



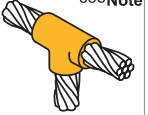


















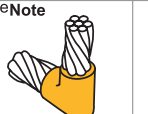










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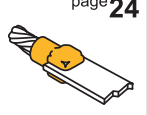












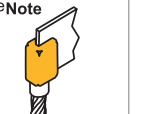

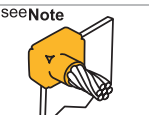

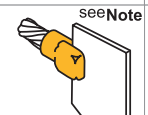

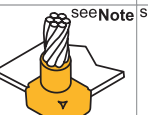
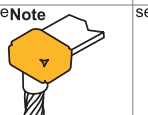
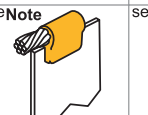
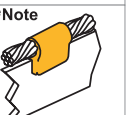







Exothermic Welding

Selection Chart

Cable to Cable

 page 14 CC1	 page 15 CC2	 seeNote CC3	 page 16 CC4	 seeNote CC5	 page 17 CC6	 page 18 CC7	 seeNote CC8
 page 19 CC11	 page 20 CC13	 page 21 CC14	 seeNote CC17	 seeNote CC18	 seeNote CC19	 seeNote CC20	 seeNote CC22
 seeNote CC23	 seeNote CC-24	 seeNote CC25	 seeNote CC26	 seeNote CC27	 seeNote CC28	 seeNote CC29	 seeNote CC30
 seeNote CC31	 seeNote CC33	 page 22 CC34	 seeNote CC35	 seeNote CC36	 seeNote CC37	 seeNote CC38	 seeNote CC39









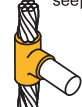



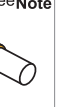
















Cable to Bus Bar

 page 23 (Lug) CB1	 page 24 CB1	 seeNote CB2	 seeNote CB3	 page 25 CB4	 page 26 CB5	 seeNote CB6	 seeNote CB7
 seeNote CB8	 seeNote CB9	 seeNote CB11	 seeNote CB12	 seeNote CB15	 seeNote CB16	 seeNote CB17	 seeNote CB18
 seeNote CB19	 seeNote CB20	 seeNote CB21	 seeNote CB22	 seeNote CB23	 seeNote CB24	 seeNote CB25	 seeNote CB26
 seeNote CB27	 seeNote CB28	 page 27 CB29	 seeNote CB30	 seeNote CB31	 seeNote CB32	 page 28 CB34	






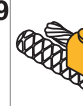
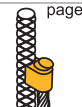
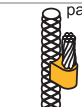

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Selection Chart


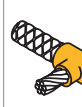

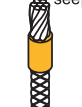

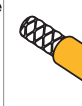










Cable to Ground Rod

 CR1	 CR2	 CR3	 CR4	 CR-6	 CR7	 CR8	 CR9
 CR12	 CR13	 CR14	 CR15	 CR16	 CR17	 CR18	 CR19
 CR20	 CR21	 CR22	 CR23	 CR24	 CR25	 CR26	 CR27
 CR29	 CR30	 CR31	 CR32	 CR33			


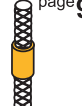
Cable to Rebar (Partially Wrapped)

 CRE1P	 CRE3P	 CRE4P
 CRE5P	 CRE6P	 CRE17P
 CRE18P	 CRE19P	 CRE20P

Cable to Rebar (Fully Wrapped)

 CRE1	 CRE2	 CRE6	 CRE7
 CRE8	 CRE9	 CRE11	 CRE12
 CRE13	 CRE14	 CRE15	 CRE16
 CRE17	 CRE18	 CRE19	 CRE20



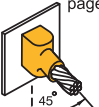















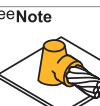
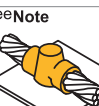



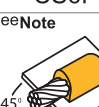
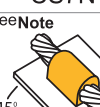




Rebar to Rebar

 RE1	 RE2
--	--

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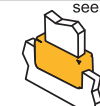





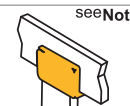








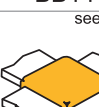


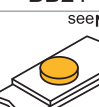
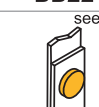
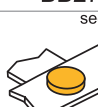
Selection Chart

Cable to Steel









page 51  CS1	page 52  CS2	page 53  CS3	page 54  CS4	page 55  CS6	page 56  CS7	page 57  CS8	page 58  CS9
page 59  CS23	page 60  CS25	page 61  CS27	seeNote  CS1F	seeNote  CS2F	seeNote  CS3F	seeNote  CS4F	seeNote  CS5NC
		seeNote  CS6F	seeNote  CS7N	seeNote  CS8N	seeNote  CS9N	seeNote  CS11NC	seeNote  CS12N
page 62  CP1		seeNote  CS13N	seeNote  CS14N	seeNote  CS15N	seeNote  CS16	seeNote  CS18N	seeNote  CS21NC

Cable to Pipe

Bus Bar to Bus Bar

page 63  BB1	page 64  BB2	page 65  BB3	seeNote  BB4	seeNote  BB5	seeNote  BB6	page 66  BB7	seeNote  BB8
seeNote  BB11	seeNote  BB12	page 67  BB14	seeNote  BB17	seeNote  BB20	seeNote  BB21	seeNote  BB22	seeNote  BB27
seeNote  BB28	seeNote  BB29	seeNote  BB40	page 68  BB41	seeNote  BB43	seeNote  BB44	seeNote  BB45	seeNote  BB46

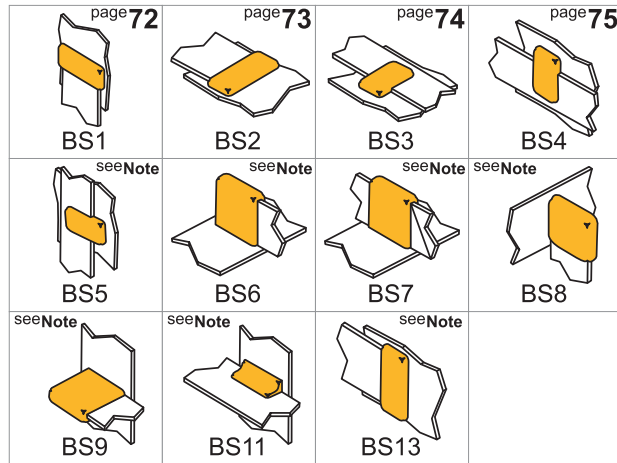
Bus Bar to Ground Rod

page 69  BR1	page 70  BR2	seeNote  BR4	page 71  BR7	seeNote  BR8	seeNote  BR9	seeNote  BR11	seeNote  BR12
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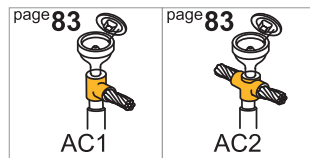
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Selection Chart

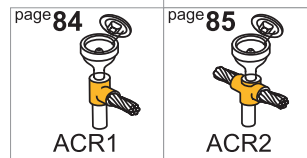
Bus Bar to Steel



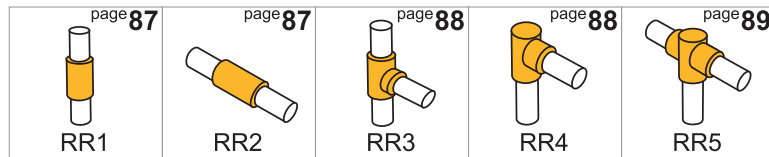
CGR



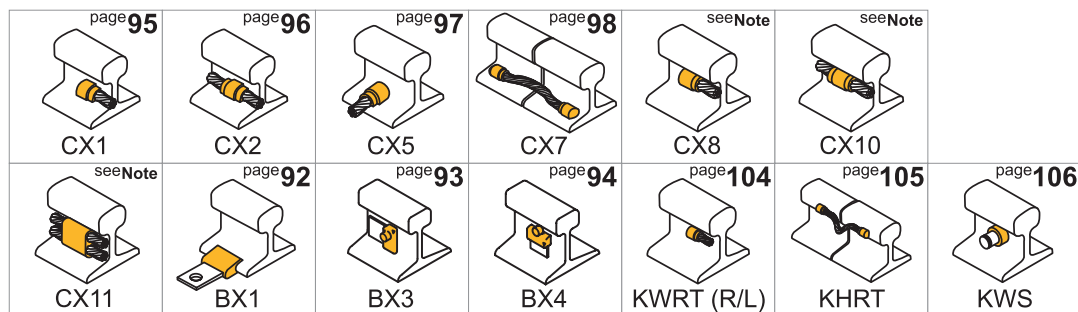
CGRG



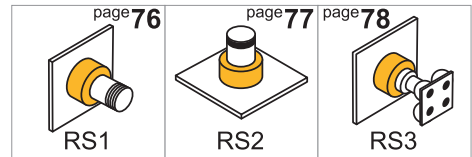
Ground Rod to Ground Rod



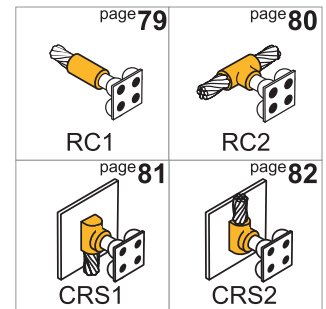
Railway Application



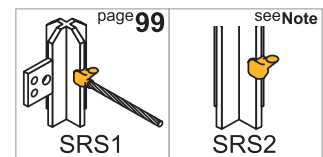
Copper or Steel Stud to Steel



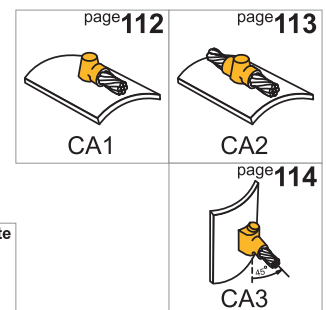
Ground Plates to Cable & Steel



Steel Cable to Steel Rod



Cathodic Protection



CGR = Cable to Grounding Receptacle
CGRG = Cable & Grounding Receptacle to Ground Rod

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Development

- 2002 Certificate of Acceptance
Electricity Generating Authority of Thailand (EGAT)
- 2003 Certificate of Acceptance
Metropolitan Electricity Authority (MEA)
- 2003 Certificate of Acceptance
Provincial Electricity Authority (PEA)
- 2003 Certificate of Acceptance
State Railway of Thailand (SRT)
- 2003 Certificate of Satisfactory
Keretapi Tanah Melayu Berhad
- 2003 Certificate of Material Performance
Asia Communication & Electronic SDN BHD
- 2004 Recommended List
Research Designs & Standards Organization (RDSO)
India
- 2005 Certificate of Acceptance
PTT Public Company Limited
- 2005 Test Report for Standard UL 467
Underwriters Laboratories Inc.
- 2006 Test Report for Standard IEEE 837 - 2000
- 2007 Certificate of
Taiwan Power Company
- 2009 UL 467 Listed
Underwriters Laboratories Inc.



International Distributors

K.M.L.Technology Co., Ltd is a Thailand based Company and within few years of its incorporation and operation its flagship brand "Kumwell" is extensively being used in more than 40 countries. It is being used the world over from of the European countries to most of the Asian countries.



Standard

Kumwell has been considering to manufacturing in accordance with international standards resulting in high quality of products and accurate production.

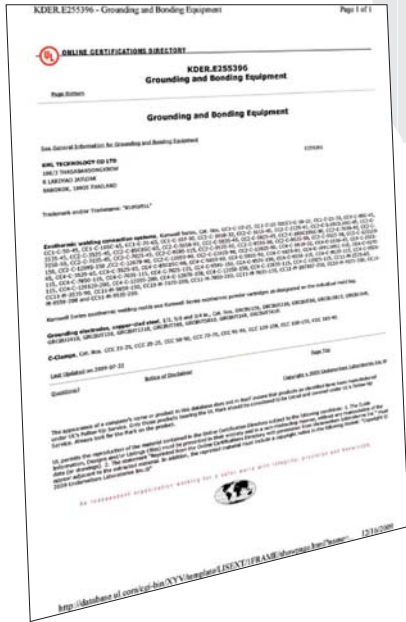
Many standards related to grounding system are published for appropriate uses such as design, material specification, installation, as following;



Certificates & Test Reports

Kumwell Exothermic Welding connections has been tested, inspected and qualified for successfully meeting qualifications and international reliable standards as follow;

UL Online Certificate Directory IEEE Test Report



Successful Testing by National Laboratory

K.M.L. Technology Co.,Ltd. has commissioned the Material Properties Analysis and Development Centre, Thailand Institute of Scientific and Technological Research (MPAD/TISTR) to carry out macrostructure, microstructure analysis and hardness test (Hv10).



The specimen of Railway Signaling Bond



The specimen of Cathodic Protection



Quality Assurance

We are quality assured to ISO 9001:2000 standards, and are committed to the maintenance of quality in the products and services that we provide for customers. Our policy, in line with ISO Standards, is aimed at ensuring that our quality standards are understood by all the staff, and that standard are implemented and maintained at all levels within the company. **KML** certified the ISO-9001:2000 Quality Management System by Underwriter Laboratories Inc.(UL-DQS) Certification Service, United Kingdom Accreditation Service (UKAS), Certificate No.A13983.



