16	54	5.85	50	COT95-16
120	10.5	14.5	19	28	26	12	52	5.90	50	COT120-10
	13	14.5	19	28	26	13	53	6.10	50	COT120-12
	17	14.5	19	28	26	16	56	6.60	50	COT120-16
150	13	16.2	21	30	30	15	58	8.45	50	COT150-12
	17	16.2	21	30	30	16	59	8.30	50	COT150-16
	21	16.2	21	36	30	22	66	9.50	50	COT150-20
185	13	18	23	34	32	16	65	11.20	50	COT185-12
	17	18	23	34	32	19	68	10.00	50	COT185-16
	21	18	23	40	32	21	70	11.40	50	COT185-20
240	13	20.6	26	39	35	21.5	72	15.00	25	COT240-12
	17	20.6	26	39	35	21.5	72	14.60	25	COT240-16
	21	20.6	26	39	35	21.5	72	14.20	25	COT240-20
300	13	23.1	28	41	44	16	80	15.25	20	COT300-12
	17	23.1	28	41	44	19	83	16.20	20	COT300-16
	21	23.1	28	41	44	21	85	16.95	20	COT300-20
400	13	26.1	32	47	44	19	96	26.80	20	COT400-12
	17	26.1	32	47	44	19	96	25.60	20	COT400-16
	21	26.1	32	47	44	22	96	26.10	20	COT400-20

On-demand: compression lugs according to DIN46235.



Copper/Aluminium compression lugs with long barrel connector

Manufactured according to NFC33-090-1 and according to EDF HN.68.S.90
Material: barrel in aluminium (1050A) and terminals in copper (CuA1)
Welded by friction and tested one by one

Cross section mm²	A (mm)	B (mm)	E (mm)	L (mm)	C x C' (mm)	D (mm)	J (mm)	(Kg/100)		Reference
16	5,5	16	47,5	79	20	10,5	-	4,50	3	COAU16
25	6,5				25	12,8	-	4,30	3	COAU25
35	8							4,10	3	COAU35
50	9	20	47,5	86	25	12,8	-	7,00	3	C1AU50
70	11							6,70	3	C1AU70
95	12,5							6,40	3	C1AU95
120	13,7	25	64	110	30	12,8	-	12,60	3	C2AU120
150	15,5							12,00	3	C2AU150
185	17	32	64	110	30	12,8	-	21,50	3	C4AU185
240	19,5							20,50	3	C4AU240
300	23,3	40	100	142	36	16,5	-	34,50	3	C5AU300
400	26							32,00	3	C5AU400
500	29,1	47	101	200	60 x 60	4 x 9	30	63,00	3	C6AU500
630	32,5							61,00	3	C6AU600
800	37,5	60	136	256	80 x 80	4 x 11	40	156,00	3	C7AU800
1000	42							146,00	3	C7AU1000
1200	45,5	65	146,5	270	80 x 80	4 x 11	40	163,00	3	C8AU1200

Copper/Aluminium compression lugs with short barrel connectorcfor industrial networks facilities

Manufactured according to NFC63-061-B
Material: barrel in aluminium (1050A) and terminals in copper (CuA1)
Welded by friction and tested one by one. Reaming covered with grease

Cross section mm²	A (mm)	B (mm)	E (mm)	L (mm)	C (mm)	D (mm)	(Kg/100)		Part Number
35	8	16	34	70	20	10,5	3,00	3	CBTAU35-10
50	9	16	34	70	20	10,5	3,00	3	CBTAU50-10
70	11	20	34	70	20	10,5	4,00	3	CBTAU70-10
95	12,5	20	34	70	20	10,5	3,90	3	CBTAU95-10
120	13,7	20	34	70	20	10,5	3,80	3	CBTAU120-10
150	15,5	27	38	81	24	10,5	12,90	3	CBTAU150-10
150	15,5	27	38	81	24	12,8	12,80	3	CBTAU150-12
185	17	27	40	90	24	10,5	14,20	3	CBTAU185-10
185	17	27	40	90	24	12,8	14,00	3	CBTAU185-12
240	19,5	27	40	90	30	10,5	15,00	3	CBTAU240-10
240	19,5	27	40	90	30	12,8	14,80	3	CBTAU240-12
300	22	32	42	92	30	10,5	17,40	3	CBTAU300-10
300	22	32	42	92	30	14,5	17,00	3	CBTAU300-14

Straight shape cable lugs

Body in copper alloy, U tightener in stainless steel (bronze on-demand)

Cross section (mm^2)	U size (mm)	(kg/100)		Part Number
16 to 50	2 x M5	8.40	10 or 25	RD1050
10 to 70	2 x M6	10.00	10 or 25	RD1070
25 to 120	2 x M8	13.00	10 or 25	RD25120

Tee shape cable lugs

Body in copper alloy, U tightener in stainless steel (bronze on-demand)

Cross section (mm^2)	U size (mm)	(kg/100)		Part Number
16 to 50	2 x M5	8.70	10 or 25	RT1050
10 to 70	2 x M6	10.50	10 or 25	RT1070
25 to 150	2 x M8	20.00	10 or 25	RT25120

Staight cable terminal lugs

Body in copper alloy, U tightener in stainless steel (bronze on-demand)

Cross section (mm^2)	Hole dia. (mm)	Terminal dia. (mm)	(kg/100)		Part Number
10 to 70	9	24	7.20	10 or 25	CD1070-8
	11	24	7.20	10 or 25	CD1070-10
	13	24	7.20	10 or 25	CD1070-12
25 to 120	13	30	13.20	10 or 25	CD25120-12

Tee shape lugs

Body in copper alloy, U tightener in stainless steel (bronze on-demand)

Cross section (mm^2)	Hole dia. (mm)	Terminal dia. (mm)	(kg/100)		Part Number
10 to 70	9	24	8.00	10 or 25	CT1070-8
	11	24	8.00	10 or 25	CT1070-10
	13	24	8.00	10 or 25	CT1070-12
	9	24	8.00	10 or 25	CT1070-8L
	11	24	8.00	10 or 25	CT1070-10L
	13	24	8.00	10 or 25	CT1070-12L
25 to 150	13	30	18.00	10 or 25	CT25120-12

Flat angle bracket cable lugs

Body in copper alloy, U tightener in stainless steel (bronze on-demand)

Cross section (mm^2)	Hole dia. (mm)	Terminal dia. (mm)	(kg/100)		Part Number
10 to 70	9	24	7.60	10 or 25	CE1070-8
25 to 120	13	30	16.20	10 or 25	CE25120-12

Fully assembled cable holders mounted with stud and two bi-metallic washers

Cross section (mm^2)	Conductor capacity (mm)	Stud size	Max thickness (mm)	(kg/100)		Part Number
25	3-6	M6	6	4.20	50	SEF25-6/2RBM
35	4-8		6	4.80	50	SEF35-6/2RBM
50	7-10		6	6.40	50	SEF50-6/2RBM
95	8-12		6	8.40	25	SEF95-6/2RBM
95	8-12		12	8.60	25	SEF95-6/2RBM/30
120	10-14		12	10.60	25	SEF120-6/2RBM
150	10-16		12	15.80	25	SEF150-6/2RBM
185	12-18		12	16.80	25	SEF185-6/2RBM
25	3-6	M7	12	4.30	50	SEF25-7/2RBM
35	4-8		12	4.90	50	SEF35-7/2RBM
50	7-10		12	6.50	50	SEF50-7/2RBM
95	8-12		12	8.50	25	SEF95-7/2RBM
120	10-14		12	10.70	25	SEF120-7/2RBM
150	10-16		12	16.00	25	SEF150-7/2RBM
185	12-18		12	17.00	25	SEF185-7/2RBM
120	10-14	M8	14	11.20	25	SEF120-8/2RBM
150	12-16		14	16.20	25	SEF150-8/2RBM
185	12-18		14	17.50	25	SEF185-8/2RBM
240	16-20		14	25.90	25	SEF240-8/2RBM
300	22-23		14	32.70	10	SEFB300-8/BM

Copper/aluminium bi-metallic washers

Hole diameter (mm)	Outer dia. x thickness (mm)	(kg/100)		Part Number
6.5	20 x 1	0.11	100	RBM6/20
6.5	30 x 2	0.46	100	RBM6
8.5	30 x 2	0.45	100	RBM8

Copper alloy stud and nut

Threading	L (mm)	a (mm)	b (mm)	(kg/100)		Part Number
M6	22	14	6	0.42	100	GOUJONM6/22-LAI
M6	30	18	8	0.60	100	GOUJONM6/30-LAI
M8	35	21	10	1.20	100	GOUJONM8/35-LAI
M6	écrous			0.25	100	HUM6-LAI
M8	écrous			0.55	100	HUM8-LAI

Copper alloy cable holder

Cross section (mm^2)	Conductor capacity (mm)	Base threading	(kg/100)		Part Number
25	3-6	M6	2.40	50	SEF25-6
35	4-8		3.10	50	SEF35-6
50	7-10		4.65	50	SEF50-6
95	8-12		6.71	25	SEF95-6
120	10-14		8.80	25	SEF120-6
150	10-16		14.00	25	SEF150-6
185	12-18		16.20	25	SEF185-6
25	3-6	M8	2.40	50	SEF25-8
35	4-8		3.10	50	SEF35-8
50	7-10		4.65	50	SEF50-8
95	8-12		6.71	25	SEF95-8
120	10-14		8.80	25	SEF120-8
150	10-16		14.00	25	SEF150-8
185	12-18		16.20	10	SEF185-8
240	16-20		16.20	10	SEF240-8
300	22-23		30.20	10	SEFB300-8

316 (A4) Stainless steel cable holders

Recommend on industrial plant, food and beverage, pharmaceutical, marine environment installation due to its resistance to corrosion

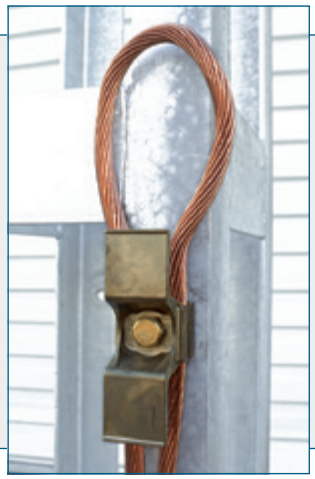
Cross section (mm^2)	Conductor capacity (mm)	Base threading	(kg/100)		Part Number
16-35	3-8	M6	3,10	50	SEF35-6-I316
50	7-10		4,90	50	SEF50-6-I316
95	8-12		6,30	25	SEF95-6-I316

Aluminium connector for round conductors

Designation			Part Number
Connector with galvanized steel body and aluminium ring for conductor from 6 to 10mm in diameter	0.59	50	KS610-AL

Stainless steel stove screw

Threading	L (mm)	(kg/100)		Part Number
M6	10	0.45	100	TPM6x10-A2
	12	0.48	100	TPM6x12-A2
	16	0.53	100	TPM6x16-A2
	20	0.42	100	TPM6x20-A2
M8	16	1.10	100	TPM8x16-A2



Winged earth clamps

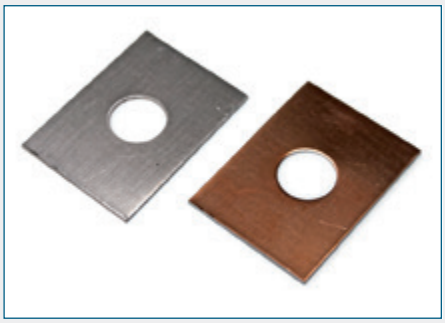
Body in copper alloy, resistant to corrosion. Mounted with stainless steel bolts
Tinned version on request, thickness of the steel frame of 20mm

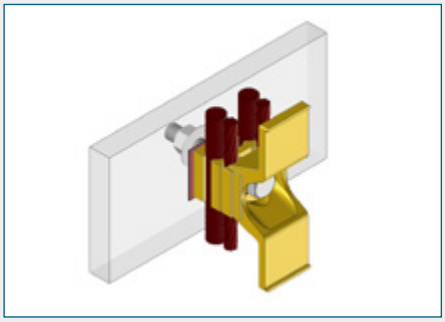
Min. Max. cable capacity (mm^2)	Bolts	(Kg)		Part Number
2 x (50 à 120 mm^2)	M12 x 60	0.60	20	CLPAR50-120
2 x (120 à 240 mm^2)	M12 x 70	0.80	20	CLPAR120-240
2 x (120 à 300 mm^2)	M16 X 80	0.91	10	CLPAR185-300

Double winged earth clamps

Body in copper alloy, resistant to corrosion. Mounted with stainless steel bolts
Tinned version on request, thickness of the steel frame of 20mm

Min. Max. cable capacity (mm^2)	Bolts	(Kg)		Part Number
4 x (50 à 120 mm^2)	M12 x 80	0.60	20	2CLPAR50-120
4 x (120 à 240 mm^2)	M12 x 90	0.80	15	2CLPAR120-240
4x (120 à 300 mm^2)	M16 X 100	1.05	10	2CLPAR185-300





Copper / Aluminium bi-metallic plates

Hole diameter (mm)	Dimensions X thickness (mm)	(Kg/100)		Part Number
10.5	55 x 40 x 1	0.80	100	PBM10
12.5	55 x 40 x 1	0.77	100	PBM12
14.5	55 x 40 x 1	0.75	100	PBM14
16.5	55 x 40 x 1	0.70	100	PBM16

Note: - Insert a bi-metallic plate as well as a washer when mounting our earth clamps series on galvanized steel surface to prevent from galvanic corrosion.

- Please refer to our earth clamp series with copper alloy bolts approved by the French national utility company (RTE CNER), refer to page 39 to 43.

Earth clamp

Body in copper alloy, resistant to corrosion
Mounted with stainless steel bolts
Tinned version on request, thickness of the steel frame of 20mm

Min. Max. cable capacity (mm^2)	Bolts	(Kg)		Part Number
2 x (16 à 70 mm^2)	M10 x 40	0.13	25	CPAR50
2 x (50 à 120 mm^2)	M12 x 60	0.25	25	CPAR50-120
2 x (120 à 240 mm^2)	M12 x 70	0.35	25	CPAR120-240
2 x (120 à 300 mm^2)	M16 X 80	0.43	10	CPAR185-300
2 x (300 à 400 mm^2)	M16 X 80	0.58	10	CPAR300-400

Double earth clamp

Body in copper alloy, resistant to corrosion
Stainless steel hardware

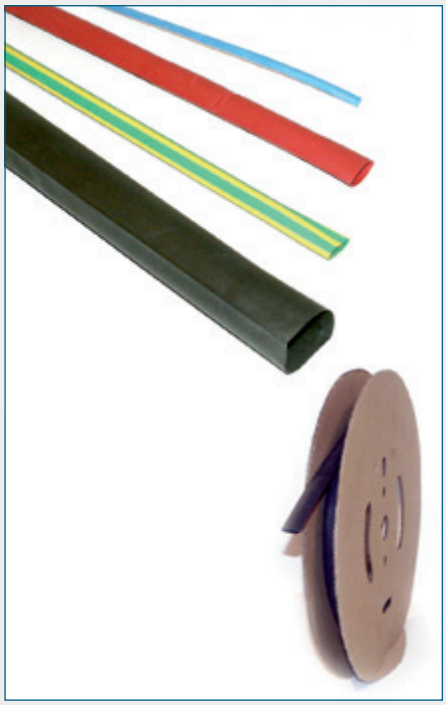
Min. Max. cable capacity (mm^2)	Bolts	(Kg)		Part Number
4 x (50 à 120mm^2)	M12 x 80	0.34	10	2CPAR50-120
4 x (120 à 240mm^2)	M12 x 90	0.50	10	2CPAR120-240
4 x (120 à 300 mm^2)	M16 X 100	0.60	10	2CPAR185-300

Copper/aluminium bi-metallic washers

Hole diameter (mm)	Dimensions X thickness (mm)	(Kg/100)		Part Number
6.5	30 x 2	0.46	100	RBM6
8.5	30 x 2	0.45	100	RBM8
10.5	30 x 2	0.45	100	RBM10
13	30 x 2	0.45	100	RBM12
14.5	30 x 2	0.45	100	RBM14
16.5	30 x 2	0.45	100	RBM16

Note: - Insert a bi-metallic plate as well as a washer when mounting our earth clamps series on galvanized steel surface to prevent galvanic corrosion.

- Please refer to our earth clamp series with copper alloy bolts approved by the French national utility company (RTE CNER), refer to page 39 to 43.

