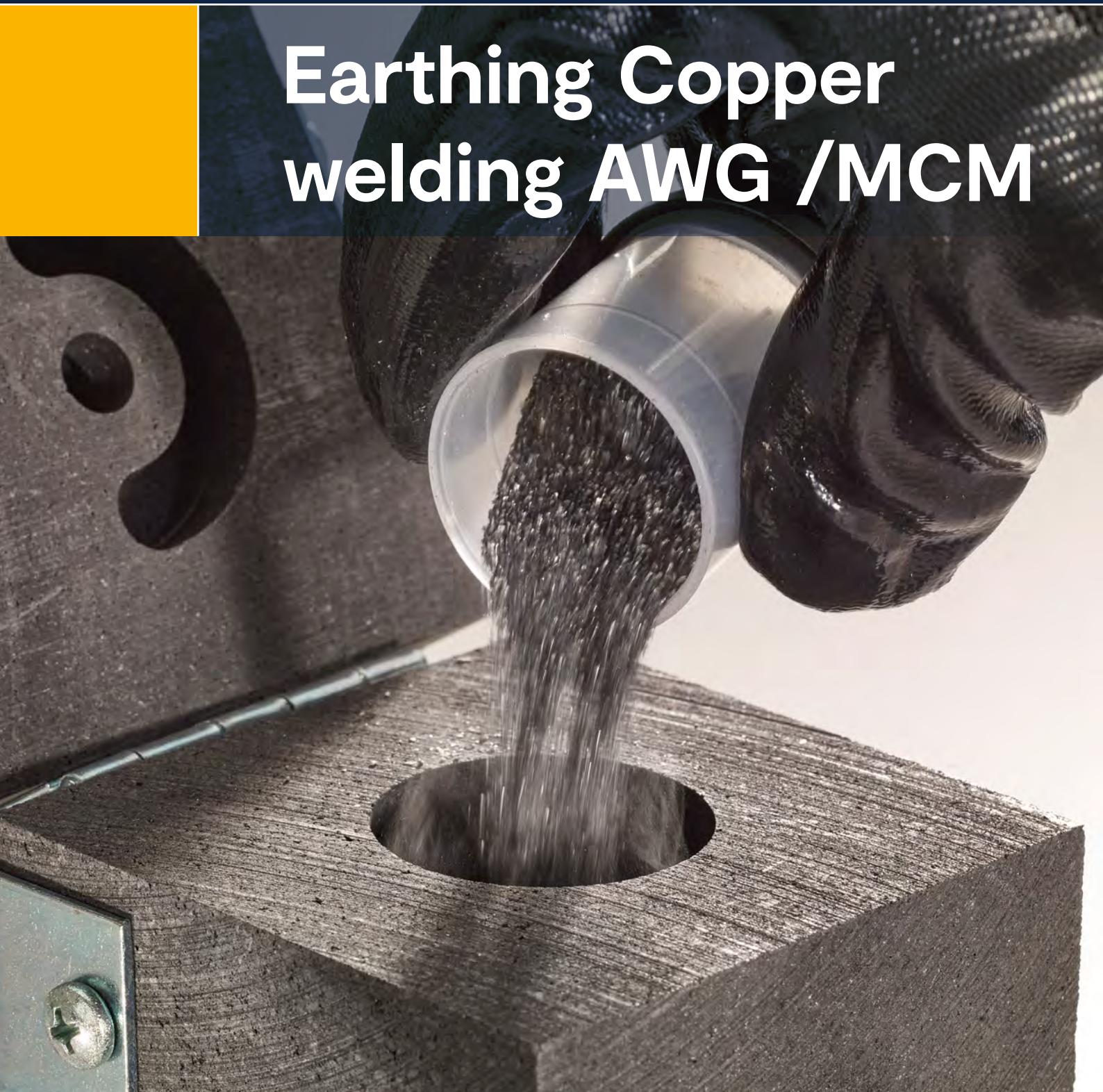




Committed to service

Earthing Copper welding AWG /MCM

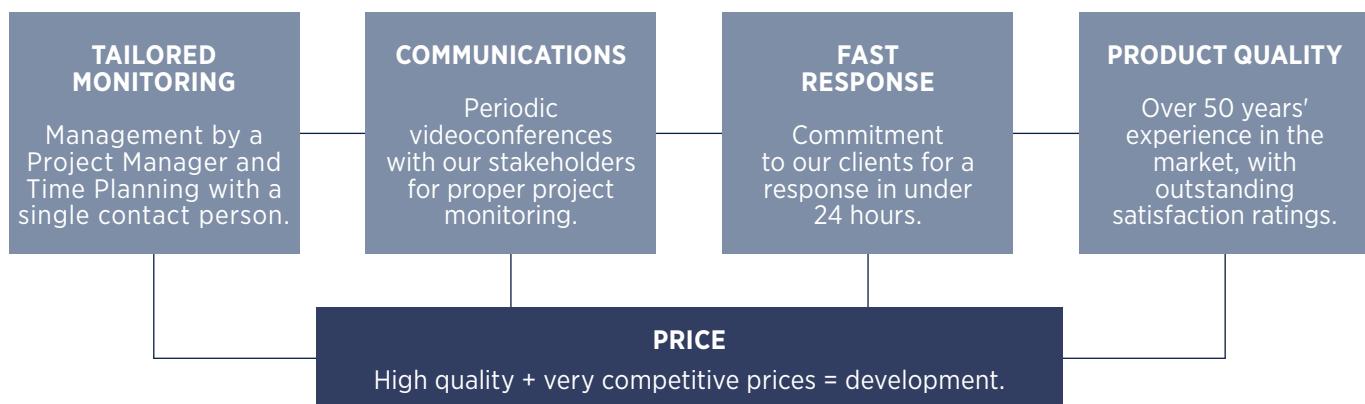


#weareKLK:

We are a young 50-year-old company with a long history in the industry, with experienced people who have been joined by a new generation of talents with the desire to go further and with new market ideas.

The result of this is the catalog that we present here, a young but experienced catalog, sober but modern, with the main idea of bringing our business closer to our existing and future customers with the same quality and customer focus as ever.

With this philosophy, we apply **Quality, Safety and Health, Environment policies**, throughout our business activities, based on the **ISO 9001, ISO 45001 and ISO 14001** standards.



UL certificate in several copper welding references.

Earthing. Copper welding.



Índex

1. Copper aluminothermic welding.

	The KLK-weld procedure.....	5		1.5 Cable / metal plate.....	38
	KLK-weld mould, cartridges and discs	6		1.6 Cable / bus-bar	45
	KLK-weld equipment	7		1.7 Bus-bar / bus-bar	49
	Tables of cables, bus-bars and earth rods	8		1.8 Bus-bar / steel surface	52
	Preparing material.....	9		1.9 1 shot mould.....	57
	Most frequent connections	10		1.10 Ignition procedure LsVIP	58
	1.1 Cable / cable.....	13		1.11 Virtual reality training	63
	1.2 Cable / earth rod.....	25		1.12 Procedure ELPA Tubo.....	65
	1.3 Earth rod / earth rod.....	30		1.13 Procedure ELPA	70
	1.4 Cable / re-bar.....	31			

KLK-weld procedure

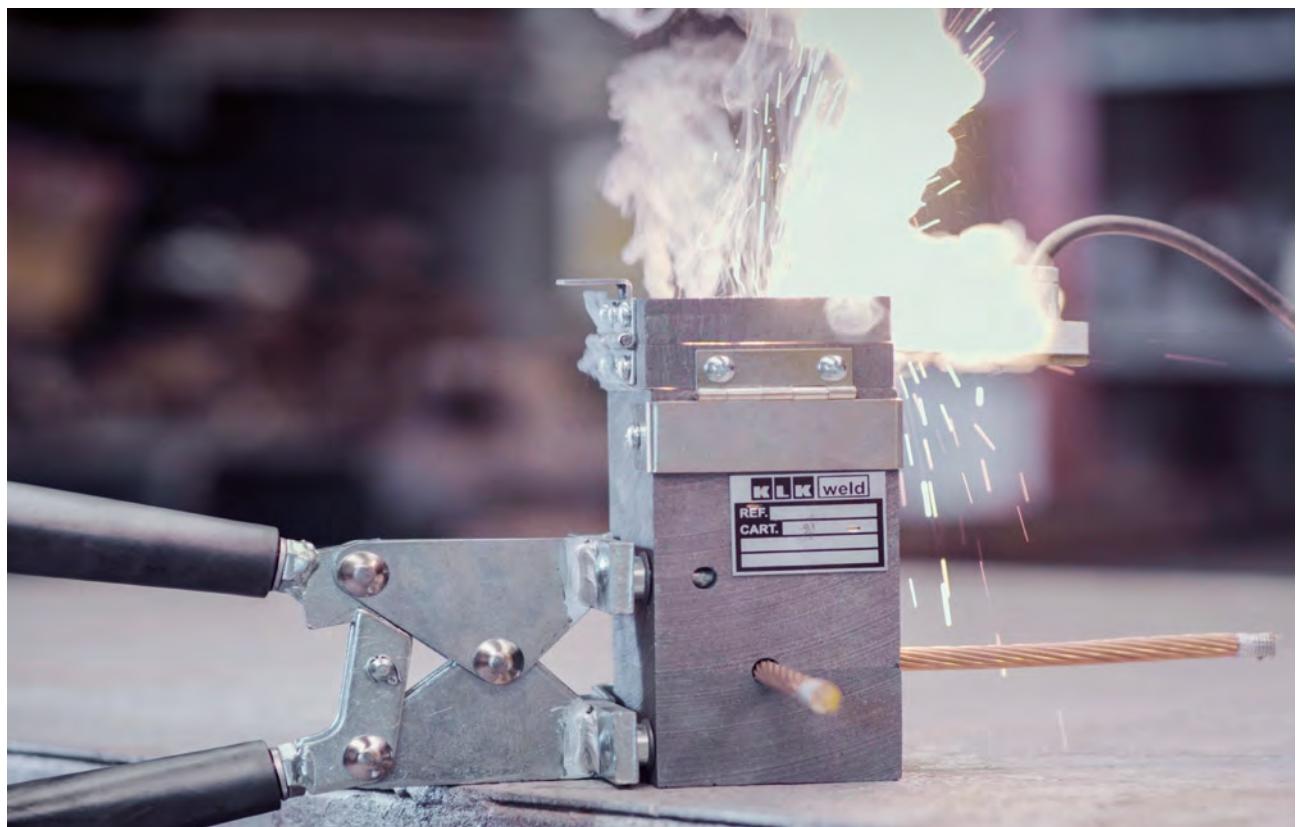
The **KLK-weld procedure** utilizes the high temperature reached during the reduction reaction between copper oxide and aluminum. The reaction takes place inside a graphite crucible-mold, into which the parts to be welded have been inserted; the melted metal from the aluminothermic reaction flows over the parts, melting them and forming a compact, homogeneous mass.

The reaction is so quick that the parts to be welded in the area surrounding the welding point, acquire a lower temperature than that obtained using other procedures. This is an important factor for protecting cable insulation or the physical characteristics of the parts to be welded.

KLK-weld can be used to weld copper to copper or copper to steel. For other materials, please contact us.

The **KLK-weld connection** is a perfect molecular weld and not just a mechanical contact. The alloy used has practically the same melting point as that of copper and usually has a cross-section approximately double than that of the conductors to be welded, so:

- * Connections are not affected by high current surges. Tests have shown that the electrical conductors will melt before the connection when subject to high short-circuit current.
- * Connection conductivity is at least equal or greater than that of the conductors welded.
- * There is no possibility of galvanic corrosion at the welding point, as the conductors become an integral part of the connection.

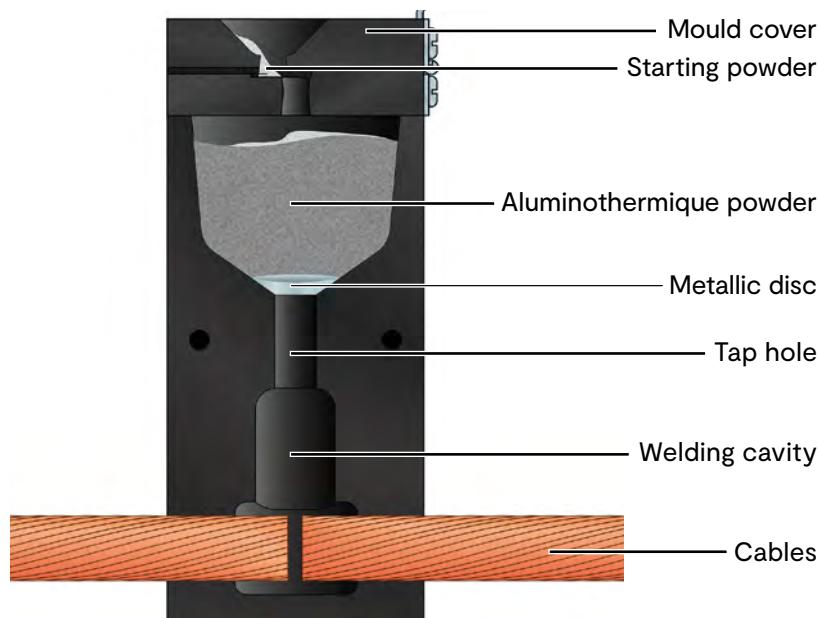


1. Copper aluminothermic welding /

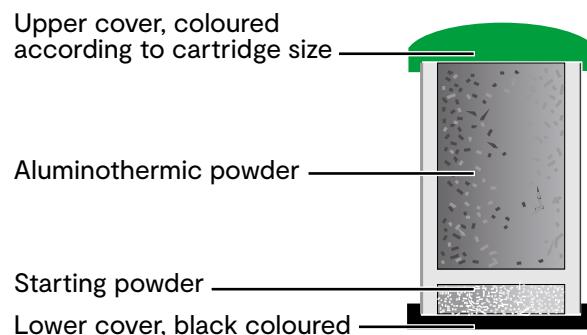
KLK-weld mould

Molds for welding galvanized steel cable add to the end of the mold reference GS.
 (Example **CC-L35 GS**)

Welding molds for stainless steel wire add to the end of the SS mold reference.
 (Example **CC-L35 SS**)



KLK-weld cartridges and discs



Cartridges	C-15	C-25	C-32	C-45	C-65	C-90	C-115	C-150	C-200	C-250
Colour	Light grey	Grey	Purple	White	Yellow	Orange	Red	Brown	Blue	Green
Units. / Box	20	20	20	20	10	10	10	10	10	10

KLK-weld equipment

The **KLK-WELD equipment** is light and portable, and does not require any external power source, making it suitable for field use. Non-specialist personnel can achieve optimal electrical connections and high mechanical quality in a very short time


Moulds:

The moulds are manufactured from a heat-resistant material (graphite) block that lasts for an average of 70-100 welds under normal conditions of use. The metallic cover protects against sparks and spatter during the reaction.


TSC handle clamps:

Designed for handling the moulds and opening and closing them safely while hot. There are three types of handle clamps depending on the mould size: TSC 50, TSC-80 and TSC-100.


MS handle clamps:

Designed to fit moulds manufactured from a solid piece of graphite, especially those used to weld cables to pipes.


Flint igniter:

It is used for ignition of ignition dust. It takes normal lighter flints as spare parts.


Card cloth brush:

Used to properly clean cables for welding.

Mould brush:

For cleaning the inside of the mould after each weld.


Mould scraper:

Its shape is specially designed to clean the mould loading hopper.


Remote igniter:

Device used to ignite the load safely and cleanly.


Long consumable:

To carry out the ignition with the remote igniter.


Sealing Paste:

Cords of refractory paste used to prevent losses of molten copper between the walls of the mould and the conductors to be welded.

1. Copper aluminothermic welding /

Tables of cables, bus-bars and earth rods

The moulds are cut to fit the type and size of copper conductors, concrete steel re-bars and earth rods shown on these tables. For any other type and/or size, it is necessary to confirm the actual overall diameter.

Earth rod				
Nominal diameter	Material	Threaded diameter	Diameter in	Diameter mm
1/2"	Copper plating	1/2"	0,500	12,70
	Steel	-	0,500	12,70
	Copper plating	-	0,475	12,07
5/8"	Copper plating	5/8"	0,625	15,88
	Steel	-	0,625	15,88
	Copper plating	-	0,563	14,30
3/4"	Copper plating	3/4"	0,750	19,05
	Steel	-	0,750	19,05
	Copper plating	-	0,682	17,32

Copperbond rods	
Earth rod type	Ø Exterior mm
J - ...58	14,3
J - ...34	17,3
...NU 146	14,6
...NU 183	18,3

Copper conductor		
Section	Diameter in	Diameter mm
1000 MCM	1,152	29,26
800 MCM	1,031	24,49
750 MCM	0,998	25,35
700 MCM	0,964	24,49
600 MCM	0,893	22,49
500 MCM	0,813	20,65
400 MCM	0,728	18,49
350 MCM	0,681	17,30
300 MCM	0,630	16,00
250 MCM	0,575	14,61
4/0 AWG	0,528	13,41
3/0 AWG	0,470	11,94
2/0 AWG	0,419	10,64
1/0 AWG	0,373	9,47
1 AWG	0,332	8,43
2 AWG	0,292	7,42
3 AWG	0,260	6,60
4 AWG	0,232	5,89
6 AWG	0,184	4,67
8 AWG	0,146	3,71
10 AWG	0,116	2,95

Copper solid conductor		
Section	Diameter in	Diameter mm
4/0 AWG	0,4600	11,68
3/0 AWG	0,4096	10,40
2/0 AWG	0,3648	9,27
1/0 AWG	0,3249	8,25
1 AWG	0,2893	7,35
2 AWG	0,2576	6,54
3 AWG	0,2294	5,83
4 AWG	0,2043	5,19
6 AWG	0,1620	4,11
8 AWG	0,1258	3,26
10 AWG	0,1019	2,59

Steel building		
Re-bar	Diameter in	Diameter mm
3 (3/8")	0,413	10,49
4 (1/2")	0,550	13,97
5 (5/8")	0,687	17,45
6 (3/4")	0,825	20,96
7 (7/8")	0,962	24,43
8 (1")	1,100	27,94
9	1,240	31,50
10	1,397	35,48
11	1,551	39,40
14	1,862	47,29
18	2,483	63,07

Preparing material

Preparing the cables

For a perfect weld the cable must be perfectly clean, dry and shaped.

- * Cables treated with oil or grease should be cleaned with a degreaser (preferably a solvent that dries quickly and leaves no residue). In extreme cases, heat the cable with a blowtorch, which will completely remove grease or oil.
- * Rusty cables should be polished with a wire brush.
- * A cable that is wet or coated in mud will cause porous welding and emissions of molten metal out of the mold. It should be dried with a blowtorch to remove mud residues.
- * Wrongly-cut or shaped cables will prevent the correct closing of the mold, causing leaks of molten metal.

Preparing the grounding rods

The end of the rod to be welded must be perfectly clean, dry and flat, as for the cables.

Preparing the steel surfaces

The surface must be free of rust and perfectly dry and flat.

- * The layer of rust, paint, grease, or dirt should be cleaned using a grinding wheel preferably.
- * Dry any moisture with a blowtorch.
- * Galvanized surfaces should be cleaned without removing the zinc layer.

Preparing the graphite mold

Moisture in the mold will produce a porous weld, so ensure it is completely dry before welding.

Before the first weld, heat the mold until it is too hot to touch, with a blowtorch, or by burning a cartridge. If you use a cartridge take care not to damage the clamps.

For subsequent welds, the heat generated will keep the mold at the correct temperature. If the interval between welds causes the mold to cool, start the procedure over again.

1. Copper aluminothermic welding /

Most frequent connections

Cable / cable

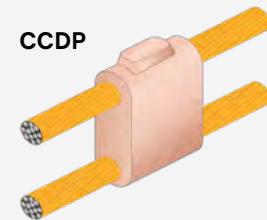
CCL



CCTH



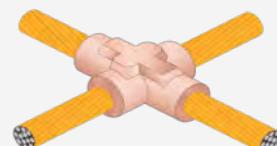
CCDP



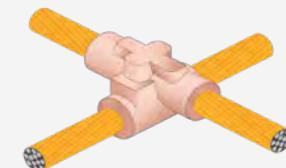
CCDPV



CCX



CCXS



Cable / earth rod

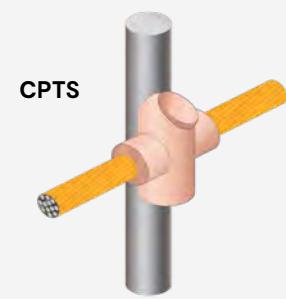
CPAR



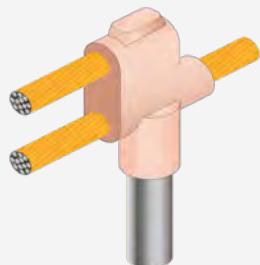
CPT



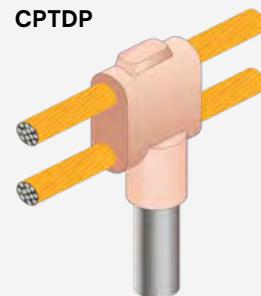
CPTS



CPTD



CPTDP



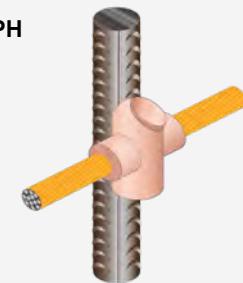
1. Copper aluminothermic welding /

Earth rod / earth rod

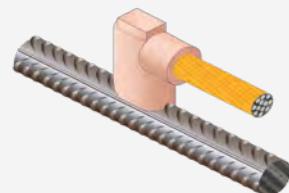
PPV


Cable / re-bar

CRPH



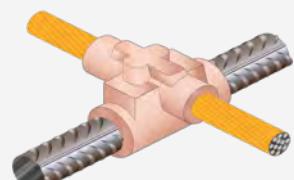
CRTP



CRTL



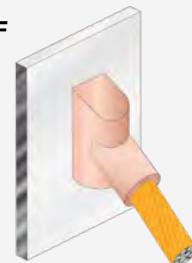
CRXS


Cable / metal plate

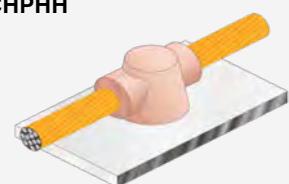
CHTH



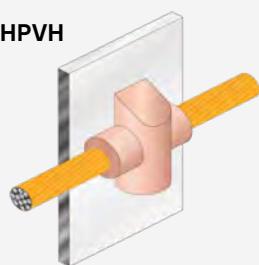
CHTF



CHPHH



CHPVH



CHVS



CHPVV



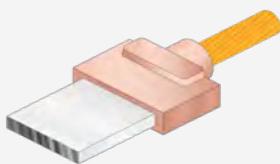
CHVI



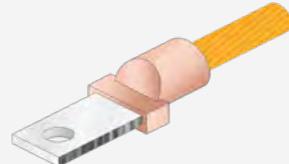
1. Copper aluminothermic welding /

Cable / bus-bar

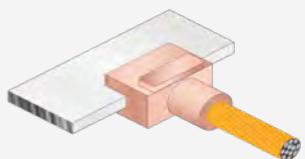
CPLL



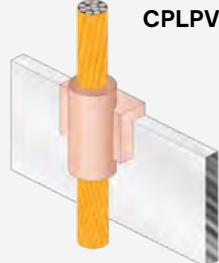
CPLLS



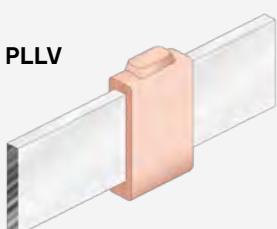
CPLH



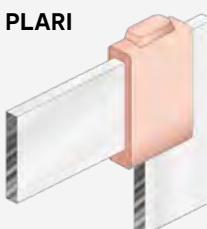
CPLPVV


Bus-bar / bus-bar

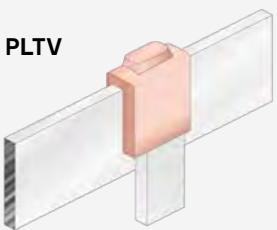
PLLV



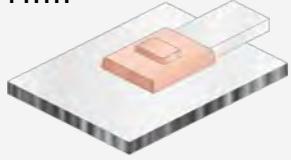
PLARI



PLTV


Bus-bar / steel surface

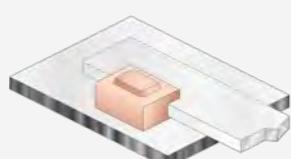
PHTH



PHVI



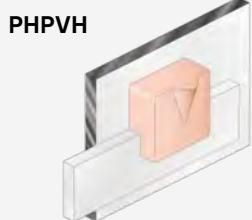
PHPHH



PHPVV



PHPVH


1 shot

YCP-T



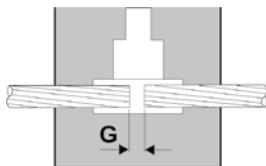
YCP-TD



1. Copper aluminothermic welding /
1.1 Cable / cable



Operating instructions.
For 500 MCM cables or more, separate the points in the centre 1/4" approximately.