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Visit

www.kumwell.com

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Fax : 662- 591-7891

E-mail : info@kumwell.com

: mk@kumwell.com

How to Order

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Exothermic Welding

Selection Chart

Cable to Cable

page 14	page 15	page 16	page 16	page 17	page 17	page 18	page 18
page 19	page 20	page 21	page 21	page 21	page 21	page 21	page 21
page 22	page 22	page 22	page 22	page 22	page 22	page 22	page 22
page 22	page 22	page 22	page 22	page 22	page 22	page 22	page 22

Cable to Bus Bar

page 23	page 24	page 25	page 25	page 26	page 26	page 26	page 26
page 26	page 26	page 26	page 26	page 26	page 26	page 26	page 26
page 26	page 26	page 26	page 26	page 26	page 26	page 26	page 26
page 27	page 27	page 27	page 27	page 27	page 27	page 27	page 27

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1. Search connection type in selection chart as your design

- Special connection can be requested

2. Search application type and then go to the page number in the corner of picture box

- Special application can be requested

Kumwell®
Exothermic Welding

Selection Chart

Cable to Cable

page 14	page 15	page 16	page 16	page 17	page 17	page 18	page 18
page 19	page 20	page 21	page 21	page 21	page 21	page 21	page 21
page 22	page 22	page 22	page 22	page 22	page 22	page 22	page 22
page 22	page 22	page 22	page 22	page 22	page 22	page 22	page 22

Cable to Bus Bar

page 23	page 24	page 25	page 25	page 26	page 26	page 26	page 26
page 26	page 26	page 26	page 26	page 26	page 26	page 26	page 26
page 26	page 26	page 26	page 26	page 26	page 26	page 26	page 26
page 27	page 27	page 27	page 27	page 27	page 27	page 27	page 27

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How to Order

3. Search further details in the table which match to your requirement such as

- The cable size, bus bar size, etc.
- The ground rod size, e.g., 5/8", 3/4", etc.
- The rebar size, e.g., 20 mm, 40 mm diameter, etc.

A : Type of Connection

B : Sample Connection

C : Tools Request

D : Tools Advice

E : Information

F : Size of Rod or Rebar

G : Size of Conductor

H : Size of Weld Metal Powder (g)

I : Mould Type

J : Handle Clamp Type

Conductor Size		Metal Powder (g)	Graphite Mold Type	Handle Clamp Type
A	B			
16	16	25	*CC1-C-16	HC000
16	16	32	*CC1-C-16	HC000
25	25	32	*CC1-C-25	HC000
35	35	32	*CC1-C-35	HC000
25	25	32	CC1-C-3025	HC000
50	50	45	*CC1-C-50	HC000
50	50	45	CC1-C-5035	HC000
25	25	32	CC1-C-5025	HC000
70	70	65	*CC1-C-70	HC000
70	70	65	CC1-C-7050	HC000
35	35	45	CC1-C-7035	HC000
25	25	45	CC1-C-7025	HC000
95	95	90	CC1-C-95	HC000
70	70	90	CC1-C-970	HC000
50	50	65	CC1-C-9550	HC000
35	35	65	CC1-C-9535	HC000
25	25	65	CC1-C-9525	HC000
120	120	115	CC1-C-120	HC000
55	55	115	CC1-C-1295	HC000
70	70	115	CC1-C-12070	HC000
50	50	90	CC1-C-12050	HC000
25	25	90	CC1-C-12025	HC000
150	150	115	CC1-C-150	HC000
120	120	115	CC1-C-150120	HC000
95	95	115	CC1-C-15095	HC000
70	70	90	CC1-C-15070	HC000
50	50	90	CC1-C-15050	HC000
185	185	150	CC1-C-185	HC000
150	150	150	CC1-C-185150	HC000
120	120	150	CC1-C-185120	HC000
95	95	115	CC1-C-18595	HC000
70	70	115	CC1-C-18570	HC000
240	240	200	CC1-C-240	HC000
185	185	200	CC1-C-240185	HC000
150	150	200	CC1-C-240150	HC000
120	120	200	CC1-C-240120	HC000
95	95	150	CC1-C-24095	HC000
70	70	150	CC1-C-24070	HC000
300	300	250	CC1-C-300	HC000
240	240	250	CC1-C-300240	HC000
185	185	250	CC1-C-300185	HC000
150	150	200	CC1-C-300150	HC000
120	120	200	CC1-C-300120	HC000
95	95	200	CC1-C-30095	HC000
400	400	2 x 150	CC1-D-400	HC000
300	300	2 x 150	CC1-D-400300	HC000
240	240	2 x 150	CC1-D-400240	HC000
185	185	2 x 150	CC1-D-400185	HC000
150	150	2 x 150	CC1-D-400150	HC000
120	120	2 x 150	CC1-D-400120	HC000
500	500	2 x 200	CC1-D-500	HC000
400	400	2 x 200	CC1-D-500400	HC000
300	300	2 x 200	CC1-D-500300	HC000
240	240	2 x 200	CC1-D-500240	HC000
185	185	2 x 200	CC1-D-500185	HC000
150	150	2 x 200	CC1-D-500150	HC000
120	120	2 x 200	CC1-D-500120	HC000

Special requirement can be requested

CC1
Cable to Cable
Horizontal end to end

Tools Request :
Mould, Mould brush, Handle clamp, Scraper, Metal powder, Steel disk, Fillet igniter, Cable shear brush

Tools Advice :
• Tool box
• Butane torch
• Butane gas
• Gloves

Note :
• CC means Solid Copper
• *2x 150" means to use 2 tubes of 150 g.
• **Metal powder for core connection
• *** means to meet UL Listed

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4. Special requirement can be requested

- Heavy-duty type
- Cable
 - Special size, e.g., 140 mm², 200 mm², 630 mm², etc.
 - Special type, e.g., AWG, Flexible Braid, etc.
 - Special design for special connection.
- Ground rod
 - Special size, e.g., 14 mm, 20 mm, 40 mm
 - Special type, e.g., stainless steel rod, copper pipe, stainless steel pipe, etc.
- For special requirement, please contact our technical department

E-mail : info@kumwell.com

Tel : (662) - 954-3455

Fax : (662) - 591-7891

Rebar Size	Conductor Size		Metal Powder (g)	Graphite Mold Type	Handle Clamp Type
	A	B			
10	16	115	CRE18-CL-1610R	HC000	
	25	115	CRE18-CL-2510R	HC000	
	50	150	CRE18-CL-5010R	HC000	
	70	160	CRE18-CL-7010R	HC000	
	95	200	CRE18-CL-9510R	HC000	
	120	200	CRE18-CL-12010R	HC000	
12	16	115	CRE18-CL-1612R	HC000	
	25	115	CRE18-CL-2512R	HC000	
	50	150	CRE18-CL-5012R	HC000	
	70	160	CRE18-CL-7012R	HC000	
	95	200	CRE18-CL-9512R	HC000	
	120	200	CRE18-CL-12012R	HC000	
16	16	115	CRE18-CL-1616R	HC000	
	25	115	CRE18-CL-2516R	HC000	
	50	150	CRE18-CL-5016R	HC000	
	70	200	CRE18-CL-7016R	HC000	
	95	200	CRE18-CL-9516R	HC000	
	120	200	CRE18-CL-12016R	HC000	
20	16	150	CRE18-CL-1620R	HC000	
	25	150	CRE18-CL-2520R	HC000	
	50	200	CRE18-CL-5020R	HC000	
	70	200	CRE18-CL-7020R	HC000	
	95	250	CRE18-CL-9520R	HC000	
	120	250	CRE18-CL-12020R	HC000	
25	16	150	CRE18-CL-1625R	HC000	
	25	150	CRE18-CL-2525R	HC000	
	50	200	CRE18-CL-5025R	HC000	
	70	250	CRE18-CL-7025R	HC000	
	95	250	CRE18-CL-9525R	HC000	
	120	250	CRE18-CL-12025R	HC000	
30	16	200	CRE18-CL-1630R	HC000	
	25	200	CRE18-CL-2530R	HC000	
	50	250	CRE18-CL-5030R	HC000	
	70	250	CRE18-CL-7030R	HC000	
	95	250	CRE18-CL-9530R	HC000	
	120	250	CRE18-CL-12030R	HC000	

Special requirement can be requested

CRE18
Cable to Rebar Fully
Wrapped Connection
Vertical parallel down cable
to vertical rebar

Tools Request :
Mould, Mould brush, Handle clamp, Scraper, Metal powder, Steel disk, Fillet igniter, Cable shear brush

Tools Advice :
• Tool box
• Butane torch
• Butane gas
• Gloves

Note :
• For perfectly welding, please clean and remove oxide and moisture from reinforcement steel and conductor before making connection.
• Kumwell CRE Mould provides ceramic tear to prevent leakage.

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Grounding Connection

There are several main objectives providing for well-designed grounding system: first, personal safety, followed by equipment protection, signal reference quality, return path for faults and surges and static dissipation.

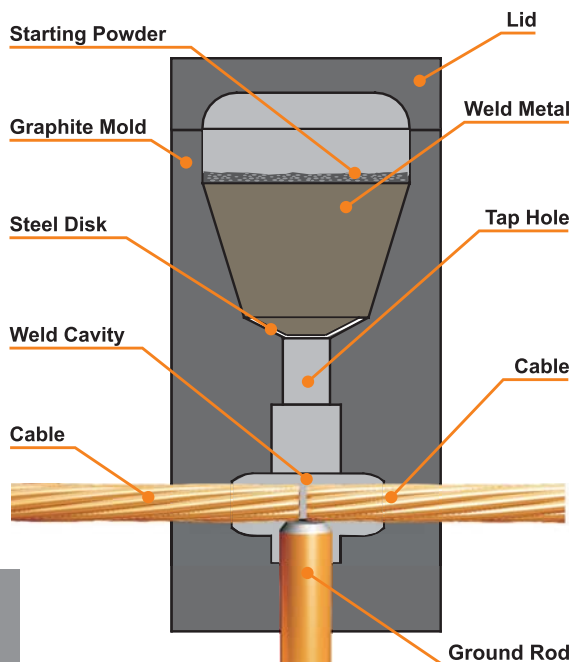
In order to meet these objectives, grounding connections must maintain a low contact resistance often under adverse conditions, for the expected lifetime of the grounding system. Connections in grounding network are subject to severe corrosion, high mechanical stress due to electromagnetic force, and rapid thermal heating due to high current magnitude during fault conditions.



Process

Kumwell Exothermic Welding process is a molecular chemical reaction between copper oxide and aluminum, generates a tremendous superheat with molten metals reaching approximately temperatures of 4,000° F (2,600° C). The process can be completed itself automatically without external source of power or heat.

The process use finely divided aluminum particles as the reducing agent with copper oxide to produce the following chemical reaction



• Completed Connection

Exothermic Welding

Safety

Starting and weld metal powder

- Non toxic and heavy metal
- Non self-ignite
- Ignition temperature at least 400° C
- Smooth reaction

Mould

- Earnest design: cavity, flow path
- High quality raw material
- Accurate tolerance
- Duration: at least 50 times in normal usage

Welding Metal

- Non toxic and heavy metal
- Steady burn without pop and fire out
- No slag and porosity
- Consistency of color
- High conductivity with at least 93% Cu

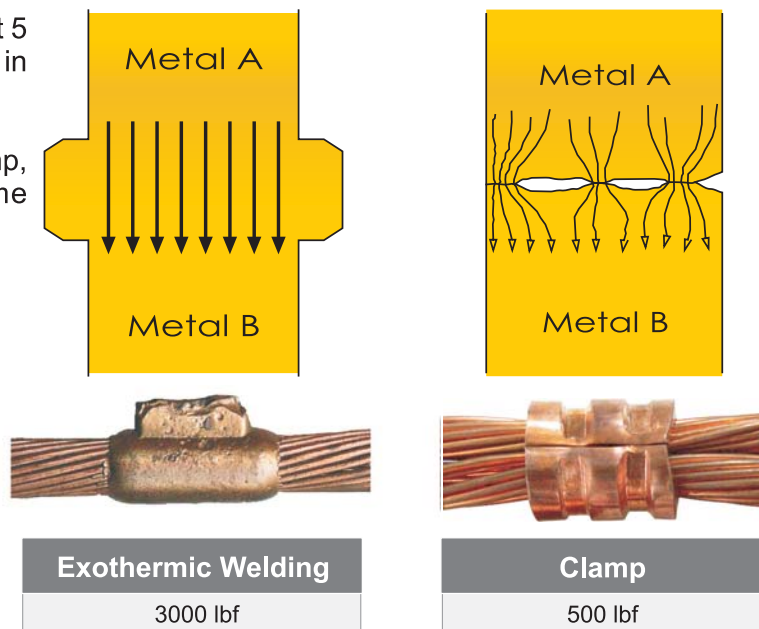


• 95 mm² Copper Cable to
40 mm Rebar

Technical Comparison

Exothermic welding withstands about 5 times higher than clamp's connection in mechanical force.

Unlike compression and bolt clamp, exothermic welded joint become homogeneous metal.



Maximum result of connector's mechanical force with 70 mm² cable

Weld Metal Powder 3 Types Differences for 3 Applications

KW

Type for
Grounding & Lightning Protection



KB

Type for
Cathodic Protection



KR

Type for
Railway Signaling



KW

**Type for
Grounding & Lightning Protection**





KW Type Weld Metal Powder

Kumwell designed a welding process of making grounding and lightning protection in power plant, substation, transmission line, refinery, industrial plant, commercial plant, telecommunication tower, building, housing, etc.

Applications

Suitable for grounding and lightning protection's connections, that is, Copper to copper, Copper to steel, Steel to steel, Copper to Stainless Steel, Stainless Steel to Stainless Steel

Standards



- UL 467 – Standard for Grounding & Bonding Equipment



- IEEE 837 – Standard for Qualifying Permanent Connections used in Substation Grounding

Storage

It should be stored in an ambient temperature and avoid moisture.

Packaging

Kumwell weld metal powder is contained in a moisture - resistant plastic cartridge, packed in a paper box. Integral weld metal package is identified as to the weld metal powder's amount, type of metal powder to be connected, Lot No., the number of tubes to manufacturing date (MFD).