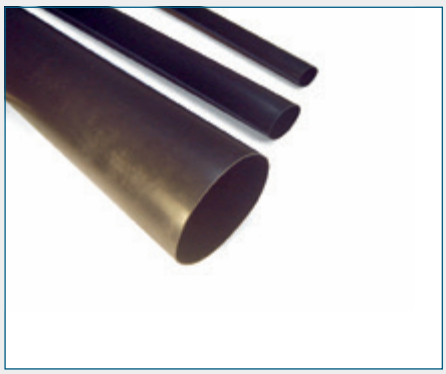


Small duty heat shrink tube

Material: thin wall in polyolefin, standard black color (on-demand color, please refer to color code)
Shrink ratio: 2/1
Shrink temperature: > 100°C
Operating temperature : -50°C to +120°C
Di-electrical resistance: > 20kV/mm
UV resistant

Pre-shrink diameter (mm)	Post-shrink diameter (mm)	Post shrink wall thickness (mm)		Part Number
3.2	1.6	0.51	(*)	GPF-1/8
4.8	2.4	0.51	(*)	GPF-3/16
6.4	3.2	0.64	(*)	GPF-1/4
9.5	4.8	0.64	(*)	GPF-3/8
12.7	6.4	0.64	(*)	GPF-1/2
19.1	9.5	0.76	(*)	GPF-3/4
25.4	12.7	0.89	(*)	GPF-1
31.8	15.9	0.89	(*)	GPF-1-1/4
38.1	19.1	1.02	(*)	GPF-1-1/2
51	25.4	1.14	(*)	GPF-2
76	38	1.27	(*)	GPF-3

(*) : Other colors available with a length of 1m, coils also available (to be confirmed upon order)
Color code to be added to the product part number: VJ: Green/Yellow, R: Red, M: Brown, BLC: White, O: Orange



Waterproof regular dual wall duty heat shrink tube

Material: regular wall in polyolefin, standard black color
Shrink ratio: 3/1
Shrink temperature: > 110°C
Operating temperature : -55°C to +110°C
Di-electrical resistance: > 15kV/mm
UV resistant, halogen free
Available in length of 1m

Pre-shrink diameter (mm)	Post-shrink diameter (mm)	Post shrink wall thickness (mm)		Part Number
8	2	1.3	5	GPMA8/2
12	3	1.4	5	GPMA12/3
22	6	2	5	GPMA22/6
34	7	2.6	5	GPMA34/7
40	12	2.6	5	GPMA40/12
56	16	2.7	5	GPMA56/16
75	22	3	5	GPMA75/22
95	26	3.2	5	GPMA95/26
120	34	3.3	5	GPMA120/34

Waterproof heavy dual wall duty heat shrink tube

Material: regular wall in polyolefin, standard black color
Shrink ratio: 3/1
Shrink temperature: > 110°C
Operating temperature : -55°C to +110°C
Di-electrical resistance: > 15kV/mm
UV resistant, halogen free
Available in length of 1m

Pre-shrink diameter (mm)	Post-shrink diameter (mm)	Post shrink wall thickness (mm)		Part Number
12	3	2.5	5	GPEA12/3
19	6	2.7	5	GPEA19/6
30	8	4	5	GPEA30/8
45	12	4	5	GPEA45/12
52	12	4.1	5	GPEA52/12
72	20	4.2	5	GPEA72/20
92	26	4.3	5	GPEA92/26
120	34	4.6	5	GPEA120/34

Heavy duty bar holder

Body in copper alloy, high mechanical resistant and resistant to corrosion
Provided fully mounted with stainless steel bolts

Max. width L (mm)	Max. thickness (mm)	Treading T	Bolts	(Kg)		Part Number
30-32	8	M8	2 x M6	0.11	50	SL-30
40	10	M8	2 x M6	0.11	50	SL-40
50	10	M10	2 x M8	0.21	25	SL-50

On demand: alternatives dimensions

Heavy duty bar holder accessories

Designation	Dimensions			(Kg)		Part Number
	L (mm)	T	D (mm)			
Dowel screw	50	M8		1.00	50	PV-M8
Plastic screw anchor	44		10	0.12	100	C10
Dowel screw	60	M10		1.30	50	PV-M10
Plastic screw anchor	57		12	0.14	25	C12

Parallel cable clamps

Body in tinned tinned copper alloy, zinc plated bolts

Min. Max. cable capacity (mm^2)	Bolts	(Kg)		Part Number
4 à 29	M6	0.027	50	RAG430
10 à 50	M6	0.04	50	RAG1050
10 à 50	2 x M6	0.07	25	RAG10502
16 à 95	2 x M6	0.095	25	RAG16952
25 à 150	2 x M8	0.198	10	RAG25150

Parallel cable clamps with stainless steel hardware

Body in tinned copper alloy, stainless steel bolt

Min. Max. cable capacity (mm^2)	Bolts	(Kg)		Part Number
4 à 29	M6	0.027	50	RAG430I
10 à 50	M6	0.04	50	RAG1050I

Threaded hexagonal A2 stainless steel bolts (DIN933 ISO4017)

Threading	Length (mm)	Width (mm)	(Kg/100)		Part Number
M6	12	10	0.43	200	THM6x12-A2
	16		0.55	200	THM6x16-A2
	20		0.61	200	THM6x20-A2
	25		0.66	200	THM6x25-A2
	30		0.76	200	THM6x30-A2
M8	16	13	1.08	200	THM8x16-A2
	20		1.23	200	THM8x20-A2
	25		1.36	200	THM8x25-A2
	30		1.51	200	THM8x30-A2
	40		1.85	200	THM8x40-A2
M10	20	17	2.17	100	THM10x20-A2
	25		2.43	100	THM10x25-A2
	30		2.68	100	THM10x30-A2
	40		3.12	100	THM10x40-A2
M12	40	19	4.38	100	THM12x40-A2
	50		5.22	50	THM12x50-A2
	60		6.06	50	THM12x60-A2
	70		6.90	50	THM12x70-A2
	80		7.60	50	THM12x80-A2

A4 Stainless steel and alternatives dimensions available on-demand.

A2 Stainless steel threaded rods (DIN975)

Threading	Length (mm)	(Kg/100)		Part Number
M6	1000	0.17	5	TFM6-A2
M8	1000	0.31	5	TFM8-A2
M10	1000	0.51	5	TFM10-A2
M12	1000	0.70	1	TFM12-A2
M16	1000	1.33	1	TFM16-A2

A2 stainless steel nuts (DIN934 ISO4032)

Threading	Length (mm)	Width (mm)	(Kg/100)		Part Number
M6	5	10	0.22	200	HUM6-A2
M8	6.5	13	0.46	200	HUM8-A2
M10	8	17	1.06	100	HUM10-A2
M12	10	19	1.56	100	HUM12-A2
M16	12	24	3.05	50	HUM16-A2

A2 stainless steel washers (DIN125 ISO7089)

Hole diameter (mm)	Outer diameter (mm)	Thickness (mm)	(Kg/100)		Part Number
6.4	12	1.6	0.11	200	RDEL6-A2
8.4	16	1.6	0.2	200	RDEL8-A2
10.5	20	2	0.41	100	RDEL10-A2
13	24	2.5	0.80	100	RDEL12-A2
17	30	3	1.25	100	RDEL16-A2

A2 stainless steel grower washers (DIN127B)

Hole diameter (mm)	Outer diameter (mm)	Thickness (mm)	(Kg/100)		Part Number
6.1	11.8	1.6	0.09	200	RDELW6-A2
8.1	14.8	2	0.15	200	RDELW8-A2
10.2	18.1	2.2	0.25	100	RDELW10-A2
12.2	21.1	2.5	0.37	100	RDELW12-A2
16.2	27.4	3.5	0.75	100	RDELW16-A2

Copper alloy screw with hexagon head (DIN933 ISO4017)

Threading	Length (mm)	Width (mm)	(Kg/100)		Part Number
M6	12	10	0.52	200	THM6x12-LAI
	16		0.60	200	THM6x16-LAI
	20		0.65	200	THM6x20-LAI
	25		0.73	200	THM6x25-LAI
	30		0.82	200	THM6x30-LAI
M8	20	13	1.26	200	THM8x20-LAI
	25		1.47	200	THM8x25-LAI
	30		1.62	200	THM8x30-LAI
M10	30	17	2.80	50	THM10x30-LAI
	40		3.30	50	THM10x40-LAI
M12	40	19	4.90	50	THM12x40-LAI
	60		6.50	50	THM12x60-LAI

Other dimension available on-demand.

Copper alloy nuts (DIN934 and ISO4032)

Threading	Length (mm)	Width (mm)	(Kg/100)		Part Number
M6	5	10	0.25	200	HUM6-LAI
M8	6.5	13	0.55	200	HUM8-LAI
M10	8	17	1.2	100	HUM10-LAI
M12	10	19	1.8	100	HUM12-LAI

Copper alloy washers (DIN125 ISO7089)

Hole diameter (mm)	Outer diameter (mm)	Thickness (mm)	(Kg/100)		Part Number
6.4	12	1.6	0.12	200	RDEL6-LAI
8.4	16	1.6	0.25	200	RDEL8-LAI
10.5	20	2	0.48	100	RDEL10-LAI
13	24	2.5	0.98	100	RDEL12-LAI

Dowel screws

Material	Head size x heigh (mm)	Total length (mm)	(Kg/100)		Part Number
Galvanized steel	M6 x 6	38	0.42	50	PV-M6
Galvanized steel	M7 x 7	38	0.59	50	PV-M7
Copper alloy	M7 x 7	38	0.59	50	PV-M7LAI
Galvanized steel	M8 x 8	48	1.00	50	PV-M8
Galvanized steel	M10 x 10	57	1.60	50	PV-M10

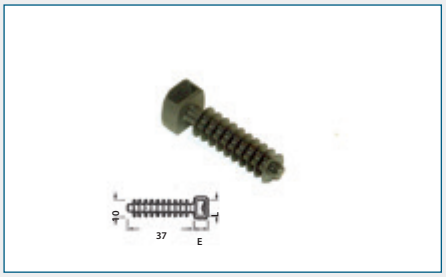
Plastic screws anchors

Diameter (mm)	Associated Dowel screw	Length (mm)	(Kg/100)		Part Number
6	-	30	0.10	100	C6
8	PV-M6	40	0.17	100	C8
10	PV-M8	44	0.26	50	C10
12	PV-M10	57	0.48	25	C12

Zip ties

Material: polyamide 12 black
Operating temperature: -40°C to +60°C (peak at 120°C)
Di-electrical
strenght: 28kV/mm
Flame resistance: UL 94 class HB
Conform to EDF HN 33/S/62 specifications

Width (mm)	Length (mm)	Max. tightening dia.(mm)	Strength resistance (daN)		Part Number
6	120	22	25	100	CP6-120
6	180	42	25	100	CP6-180
6	280	62	25	100	CP6-280
6	360	92	25	100	CP6-360
9	120	22	35	100	CP9-120
9	180	42	35	100	CP9-180
9	265	62	51	100	CP9-265
9	360	92	51	100	CP9-360
9	510	140	55	100	CP9-510
9	760	220	55	100	CP9-760



Push-in zip ties mount

For zip ties

Diameter (mm)	Length (mm)	Way dimension			Part Number
		Thickness (mm)	Width (mm)		
10	37	6.5	9.2	100	PFC9-6
10	37	13	9.2	100	PFC9-13

Stainless steel zip ties

Operating temperature: -40°C to +540°C
Material : 302/304 stainless steel

Width (mm)	Length (mm)	Max. tightening dia.(mm)	Strength resistance (daN)		Part Number
4.6	201	51	45	100	CI4-201
4.6	360	102	45	100	CI4-360
4.6	520	152	45	100	CI4-520
4.6	679	203	45	100	CI4-680
4.6	838	254	45	100	CI4-840
7.9	201	51	113	100	CI7-201
7.9	360	102	113	100	CI7-360
7.9	520	152	113	100	CI7-520
7.9	679	203	113	100	CI7-680
7.9	838	254	113	100	CI7-840
7.9	1016	305	113	50	CI7-1010

Gripped tie gun for zip ties installation

To be used with zip ties from 4,6mm and 7,9mm	0.80	1	CT3

Stainless steel ribbon ties

AISI201 stainless steel, approved by EDF
Coils of 50m

Designation	(Kg)		Part Number
10x0.4mm stainless steel ribbon ties	1.80	50 m	F104
10x0.7mm stainless steel ribbon ties	3.00	50 m	F107
20x0.4mm stainless steel ribbon ties	3,50	50 m	F204
20x0.7mm stainless steel ribbon ties	5,90	50 m	F207

Staples

Designation	(Kg)		Part Number
Stainless steel staples for 10mm ribbon ties	0.36	100	A100
Stainless steel staples for 20mm ribbon ties	0.60	100	A200

Gripped tie gun

Designation	(Kg)		Part Number
Gripped tie gun for 10 or 20mm ribbon ties	1.40	1	OPL

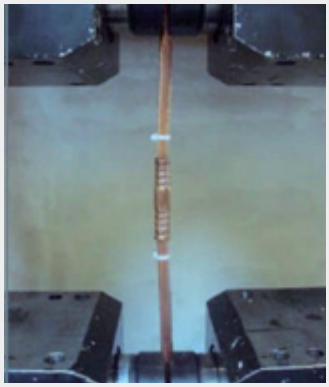
Fixing clamp for ribbon ties

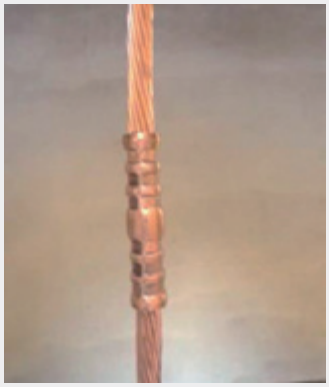
Designation	(Kg)		Part Number
Stainless fixing clamp for 10mm ribbon ties Slot of 15x2.2mm to pass the ribbon Provided with stainless steel M8 screw	2.40	50	ECI8

Power Substation Hardware

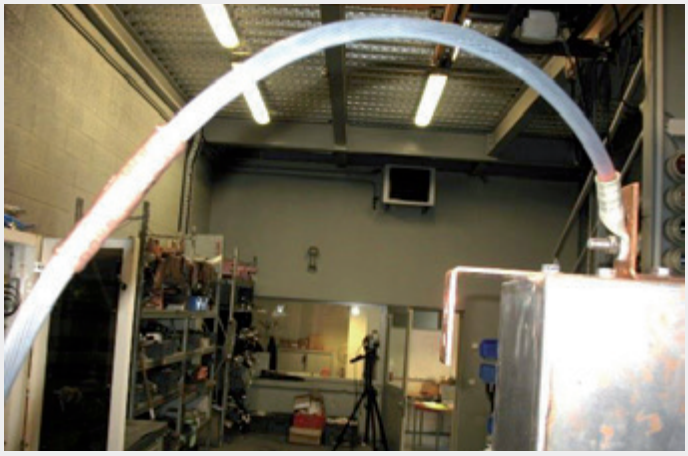
Maltep's substation product range is designed and approved by the French utility company for the grounding and bonding of substation plants.

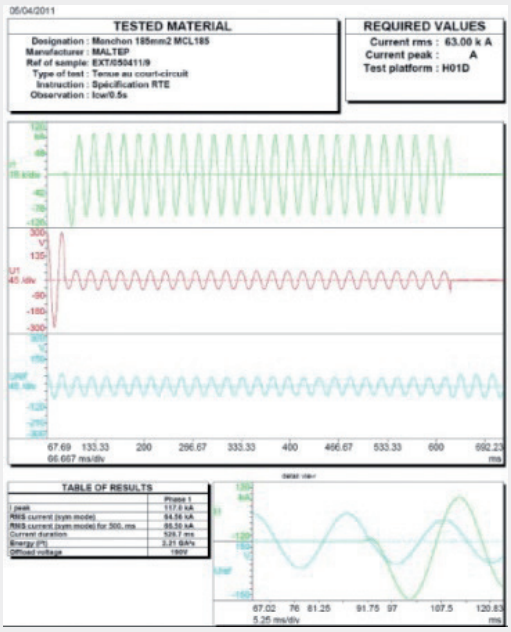
Overview of the third party laboratories mechanical and electrical tests performed on our products according to RTE CNER specifications (French utility company).





Static traction test done on a MALTEP MCL185 coupler mounted on 185mm² bare copper cables and put under a stress load of 1750daN during 1 minute : no slippage was observed on the sample.

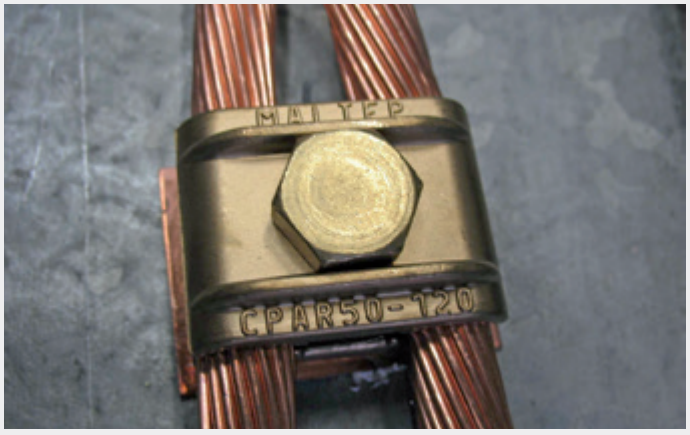




A 63kA short circuit test performed on MALTEP MCL185 coupler and tubular compression lug with a 185mm² bare copper cable during 0.5 sec.

A Maltep MCL serie coupler state after a short circuit test.

A 40kA short-circuit test performed on a flexible 150mm² MALTEP tinned copper earth braid from our TME product series during 1 sec.

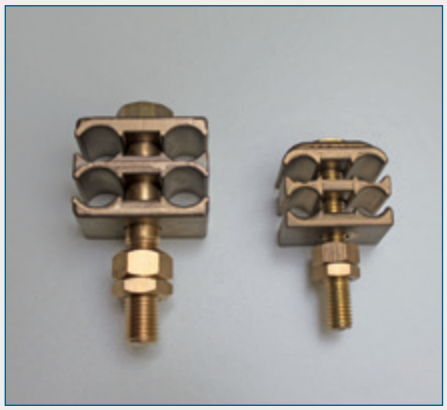


A 30kA short-circuit test performed on a MALTEP earth clamp from our CPAR product series with a 116mm² bare copper cable during 1 sec.

Maltep's substation product range designed and approved by the French utility company for the grounding and bonding of substation plants.