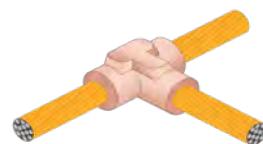


Connection CCL					
Dimension					
Cable	Mould (PART. No.)	Cartridge	Clamp	Scraper	Price key for moulds
8	CCL 8	C-15	TSC-80	R-45	A
8 SOL	CCL 8S	C-15	TSC-80	R-45	
6	CCL 6	C-25	TSC-80	R-45	
6 SOL	CCL 6S	C-25	TSC-80	R-45	
4	CCL 4	C-25	TSC-80	R-45	
4 SOL	CCL 4S	C-25	TSC-80	R-45	
3	CCL 3	C-32	TSC-80	R-45	
2	CCL 2	C-32	TSC-80	R-45	
2 SOL	CCL 2S	C-32	TSC-80	R-45	
1	CCL 1	C-32	TSC-80	R-45	
1 SOL	CCL 1S	C-32	TSC-80	R-45	
1/0	CCL 1/0	C-45	TSC-80	R-45	
1/0 SOL	CCL 1/0S	C-45	TSC-80	R-45	
2/0	CCL 2/0	C-65	TSC-80	R-45	
3/0	CCL 3/0	C-90	TSC-80	R-90	
4/0	CCL 4/0	C-90	TSC-80	R-90	
4/0 SOL	CCL 4/0S	C-90	TSC-80	R-90	
250	CCL 250	C-115	TSC-80	R-90	E
300	CCL 300	C-115	TSC-80	R-90	
350	CCL 350	C-150	TSC-80	R-150	
500	CCL 500	C-200	TSC-80	R-150	
750	CCL 750	2 x C-150	TSC-100	R-750	
1000	CCL 1.000	2 x C-200	TSC-100	R-750	

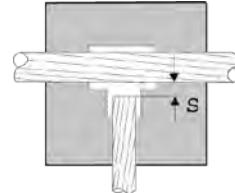
1. Copper aluminothermic welding /

1.1 Cable / cable

Connection CCTH (1 of 3)						
Cable		Mould (PART. No.)	Cartridge	Clamp	Scraper	Price key for moulds
Main	Tap cable					
4	4	CCTH 4-4	C-32	TSC-80	R-45	
2 SOL	2	CCTH 2S-2	C-45	TSC-80	R-45	
	2 SOL	CCTH 2S-2S	C-45	TSC-80	R-45	
	4	CCTH 2S-4	C-45	TSC-80	R-45	
2	2	CCTH 2-2	C-45	TSC-80	R-45	
	2 SOL	CCTH 2-2S	C-45	TSC-80	R-45	
	4	CCTH 2-4	C-45	TSC-80	R-45	
1	1	CCTH 1-1	C-45	TSC-80	R-45	
	2	CCTH 1-2	C-45	TSC-80	R-45	
	2 SOL	CCTH 1-2S	C-45	TSC-80	R-45	
	4	CCTH 1-4	C-45	TSC-80	R-45	
1/0	1/0	CCTH 1/0-1/0	C-90	TSC-80	R-90	
	1	CCTH 1/0-1	C-45	TSC-80	R-45	
	2	CCTH 1/0-2	C-45	TSC-80	R-45	
	2 SOL	CCTH 1/0-2S	C-45	TSC-80	R-45	
	4	CCTH 1/0-4	C-45	TSC-80	R-45	
2/0	2/0	CCTH 2/0-2/0	C-90	TSC-80	R-90	A
	1/0	CCTH 2/0-1/0	C-90	TSC-80	R-90	
	1	CCTH 2/0-1	C-45	TSC-80	R-45	
	2	CCTH 2/0-2	C-45	TSC-80	R-45	
	2S	CCTH 2/0-2S	C-45	TSC-80	R-45	
	4	CCTH 2/0-4	C-45	TSC-80	R-45	
3/0	3/0	CCTH 3/0-3/0	C-115	TSC-80	R-90	
	2/0	CCTH 3/0-2/0	C-90	TSC-80	R-90	
	1/0	CCTH 3/0-1/0	C-90	TSC-80	R-90	
	1	CCTH 3/0-1	C-45	TSC-80	R-45	
	2	CCTH 3/0-2	C-45	TSC-80	R-45	
	2S	CCTH 3/0-2S	C-45	TSC-80	R-45	
	4	CCTH 3/0-4	C-45	TSC-80	R-45	
4/0	4/0	CCTH 4/0-4/0	C-150	TSC-80	R-150	
	3/0	CCTH 4/0-3/0	C-115	TSC-80	R-90	
	2/0	CCTH 4/0-2/0	C-90	TSC-80	R-90	
	1/0	CCTH 4/0-1/0	C-90	TSC-80	R-90	
	1	CCTH 4/0-1	C-90	TSC-80	R-90	
	2	CCTH 4/0-2	C-90	TSC-80	R-90	
	2 SOL	CCTH 4/0-2S	C-90	TSC-80	R-90	
	4	CCTH 4/0-4	C-90	TSC-80	R-90	



Operating instructions.
For 500 MCM cables or more, separate the end of tap cable 1/4" approximately.



1. Copper aluminothermic welding /
1.1 Cable / cable



Connection CCTH (2 of 3)

Main	Tap cable	Mould (PART. No.)	Cartridge	Clamp	Scraper	Price key for moulds
250	250	CCTH 250-250	C-150	TSC-80	R-150	A
	4/0	CCTH 250-4/0	C-150	TSC-80	R-150	
	3/0	CCTH 250-3/0	C-150	TSC-80	R-150	
	2/0	CCTH 250-2/0	C-90	TSC-80	R-90	
	1/0	CCTH 250-1/0	C-90	TSC-80	R-90	
	1	CCTH 250-1	C-90	TSC-80	R-90	
	2	CCTH 250-2	C-90	TSC-80	R-90	
	2 SOL	CCTH 250-2 S	C-90	TSC-80	R-90	
	4	CCTH 250-4	C-90	TSC-80	R-90	
	300	CCTH 300-300	C-200	TSC-80	R-150	
	250	CCTH 300-250	C-150	TSC-80	R-150	
	4/0	CCTH 300-4/0	C-150	TSC-80	R-150	
	3/0	CCTH 300-3/0	C-150	TSC-80	R-150	
	2/0	CCTH 300-2/0	C-90	TSC-80	R-90	
	1/0	CCTH 300-1/0	C-90	TSC-80	R-90	
300	1	CCTH 300-1	C-90	TSC-80	R-90	
	2	CCTH 300-2	C-90	TSC-80	R-90	
	2 SOL	CCTH 300-2 SOL	C-90	TSC-80	R-90	
	4	CCTH 300-4	C-90	TSC-80	R-90	
	350	CCTH 350-350	C-200	TSC-80	R-150	
	300	CCTH 350-300	C-200	TSC-80	R-150	
	250	CCTH 350-250	C-200	TSC-80	R-150	
	4/0	CCTH 350-4/0	C-150	TSC-80	R-150	
	3/0	CCTH 350-3/0	C-150	TSC-80	R-150	
	2/0	CCTH 350-2/0	C-90	TSC-80	R-90	
	1/0	CCTH 350-1/0	C-90	TSC-80	R-90	
	1	CCTH 350-1	C-90	TSC-80	R-90	
	2	CCTH 350-2	C-90	TSC-80	R-90	
	4	CCTH 350-4	C-90	TSC-80	R-90	
500	500	CCTH 500-500	2 x C-150	TSC-80	R-150	A
	350	CCTH 500-350	C-200	TSC-80	R-150	
	300	CCTH 500-300	C-200	TSC-80	R-150	
	250	CCTH 500-250	C-200	TSC-80	R-150	
	4/0	CCTH 500-4/0	C-150	TSC-80	R-150	
	2/0	CCTH 500-2/0	C-90	TSC-80	R-90	
	1/0	CCTH 500-1/0	C-90	TSC-80	R-90	
	1	CCTH 500-1	C-90	TSC-80	R-90	
	2	CCTH 500-2	C-90	TSC-80	R-90	
	4	CCTH 500-4	C-90	TSC-80	R-90	



UL certificate in several
copper welding references.

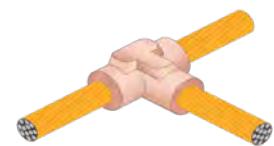
Earthing. Copper welding.



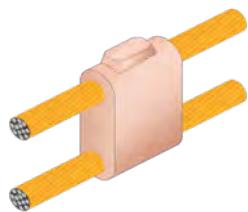
1. Copper aluminothermic welding /

1.1 Cable / cable

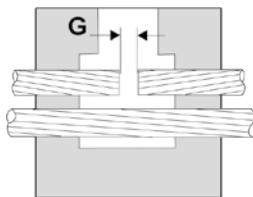
Connection CCTH (3 of 3)						Price key for moulds
Main	Tap cable	Mould (PART. No.)	Cartridge	Clamp	Scraper	
750	750	CCTH 750-750	2 x C-250	TSC-100	R-750	E
	500	CCTH 750-500	2 x C-200	TSC-100	R-750	
	350	CCTH 750-350	C-250	TSC-80	R-150	A
	300	CCTH 750-300	C-200	TSC-80	R-150	
	250	CCTH 750-250	C-200	TSC-80	R-150	
	4/0	CCTH 750-4/0	C-150	TSC-80	R-150	
	2/0	CCTH 750-2/0	C-150	TSC-80	R-150	
	1/0	CCTH 750-1/0	C-150	TSC-80	R-150	
1000	1000	CCTH 1000-1000	2 x C-250	TSC-100	R-750	E
	750	CCTH 1000-750	2 x C-250	TSC-100	R-750	
	500	CCTH 1000-500	2 x C-200	TSC-100	R-750	A
	350	CCTH 1000-350	C-250	TSC-80	R-150	
	300	CCTH 1000-300	C-200	TSC-80	R-150	
	250	CCTH 1000-250	C-200	TSC-80	R-150	
	4/0	CCTH 1000-4/0	C-150	TSC-80	R-150	
	2/0	CCTH 1000-2/0	C-150	TSC-80	R-150	
	1/0	CCTH 1000-1/0	C-150	TSC-80	R-150	



1. Copper aluminothermic welding /
1.1 Cable / cable



Operating instructions.
Cut the tap cable and separate the points 1/4" in the center of the mould hole.



Connection CCDP (1 of 3)						
Cable		Mould (PART. No.)	Cartridge	Clamp	Scraper	Price key for moulds
4	Main	4	C CCPD 4-4	C-32	TSC-80	R-45
		6	C CCPD 4-6	C-32	TSC-80	R-45
		6 SOL	C CCPD 4-6S	C-32	TSC-80	R-45
		8	C CCPD 4-8	C-32	TSC-80	R-45
		8 SOL	C CCPD 4-8S	C-32	TSC-80	R-45
2 SOL		2	C CCPD 2S-2	C-65	TSC-80	R-45
		2 SOL	C CCPD 2S-2S	C-65	TSC-80	R-45
		4	C CCPD 2S-4	C-65	TSC-80	R-45
		6	C CCPD 2S-6	C-45	TSC-80	R-45
		6 SOL	C CCPD 2S-6S	C-45	TSC-80	R-45
		8	C CCPD 2S-8	C-45	TSC-80	R-45
		8 SOL	C CCPD 2S-8S	C-45	TSC-80	R-45
		2	C CCPD 2-2	C-65	TSC-80	R-90
2		4	C CCPD 2-4	C-65	TSC-80	R-45
		6	C CCPD 2-6	C-45	TSC-80	R-45
		6 SOL	C CCPD 2-6S	C-45	TSC-80	R-45
		8	C CCPD 2-8	C-45	TSC-80	R-45
		8 SOL	C CCPD 2-8S	C-45	TSC-80	R-45
		2	C CCPD 1-2	C-65	TSC-80	R-45
1 SOL		4	C CCPD 1-4	C-65	TSC-80	R-45
		6	C CCPD 1-6	C-65	TSC-80	R-45
		6 SOL	C CCPD 1-6S	C-65	TSC-80	R-45
		8	C CCPD 1-8	C-45	TSC-80	R-45
		8 SOL	C CCPD 1-8S	C-45	TSC-80	R-45
		1	C CCPD 1S-1	C-65	TSC-80	R-45
		2	C CCPD 1S-2	C-65	TSC-80	R-45
		2 SOL	C CCPD 1S-2S	C-65	TSC-80	R-45
1		4	C CCPD 1S-4	C-65	TSC-80	R-45
		6	C CCPD 1S-6	C-65	TSC-80	R-45
		6 SOL	C CCPD 1S-6S	C-65	TSC-80	R-45
		8	C CCPD 1S-8	C-45	TSC-80	R-45
		8 SOL	C CCPD 1S-8S	C-45	TSC-80	R-45
		1	C CCPD 1-1	C-65	TSC-80	R-45
		1 SOL	C CCPD 1-1S	C-65	TSC-80	R-45
		2	C CCPD 1-2	C-65	TSC-80	R-45
1		2 SOL	C CCPD 1-2S	C-65	TSC-80	R-45
		4	C CCPD 1-4	C-65	TSC-80	R-45
		6	C CCPD 1-6	C-65	TSC-80	R-45
		6 SOL	C CCPD 1-6S	C-65	TSC-80	R-45
		8	C CCPD 1-8	C-45	TSC-80	R-45
		8 SOL	C CCPD 1-8S	C-45	TSC-80	R-45

A



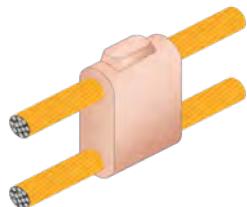
UL certificate in several copper welding references.

Earthing. Copper welding.



1. Copper aluminothermic welding /

1.1 Cable / cable



Connection CCDP (2 of 3)

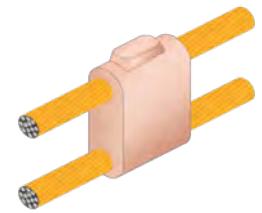
Main	Tap cable	Mould (PART. No.)	Cartridge	Clamp	Scraper	Price key for moulds
1/0 SOL	1/0	CCDP 1/0S-1/0	C-90	TSC-80	R-90	
	1/0 SOL	CCDP 1/0S-1/0S	C-90	TSC-80	R-90	
	1	CCDP 1/0S-1	C-65	TSC-80	R-45	
	1 SOL	CCDP 1/0S-1S	C-65	TSC-80	R-45	
	2	CCDP 1/0S-2	C-65	TSC-80	R-45	
	2 SOL	CCDP 1/0S-2S	C-65	TSC-80	R-45	
	4	CCDP 1/0S-4	C-65	TSC-80	R-45	
	6	CCDP 1/0S-6	C-65	TSC-80	R-45	
	6 SOL	CCDP 1/0S-6S	C-65	TSC-80	R-45	
	8	CCDP 1/0S-8	C-65	TSC-80	R-45	
	8 SOL	CCDP 1/0S-8S	C-65	TSC-80	R-45	
	1/0	CCDP 1/0-1/0	C-90	TSC-80	R-90	
	1/0 SOL	CCDP 1/0-1/0S	C-90	TSC-80	R-90	
	1	CCDP 1/0-1	C-65	TSC-80	R-45	
	1 SOL	CCDP 1/0-1S	C-65	TSC-80	R-45	
1/0	2	CCDP 1/0-2	C-65	TSC-80	R-45	
	2 SOL	CCDP 1/0-2S	C-65	TSC-80	R-45	
	4	CCDP 1/0-4	C-65	TSC-80	R-45	
	6	CCDP 1/0-6	C-65	TSC-80	R-45	
	6 SOL	CCDP 1/0-6S	C-65	TSC-80	R-45	
	8	CCDP 1/0-8	C-65	TSC-80	R-45	
	8 SOL	CCDP 1/0-8S	C-65	TSC-80	R-45	
	2/0	CCDP 2/0-2/0	C-115	TSC-80	R-90	
	1/0	CCDP 2/0-1/0	C-115	TSC-80	R-90	
	1/0 SOL	CCDP 2/0-1/0S	C-115	TSC-80	R-90	
	2	CCDP 2/0-2	C-90	TSC-80	R-90	
	1	CCDP 2/0-1	C-90	TSC-80	R-90	
	1 SOL	CCDP 2/0-1S	C-90	TSC-80	R-90	
	4	CCDP 2/0-4	C-90	TSC-80	R-90	
	6	CCDP 2/0-6	C-90	TSC-80	R-90	
2/0	6 SOL	CCDP 2/0-6S	C-90	TSC-80	R-90	
	8	CCDP 2/0-8	C-65	TSC-80	R-45	
	8 SOL	CCDP 2/0-8S	C-65	TSC-80	R-45	
	3/0	CCDP 3/0-3/0	C-150	TSC-80	R-150	
	2/0	CCDP 3/0-2/0	C-150	TSC-80	R-150	
	1/0	CCDP 3/0-1/0	C-115	TSC-80	R-90	
	1/0 SOL	CCDP 3/0-1/0S	C-115	TSC-80	R-90	
	2	CCDP 3/0-2	C-115	TSC-80	R-90	

A

1. Copper aluminothermic welding /
1.1 Cable / cable

Connection CCDP (3 of 3)

Cable						Price key for moulds
Main	Tap cable	Mould (PART. No.)	Cartridge	Clamp	Scraper	
3/0	2 SOL	CCDP 3/0-2S	C-115	TSC-80	R-90	A
	1	CCDP 3/0-1	C-115	TSC-80	R-90	
	1 SOL	CCDP 3/0-1S	C-115	TSC-80	R-90	
	4	CCDP 3/0-4	C-115	TSC-80	R-90	
	6	CCDP 3/0-6	C-90	TSC-80	R-90	
	6 SOL	CCDP 3/0-6S	C-90	TSC-80	R-90	
	8	CCDP 3/0-8	C-90	TSC-80	R-90	
	8 SOL	CCDP 3/0-8S	C-90	TSC-80	R-90	
4/0 SOL	4/0	CCDP 4/0S-4/0	C-200	TSC-80	R-150	A
	4/0 SOL	CCDP 4/0S-4/0S	C-200	TSC-80	R-150	
	3/0	CCDP 4/0S-3/0	C-200	TSC-80	R-150	
	2/0	CCDP 4/0S-2/0	C-150	TSC-80	R-150	
	1/0	CCDP 4/0S-1/0	C-150	TSC-80	R-150	
	1/0 SOL	CCDP 4/0S-1/0S	C-150	TSC-80	R-150	
	1	CCDP 4/0S-1	C-150	TSC-80	R-150	
	1 SOL	CCDP 4/0S-1S	C-150	TSC-80	R-150	
	2	CCDP 4/0S-2	C-150	TSC-80	R-150	
	2 SOL	CCDP 4/0S-2S	C-150	TSC-80	R-150	
	4	CCDP 4/0S-4	C-150	TSC-80	R-150	
	6	CCDP 4/0S-6	C-90	TSC-80	R-90	
	6 SOL	CCDP 4/0S-6S	C-90	TSC-80	R-90	
	8	CCDP 4/0S-8	C-90	TSC-80	R-90	
	8 SOL	CCDP 4/0S-8S	C-90	TSC-80	R-90	
4/0	4/0	CCDP 4/0-4/0	C-200	TSC-80	R-150	A
	4/0 SOL	CCDP 4/0-4/0S	C-200	TSC-80	R-150	
	3/0	CCDP 4/0-3/0	C-200	TSC-80	R-150	
	2/0	CCDP 4/0-2/0	C-150	TSC-80	R-150	
	1/0	CCDP 4/0-1/0	C-150	TSC-80	R-150	
	1/0 SOL	CCDP 4/0-1/0S	C-150	TSC-80	R-150	
	1	CCDP 4/0-1	C-150	TSC-80	R-150	
	1 SOL	CCDP 4/0-1S	C-150	TSC-80	R-150	
	2	CCDP 4/0-2	C-150	TSC-80	R-150	
	2 SOL	CCDP 4/0-2S	C-150	TSC-80	R-150	
	4	CCDP 4/0-4	C-150	TSC-80	R-150	
	6	CCDP 4/0-6	C-90	TSC-80	R-90	
	6 SOL	CCDP 4/0-6S	C-90	TSC-80	R-90	
	8	CCDP 4/0-8	C-90	TSC-80	R-90	
	8 SOL	CCDP 4/0-8S	C-90	TSC-80	R-90	



UL certificate in several copper welding references.

Earthing. Copper welding.