Code	KW15	KW25	KW32	KW45	KW65	KW90	KW115	KW150	KW200	KW250
Size	15 g	25 g	32 g	45 g	65 g	90 g	115 g	150 g	200 g	250 g
Tubes/box	40	20	20	20	20	20	10	10	10	10

Criteria of Test

Kumwell Exothermic welding connections have been successfully tested in accordance with;



- **IEEE Std. 837 Standard for Qualifying Permanent Connection**

1. Mechanical pullout
2. Electromagnetic force
3. Sequential test group has 3 main procedures to test each steps if it passes the set standard of each procedure;
 - a. Current Temperature Cycling
 - b. Freeze Thaw Cycling
 - c. Corrosion Sequence Run: Salt Spray Test, Acid Test

- **UL 467 Standard for Grounding & Bonding Equipment / UL Inspection Witness**

1. Weld metal powder quality: Percentage of material, Particle size, Density of each composition, Starting powder and ignition
2. Reaction: Steady burn, No pop, No drastic color change, No porosity in the resulting copper, Consistency of color
3. Short Time Current Test
4. Mechanical Sequence from UL 486

- **American Railway Engineering Association AREA**

ASTM E8M Test methods for tensile testing of metallic material evaluate the consistency chemistry and overall quality of KW, KB and KR Welding material resulting to the average of 43,000 psi tensile strength.

Quality Assurance

Kumwell has been tested and qualified by the Underwriter Laboratories Inc. for successfully meeting the qualifications imposed by the said firm.

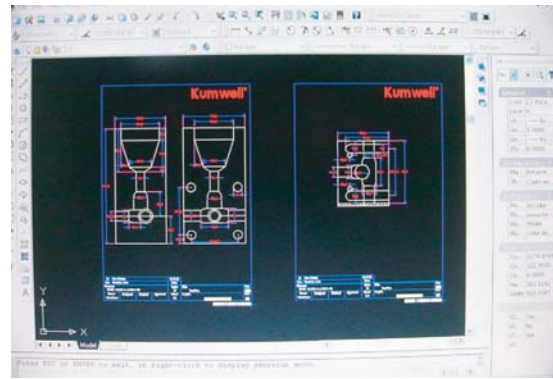
Kumwell exothermic welding metal powder and mould are distinguished internationally for its electrical quality which are **UL LISTED**.



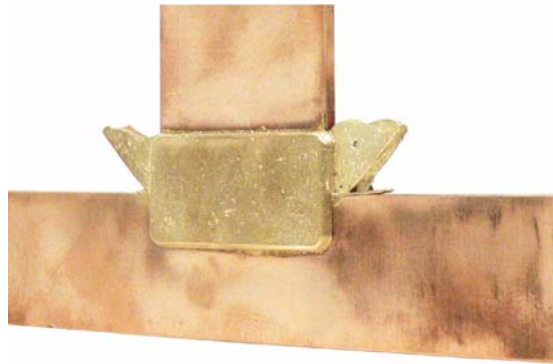
Graphite Mould

Kumwell Graphite Mould, an exothermic welding mould, is made from high quality raw material, accurate production and expert engineering resulting to earnest design for cavity and flow path, accurate tolerance and long life.

- International Standards
- Fast Delivery
- Professional Design
- Made to Order
- High Quality



Computer programs are assisted for designs



BB11-WC-508508 : 50x8 mm² Cooper bar to 50x8 mm² Cooper bar

Quality Assurance

The designing mould provides welding joint which has been successfully passed the quality control test in accordance with the UL 467 Standard for Grounding & Bonding Equipment / UL Inspection Witness.



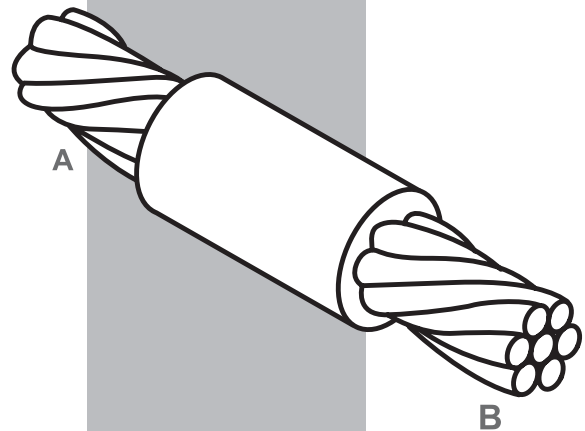
Conductor Size		Metal Powder (g)	Graphite Mold Type	Handle Clamp Type
A mm ²	B mm ²			
10	10	25	* CC1-C-10	HCC00
16	16	32	* CC1-C-16	HCC00
25	25	32	* CC1-C-25	HCC00
35	35	32	* CC1-C-35	HCC00
	25	32	CC1-C-3525	HCC00
∅ 8 mm	∅ 8 mm	45	* CC1-C-8SC	HCC00
		50	* CC1-C-50	HCC00
50	50	45	CC1-C-5035	HCC00
	25	32	CC1-C-5025	HCC00
	∅ 10 mm	∅ 10 mm	65	* CC1-C-10SC
70	70	65	* CC1-C-70	HCC00
	50	65	CC1-C-7050	HCC00
	35	45	CC1-C-7035	HCC00
	25	45	CC1-C-7025	HCC00
95	95	90	CC1-C-95	HCC00
	70	90	CC1-C-9570	HCC00
	50	65	CC1-C-9550	HCC00
	35	65	CC1-C-9535	HCC00
	25	65	CC1-C-9525	HCC00
107	107	90	* CC1-C-107	HCC00
120	120	115	CC1-C-120	HCC00
	95	115	CC1-C-12095	HCC00
	70	115	CC1-C-12070	HCC00
	50	90	CC1-C-12050	HCC00
	35	90	CC1-C-12035	HCC00
150	150	115	CC1-C-150	HCC00
	120	115	CC1-C-150120	HCC00
	95	115	CC1-C-15095	HCC00
	70	90	CC1-C-15070	HCC00
	50	90	CC1-C-15050	HCC00
185	185	150	CC1-C-185	HCC00
	150	150	CC1-C-185150	HCC00
	120	150	CC1-C-185120	HCC00
	95	115	CC1-C-18595	HCC00
240	70	115	CC1-C-18570	HCC00
	240	200	CC1-C-240	HCC00
	185	200	CC1-C-240185	HCC00
	150	200	CC1-C-240150	HCC00
300	120	200	CC1-C-240120	HCC00
	95	150	CC1-C-24095	HCC00
	70	150	CC1-C-24070	HCC00
	300	250	CC1-C-300	HCC00
400	240	250	CC1-C-300240	HCC00
	185	250	CC1-C-300185	HCC00
	150	200	CC1-C-300150	HCC00
	120	200	CC1-C-300120	HCC00
	95	200	CC1-C-30095	HCC00
500	400	2 x 150	CC1-D-400	HCD00
	300	2 x 150	CC1-D-400300	HCD00
	240	2 x 150	CC1-D-400240	HCD00
	185	2 x 150	CC1-D-400185	HCD00
	150	2 x 150	CC1-D-400150	HCD00
500	120	2 x 150	CC1-D-400120	HCD00
	500	2 x 200	CC1-D-500	HCD00
	400	2 x 200	CC1-D-500400	HCD00
	300	2 x 200	CC1-D-500300	HCD00
	240	2 x 200	CC1-D-500240	HCD00
500	185	2 x 200	CC1-D-500185	HCD00
	150	2 x 200	CC1-D-500150	HCD00

Special requirement can be requested

CC1

Cable to Cable

Horizontal end to end



Tools Request :



Tools Advice :

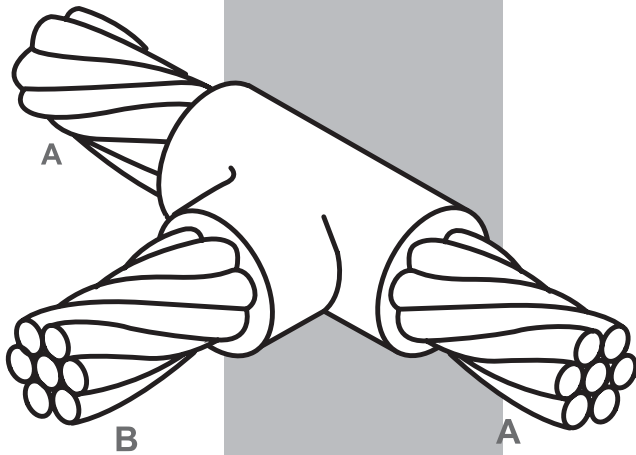
- Tool box
- Butane torch
- Butane gas
- Gloves

Note :

- SC means Solid Copper
- "2x150" means to use 2 tubes of 150 g - metal powder for one connection
- "2x200" means to use 2 tubes of 200 g - metal powder for one connection
- " * " means to meet UL Listed

CC2

Cable to Cable Horizontal cable tap to horizontal cable run



Tools Request :



Tools Advice :

- Tool box
- Butane torch
- Butane gas
- Gloves

Note :

- SC means Solid Copper
- "2x150" means to use 2 tubes of 150 g - metal powder for one connection
- "2x200" means to use 2 tubes of 200 g - metal powder for one connection
- "*" means to meet UL Listed

Conductor Size		Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
A _{mm²}	B _{mm²}			
10	10	32	* CC2-C-1010	HCC00
16	16	45	* CC2-C-1616	HCC00
25	25	45	* CC2-C-2525	HCC00
∅ 5.6 mm	∅ 5.6 mm	45	* CC2-C-5.6SC5.6SC	HCC00
	35	45	* CC2-C-3535	HCC00
	25	45	* CC2-C-3525	HCC00
∅ 8 mm	∅ 8 mm	65	* CC2-C-8SC8SC	HCC00
	50	90	* CC2-C-5050	HCC00
	35	45	* CC2-C-5035	HCC00
	25	45	* CC2-C-5025	HCC00
∅ 10 mm	∅ 10 mm	90	* CC2-C-10SC10SC	HCC00
	70	90	* CC2-C-7070	HCC00
	50	90	* CC2-C-7050	HCC00
	35	45	* CC2-C-7035	HCC00
	25	45	* CC2-C-7025	HCC00
95	95	115	* CC2-C-9595	HCC00
	70	90	* CC2-C-9570	HCC00
	50	90	* CC2-C-9550	HCC00
	35	90	* CC2-C-9535	HCC00
	25	90	* CC2-C-9525	HCC00
120	120	150	* CC2-C-120120	HCC00
	95	150	* CC2-C-12095	HCC00
	70	90	* CC2-C-12070	HCC00
	50	90	* CC2-C-12050	HCC00
	35	90	* CC2-C-12035	HCC00
	25	90	* CC2-C-12025	HCC00
	150	150	200	CC2-C-150150
120		150	CC2-C-150120	HCC00
95		150	CC2-C-15095	HCC00
50		90	CC2-C-15050	HCC00
35		90	CC2-C-15035	HCC00
25		90	CC2-C-15025	HCC00
185	185	200	CC2-C-185185	HCC00
	150	200	CC2-C-185150	HCC00
	120	200	CC2-C-185120	HCC00
	95	150	CC2-C-18595	HCC00
	70	90	CC2-C-18570	HCC00
	50	90	CC2-C-18550	HCC00
	35	90	CC2-C-18535	HCC00
	25	90	CC2-C-18525	HCC00
	240	240	2 x 150	CC2-C-240240
185		200	CC2-C-240185	HCC00
150		200	CC2-C-240150	HCC00
120		200	CC2-C-240120	HCC00
95		150	CC2-C-24095	HCC00
70		90	CC2-C-24070	HCC00
50		90	CC2-C-24050	HCC00
35		90	CC2-C-24035	HCC00
25	90	CC2-C-24025	HCC00	
300	300	2 x 200	CC2-D-300300	HCD00
	240	2 x 200	CC2-D-300240	HCD00
	185	250	CC2-C-300185	HCC00
	150	200	CC2-C-300150	HCC00
	120	150	CC2-C-300120	HCC00
	95	150	CC2-C-30095	HCC00
	70	150	CC2-C-30070	HCC00
	50	150	CC2-C-30050	HCC00
	35	150	CC2-C-30035	HCC00
	25	150	CC2-C-30025	HCC00

Special requirement can be requested

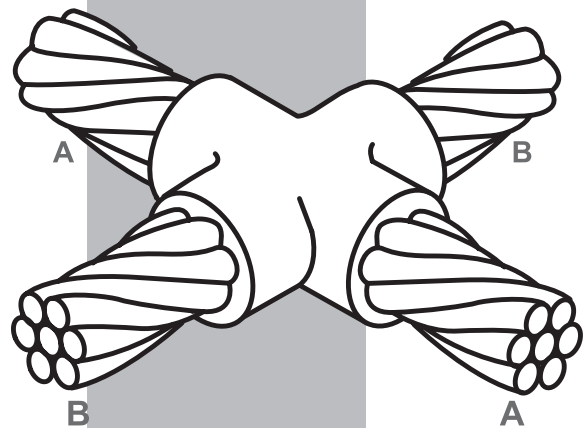
Conductor Size		Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
A mm ²	B mm ²			
10	10	32	* CC4-C-1010	HCC00
16	16	45	* CC4-C-1616	HCC00
25	25	45	* CC4-C-2525	HCC00
35	35	65	* CC4-C-3535	HCC00
	25	65	* CC4-C-3525	HCC00
∅ 8 mm	∅ 8 mm	90	* CC4-C-8SC8SC	HCC00
50	50	90	* CC4-C-5050	HCC00
	35	90	* CC4-C-5035	HCC00
	25	90	* CC4-C-5025	HCC00
∅ 10 mm	∅ 10 mm	115	* CC4-C-10SC10SC	HCC00
70	70	115	* CC4-C-7070	HCC00
	50	115	* CC4-C-7050	HCC00
	35	115	* CC4-C-7035	HCC00
	25	115	* CC4-C-7025	HCC00
95	95	150	* CC4-C-9595	HCC00
	70	150	* CC4-C-9570	HCC00
	50	115	* CC4-C-9550	HCC00
	35	115	* CC4-C-9535	HCC00
120	25	115	* CC4-C-9525	HCC00
	120	200	* CC4-C-120120	HCC00
	95	200	* CC4-C-12095	HCC00
	70	150	* CC4-C-12070	HCC00
	50	150	* CC4-C-12050	HCC00
150	35	115	* CC4-C-12035	HCC00
	25	115	* CC4-C-12025	HCC00
	150	250	CC4-C-150150	HCC00
	120	250	CC4-C-150120	HCC00
	95	200	CC4-C-15095	HCC00
	70	150	CC4-C-15070	HCC00
185	50	150	CC4-C-15050	HCC00
	35	115	CC4-C-15035	HCC00
	25	115	CC4-C-15025	HCC00
	185	250	CC4-C-185185	HCC00
	150	250	CC4-C-185150	HCC00
	120	250	CC4-C-185120	HCC00
240	95	200	CC4-C-18595	HCC00
	70	200	CC4-C-18570	HCC00
	50	200	CC4-C-18550	HCC00
	35	150	CC4-C-18535	HCC00
	25	150	CC4-C-18525	HCC00
	240	240	2 x 250	CC4-D-240240
300	185	2 x 200	CC4-D-240185	HCD00
	150	2 x 200	CC4-D-240150	HCD00
	120	2 x 150	CC4-C-240120	HCC00
	95	2 x 150	CC4-C-24095	HCC00
	70	250	CC4-C-24070	HCC00
300	50	250	CC4-C-24050	HCC00
	300	3 x 200	CC4-D-300300	HCD00
	240	3 x 200	CC4-D-300240	HCD00
	185	2 x 250	CC4-D-300185	HCD00
	150	2 x 250	CC4-D-300150	HCD00
300	120	2 x 200	CC4-D-300120	HCD00
	95	2 x 200	CC4-D-30095	HCD00