Earth clamp
Thickness of the steel frame of 20mm

RTE CNER marks	RTE CNER Reference	Cables cross section (mm^2)	Bolt	Recommended torque (Nm)	Short circuit intensity withstand (A)	Weight (kg)	MALTEP Part Number
A1	STN-75/116	50-120 (70, 75,116)	M12	36	30kA/1s	0,27	CPAR50-120L
A2	STN-146	150 (146)	M14	55	40kA/1s	0,28	CPAR150L
A3	STN-182	185 (182)	M16	70	63kA/0,5s	0,47	CPAR185L

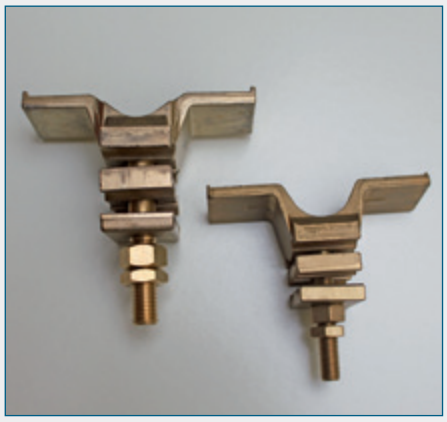


Double earth clamp
Thickness of the steel frame of 20mm

RTE CNER marks	RTE CNER Reference	Cables cross section (mm^2)	Bolt	Recommended torque (Nm)	Short circuit intensity withstand (A)	Weight (kg)	MALTEP Part Number
C1	STND-75/116	50-120 (70, 75,116)	M12	36	30kA/1s	0,36	2CPAR50-120L
C2	STND-146	150 (146)	M14	55	40kA/1s	0,37	2CPAR150L
C3	STND-182	185 (182)	M16	70	63kA/0,5s	0,64	2CPAR185L

Winged earth clamp
Thickness of the steel frame of 20mm

RTE CNER marks	RTE CNER Reference	Cables cross section (mm^2)	Bolt	Recommended torque (Nm)	Short circuit intensity withstand (A)	Weight (kg)	MALTEP Part Number
B2	STA-2/75-116	50-120 (70, 75,116)	M12	36	30kA/1s	0,62	CLPAR50-120L
B3	STA-2/146	150 (146)	M14	55	40kA/1s	0,63	CLPAR150L
B4	STA-2/182	185 (182)	M16	70	63kA/0,5s	0,90	CLPAR185L



Double winged earth clamp
Thickness of the steel frame of 20mm

RTE CNER marks	RTE CNER Reference	Cables cross section (mm^2)	Bolt	Recommended torque (Nm)	Short circuit intensity withstand (A)	Weight (kg)	MALTEP Part Number
D2	STDA-2/75-116	50-120 (70, 75,116)	M12	36	30kA/1s	0,71	2CLPAR50-120L
D3	STDA-2/146	150 (146)	M14	55	40kA/1s	0,72	2CLPAR150L
D4	STDA-2/182	185 (182)	M16	70	63kA/0,5s	1,08	2CLPAR185L

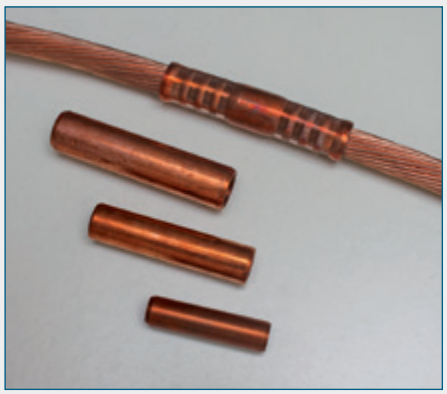
Note: Use a Copper/Aluminium bi-metallic plate and washer when the earth clamp is mounted on a galvanized steel surface to prevent galvanic corrosion occurring.

Maltep's substation product range designed and approved by the French utility company for the grounding and bonding of substation plants.

Straight compression lugs with long barrel

Crimp it with using DIN dies,
consult us for advise on tools and crimping equipment

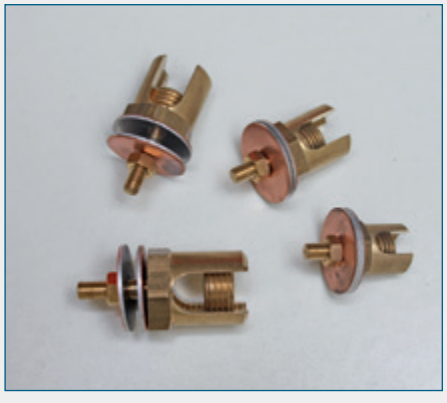
RTE CNER marks	RTE CNER Reference	Cables cross section (mm^2)	Hole dia. (mm)	width X thickness (mm)	Short circuit intensity withstand (A)	Weight (kg)	MALTEP Part Number
F1	CDCT75 10	70, 75	10,5	24 x 4,5	20kA/1s	0,06	COTD75-10
	CDCT75 12	70, 75	13		20kA/1s	0,06	COTD75-12
F2	CDCT120 10	120 (116)	10,5	32 x 5	30kA/1s	0,11	COTD120-10
	CDCT120 12	120 (116)	13		30kA/1s	0,11	COTD120-12
F3	CDCT146 12	150 (146)	13	34 x 6	40kA/1s	0,16	COTD150-12
	CDCT146 16	150 (146)	17		40kA/1s	0,16	COTD150-16
F4	CDCT182 14	185 (182)	15	37 x 6	63kA/0,5s	0,19	COTD185-14
	CDCT182 16	185 (182)	17		63kA/0,5s	0,19	COTD185-16



Copper compression sleeves

Crimp it with using DIN dies,
consult us for advise on tools and crimping equipment

RTE CNER marks	RTE CNER Reference	Cables cross section (mm^2)	Short circuit intensity withstand (A)	Weight (kg)	MALTEP Part Number
M1	MCL75	70, 75	20kA/1s	0,07	MCL75
M2	MCL120	120 (116)	30kA/1s	0,15	MCL120
M3	MCL150	150 (146)	40kA/1s	0,20	MCL150
M4	MCL185	185 (182)	63kA/0,5s	0,23	MCL185



Cable holders

Provided including stud, two bi-metallic washers (dia. 30mm) in copper : aluminium
The length of the stud allows the cable holder to be mounted on steel frame with a thickness of 12mm

RTE CNER marks	RTE CNER Reference	Cables cross section (mm^2)	Width capacity (mm)	Stud Size	Weight (kg)	MALTEP Part Number
L1	SF12.7+BM	70, 75	12	M7	0,09	SEF95-7/2RBM
L2	SF14.7+BM	120 (116)	14	M7	0,11	SEF120-7/2RBM
L3	SF16.7+BM	150 (146)	16	M7	0,16	SEF150-7/2RBM
L4	SF20.7+BM	185 (182)	18	M7	0,19	SEF185-7/2RBM

Maltep's substation product range designed and approved by the French utility company for the grounding and bonding of substation plants.

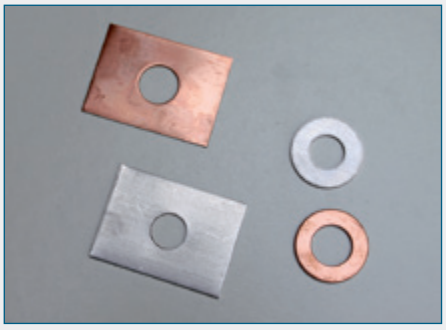
Flexible tinned copper earth braids

RTE CNER marks	RTE CNER Reference	Earth braid Cross section (mm^2)	Hole diam. (mm)	Length between hole axes (mm)	Connector dimensions LxWxThick (mm)	Short circuit intensity withstand (A)	Weight (kg)	MALTEP Part Number
S1	TME75300-13	75	13	300	31x30x7	20kA/1s	0,26	TME75300-12
	TME75500-13			500			0,39	TME75500-12
	TME75700-13			700			0,55	TME75700-12
	TME75900-13			900			0,70	TME75900-12
S2	TME120300-13	120	13	300	40x40x8	30kA/1s	0,44	TME120300-12
	TME120500-13			500			0,68	TME120500-12
	TME120700-13			700			0,91	TME120700-12
	TME120900-13			900			1,16	TME120900-12
S3	TME150300-13	150	13	300	47x50x7	40kA/1s	0,62	TME150300-12
	TME150500-13			500			0,92	TME150500-12
	TME150700-13			700			1,14	TME150700-12
	TME150900-13			900			1,44	TME150900-12
S4	TME185300-13	185	13	300	47x50x9	63kA/0,5s	0,72	TME185300-12
	TME185500-13			500			1,10	TME185500-12
	TME185700-13			700			1,47	TME185700-12
	TME185900-13			900			1,96	TME185900-12

Copper or tinned copper C crimp connectors for earthing circuits

Crimp it with using HCT dies, consult us for advises on tools and crimping equipment

RTE CNER marks	RTE CNER Reference	Cables cross section (mm^2)	Short circuit Intensity withstand		Weight (kg)	MALTEP Part Number	
			through (A)	derived		Copper	Tinned copper
J1	RDCT-75/75	75	20kA/1s	20kA/1s	0,14	C95	C95E
J2	RDCT-116/75	120 (116) - 70, 75	30kA/1s	20kA/1s	0,16	C120	C120E
J3	RDCT-116/116	120 (116) - 120 (116)	30kA/1s	30kA/1s	0,16	C120	C120E
J4	RDCT-146/75	150 (146) - 70, 75	40kA/1s	20kA/1s	0,12	C150	C150E
J5	RDCT-146/146	150 (146) - 150 (146)	40kA/1s	40kA/1s	0,12	C150	C150E
J6	RDCT-182/75	185 (182) - 70, 75	63kA/0,5s	20kA/1s	0,13	C185-95	C185-95E
J7	RDCT-182/182	185 (182) - 185 (182)	63kA/0,5s	63kA/0,5s	0,25	C185	C185E



Copper/Aluminium bi-metallic plate and washer for earth clamp

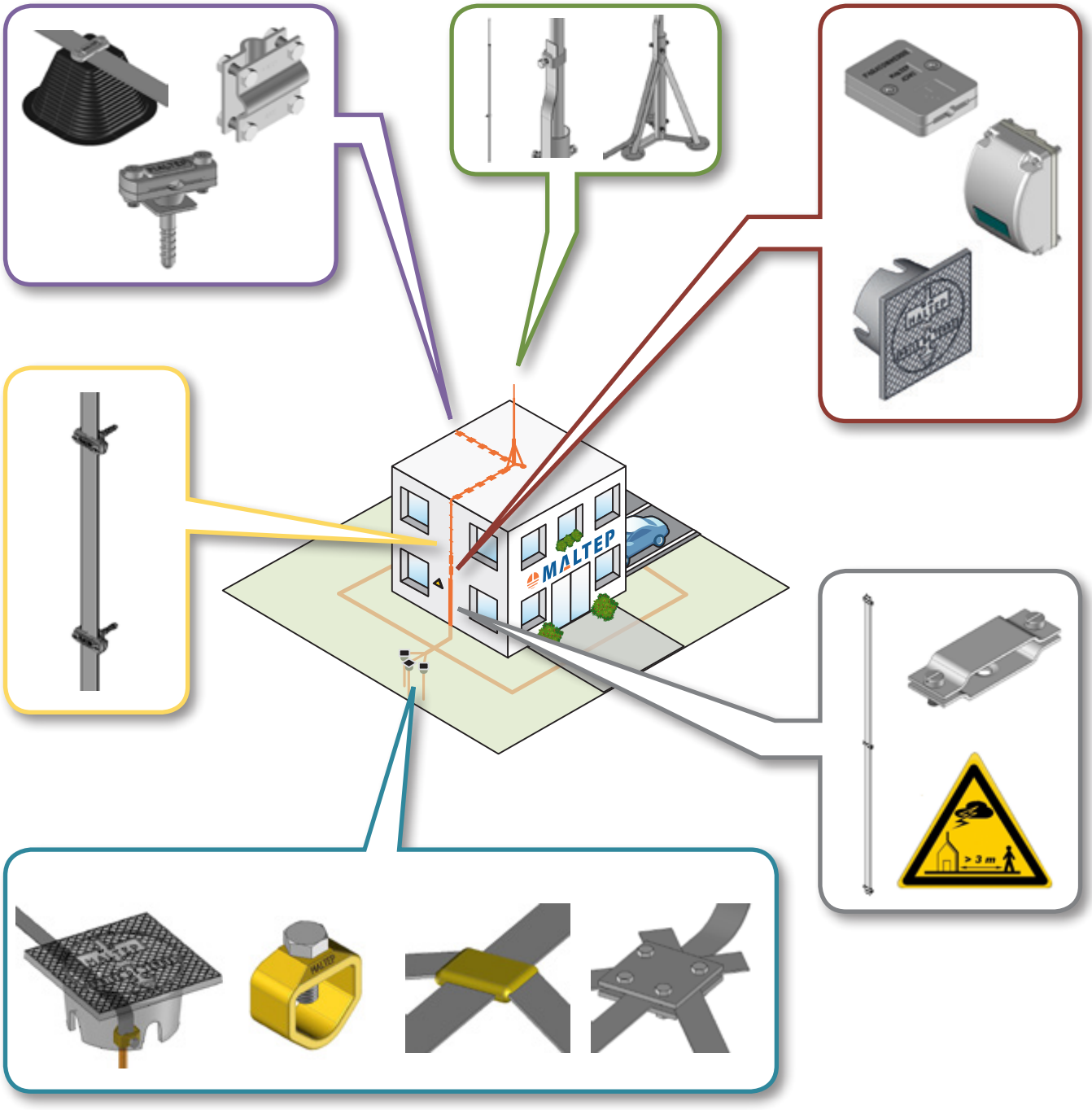
RTE CNER marks	RTE CNER Reference	Dimensions (mm)	Hole diam. (mm)	Weight per hundred pces (Kg)	MALTEP Part Number
E1	PBST1/12.14	55 x 40 x 1	14,3	0,75	PBM14
E3	PBST1/16	55 x 40 x 1	16,5	0,70	PBM16
E2	PBST2/12.14	Dia.30 x 2	14,3	0,40	RBM14
E4	PBST2/16	Dia.30 x 2	16,5	0,36	RBM16

Lightning Protection

General overview principle of a Lightning Protection System (LPS)

Case of an installation with lightning rod (general overview of the installation)

Category	Product range
Air Terminal and holders	Lightning rods, ESE, air terminal and support
Down conductor	50mm² min conductor
Conductors fasteners	Conductor holdfast, plots, square clamps, staple
Protection and signalling	Anti-vandal guards, signal panel
Control and maintenance	Lightning strike counter, test joint, earth pit
Earth electrode	Conductor, earth rods, Crows foot clamp, exothermic welding

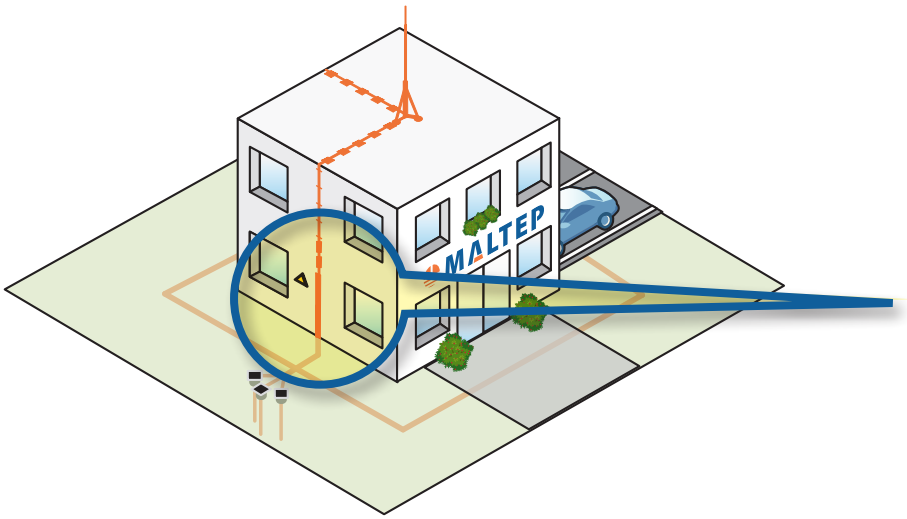


Standard Information

Norme **NF EN 62305** (Protection against lightning: Physical damage to structures and life hazard)

General overview principle of a Lightning Protection System (LPS)

Case of an installation with lightning rod (detail of the installation)



Down conductor

Conductor fastener

Lightning strike counter

Test joint

Anti-vandal metal guard

Standard Information

For the lightning protection equipments manufacturers

The international and european **EN IEC 62561** : standard: Lightning Protection System Components, specifies the requirements to apply when manufacturing lightning protection components.

The standard is composed of the following parts:

- **EN IEC 62561-1 :** Connection components
- **EN IEC 62561-2 :** Conductors and earth electrodes
- **EN IEC 62561-3 :** Isolating spark gaps
- **EN IEC 62561-4 :** Conductors fasteners
- **EN IEC 62561-5 :** Earth electrode inspection housing and seals
- **EN IEC 62561-6 :** Lightning strike counters (LSC)

To obtain the certifications of its products according to 62561-1 and 2, **MALTEP** succesfully worked in association with the ELEMKO laboratory (Accreditation : 3051.01).