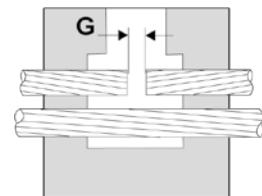
1. Copper aluminothermic welding /

1.1 Cable / cable

Connection CCDPV						
Cable						
Main	Tap cable	Mould (PART. No.)	Cartridge	Clamp	Scraper	Price key for moulds
8 SOL	8 SOL	CCDPV 8S-8S	C-25	TSC-80	R-45	
8	8	CCDPV 8-8	C-25	TSC-80	R-45	
6 SOL	6 SOL	CCDPV 6S-6S	C-25	TSC-80	R-45	
6	6	CCDPV 6-6	C-25	TSC-80	R-45	
	4	CCDPV 4-4	C-65	TSC-80	R-45	
4	6	CCDPV 4-6	C-90	TSC-80	R-90	
	6 SOL	CCDPV 4-6S	C-45	TSC-80	R-45	
2 SOL	2 SOL	CCDPV 2S-2S	C-115	TSC-80	R-90	
	4	CCDPV 2S-4	C-90	TSC-80	R-90	
2	2	CCDPV 2-2	C-115	TSC-80	R-90	
	2 SOL	CCDPV 2-2S	C-115	TSC-80	R-90	
	4	CCDPV 2-4	C-90	TSC-80	R-90	
1	1	CCDPV 1-1	C-115	TSC-80	R-90	
	2	CCDPV 1-2	C-90	TSC-80	R-90	
	2 SOL	CCDPV 1-2S	C-90	TSC-80	R-90	
	4	CCDPV 1-4	C-90	TSC-80	R-90	
1/0	1/0	CCDPV 1/0-1/0	C-150	TSC-80	R-150	
	1	CCDPV 1/0-1	C-115	TSC-80	R-90	
	2	CCDPV 1/0-2	C-115	TSC-80	R-90	
	2 SOL	CCDPV 1/0-2S	C-115	TSC-80	R-90	
	4	CCDPV 1/0-4	C-115	TSC-80	R-90	
2/0	2/0	CCDPV 2/0-2/0	C-150	TSC-80	R-150	
	1/0	CCDPV 2/0-1/0	C-150	TSC-80	R-150	
	1	CCDPV 2/0-1	C-150	TSC-80	R-150	
	2	CCDPV 2/0-2	C-150	TSC-80	R-150	
	2 SOL	CCDPV 2/0-2 SOL	C-150	TSC-80	R-150	
	4	CCDPV 2/0-4	C-115	TSC-80	R-90	
4/0	4/0	CCDPV 4/0-4/0	2 x C-200	TSC-100	R-750	F
	2/0	CCDPV 4/0-2/0	C-250	TSC-80	R-150	
	1/0	CCDPV 4/0-1/0	C-250	TSC-80	R-150	B
	1	CCDPV 4/0-1	C-250	TSC-80	R-150	
	2	CCDPV 4/0-2	C-200	TSC-80	R-150	
	2 SOL	CCDPV 4/0-2S	C-200	TSC-80	R-150	
300	300	CCDPV 300-300	2 x C-200	TSC-100	R-750	
350	4/0	CCDPV 350-4/0	2 x C-200	TSC-100	R-750	I
500	500	CCDPV 500-500	3 x C-250	TSC-100	R-750	
750	750	CCDPV 750-750	4 x C-250	TSC-100	R-750	J



Operating instructions.
Cut the tap cable and separate the points 1/4" in the center of the mould hole.



B

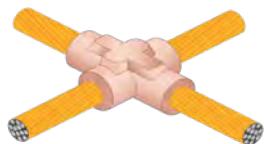
F

B

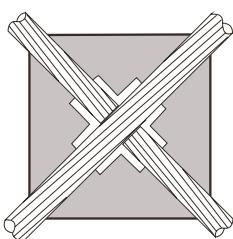
I

J

1. Copper aluminothermic welding /
1.1 Cable / cable



Operating instructions.
Cut the cable of more section.
Their ends will butt on the other.



Connection CCX (1 of 2)						
Cable		Mould (PART. No.)	Cartridge	Clamp	Scraper	Price key for moulds
6 SOL	6 SOL	CCX 6S-6S	C-15	TSC-80	R-45	
6	6	CCX 6-6	C-25	TSC-80	R-45	
4	4	CCX 4-4	C-45	TSC-80	R-45	
2	2	CCX 2-2	C-65	TSC-80	R-45	
	4	CCX 2-4	C-65	TSC-80	R-45	
2 SOL	2 SOL	CCX 2S-2S	C-65	TSC-80	R-45	
1	1	CCX 1-1	C-65	TSC-80	R-45	
	2	CCX 1-2	C-65	TSC-80	R-45	
	4	CCX 1-4	C-65	TSC-80	R-45	
1/0	1/0	CCX 1/0-1/0	C-90	TSC-80	R-90	
	1	CCX 1/0-1	C-90	TSC-80	R-90	
	2	CCX 1/0-2	C-90	TSC-80	R-90	
	4	CCX 1/0-4	C-90	TSC-80	R-90	
2/0	2/0	CCX 2/0-2/0	C-115	TSC-80	R-90	
	1/0	CCX 2/0-1/0	C-115	TSC-80	R-90	
	1	CCX 2/0-1	C-115	TSC-80	R-90	
	2	CCX 2/0-2	C-115	TSC-80	R-90	
3/0	3/0	CCX 3/0-3/0	C-150	TSC-80	R-150	
	2/0	CCX 3/0-2/0	C-150	TSC-80	R-150	
	1/0	CCX 3/0-1/0	C-115	TSC-80	R-90	
	1	CCX 3/0-1	C-115	TSC-80	R-90	
	2	CCX 3/0-2	C-115	TSC-80	R-90	
4/0	4/0	CCX 4/0-4/0	C-200	TSC-80	R-150	
	3/0	CCX 4/0-3/0	C-200	TSC-80	R-150	
	2/0	CCX 4/0-2/0	C-150	TSC-80	R-150	
	1/0	CCX 4/0-1/0	C-150	TSC-80	R-150	
	1	CCX 4/0-1	C-115	TSC-80	R-90	
	2	CCX 4/0-2	C-115	TSC-80	R-90	
	250	CCX 250-250	C-200	TSC-80	R-150	
	4/0	CCX 250-4/0	C-200	TSC-80	R-150	
250	3/0	CCX 250-3/0	C-200	TSC-80	R-150	
	2/0	CCX 250-2/0	C-150	TSC-80	R-150	
	1/0	CCX 250-1/0	C-150	TSC-80	R-150	
	1	CCX 250-1	C-115	TSC-80	R-90	
	2	CCX 250-2	C-115	TSC-80	R-90	

A



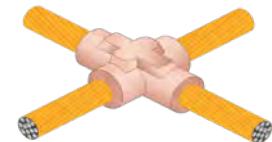
UL certificate in several copper welding references.

Earthing. Copper welding.

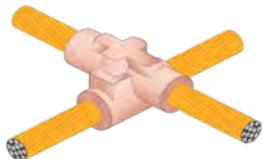


1. Copper aluminothermic welding /
1.1 Cable / cable

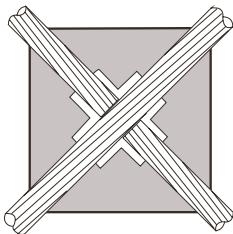
Connection CCX (2 of 2)						Price key for moulds
Main	Tap cable	Mould (PART. No.)	Cartridge	Clamp	Scraper	
300	300	CCX 300-300	C-250	TSC-80	R-150	A
	250	CCX 300-250	C-250	TSC-80	R-150	
	4/0	CCX 300-4/0	C-200	TSC-80	R-150	
	3/0	CCX 300-3/0	C-200	TSC-80	R-150	
	2/0	CCX 300-2/0	C-150	TSC-80	R-150	
	1/0	CCX 300-1/0	C-150	TSC-80	R-150	
	1	CCX 300-1	C-115	TSC-80	R-90	
	2	CCX 300-2	C-115	TSC-80	R-90	
350	350	CCX 350-350	C-250	TSC-80	R-150	E
	300	CCX 350-300	C-250	TSC-80	R-150	
	250	CCX 350-250	C-250	TSC-80	R-150	
	4/0	CCX 350-4/0	C-200	TSC-80	R-150	
	3/0	CCX 350-3/0	C-200	TSC-80	R-150	
	2/0	CCX 350-2/0	C-200	TSC-80	R-150	
	1/0	CCX 350-1/0	C-200	TSC-80	R-150	
	1	CCX 350-1	C-150	TSC-80	R-150	
	2	CCX 350-2	C-150	TSC-80	R-150	
	500	CCX 500-500	2 x C-250	TSC-100	R-750	
500	350	CCX 500-350	2 x C-200	TSC-100	R-750	A
	300	CCX 500-300	2 x C-200	TSC-100	R-750	
	250	CCX 500-250	2 x C-150	TSC-100	R-750	
	4/0	CCX 500-4/0	2 x C-150	TSC-100	R-750	
	3/0	CCX 500-3/0	2 x C-150	TSC-100	R-750	
	2/0	CCX 500-2/0	C-250	TSC-80	R-150	
	1/0	CCX 500-1/0	C-250	TSC-80	R-150	



1. Copper aluminothermic welding /
1.1 Cable / cable



Operating instructions.
Place the cable with the smallest section over the one with the largest. Unmold carefully so as not to damage the mould.



Connection CCXS (1 of 2)						
Cable		Mould (PART. No.)	Cartridge	Clamp	Scraper	Price key for moulds
6 SOL	6 SOL	CCXS 6S-6S	C-32	TSC-80	R-45	
6	6	CCXS 6S-6S	C-45	TSC-80	R-45	
4	4	CCXS 4-4	C-65	TSC-80	R-45	
2	2	CCXS 2-2	C-90	TSC-80	R-90	
	4	CCXS 2-4	C-65	TSC-80	R-45	
2 SOL	2 SOL	CCXS 2S-2S	C-90	TSC-80	R-90	
1	1	CCXS 1-1	C-115	TSC-80	R-90	
	2	CCXS 1-2	C-90	TSC-80	R-90	
	4	CCXS 1-4	C-90	TSC-80	R-90	
1/0	1/0	CCXS 1/0-1/0	C-150	TSC-80	R-150	
	1	CCXS 1/0-1	C-150	TSC-80	R-150	
	2	CCXS 1/0-2	C-115	TSC-80	R-90	
	4	CCXS 1/0-4	C-115	TSC-80	R-90	
2/0	2/0	CCXS 2/0-2/0	C-200	TSC-80	R-150	
	1/0	CCXS 2/0-1/0	C-200	TSC-80	R-150	
	1	CCXS 2/0-1	C-150	TSC-80	R-150	
	2	CCXS 2/0-2	C-150	TSC-80	R-150	
3/0	3/0	CCXS 3/0-3/0	C-250	TSC-80	R-150	
	2/0	CCXS 3/0-2/0	C-200	TSC-80	R-150	
	1/0	CCXS 3/0-1/0	C-200	TSC-80	R-150	
	1	CCXS 3/0-1	C-150	TSC-80	R-150	
	2	CCXS 3/0-2	C-150	TSC-80	R-150	
4/0	4/0	CCXS 4/0-4/0	C-250	TSC-80	R-150	
	3/0	CCXS 4/0-3/0	C-250	TSC-80	R-150	
	2/0	CCXS 4/0-2/0	C-200	TSC-80	R-150	
	1/0	CCXS 4/0-1/0	C-200	TSC-80	R-150	
	1	CCXS 4/0-1	C-150	TSC-80	R-150	
	2	CCXS 4/0-2	C-150	TSC-80	R-150	
	250	CCXS 250-250	2 x C-150	TSC-100	R-750	
	4/0	CCXS 250-4/0	2 x C-150	TSC-100	R-750	
250	3/0	CCXS 250-3/0	2 x C-150	TSC-100	R-750	
	2/0	CCXS 250-2/0	C-250	TSC-80	R-150	
	1/0	CCXS 250-1/0	C-250	TSC-80	R-150	
	1	CCXS 250-1	C-200	TSC-80	R-150	
	2	CCXS 250-2	C-150	TSC-80	R-150	



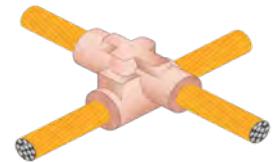
UL certificate in several copper welding references.

Earthing. Copper welding.



1. Copper aluminothermic welding /
1.1 Cable / cable

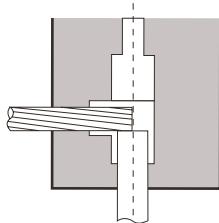
Connection CCXS (2 of 2)						Price key for moulds
Main	Tap cable	Mould (PART. No.)	Cartridge	Clamp	Scraper	
300	300	CCXS 300-300	2 x C-200	TSC-100	R-750	E
	250	CCXS 300-250	2 x C-200	TSC-100	R-750	
	4/0	CCXS 300-4/0	2 x C-150	TSC-100	R-750	
	3/0	CCXS 300-3/0	2 x C-150	TSC-100	R-750	
	2/0	CCXS 300-2/0	C-250	TSC-100	R-750	
	1/0	CCXS 300-1/0	C-250	TSC-100	R-750	
	1	CCXS 300-1	C-200	TSC-100	R-750	
	2	CCXS 300-2	C-150	TSC-100	R-750	
350	350	CCXS 350-350	2 x C-250	TSC-100	R-750	I
	300	CCXS 350-300	2 x C-250	TSC-100	R-750	
	250	CCXS 350-250	2 x C-250	TSC-100	R-750	
	4/0	CCXS 350-4/0	2 x C-200	TSC-100	R-750	
	3/0	CCXS 350-3/0	2 x C-200	TSC-100	R-750	
	2/0	CCXS 350-2/0	2 x C-150	TSC-100	R-750	
	1/0	CCXS 350-1/0	C-250	TSC-100	R-750	
	1	CCXS 350-1	C-200	TSC-100	R-750	
	2	CCXS 350-2	C-200	TSC-100	R-750	
	500	CCXS 500-500	3 x C-250	TSC-100	R-750	
500	350	CCXS 500-350	3 x C-200	TSC-100	R-750	I
	300	CCXS 500-300	3 x C-200	TSC-100	R-750	
	250	CCXS 500-250	2 x C-250	TSC-100	R-750	
	4/0	CCXS 500-4/0	2 x C-250	TSC-100	R-750	
	3/0	CCXS 500-3/0	2 x C-250	TSC-100	R-750	
	2/0	CCXS 500-2/0	2 x C-200	TSC-100	R-750	
	1/0	CCXS 500-1/0	2 x C-150	TSC-100	R-750	



**1. Copper aluminothermic welding /
1.2 Cable / earth rod**



Operating instructions.
Place end of cable at the axis of the tap hole and rod butted against the cable. Use a clamp prod below mould to support it.

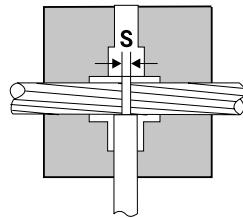


Dimension		Connection CPAR		Cartridge	Clamp	Scraper	Price key for moulds
Rod	Cable	Mould (PART. No.)		Cartridge	Clamp	Scraper	Price key for moulds
		Steel-copper unthreaded rod	Copperbond or steel-copper threaded				
1/2"	1	CPAR 12-1	CPAR 12T-1	C-65	TSC-80	R-45	A
	1/0	CPAR 12-1/0	CPAR 12T-1/0	C-90	TSC-80	R-90	
	1/0 SOL	CPAR 12-1/0 SOL	CPAR 12T-1/0 SOL	C-90	TSC-80	R-90	
	2/0	CPAR 12-2/0	CPAR 12T-2/0	C-90	TSC-80	R-90	
	3/0	CPAR 12-3/0	CPAR 12T-3/0	C-90	TSC-80	R-90	
	4/0	CPAR 12-4/0	CPAR 12T-4/0	C-90	TSC-80	R-90	
	250	CPAR 12-250	CPAR 12T-250	C-90	TSC-80	R-90	
	300	CPAR 12-300	CPAR 12T-300	C-90	TSC-80	R-90	
	2	CPAR 58-2	CPAR 58T-2	C-65	TSC-80	R-45	
	2 SOL	CPAR 58-2 SOL	CPAR 58T-2 SOL	C-65	TSC-80	R-45	
	1	CPAR 58-1	CPAR 58T-1	C-65	TSC-80	R-45	
	1/0	CPAR 58-1/0	CPAR 58T-1/0	C-90	TSC-80	R-90	
	1/0 SOL	CPAR 58-1/0 SOL	CPAR 58T-1/0 SOL	C-90	TSC-80	R-90	
5/8"	2/0	CPAR 58-2/0	CPAR 58T-2/0	C-90	TSC-80	R-90	
	3/0	CPAR 58-3/0	CPAR 58T-3/0	C-90	TSC-80	R-90	
	4/0	CPAR 58-4/0	CPAR 58T-4/0	C-90	TSC-80	R-90	
	250	CPAR 58-250	CPAR 58T-250	C-90	TSC-80	R-90	
	300	CPAR 58-300	CPAR 58T-300	C-115	TSC-80	R-90	
	350	CPAR 58-350	CPAR 58T-350	C-115	TSC-80	R-90	
	500	CPAR 58-500	CPAR 58T-500	C-150	TSC-80	R-150	
	2	CPAR 34-2	CPAR 34T-2	C-90	TSC-80	R-90	
	2 SOL	CPAR 34-2 SOL	CPAR 34T-2 SOL	C-90	TSC-80	R-90	
	1	CPAR 34-1	CPAR 34T-1	C-90	TSC-80	R-90	
	1/0	CPAR 34-1/0	CPAR 34T-1/0	C-90	TSC-80	R-90	
	1/0 SOL	CPAR 34-1/0 SOL	CPAR 34T-1/0 SOL	C-90	TSC-80	R-90	
	2/0	CPAR 34-2/0	CPAR 34T-2/0	C-90	TSC-80	R-90	
	3/0	CPAR 34-3/0	CPAR 34T-3/0	C-90	TSC-80	R-90	
	4/0	CPAR 34-4/0	CPAR 34T-4/0	C-90	TSC-80	R-90	
3/4"	250	CPAR 34-250	CPAR 34T-250	C-90	TSC-80	R-90	A
	300	CPAR 34-300	CPAR 34T-300	C-115	TSC-80	R-90	
	350	CPAR 34-350	CPAR 34T-350	C-115	TSC-80	R-90	
	500	CPAR 34-500	CPAR 34T-500	C-150	TSC-80	R-150	

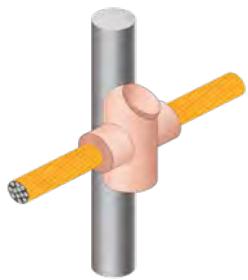
1. Copper aluminothermic welding /

1.2 Cable / earth rod

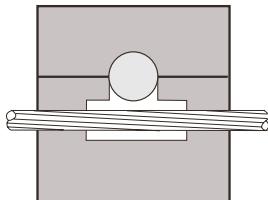
Dimension		Mould (PART. No.)		Cartridge	Clamp	Scraper	Price key for moulds
Rod	Cable	Steel-copper unthreaded rod	Copperbond or steel-copper threaded				
1/2"	2	CPT 12-2	CPAR 12T-1	C-90	TSC-80	R-90	Operating instructions. For 120 mm ² cables or more, cut run cable and separate (S) 5-6 mm under the centre of the tap hole. But the tap cable against run cable.
	2 SOL	CPT 12-2S	CPT 12T-2S	C-90	TSC-80	R-90	
	1	CPT 12-1	CPT 12T-1	C-90	TSC-80	R-90	
	1/0	CPT 12-1/0	CPT 12T-1/0	C-90	TSC-80	R-90	
	1/0 SOL	CPT 12-1/0 SOL	CPT 12T-1/0 SOL	C-90	TSC-80	R-90	
	2/0	CPT 12-2/0	CPT 12T-2/0	C-90	TSC-80	R-90	
	3/0	CPT 12-3/0	CPT 12T-3/0	C-115	TSC-80	R-90	
	4/0	CPT 12-4/0	CPT 12T-4/0	C-115	TSC-80	R-90	
	250	CPT 12-250	CPT 12T-250	C-150	TSC-80	R-150	
	300	CPT 12-300	CPT 12T-300	C-200	TSC-80	R-150	
5/8"	2	CPT 58-2	CPT 58T-2	C-90	TSC-80	R-90	A
	2 SOL	CPT 58-2 SOL	CPT 58T-2 SOL	C-90	TSC-80	R-90	
	1	CPT 58-1	CPT 58T-1	C-90	TSC-80	R-90	
	1/0	CPT 58-1/0	CPT 58T-1/0	C-90	TSC-80	R-90	
	1/0 SOL	CPT 58-1/0 SOL	CPT 58T-1/0 SOL	C-115	TSC-80	R-90	
	2/0	CPT 58-2/0	CPT 58T-2/0	C-115	TSC-80	R-90	
	3/0	CPT 58-3/0	CPT 58T-3/0	C-115	TSC-80	R-90	
	4/0	CPT 58-4/0	CPT 58T-4/0	C-115	TSC-80	R-90	
	250	CPT 58-250	CPT 58T-250	C-150	TSC-80	R-150	
	300	CPT 58-300	CPT 58T-300	C-200	TSC-80	R-150	
	350	CPT 58-350	CPT 58T-350	C-200	TSC-80	R-150	
	500	CPT 58-500	CPT 58T-500	C-250	TSC-80	R-150	
3/4"	2	CPT 34-2	CPT 34T-2	C-90	TSC-80	R-90	A
	2 SOL	CPT 34-2 SOL	CPT 34T-2 SOL	C-90	TSC-80	R-90	
	1	CPT 34-1	CPT 34T-1	C-90	TSC-80	R-90	
	1/0	CPT 34-1/0	CPT 34T-1/0	C-115	TSC-80	R-90	
	1/0 SOL	CPT 34-1/0 SOL	CPT 34T-1/0 SOL	C-115	TSC-80	R-90	
	2/0	CPT 34-2/0	CPT 34T-2/0	C-115	TSC-80	R-90	
	3/0	CPT 34-3/0	CPT 34T-3/0	C-115	TSC-80	R-90	
	4/0	CPT 34-4/0	CPT 34T-4/0	C-115	TSC-80	R-90	
	250	CPT 34-250	CPT 34T-250	C-150	TSC-80	R-150	
	300	CPT 34-300	CPT 34T-300	C-200	TSC-80	R-150	
	350	CPT 34-350	CPT 34T-350	C-200	TSC-80	R-150	
	500	CPT 34-500	CPT 34T-500	C-250	TSC-80	R-150	



**1. Copper aluminothermic welding /
1.2 Cable / earth rod**



Operating instructions.
Insert cable into the mould and secure it to rod with backing plate attachment. Use another clamp on rod below mould.