Special requirement can be requested

CC4

Cable to Cable

Horizontal to horizontal cable cross



Tools Request :



Tools Advice :

- Tool box
- Butane torch
- Butane gas
- Gloves

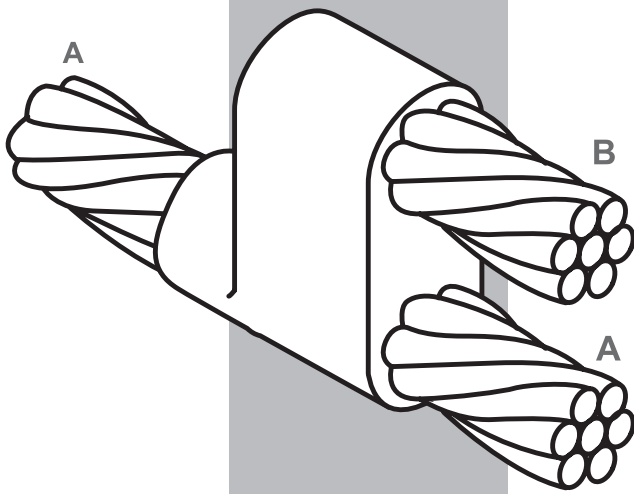
Note :

- SC means Solid Copper
- "2x150" means to use 2 tubes of 150 g - metal powder for one connection
- "2x200" means to use 2 tubes of 200 g - metal powder for one connection
- "2x250" means to use 2 tubes of 250 g - metal powder for one connection
- "3x200" means to use 3 tubes of 200 g - metal powder for one connection
- " * " means to meet UL Listed

CC 6

Cable to Cable

Horizontal parallel cable tap



Tools Request :



Tools Advice :

- Tool box
- Butane torch
- Butane gas
- Gloves

- Note :**
- "2x150" means to use 2 tubes of 150 g - metal powder for one connection
 - "2x200" means to use 2 tubes of 200 g - metal powder for one connection
 - "2x250" means to use 2 tubes of 250 g - metal powder for one connection

Conductor Size		Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
A mm ²	B mm ²			
10	10	45	CC6-C-1010	HCC00
16	16	45	CC6-C-1616	HCC00
25	25	45	CC6-C-2525	HCC00
35	35	65	CC6-C-3535	HCC00
	25	65	CC6-C-3525	HCC00
50	50	90	CC6-C-5050	HCC00
	35	65	CC6-C-5035	HCC00
	25	65	CC6-C-5025	HCC00
70	70	115	CC6-C-7070	HCC00
	50	115	CC6-C-7050	HCC00
	35	90	CC6-C-7035	HCC00
	25	90	CC6-C-7025	HCC00
95	95	150	CC6-C-9595	HCC00
	70	115	CC6-C-9570	HCC00
	50	115	CC6-C-9550	HCC00
	35	115	CC6-C-9535	HCC00
120	120	200	CC6-C-120120	HCC00
	95	200	CC6-C-12095	HCC00
	70	150	CC6-C-12070	HCC00
	50	115	CC6-C-12050	HCC00
	150	150	250	CC6-C-150150
120		250	CC6-C-150120	HCC00
95		200	CC6-C-15095	HCC00
70		150	CC6-C-15070	HCC00
50		150	CC6-C-15050	HCC00
185	185	2 x 150	CC6-D-185185	HCD00
	150	2 x 150	CC6-D-185150	HCD00
	120	250	CC6-C-185120	HCC00
	95	200	CC6-D-18595	HCD00
	70	200	CC6-C-18570	HCC00
240	240	2 x 200	CC6-D-240240	HCD00
	185	2 x 150	CC6-D-240185	HCD00
	150	2 x 150	CC6-D-240150	HCD00
	120	250	CC6-D-240120	HCD00
300	300	2 x 250	CC6-D-300300	HCD00
	240	2 x 250	CC6-D-300240	HCD00
	185	2 x 200	CC6-D-300185	HCD00
	150	2 x 150	CC6-D-300150	HCD00

Special requirement can be requested

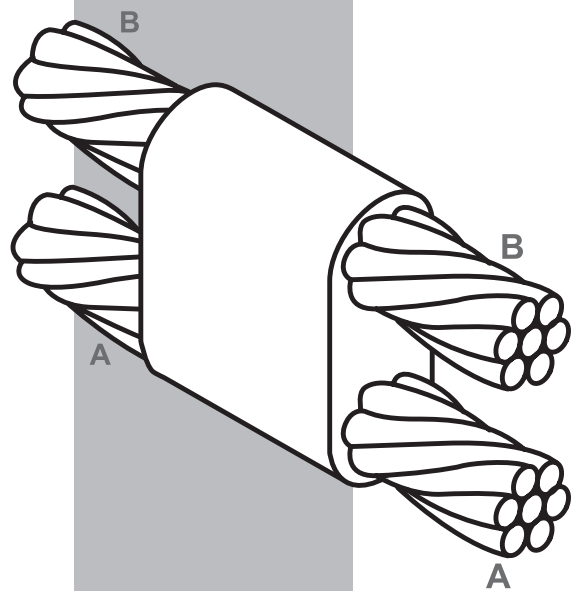
CC7

Cable to Cable

Horizontal parallel thru cables

Conductor Size		Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
A mm ²	B mm ²			
10	10	45	CC7-C-1010	HCC00
16	16	45	CC7-C-1616	HCC00
25	25	45	CC7-C-2525	HCC00
35	35	65	CC7-C-3535	HCC00
	25	65	CC7-C-3525	HCC00
∅ 8 mm	∅ 8 mm	90	CC7-C-8SC8SC	HCC00
50	50	90	CC7-C-5050	HCC00
	35	90	CC7-C-5035	HCC00
	25	65	CC7-C-5025	HCC00
∅ 10 mm	∅ 10 mm	115	CC7-C-10SC10SC	HCC00
70	70	115	CC7-C-7070	HCC00
	50	115	CC7-C-7050	HCC00
	35	90	CC7-C-7035	HCC00
	25	90	CC7-C-7025	HCC00
95	95	150	CC7-C-9595	HCC00
	70	150	CC7-C-9570	HCC00
	50	115	CC7-C-9550	HCC00
	35	115	CC7-C-9535	HCC00
120	120	200	CC7-C-120120	HCC00
	95	200	CC7-C-12095	HCC00
	70	150	CC7-C-12070	HCC00
	50	150	CC7-C-12050	HCC00
	150	150	2 x 150	CC7-D-150150
150	120	250	CC7-C-150120	HCC00
	95	200	CC7-C-15095	HCC00
	70	150	CC7-C-15070	HCC00
	185	185	2 x 150	CC7-D-185185
185	150	2 x 150	CC7-D-185150	HCD00
	120	250	CC7-C-185120	HCC00
	95	200	CC7-C-18595	HCC00
240	240	2 x 200	CC7-D-240240	HCD00
	185	2 x 150	CC7-D-240185	HCD00
	150	2 x 150	CC7-D-240150	HCD00
	120	250	CC7-C-240120	HCC00
300	300	2 x 250	CC7-D-300300	HCD00
	240	2 x 250	CC7-D-300240	HCD00
	185	2 x 200	CC7-D-300185	HCD00
150	2 x 150	CC7-D-300150	HCD00	

Special requirement can be requested



Tools Request :



Tools Advice :

- Tool box
- Butane torch
- Butane gas
- Gloves

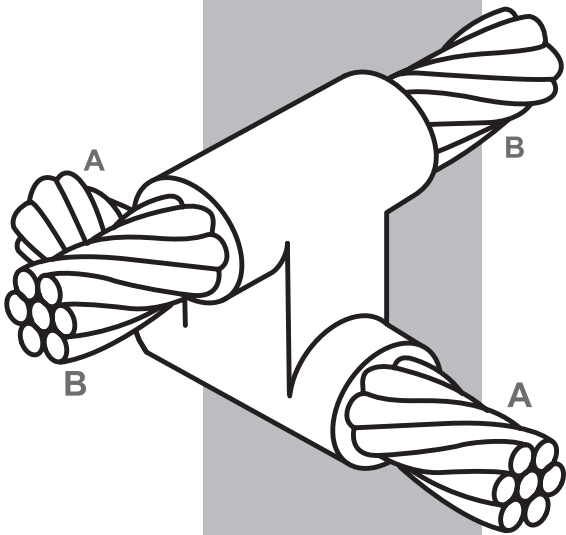
Note :

- SC means Solid Copper
- "2x150" means to use 2 tubes of 150 g - metal powder for one connection
- "2x200" means to use 2 tubes of 200 g - metal powder for one connection
- "2x250" means to use 2 tubes of 250 g - metal powder for one connection

CC11

Cable to Cable

Horizontal to horizontal cable cross



Tools Request :



Tools Advice :

- Tool box
- Butane torch
- Butane gas
- Gloves

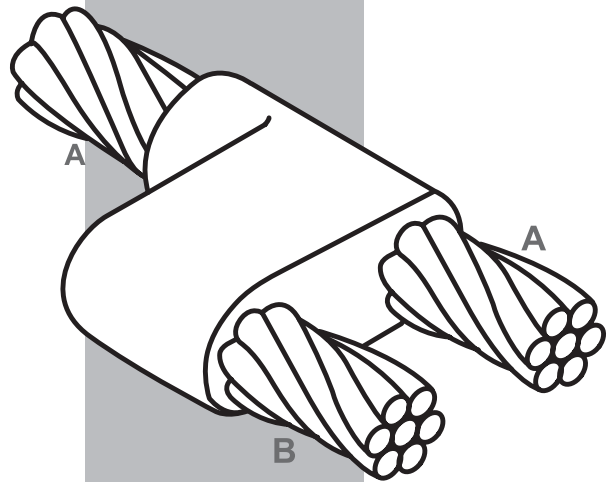
- Note :**
- This connection is recommended in case of avoid cutting conductor
 - "2x150" means to use 2 tubes of 150 g - metal powder for one connection
 - "2x200" means to use 2 tubes of 200 g - metal powder for one connection
 - "2x250" means to use 2 tubes of 250 g - metal powder for one connection
 - "3x200" means to use 3 tubes of 200 g - metal powder for one connection
 - "3x250" means to use 3 tubes of 250 g - metal powder for one connection
 - "*" means to meet UL Listed

Conductor Size		Metal Powder (g)	Graphite Mould Type	Handle Clamp Type	
A _{mm²}	B _{mm²}				
25	25	65	* CC11-M-2525	HCC00	
35	35	90	* CC11-M-3535	HCC00	
	25	90	CC11-M-3525	HCC00	
50	50	150	* CC11-M-5050	HCC00	
	35	115	CC11-M-5035	HCC00	
	25	115	CC11-M-5025	HCC00	
70	70	200	* CC11-M-7070	HCC00	
	50	200	* CC11-M-7050	HCC00	
	35	150	* CC11-M-7035	HCC00	
95	95	250	CC11-M-9595	HCC00	
	70	200	* CC11-M-9570	HCC00	
	50	200	* CC11-M-9550	HCC00	
	35	150	* CC11-M-9535	HCC00	
107	107	250	* CC11-M-107107	HCC00	
120	120	2 x 150	CC11-M-120120	HCC00	
	95	2 x 150	CC11-M-12095	HCC00	
	70	250	CC11-M-12070	HCC00	
	50	250	CC11-M-12050	HCC00	
	35	200	CC11-M-12035	HCC00	
	150	150	2 x 200	CC11-M-150150	HCC00
120		2 x 200	CC11-M-150120	HCC00	
95		2 x 150	CC11-M-15095	HCC00	
70		250	CC11-M-15070	HCC00	
50		250	CC11-M-15050	HCC00	
35		150	CC11-M-15035	HCC00	
185		185	2 x 250	CC11-V-185185	HCD00
		150	2 x 250	CC11-V-185150	HCD00
	120	2 x 250	CC11-V-185120	HCD00	
	95	2 x 200	CC11-V-18595	HCD00	
	70	2 x 150	CC11-M-18570	HCC00	
	50	250	CC11-M-18550	HCC00	
	35	200	CC11-M-18535	HCC00	
	240	240	3 x 200	CC11-V-240240	HCD00
185		3 x 200	CC11-V-240185	HCD00	
150		3 x 200	CC11-V-240150	HCD00	
120		3 x 200	CC11-V-240120	HCD00	
95		2 x 250	CC11-V-24095	HCD00	
70		2 x 250	CC11-V-24070	HCD00	
50		2 x 200	CC11-V-24050	HCD00	
300		300	3 x 250	CC11-V-300300	HCD00
	240	3 x 250	CC11-V-300240	HCD00	
	185	3 x 200	CC11-V-300185	HCD00	
	150	3 x 200	CC11-V-300150	HCD00	
	120	2 x 250	CC11-V-300120	HCD00	
	95	2 x 250	CC11-V-30095	HCD00	