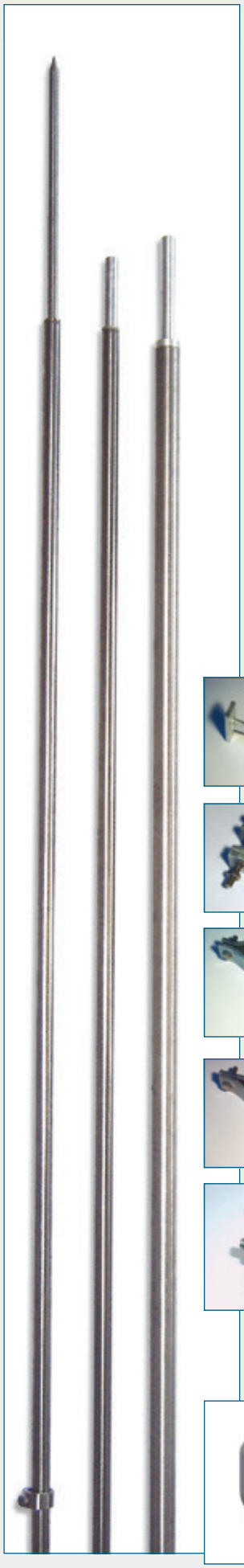
MALTEP Certificate of Conformity

100kA, 10/350µsec. Impulse current generator (1)

Static mechanical bench (1)

Overview of samples after the humid sulphurous atmosphere testing

(1) Source : ELEMKO, All rights reserved - 2017



Lightning rods
According to IEC EN62561-2

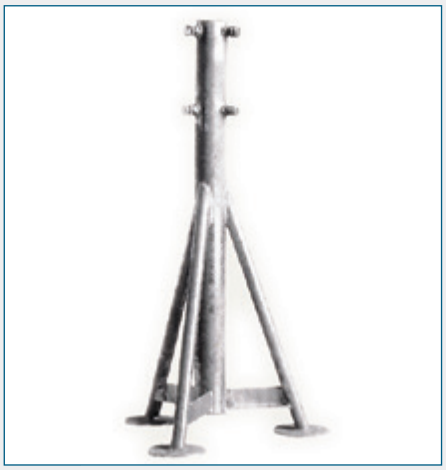
Designation	(Kg)		Part Number
Stainless steel lightning rod, ***length of 1.50m,*** provided with a stainless steel collar to connect it with 30x2mm tape conductor	2.50	1	PTS-150/30I
Stainless steel lightning rod, ***length of 2m,*** provided with a stainless steel collar to connect it with 30x2mm tape conductor	3.20	1	PTS-200/30I
Stainless steel lightning rod, ***length of 2.5m,*** provided with a stainless steel collar to connect it with 30x2mm tape conductor	3.90	1	PTS-250/30I
Stainless steel mast extension N°1, 30mm dia., Length of 2m	3	1	MR-1I
Stainless steel mast extension N°2, 42mm dia., Length of 2m	4.7	1	MR-2I
Stainless steel mast extension N°3, 42mm dia., Length of 2m	5	1	MR-3I
Hot-dip galvanized steel bracket with a wall offset of 220mm. Tightening range from 27 to 55mm in dia. Stainless steel bolts	1.45	1	PFD
Hot-dip galvanized steel bracket with a wall offset of 220mm. Tightening range from 27 to 55mm in dia. Stainless steel bolts	1.40	1	CDC
Stainless steel bracket for mounting on 114mm diameter pipe. Lightning rod diameter range from 27 to 55 mm. Stainless steel bolts	1.20	1	PLD114
Stainless steel bracket for mounting on 114mm diameter pipe. Lightning rod diameter range from 18 to 20 mm. Stainless steel bolts	1.20	1	PLD114/18
Stainless steel clamp for connection of 30mm flat conductor on lightning rod or mast.	0.30	1	COS2E

Clamp for lightning rod
According to IEC EN62561-2

Designation	(Kg)		Part Number
Stainless steel clamp for a 30mm diameter lightning rod with 30x2mm down conductor	0.14	1	COSP-250/30I

Lightning rod base

Designation	(Kg)		Part Number
Lightning rod base to mount a lightning rod onto steel surfaces Threaded base in M6x70mm Stainless steel body and bolts	0.85	1	EMBM16I

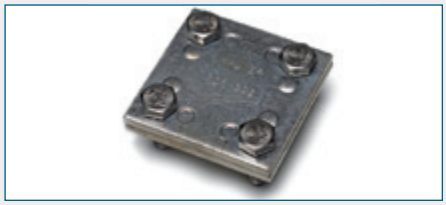


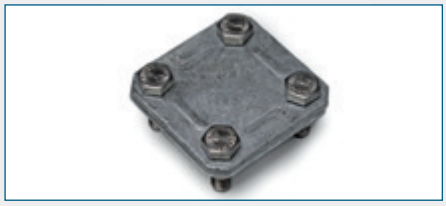
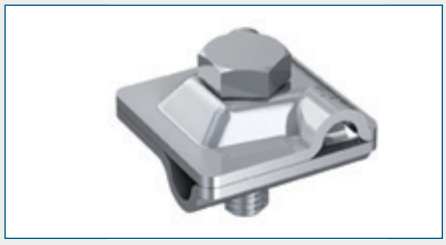
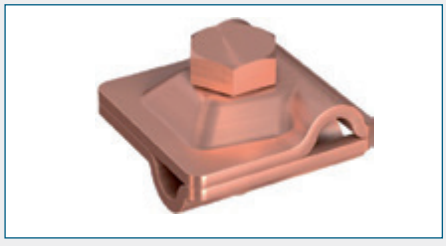
Free standing air terminal support

Designation	(Kg)		Part Number
Designed to mount lightning rod on roof top Hot-dip galvanized steel body with stainless steel bolts	7	1	TPM

Lightning air terminal and mouting accesories
According to IEC EN62561-2

Designation	(Kg)		Part Number
Stainless steel air terminal, threaded base in M10 with a dia. of 18mm, ***length of 300mm***	0.56	1	PCA318I
Stainless steel air terminal, threaded base in M10 with a dia. of 18mm, ***length of 500mm***	0.94	1	PCA518I
Stainless steel air terminal, threaded base in M10 with a dia. of 18mm, ***length of 1000mm***	1.90	1	PCA1018I
Stainless steel threaded M10 rod with waterproof washers and nuts	0.08	1	TPCIx
Stainless steel straight angle plate with M10 bolts	0.20	1	PEPIx
Stainless steel squared plate with M10 central stud and bolts	0.08	1	PPCIx
Stainless steel square clamp for ribbon up to 30mm width. M10 central stud for mounting onto the air terminal	0.25	1	SPCAI-M10



Heavy duty square clamps
According to IEC EN62561-2

Material	Range (mm)			Bolts	(Kg)		Part Number
	round/round	round/flat	flat/flat				
4xM8 stainless steel bolts model							
Tinned copper	-		30 / 30	M8x25	0,31	50	**RCR302**
Stainless steel	-	D8-12 / 30	30 / 30	M8x25	0.23	50	**RCI302**
Stainless steel	-	D8-12/30	30/30	M8x40	0.30	10	**RCI302/40**
Stainless steel	-	-	30 / 30	M8x25	0.23	50	**RCIP302**
Stainless steel	D8-12/D8-12	D8-12/30	30 / 30	M8x25	0.24	50	**RCI8302**
Hot-dip galvanized steel	-	-	30/30	M8x25	0.24	50	**RCRG302**

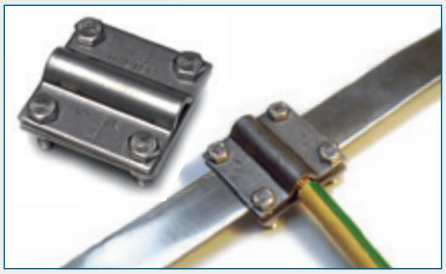
Stainless steel clamp for round conductor or earth point

Designation	(Kg)		Part Number
Stainless steel clamp to connect in cross or parallel two round conductors with a diameter from 8 to 10mm	0.95	25	**MVI8-10**

Copper clamp for round conductor or earth point

Designation	(Kg)		Part Number
Copper clamp to connect in cross or parallel two round conductors with a diameter from 8 to 10mm	0.95	25	**MVCU8-10**

Find out more about our 30x2mm tinned copper tape and our whole down conductors product range according to IEC EN62561-2 at page 15 of this catalogue..



Square Clamps
According to IEC EN62561-1

Material	Conductor capacity (mm)			Bolts	(Kg)		Part Number
	round/round	round/flat	flat/flat				
4xM6 stainless steel bolts with threaded base plate model							
Copper	D8-10 / D8-10	D8-10 / 30	30 / 30	M6x20	0.13	50	**RC302**
Hot-dip galvanized steel	D8-10 / D8-10	D8-10 / 30	30 / 30	M6x20	0.12	50	**RCG302**
4xM6 stainless steel bolts model							
Tinned copper	D8-10 / D8-10	D8-10 / 30	30 / 30	M6x20	0.14	50	**RCE302**
Tinned copper	D8-10 / D8-10	D8-10 / 30	30 / 30	M6x20	0.14	50	**RI8302**
Stainless steel	-	D8-10 / 30	30 / 30	M6x20	0.13	50	**RI302**
Stainless steel	-		30 / 30	M6x20	0.12	50	**RIP302**

Iron cast inspection pit
According to IEC EN62561-5, for heavy duty use

Designation	(Kg)		Part Number
Iron cast inspection pit with earthing marking on its lid 250x250x110mm in dimensions	8	1	RF250

"Crows foot" clamp
According to IEC EN62561-1 (100kA)

Designation	(Kg)		Part Number
Tinned copper heavy duty clamp to make "crows foot" connection using 30x2 to 30x3.5mm tape conductor Tightening done using 4xM8 stainless steel bolts	0.60	1	P0302

On-demand fully assembled crows foot conductor

We manufacture on-demand crows foot conductors using exothermic welding.
You can directly unroll them on-site and save time and money.

For quotation request, please provide us with:
- Type of conductor to be welded (30x2 or 30x3.5mm)
- The required length of each conductors to be welded

Sealing tape

The sealing tape is used to protect both outdoor and underground connections. Dimension: 10 meter x 50mm in width	0.70	1	RUBPROT50

Protective spark gap

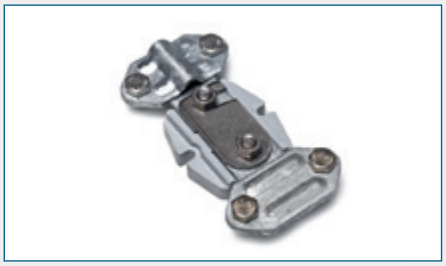
Designation	(Kg)		Part Number
Nominal discharge current (8/20µsec): 25kA Alternative trigger voltage (50Hz): 10kV Lightning peak voltage at 100% (1.2/50µs): 25kV 30x3.5mm outputs in stainless steel with two oblongs holes of 11x13mm, length between axes of 115mm	0.26	1	ECLMAT

Down conductor warning sign
According to IEC EN 62305-3

Désignation	Kg		Référence
Signalling plate "Terre Paratonnerre" Black on yellow background	0,02	1	SIGTERPARA1
Signalling pictogram for lightning protection instalation according to the IEC EN 62305-3 and NF X 08-0003-1 on hazard pictograms. Aluminum UV-and rain-proof silkscreened	0.06	1	SIGTERPARA2

Lightning flash counter
According to IEC EN62561-1

Designation	(Kg)		Part Number
Detects and counts lightning strikes IP65 protection for outdoor installation IMAX sup. to 100kA (8/20µs) For mounting on down conductor Tape from 25x2 to 30x3,5mm or Round with a diameter from 8 to 10 mm	0.37	1	CF302-EVO



Test joint
According to IEC EN62561-1 (100kA)

Designation	(Kg)		Part Number
Tinned copper alloy body with stainless steel bolts For use with tape conductor up to 30mm wide x 2 to 4mm thick Supplied with hexagonal wrench, dowel screw and anchor for mounting	0.47	1	JC302
PVC base with conductive connection elements in galvanized steel For use with galvanized steel tape conductor with a width of 30mm or/and galvanized steel round with a dia. from 8 to 12 mm or galvanized steel cable ranging from 50 to 95mm² max.	0.33	1	JCG30-D8-12

Anti-vandal metal guard for down tape conductor

Designation	(Kg)		Part Number
Hot-dip galvanized anti-vandal metal guard of length 2m for down tape conductor of width 30mm. Provided with its stainless steel wall plugs (x3)	1.20	1	FOP302
Stainless steel anti-vandal metal guard of length 2m for down tape conductor of width 30mm. Provided with its stainless steel wall plugs (x3)	1.20	1	FOP302I
Stainless steel wall plugs	0.04	1	BFOP

Anti-vandal metal guard for round tape conductor

Designation	(Kg)		Part Number
Hot-dip galvanized anti-vandal metal guard of length 2m for down round conductor of dia. 8 to 10mm. Provided with its stainless steel wall plugs (x3)	1.00	1	FOP8

Stainless steel push in clips for 6 to 8mm dia. round conductors

Designation	(Kg)		Part Number
Stainless steel push in clips for 6 to 8mm dia. round conductors with a wall offset of 20mm M6 Threaded base	0.014	50	G820I
Stainless steel push in clips for 6 to 8mm dia. round conductors with a wall offset of 30mm M6 Threaded base	0.023	50	G830I
Plastic push in clips for 6 to 8mm dia. round conductors with a wall offset of 16mm M6 Threaded base	0.008	50	SI6816
Plastic push in clips for 6 to 8mm dia. round conductors with a wall offset of 36mm M6 Threaded base	0.015	50	SI6836

"RUBERALU" Bitumen felt roll

Designation	(Kg/100)		Part Number
Bitumen felt roll to be heated to mount tape conductor on flat roof Dimensions: 200x45x4mm	0.50	10	RUB302

Holdfast for conductors on flat roof

Designation	(Kg)		Part Number
Pyramidal shape, case and bottom part in plastic, filled with concrete. Provided with a conductor holder and 2xM6 stainless steel bolts for tightening tape conductor of 30x2, 30x3.5mm or round with a dia. of 8mm Dimensions: 140x140x80mm	1	20	PLOP302
Pyramidal shape, case in plastic, provided without bottom part and concrete. Provided with a conductor holder and 2xM6 stainless steel bolts for tightening tape conductor of 30x2, 30x3.5mm or round with a dia. of 8mm Dimensions: 140x140x80mm	0.08	20	PLOPVIDSF
Pyramidal shape, case and bottom part in plastic, filled with concrete, provided with two threaded M6 holes and with conductor holder Dimensions: 140x140x80mm	1	20	PLOPNU

Holdfast for flat or round conductors onto flat roof

Designation	(Kg)		Part Number
Holdfast for flat conductor with a cross section from 30x2 to 30x5mm^2 or round conductor with a cross section of 8mm.Delivered with two M6 stainless steel screw	0.04	20	PLOTSI302

Holdfast for flat conductor with a cross section from 30x2 to 30x5mm² or round conductor with a cross section of 8mm. Delivered with two M6 stainless steel screw.

Insulated clips for tape conductors of 30x2mm

Manufactured in UV resistant plastic material, stainless steel harware.

Designation	(Kg)		Part Number
Insulated plastic clip for tape conductors from 30x2 to 30x4mm our round conductors of 6 to 8mm dia. Base designed with an oblong hole to ease mounting	0.025	100	SI302
Insulated plastic clip for tape conductors from 30x2 to 30x4mm our round conductors of 6 to 8mm dia. designed with a M6 threaded base	0.022	50	SI6302
Insulated plastic clip for tape conductors from 30x2 to 30x4mm our round conductors of 6 to 8mm dia. designed with a 8x40mm screw anchor	0.024	50	SICH8302

Copper alloy holder for 30mm tape conductors

Designation	(Kg)		Part Number
Copper alloy clips for tape conductor up to 30mm in width and a thickness from 2 to 6mm max. The base is M8 threaded	0.10	25	SLT-30

Hot-dip galvanized steel staple

Designation	(Kg/100)		Part Number
Hot-dip galvanized steel staple to attach flat conductors with a width up to 30mm onto wall surface on a 30mm depth	2	100 ou 500	CG302
Lead screw anchors for staples	0.5	100	CHP530
Plastic screw anchors for staples	0.05	100	C8

Stainless steel clip for flat conductor

Designation	(Kg/100)		Part Number
Stainless steel push_in clip for tape conductor with a width of 30mm and a thickness from 2 to 3 mm, the central hole is 4.2mm for mounting with screws or rivets (not provided)	0.250	100 ou 500	CL302
Aluminium/steel Rivet with a dia. of 4x12.5 for steel push-in clip	0.05	100	CL-RIV4x12
Waterproof washer for push-in clip	0.01	100	CL-JO

Early streamer emission (ESE) air terminal

Early streamer emission (ESE) terminal with 60µsec. triggering advance time (Δt).
The strike tip and the high voltage control section are made of stainless steel. The ESE significantly reduce the charge particles ionization process in comparison with standard standard lightning rods. With a total length of 2150mm, its high voltage control section is 1500mm. It is delivered with its collar for an easy mounting on either a 30mm tape or a 8mm dia. round conductor. The ESE complies with the NCF17-102:2011 standard

Designation	Dimensions	(Kg)		Part Number
Stainless steel ESE terminal	28mm dia. x 2.15m	3,5	1	PDA60
Stainless steel mast extension to elevate the ESE air terminal above 2m (total height of 4.15m)	dia. 33 mm x 2 m	4	1	PDA-MR2M
Stainless steel mast extension to elevate the ESE air terminal above 3m (total height of 5.15m)	33mm dia. x 3m	6	1	PDA-MR3M
Stainless steel mast extension to elevate the ESE air terminal above 5m (total height of 7.15m)	40mm dia. x 2m and 33mm x 3m	12	1	PDA-MR5M

Mounting:
The ESE is installed at a height of 2m min. above the highest structure presents in the protected area. The mounting is straightforward using our mast brackets, mast extension or free-standing air terminal support.

Features:
The protection radius according to NFC 17-102:2011 depends on the height and the level of protection to be reached:

H (m)	2	3	4	5	6	10	15	20	30	45	60
Protection level I	32	48	63	79	79	79	80	80	80	80	80
Protection level II	34	52	69	86	87	88	89	89	90	90	90
Protection level III	39	58	78	97	97	99	101	102	104	105	105
Protection level IV	43	64	86	107	107	109	111	113	116	119	120

Protection radius for installations classified for the protection of the environment (ICPE):

H (m)	2	3	4	5	6	10	15	20	30	45	60
Protection level I	19	23	37	47	47	47	48	48	48	48	48
Protection level II	20	31	41	52	52	53	53	53	54	54	54
Protection level III	23	35	47	58	58	59	60	61	62	63	63
Protection level IV	26	38	52	64	64	65	65	68	70	71	72

Guy wire kit for air terminal on extension mast

With its PVC coated 25m steel cable of dia. 5mm and accessories, make up to 4 guy ropes of approx. 5m

Designation	(Kg/100)		Part Number
Guy wire kit	5	1	PDA-KITHAUB

Exothermic Welding

Copper cable and galvanized steel

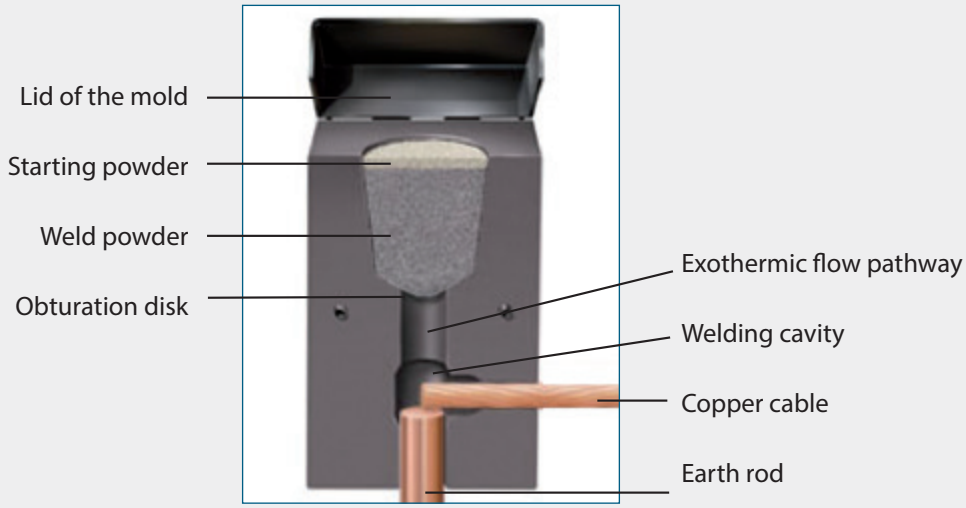
Exothermic welding is a self-sufficient process to achieve high quality electrical connections between metallic conductors such as copper, copper alloy or steel.