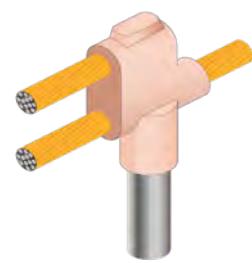


Dimension		Connection CPTS		Cartridge	Clamp	Scraper	Price key for moulds
Rod	Cable	Mould (PART. No.)		Cartridge	Clamp	Scraper	Price key for moulds
		Steel-copper unthreaded rod	Copperbond or steel-copper threaded				
1/2"	4 ó 4 SOL	CPTS 12-4	CPTS 12T-4	C-65	TSC-80	R-45	C
	2 ó 2 SOL	CPTS 12-2	CPTS 12T-2	C-65	TSC-80	R-45	
	1 ó 1 SOL	CPTS 12-1	CPTS 12T-1	C-65	TSC-80	R-45	
	1/0	CPTS 12-1/0	CPTS 12T-1/0	C-115	TSC-80	R-90	
	1/0 SOL	CPTS 12-1/0S	CPTS 12T-1/0S	C-115	TSC-80	R-90	
	2/0	CPTS 12-2/0	CPTS 12T-2/0	C-115	TSC-80	R-90	
	3/0	CPTS 12-3/0	CPTS 12T-3/0	C-150	TSC-80	R-150	
	4/0	CPTS 12-4/0	CPTS 12T-4/0	C-150	TSC-80	R-150	
	250	CPTS 12-250	CPTS 12T-250	C-150	TSC-80	R-150	
	300	CPTS 12-300	CPTS 12T-300	C-200	TSC-80	R-150	
5/8"	4 ó 4 SOL	CPTS 58-4	CPTS 58T-4	C-65	TSC-80	R-45	C
	2 ó 2 SOL	CPTS 58-2	CPTS 58T-2	C-65	TSC-80	R-45	
	1 ó 1 SOL	CPTS 58-1	CPTS 58T-1	C-65	TSC-80	R-45	
	1/0	CPTS 58-1/0	CPTS 58T-1/0	C-115	TSC-80	R-90	
	1/0 SOL	CPTS 58-1/0S	CPTS 58T-1/0S	C-115	TSC-80	R-90	
	2/0	CPTS 58-2/0	CPTS 58T-2/0	C-115	TSC-80	R-90	
	3/0	CPTS 58-3/0	CPTS 58T-3/0	C-150	TSC-80	R-150	
	4/0	CPTS 58-4/0	CPTS 58T-4/0	C-150	TSC-80	R-150	
	250	CPTS 58-250	CPTS 58T-250	C-150	TSC-80	R-150	
	300	CPTS 58-300	CPTS 58T-300	C-200	TSC-80	R-150	
3/4"	350	CPTS 58-350	CPTS 58T-350	C-250	TSC-80	R-150	I
	500	CPTS 58-500	CPTS 58T-500	2 x C-200	TSC-80	R-150	
	4 ó 4 SOL	CPTS 34-4	CPTS 34T-4	C-65	TSC-80	R-45	
	2 ó 2 SOL	CPTS 34-2	CPTS 34T-2	C-65	TSC-80	R-45	
	1 ó 1 SOL	CPTS 34-1	CPTS 34T-1	C-65	TSC-80	R-45	
	1/0	CPTS 34-1/0	CPTS 34T-1/0	C-115	TSC-80	R-90	
	1/0 SOL	CPTS 34-1/0S	CPTS 34T-1/0S	C-115	TSC-80	R-90	
	2/0	CPTS 34-2/0	CPTS 34T-2/0	C-115	TSC-80	R-90	
	3/0	CPTS 34-3/0	CPTS 34T-3/0	C-150	TSC-80	R-150	
	4/0	CPTS 34-4/0	CPTS 34T-4/0	C-150	TSC-80	R-150	
D	250	CPTS 34-250	CPTS 34T-250	C-200	TSC-80	R-150	I
	300	CPTS 34-300	CPTS 34T-300	C-250	TSC-80	R-150	
	350	CPTS 34-350	CPTS 34T-350	2 x C-2150	TSC-80	R-150	
	500	CPTS 34-500	CPTS 34T-500	2 x C-250	TSC-80	R-150	

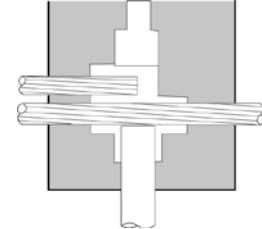
1. Copper aluminothermic welding /

1.2 Cable / earth rod

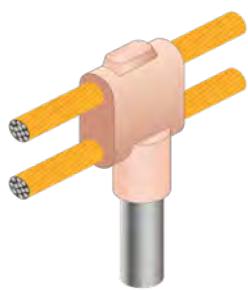
Dimension		Mould (PART. No.)		Cartridge	Clamp	Scraper	Price key for moulds
Rod	Cable	Steel-copper unthreaded rod	Copperbond or steel-copper threaded				
1/2"	4	CPTD 12-4	CPTD 12T-4	C-90	TSC-80	R-90	B
	2	CPTD 12-2	CPTD 12T-2	C-90	TSC-80	R-90	
	1	CPTD 12-1	CPTD 12T-1	C-90	TSC-80	R-90	
	1/0	CPTD 12-1/0	CPTD 12T-1/0	C-115	TSC-80	R-90	
	2/0	CPTD 12-2/0	CPTD 12T-2/0	C-150	TSC-80	R-150	
	3/0	CPTD 12-3/0	CPTD 12T-3/0	C-200	TSC-80	R-150	
	4/0	CPTD 12-4/0	CPTD 12T-4/0	C-200	TSC-80	R-150	
5/8"	4	CPTD 58-4	CPTD 58T-4	C-90	TSC-80	R-90	H
	2	CPTD 58-2	CPTD 58T-2	C-115	TSC-80	R-90	
	1	CPTD 58-1	CPTD 58T-1	C-115	TSC-80	R-90	
	1/0	CPTD 58-1/0	CPTD 58T-1/0	C-150	TSC-80	R-150	
	2/0	CPTD 58-2/0	CPTD 58T-2/0	C-200	TSC-80	R-150	
	3/0	CPTD 58-3/0	CPTD 58T-3/0	C-250	TSC-80	R-150	
	4/0	CPTD 58-4/0	CPTD 58T-4/0	C-250	TSC-80	R-150	
	250	CPTD 58-250	CPTD 58T-250	2 x C-150	TSC-100	R-750	
	300	CPTD 58-300	CPTD 58T-300	2 x C-200	TSC-100	R-750	
3/4"	4	CPTD 34-4	CPTD 34T-4	C-90	TSC-80	R-90	B
	2	CPTD 34-2	CPTD 34T-2	C-115	TSC-80	R-90	
	1	CPTD 34-1	CPTD 34T-1	C-115	TSC-80	R-90	
	1/0	CPTD 34-1/0	CPTD 34T-1/0	C-150	TSC-80	R-150	
	2/0	CPTD 34-2/0	CPTD 34T-2/0	C-200	TSC-80	R-150	
	3/0	CPTD 34-3/0	CPTD 34T-3/0	C-250	TSC-80	R-150	
	4/0	CPTD 34-4/0	CPTD 34T-4/0	C-250	TSC-80	R-150	
	250	CPTD 34-250	CPTD 34T-250	2 x C-150	TSC-100	R-750	
	300	CPTD 34-300	CPTD 34T-300	2 x C-200	TSC-100	R-750	
	350	CPTD 34-350	CPTD 34T-350	2 x C-200	TSC-100	R-750	
1"	4	CPTD 1-4	CPTD 1T-4	C-115	TSC-80	R-90	B
	2	CPTD 1-2	CPTD 1T-2	C-150	TSC-80	R-150	
	1	CPTD 1-1	CPTD 1T-1	C-150	TSC-80	R-150	
	1/0	CPTD 1-1/0	CPTD 1T-1/0	C-200	TSC-80	R-150	
	2/0	CPTD 1-2/0	CPTD 1T-2/0	C-250	TSC-80	R-150	
	3/0	CPTD 1-3/0	CPTD 1T-3/0	2 x C-150	TSC-100	R-750	
	4/0	CPTD 1-4/0	CPTD 1T-4/0	2 x C-150	TSC-100	R-750	
	250	CPTD 1-250	CPTD 1T-250	2 x C-200	TSC-100	R-750	
	300	CPTD 1-300	CPTD 1T-300	2 x C-250	TSC-100	R-750	
	350	CPTD 1-350	CPTD 1T-350	2 x C-250	TSC-100	R-750	
	500	CPTD 1-500	CPTD 1T-500	3 x C-200	TSC-100	R-750	
	300	CPTD 1-300	CPTD 1T-300	2 x C-250	TSC-100	R-750	
	350	CPTD 1-350	CPTD 1T-350	2 x C-250	TSC-100	R-750	
	500	CPTD 1-500	CPTD 1T-500	3 x C-250	TSC-100	R-750	



Operating instructions.
Place the upper cable to the center of the tap hole, the probe will stop on the through cable. Attach a clamp to the stake to support the mold.

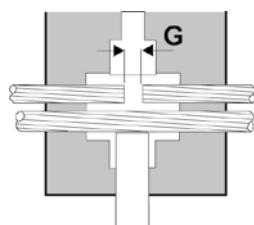


1. Copper aluminothermic welding /
1.2 Cable / earth rod



Operating instructions.
For cables greater than 4/0 AWG, separate their ends 1/4 " in the center in the upper cable as shown in the figure.

The rod will abut the lower cable.
Place a clamp on the stake to support the mold.



Connection CPTDP

Dimension		Mould (PART. No.)		Cartridge	Clamp	Scraper	Price key for moulds
Rod	Cable	Steel-copper unthreaded rod	Copperbond or steel-copper threaded				
1/2"	4	CPTDP 12-4	CPTDP 12T-4	C-115	TSC-80	R-90	B
	2	CPTDP 12-2	CPTDP 12T-2	C-115	TSC-80	R-90	
	1	CPTDP 12-1	CPTDP 12T-1	C-115	TSC-80	R-90	
	1/0	CPTDP 12-1/0	CPTDP 12T-1/0	C-150	TSC-80	R-90	
	2/0	CPTDP 12-2/0	CPTDP 12T-2/0	C-200	TSC-80	R-150	
	3/0	CPTDP 12-3/0	CPTDP 12T-3/0	C-250	TSC-80	R-150	
	4/0	CPTDP 12-4/0	CPTDP 12T-4/0	C-250	TSC-80	R-150	
5/8"	4	CPTDP 58-4	CPTDP 58T-4	C-115	TSC-80	R-90	H
	2	CPTDP 58-2	CPTDP 58T-2	C-150	TSC-80	R-90	
	1	CPTDP 58-1	CPTDP 58T-1	C-150	TSC-80	R-90	
	1/0	CPTDP 58-1/0	CPTDP 58T-1/0	C-200	TSC-80	R-150	
	2/0	CPTDP 58-2/0	CPTDP 58T-2/0	C-250	TSC-80	R-150	
	3/0	CPTDP 58-3/0	CPTDP 58T-3/0	2 x C-150	TSC-100	R-750	
	4/0	CPTDP 58-4/0	CPTDP 58T-4/0	2 x C-150	TSC-100	R-750	
	250	CPTDP 58-250	CPTDP 58T-250	2 x C-200	TSC-100	R-750	
	300	CPTDP 58-300	CPTDP 58T-300	2 x C-250	TSC-100	R-750	
	350	CPTDP 58-350	CPTDP 58T-350	2 x C-250	TSC-100	R-750	
3/4"	500	CPTDP 58-500	CPTDP 58T-500	3 x C-250	TSC-100	R-750	H
	4	CPTDP 34-4	CPTDP 34T-4	C-115	TSC-80	R-90	
	2	CPTDP 34-2	CPTDP 34T-2	C-150	TSC-80	R-90	
	1	CPTDP 34-1	CPTDP 34T-1	C-150	TSC-80	R-90	
	1/0	CPTDP 34-1/0	CPTDP 34T-1/0	C-200	TSC-80	R-150	
	2/0	CPTDP 34-2/0	CPTDP 34T-2/0	C-250	TSC-80	R-150	
	3/0	CPTDP 34-3/0	CPTDP 34T-3/0	2 x C-150	TSC-100	R-750	
	4/0	CPTDP 34-4/0	CPTDP 34T-4/0	2 x C-150	TSC-100	R-750	
	250	CPTDP 34-250	CPTDP 34T-250	2 x C-200	TSC-100	R-750	
	300	CPTDP 34-300	CPTDP 34T-300	2 x C-250	TSC-100	R-750	
350	CPTDP 34-350	CPTDP 34T-350	2 x C-250	TSC-100	R-750	H	
	500	CPTDP 34-500	CPTDP 34T-500	3 x C-250	TSC-100	R-750	



UL certificate in several copper welding references.

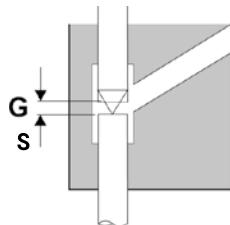
Earthing. Copper welding.



1. Copper aluminothermic welding /

1.3 Earth rod / earth rod

Connection PPV						
Dimension						
Rod	Mould (PART. No.)		Cartridge	Clamp	Scraper	Price key for moulds
	Steel-copper unthreaded rod	Copperbond or steel-copper threaded				
1/2"	PPV 12	PPV 12 T	C-250	TSC-80	R-150	B
5/8"	PPV 58	PPV 58 T	2 x C-150	TSC-80	R-150	
3/4"	PPV 34	PPV 34 T	2 x C-200	TSC-80	R-150	

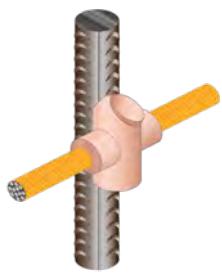


Operating instructions.

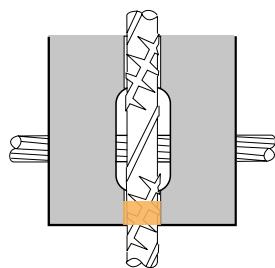
Place tip point of the rods in the centre of the tap rod. If they do not have a point, separate them 3/8" (S) (10 mm approximately). Use a clamp on lower rod below mould.



1. Copper aluminothermic welding /
1.4 Cable / re-bar



Operating instructions.
Seal the re-bar with paste below the weld cavity. Insert the cable into the mould and secure it to the re-bar. Place the backplate attachment. Use a clamp on re-bar below mould.

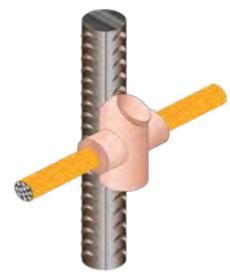


Connection CRPH (1 of 2)						
Dimension		Mould (PART. No.)	Cartridge	Clamp	Scraper	Price key for moulds
3	Re-bar	Cable	Mould (PART. No.)	Cartridge	Clamp	Scraper
		6	CRPH 3-6	C-90	TSC-80	R-90
		4	CRPH 3-4	C-90	TSC-80	R-90
		2 SOL	CRPH 3-2 S	C-90	TSC-80	R-90
		2	CRPH 3-2	C-90	TSC-80	R-90
		1	CRPH 3-1	C-115	TSC-80	R-90
		1/0	CRPH 3-1/0	C-115	TSC-80	R-90
		2/0	CRPH 3-2/0	C-115	TSC-80	R-90
		3/0	CRPH 3-3/0	C-150	TSC-80	R-150
4		4/0	CRPH 3-4/0	C-150	TSC-80	R-150
		6	CRPH 4-6	C-90	TSC-80	R-90
		4	CRPH 4-4	C-90	TSC-80	R-90
		2 SOL	CRPH 4-2 S	C-90	TSC-80	R-90
		2	CRPH 4-2	C-90	TSC-80	R-90
		1	CRPH 4-1	C-115	TSC-80	R-90
		1/0	CRPH 4-1/0	C-115	TSC-80	R-90
		2/0	CRPH 4-2/0	C-115	TSC-80	R-90
		3/0	CRPH 4-3/0	C-150	TSC-80	R-150
5		4/0	CRPH 4-4/0	C-150	TSC-80	R-150
		6	CRPH 5-6	C-90	TSC-80	R-90
		4	CRPH 5-4	C-90	TSC-80	R-90
		2 SOL	CRPH 5-2 S	C-90	TSC-80	R-90
		2	CRPH 5-2	C-90	TSC-80	R-90
		1	CRPH 5-1	C-115	TSC-80	R-90
		1/0	CRPH 5-1/0	C-115	TSC-80	R-90
		2/0	CRPH 5-2/0	C-115	TSC-80	R-90
		3/0	CRPH 5-3/0	C-150	TSC-80	R-150
6		4/0	CRPH 5-4/0	C-150	TSC-80	R-150
		6	CRPH 6-6	C-90	TSC-80	R-90
		4	CRPH 6-4	C-90	TSC-80	R-90
		2 SOL	CRPH 6-2 S	C-90	TSC-80	R-90
		2	CRPH 6-2	C-90	TSC-80	R-90
		1	CRPH 6-1	C-115	TSC-80	R-90
		1/0	CRPH 6-1/0	C-115	TSC-80	R-90
		2/0	CRPH 6-2/0	C-115	TSC-80	R-90
		3/0	CRPH 6-3/0	C-150	TSC-80	R-150
		4/0	CRPH 6-4/0	C-150	TSC-80	R-150

1. Copper aluminothermic welding /

1.4 Cable / re-bar

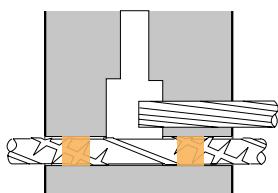
Connection CRPH (2 of 2)								
Dimension		Re-bar	Cable	Mould (PART. No.)	Cartridge	Clamp	Scraper	Price key for moulds
7	4	CRPH 7-4	CRPH 7-4	CRPH 7-4	C-90	TSC-80	R-90	C
	2 SOL	CRPH 7-2 S	CRPH 7-2 S	CRPH 7-2 S	C-90	TSC-80	R-90	
	2	CRPH 7-2	CRPH 7-2	CRPH 7-2	C-90	TSC-80	R-90	
	1	CRPH 7-1	CRPH 7-1	CRPH 7-1	C-115	TSC-80	R-90	
	1/0	CRPH 7-1/0	CRPH 7-1/0	CRPH 7-1/0	C-115	TSC-80	R-90	
	2/0	CRPH 7-2/0	CRPH 7-2/0	CRPH 7-2/0	C-115	TSC-80	R-90	
	3/0	CRPH 7-3/0	CRPH 7-3/0	CRPH 7-3/0	C-150	TSC-80	R-150	
	4/0	CRPH 7-4/0	CRPH 7-4/0	CRPH 7-4/0	C-150	TSC-80	R-150	
8	2 SOL	CRPH 8-2 S	CRPH 8-2 S	CRPH 8-2 S	C-90	TSC-80	R-90	C
	2	CRPH 8-2	CRPH 8-2	CRPH 8-2	C-90	TSC-80	R-90	
	1	CRPH 8-1	CRPH 8-1	CRPH 8-1	C-115	TSC-80	R-90	
	1/0	CRPH 8-1/0	CRPH 8-1/0	CRPH 8-1/0	C-115	TSC-80	R-90	
	2/0	CRPH 8-2/0	CRPH 8-2/0	CRPH 8-2/0	C-115	TSC-80	R-90	
	3/0	CRPH 8-3/0	CRPH 8-3/0	CRPH 8-3/0	C-150	TSC-80	R-150	
	4/0	CRPH 8-4/0	CRPH 8-4/0	CRPH 8-4/0	C-150	TSC-80	R-150	
	2 SOL	CRPH 9-2 S	CRPH 9-2 S	CRPH 9-2 S	C-90	TSC-80	R-90	D
9	2	CRPH 9-2	CRPH 9-2	CRPH 9-2	C-90	TSC-80	R-90	
	1	CRPH 9-1	CRPH 9-1	CRPH 9-1	C-115	TSC-80	R-90	
	1/0	CRPH 9-1/0	CRPH 9-1/0	CRPH 9-1/0	C-115	TSC-80	R-90	
	2/0	CRPH 9-2/0	CRPH 9-2/0	CRPH 9-2/0	C-115	TSC-80	R-90	
	3/0	CRPH 9-3/0	CRPH 9-3/0	CRPH 9-3/0	C-150	TSC-80	R-150	
	4/0	CRPH 9-4/0	CRPH 9-4/0	CRPH 9-4/0	C-150	TSC-80	R-150	



1. Copper aluminothermic welding /
1.4 Cable / re-bar



Operating instructions.
Seal the re-bar with paste on both sides of the weld cavity, on the outside. Insert the cable up to the centre of the tap hole.



Connection CRTP (1 of 2)						
Dimension		Mould (PART. No.)	Cartridge	Clamp	Scraper	Price key for moulds
3	Re-bar	Cable	Mould (PART. No.)	Cartridge	Clamp	Scraper
	6	CRTP 3-6	C-25	TSC-80	R-45	
	4	CRTP 3-4	C-32	TSC-80	R-45	
	2 SOL	CRTP 3-2S	C-45	TSC-80	R-45	
	2	CRTP 3-2	C-45	TSC-80	R-45	
	1	CRTP 3-1	C-65	TSC-80	R-45	
	1/0	CRTP 3-1/0	C-90	TSC-80	R-90	
	2/0	CRTP 3-2/0	C-90	TSC-80	R-90	
	3/0	CRTP 3-3/0	C-115	TSC-80	R-90	
	4/0	CRTP 3-4/0	C-115	TSC-80	R-90	
4	6	CRTP 4-6	C-25	TSC-80	R-45	
	4	CRTP 4-4	C-32	TSC-80	R-45	
	2 SOL	CRTP 4-2S	C-45	TSC-80	R-45	
	2	CRTP 4-2	C-45	TSC-80	R-45	
	1	CRTP 4-1	C-65	TSC-80	R-45	
	1/0	CRTP 4-1/0	C-90	TSC-80	R-90	
	2/0	CRTP 4-2/0	C-90	TSC-80	R-90	
	3/0	CRTP 4-3/0	C-115	TSC-80	R-90	
	4/0	CRTP 4-4/0	C-115	TSC-80	R-90	
	6	CRTP 5-6	C-25	TSC-80	R-45	
5	4	CRTP 5-4	C-32	TSC-80	R-45	
	2 SOL	CRTP 5-2S	C-45	TSC-80	R-45	
	2	CRTP 5-2	C-45	TSC-80	R-45	
	1	CRTP 5-1	C-65	TSC-80	R-45	
	1/0	CRTP 5-1/0	C-90	TSC-80	R-90	
	2/0	CRTP 5-2/0	C-90	TSC-80	R-90	
	3/0	CRTP 5-3/0	C-115	TSC-80	R-90	
	4/0	CRTP 5-4/0	C-115	TSC-80	R-90	
	6	CRTP 6-6	C-25	TSC-80	R-45	
	4	CRTP 6-4	C-32	TSC-80	R-45	
6	2 SOL	CRTP 6-2S	C-45	TSC-80	R-45	
	2	CRTP 6-2	C-45	TSC-80	R-45	
	1	CRTP 6-1	C-65	TSC-80	R-45	
	1/0	CRTP 6-1/0	C-90	TSC-80	R-90	
	2/0	CRTP 6-2/0	C-90	TSC-80	R-90	
	3/0	CRTP 6-3/0	C-115	TSC-80	R-90	
	4/0	CRTP 6-4/0	C-115	TSC-80	R-90	

A



UL certificate in several copper welding references.

Earthing. Copper welding.