Special requirement can be requested

CC 13

Cable to Cable
Horizontal parallel
cable tap (side by side)



Conductor Size		Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
A mm ²	B mm ²			
10	10	45	CC13-C-1010	HCC00
16	16	45	CC13-C-1616	HCC00
25	25	45	CC13-C-2525	HCC00
35	35	65	CC13-C-3535	HCC00
	25	65	CC13-C-3525	HCC00
50	50	90	CC13-C-5050	HCC00
	35	65	CC13-C-5035	HCC00
	25	65	CC13-C-5025	HCC00
70	70	115	CC13-C-7070	HCC00
	50	115	CC13-C-7050	HCC00
	35	90	CC13-C-7035	HCC00
	25	90	CC13-C-7025	HCC00
95	95	150	CC13-C-9595	HCC00
	70	115	CC13-C-9570	HCC00
	50	115	CC13-C-9550	HCC00
	35	115	CC13-C-9535	HCC00
120	120	200	CC13-C-120120	HCC00
	95	200	CC13-C-12095	HCC00
	70	150	CC13-C-12070	HCC00
	50	115	CC13-C-12050	HCC00
150	150	250	CC13-C-150150	HCC00
	120	250	CC13-C-150120	HCC00
	95	200	CC13-C-15095	HCC00
	70	150	CC13-C-15070	HCC00
	50	150	CC13-C-15050	HCC00
185	185	2 x 150	CC13-D-185185	HCD00
	150	2 x 150	CC13-D-185150	HCD00
	120	250	CC13-C-185120	HCC00
	95	200	CC13-C-18595	HCC00
	70	200	CC13-C-18570	HCC00
240	240	2 x 200	CC13-D-240240	HCD00
	185	2 x 150	CC13-D-240185	HCD00
	150	2 x 150	CC13-D-240150	HCD00
	120	250	CC13-C-240120	HCC00
300	300	2 x 250	CC13-D-300300	HCD00
	240	2 x 250	CC13-D-300240	HCD00
	185	2 x 200	CC13-D-300185	HCD00
150	2 x 150	CC13-D-300150	HCD00	

Special requirement can be requested

Tools Request :



Tools Advice :

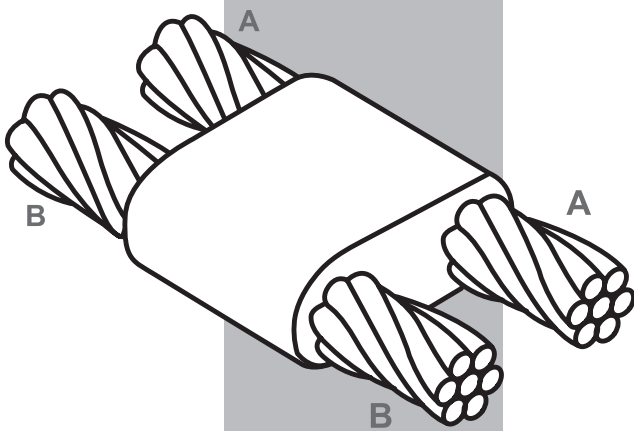
- Tool box
- Butane torch
- Butane gas
- Gloves

Note :

- "2x150" means to use 2 tubes of 150 g - metal powder for one connection
- "2x200" means to use 2 tubes of 200 g - metal powder for one connection
- "2x250" means to use 2 tubes of 250 g - metal powder for one connection

CC14

Cable to Cable
Horizontal parallel
thru cable tap (side by side)



Conductor Size		Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
A mm ²	B mm ²			
10	10	45	CC14-C-1010	HCC00
16	16	45	CC14-C-1616	HCC00
25	25	45	CC14-C-2525	HCC00
35	35	65	CC14-C-3535	HCC00
	25	65	CC14-C-3525	HCC00
∅ 8 mm	∅ 8 mm	90	CC14-C-8SC8SC	HCC00
50	50	90	CC14-C-5050	HCC00
	35	65	CC14-C-5035	HCC00
	25	65	CC14-C-5025	HCC00
∅ 10 mm	∅ 10 mm	115	CC14-C-10SC10SC	HCC00
70	70	115	CC14-C-7070	HCC00
	50	115	CC14-C-7050	HCC00
	35	90	CC14-C-7035	HCC00
	25	90	CC14-C-7025	HCC00
95	95	150	CC14-C-9595	HCC00
	70	150	CC14-C-9570	HCC00
	50	115	CC14-C-9550	HCC00
	35	115	CC14-C-9535	HCC00
120	120	200	CC14-C-120120	HCC00
	95	200	CC14-C-12095	HCC00
	70	150	CC14-C-12070	HCC00
	50	150	CC14-C-12050	HCC00
150	150	2 x 150	CC14-C-150150	HCC00
	120	250	CC14-C-150120	HCC00
	95	200	CC14-C-15095	HCC00
	70	150	CC14-C-15070	HCC00
185	185	2 x 150	CC14-D-185185	HCD00
	150	2 x 150	CC14-D-185150	HCD00
	120	250	CC14-C-185120	HCC00
	95	200	CC14-C-18595	HCC00
240	240	2 x 200	CC14-D-240240	HCD00
	185	2 x 150	CC14-D-240185	HCD00
	150	2 x 150	CC14-D-240150	HCD00
	120	250	CC14-C-240120	HCC00
300	300	2 x 250	CC14-D-300300	HCD00
	240	2 x 250	CC14-D-300240	HCD00
	185	2 x 200	CC14-D-300185	HCD00
	150	2 x 150	CC14-D-300150	HCD00

Special requirement can be requested

Tools Request :

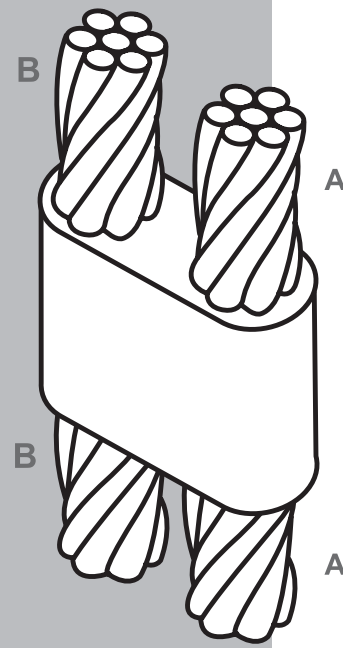


- Tools Advice :**
- Tool box
 - Butane torch
 - Butane gas
 - Gloves

- Note :**
- SC means Solid Copper
 - "2x150" means to use 2 tubes of 150 g - metal powder for one connection
 - "2x200" means to use 2 tubes of 200 g - metal powder for one connection
 - "2x250" means to use 2 tubes of 250 g - metal powder for one connection

CC34

Cable to Cable
Vertical parallel
thru cables (side by side)



Conductor Size		Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
A mm ²	B mm ²			
25	25	65	CC34-CR-2525	HCC00
35	35	115	CC34-CR-3535	HCC00
	25	90	CC34-CR-3525	HCC00
∅ 8 mm	∅ 8 mm	115	CC34-CR-8SC8SC	HCC00
50	50	150	CC34-CR-5050	HCC00
	35	115	CC34-CR-5035	HCC00
	25	115	CC34-CR-5025	HCC00
∅ 10 mm	∅ 10 mm	150	CC34-CR-10SC10SC	HCC00
70	70	150	CC34-CR-7070	HCC00
	50	150	CC34-CR-7050	HCC00
	35	150	CC34-CR-7035	HCC00
	25	115	CC34-CR-7025	HCC00
95	95	250	CC34-CR-9595	HCC00
	70	250	CC34-CR-9570	HCC00
	50	200	CC34-CR-9550	HCC00
	35	200	CC34-CR-9535	HCC00
	25	150	CC34-CR-9525	HCC00
120	120	2x200	CC34-DR-120120	HCD00
	95	250	CC34-CR-12095	HCC00
	70	250	CC34-CR-12070	HCC00
	50	250	CC34-CR-12050	HCC00
	35	200	CC34-CR-12035	HCC00
	25	200	CC34-CR-12025	HCC00
150	150	2 x 200	CC34-DR-150150	HCD00
	120	2 x 200	CC34-DR-150120	HCD00
	95	2 x 150	CC34-DR-15095	HCD00
185	185	2 x 250	CC34-DR-185185	HCD00
	150	2 x 250	CC34-DR-185150	HCD00
	120	2 x 200	CC34-DR-185120	HCD00
	95	2 x 150	CC34-DR-18595	HCD00
240	240	3 x 250	CC34-DR-240240	HCD00
	185	3 x 250	CC34-DR-240185	HCD00
	150	3 x 250	CC34-DR-240150	HCD00
	120	3 x 250	CC34-DR-240120	HCD00
300	300	3 x 250	CC34-DR-300300	HCD00
	240	3 x 250	CC34-DR-300240	HCD00
	185	3 x 250	CC34-DR-300185	HCD00
	150	3 x 250	CC34-DR-300150	HCD00

Special requirement can be requested

Tools Request :



Tools Advice :

- Tool box
- Butane torch
- Butane gas
- Gloves

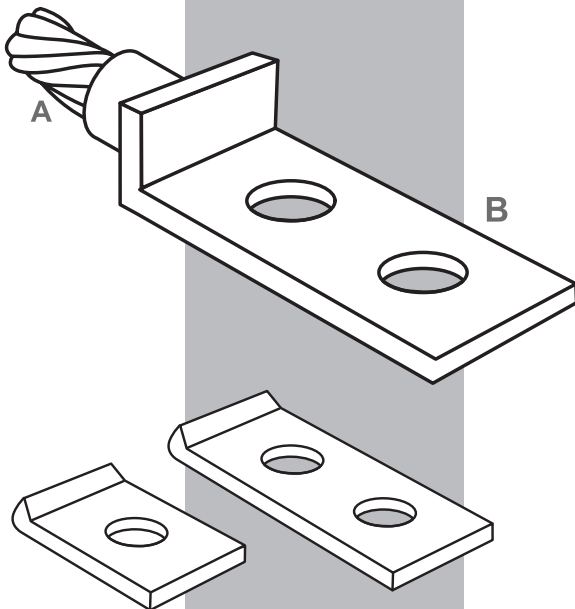
Note :

- SC means Solid Copper
- "2x150" means to use 2 tubes of 150 g - metal powder for one connection
- "2x200" means to use 2 tubes of 200 g - metal powder for one connection
- "2x250" means to use 2 tubes of 250 g - metal powder for one connection
- "3x250" means to use 3 tubes of 250 g - metal powder for one connection

(Lug) CB1

Cable to Bus Bar

Horizontal cable tap to copper lug



Kumwell-L-Lug Series 

Conductor Size		Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
A mm ²	B mm-mm			
10	25 x 3	32	* CB1-C-10253L	HCC00
16	25 x 3	32	* CB1-C-16253L	HCC00
	25 x 5	32	CB1-C-16255L	HCC00
25	25 x 3	32	CB1-C-25253L	HCC00
	25 x 5	32	CB1-C-25255L	HCC00
	25 x 6	32	CB1-C-25256L	HCC00
	38 x 6	65	CB1-C-25386L	HCC00
35	25 x 3	32	* CB1-C-35253L	HCC00
	25 x 5	32	CB1-C-35255L	HCC00
	25 x 6	32	CB1-C-35256L	HCC00
	38 x 6	65	CB1-C-35386L	HCC00
50	25 x 3	45	CB1-C-50253L	HCC00
	25 x 5	45	CB1-C-50255L	HCC00
	25 x 6	45	CB1-C-50256L	HCC00
	38 x 6	65	CB1-C-50386L	HCC00
70	25 x 3	45	CB1-C-70253L	HCC00
	25 x 5	65	CB1-C-70255L	HCC00
	25 x 6	65	CB1-C-70256L	HCC00
	38 x 6	115	CB1-C-70386L	HCC00
95	25 x 5	65	CB1-C-95255L	HCC00
	25 x 6	65	CB1-C-95256L	HCC00
	38 x 6	115	CB1-C-95386L	HCC00
120	25 x 5	65	CB1-C-120255L	HCC00
	25 x 6	65	CB1-C-120256L	HCC00
	38 x 6	115	CB1-C-120386L	HCC00
150	25 x 6	90	CB1-C-150256L	HCC00
	38 x 6	115	CB1-C-150386L	HCC00
185	38 x 6	115	CB1-C-185386L	HCC00
240	40 x 6	150	CB1-C-240406L	HCC00

Special requirement can be requested

Tools Request :



Tools Advice :