The exothermic reaction occurs in a graphite mold manufactured based on the dimensions of the conductors to be welded. A mold can perform over 60 welds when used under normal conditions. The reaction takes only a few seconds and does not requires any external source of power, making the exothermic process particularly handy on-site.

Exothermic welding is commonly used when building sub-station earthing circuits, power station, for cathodic protection, lightning protection, utilities and so on as it offers many advantages when compared with traditional crimped or mechanical connections.

The process provides a molecular bond that is not affected by short-circuit current. Several experiments have shown that conductors themselves melt before the exothermic weld point is affected. As the point of fusion of the exothermic connection is substantially identical to copper and with a cross-section superior to the conductors.

Material such as copper alloy, bronze, stainless steel, carbonate steel (railways) can be welded in such way. The weld point is an alloy without any dielectric influences, totally insensitive to corrosion and demonstrating optimum mechanical characteristics with time.



Exothermic welding training
Designation
Our team can provide you with exothermic welding training either on-site or in our office, please contact us for more information.

Weld Selection Guide

Cable to cable

CC1
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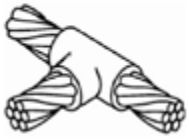

CC2
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CC7
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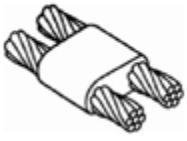

CC14
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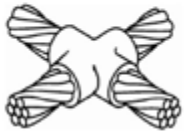

CC4
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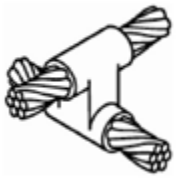

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Cable to earth rod

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CR2
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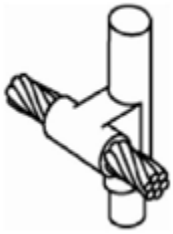
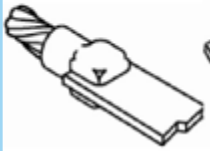


CR3

Cable to tape conductor



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Tape to tape conductor

BB1
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BB7
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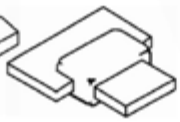

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BB29

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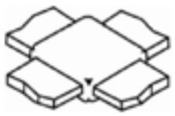
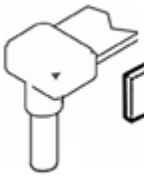


BB40

Tape conductor to earth rod



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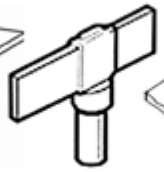

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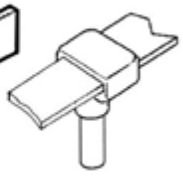
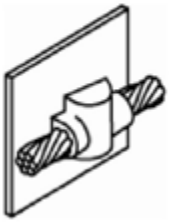


BR30

Cable to steel surface



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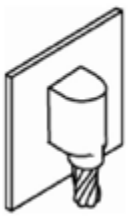

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CS1
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En contact

CS8
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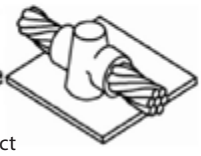

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Tape conductor to steel surface

BS1
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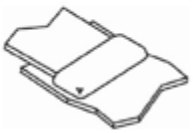

BS2
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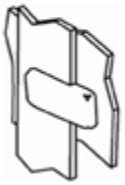
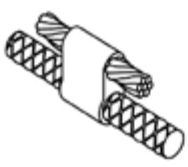


BS5

Cable to rebar

CRE6



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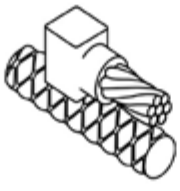
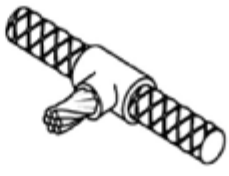
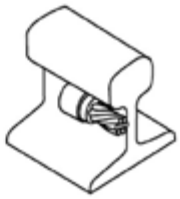


CRE1

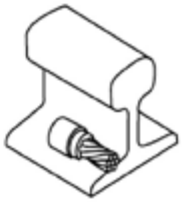


CRE2

Cable to railway



CX8



CX4

Contact us for more weld configuration

Our molds are manufactured according to the dimensions of the cables, tape conductor, earth rods or rebars to be welded.
You will find in the tables below their main dimensions and characteristics.
In case conductors have a non-standard dimensions (eg: compacted cable), please specify their dimensions in your request.

Bare copper cable dimensions and characteristics

Nominal cross section (mm^2)	Number and wire dia. (mm)	Outer dia. (mm)	Number and wire dia. (mm)	Outer dia. (mm)	Number and wire dia. (mm)	Outer dia. (mm)	Number and wire dia. (mm)	Outer dia. (mm)
10	7 x 1.40	4.1	19 x 0.80	4.2	37 x 0.60	4.2		
16	7 x 1.68	5.1	19 x 1.03	5.2	37 x 0.75	5.2		
25	7 x 2.13	6.4	19 x 1.30	6.5	37 x 0.90	6.4		
29			19 x 1.40	7.0				
35	7 x 2.53	7.6	19 x 1.53	7.7	37 x 1.10	7.7		
50	7 x 3	9	19 x 1.83	9.2	37 x 1.31	9.2		
70	7 x 3.56	10.7	19 x 2.17	10.9	37 x 1.55	10.9		
95			19 x 2.50	12.5	37 x 1.81	12.7	61 x 1.40	12.6
120			19 x 2.84	14.2	37 x 2.03	14.2	61 x 1.60	14.4
150			19 x 3.18	15.9	37 x 2.25	16	61 x 1.77	15.9
185					37 x 2.52	17.7		
240					37 x 2.83	19.8		
300					37 x 3.21	22.5		
400							61 x 2.89	26
500							91 x 2.65	29.1

Steel-copper earth rods diameter

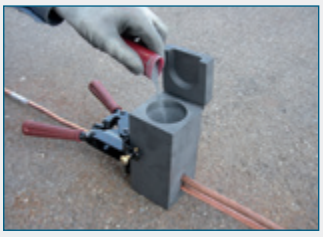
Nominal dimension	Real diameter (mm)
1/2" ou 14 mm	12.5
5/8" ou 16 mm	14.2
3/4" ou 19 mm	17.2

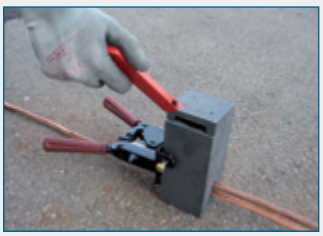
Rebars diameter

Nominal dimension	Real diameter (mm)
6	6.9
8	9.2
10	11.5
12	13.8
14	16.1
16	18.4
20	23
25	29
28	32
32	37
40	46

Exothermic weld procedure

The use of personal protective equipment is mandatory.



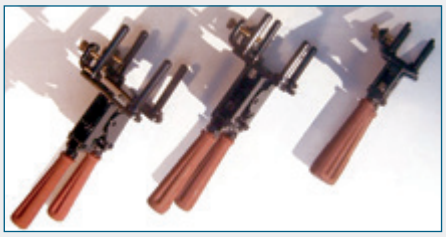


1. Remove all traces of humidity, grease or oxidation from the conductors or surfaces to be welded.
2. Mount the mold using the appropriate handle clamp model.
3. Before making the first weld, dry the mold using a butan torch. This step is mandatory to avoid a porous weld.
4. Insert with care the conductors to be welded and close the mold appropriately to make sure that no gaps remain as this would lead a leakage of the liquid metal.
5. Place the obturation disk (available with the metal powder box) on top of the exothermic flow pathway.
6. Carefully pore the exothermic welding powder into the crucible (make sure to use the recommended metal powder recommended with the mold). Close the powder pot and tap the bottom to free the ignition powder present at the bottom of the tube.
7. Open the tube and poor the ignition powder onto the exothermic powder, make sure to poor a bit of the ignition powder on the edge of the mold.
8. Close the lid of the mold and approach the flint igniter close to the ignition powder. The operator must be placed on the side and fully respect the safety instructions.
9. Open the mold 1 min. after the exothermic reaction has begun. Remove all traces of scories using the provided scrapper, then clean the welding cavity using the provided brush before making any new welds. As long as the mold remains fry, you can directly go to step 4.

Exothermic powder

Provides starting powder, welding powder as well as the obstruction disk to block the exothermic flow pathway present in the mold.

Designation	(Kg)		Part Number
Exothermic powder type 45	0.06	20	KW45
Exothermic powder type 65	0.08	20	KW65
Exothermic powder type 90	0.10	20	KW90
Exothermic powder type 115	0.13	10	KW115
Exothermic powder type 150	0.17	10	KW150
Exothermic powder type 200	0.22	10	KW200
Exothermic powder type 250	0.27	10	KW250



Accessories

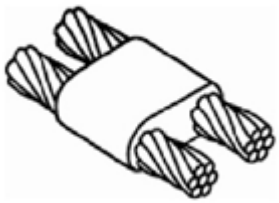
Designation	(Kg)		Part Number
Handle clamp for mini mold	0.50	1	HCB00
Handle clamp for standard mold	1.12	1	HCC00
Handle clamp for maxi mold	1.20	1	HCD00
Flint igniter	0.10	1	KAL
Card cloth brush	0.08	1	KBC
Fine mold cleaning brush	0.05	1	KPC
Mold scraper (KW90-KW115)	0.10	1	KG10
Mold scraper (KW150-KW250)	0.12	1	KG12
Mold scraper (2 x KW150 and more)	0.12	1	KG13
Sealing compound (band for an easy use)	1.00	1	KMAS
Sealing compound (half box)	0.50	1	KMAS/2
Blow torch piezo	0.530	1	KLAMPE
Universal butane tank for exothermic welding	0.190	1	KCARTOUCHE

Individual protection equipment

Designation	(Kg)		Part Number
Fireproof leather gloves with sleeves	0.275	1	KGANT
Protective facial screen	0.265	1	KVISIERE

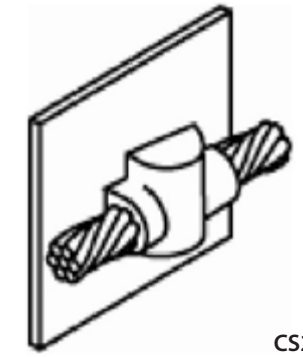
Exothermic welding kit

Get all the required tools to make 20 or 60 welds:
- 1 graphite mold
- 20 or 60 welding powder pots
- 1 handle clamp
- 1 mold scraper
- 1 flint igniter
- 1 box
- 1 flint igniter
- 1 storage case



CC14

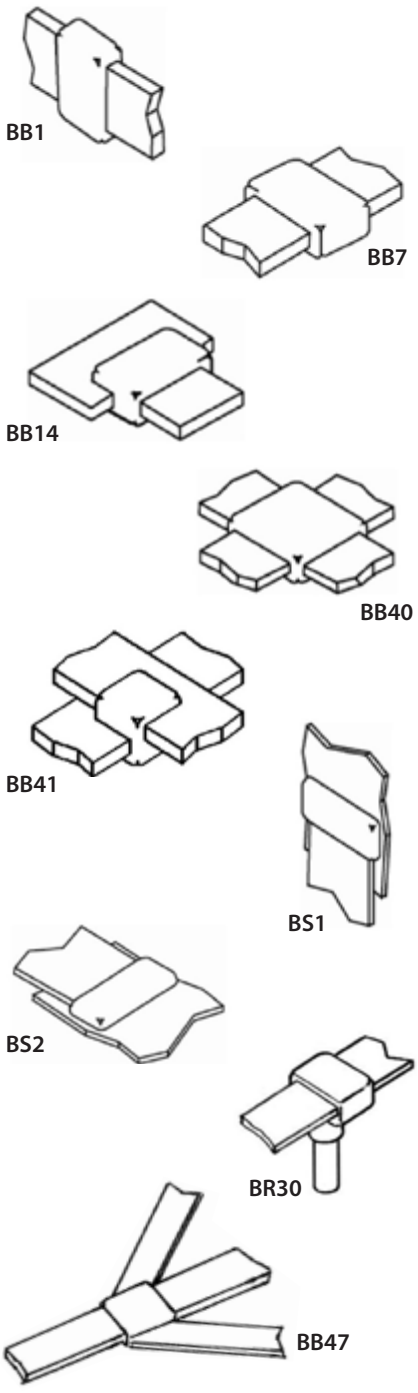
Welding kit for 2 cable in parallel		
Cross section of the cables to be welded	Number of weld	Part Number
25 mm²	20	20-CC14-25
	60	60-CC14-25
35 mm²	20	20-CC14-35
	60	60-CC14-35
50 mm²	20	20-CC14-50
	60	60-CC14-50



CS27

Welding kit for cable on vertical steel surface		
Cross section of the cables to be welded	Number of weld	Part Number
25 mm²	20	20-CS27-25
	60	60-CS27-25
35 mm²	20	20-CS27-35
	60	60-CS27-35
50 mm²	20	20-CS27-50
	60	60-CS27-50

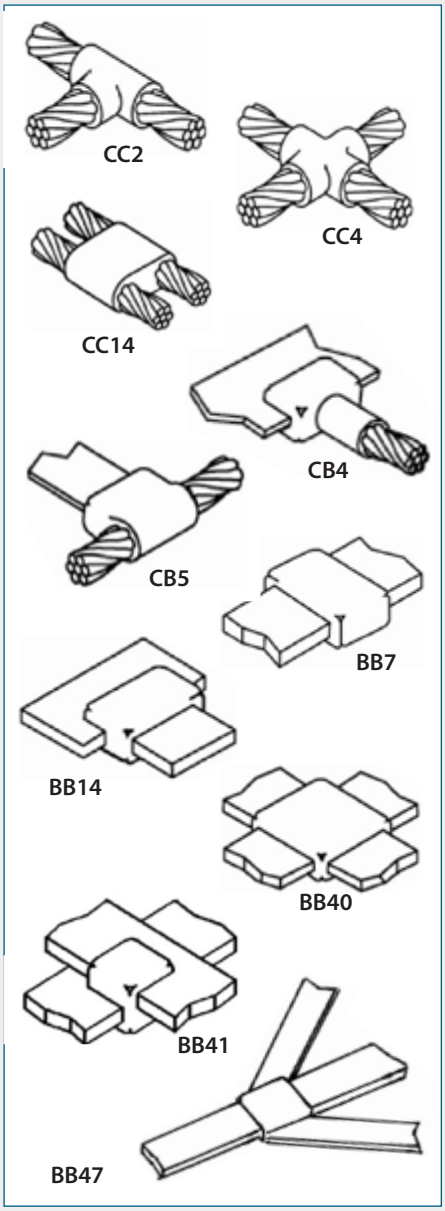
30x2mm tape conductor weld



30x2mm tape conductor weld			
Type of weld	Required handle clamp	Required weld powder	Mold Part Number
Horizontal end to end, on the splice	HCB00	KW65	BB1-B-302
Horizontal end to end	HCB00	KW65	BB7-B-302
Horizontal tee	HCB00	KW65	BB14-B-302
Horizontal cross weld (maxi mold)	HCC00	KW90	BB40-C-302
Horizontal cross weld (mini mold)	HCB00	KW65	BB41-B-302
End on vertical steel surface	HCB00	KW90	BS1-B-302
Trough on horizontal steel surface	HCB00	KW90	BS2-B-302
On top of 14.2mm dia. earth rod	HCB00	KW90	BR30-B-143302
On top of 17.2mm dia. earth rod	HCB00	KW90	BR30-B-172302
Crowsfoot weld (maxi mold) with conductor on the slice	HCC00	KW150	BB47V-C-302
Crowsfoot weld (maxi mold) with tape conductor	HCC00	KW200	BB47-C-302

Find out about our 30x2mm tinned copper tape and our whole down conductors product range according to IEC EN62561-2 at page 15 of this catalogue.

Exothermic welding of galvanized steel conductors



Exothermic welding for 95mm² bare stranded galvanized steel
Cable and 30x3.5mm galvanized steel tape conductor

Type of weld	Required handle clamp	Required weld powder	Mold Part Number
95mm² cables tee weld	HCC00	KW115	CC2-C-95G
95mm² cables cross weld	HCC00	KW150	CC4-C-95G
95mm² cables parallel weld	HCC00	KW150	CC14-C-95G
95mm² bypass cable on 30x3.5mm on through tape conductor	HCC00	KW90	CB4-C-95G3035
30x3.5mm bypass tape conductor on 95mm² trough cable	HCC00	KW150	CB5-C95G3035
30x3.5mm tape conductor horizontal end to end weld	HCC00	KW90	BB7-C-3035
30x3.5mm tape conductor horizontal tee weld	HCC00	KW90	BB14-C-3035
30x3.5mm tape conductor horizontal cross weld	HCC00	KW200	BB40-C-3035
30x3.5mm tape conductor horizontal cross weld	HCC00	KW115	BB41-C-3035
30x3.5mm tape conductor crowsfoot weld	HCC00	2x KW150	BB47-C-3035

Stranded galvanized steel cable
50µm min.

Cross Section (mm²)	Composition (mm)	(Kg/m)	(ml)	Part Number
95	19 x 2.55	0.80	tourets	CG95

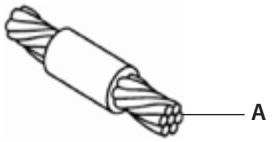
Alternative cross sections available on page 12

Galvanized steel tape conductor
70µm min.