1. Copper aluminothermic welding /

1.4 Cable / re-bar

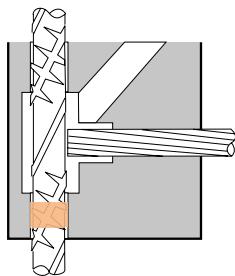
Connection CRTP (2 of 2)						
Dimension		Mould (PART. No.)	Cartridge	Clamp	Scraper	Price key for moulds
Re-bar	Cable					
7	4	CRTP 7-4	C-32	TSC-80	R-45	A
	2 SOL	CRTP 7-2S	C-45	TSC-80	R-45	
	2	CRTP 7-2	C-45	TSC-80	R-45	
	1	CRTP 7-1	C-65	TSC-80	R-45	
	1/0	CRTP 7-1/0	C-90	TSC-80	R-90	
	2/0	CRTP 7-2/0	C-90	TSC-80	R-90	
	3/0	CRTP 7-3/0	C-115	TSC-80	R-90	
	4/0	CRTP 7-4/0	C-115	TSC-80	R-90	
8	2 SOL	CRTP 8-2S	C-45	TSC-80	R-45	A
	2	CRTP 8-2	C-45	TSC-80	R-45	
	1	CRTP 8-1	C-65	TSC-80	R-45	
	1/0	CRTP 8-1/0	C-90	TSC-80	R-90	
	2/0	CRTP 8-2/0	C-90	TSC-80	R-90	
	3/0	CRTP 8-3/0	C-115	TSC-80	R-90	
	4/0	CRTP 8-4/0	C-115	TSC-80	R-90	
	2 SOL	CRTP 9-2S	C-45	TSC-80	R-45	
9	2	CRTP 9-2	C-45	TSC-80	R-45	A
	1	CRTP 9-1	C-65	TSC-80	R-45	
	1/0	CRTP 9-1/0	C-90	TSC-80	R-90	
	2/0	CRTP 9-2/0	C-90	TSC-80	R-90	
	3/0	CRTP 9-3/0	C-115	TSC-80	R-90	
	4/0	CRTP 9-4/0	C-115	TSC-80	R-90	



1. Copper aluminothermic welding /
1.4 Cable / re-bar



Operating instructions.
Seal the re-bar with paste below the weld cavity.
Butt the tap cable against the re-bar.
Use a clamp on re-bar below mould.



Connection CRTL (1 of 2)						
Dimension		Mould (PART. No.)	Cartridge	Clamp	Scraper	Price key for moulds
3	Re-bar	Cable				
	6	CRTL 3-6	C-45	TSC-80	R-45	C
	4	CRTL 3-4	C-65	TSC-80	R-45	
	2 SOL	CRTL 3-2S	C-65	TSC-80	R-45	
	2	CRTL 3-2	C-65	TSC-80	R-45	
	1	CRTL 3-1	C-90	TSC-80	R-90	
	1/0	CRTL 3-1/0	C-115	TSC-80	R-90	
	2/0	CRTL 3-2/0	C-115	TSC-80	R-90	
	3/0	CRTL 3-3/0	C-150	TSC-80	R-150	
	4/0	CRTL 3-4/0	C-150	TSC-80	R-150	
4	6	CRTL 4-6	C-45	TSC-80	R-45	C
	4	CRTL 4-4	C-65	TSC-80	R-45	
	2 SOL	CRTL 4-2S	C-65	TSC-80	R-45	
	2	CRTL 4-2	C-65	TSC-80	R-45	
	1	CRTL 4-1	C-90	TSC-80	R-90	
	1/0	CRTL 4-1/0	C-115	TSC-80	R-90	
	2/0	CRTL 4-2/0	C-115	TSC-80	R-90	
	3/0	CRTL 4-3/0	C-150	TSC-80	R-150	
	4/0	CRTL 4-4/0	C-150	TSC-80	R-150	
	6	CRTL 5-6	C-45	TSC-80	R-45	C
5	4	CRTL 5-4	C-65	TSC-80	R-45	
	2 SOL	CRTL 5-2S	C-65	TSC-80	R-45	
	2	CRTL 4-2	C-65	TSC-80	R-45	
	1	CRTL 5-1	C-90	TSC-80	R-90	
	1/0	CRTL 5-1/0	C-115	TSC-80	R-90	
	2/0	CRTL 5-2/0	C-115	TSC-80	R-90	
	3/0	CRTL 5-3/0	C-150	TSC-80	R-150	
	4/0	CRTL 5-4/0	C-150	TSC-80	R-150	
	6	CRTL 6-6	C-45	TSC-80	R-45	C
	4	CRTL 6-4	C-65	TSC-80	R-45	
6	2 SOL	CRTL 6-2S	C-65	TSC-80	R-45	
	2	CRTL 6-2	C-65	TSC-80	R-45	
	1	CRTL 6-1	C-90	TSC-80	R-90	
	1/0	CRTL 6-1/0	C-115	TSC-80	R-90	
	2/0	CRTL 6-2/0	C-115	TSC-80	R-90	
	3/0	CRTL 6-3/0	C-150	TSC-80	R-150	
	4/0	CRTL 6-4/0	C-150	TSC-80	R-150	

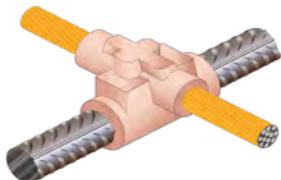
1. Copper aluminothermic welding /

1.4 Cable / re-bar

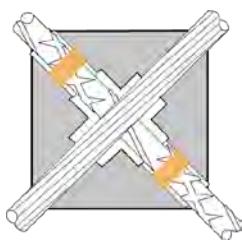
Connection CRTL (2 of 2)						
Dimension						
Re-bar	Cable	Mould (PART. No.)	Cartridge	Clamp	Scraper	Price key for moulds
7	4	CRTL 7-4	C-65	TSC-80	R-45	C
	2 SOL	CRTL 7-2S	C-65	TSC-80	R-45	
	2	CRTL 7-2	C-65	TSC-80	R-45	
	1	CRTL 7-1	C-90	TSC-80	R-90	
	1/0	CRTL 7-1/0	C-115	TSC-80	R-90	
	2/0	CRTL 7-2/0	C-115	TSC-80	R-90	
	3/0	CRTL 7-3/0	C-150	TSC-80	R-150	
	4/0	CRTL 7-4/0	C-150	TSC-80	R-150	
8	2 SOL	CRTL 8-2S	C-65	TSC-80	R-45	C
	2	CRTL 8-2	C-65	TSC-80	R-45	
	1	CRTL 8-1	C-90	TSC-80	R-90	
	1/0	CRTL 8-1/0	C-115	TSC-80	R-90	
	2/0	CRTL 8-2/0	C-115	TSC-80	R-90	
	3/0	CRTL 8-3/0	C-150	TSC-80	R-150	
	4/0	CRTL 8-4/0	C-150	TSC-80	R-150	
	2 SOL	CRTL 9-2S	C-65	TSC-80	R-45	D
9	2	CRTL 9-2	C-65	TSC-80	R-45	
	1	CRTL 9-1	C-90	TSC-80	R-90	
	1/0	CRTL 9-1/0	C-115	TSC-80	R-90	
	2/0	CRTL 9-2/0	C-115	TSC-80	R-90	
	3/0	CRTL 9-3/0	C-150	TSC-80	R-150	
	4/0	CRTL 9-4/0	C-150	TSC-80	R-150	



1. Copper aluminothermic welding /
1.4 Cable / re-bar



Operating instructions.
Seal the re-bar with paste on both sides of the weld cavity. Place cable over the top of re-bar.



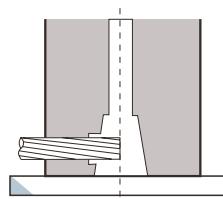
Connection CRXS						
Dimension		Mould (PART. No.)	Cartridge	Clamp	Scraper	Price key for moulds
Re-bar	Cable					
3	6	CRXS 3-6	C-65	TSC-80	R-45	B
	4	CRXS 3-4	C-65	TSC-80	R-45	
	2 SOL	CRXS 3-2S	C-90	TSC-80	R-90	
	2	CRXS 3-2	C-90	TSC-80	R-90	
	1	CRXS 3-1	C-90	TSC-80	R-90	
	1/0	CRXS 3-1/0	C-115	TSC-80	R-90	
	2/0	CRXS 3-2/0	C-115	TSC-80	R-90	
	3/0	CRXS 3-3/0	C-150	TSC-80	R-150	
	4/0	CRXS 3-4/0	C-150	TSC-80	R-150	
	6	CRXS 4-6	C-65	TSC-80	R-45	
4	4	CRXS 4-4	C-65	TSC-80	R-45	B
	2 SOL	CRXS 4-2S	C-90	TSC-80	R-90	
	2	CRXS 4-2	C-90	TSC-80	R-90	
	1	CRXS 4-1	C-90	TSC-80	R-90	
	1/0	CRXS 4-1/0	C-115	TSC-80	R-90	
	2/0	CRXS 4-2/0	C-115	TSC-80	R-90	
	3/0	CRXS 4-3/0	C-150	TSC-80	R-150	
	4/0	CRXS 4-4/0	C-150	TSC-80	R-150	
	6	CRXS 5-6	C-65	TSC-80	R-45	
	4	CRXS 5-4	C-65	TSC-80	R-45	
5	2 SOL	CRXS 5-2S	C-90	TSC-80	R-90	B
	2	CRXS 5-2	C-90	TSC-80	R-90	
	1	CRXS 5-1	C-90	TSC-80	R-90	
	1/0	CRXS 5-1/0	C-115	TSC-80	R-90	
	2/0	CRXS 5-2/0	C-115	TSC-80	R-90	
	3/0	CRXS 5-3/0	C-150	TSC-80	R-150	
	4/0	CRXS 5-4/0	C-150	TSC-80	R-150	
	6	CRXS 6-6	C-65	TSC-80	R-45	
	4	CRXS 6-4	C-65	TSC-80	R-45	
	2 SOL	CRXS 6-2S	C-90	TSC-80	R-90	
6	2	CRXS 6-2	C-90	TSC-80	R-90	B
	1	CRXS 6-1	C-90	TSC-80	R-90	
	1/0	CRXS 6-1/0	C-150	TSC-80	R-90	
	2/0	CRXS 6-2/0	C-150	TSC-80	R-90	
	3/0	CRXS 6-3/0	C-200	TSC-80	R-150	
	4/0	CRXS 6-4/0	C-200	TSC-80	R-150	

1. Copper aluminothermic welding /

1.5 Cable / metal plate

Connection CHTH					
Dimension					
Cable	Mould (PART. No.)	Cartridge	Clamp	Scraper	Price key for moulds
6	CHTH 6	C-45	TSC-80	R-45	
4	CHTH 4	C-45	TSC-80	R-45	
2	CHTH 2	C-45	TSC-80	R-45	
2 SOL	CHTH 2S	C-45	TSC-80	R-45	
1	CHTH 1	C-65	TSC-80	R-45	
1/0	CHTH 1/0	C-90	TSC-80	R-90	
2/0	CHTH 2/0	C-90	TSC-80	R-90	
3/0	CHTH 3/0	C-115	TSC-80	R-90	
4/0	CHTH 4/0	C-115	TSC-80	R-90	
250	CHTH 250	C-115	TSC-80	R-90	
300	CHTH 300	C-150	TSC-80	R-150	
350	CHTH 350	C-200	TSC-80	R-150	
500	CHTH 500	C-200	TSC-80	R-150	

A



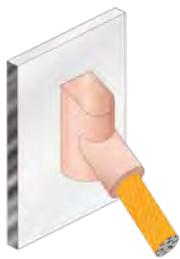
Operating instructions.

Insert the cable at the centre of the tap hole. Press on mould cover to prevent metal leaks.

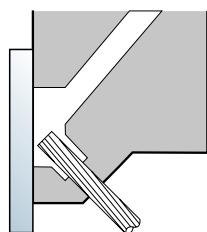


For this type of welding, inform plate, sheet or terminal thickness.

1. Copper aluminothermic welding /
1.5 Cable / metal plate



Connection CHTF					
Dimension	Mould (PART. No.)	Cartridge	Clamp	Scraper	Price key for moulds
6	CHTF 6	C-45	TSC-80	R-45	A
4	CHTF 4	C-45	TSC-80	R-45	
2	CHTF 2	C-45	TSC-80	R-45	
2 SOL	CHTF 2S	C-45	TSC-80	R-45	
1	CHTF 1	C-65	TSC-80	R-45	
1/0	CHTF 1/0	C-90	TSC-80	R-90	
2/0	CHTF 2/0	C-90	TSC-80	R-90	
3/0	CHTF 3/0	C-115	TSC-80	R-90	
4/0	CHTF 4/0	C-115	TSC-80	R-90	
250	CHTF 250	C-115	TSC-80	R-90	
300	CHTF 300	C-150	TSC-80	R-150	
350	CHTF 350	C-200	TSC-80	R-150	
500	CHTF 500	C-200	TSC-80	R-150	



Operating instructions.

Insert the cable until reaching the metal plate. Secure with clamp, if possible.



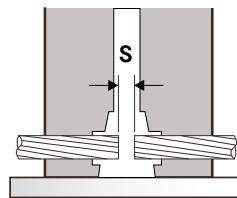
For this type of welding, inform plate, sheet or terminal thickness.

1. Copper aluminothermic welding /

1.5 Cable / metal plate

Connection CPHH					
Dimension					
Cable	Mould (PART. No.)	Cartridge	Clamp	Scraper	Price key for moulds
6	CPHH 6	C-45	TSC-80	R-45	
4	CPHH 4	C-45	TSC-80	R-45	
2	CPHH 2	C-45	TSC-80	R-45	
2 SOL	CPHH 2S	C-45	TSC-80	R-45	
1	CPHH 1	C-65	TSC-80	R-45	
1/0	CPHH 1/0	C-90	TSC-80	R-90	
2/0	CPHH 2/0	C-115	TSC-80	R-90	
3/0	CPHH 3/0	C-115	TSC-80	R-90	
4/0	CPHH 4/0	C-150	TSC-80	R-150	
250	CPHH 250	C-150	TSC-80	R-150	
300	CPHH 300	C-200	TSC-80	R-150	
350	CPHH 350	C-250	TSC-80	R-150	

A



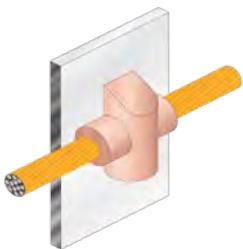
Operating instructions.

Cut and separate the cable about 3 or 4 mm in the center of the nozzle. Press on the lid of the mold to avoid metal leakage.



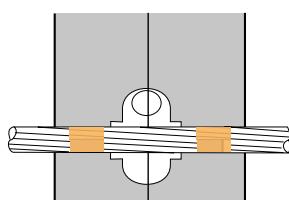
For this type of welding, inform plate, sheet or terminal thickness.

1. Copper aluminothermic welding /
1.5 Cable / metal plate



Connection CHPVH

Dimension					Price key for moulds
Cable	Mould (PART. No.)	Cartridge	Clamp	Scraper	A
6	CHPVH 6	C-45	TSC-80	R-45	
4	CHPVH 4	C-45	TSC-80	R-45	
2	CHPVH 2	C-45	TSC-80	R-45	
2 SOL	CHPVH 2S	C-45	TSC-80	R-45	
1	CHPVH 1	C-65	TSC-80	R-45	
1/0	CHPVH 1/0	C-115	TSC-80	R-90	
2/0	CHPVH 2/0	C-115	TSC-80	R-90	
3/0	CHPVH 3/0	C-150	TSC-80	R-150	
4/0	CHPVH 4/0	C-150	TSC-80	R-150	
250	CHPVH 250	C-150	TSC-80	R-150	



Operating instructions.

Seal the space between the cable and the plate on both sides of the weld cavity. Secure the mould to the plate with a clamp, if possible.

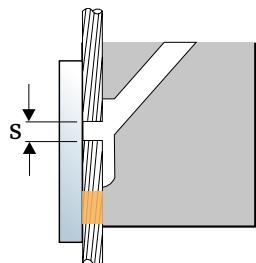


For this type of welding, inform plate, sheet or terminal thickness.

1. Copper aluminothermic welding /

1.5 Cable / metal plate

Connection CHPVV					
Dimension					
Cable	Mould (PART. No.)	Cartridge	Clamp	Scraper	Price key for moulds
6	CHPVV 6	C-90	TSC-80	R-90	C
4	CHPVV 4	C-90	TSC-80	R-90	
2	CHPVV 2	C-115	TSC-80	R-90	
2 SOL	CHPVV 2S	C-115	TSC-80	R-90	
1	CHPVV 1	C-115	TSC-80	R-90	
1/0	CHPVV 1/0	C-200	TSC-80	R-150	D
2/0	CHPVV 2/0	C-200	TSC-80	R-150	
3/0	CHPVV 3/0	C-250	TSC-80	R-150	
4/0	CHPVV 4/0	C-250	TSC-80	R-150	
250	CHPVV 250	C-250	TSC-80	R-150	



Operating instructions.

Cut and separate the cable 5 to 6 mm in the centre of the tap hole. Seal the gap between the cable and the plate with mastic below the weld cavity. Secure the mould with a clamp, if possible.

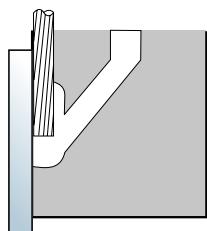


For this type of welding, inform plate, sheet or terminal thickness.

1. Copper aluminothermic welding /
1.5 Cable / metal plate



Connection CHVS					
Dimension	Mould (PART. No.)	Cartridge	Clamp	Scraper	Price key for moulds
6	CHVS 6	C-65	TSC-80	R-45	C
4	CHVS 4	C-65	TSC-80	R-45	
2	CHVS 2	C-65	TSC-80	R-45	
2 SOL	CHVS 2S	C-65	TSC-80	R-45	
1	CHVS 1	C-90	TSC-80	R-90	
1/0	CHVS 1/0	C-150	TSC-80	R-150	
2/0	CHVS 2/0	C-150	TSC-80	R-150	
3/0	CHVS 3/0	C-200	TSC-80	R-150	
4/0	CHVS 4/0	C-200	TSC-80	R-150	
250	CHVS 250	C-200	TSC-80	R-150	



Operating instructions.

Insert the cable up to the centre of the tap hole. Secure the mould to the plate with a clamp, if possible.



For this type of welding, inform plate, sheet or terminal thickness.

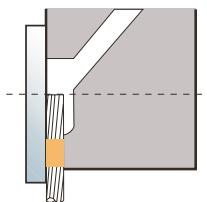
1. Copper aluminothermic welding /

1.5 Cable / metal plate

Connection CHVI					Price key for moulds
Dimension	Mould (PART. No.)	Cartridge	Clamp	Scraper	
6	CHVI 6	C-65	TSC-80	R-45	
4	CHVI 4	C-65	TSC-80	R-45	
2	CHVI 2	C-65	TSC-80	R-45	
2 SOL	CHVI 2S	C-65	TSC-80	R-45	
1	CHVI 1	C-90	TSC-80	R-90	
1/0	CHVI 1/0	C-115	TSC-80	R-90	
2/0	CHVI 2/0	C-115	TSC-80	R-90	
3/0	CHVI 3/0	C-150	TSC-80	R-150	
4/0	CHVI 4/0	C-150	TSC-80	R-150	
250	CHVI 250	C-200	TSC-80	R-150	
300	CHVI 300	C-200	TSC-80	R-150	
350	CHVI 350	C-250	TSC-80	R-150	
500	CHVI 500	2 x C-200	TSC-80	R-150	



A



Operating instructions.

Insert the cable until the centre of the tap hole. Seal the space between the cable and the plate with mastic below the weld cavity. Secure mould to the plate with a clamp, if possible.

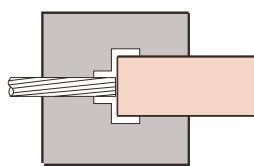


For this type of welding, inform plate, sheet or terminal thickness.

1. Copper aluminothermic welding /
1.6 Cable / bus-bar



Operating instructions.
Butt ends of cable and bus-bar under centre of tap hole.



Connection CPLL (1 of 2)

Dimension		Mould (PART. No.)	Cartridge	Clamp	Scraper	Price key for moulds
Cable	Bus-bar					
4	1/8 x 1"	CPLL 4-1/8x1	C-45	TSC-80	R-45	
2	1/8 x 1"	CPLL 2-1/8x1	C-45	TSC-80	R-45	
2 SOL	1/8 x 1"	CPLL 2S-1/8x1	C-45	TSC-80	R-45	
1	1/8 x 1"	CPLL 1-1/8x1	C-45	TSC-80	R-45	
1/0	1/8 x 1"	CPLL 1/0-1/8x1	C-45	TSC-80	R-45	
	3/16 x 1"	CPLL 1/0-3/16x1	C-65	TSC-80	R-45	
	1/4 x 1"	CPLL 1/0-1/4x1	C-65	TSC-80	R-45	
2/0	1/8 x 1"	CPLL 2/0-1/8x1	C-65	TSC-80	R-45	
	3/16 x 1"	CPLL 2/0-3/16x1	C-65	TSC-80	R-45	
	1/4 x 1"	CPLL 2/0-1/4x1	C-65	TSC-80	R-45	
3/0	1/8 x 1"	CPLL 3/0-1/8x1	C-65	TSC-80	R-45	
	3/16 x 1"	CPLL 3/0-3/16x1	C-90	TSC-80	R-90	
	1/4 x 1"	CPLL 3/0-1/4x1	C-90	TSC-80	R-90	
4/0	3/16 x 1"	CPLL 4/0-3/16x1	C-90	TSC-80	R-90	A
	1/4 x 1"	CPLL 4/0-1/4x1	C-90	TSC-80	R-90	
	1/4 x 1 1/2"	CPLL 4/0-1/4x2	C-90	TSC-80	R-90	
	1/4 x 2"	CPLL 4/0-1/4x2	C-90	TSC-80	R-90	
	1/4 x 3"	CPLL 4/0-1/4x3	C-90	TSC-80	R-90	
250	3/16 x 1"	CPLL 250-3/16x1	C-90	TSC-80	R-90	
	1/4 x 1"	CPLL 250-1/4x1	C-90	TSC-80	R-90	
	1/4 x 1 1/2"	CPLL 250-1/4x1 1/2	C-90	TSC-80	R-90	
	1/4 x 2"	CPLL 250-1/4x2	C-90	TSC-80	R-90	
	1/4 x 3"	CPLL 250-1/4x3	C-90	TSC-80	R-90	
300	1/4 x 1"	CPLL 300-1/4x1	C-90	TSC-80	R-90	
	1/4 x 1 1/2"	CPLL 300-1/4x1 1/2	C-90	TSC-80	R-90	
	1/4 x 2"	CPLL 300-1/4x2	C-90	TSC-80	R-90	
	1/4 x 3"	CPLL 300-1/4x3	C-90	TSC-80	R-90	
350	1/4 x 1"	CPLL 350-1/4x1	C-115	TSC-80	R-90	
	1/4 x 1 1/2"	CPLL 350-1/4x1 1/2	C-115	TSC-80	R-90	
	1/4 x 2"	CPLL 350-1/4x2	C-115	TSC-80	R-90	
	1/4 x 3"	CPLL 350-1/4x3	C-115	TSC-80	R-90	
500	1/4 x 1 1/2"	CPLL 500-1/4x1 1/2	C-200	TSC-80	R-150	B
	1/4 x 2"	CPLL 500-1/4x2	C-200	TSC-80	R-150	
	1/4 x 3"	CPLL 500-1/4x3	C-200	TSC-80	R-150	
	3/8 x 1 1/2"	CPLL 500-3/8x1 1/2	C-200	TSC-80	R-150	



UL certificate in several copper welding references.

Earthing. Copper welding.