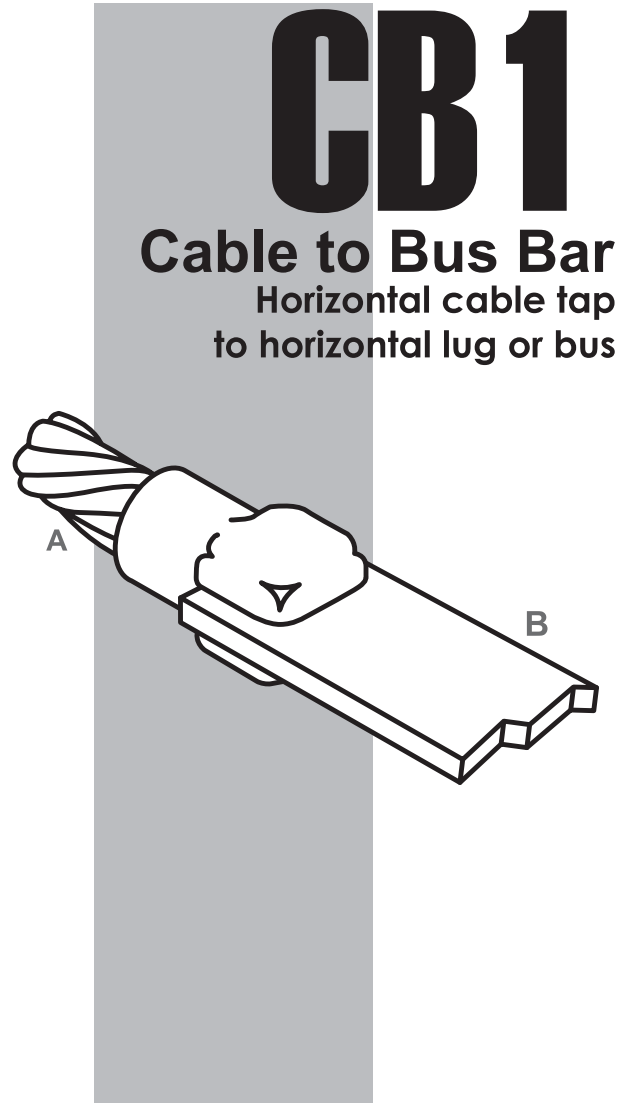
- Tool box
- Butane torch
- Butane gas
- Gloves

Note :

- This connection is used for cable conductor to 1 or 2-hole copper lug
- "*" means to meet UL Listed

Conductor Size		Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
A mm ²	B mm/mm			
10	20 x 2	32	CB1-C-10202	HCC00
16	20 x 2	32	CB1-C-16202	HCC00
	20 x 3	32	CB1-C-16203	HCC00
	25 x 3	45	CB1-C-16253	HCC00
25	20 x 2	32	CB1-C-25202	HCC00
	20 x 3	45	CB1-C-25203	HCC00
	25 x 3	45	CB1-C-25253	HCC00
35	20 x 2	32	CB1-C-35202	HCC00
	20 x 3	45	CB1-C-35203	HCC00
	25 x 3	45	CB1-C-35253	HCC00
Ø 8 mm	20 x 3	45	CB1-C-8SC203	HCC00
	25 x 3	65	CB1-C-8SC253	HCC00
50	20 x 2	45	CB1-C-50202	HCC00
	20 x 3	45	CB1-C-50203	HCC00
	25 x 3	65	CB1-C-50253	HCC00
Ø 10 mm	25 x 3	65	CB1-C-10SC253	HCC00
	25 x 4	65	CB1-C-10SC254	HCC00
	25 x 6	65	CB1-C-10SC256	HCC00
70	25 x 3	65	CB1-C-70253	HCC00
	25 x 4	90	CB1-C-70254	HCC00
	25 x 6	90	CB1-C-70256	HCC00
95	25 x 3	90	CB1-C-95253	HCC00
	25 x 4	90	CB1-C-95254	HCC00
	25 x 5	90	CB1-C-95255	HCC00
	25 x 6	90	CB1-C-95256	HCC00
120	25 x 3	90	CB1-C-120253	HCC00
	25 x 4	90	CB1-C-120254	HCC00
	25 x 5	115	CB1-C-120255	HCC00
	25 x 6	115	CB1-C-120256	HCC00
	30 x 5	115	CB1-C-120305	HCC00
	50 x 3	115	CB1-C-120503	HCC00
150	50 x 6	150	CB1-C-120506	HCC00
	25 x 6	115	CB1-C-150256	HCC00
	30 x 5	115	CB1-C-150305	HCC00
	40 x 5	150	CB1-C-150405	HCC00
	50 x 3	115	CB1-C-150503	HCC00
	50 x 4	115	CB1-C-150504	HCC00
185	30 x 5	150	CB1-C-185305	HCC00
	31 x 6	150	CB1-C-185316	HCC00
	38 x 6	150	CB1-C-185386	HCC00
	40 x 5	150	CB1-C-185405	HCC00
	50 x 4	150	CB1-D-185504	HCD00
	50 x 5	200	CB1-D-185505	HCD00
240	50 x 6	200	CB1-D-185506	HCD00
	50 x 3	200	CB1-D-240503	HCD00
	50 x 4	200	CB1-D-240504	HCD00
	50 x 5	200	CB1-D-240505	HCD00
300	50 x 6	2 x 150	CB1-D-240506	HCD00
	50 x 6	2 x 150	CB1-D-300506	HCD00
	50 x 8	2 x 200	CB1-D-300508	HCD00

Special requirement can be requested



Tools Request :



Tools Advice :

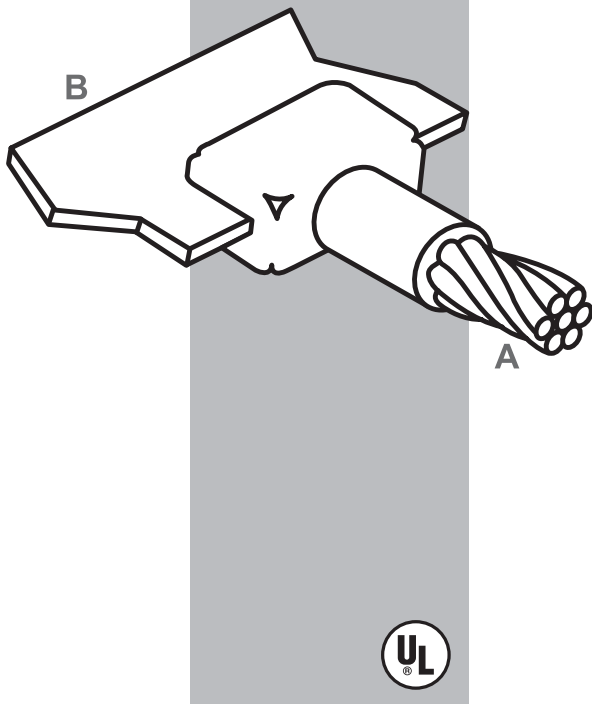
- Tool box
- Butane torch
- Butane gas
- Gloves

- Note :**
- This connection is used for cable conductor to copper strip or tape
 - "2x150" means to use 2 tubes of 150 g - metal powder for one connection
 - "2x200" means to use 2 tubes of 200 g - metal powder for one connection
 - " * " means to meet UL Listed

CB4

Cable to Bus Bar

Horizontal cable tap
to horizontal bus



Tools Request :



Tools Advice :

- Tool box
- Butane torch
- Butane gas
- Gloves

Note :

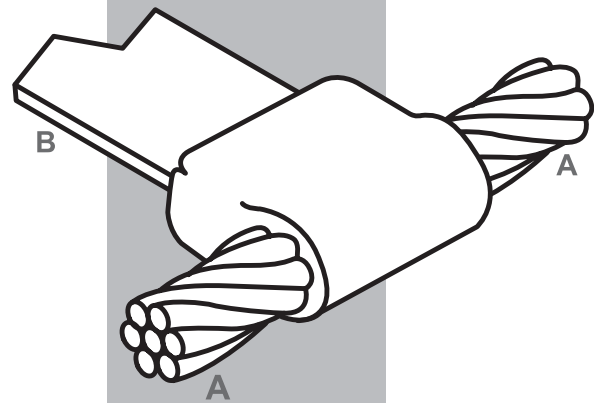
- SC means Solid Copper
- "2x150" means to use 2 tubes of 150 g - metal powder for one connection
- "2x200" means to use 2 tubes of 200 g - metal powder for one connection
- "*" means to meet UL Listed

Conductor Size		Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
A mm ²	B mm x mm			
10	20 x 2	25	CB4-C-10202	HCC00
16	20 x 2	32	CB4-C-16202	HCC00
	20 x 3	32	CB4-C-16203	HCC00
	25 x 3	32	CB4-C-16253	HCC00
25	20 x 2	25	CB4-C-25202	HCC00
	20 x 3	32	CB4-C-25203	HCC00
	25 x 3	32	CB4-C-25253	HCC00
35	20 x 2	32	CB4-C-35202	HCC00
	20 x 3	45	CB4-C-35203	HCC00
	25 x 3	45	CB4-C-35253	HCC00
	25 x 6	65	CB4-C-35256	HCC00
2 x 35	25 x 6	115	* CB4-C-3535256	HCC00
Ø 8 mm	25 x 2	45	CB4-C-8SC252	HCC00
	25 x 3	45	CB4-C-8SC253	HCC00
50	20 x 3	45	CB4-C-50203	HCC00
	25 x 2	45	CB4-C-50252	HCC00
	25 x 3	45	CB4-C-50253	HCC00
	25 x 4	65	CB4-C-50254	HCC00
	25 x 6	65	CB4-C-50256	HCC00
Ø 10 mm	25 x 3	65	CB4-C-10SC253	HCC00
	25 x 4	65	CB4-C-10SC254	HCC00
70	25 x 3	65	CB4-C-70253	HCC00
	25 x 4	65	CB4-C-70254	HCC00
	25 x 6	90	CB4-C-95256	HCC00
95	25 x 3	90	CB4-C-95253	HCC00
	25 x 4	90	CB4-C-95254	HCC00
	25 x 5	90	CB4-C-95255	HCC00
	25 x 6	115	CB4-C-95256	HCC00
120	25 x 3	90	CB4-C-120253	HCC00
	25 x 5	90	CB4-C-120255	HCC00
	25 x 6	115	CB4-C-120256	HCC00
	30 x 5	115	CB4-C-120305	HCC00
150	25 x 6	115	CB4-C-150256	HCC00
	30 x 5	115	CB4-C-150305	HCC00
	40 x 5	150	CB4-C-150405	HCC00
185	25 x 3	150	CB4-C-185253	HCC00
	30 x 5	150	CB4-C-185305	HCC00
	40 x 5	150	CB4-C-185405	HCC00
	50 x 5	150	CB4-C-185505	HCC00
	50 x 6	150	CB4-C-185506	HCC00
240	50 x 5	200	CB4-C-240505	HCC00
	50 x 6	250	CB4-C-240506	HCC00
300	50 x 6	2 x 150	CB4-D-300506	HCD00
	50 x 8	2 x 200	CB4-D-300508	HCD00

Special requirement can be requested

CB5

Cable to Bus Bar Horizontal bus tap to horizontal cable run



Conductor Size		Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
A mm ²	B mm ^{mm}			
10	20 x 2	45	CB5-C-10202	HCC00
16	20 x 2	45	CB5-C-16202	HCC00
	20 x 3	45	CB5-C-16203	HCC00
	25 x 3	65	CB5-C-16253	HCC00
25	20 x 2	45	CB5-C-25202	HCC00
	20 x 3	45	CB5-C-25203	HCC00
	25 x 3	65	CB5-C-25253	HCC00
35	20 x 2	45	CB5-C-35202	HCC00
	20 x 3	45	CB5-C-35203	HCC00
	25 x 3	65	CB5-C-35253	HCC00
∅ 8 mm	25 x 2	65	CB5-C-8SC252	HCC00
	25 x 3	65	CB5-C-8SC253	HCC00
50	20 x 3	65	CB5-C-50203	HCC00
	25 x 2	65	CB5-C-50252	HCC00
	25 x 3	65	CB5-C-50253	HCC00
∅ 10 mm	25 x 3	115	CB5-C-10SC253	HCC00
	25 x 4	150	CB5-C-10SC253	HCC00
70	25 x 3	90	CB5-C-70253	HCC00
	25 x 4	115	CB5-C-70254	HCC00
	25 x 6	115	CB5-C-70256	HCC00
95	25 x 4	150	CB5-C-95254	HCC00
	25 x 5	150	CB5-C-95255	HCC00
	25 x 6	150	CB5-C-95256	HCC00
120	25 x 5	150	CB5-C-95255	HCC00
	25 x 6	150	CB5-C-95255	HCC00
	30 x 5	200	CB5-C-120305	HCC00
150	25 x 6	200	CB5-C-150256	HCC00
	30 x 5	200	CB5-C-150305	HCC00
	40 x 5	250	CB5-C-150405	HCC00
185	30 x 5	250	CB5-C-185305	HCC00
	40 x 5	250	CB5-C-185405	HCC00
	50 x 5	2 x 150	CB5-D-185505	HCD00
240	30 x 5	250	CB5-C-240305	HCC00
	40 x 5	250	CB5-C-240405	HCC00
	50 x 5	2 x 150	CB5-D-240505	HCD00
300	50 x 6	2 x 200	CB5-D-240506	HCD00
	50 x 6	2 x 250	CB5-D-300506	HCD00
	50 x 8	2 x 250	CB5-D-300508	HCD00

Special requirement can be requested

Tools Request :



Tools Advice :

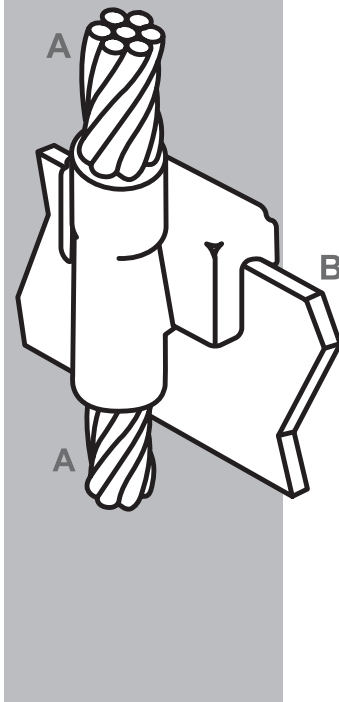
- Tool box
- Butane torch
- Butane gas
- Gloves

Note :

- SC means Solid Copper
- "2x150" means to use 2 tubes of 150 g - metal powder for one connection
- "2x200" means to use 2 tubes of 200 g - metal powder for one connection
- "2x250" means to use 2 tubes of 250 g - metal powder for one connection