Dimensions (mm)	Material	(Kg/m)	(ml)	Part Number
30 x 3.5	Hot dip galvanized steel	0.84	30 - 60	AG3035

HORIZONTAL END TO END

CC1



A(mm²)	Powder	Mold	Pince	Mini mold	Mini handle clamp
10	KW45	CC1-C-10	HCC00	CC1-B-10	HCB00
16	KW45	CC1-C-16	HCC00	CC1-B-16	HCB00
25	KW45	CC1-C-25	HCC00	CC1-B-25	HCB00
35	KW45	CC1-C-35	HCC00	CC1-B-35	HCB00
50	KW45	CC1-C-50	HCC00	CC1-B-50	HCB00
Ø 8 mm	KW45	CC1-C-D8	HCC00	CC1-B-D8	HCB00
70	KW65	CC1-C-70	HCC00	CC1-B-70	HCB00
Ø 10 mm	KW65	CC1-C-D10	HCC00	CC1-B-D10	HCB00
95	KW90	CC1-C-95	HCC00		
120	KW115	CC1-C-120	HCC00		
150	KW115	CC1-C-150	HCC00		
185	KW150	CC1-C-185	HCC00		
240	KW200	CC1-C-240	HCC00		
300	KW250	CC1-C-300	HCC00		
400	2x KW150	CC1-D-400	HCD00		
500	2x KW200	CC1-D-500	HCD00		

Our graphite mold are highly resistant and can make up to approximately 75 welds when used in normal conditions. There is a specific model of mold per cross sections of conductors and as much types of mold than configurations.

When only a few welds with small conductors sections are required, a mini mold can be used. Cheaper, smaller, it has a life expectancy of 60 weld maximum. They are assembled using the mini handle clamp, however the required quantity of welding powder is identical to our standard molds.

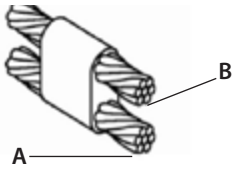
HORIZONTAL TEE

CC2

A (mm²)	B (mm²)	Powder	Mold	Handle clamp	Mini mold	Mini handle clamp
10	10	KW45	CC2-C-1010	HCC00	CC2-B-1010	HCB00
16	16	KW45	CC2-C-1616	HCC00	CC2-B-1616	HCB00
25	25	KW45	CC2-C-2525	HCC00	CC2-B-2525	HCB00
35	35	KW45	CC2-C-3535	HCC00	CC2-B-3535	HCB00
35	25	KW45	CC2-C-3525	HCC00	CC2-B-3525	HCB00
Ø 8 mm	Ø 8 mm	KW65	CC2-C-D8D8	HCC00	CC2-B-D8D8	HCB00
50	50	KW90	CC2-C-5050	HCC00	CC2-B-5050	HCB00
50	35	KW65	CC2-C-5035	HCC00	CC2-B-5035	HCB00
50	25	KW65	CC2-C-5025	HCC00	CC2-B-5025	HCB00
Ø 10 mm	Ø 10 mm	KW90	CC2-C-D10D10	HCC00	CC2-B-D10D10	HCB00
70	70	KW90	CC2-C-7070	HCC00	CC2-B-7070	HCB00
70	50	KW90	CC2-C-7050	HCC00	CC2-B-7050	HCB00
70	35	KW65	CC2-C-7035	HCC00	CC2-B-7035	HCB00
70	25	KW65	CC2-C-7025	HCC00	CC2-B-7025	HCB00
95	95	KW115	CC2-C-9595	HCC00		
95	70	KW90	CC2-C-9570	HCC00		
95	50	KW90	CC2-C-9550	HCC00		
95	35	KW90	CC2-C-9535	HCC00		
120	120	KW150	CC2-C-120120	HCC00		
120	95	KW150	CC2-C-12095	HCC00		
120	70	KW115	CC2-C-12070	HCC00		
120	50	KW90	CC2-C-12050	HCC00		
150	150	KW200	CC2-C-150150	HCC00		
150	120	KW150	CC2-C-150120	HCC00		
150	95	KW150	CC2-C-15095	HCC00		
150	70	KW115	CC2-C-15070	HCC00		
185	185	KW200	CC2-C-185185	HCC00		
185	150	KW200	CC2-C-185150	HCC00		
185	120	KW200	CC2-C-185120	HCC00		
185	95	KW150	CC2-C-18595	HCC00		
240	240	2x KW150	CC2-C-240240	HCC00		
240	185	KW200	CC2-C-240185	HCC00		
240	150	KW200	CC2-C-240150	HCC00		
240	120	KW200	CC2-C-240120	HCC00		
240	95	KW200	CC2-C-24095	HCC00		
300	300	2x KW200	CC2-D-300300	HCD00		
300	240	2x KW200	CC2-D-300240	HCD00		
300	185	KW250	CC2-C-300185	HCC00		
300	150	KW200	CC2-C-300150	HCC00		

OVERLAP HORIZONTAL PARALLEL

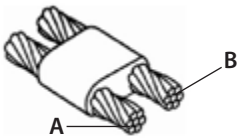
CC7



A (mm²)	B (mm²)	Powder	Mold	Handle clamp	Mini mold	Mini handle clamp
10	10	KW45	CC7-C-1010	HCC00	CC7-B-1010	HCB00
16	16	KW65	CC7-C-1616	HCC00	CC7-B-1616	HCB00
25	25	KW45	CC7-C-2525	HCC00	CC7-B-2525	HCB00
35	35	KW65	CC7-C-3535	HCC00	CC7-B-3535	HCB00
35	25	KW65	CC7-C-3525	HCC00	CC7-B-3525	HCB00
Ø 8 mm	Ø 8 mm	KW90	CC7-C-D8D8	HCC00	CC7-B-D8D8	HCB00
50	50	KW90	CC7-C-5050	HCC00	CC7-B-5050	HCB00
50	35	KW90	CC7-C-5035	HCC00	CC7-B-5035	HCB00
50	25	KW65	CC7-C-5025	HCC00	CC7-B-5025	HCB00
Ø 10 mm	Ø 10 mm	KW115	CC7-C-D10D10	HCC00		
70	70	KW115	CC7-C-7070	HCC00		
70	50	KW115	CC7-C-7050	HCC00		
70	35	KW90	CC7-C-7035	HCC00	CC7-B-7035	HCB00
70	25	KW90	CC7-C-7025	HCC00	CC7-B-7025	HCB00
95	95	KW150	CC7-C-9595	HCC00		
95	70	KW115	CC7-C-9570	HCC00		
95	50	KW115	CC7-C-9550	HCC00		
95	35	KW115	CC7-C-9535	HCC00		
120	120	KW200	CC7-C-120120	HCC00		
120	95	KW200	CC7-C-12095	HCC00		
120	70	KW150	CC7-C-12070	HCC00		
120	50	KW150	CC7-C-12050	HCC00		
150	150	2x KW150	CC7-D-150150	HCD00		
150	120	KW250	CC7-C-150120	HCC00		
150	95	KW200	CC7-C-15095	HCC00		
150	70	KW150	CC7-C-15070	HCC00		
185	185	2x KW150	CC7-D-185185	HCD00		
185	150	2x KW150	CC7-D-185150	HCD00		
185	120	KW250	CC7-C-185120	HCC00		
185	95	KW200	CC7-C-18595	HCC00		
240	240	2x KW200	CC7-D-240240	HCD00		
240	185	2x KW150	CC7-D-240185	HCD00		
240	150	2x KW150	CC7-D-240150	HCD00		
240	120	KW250	CC7-C-240120	HCC00		
300	300	2x KW250	CC7-D-300300	HCD00		
300	240	2x KW250	CC7-D-300240	HCD00		
300	185	2x KW200	CC7-D-300185	HCD00		
300	150	2x KW150	CC7-D-300150	HCD00		

SIDE BY SIDE HORIZONTAL PARALLEL

CC14



A (mm²)	B (mm²)	Powder	Mold	Handle clamp	Mini mold	Mini handle clamp
10	10	KW45	CC14-C-1010	HCC00	CC14-B-1010	HCB00
16	16	KW65	CC14-C-1616	HCC00	CC14-B-1616	HCB00
25	25	KW45	CC14-C-2525	HCC00	CC14-B-2525	HCB00
35	35	KW65	CC14-C-3535	HCC00	CC14-B-3535	HCB00
35	25	KW65	CC14-C-3525	HCC00	CC14-B-3525	HCB00
Ø 8 mm	Ø 8 mm	KW90	CC14-C-D8D8	HCC00	CC14-B-D8D8	HCB00
50	50	KW90	CC14-C-5050	HCC00	CC14-B-5050	HCB00
50	35	KW90	CC14-C-5035	HCC00	CC14-B-5035	HCB00
50	25	KW90	CC14-C-5025	HCC00	CC14-B-5025	HCB00
70	70	KW115	CC14-C-7070	HCC00		
70	50	KW115	CC14-C-7050	HCC00		
70	35	KW90	CC14-C-7035	HCC00	CC14-B-7035	HCB00
70	25	KW90	CC14-C-7025	HCC00	CC14-B-7025	HCB00
95	95	KW150	CC14-C-9595	HCC00		
95	75	KW150	CC14-C-9570	HCC00		
95	50	KW150	CC14-C-9550	HCC00		
95	35	KW115	CC14-C-9535	HCC00		
120	120	KW200	CC14-C-120120	HCC00		
120	95	KW200	CC14-C-12095	HCC00		
120	75	KW200	CC14-C-12070	HCC00		
120	50	KW150	CC14-C-12050	HCC00		
150	70	KW200	CC14-C-15070	HCC00		
150	95	KW200	CC14-C-15095	HCC00		
150	120	KW200	CC14-C-150120	HCC00		
150	150	KW250	CC14-C-150150	HCC00		
185	95	KW200	CC14-C-18595	HCC00		
185	120	KW250	CC14-C-185120	HCC00		
185	150	2x KW150	CC14-C-185150	HCC00		
185	185	2x KW150	CC14-C-185185	HCC00		
240	120	2x KW150	CC14-D-240120	HCD00		
240	150	2x KW200	CC14-D-240150	HCD00		
240	185	2x KW200	CC14-D-240185	HCD00		
240	240	2x KW250	CC14-D-240240	HCD00		

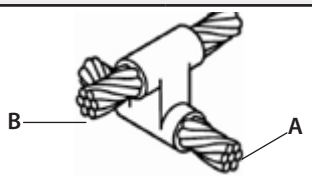
HORIZONTAL CROSS

CC4

A (mm²)	B (mm²)	Powder	Mold	Handle clamp	Mini mold	Mini handle clamp
10	10	KW45	CC4-C-1010	HCC00	CC4-B-1010	HCB00
16	16	KW65	CC4-C-1616	HCC00	CC4-B-1616	HCB00
25	25	KW45	CC4-C-2525	HCC00	CC4-B-2525	HCB00
35	35	KW65	CC4-C-3535	HCC00	CC4-B-3535	HCB00
35	25	KW65	CC4-C-3525	HCC00	CC4-B-3525	HCB00
Ø 8 mm	Ø 8 mm	KW90	CC4-C-D8D8	HCC00	CC4-B-D8D8	HCB00
50	50	KW90	CC4-C-5050	HCC00	CC4-B-5050	HCB00
50	35	KW90	CC4-C-5035	HCC00	CC4-B-5035	HCB00
50	25	KW90	CC4-C-5025	HCC00	CC4-B-5025	HCB00
Ø 10 mm	Ø 10 mm	KW115	CC4-C-D10D10	HCC00		
70	70	KW115	CC4-C-7070	HCC00		
70	50	KW115	CC4-C-7050	HCC00		
70	35	KW115	CC4-C-7035	HCC00		
70	25	KW115	CC4-C-7025	HCC00		
95	95	KW150	CC4-C-9595	HCC00		
95	70	KW150	CC4-C-9570	HCC00		
95	50	KW115	CC4-C-9550	HCC00		
95	35	KW115	CC4-C-9535	HCC00		
120	120	KW200	CC4-C-120120	HCC00		
120	95	KW200	CC4-C-12095	HCC00		
120	70	KW150	CC4-C-12070	HCC00		
120	50	KW150	CC4-C-12050	HCC00		
150	150	KW250	CC4-C-150150	HCC00		
150	120	KW250	CC4-C-150120	HCC00		
150	95	KW200	CC4-C-15095	HCC00		
150	70	KW150	CC4-C-15070	HCC00		
185	185	2x KW150	CC4-C-185185	HCC00		
185	150	KW250	CC4-C-185150	HCC00		
185	120	KW250	CC4-C-185120	HCC00		
185	95	KW200	CC4-C-18595	HCC00		
185	70	KW200	CC4-C-18570	HCC00		
185	50	KW200	CC4-C-18550	HCC00		
185	35	KW150	CC4-C-18535	HCC00		
185	25	KW150	CC4-C-18525	HCC00		
240	240	2x KW250	CC4-D-240240	HCD00		
240	185	2x KW200	CC4-D-240185	HCD00		
240	150	2x KW200	CC4-D-240150	HCD00		
240	120	2x KW150	CC4-D-240120	HCD00		
240	95	2x KW150	CC4-D-24095	HCD00		
240	70	KW250	CC4-C-24070	HCC00		
240	50	KW250	CC4-C-24050	HCC00		

OVERLAP HORIZONTAL CROSS

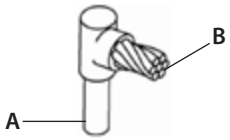
CC11



A (mm²)	B (mm²)	Powder	Mold	Handle clamp	Mini mold	Mini handle clamp
25	25	KW65	CC11-M-2525	HCC00		
35	35	KW90	CC11-M-3535	HCC00		
50	50	KW150	CC11-M-5050	HCC00		
70	70	KW200	CC11-M-7070	HCC00		
70	50	KW200	CC11-M-7050	HCC00		
70	35	KW150	CC11-M-7035	HCC00		
95	95	KW250	CC11-M-9595	HCC00		
95	70	KW250	CC11-M-9570	HCC00		
95	50	KW200	CC11-M-9550	HCC00		
95	35	KW200	CC11-M-9535	HCC00		
120	120	2x KW150	CC11-M-120120	HCC00		
120	95	2x KW150	CC11-M-12095	HCC00		
120	70	KW250	CC11-M-12070	HCC00		
120	50	KW250	CC11-M-12050	HCC00		
120	35	KW200	CC11-M-12035	HCC00		
150	150	2x KW200	CC11-V-150150	HCD00		
150	120	2x KW200	CC11-V150120	HCD00		
150	95	2x KW150	CC11-M-15095	HCC00		
150	70	2x KW150	CC11-M-15070	HCC00		
150	50	KW250	CC11-M-15050	HCC00		
150	35	KW250	CC11-M-15035	HCC00		
185	185	2x KW250	CC11-V-185185	HCD00		
185	150	2x KW250	CC11-V-185150	HCD00		
185	120	2x KW250	CC11-V-185120	HCD00		
185	95	2x KW200	CC11-V-18595	HCD00		
185	70	2x KW150	CC11-M-18570	HCC00		
185	50	2x KW150	CC11-M-18550	HCC00		
185	35	2x KW150	CC11-M-18535	HCC00		
240	240	3x KW200	CC11-V-240240	HCD00		
240	185	3x KW200	CC11-V-240185	HCD00		
240	150	3x KW200	CC11-V-240150	HCD00		
240	120	3x KW200	CC11-V-240120	HCD00		
240	95	2x KW250	CC11-V-24095	HCD00		
240	70	2x KW250	CC11-V-24070	HCD00		
240	50	2x KW200	CC11-V-24050	HCD00		

CABLE ON TOP OF EARTH ROD

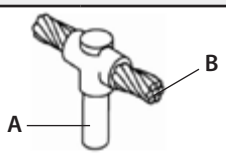
CR1



A (mm)	B (mm²)	Powder	Mold	Handle clamp	Mini mold	Mini handle clamp
14.2	25	KW45	CR1-C-14225	HCC00	CR1-B-14225	HCB00
14.2	35	KW65	CR1-C-14235	HCC00	CR1-B14235	HCB00
14.2	50	KW90	CR1-C-14250	HCC00	CR1-B14250	HCB00
14.2	Ø 8 mm	KW90	CR1-C-142D8	HCC00	CR1-B142D8	HCB00
14.2	70	KW90	CR1-C-14270	HCC00	CR1-B14270	HCB00
14.2	95	KW90	CR1-C-14295	HCC00	CR1-B14295	HCB00
14.2	120	KW90	CR1-C-142120	HCC00	CR1-B142120	HCB00
14.2	150	KW115	CR1-C-142150	HCC00		
14.2	185	KW115	CR1-C-142185	HCC00		
14.2	240	KW150	CR1-C-142240	HCC00		
17,2	25	KW65	CR1-C-17225	HCC00	CR1-B-17225	HCB00
17,2	35	KW65	CR1-C-17235	HCC00	CR1-B-17235	HCB00
17,2	50	KW90	CR1-C-17250	HCC00	CR1-B-17250	HCB00
17,2	Ø 8 mm	KW90	CR1-C-172D8	HCC00	CR1-B-172D8	HCB00
17,2	70	KW90	CR1-C-17270	HCC00	CR1-B-17270	HCB00
17,2	95	KW90	CR1-C-17295	HCC00	CR1-B-17295	HCB00
17,2	120	KW90	CR1-C-172120	HCC00	CR1-B-172120	HCB00
17,2	150	KW115	CR1-C-172150	HCC00		
17,2	185	KW115	CR1-C-172185	HCC00		
17,2	240	KW150	CR1-C-172240	HCC00		
17,2	300	KW200	CR1-C-172300	HCC00		

THROUGH CABLE ON TOP OF EARTH ROD

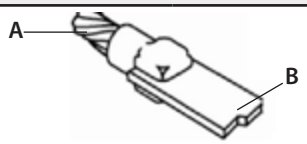
CR2



A (mm)	B (mm²)	Powder	Mold	Handle clamp	Mini mold	Mini handle clamp
14,2	25	KW45	CR2-C-14225	HCC00	CR2-B-14225	HCB00
14,2	35	KW90	CR2-C-14235	HCC00	CR2-B-14235	HCB00
14,2	50	KW90	CR2-C-14250	HCC00	CR2-B-14250	HCB00
14,2	Ø 8 mm	KW90	CR2-C-142D8	HCC00	CR2-B142D8	HCB00
14,2	70	KW115	CR2-C-14270	HCC00		
14,2	95	KW115	CR2-C-14295	HCC00		
14,2	120	KW150	CR2-C-142120	HCC00		
14,2	150	KW200	CR2-C-142150	HCC00		
14,2	185	KW200	CR2-C-142185	HCC00		
14,2	240	KW250	CR2-C-142240	HCC00		
17,2	25	KW90	CR2-C-17225	HCC00	CR2-B-17225	HCB00
17,2	35	KW90	CR2-C-17235	HCC00	CR2-B-17235	HCB00
17,2	50	KW115	CR2-C-17250	HCC00		
17,2	Ø 8 mm	KW115	CR2-C-172D8	HCC00		
17,2	70	KW115	CR2-C-17270	HCC00		
17,2	95	KW115	CR2-C-17295	HCC00		
17,2	120	KW150	CR2-C-172120	HCC00		
17,2	150	KW200	CR2-C-172150	HCC00		
17,2	185	KW200	CR2-C-172185	HCC00		
17,2	240	KW250	CR2-C-172240	HCC00		
17,2	300	2x KW150	CR2-D-172300	HCD00		