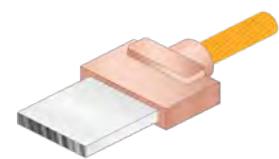


1. Copper aluminothermic welding /

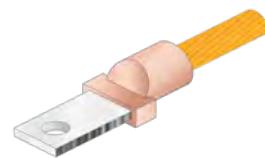
1.6 Cable / bus-bar

Connection CPLL (2 of 2)

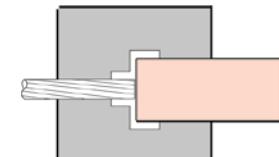
Cable	Bus-bar	Mould (PART. No.)	Cartridge	Clamp	Scraper	Price key for moulds
750	1/4 x 2"	CPLL 750-1/4 x 2	2 x C-150	TSC-100	R-750	E
	1/4 x 3"	CPLL 750-1/4 x 3	2 x C-150	TSC-100	R-750	
	3/8 x 11/2"	CPLL 750-3/8 x 11/2	2 x C-150	TSC-100	R-750	
	3/8 x 2"	CPLL 750-3/8 x 2	2 x C-150	TSC-100	R-750	
	3/8 x 3"	CPLL 750-3/8 x 3	2 x C-150	TSC-100	R-750	
1.000	1/4 x 3"	CPLL 1000-1/4 x 3	2 x C-200	TSC-100	R-750	E
	3/8 x 2"	CPLL 1000-3/8 x 2	2 x C-200	TSC-100	R-750	
	3/8 x 3"	CPLL 1000-3/8 x 3	2 x C-200	TSC-100	R-750	
	1/2 x 2"	CPLL 1000-1/2 x 2	2 x C-250	TSC-100	R-750	
	1/2 x 3"	CPLL 1000-1/2 x 3	2 x C-250	TSC-100	R-750	


Connection CPLLS

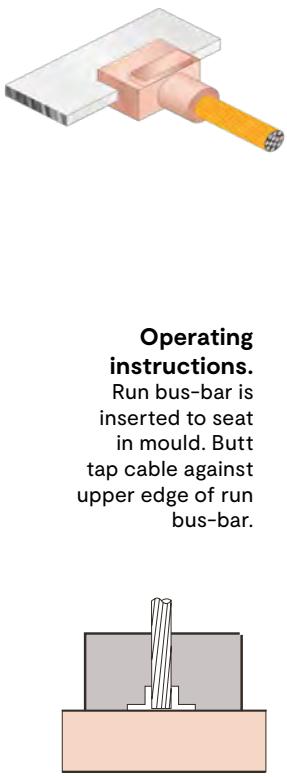
Dimension		Mould (PART. No.)	Cartridge	Clamp	Scraper	Price key for moulds
4	1/8 x 1"	CPLLS 4-1/8 x 1	C-32	TSC-80	R-45	B
		CPLLS 2-1/8 x 1	C-32	TSC-80	R-45	
		CPLLS 2S-1/8 x 1	C-32	TSC-80	R-45	
		CPLLS 1-1/8 x 1	C-32	TSC-80	R-45	
		CPLLS 1/0-1/8 x 1	C-45	TSC-80	R-45	
		CPLLS 2/0-1/8 x 1	C-45	TSC-80	R-45	
		CPLLS 3/0-1/8 x 1	C-65	TSC-80	R-45	
4/0	3/16 x 1"	CPLLS 4/0-3/16 x 1	C-65	TSC-80	R-45	B
250		CPLLS 250-3/16 x 1	C-65	TSC-80	R-45	
300	1/4 x 1"	CPLLS 300-1/4 x 1	C-90	TSC-80	R-90	
350		CPLLS 350-1/4 x 1	C-90	TSC-80	R-90	
500	1/4 x 11/2"	CPLLS 500-1/4 x 11/2	C-150	TSC-80	R-150	


**Operating
instructions.**

Cable and tape will butt together under the center of the sprue nozzle.



1. Copper aluminothermic welding /
1.6 Cable / bus-bar

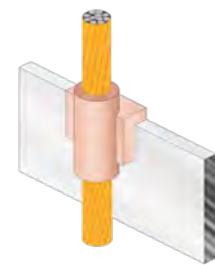


Connection CPLH						
Dimension		Mould (PART. No.)	Cartridge	Clamp	Scraper	Price key for moulds
Cable	Bus-bar					
2	1/4" x 1 1/2" & wider	CPLH 2-1/4 x 1 1/2	C-65	TSC-80	R-45	A
2 SOL		CPLH 2S-1/4 x 1 1/2	C-65	TSC-80	R-45	
1/0		CPLH 1/0-1/4 x 1 1/2	C-90	TSC-80	R-90	
2/0		CPLH 2/0-1/4 x 1 1/2	C-90	TSC-80	R-90	
3/0		CPLH 3/0-1/4 x 1 1/2	C-90	TSC-80	R-90	
4/0		CPLH 4/0-1/4 x 1 1/2	C-90	TSC-80	R-90	
250		CPLH 250-1/4 x 1 1/2	C-115	TSC-80	R-90	
300		CPLH 300-1/4 x 1 1/2	C-115	TSC-80	R-90	
350		CPLH 350-1/4 x 1 1/2	C-150	TSC-80	R-150	
500		CPLH 500-1/4 x 1 1/2	C-200	TSC-80	R-150	
2	3/8" x 1 1/2" & wider	CPLH 2-3/8 x 1 1/2	C-65	TSC-80	R-45	E
2 SOL		CPLH 2S-3/8 x 1 1/2	C-65	TSC-80	R-45	
1/0		CPLH 1/0-3/8 x 1 1/2	C-90	TSC-80	R-90	
2/0		CPLH 2/0-3/8 x 1 1/2	C-90	TSC-80	R-90	
3/0		CPLH 3/0-3/8 x 1 1/2	C-115	TSC-80	R-90	
4/0		CPLH 4/0-3/8 x 1 1/2	C-115	TSC-80	R-90	
250		CPLH 250-3/8 x 1 1/2	C-150	TSC-80	R-150	
300		CPLH 300-3/8 x 1 1/2	C-150	TSC-80	R-150	
350		CPLH 350-3/8 x 1 1/2	C-200	TSC-80	R-150	
500		CPLH 500-3/8 x 1 1/2	C-250	TSC-80	R-150	
750		CPLH 750-3/8 x 1 1/2	2 x C-150	TSC-100	R-750	
1000		CPLH 1000-3/8 x 1 1/2	2 x C-200	TSC-100	R-750	
2	1/2" x 1 1/2" & wider	CPLH 2-1/2x1 1/2	C-90	TSC-80	R-90	A
2 SOL		CPLH 2S-1/2x1 1/2	C-90	TSC-80	R-90	
1/0		CPLH 1/0-1/2x1 1/2	C-115	TSC-80	R-90	
2/0		CPLH 2/0-1/2x1 1/2	C-115	TSC-80	R-90	
3/0		CPLH 3/0-1/2x1 1/2	C-150	TSC-80	R-150	
4/0		CPLH 4/0-1/2x1 1/2	C-150	TSC-80	R-150	
250		CPLH 250-1/2x1 1/2	C-200	TSC-80	R-150	
300		CPLH 300-1/2x1 1/2	C-200	TSC-80	R-150	
350		CPLH 350-1/2x1 1/2	C-250	TSC-80	R-150	
500		CPLH 500-1/2x1 1/2	2 x C-150	TSC-100	R-750	
750		CPLH 750-1/2x1 1/2	2 x C-200	TSC-100	R-750	
1000		CPLH 1000-1/2x1 1/2	2 x C-250	TSC-100	R-750	

1. Copper aluminothermic welding /

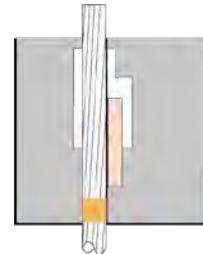
1.6 Cable / bus-bar

Connection CPLPVV						
Dimension						
Cable	Bus-bar	Mould (PART. No.)	Cartridge	Clamp	Scraper	Price key for moulds
2	1/4" x 1 1/2" & wider	CPLPVV 2-1/4 x 1 1/2	C-250	TSC-80	R-150	D
2 SOL		CPLPVV 2S-1/4 x 1 1/2	C-250	TSC-80	R-150	
1		CPLPVV 1-1/4 x 1 1/2	2 x C-150	TSC-100	R-750	
1/0		CPLPVV 1/0-1/4 x 1 1/2	2 x C-200	TSC-100	R-750	
2/0		CPLPVV 2/0-1/4 x 1 1/2	2 x C-200	TSC-100	R-750	
4/0		CPLPVV 4/0-1/4 x 1 1/2	2 x C-250	TSC-100	R-750	
250		CPLPVV 250-1/4 x 1 1/2	2 x C-250	TSC-100	R-750	
500		CPLPVV 500-1/4 x 1 1/2	2 x C-250	TSC-100	R-750	
750		CPLPVV 750-1/4 x 1 1/2	3 x C-200	TSC-100	R-750	
2	3/8" x 1 1/2" & wider	CPLPVV 2-3/8 x 1 1/2	C-250	TSC-80	R-150	D
2 SOL		CPLPVV 2S-3/8 x 1 1/2	C-250	TSC-80	R-150	
1		CPLPVV 1-3/8 x 1 1/2	2 x C-150	TSC-100	R-750	
1/0		CPLPVV 1/0-3/8 x 1 1/2	2 x C-200	TSC-100	R-750	
2/0		CPLPVV 2/0-3/8 x 1 1/2	2 x C-200	TSC-100	R-750	
4/0		CPLPVV 4/0-3/8 x 1 1/2	2 x C-250	TSC-100	R-750	
250		CPLPVV 250-3/8 x 1 1/2	2 x C-250	TSC-100	R-750	
500		CPLPVV 500-3/8 x 1 1/2	2 x C-250	TSC-100	R-750	
750		CPLPVV 750-3/8 x 1 1/2	3 x C-200	TSC-100	R-750	
2	1/2" x 1 1/2" & wider	CPLPVV 2-1/2 x 1 1/2	2 x C-150	TSC-100	R-750	I
2 SOL		CPLPVV 2S-1/2 x 1 1/2	2 x C-150	TSC-100	R-750	
1		CPLPVV 1-1/2 x 1 1/2	2 x C-200	TSC-100	R-750	
1/0		CPLPVV 1/0-1/2 x 1 1/2	2 x C-250	TSC-100	R-750	
2/0		CPLPVV 2/0-1/2 x 1 1/2	2 x C-250	TSC-100	R-750	
4/0		CPLPVV 4/0-1/2 x 1 1/2	3 x C-200	TSC-100	R-750	
250		CPLPVV 250-1/2 x 1 1/2	3 x C-200	TSC-100	R-750	
500		CPLPVV 500-1/2 x 1 1/2	3 x C-200	TSC-100	R-750	
750		CPLPVV 750-1/2 x 1 1/2	3 x C-250	TSC-100	R-750	

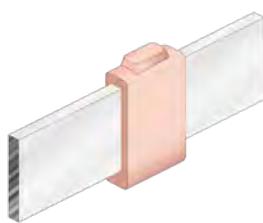


Operating instructions.

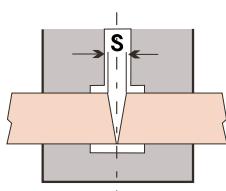
Fill the space between the cable and the mold at the bottom with sealing paste.



1. Copper aluminothermic welding /
1.7 Bus-bar / bus-bar



Connection PLLV						
Dimensions bus-bar		Mould (PART. No.)	Cartridge	Clamp	Scraper	Price key for moulds
Width	Thickness					
1"	1/8"	PLLV 1 x 1/8	C-45	TSC-80	R-45	A
1 1/2"		PLLV 1 1/2 x 1/8	C-65	TSC-80	R-45	
2"		PLLV 2 x 1/8	C-90	TSC-80	R-90	B
3"		PLLV 3 x 1/8	C-200	TSC-80	R-150	
4"		PLLV 4 x 1/8	C-250	TSC-100	R-750	E
1"	3/16"	PLLV 1 x 3/16	C-65	TSC-80	R-45	A
2"		PLLV 2 x 3/16	C-115	TSC-80	R-90	
1"	1/4"	PLLV 1 x 1/4	C-90	TSC-80	R-90	A
1 1/4"		PLLV 1 1/4 x 1/4	C-115	TSC-80	R-90	
1 1/2"		PLLV 1 1/2 x 1/4	C-150	TSC-80	R-150	
2"		PLLV 2 x 1/4	C-200	TSC-80	R-150	B
2 1/2"		PLLV 2 1/2 x 1/4	C-250	TSC-80	R-150	
3"		PLLV 3 x 1/4	2 x C-200	TSC-100	R-750	E
4"		PLLV 4 x 1/4	2 x C-250	TSC-100	R-750	
1"	3/8"	PLLV 1 x 3/8	C-150	TSC-80	R-150	B
1 1/2"		PLLV 1 1/2 x 3/8	C-250	TSC-80	R-150	
2"		PLLV 2 x 3/8	2 x C-150	TSC-100	R-750	E
3"		PLLV 3 x 3/8	2 x C-250	TSC-100	R-750	
4"		PLLV 4 x 3/8	3 x C-200	TSC-100	R-750	
1"	1/2"	PLLV 1 x 1/2	C-200	TSC-80	R-150	B
2"		PLLV 2 x 1/2	2 x C-200	TSC-100	R-750	E



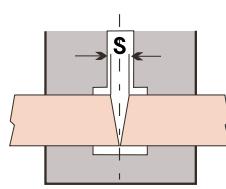
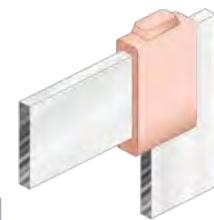
Operating instructions.

End of bus-bar less than 30 mm wide must be cut in "V" under centre tap holes (S) 5 to 6 mm. Busbar wider than 30 mm (S) 10 to 12 mm.

1. Copper aluminothermic welding /

1.7 Bus-bar / bus-bar

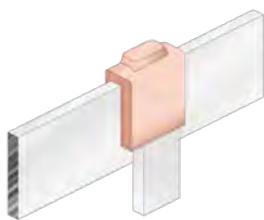
Dimensions bus-bar						
Width	Thickness	Mould (PART. No.)	Cartridge	Clamp	Scraper	Price key for moulds
1"	1/8"	PLARI 1 x 1/8	C-45	TSC-80	R-45	A
1 1/2"		PLARI 1 1/2 x 1/8	C-65	TSC-80	R-45	
2"		PLARI 2 x 1/8	C-90	TSC-80	R-90	
3"		PLARI 3 x 1/8	C-200	TSC-80	R-150	
4"		PLARI 4 x 1/8	C-250	TSC-100	R-750	
1"	3/16"	PLARI 1 x 3/16	C-65	TSC-80	R-45	A
2"		PLARI 2 x 3/16	C-115	TSC-80	R-90	
1"	1/4"	PLARI 1 x 1/4	C-90	TSC-80	R-90	A
1 1/4"		PLARI 1 1/4 x 1/4	C-115	TSC-80	R-90	
1 1/2"		PLARI 1 1/2 x 1/4	C-150	TSC-80	R-150	
2"		PLARI 2 x 1/4	C-200	TSC-80	R-150	
2 1/2"		PLARI 2 1/2 x 1/4	C-250	TSC-80	R-150	
3"		PLARI 3 x 1/4	2 x C-200	TSC-100	R-750	
4"		PLARI 4 x 1/4	2 x C-250	TSC-100	R-750	
1"	3/8"	PLARI 1 x 3/8	C-150	TSC-80	R-150	B
1 1/2"		PLARI 1 1/2 x 3/8	C-250	TSC-80	R-150	
2"		PLARI 2 x 3/8	2 x C-150	TSC-100	R-750	
3"		PLARI 3 x 3/8	2 x C-250	TSC-100	R-750	
4"		PLARI 4 x 3/8	3 x C-200	TSC-100	R-750	
1"	1/2"	PLARI 1 x 1/2	C-200	TSC-80	R-150	B
2"		PLARI 2 x 1/2	2 x C-200	TSC-100	R-750	



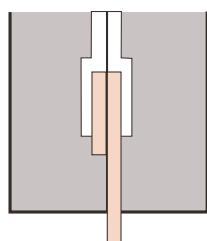
Operating instructions.

End of bus-bar less than 30 mm wide must be cut in "V" under centre tap holes (S) 5 to 6 mm. Busbar wider than 30 mm (S) 10 to 12 mm.

1. Copper aluminothermic welding /
1.7 Bus-bar / bus-bar



Connection PLTV						
Dimensions bus-bar		Mould (PART. No.)	Cartridge	Clamp	Scraper	Price key for moulds
1"	1/8"	PLTV 1 x 1/8	C-90	TSC-80	R-90	B
2" & wider		PLTV 1 1/2 x 1/8	C-200	TSC-80	R-150	
1"	3/16"	PLTV 2 x 1/8	C-115	TSC-80	R-90	B
2" & wider		PLTV 3 x 1/8	C-200	TSC-80	R-150	
1"	1/4"	PLTV 4 x 1/8	C-150	TSC-80	R-150	E
1 1/4"		PLTV 1 x 3/16	C-200	TSC-80	R-150	
1 1/2"		PLTV 2 x 3/16	C-250	TSC-80	R-150	
2" & wider		PLTV 1 x 1/4	2 x C-200	TSC-100	R-750	
3" & wider		PLTV 1 1/4 x 1/4	2 x C-200	TSC-100	R-750	F
4" & wider		PLTV 1 1/2 x 1/4	3 x C-250	TSC-100	R-750	J
1"	3/8"	PLTV 2 x 1/4	C-250	TSC-80	R-150	B
1 1/2"		PLTV 2 1/2 x 1/4	2 x C-200	TSC-100	R-750	E
2" & wider		PLTV 3 x 1/4	2 x C-250	TSC-100	R-750	
3" & wider		PLTV 4 x 1/4	3 x C-250	TSC-100	R-750	H
4" & wider		PLTV 1 x 3/8	4 x C-250	TSC-100	R-750	J
1"	1/2"	PLTV 1 1/2 x 3/8	2 x C-250	TSC-100	R-750	E
2" & wider		PLTV 2 x 3/8	3 x C-250	TSC-100	R-750	



Operating instructions.

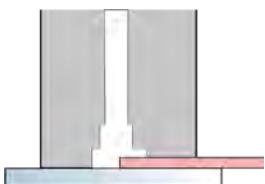
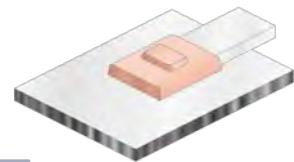
Insert the end of tap bus-bar even with upper edge of run bus-bar.

1. Copper aluminothermic welding /

1.8 Bus-bar / Steel surface

Connection PHTH

Dimensions bus-bar						Price key for moulds
Width	Thickness	Mould (PART. No.)	Cartridge	Clamp	Scraper	
1"	1/8"	PHTH 1 x 1/8	C-115	TSC-80	R-90	B
1 1/2"		PHTH 1 1/2 x 1/8	C-150	TSC-80	R-150	
2"		PHTH 2 x 1/8	C-200	TSC-80	R-150	
1"	3/16"	PHTH 1 x 3/16	C-150	TSC-80	R-150	B
1 1/2"		PHTH 1 1/2 x 3/16	C-200	TSC-80	R-150	
2"		PHTH 2 x 3/16	C-250	TSC-80	R-150	
1"	1/4"	PHTH 1 x 1/4	C-150	TSC-80	R-150	E
1 1/4"		PHTH 1 1/4 x 1/4	C-200	TSC-80	R-150	
1 1/2"		PHTH 1 1/2 x 1/4	C-250	TSC-80	R-150	
2"		PHTH 2 x 1/4	2 x C-150	TSC-100	R-750	
1"	3/8"	PHTH 1 x 3/8	C-200	TSC-80	R-150	B
1 1/2"		PHTH 1 1/2 x 3/8	C-250	TSC-80	R-150	
2"		PHTH 2 x 3/8	2 x C-200	TSC-100	R-750	
1"	1/2"	PHTH 1 x 1/2	C-250	TSC-80	R-150	B
1 1/2"		PHTH 1 1/2 x 1/2	2 x C-200	TSC-100	R-750	
2"		PHTH 2 x 1/2	2 x C-250	TSC-100	R-750	



Operating instructions.

Place the end of the plate under the center of the pouring nozzle. Press on the lid of the mold to avoid metal leaks.



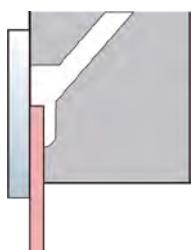
For this type of welding, inform plate, sheet or terminal thickness.

1. Copper aluminothermic welding /
1.8 Bus-bar / Steel surface



Connection PHVI

Dimensions bus-bar		Mould (PART. No.)	Cartridge	Clamp	Scraper	Price key for moulds
Width	Thickness					
1"	1/8"	PHVI 1 x 1/8	C-115	TSC-80	R-90	B
1 1/2"		PHVI 1 1/2 x 1/8	C-150	TSC-80	R-150	
2"		PHVI 2 x 1/8	C-200	TSC-80	R-150	
1"	3/16"	PHVI 1 x 3/16	C-150	TSC-80	R-150	B
1 1/2"		PHVI 1 1/2 x 3/16	C-200	TSC-80	R-150	
2"		PHVI 2 x 3/16	C-250	TSC-80	R-150	
1"	1/4"	PHVI 1 x 1/4	C-150	TSC-80	R-150	E
1 1/4"		PHVI 1 1/4 x 1/4	C-200	TSC-80	R-150	
1 1/2"		PHVI 1 1/2 x 1/4	C-250	TSC-80	R-150	
2"		PHVI 2 x 1/4	2 x C-150	TSC-100	R-750	
1"	3/8"	PHVI 1 x 3/8	C-200	TSC-80	R-150	B
1 1/2"		PHVI 1 1/2 x 3/8	C-250	TSC-80	R-150	
2"		PHVI 2 x 3/8	2 x C-200	TSC-100	R-750	
1"	1/2"	PHVI 1 x 1/2	C-250	TSC-80	R-150	B
1 1/2"		PHVI 1 1/2 x 1/2	2 x C-200	TSC-100	R-750	
2"		PHVI 2 x 1/2	2 x C-250	TSC-100	R-750	



Operating instructions.

The end part of the plate must be positioned as shown in the figure. Clamp the mold to the steel surface with a vice if possible to prevent material leakage.

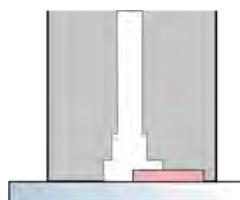
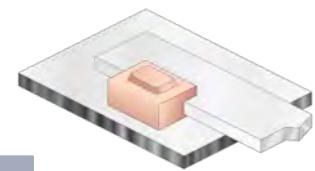


For this type of welding, inform plate, sheet or terminal thickness.