CB 29

Cable to Bus Bar
Vertical cable thru
horizontal bus bar on edge



Tools Request :



Tools Advice :

- Tool box
- Butane torch
- Butane gas
- Gloves

Note :

- "2x150" means to use 2 tubes of 150 g - metal powder for one connection
- "2x200" means to use 2 tubes of 200 g - metal powder for one connection
- "2x250" means to use 2 tubes of 250 g - metal powder for one connection
- "3x200" means to use 3 tubes of 200 g - metal powder for one connection
- "3x250" means to use 3 tubes of 250 g - metal powder for one connection

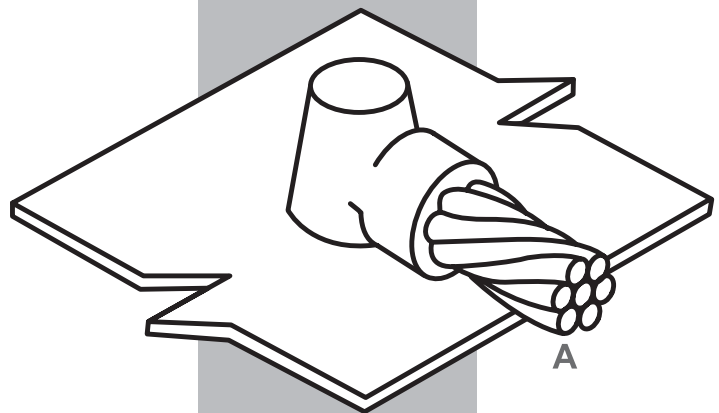
Conductor Size		Metal Powder (g)	Graphite Mould Type	Handle Clamp Type	
A mm ²	B mm.xmm				
35	40 x 5	200	CB29-E-35405	HCC00	
	40 x 6	250	CB29-E-35406	HCC00	
	50 x 6	250	CB29-E-35506	HCC00	
	50 x 8	250	CB29-E-35508	HCC00	
50	50 x 12	2 x 150	CB29-J-355012	HCD00	
	40 x 5	2 x 150	CB29-J-50405	HCD00	
	40 x 6	2 x 200	CB29-J-50406	HCD00	
	50 x 6	2 x 200	CB29-J-50506	HCD00	
50	50 x 8	2 x 200	CB29-J-50508	HCD00	
	50 x 12	2 x 250	CB29-J-505012	HCD00	
	70	40 x 5	2 x 150	CB29-J-70405	HCD00
		40 x 6	2 x 200	CB29-J-70406	HCD00
50 x 6		2 x 200	CB29-J-70506	HCD00	
50 x 8		2 x 200	CB29-J-70508	HCD00	
70	50 x 12	2 x 250	CB29-J-705012	HCD00	
	95	40 x 5	2 x 200	CB29-J-95405	HCD00
		40 x 6	2 x 250	CB29-J-95406	HCD00
		50 x 6	2 x 250	CB29-J-95506	HCD00
50 x 8		2 x 250	CB29-J-95508	HCD00	
95	50 x 12	3 x 200	CB29-J-955012	HCD00	
	120	40 x 5	2 x 200	CB29-J-120405	HCD00
		40 x 6	2 x 250	CB29-J-120406	HCD00
		50 x 6	2 x 250	CB29-J-120506	HCD00
50 x 8		2 x 250	CB29-J-120508	HCD00	
120	50 x 12	3 x 200	CB29-J-1205012	HCD00	
	150	40 x 5	2 x 200	CB29-J-150405	HCD00
		40 x 6	2 x 250	CB29-J-150406	HCD00
		50 x 6	2 x 250	CB29-J-150506	HCD00
50 x 8		2 x 250	CB29-J-150508	HCD00	
150	50 x 12	3 x 200	CB29-J-1505012	HCD00	
	185	40 x 5	2 x 200	CB29-J-185405	HCD00
		40 x 6	2 x 250	CB29-J-185406	HCD00
		50 x 6	2 x 250	CB29-J-185506	HCD00
50 x 8		2 x 250	CB29-J-185508	HCD00	
185	50 x 12	3 x 200	CB29-J-1855012	HCD00	
	240	40 x 5	2 x 200	CB29-J-240405	HCD00
		40 x 6	2 x 250	CB29-J-240406	HCD00
		50 x 6	2 x 250	CB29-J-240506	HCD00
50 x 8		2 x 250	CB29-J-240508	HCD00	
240	50 x 12	3 x 200	CB29-J-2405012	HCD00	
	300	40 x 5	2 x 250	CB29-J-300405	HCD00
		40 x 6	3 x 200	CB29-J-300406	HCD00
		50 x 6	3 x 200	CB29-J-300506	HCD00
50 x 8		3 x 200	CB29-J-300508	HCD00	
300	50 x 12	3 x 250	CB29-J-3005012	HCD00	

Special requirement can be requested

CB34

Cable to Bus Bar

Horizontal cable to signal reference ground grid



Conductor Size	Metal Powder	Graphite Mould Type	Handle Clamp Type
A _{mm²}	(g)		
16	25	CB34-C-16	HCC00
25	32	CB34-C-25	HCC00
35	32	CB34-C-35	HCC00

Special requirement can be requested

Tools Request :



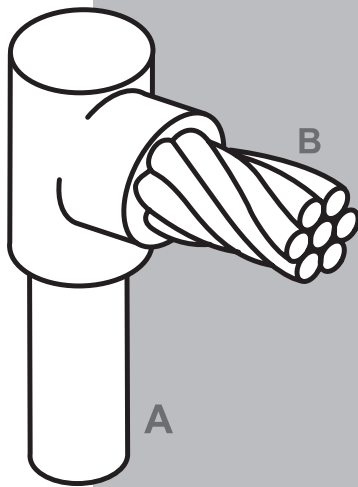
Tools Advice :

- Tool box
- Butane torch
- Butane gas
- Gloves

- Note :**
- This connection is recommend for copper cable to signal reference ground grid (0.5 mm thick copper strip) connection
 - Before making connection, it need to preheat copper strip and conductor

CR1

Cable to Ground Rod
Horizontal cable terminal
to ground rod



Rod Size		Conductor Size	Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
A mm	A inch	B mm ²			
12.7	1/2	10	65	CR1-C-12710	HCC00
		16	65	CR1-C-12716	HCC00
		∅ 5.6 mm	65	CR1-C-1275.6SC	HCC00
		25	65	CR1-C-12725	HCC00
		35	65	CR1-C-12735	HCC00
		∅ 8 mm	65	CR1-C-1278SC	HCC00
		50	65	CR1-C-12750	HCC00
		∅ 10 mm	65	CR1-C-12710SC	HCC00
		70	90	CR1-C-12770	HCC00
		95	90	CR1-C-12795	HCC00
		120	90	CR1-C-127120	HCC00
		150	115	CR1-C-127150	HCC00
14.2	5/8	10	65	CR1-C-14210	HCC00
		16	65	CR1-C-14216	HCC00
		∅ 5.6 mm	65	CR1-C-1425.6SC	HCC00
		25	65	CR1-C-14225	HCC00
		35	65	CR1-C-14235	HCC00
		∅ 8 mm	90	CR1-C-1428SC	HCC00
		50	90	CR1-C-14250	HCC00
		70	90	CR1-C-14270	HCC00
		95	90	CR1-C-14295	HCC00
		120	90	CR1-C-142120	HCC00
		150	115	CR1-C-142150	HCC00
		185	150	CR1-C-142185	HCC00
17.2	3/4	10	65	CR1-C-17210	HCC00
		16	65	CR1-C-17216	HCC00
		25	65	CR1-C-17225	HCC00
		35	65	CR1-C-17235	HCC00
		∅ 8 mm	90	CR1-C-1728SC	HCC00
		50	90	CR1-C-17250	HCC00
		70	90	CR1-C-17270	HCC00
		95	90	CR1-C-17295	HCC00
		120	90	CR1-C-172120	HCC00
		150	115	CR1-C-172150	HCC00
		185	150	CR1-C-172185	HCC00
		240	150	CR1-C-172240	HCC00
		300	200	CR1-C-172300	HCC00

Tools Request :



Tools Advice :

- Tool box
- Butane torch
- Butane gas
- Gloves

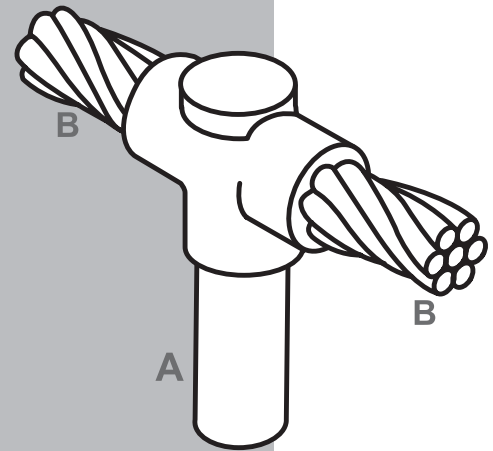
Note :

- SC means Solid Copper
- For special rod size's requirement, please contact us

Special requirement can be requested

CR2

Cable to Ground Rod Horizontal hru cable to ground rod



Rod Size		Conductor Size		Metal Powder (g)	Graphite Mould Type	Handle Clamp Type		
A _{mm}	A _{inch}	B _{mm²}	B _{mm}					
12.7	1/2	10		90	CR2-C-12710	HCC00		
		16		90	CR2-C-12716	HCC00		
		∅ 5.6 mm		90	CR2-C-1275.6SC	HCC00		
		25		90	CR2-C-12725	HCC00		
		35		90	CR2-C-12735	HCC00		
		∅ 8 mm		90	CR2-C-1278SC	HCC00		
		50		90	CR2-C-12750	HCC00		
		∅ 10 mm		90	CR2-C-12710SC	HCC00		
		70		90	CR2-C-12770	HCC00		
		95		115	CR2-C-12795	HCC00		
		120		150	CR2-C-127120	HCC00		
		150		150	CR2-C-127150	HCC00		
		185		185	CR2-C-127185	HCC00		
		14.2	5/8	10		65	CR2-C-14210	HCC00
				16		65	CR2-C-14216	HCC00
∅ 5.6 mm				90	CR2-C-1425.6SC	HCC00		
25				90	CR2-C-14225	HCC00		
35				90	CR2-C-14235	HCC00		
∅ 8 mm				90	CR2-C-1428SC	HCC00		
50				90	CR2-C-14250	HCC00		
70				115	CR2-C-14270	HCC00		
95				115	CR2-C-14295	HCC00		
120				150	CR2-C-142120	HCC00		
150				200	CR2-C-142150	HCC00		
185				200	CR2-C-142185	HCC00		
240				250	CR2-C-142240	HCC00		
17.2	3/4			10		65	CR2-C-17210	HCC00
				16		65	CR2-C-17216	HCC00
		25		90	CR2-C-17225	HCC00		
		35		90	CR2-C-17235	HCC00		
		∅ 8 mm		115	CR2-C-1728SC	HCC00		
		50		115	CR2-C-17250	HCC00		
		70		115	CR2-C-17270	HCC00		
		95		115	CR2-C-17295	HCC00		
		120		150	CR2-C-172120	HCC00		
		150		200	CR2-C-172150	HCC00		
		185		200	CR2-C-172185	HCC00		
		240		250	CR2-C-172240	HCC00		
		300		2 x 150	CR2-D-172300	HCD00		

Special requirement can be requested

Tools Request :



Tools Advice :

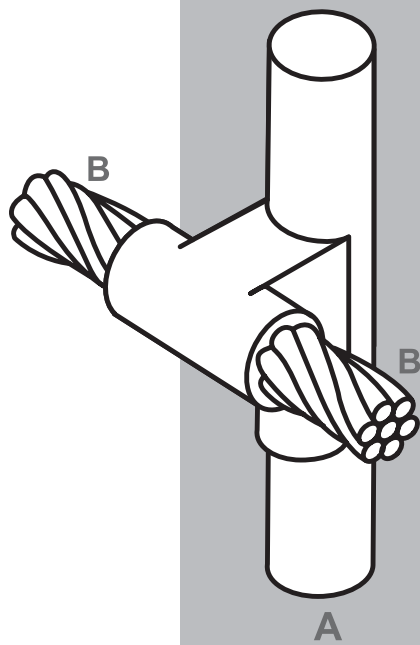
- Tool box
- Butane torch
- Butane gas
- Gloves

Note :

- SC means Solid Copper
- "2x150" means to use 2 tubes of 150 g - metal powder for one connection
- " * " means to meet UL Listed

CR3

Cable to Ground Rod
Horizontal thru cable
to side of ground rod



Tools Request :



Tools Advice :

- Tool box
- Butane torch
- Butane gas
- Gloves

Note :

- SC means Solid Copper
- "2x200" means to use 2 tubes of 200 g - metal powder for one connection
- "3x200" means to use 3 tubes of 200 g - metal powder for one connection