END TO END CABLE TO TAPE CONDUCTOR

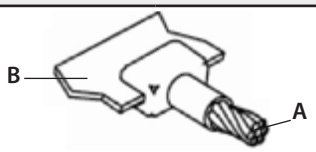
CB1



A (mm²)	B (mm²)	Powder	Mold	Handle clamp	Mini mold	Mini handle clamp
25	20x2	KW32	CB1-C-25202	HCC00	CB1-B-25202	HCB00
35	20x2	KW32	CB1-C-35202	HCC00	CB1-B-35202	HCB00
50	25x2	KW45	CB1-C-50252	HCC00	CB1-B-50252	HCB00
50	25x3	KW65	CB1-C-50253	HCC00	CB1-B-50253	HCB00
Ø 8 mm	25x2	KW45	CB1-C-D8252	HCC00	CB1-B-D8252	HCB00
Ø 8 mm	25x3	KW65	CB1-C-D8253	HCC00	CB1-B-D8253	HCB00
70	25x3	KW65	CB1-C-70253	HCC00	CB1-B-70253	HCB00
70	25x4	KW65	CB1-C-70254	HCC00	CB1-B-70254	HCB00
Ø 10 mm	25x3	KW65	CB1-C-D10253	HCC00	CB1-B-D10253	HCB00
Ø 10 mm	25x4	KW65	CB1-C-D10254	HCC00	CB1-B-D10254	HCB00
95	25x4	KW90	CB1-C-95254	HCC00	CB1-B-95254	HCB00
95	25x5	KW90	CB1-C-95255	HCC00	CB1-B-95255	HCB00
120	25x5	KW90	CB1-C-120255	HCC00	CB1-B-120255	HCB00
120	30x5	KW115	CB1-C-120305	HCC00		
120	40x5	KW115	CB1-C-120405	HCC00		
150	30x5	KW115	CB1-C-150305	HCC00		
150	40x5	KW150	CB1-C-150405	HCC00		
185	40x5	KW150	CB1-C-185405	HCC00		
185	50x5	KW200	CB1-D-185505	HCD00		
240	50x5	KW200	CB1-D-240505	HCD00		
240	50x6	2x KW150	CB1-D-240506	HCD00		
300	50x6	2x KW150	CB1-D-300506	HCD00		
300	50x8	2x KW150	CB1-D-300508	HCD00		

BYPASS CABLE TO TAPE CONDUCTOR

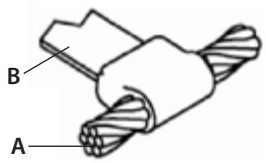
CB4



A (mm²)	B (mm²)	Powder	Mold	Handle clamp	Mini mold	Mini handle clamp
25	20x2	KW25	CB4-C-25202	HCC00	CB4-B-25202	HCB00
35	20x2	KW32	CB4-C-35202	HCC00	CB4-B-35202	HCB00
50	25x2	KW45	CB4-C-50252	HCC00	CB4-B-50252	HCB00
50	25x3	KW45	CB4-C-50253	HCC00	CB4-B-50253	HCB00
Ø 8 mm	25x2	KW45	CB4-C-D8252	HCC00	CB4-B-D8252	HCB00
Ø 8 mm	25x3	KW45	CB4-C-D8253	HCC00	CB4-B-D8253	HCB00
70	25x3	KW65	CB4-C-70253	HCC00	CB4-B-70253	HCB00
70	25x4	KW65	CB4-C-70254	HCC00	CB4-B-70254	HCB00
Ø 10 mm	25x3	KW65	CB4-C-D10253	HCC00	CB4-B-D10253	HCB00
Ø 10 mm	25x4	KW65	CB4-C-D10254	HCC00	CB4-B-D10254	HCB00
95	25x4	KW90	CB4-C-95254	HCC00	CB4-B-95254	HCB00
95	25x5	KW90	CB4-C-95255	HCC00	CB4-B-95255	HCB00
120	25x5	KW90	CB4-C-120255	HCC00	CB4-B-120255	HCB00
120	30x5	KW115	CB4-C-120305	HCC00		
120	40x5	KW115	CB4-C-120405	HCC00		
150	30x5	KW115	CB4-C-150305	HCC00		
150	40x5	KW115	CB4-C-150405	HCC00		
185	40x5	KW150	CB4-C-185405	HCC00		
185	50x5	KW150	CB4-C-185505	HCC00		
240	50x5	KW200	CB4-C-240505	HCC00		
240	50x6	KW250	CB4-C-240506	HCC00		
300	50x6	2x KW150	CB4-D-300506	HCD00		
300	50x8	2x KW200	CB4-D-300508	HCD00		

BYPASS TAPE CONDUCTOR TO CABLE

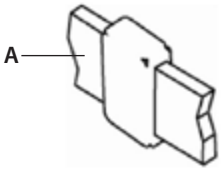
CB5



A (mm²)	B (mm X mm)	Powder	Mold	Handle clamp	Mini mold	Mini handle clamp
10	20x2	KW45	CB5-C-10202	HCC00	CB5-B-10202	HCB00
16	20x2	KW45	CB5-C-16202	HCC00	CB5-B-16202	HCB00
25	20x2	KW45	CB5-C-25202	HCC00	CB5-B-25202	HCB00
35	20x2	KW45	CB5-C-35202	HCC00	CB5-B-35202	HCB00
50	25x2	KW65	CB5-C-50252	HCC00	CB5-B-50252	HCB00
50	25x3	KW65	CB5-C-50253	HCC00	CB5-B-50253	HCB00
Ø 8 mm	25x2	KW65	CB5-C-D8252	HCC00	CB5-B-D8252	HCB00
Ø 8 mm	25x3	KW65	CB5-C-D8253	HCC00	CB5-B-D8253	HCB00
70	25x3	KW90	CB5-C-70253	HCC00	CB5-B-70253	HCB00
70	25x4	KW115	CB5-C-70254	HCC00		
Ø 10 mm	25x3	KW115	CB5-C-D10253	HCC00		
Ø 10 mm	25x4	KW150	CB5-C-D10254	HCC00		
95	25x4	KW150	CB5-C-95254	HCC00		
95	25x5	KW150	CB5-C-95255	HCC00		
120	25x5	KW150	CB5-C-120255	HCC00		
120	30x5	KW200	CB5-C-120305	HCC00		
150	30x5	KW200	CB5-C-150305	HCC00		
150	40x5	KW250	CB5-C-150405	HCC00		
185	40x5	KW250	CB5-C-185405	HCC00		
185	50x5	2x KW150	CB5-D-185505	HCD00		
240	50x5	2x KW150	CB5-D-240505	HCD00		
240	50x6	2x KW200	CB5-D-240506	HCD00		
300	50x6	2x KW250	CB5-D-300506	HCD00		
300	50x8	2x KW250	CB5-D-300508	HCD00		

HORIZONTAL ON THE SPLICE END TO END TAPE CONDUCTOR

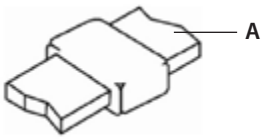
BB1



A (mm x mm)	Powder	Mold	Handle clamp	Mini mold	Mini handle clamp
20x2	KW45	BB1-C-202	HCC00	BB1-B-202	HCB00
20x3	KW45	BB1-C-203	HCC00	BB1-B-203	HCB00
25x2	KW65	BB1-C-252	HCC00	BB1-B-252	HCB00
25x3	KW65	BB1-C-253	HCC00	BB1-B-253	HCB00
25x4	KW90	BB1-C-254	HCC00	BB1-B-254	HCB00
30x2	KW65	BB1-C-302	HCC00	BB1-B-302	HCB00
30x3	KW90	BB1-C-303	HCC00	BB1-B-303	HCB00
30x4	KW115	BB1-C-304	HCC00		
30x5	KW115	BB1-C-305	HCC00		
40x3	KW115	BB1-C-403	HCC00		
40x4	KW150	BB1-C-404	HCC00		
40x5	KW150	BB1-C-405	HCC00		
40x6	KW200	BB1-C-406	HCC00		
50x5	KW200	BB1-C-505	HCC00		
50x6	KW250	BB1-C-506	HCC00		
50x8	2x KW150	BB1-D-508	HCD00		
60x6	KW250	BB1-C-606	HCC00		
60x8	2x KW200	BB1-D-608	HCD00		
60x10	2x KW250	BB1-D-6010	HCD00		
80x6	2x KW200	BB1-D-806	HCD00		
80x8	2x KW250	BB1-D-808	HCD00		
80x10	3x KW200	BB1-D-8010	HCD00		

HORIZONTAL END TO END TAPE CONDUCTOR

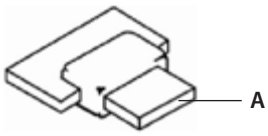
BB7



A (mm x mm)	Powder	Mold	Handle clamp	Mini mold	Mini handle clamp
20x2	KW45	BB7-C-202	HCC00	BB7-B-202	HCB00
20x3	KW45	BB7-C-203	HCC00	BB7-B-203	HCB00
20x4	KW65	BB7-C-204	HCC00	BB7-B-204	HCB00
20x5	KW90	BB7-C-205	HCC00	BB7-B-205	HCB00
25x2	KW45	BB7-C-252	HCC00	BB7-B-252	HCB00
25x3	KW65	BB7-C-253	HCC00	BB7-B-253	HCB00
25x4	KW90	BB7-C-254	HCC00	BB7-B-254	HCB00
25x5	KW90	BB7-C-255	HCC00	BB7-B-255	HCB00
30x2	KW65	BB7-C-302	HCC00	BB7-B-302	HCB00
30x3	KW65	BB7-C-303	HCC00	BB7-B-303	HCB00
30x4	KW90	BB7-C-304	HCC00	BB7-B-304	HCB00
30x5	KW115	BB7-C-305	HCC00		
40x3	KW90	BB7-C-403	HCC00		
40x4	KW115	BB7-C-404	HCC00		
40x5	KW150	BB7-C-405	HCC00		
40x6	KW200	BB7-C-406	HCC00		
50x5	KW200	BB7-D-505	HCD00		
50x6	KW250	BB7-D-506	HCD00		
50x8	2x KW150	BB7-D-508	HCD00		
60x6	2x KW150	BB7-D-606	HCD00		
60x8	2x KW200	BB7-D-608	HCD00		
60x10	2x KW250	BB7-D-6010	HCD00		

HORIZONTAL TEE TAPE CONDUCTOR

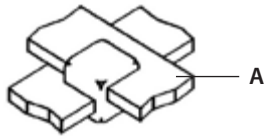
BB14



A (mm x mm)	Powder	Mold	Handle clamp	Mini mold	Mini handle clamp
20x2	KW45	BB14-C-202	HCC00	BB14-B-202	HCB00
20x3	KW45	BB14-C-203	HCC00	BB14-B-203	HCB00
20x4	KW65	BB14-C-204	HCC00	BB14-B-204	HCB00
20x5	KW90	BB14-C-205	HCC00	BB14-B-205	HCB00
25x2	KW45	BB14-C-252	HCC00	BB14-B-252	HCB00
25x3	KW65	BB14-C-253	HCC00	BB14-B-253	HCB00
25x4	KW90	BB14-C-254	HCC00	BB14-B-254	HCB00
25x5	KW90	BB14-C-255	HCC00	BB14-B-255	HCB00
30x2	KW65	BB14-C-302	HCC00	BB14-B-302	HCB00
30x3	KW65	BB14-C-303	HCC00	BB14-B-303	HCB00
30x4	KW90	BB14-C-304	HCC00	BB14-B-304	HCB00
30x5	KW115	BB14-C-305	HCC00		
40x3	KW90	BB14-C-403	HCC00		
40x4	KW115	BB14-C-404	HCC00		
40x5	KW150	BB14-C-405	HCC00		
40x6	KW200	BB14-C-406	HCC00		
50x5	KW200	BB14-D-505	HCD00		
50x6	KW250	BB14-D-506	HCD00		
50x8	2x KW150	BB14-D-508	HCD00		
60x6	2x KW150	BB14-D-606	HCD00		
60x8	2x KW200	BB14-D-608	HCD00		
60x10	2x KW250	BB14-D-6010	HCD00		

HORIZONTAL CROSS TAPE CONDUCTOR

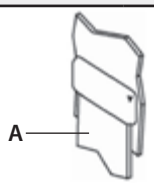
BB41



A (mm x mm)	Powder	Mold	Handle clamp	Mini mold	Mini handle clamp
20x2	KW45	BB41-C-202	HCC00	BB41-B-202	HCB00
20x3	KW65	BB41-C-203	HCC00	BB41-B-203	HCB00
20x5	KW65	BB41-C-205	HCC00	BB41-B-205	HCB00
25x2	KW65	BB41-C-252	HCC00	BB41-B-252	HCB00
25x3	KW65	BB41-C-253	HCC00	BB41-B-253	HCB00
25x4	KW90	BB41-C-254	HCC00	BB41-B-254	HCB00
30x2	KW65	BB41-C-302	HCC00	BB41-B-302	HCB00
30x3	KW90	BB41-C-303	HCC00	BB41-B-303	HCB00
30x4	KW115	BB41-C-304	HCC00		
30x5	KW115	BB41-C-305	HCC00		
40x3	KW150	BB41-C-403	HCC00		
40x4	KW200	BB41-C-404	HCC00		
40x5	KW200	BB41-C-405	HCC00		
40x6	KW200	BB41-C-406	HCC00		
40x10	KW250	BB41-C-410	HCC00		
50x5	KW200	BB41-C-505	HCC00		
50x6	KW200	BB41-C-506	HCC00		
50x8	KW250	BB41-C-508	HCC00		
50x10	2x KW150	BB41-D-5010	HCD00		

VERTICAL CROSS TAPE CONDUCTOR ON VERTICAL STEEL SURFACE

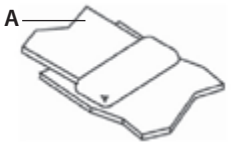
BS1



A (mm x mm)	Powder	Mold	Handle clamp	Mini mold	Mini handle clamp
20x2	KW65	BS1-C-202	HCC00	BS1-B-202	HCB00
20x3	KW65	BS1-C-203	HCC00	BS1-B-203	HCB00
25x2	KW90	BS1-C-252	HCC00	BS1-B-252	HCB00
25x3	KW90	BS1-C-253	HCC00	BS1-B-253	HCB00
25x4	KW90	BS1-C-254	HCC00	BS1-B-254	HCB00
30x2	KW90	BS1-C-302	HCC00	BS1-B-302	HCB00
30x3	KW90	BS1-C-303	HCC00	BS1-B-303	HCB00
30x4	KW115	BS1-C-304	HCC00		
30x5	KW150	BS1-C-305	HCC00		
40x3	KW150	BS1-C-403	HCC00		
40x4	KW200	BS1-C-404	HCC00		
40x5	KW200	BS1-C-405	HCC00		
40x6	KW250	BS1-C-406	HCC00		
50x5	KW250	BS1-C-505	HCC00		
50x6	2x KW150	BS1-D-506	HCD00		
50x8	2x KW200	BS1-D-508	HCD00		
60x6	2x KW200	BS1-D-606	HCD00		
60x8	2x KW250	BS1-D-608	HCD00		
60x10	3x KW200	BS1-D-6010	HCD00		
80x6	2x KW250	BS1-D-806	HCD00		
80x8	3x KW200	BS1-D-808	HCD00		
80x10	3x KW250	BS1-D-8010	HCD00		

HORIZONTAL TAPE CONDUCTOR ON HORIZONTAL STEEL SURFACE

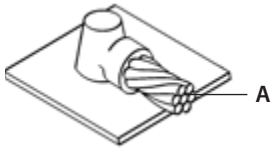
BS2



A (mm x mm)	Powder	Mold	Handle clamp	Mini mold	Mini handle clamp
20x2	KW65	BS2-C-202	HCC00	BS2-B-202	HCB00
20x3	KW90	BS2-C-203	HCC00	BS2-B-203	HCB00
25x2	KW90	BS2-C-252	HCC00	BS2-B-252	HCB00
25x3	KW90	BS2-C-253	HCC00	BS2-B-253	HCB00
25x4	KW90	BS2-C-254	HCC00	BS2-B-254	HCB00
30x2	KW90	BS2-C-302	HCC00	BS2-B-302	HCB00
30x3	KW115	BS2-C-303	HCC00		
30x4	KW150	BS2-C-304	HCC00		
30x5	KW200	BS2-C-305	HCC00		
40x3	KW115	BS2-C-403	HCC00		
40x4	KW200	BS2-C-404	HCC00		
40x5	KW200	BS2-C-405	HCC00		
40x6	KW250	BS2-C-406	HCC00		
50x5	2x KW150	BS2-D-505	HCD00		
50x6	2x KW150	BS2-D-506	HCD00		
50x8	2x KW200	BS2-D-508	HCD00		

HORIZONTAL CABLE ON HORIZONTAL STEEL SURFACE

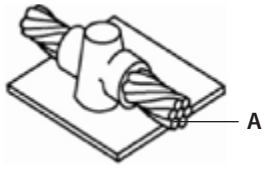
CS1



A (mm)	Powder	Mold	Handle clamp	Mini mold	Mini handle clamp
50	KW90	CS1-C-50	HCC00	CS1-B-50	HCB00
70	KW90	CS1-C-70	HCC00	CS1-B-70	HCB00
95	KW115	CS1-C-95	HCC00	CS1-B-95	HCB00
120	KW115	CS1-C-120	HCC00		
150	KW150	CS1-C-150	HCC00		
185	KW200	CS1-C-185	HCC00		
240	KW200	CS1-C-240	HCC00		
300	KW250	CS1-C-300	HCC00		

HORIZONTAL TROUGH CABLE ON HORIZONTAL STEEL SURFACE

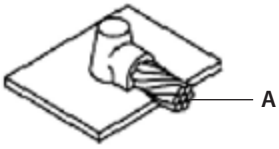
CS2



A (mm²)	Powder	Mold	Handle clamp	Mini mold	Mini handle clamp
25	KW45	CS2-C-25	HCC00	CS2-B-25	HCB00
35	KW45	CS2-C-35	HCC00	CS2-B-35	HCB00
50	KW90	CS2-C-50	HCC00	CS2-B-50	HCB00
Ø 8 mm	KW90	CS2-C-D8	HCC00	CS2-B-D8	HCB00
70	KW115	CS2-C-70	HCC00		
Ø 10 mm	KW115	CS2-C-D10	HCC00		
95	KW115	CS2-C-95	HCC00		
120	KW150	CS2-C-120	HCC00		
150	KW200	CS2-C-150	HCC00		
185	KW250	CS2-C-185	HCC00		
240	2x KW150	CS2-D-240	HCD00		
300	2x KW200	CS2-D-300	HCD00		

HORIZONTAL CABLE IN CONTACT WITH HORIZONTAL STEEL SURFACE

CS8

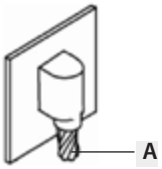


A (mm²)	Powder	Mold (*)	Handle clamp	Mini mold(*)	Mini handle clamp
16	KW45	CS8-C-16	HCC00	CS8-B-16	HCB00
25	KW45	CS8-C-25	HCC00	CS8-B-25	HCB00
35	KW45	CS8-C-35	HCC00	CS8-B-35	HCB00
50	KW65	CS8-C-50	HCC00	CS8-B-50	HCB00
70	KW65	CS8-C-70	HCC00	CS8-B-70	HCB00
95	KW90	CS8-C-95	HCC00	CS8-B-95	HCB00
120	KW115	CS8-C-120	HCC00		
150	KW150	CS8-C-150	HCC00		
185	KW200	CS8-C-185	HCC00		
240	KW200	CS8-C-240	HCC00		
300	KW250	CS8-C-300	HCC00		

(*)The use of sealing compound (our part number KMAS) is mandatory to perform such weld.