1. Copper aluminothermic welding /

1.8 Bus-bar / Steel surface

Dimensions bus-bar						Price key for moulds
Width	Thickness	Mould (PART. No.)	Cartridge	Clamp	Scraper	
1"	1/8"	PHPHH 1 x 1/8	C-115	TSC-80	R-90	B
1 1/2" & wider		PHPHH 1 1/2 x 1/8	C-150	TSC-80	R-150	
1"	3/16"	PHPHH 1 x 3/16	C-150	TSC-80	R-150	E
1 1/2" & wider		PHPHH 1 1/2 x 3/16	C-200	TSC-80	R-150	
1"	1/4"	PHPHH 1 x 1/4	C-150	TSC-80	R-150	B
1 1/4"		PHPHH 1 1/4 x 1/4	C-200	TSC-80	R-150	
1 1/2" & wider		PHPHH 1 1/2 x 1/4	C-250	TSC-80	R-150	
1"	3/8"	PHPHH 1 x 3/8	C-200	TSC-80	R-150	B
1 1/2" & wider		PHPHH 1 1/2 x 3/8	C-250	TSC-80	R-150	
1"	1/2"	PHPHH 1 x 1/2	C-250	TSC-80	R-150	E
1 1/2" & wider		PHPHH 1 1/2 x 1/2	2 x C-200	TSC-100	R-750	



Operating instructions.

The end of the plate and the steel surface must be in contact with the mold. Press on the lid of the mold to avoid leaks.

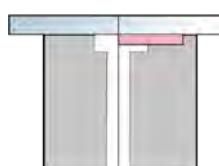


For this type of welding, inform plate, sheet or terminal thickness.

1. Copper aluminothermic welding /
1.8 Bus-bar / Steel surface



Connection PHPVV						
Dimensions bus-bar		Mould (PART. No.)	Cartridge	Clamp	Scraper	Price key for moulds
Width	Thickness					
1"	1/8"	PHPVV 1 x 1/8	C-115	TSC-80	R-90	B
1 1/2"		PHPVV 1 1/2 x 1/8	C-150	TSC-80	R-150	
2" & wider		PHPVV 2 x 1/8	C-200	TSC-80	R-150	
1"	3/16"	PHPVV 1 x 3/16	C-150	TSC-80	R-150	B
1 1/2"		PHPVV 1 1/2 x 3/16	C-200	TSC-80	R-150	
2" & wider		PHPVV 2 x 3/16	C-250	TSC-80	R-150	
1"	1/4"	PHPVV 1 x 1/4	C-150	TSC-80	R-150	E
1 1/4"		PHPVV 1 1/4 x 1/4	C-200	TSC-80	R-150	
1 1/2"		PHPVV 1 1/2 x 1/4	C-250	TSC-80	R-150	
2" & wider		PHPVV 2 x 1/4	2 x C-150	TSC-100	R-750	
1"	3/8"	PHPVV 1 x 3/8	C-200	TSC-80	R-150	B
1 1/2"		PHPVV 1 1/2 x 3/8	C-250	TSC-80	R-150	
2" & wider		PHPVV 2 x 3/8	2 x C-200	TSC-100	R-750	
1"	1/2"	PHPVV 1 x 1/2	C-250	TSC-80	R-150	B
1 1/2"		PHPVV 1 1/2 x 1/2	2 x C-200	TSC-100	R-750	
2" & wider		PHPVV 2 x 1/2	2 x C-250	TSC-100	R-750	



Operating instructions.

The plate and the steel surface must be in contact with the mold to avoid leaks. Clamp the mold to the steel surface with a vice if possible.



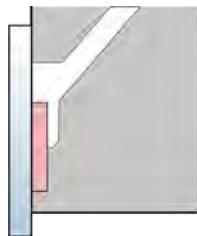
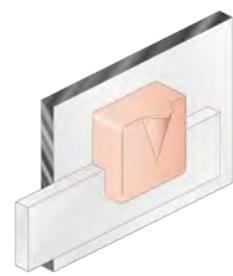
For this type of welding, inform plate, sheet or terminal thickness.

1. Copper aluminothermic welding /

1.8 Bus-bar / Steel surface

Connection PHPVH

Dimensions bus-bar						Price key for moulds
Width	Thickness	Mould (PART. No.)	Cartridge	Clamp	Scraper	
1"	1/8"	PHPVH 1x1/8	C-115	TSC-80	R-90	B
1 1/2"		PHPVH 1 1/2x1/8	C-150	TSC-80	R-150	
2" & wider		PHPVH 2x1/8	C-200	TSC-80	R-150	
1"	3/16"	PHPVH 1x3/16	C-150	TSC-80	R-150	B
1 1/2"		PHPVH 1 1/2x3/16	C-200	TSC-80	R-150	
2" & wider		PHPVH 2x3/16	C-250	TSC-80	R-150	
1"	1/4"	PHPVH 1x1/4	C-150	TSC-80	R-150	E
1 1/4"		PHPVH 1 1/4x1/4	C-200	TSC-80	R-150	
1 1/2"		PHPVH 1 1/2x1/4	C-250	TSC-80	R-150	
2" & wider		PHPVH 2x1/4	2 x C-150	TSC-100	R-750	
1"	3/8"	PHPVH 1x3/8	C-200	TSC-80	R-150	B
1 1/2"		PHPVH 1 1/2x3/8	C-250	TSC-80	R-150	
2" & wider		PHPVH 2x3/8	2 x C-200	TSC-100	R-750	
1"	1/2"	PHPVH 1x1/2	C-250	TSC-80	R-150	B
1 1/2"		PHPVH 1 1/2x1/2	2 x C-200	TSC-100	R-750	
2" & wider		PHPVH 2x1/2	2 x C-250	TSC-100	R-750	



Operating instructions.

The plate and the steel surface must be in contact with the mold to avoid leaks. Clamp the mold to the steel surface with a vice if possible.



For this type of welding, inform plate, sheet or terminal thickness.

1. Copper aluminothermic welding /
1.9 1 shot mould

1 Shot Mould



Connection YCP-T				
Mould	Rod	Cable		Packaging
		Solid	Braided cable	
YCP-T 58/B	5/8"	4	6	12 units
		3	4	
YCP-T 58/C	5/8"	2	3	12 units
		1	2	



Connection YCP-TD				
Mould	Rod	Cable		Packaging
		Solid	Braided cable	
YCP-TD 58/B	5/8"	4 3	6 4	12 units



UL certificate in several copper welding references.

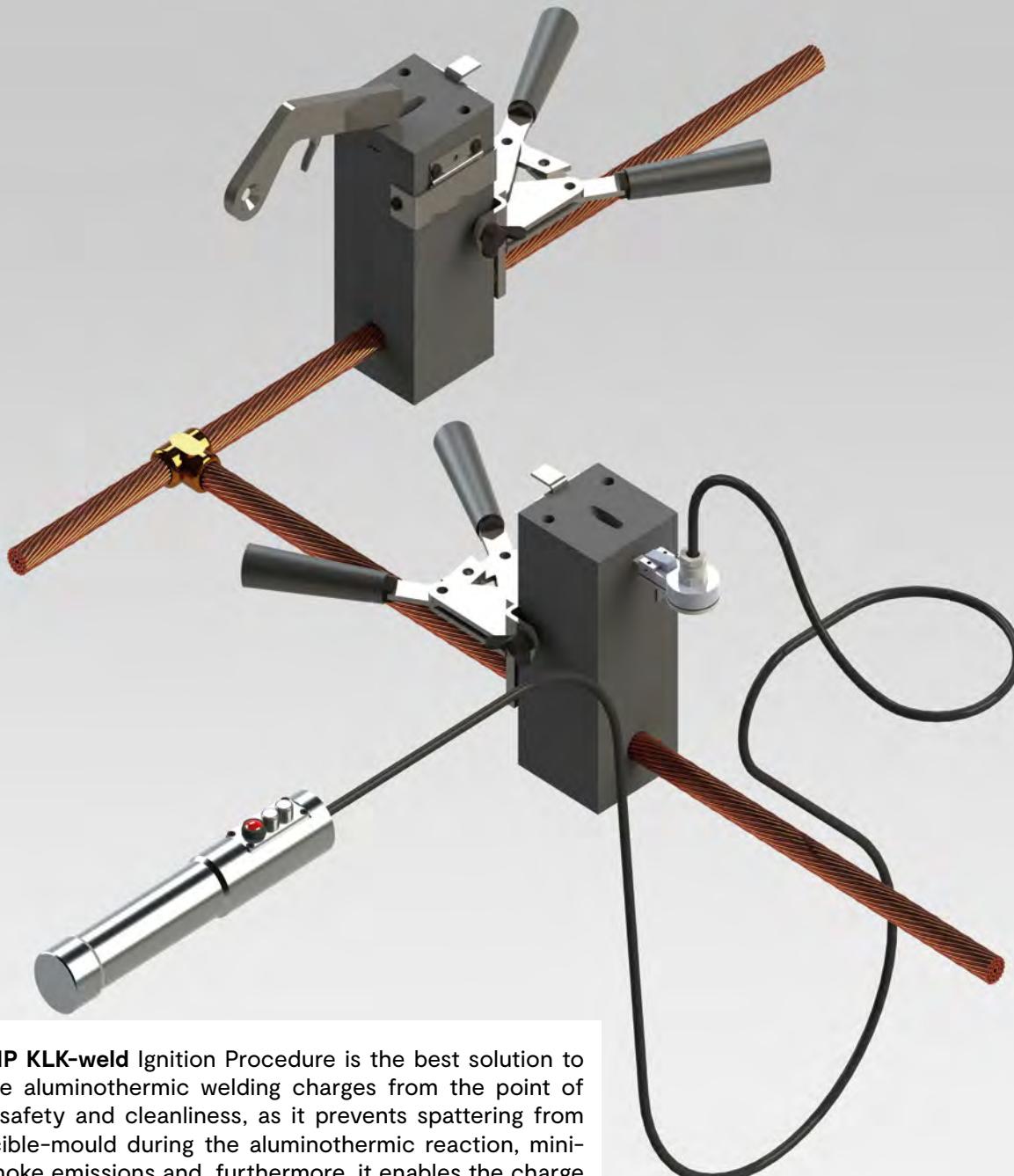
Earthing. Copper welding.



1. Copper aluminothermic welding /
1.10 LsVIP

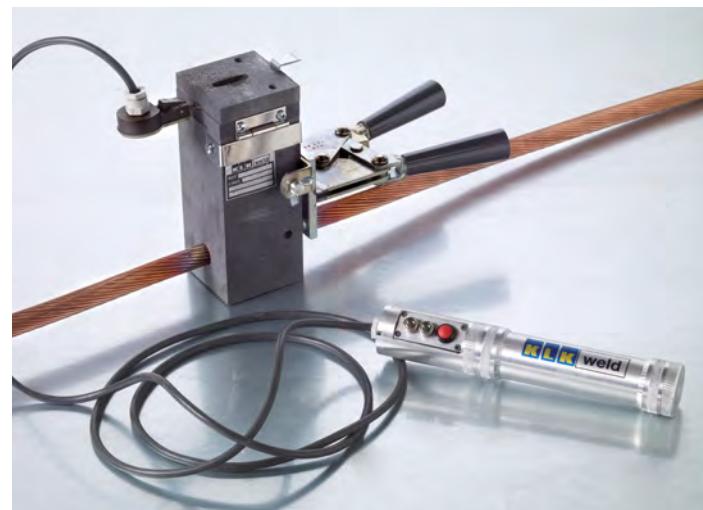
Ignition procedure LsVIP

Ignition procedure for aluminothermic welding charges for electrical connections



The **LsVIP KLK-weld** Ignition Procedure is the best solution to ignite the aluminothermic welding charges from the point of view of safety and cleanliness, as it prevents spattering from the crucible-mould during the aluminothermic reaction, minimizes smoke emissions and, furthermore, it enables the charge to be ignited at a certain distance from the mould, using the **KLK-weld Remote Ignition Device**.

1. Copper aluminothermic welding /
1.10 LsVIP



The **LsVIP KLK-weld Ignition Procedure** uses a special lid that completely closes the mould crucible, so that it prevents spattering from the aluminothermic reaction. But at the same time it allows the release of overpressures within the crucible. Furthermore, the smoke emissions are much lower than in other ignition procedures.

The special lid used in the Ignition Procedure can be used either with the standard flint igniter or with the **KLK-weld Remote Ignition Device**. The same applies to the cartridges, ignition powder, and the other welding accessories, thus there is a complete versatility to use either of the two ignition options.

Apart from the supplying of moulds with the special lid used in the procedure (the LsVIP moulds) a quick fastening special lid can also be supplied, this can be easily fitted onto a mould that uses the usual lid. In this case, to use the special lid, it is sufficient to leave the usual lid open.



1. Copper aluminothermic welding /

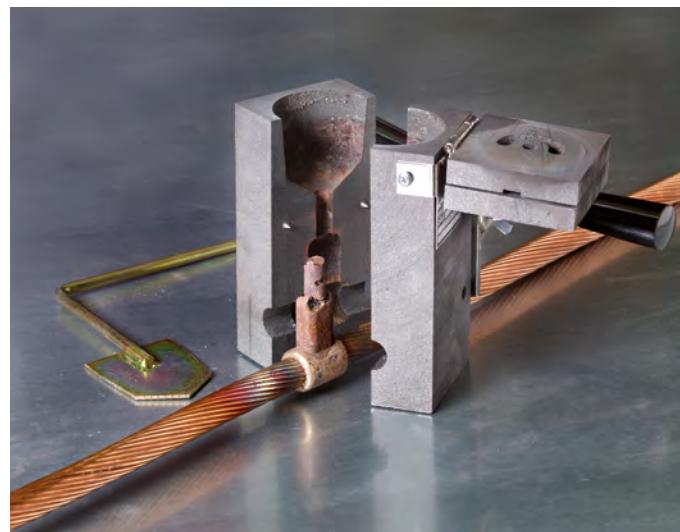
1.10 LsVIP



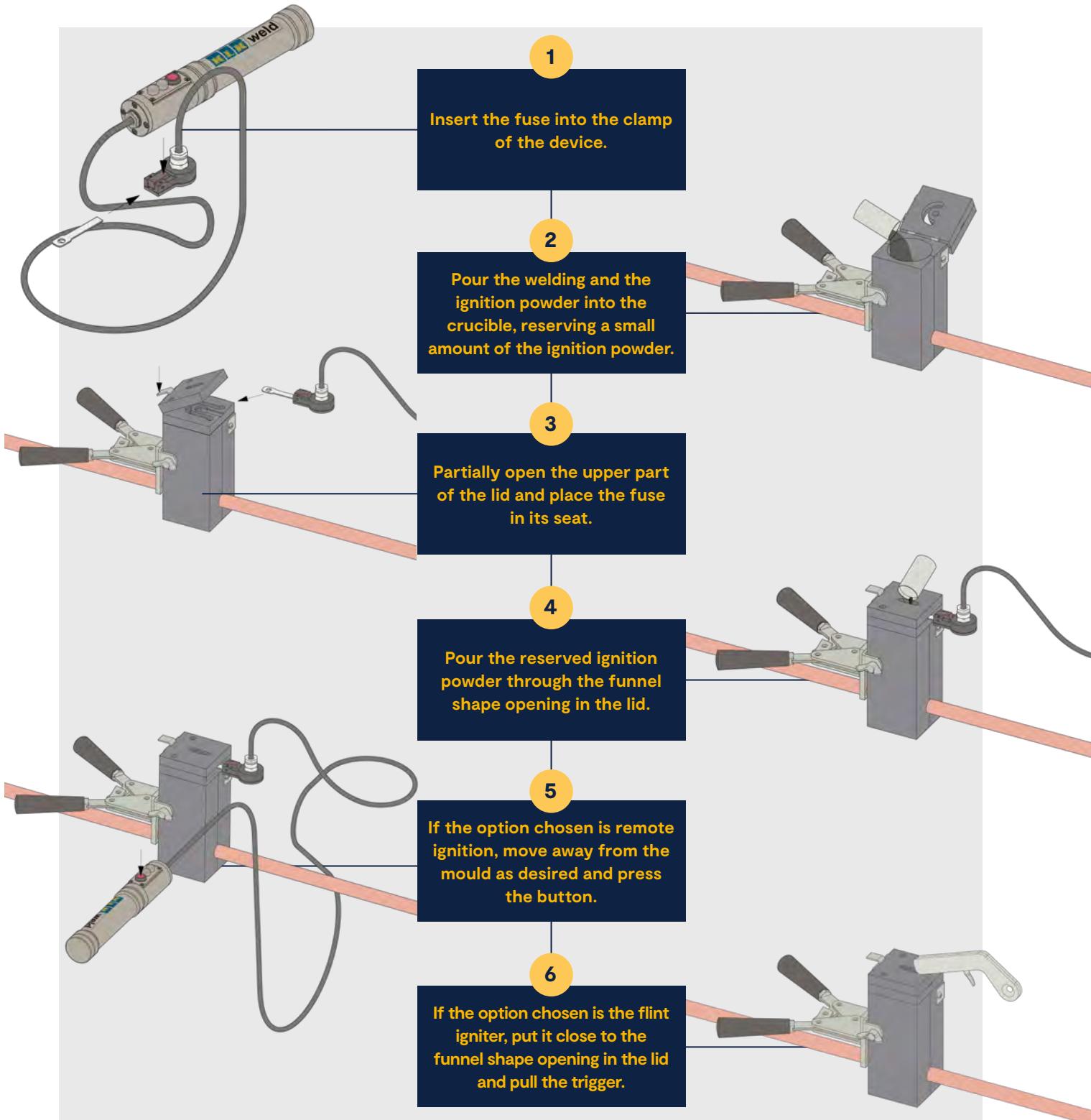
The **KLK-weld Remote Ignition Device** includes sufficient cable to allow the charge to be ignited at a certain distance from the mould where the reaction takes place. It only requires two standard batteries and it includes warning lights that indicate when the batteries are dead or if the fuse is properly inserted into the clamp.

For each ignition using the **KLK-weld Remote Ignition Device** it is also necessary to use a fuse, one end of which is inserted into the device clamp, the other end into the lid seat made for this purpose. The fuses are the only additional consumables for the remote ignition procedure.

The connections achieved using the **KLK-weld** welding procedures, and in particular those achieved after using the **LsVIP Ignition Procedure**, are connections with a very high electrical conductivity, equal or greater to that of the welded conductor.



Easy and quick to use



1. Copper aluminothermic welding /
1.10 LsVIP

Advantages of the LsVIP process

- 1. KLK remote welding (LsVIP)** is done with the same cartridges and it is not necessary to have other references of special cartridges. Our cartridges preserve the two separate powders but together in the same packaging, to prevent the user from forgetting the ignition powder.
- 2.** The same molds that are used in all other welds can be used, only the cover is changed, because our molds have interchangeable covers. Remote welding, safe welding without splashes and traditional welding can be carried out. If the mold is requested with Ref **LsVIP**, the mold already includes the cover.
- 3.** Our ignition system allows ignition by remote control and with igniter.
- 4.** Our remote ignition system uses a removable mold cover allowing a significant reduction of the smoke of the execution and canceling the possible projections coming from the aluminothermic reaction.
- 5.** It is the best solution to comply with the most demanding safety conditions in this area of thermite welding.
- 6.** Thanks to the versatility of the LsVIP process, the user or the client does not have to use other tools, other utensils and there is no need to change the conventional ignition system or to enlarge or modify your stock of material and you will never forget the ignition powder and therefore you can always weld.

Virtual Reality Training



Welcome to our Virtual Reality Center

Discover our virtual classroom and experience training in LsVIP aluminothermic welding using a virtual reality system that shows you all the necessary steps and allows you to acquire the skills you need to do real welding.

Find out more on www.klk.es



1. Copper aluminothermic welding /

1.11 Virtual reality training

MEV

Virtual Training Module

Electric Cable Welding Procedure.

• Reference:

Aluminothermic Welding Procedure Virtual Training Module **LsVip**.

• Coded: 14321

- Application that simulates the complete aluminothermic welding procedure.
- User is guided by text instructions during the procedure.
- The procedure is guided to prevent wrong choices at any stage.
- You cannot go to the next step without having correctly carried out the previous one.

• Contents:

- 1 HTC VIVE VR goggles.
- 2 sensors.
- 2 controls.
- 1 rugged carrying case.
- Software with 3 licenses.

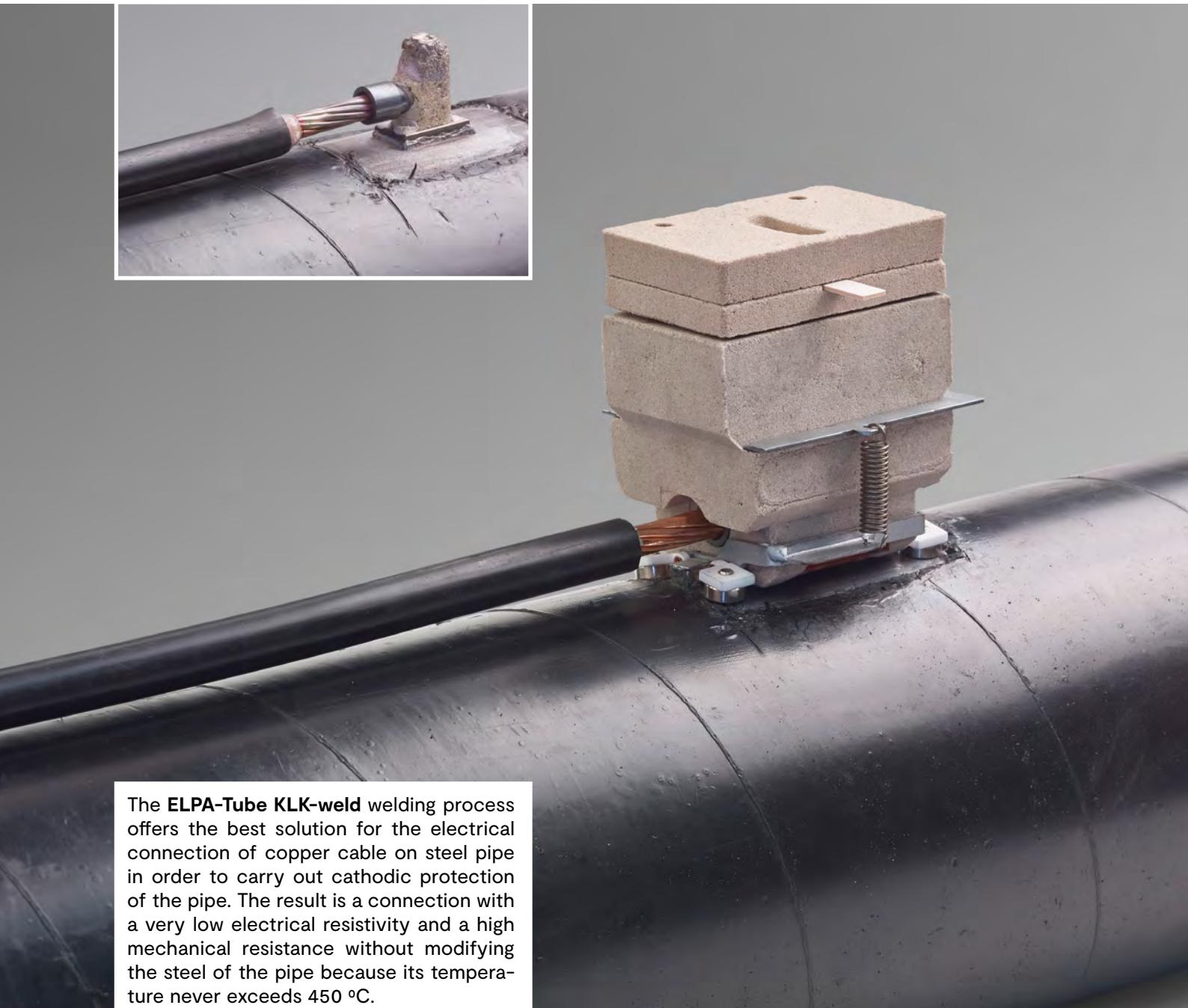
• Recommended hardware:

- CPU: Intel 7, equivalent or higher.
- OS: Windows 7 64-bit (Service pack 1) or higher.
- Monitor: At least one, Full HD.
- HTC- VIVE standard kit with base stations and controls.
- In addition to the cables included in the HTC- VIVE system, a "Mini Display Port" < - > "HDMI" cable is required to be able to clone the image of the laptop on any TV with HDMI input.



Welding procedure ELPA- Tubo

Welding of electric cable to steel pipe



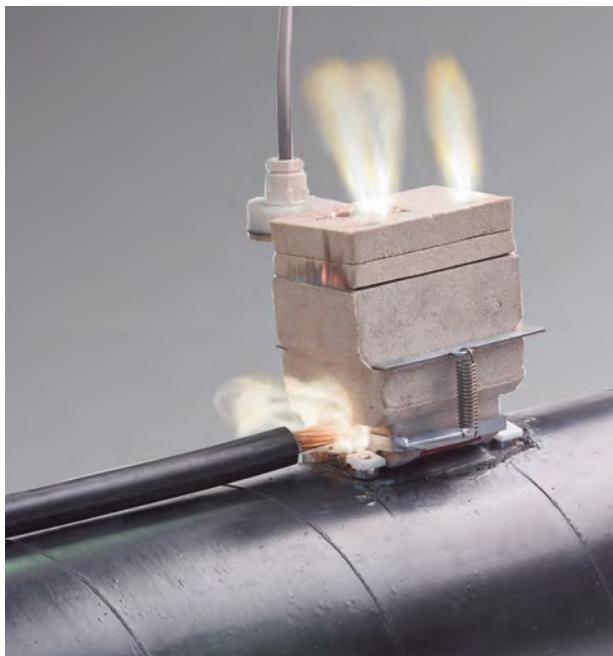
The **ELPA-Tube KLK-weld** welding process offers the best solution for the electrical connection of copper cable on steel pipe in order to carry out cathodic protection of the pipe. The result is a connection with a very low electrical resistivity and a high mechanical resistance without modifying the steel of the pipe because its temperature never exceeds 450 °C.

1. Copper aluminothermic welding /

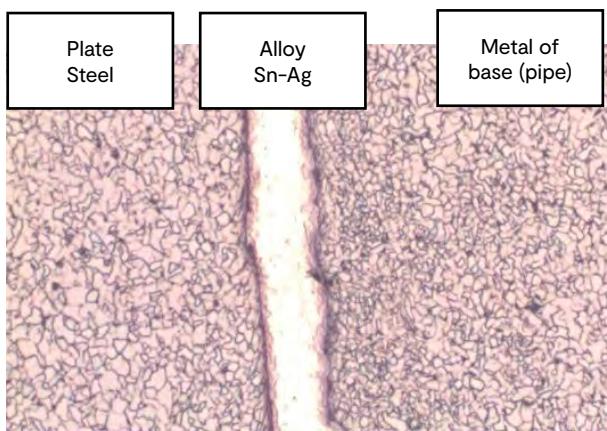
1.12 ELPA-Tubo

Thanks to the fact that the clamping mechanism of the mold on the tube does not include an embracing element, it is not necessary to completely strip the tube to be welded, it suffices to discover only its upper part.

The electrical resistance of the connection is less than $10\text{--}4 \Omega$, and the resistance to mechanical shear at the plate / tube junction is greater than 25 kN.



Unlike other welding procedures, the **ELPA-KLK welding** tube procedure does not affect the tube steel. A micrographic study of the union by capillary welding between plate and tube reveals that the structure of the steel of the tube remains unchanged and without microcracks.



The **ELPA-Tube KLK-weld** welding procedure combines aluminothermic welding and tin-silver capillary welding, so that the latter uses part of the heat generated in the former. A ferritic steel plate is interposed between the conductive cable and the tube, absorbing the thermal impact of the thermite flow, and the plate being welded to the end of the cable. The plate incorporating a tin alloy on the contact side with the flat tube, the final union between the plate and the tube takes place due to the combination of the heat which melts this alloy and the force of a mechanism which presses the plate against the tube during solidification (force necessary to obtain a capillary welding without defects).

1. Copper aluminothermic welding / 1.12 ELPA-Tubo

The KLPA **ELPA-Tubo** welding kit includes:

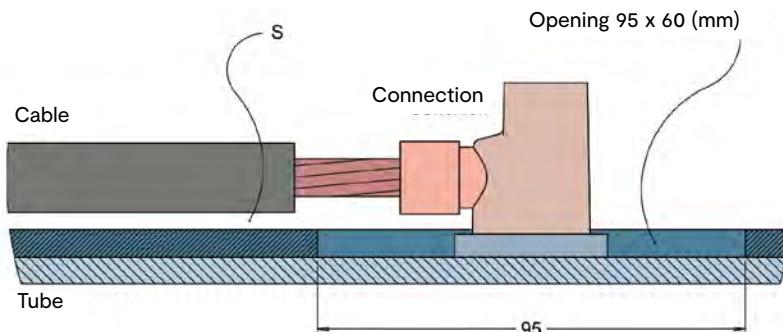
- a. Ceramic mold comprising a steel plate, a cable entry ring, a sealing disc, seals, a fuse cover for remote ignition and the clamping mechanism.
- b. Aluminothermic and ignition powder cartridge for welding.
- c. Flow dose.
- d. Additional sockets for other cable sections.
- e. User manual.



Each kit can be used in tubes of any diameter and is useful for soldering cables of different sections. Examples of possible kits are:

Denomination	Possible cables (*)		
Kit ELPA- Tubo 6 - 25	6 mm ²	25 mm ²	
Kit ELPA- Tubo 10 - 16 - 35	10 mm ²	16 mm ²	35 mm ²
Kit ELPA- Tubo 50 - 70	50 mm ²	70 mm ²	

(*) It is necessary to specify, in addition to the section, the diameter of each cable.



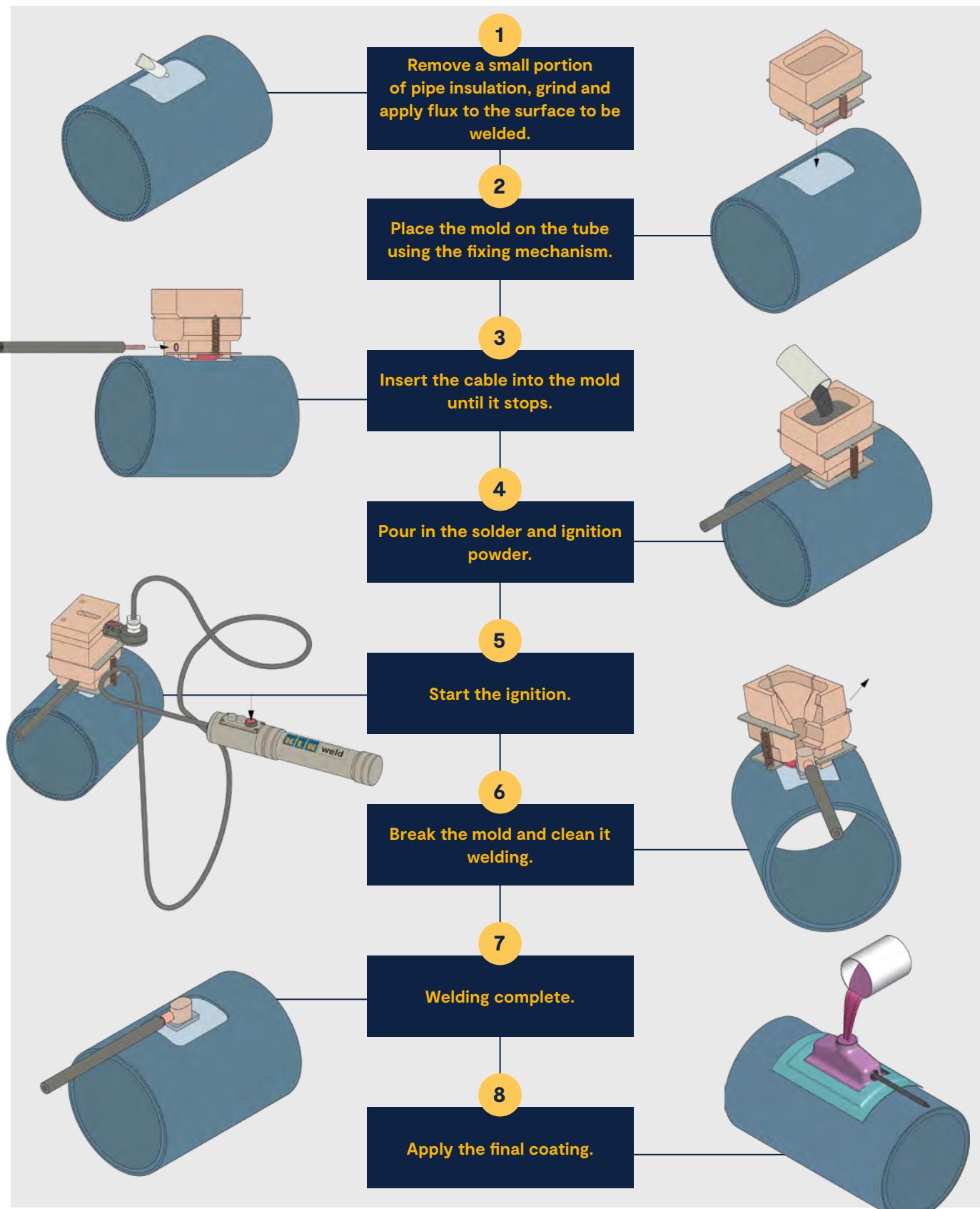
The area to be protected includes the opening made in the insulation of the tube, dimensions 95 x 60 (mm), the end of the cable from which the insulation had been removed over a length of 50 mm and the connection itself. The space between the cable and tube insulation (S) promotes the flow of coating resin in this area.

The ignition of the charge is carried out remotely, using the **KLK-weld** remote ignition device, with the possibility of also using the traditional ignition gun.



1. Copper aluminothermic welding /
1.12 ELPA-Tubo

Quick and easy to use



Advantages of the ELPA-Tubo process

Advantages of the new low temperature welding process for electrical connections of conductive cables to the surface of steel pipes in gas pipelines, for cathodic protection of pipes.

The advantages of this low temperature welding process, which we have commercially called Elpa-Tubo, are listed below:

1. The connections obtained have excellent electrical conductivity.
2. The connections obtained have a high mechanical resistance.
3. The internal structure of the steel tube is not changed.
4. Ease and speed of execution.
5. Absolute reliability.
6. To carry out welding, it is not necessary to completely dig up the pipe, it suffices to uncover its upper part.
7. Competitive price.
8. The same kit can be used in pipes of different diameters (see).
9. Possibility of providing kits that can be used with cables of different sections.
10. Possibility to light the charge remotely.
11. Possibility of being used on active pipes without having to cancel the supply or transport.

1. Copper aluminothermic welding /
1.13 ELPA

Method of welding ELPA

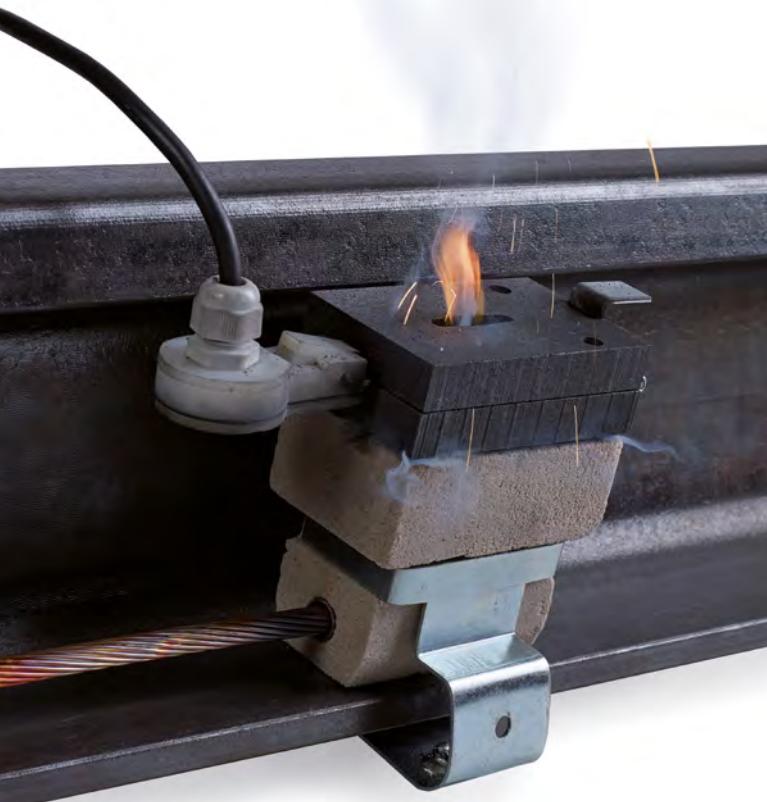
Method for welding electrical connections of copper cable to the rail pad



The **ELPA KLK-weld** soldering process offers the best solution for soldering copper cables to the rail base. The result is a connection with a very low electrical resistivity and a high mechanical resistance without modifying the steel of the rail because its temperature never exceeds 600 °C.



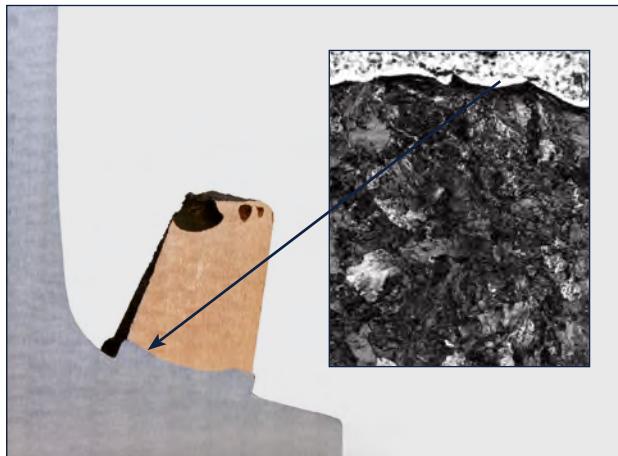
1. Copper aluminothermic welding / 1.13 ELPA



The **ELPA KLK-weld** welding process combines aluminothermic welding processes and soldering by tin / silver brazing. The second takes advantage of the heat produced by the first. A small plate placed between the cable and the rail pad absorbs the heat of the aluminothermic reaction and remains welded to the end of the cable. The plate is made of a tin / silver alloy on the side of the rail. The final union between the plate and the rail is produced by the combination of the heat which melts the alloy and the force of the spring clip which presses the plate against the rail during the solidification process.



The electrical resistance in the connection is less than $10\text{--}5 \Omega$, and the mechanical shear resistance in the rail / plate joint is greater than 50 kN.



Unlike other welding processes, the **ELPA KLK-weld** process does not alter the steel of the rail. A micrographic study of the capillary weld connection between the plate and the rail reveals that the steel structure of the rail remains unaltered and free of microcracks.

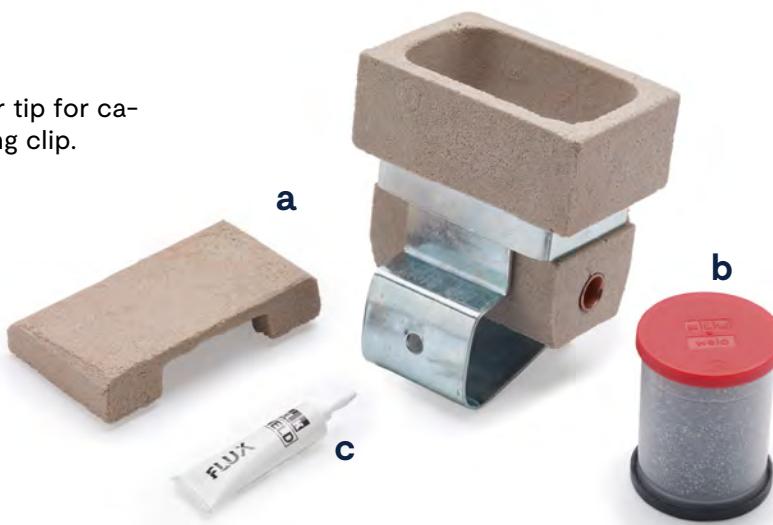
The spring clip acts as a system for fixing the mold to the rail pad, being this system valid for most rail profiles.

1. Copper aluminothermic welding /

1.13 ELPA

The **ELPA KLK-weld** Kit includes:

- Sand mold with steel plate, copper tip for cable entry, metal disc, cover and spring clip.
- Cartridge with solder powder and the ignition powder.
- Flow dose.
- Notice - Instructions for use.



ELPA KLK-weld kits are specifically manufactured for use with copper cables of sections 10 to 240 mm². They can be used on most rails: AREA, BS, UIC, U, S, RN, etc. Examples of possible kits are:

Denomination	Application (*)
Kit ELPA 10	Copper cable 10 mm ² (Ø4,05 mm)
Kit ELPA 35	Copper cable 35 mm ² (Ø7,6 mm)
Kit ELPA 50	Copper cable 50 mm ² (Ø9,2 mm)
Kit ELPA 70	Copper cable 70 mm ² (Ø10,9 mm)
Kit ELPA 95	Copper cable 95 mm ² (Ø12,6 mm)
Kit ELPA 120	Copper cable 120 mm ² (Ø14,3 mm)
Kit ELPA 150	Copper cable 150 mm ² (Ø15,6 mm)
Kit ELPA 185	Copper cable 185 mm ² (Ø17,6 mm)
Kit ELPA 240 R	Copper cable 240 mm ² (Ø20,0 mm)
Kit ELPA 240 F	Câble en cuivre 240 mm ² (Ø23,0 mm)
Kit ELPA 12	Bolt Ø12 mm (**)

(*) Consult in case of other sections and / or diameters.

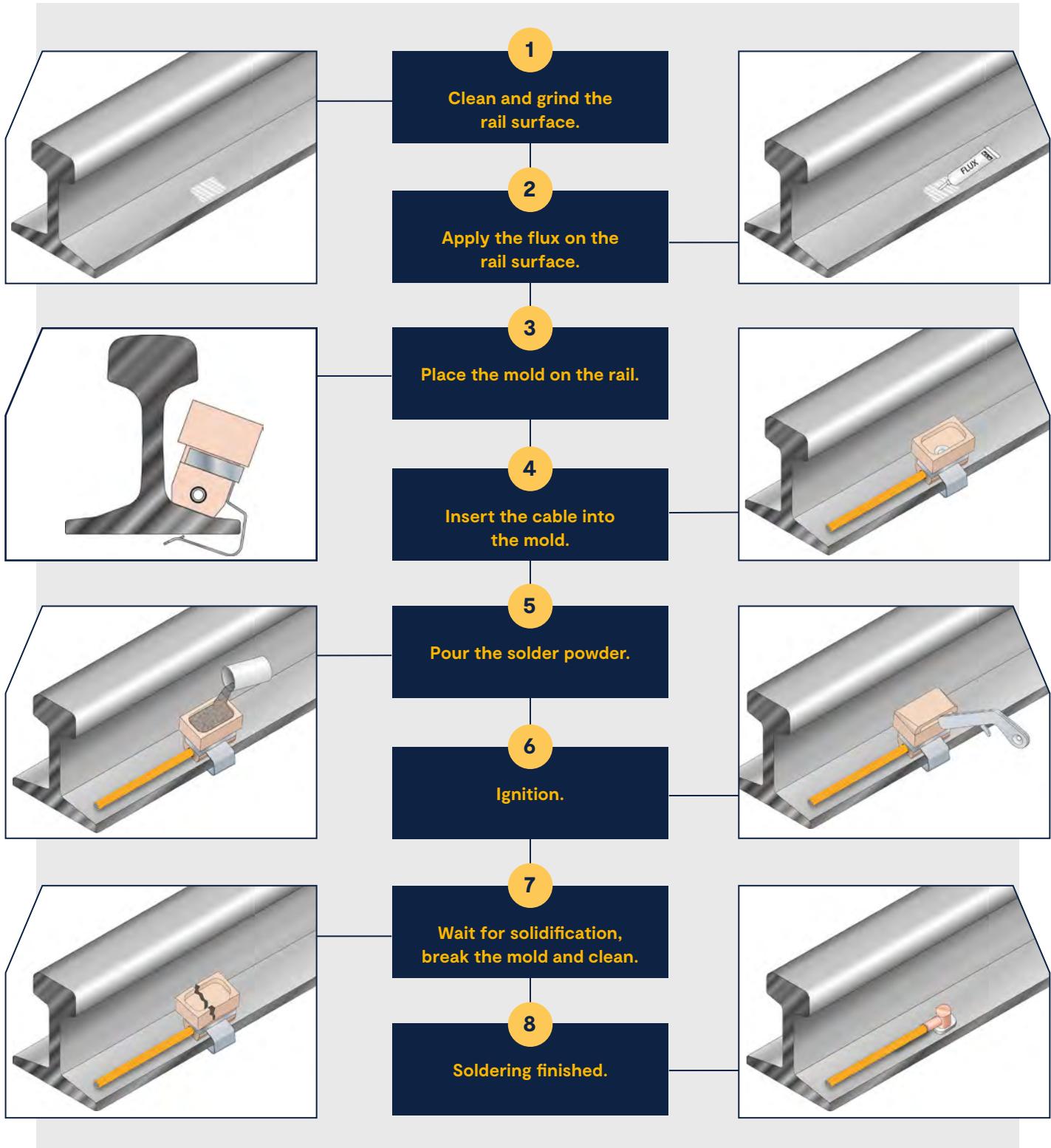
(**) The bolt can be welded to an aluminum cable or be part of a Cu Al bimetal terminal.

There is the possibility of using the **LsVIP KLK-weld** ignition procedure which avoids the escape of projections from the crucible, reduces smoke emissions and makes it possible to ignite at a certain distance. For this, the following elements are necessary:

- Cover ELPA LsVIP.
- Remote ignition device.
- Fuses (one unit per weld).



Simple and easy to use



1. Copper aluminothermic welding /

1.13 ELPA

Advantages of the procedure ELPA welding

The advantages of this low temperature welding procedure, which we have commercially called ELPA are listed below:

- 1.** The connections obtained have excellent electrical conductivity.
- 2.** The connections obtained have a high mechanical resistance.
- 3.** The internal structure of the rail steel is not changed.
- 4.** Excellent behavior against corrosion.
- 5.** Ease and speed of execution.
- 6.** Absolute reliability.
- 7.** Ability to activate charging remotely.
- 8.** Competitive price.

PANDROL

www.klk.es

KLK

Camino de la Peñona, 38-B
33211 Gijón (Asturias) · Spain

Tel. +34 985 321 850

Fax. +34 985 312 820

comercial@klk.es

KLK FRANCE

Rue Fourcroy

59494 Petite Forêt · France

info@klk.es