VERTICAL CABLE ON VERTICAL STEEL SURFACE

CS25

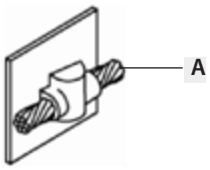


A (mm²)	Powder	Mold (*)	Handle clamp	Mini mold(*)	Mini handle clamp
25	KW45	CS25-C-25	HCC00	CS25-B-25	HCB00
35	KW45	CS25-C-35	HCC00	CS25-B-35	HCB00
50	KW65	CS25-C-50	HCC00	CS25-B-50	HCB00
70	KW90	CS25-C-70	HCC00	CS25-B-70	HCB00
95	KW115	CS25-C-95	HCC00		
120	KW115	CS25-C-120	HCC00		
150	KW150	CS25-C-150	HCC00		
185	KW200	CS25-C-185	HCC00		
240	KW200	CS25-C-240	HCC00		
300	KW250	CS25-C-300	HCC00		

(*) The use of sealing compound (our part number KMAS) is mandatory to perform such weld.

VERTICAL TROUGH CABLE ON VERTICAL STEEL SURFACE

CS27



A (mm²)	Powder	Mold (*)	Handle clamp	Mini mold(*)	Mini handle clamp
25	KW45	CS27-C-25	HCC00	CS27-B-25	HCB00
35	KW45	CS27-C-35	HCC00	CS27-B-35	HCB00
50	KW65	CS27-C-50	HCC00	CS27-B-50	HCB00
70	KW115	CS27-C-70	HCC00		
95	KW150	CS27-C-95	HCC00		
120	KW150	CS27-C-120	HCC00		
150	KW200	CS27-C-150	HCC00		
185	KW250	CS27-C-185	HCC00		
240	2 x KW150	CS27-D-240	HCD00		
300	2 x KW200	CS27-D-300	HCD00		

(*) The use of sealing compound (our part number KMAS) is mandatory to perform such weld.

On-demand exothermic welds

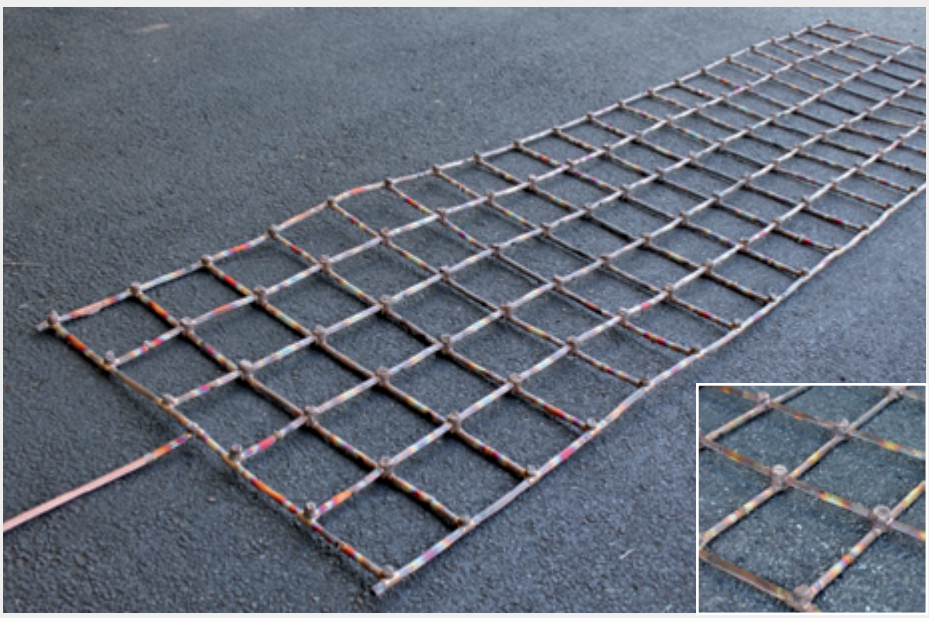
We can manufacture molds for specific exothermic weld configurations besides our standard offering.

Please provide us with:

- The nature of the conductors (shape, composition)
- The dimensions of the conductors (diameter (real), cross section)
- The nature of the element to be welded (composition)
- The position of the element to be welded (horizontal plan is the best)
- The number of weld points to be done.

Note that most of the materials such as copper and copper alloy, stainless steel, galvanized steel, bronze are suitable when doing exothermic welding. However, aluminium cannot be used.

Example of a 120mm² bare copper wire grid made using exothermic welding for substation.



Services and recommendations

Crimping tools for MALTEP lugs and couplers

Crimp our products with our selection of powerful and compact crimping tools and associated set of dies

Characteristics	Crimping tools				
	K22	BLD55	HC125	BP125	SU210
Type	Mechanical	Electro-Hydraulics	Manuel-Hydraulics	Electro-Hydraulics	Hydraulics*
Mechanical					
Maximum torque (kN)	–	52	125	125	200
Pressure (bars)	–	460	700	700	700
Course max. (mm)	–	15	26	32	35
Weight (Kg)	3,2	2,7	6,8	7	6,2
Box content	• Crimping tool • Plastic box	• Crimping tool • Plastic box • 2 batteries • 230V charger	• Crimping tool • Plastic box	• Crimping tool • Plastic box • 2 batteries • 230V charger	• Crimping tool • Wooden box • Adaptator for U13 die (option)

* Requires a hydraulic unit , specify the desired type of connection when ordering.

Crimping tool / dies equivalence for MALTEP tubular lug

Select your die according to: the type of tubular lug and the crimping tool

Tubular Lugs NFC20-130	Dies as per crimping tool				
	K22	BLD55	HC125	BP125	SU210
COT6	–	D55CU6-35	C12CU6	C12CU6	–
COT10	–	D55CU10-50	C12CU10	C12CU10	–
COT16	OUTIL-K22-NF2216	D55CU16-70	C12CU16	C12CU16	U13CU16*
COT25	OUTIL-K22-NF2225	D55CU25-95	C12CU25	C12CU25	U13CU25*
COT35	OUTIL-K22-NF2235	D55CU6-35	C12CU35	C12CU35	U13CU35*
COT50	OUTIL-K22-NF2250	D55CU10-50	C12CU50	C12CU50	U13CU50*
COT70	OUTIL-K22-NF2270	D55CU16-70	C12CU70	C12CU70	U13CU70*
COT95	OUTIL-K22-NF2295	D55CU25-95	C12CU95	C12CU95	U13CU95*
COT120	OUTIL-K22-NF22120	D55CU4-120	C12CU120	C12CU120	U13CU120*
COT150	OUTIL-K22-NF22150	D55CU150	C12CU150	C12CU150	U21CU150
COT185	OUTIL-K22-NF22185	D55CU185	C12CU185	C12CU185	U21CU185
COT240	OUTIL-K22-NF22240	D55CU240	C12CU240	C12CU240	U21CU240
COT300	–	–	C12CU300	C12CU300	U21CU300
COT400	–	–	C12CU400	C12CU400	U21CU400

* U21-U13 Adapter

Crimping tool / dies equivalence for MALTEP tubular lug

Select your die according to: the type of tubular lug and the crimping tool

Tubular Lugs DIN46235	Dies as per crimping tool				
	K22	BLD55	HC125	BP125	SU210
COTD6	–	D55K5-7	C12K5	C12K5	–
COTD10	–	D55K6-20	C12K6	C12K6	–
COTD16	OUTIL-K22-D2216	D55K8-16	C12K8	C12K8	–
COTD25	OUTIL-K22-D2225	D55K10-18	C12K10	C12K10	–
COTD35	OUTIL-K22-D2235	D55K12-14	C12K12	C12K12	–
COTD50	OUTIL-K22-D2250	D55K12-14	C12K14	C12K14	–
COTD70	OUTIL-K22-D2270	D55K8-16	C12K16	C12K16	–
COTD95	OUTIL-K22-D2295	D55K10-18	C12K18	C12K18	–
COTD120	OUTIL-K22-D22120	D55K6-20	C12K20	C12K20	–
COTD150	OUTIL-K22-D22150	D55K22	C12K22	C12K22	–
COTD185	OUTIL-K22-D22185	–	C12K25	C12K25	–
COTD240	–	–	C12K28	C12K28	–
COTD300	–	–	C12K32	C12K32	–
COTD400	–	–	C12K38	C12K38	–

Crimping tools for MALTEP lugs and couplers

Crimp our products with our selection of powerful and compact crimping tools and associated set of dies

Characteristics	Crimping tools				
	K22	BLD55	HC125	BP125	SU210
Type	Mechanical	Electro-Hydraulics	Manuel-Hydraulics	Electro-Hydraulics	Hydraulics*
Mechanical					
Maximum torque (kN)	–	52	125	125	200
Pressure (bars)	–	460	700	700	700
Course max. (mm)	–	15	26	32	35
Weight (Kg)	3,2	2,7	6,8	7	6,2
Box content	• Crimping tool • Plastic box	• Crimping tool • Plastic box • 2 batteries • 230V charger	• Crimping tool • Plastic box	• Crimping tool • Plastic box • 2 batteries • 230V charger	• Crimping tool • Wooden box • Adaptator for U13 die (option)

* Requires a hydraulic unit , specify the desired type of connection when ordering.

Crimping tool / dies equivalence for MALTEP bimetalic lugs

Select your die according to: the type of b imetalic lug and the crimping tool

Bimetalic Lugs	Dies as per crimping tool				
	K22	BLD55	HC125	BP125	SU210
35	–	D55E140-173(9)	C12E140(9x2)	C12E140(9x2)	U13E140(9x2)*
50	–	D55E140-173(9)	C12E140(9x2)	C12E140(9x2)	U13E140(9x2)*
70	–	D55E140-173(9)	C12E173(9x2)	C12E173(9x2)	U13E173(9x2)*
95	–	D55E140-173(9)	C12E173(9x2)	C12E173(9x2)	U13E173(9x2)*
120	–	D55E140-173(9)	C12E173(9x2)	C12E173(9x2)	U13E173(9x2)*
150	–	–	C12E235(9x2)	C12E235(9x2)	U13E235(9x2)*
185	–	–	C12E235(9x2)	C12E235(9x2)	U13E235(9x2)*
240	–	–	C12E235(9x2)	C12E235(9x2)	U13E235(9x2)*
300	–	–	C12X260(9)	C12X260(9)	U13X260(9)*

Crimping tool / dies equivalence for MALTEP C shape lugs

Select your die according to: the type of C shape lug and the crimping tool

C shape Lugs	Dies as per crimping tool				
	K22	BLD55	HC125	BP125	SU210
C16E	OUTIL-K22-NF2270	D55CU16-70	C12CU70	C12CU70	U13CU70*
C25E	OUTIL-K22-NF22150	D55E173.5	C12CU150	C12CU150	U21CU150
C25EGM	OUTIL-K22-NF22150	D55E173.5	C12CU150	C12CU150	U21CU150
C35E	OUTIL-K22-NF22150	D55E173.5	C12CU150	C12CU150	U21CU150
C50E	OUTIL-K22-NF22150	–	C12CU150	C12CU150	U21CU150
C70•	OUTIL-K22-NF22240	–	C12CU240	C12CU240	U21CU240
C75•	–	–	C12CC95	C12CC95	U21CC95
C95•	–	–	C12CC95	C12CC95	U21CC95
C120•	–	–	C12CC150	C12CC150	U21CC150
C150•	–	–	C12CC150	C12CC150	U21CC150
C185-95•	–	–	–	–	–
C185•	–	–	–	–	U21CC185
C240•	–	–	–	–	U21CC185

Crimping tool / dies equivalence for compression sleeves

Select your die according to: the type of compression sleeve and the crimping tool

Couplers	Dies as per crimping tool				
	K22	BLD55	HC125	BP125	SU210
MCL75	OUTIL-K22-D2270	D55K8-16	C12K16	C12K16	–
MCL120	OUTIL-K22-D22120	D55K6-20	C12K20	C12K20	–
MCL150	OUTIL-K22-D22150	D55K22	C12K22	C12K22	–
MCL185	OUTIL-K22-D22185	–	C12K25	C12K25	–

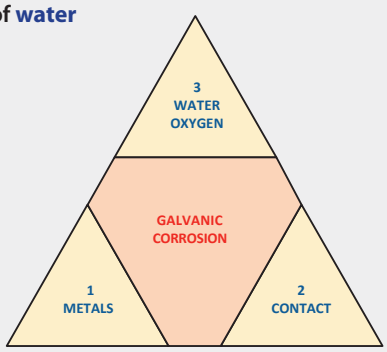
The principle of galvanic corrosion

Physical phenomenon, materials selection guide and MALTEP solutions

Physical Phenomenon

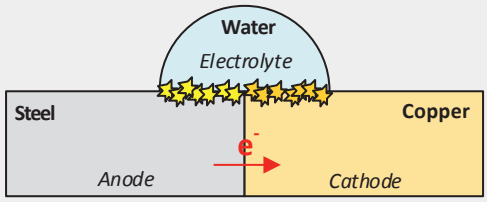
Galvanic corrosion is the result of three conditions:

- **Metals** of different natures
- **Contact** between these metals
- Presence of **water (oxygen)**



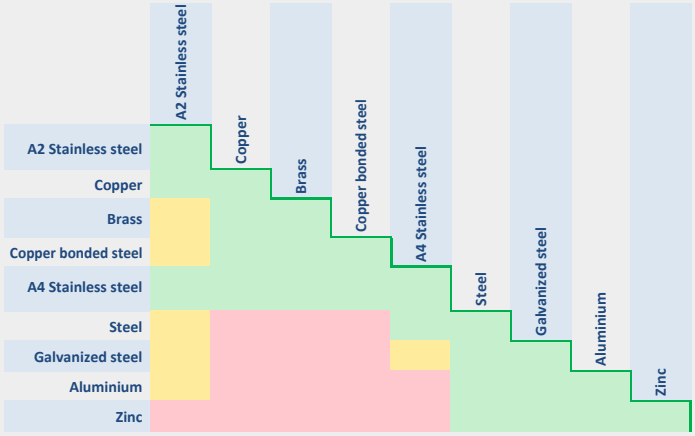
Therefore, reducing the galvanic corrosion means deleting one of the three conditions. As the removal of metals as well as water or oxygen is not possible, the contact between metals should therefore be avoided.

Galvanic corrosion induces an electric current flowing between metals. This current generates a metalic ion exchange. The anode releases metalic ions and, conversely, the cathode is charged with ions:



The steel dissolves (corrosion) by depositing on copper (blackening) and in water. The difference of potential induced by the electric current is altering the less noble metal (the anode).

Material Selection Guide



Legend:

The combination of the materials in contact is...

- Not suitable
- Low risk
- Risk-free

Examples :

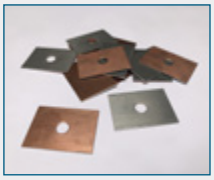
- Copper with galvanized steel
- Copper with stainless steel
- Copper with copper

MALTEP Solutions

The MALTEP product range has a wide choice of materials, a few simple rules must be followed in order to reduce the effect of galvanic corrosion and to ensure the durability of your installations.

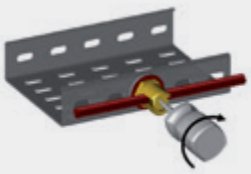
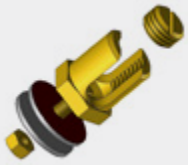
Solution 1: To respect the homogeneity of the materials in contact.

Solution 2: If the first solution is not possible, MALTEP offers different bimetallic products made of copper and aluminium (lugs, plates and washers).

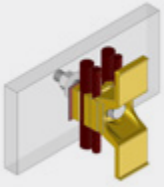


Examples:

Bimetallic washers mounted on cable holders to be used with cable tray:

Earth clamp mounted on galvanized steel surface:



Earthing, bonding and lightning protection

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