Rod Size		Conductor Size	Metal Powder (g)	Graphite Mould Type	Handle Clamp Type		
A mm	A inch	B mm ²					
12.7	1/2	10	90	CR3-E-12710	HCC00		
		16	90	CR3-E-12716	HCC00		
		25	90	CR3-E-12725	HCC00		
		35	90	CR3-E-12735	HCC00		
		∅ 8 mm	115	CR3-E-1278SC	HCC00		
		50	115	CR3-E-12750	HCC00		
		∅ 10 mm	115	CR3-E-12710SC	HCC00		
		70	115	CR3-E-12770	HCC00		
		95	115	CR3-E-12795	HCC00		
		120	150	CR3-E-127120	HCC00		
		150	200	CR3-E-127150	HCC00		
		185	200	CR3-E-127185	HCC00		
		14.2	5/8	10	90	CR3-E-14210	HCC00
				16	90	CR3-E-14216	HCC00
25	90			CR3-E-14225	HCC00		
35	90			CR3-E-14235	HCC00		
∅ 8 mm	115			CR3-E-1428SC	HCC00		
50	115			CR3-E-14250	HCC00		
70	115			CR3-E-14270	HCC00		
95	115			CR3-E-14295	HCC00		
120	150			CR3-E-142120	HCC00		
150	200			CR3-E-142150	HCC00		
185	250			CR3-E-142185	HCC00		
240	2 x 200			CR3-J-142240	HCD00		
17.2	3/4	10	90	CR3-E-17210	HCC00		
		16	90	CR3-E-17216	HCC00		
		25	90	CR3-E-17225	HCC00		
		35	90	CR3-E-17235	HCC00		
		∅ 8 mm	115	CR3-E-1728SC	HCC00		
		50	115	CR3-E-17250	HCC00		
		70	150	CR3-E-17270	HCC00		
		95	150	CR3-E-17295	HCC00		
		120	200	CR3-E-172120	HCC00		
		150	250	CR3-E-172150	HCC00		
		185	2 x 200	CR3-J-172185	HCD00		
		240	2 x 200	CR3-J-172240	HCD00		
300	3 x 200	CR3-J-172300	HCD00				

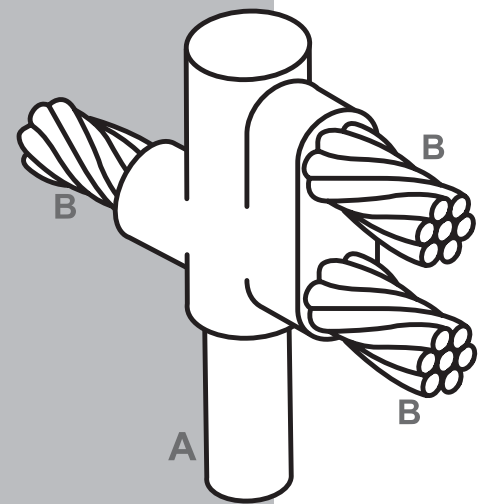
Special requirement can be requested

CR17

Cable to Ground Rod
Horizontal run & tap cable
to ground rod

Rod Size		Conductor Size	Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
A mm	A inch	B mm ²			
12.7	1/2	25	90	CR17-C-12725	HCC00
		35	90	CR17-C-12735	HCC00
		50	115	CR17-C-12750	HCC00
		70	150	CR17-C-12770	HCC00
		95	200	CR17-C-12795	HCC00
		120	200	CR17-C-127120	HCC00
14.2	5/8	25	90	CR17-C-14225	HCC00
		35	115	CR17-C-14235	HCC00
		50	150	CR17-C-14250	HCC00
		70	200	CR17-C-14270	HCC00
		95	250	CR17-CH-14295	HCC00
		120	2 x 150	CR17-D-142120	HCD00
		150	2 x 200	CR17-DH-142150	HCD00
17.2	3/4	25	90	CR17-C-17225	HCC00
		35	115	CR17-C-17235	HCC00
		50	150	CR17-C-17250	HCC00
		70	200	CR17-C-17270	HCC00
		95	250	CR17-CH-17295	HCC00
		120	2 x 150	CR17-D-172120	HCD00
		150	2 x 200	CR17-DH-172150	HCD00
		185	2 x 200	CR17-DH-172185	HCD00
		240	3 x 200	CR17-DH-172240	HCD00
23.1	1	25	115	CR17-C-23125	HCC00
		35	150	CR17-C-23135	HCC00
		50	200	CR17-C-23150	HCC00
		70	250	CR17-CH-23170	HCC00
		95	2 x 150	CR17-D-23195	HCD00
		120	2 x 200	CR17-DH-231120	HCD00
		150	2 x 250	CR17-DH-231150	HCD00
		185	2 x 250	CR17-DH-231185	HCD00
		240	3 x 250	CR17-DH-231240	HCD00

Special requirement can be requested



Tools Request :



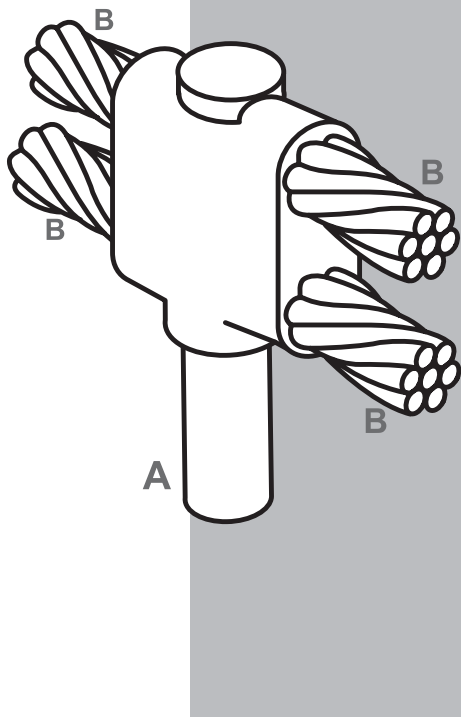
Tools Advice :

- Tool box
- Butane torch
- Butane gas
- Gloves

- Note :**
- SC means Solid Copper
 - "2x150" means to use 2 tubes of 150 g - metal powder for one connection
 - "2x200" means to use 2 tubes of 200 g - metal powder for one connection
 - "2x250" means to use 2 tubes of 250 g - metal powder for one connection
 - "3x200" means to use 3 tubes of 200 g - metal powder for one connection
 - "3x250" means to use 3 tubes of 250 g - metal powder for one connection
 - For special rod size's requirement, please contact us

CR 24

Cable to Ground Rod
Horizontal parallel run cable to ground rod



Tools Request :



Tools Advice :

- Tool box
- Butane torch
- Butane gas
- Gloves

Note :

- "2x150" means to use 2 tubes of 150 g - metal powder for one connection
- "2x200" means to use 2 tubes of 200 g - metal powder for one connection
- "2x250" means to use 2 tubes of 250 g - metal powder for one connection
- "3x200" means to use 3 tubes of 200 g - metal powder for one connection
- "3x250" means to use 3 tubes of 250 g - metal powder for one connection
- For special rod size's requirement, please contact us

Rod Size		Conductor Size	Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
A _{mm}	A _{inch}	B _{mm²}			
12.7	1/2	25	115	CR24-C-12725	HCC00
		35	115	CR24-C-12735	HCC00
		50	150	CR24-C-12750	HCC00
		70	200	CR24-C-12770	HCC00
		95	250	CR24-CH-12795	HCC00
		120	2 x 150	CR24-D-127120	HCD00
14.2	5/8	25	115	CR24-C-14225	HCC00
		35	150	CR24-C-14235	HCC00
		50	200	CR24-C-14250	HCC00
		70	250	CR24-CH-14270	HCC00
		95	2 x 150	CR24-D-14295	HCD00
		120	2 x 200	CR24-DH-142120	HCD00
		150	2 x 250	CR24-DH-142150	HCD00
		185	2 x 250	CR24-DH-142185	HCD00
17.2	3/4	25	115	CR24-C-17225	HCC00
		35	150	CR24-C-17235	HCC00
		50	200	CR24-C-17250	HCC00
		70	250	CR24-CH-17270	HCC00
		95	2 x 150	CR24-D-17295	HCD00
		120	2 x 200	CR24-DH-172120	HCD00
		150	2 x 250	CR24-DH-172150	HCD00
		185	2 x 250	CR24-DH-172185	HCD00
		240	2 x 250	CR24-DH-172240	HCD00
		23.1	1	25	150
35	200			CR24-C-23135	HCC00
50	250			CR24-CH-23150	HCC00
70	2 x 150			CR24-D-23170	HCD00
95	2 x 200			CR24-DH-23195	HCD00
120	2 x 250			CR24-DH-231120	HCD00
150	3 x 200			CR24-DH-231150	HCD00
185	3 x 200			CR24-DH-231185	HCD00

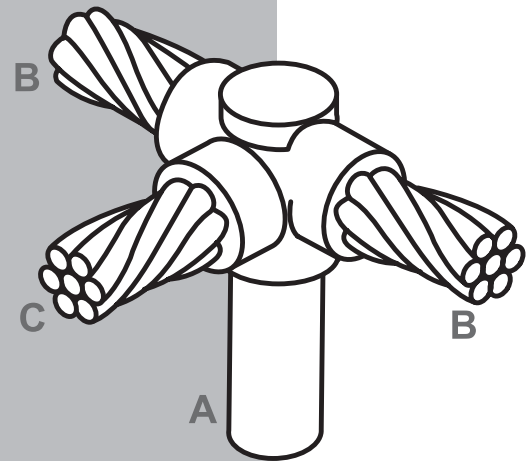
Special requirement can be requested

Rod Size		Conductor Size		Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
A _{mm}	A _{inch}	B _{mm²}	C _{mm²}			
14.2	5/8	10	10	65	CR25-C-14210	HCC00
		16	16	65	CR25-C-14216	HCC00
		25	25	90	CR25-C-14225	HCC00
		35	35	90	CR25-C-14235	HCC00
		50	50	115	CR25-C-14250	HCC00
		70	70	115	CR25-C-14270	HCC00
		70	50	115	CR25-C-1427050	HCC00
		95	95	150	CR25-C-14295	HCC00
		95	70	150	CR25-C-1429570	HCC00
		95	50	115	CR25-C-1429550	HCC00
		120	120	150	CR25-C-142120	HCC00
		120	95	150	CR25-C-1421095	HCC00
		120	70	150	CR25-C-1421070	HCC00
		120	50	115	CR25-C-1421050	HCC00
		150	150	200	CR25-C-142150	HCC00
		150	120	200	CR25-C-142150120	HCC00
		150	95	200	CR25-C-14215095	HCC00
		150	70	150	CR25-C-14215070	HCC00
		150	50	150	CR25-C-14215050	HCC00
		17.2	3/4	185	185	250
185	95			250	CR25-C-14218595	HCC00
185	70			200	CR25-C-14218570	HCC00
240	240			2 x 200	CR25-D-142240	HCD00
240	95			2 x 200	CR25-D-14224095	HCD00
240	70			2 x 150	CR25-D-14224070	HCD00
10	10			65	CR25-C-17210	HCC00
16	16			65	CR25-C-17216	HCC00
25	25			90	CR25-C-17225	HCC00
35	35			90	CR25-C-17235	HCC00
50	50			115	CR25-C-17250	HCC00
70	70			150	CR25-C-17270	HCC00
70	50			150	CR25-C-1727050	HCC00
95	95			200	CR25-C-17295	HCC00
95	70			200	CR25-C-1729570	HCC00
95	50			150	CR25-C-1729550	HCC00
120	120			250	CR25-C-172120	HCC00
120	95			250	CR25-C-17212095	HCC00
120	70			200	CR25-C-17212070	HCC00
120	50			200	CR25-C-17212050	HCC00
150	150	250	CR25-C-172150	HCC00		
150	95	250	CR25-C-17215095	HCC00		
150	70	200	CR25-C-17215070	HCC00		
150	50	200	CR25-C-17215050	HCC00		
185	185	2 x 150	CR25-D-172185	HCD00		
185	95	2 x 150	CR25-D-17218595	HCD00		
185	70	2 x 150	CR25-D-17218570	HCD00		
240	240	2 x 200	CR25-D-172240	HCD00		
240	95	2 x 200	CR25-D-17224095	HCD00		
240	70	2 x 150	CR25-D-17224070	HCD00		

Special requirement can be requested

CR25

Cable to Ground Rod
Horizontal cable tap and run
to ground rod



Tools Request :



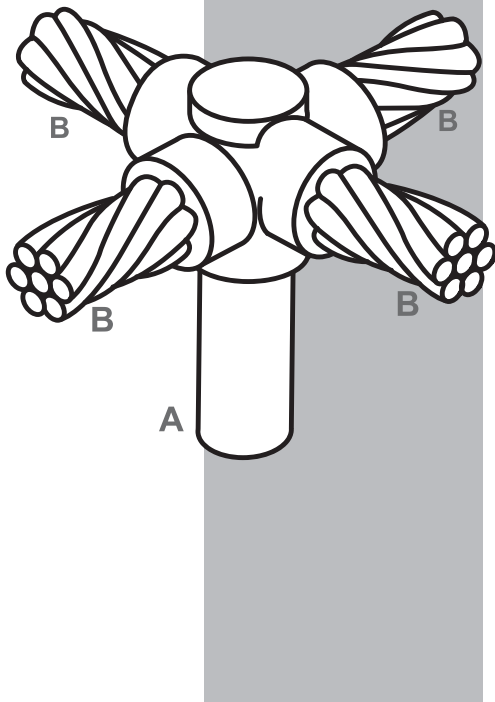
Tools Advice :

- Tool box
- Butane torch
- Butane gas
- Gloves

- Note :**
- "2x150" means to use 2 tubes of 150 g - metal powder for one connection
 - "2x200" means to use 2 tubes of 200 g - metal powder for one connection
 - For special rod size's requirement, please contact us
 - For over 95 mm² conductor, we recommend to use handle clamp with cable clamp (Pls. see Part Tool and accessories) for perfect connection and long-lasting mould

CR 33

Cable to Ground Rod
Horizontal cable cross
to ground rod



Rod Size		Conductor Size	Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
A _{mm}	A _{inch}	B _{mm²}			
14.2	5/8	10	90	CR33-C-14210	HCC00
		16	90	CR33-C-14216	HCC00
		25	90	CR33-C-14225	HCC00
		35	90	CR33-C-14235	HCC00
		50	115	CR33-C-14250	HCC00
		70	115	CR33-C-14270	HCC00
		95	150	CR33-C-14295	HCC00
		120	200	CR33-C-142120	HCC00
		150	250	CR33-C-142150	HCC00
		185	250	CR33-D-142185	HCD00
17.2	3/4	240	2 x 150	CR33-D-142240	HCD00
		10	90	CR33-C-17210	HCC00
		16	90	CR33-C-17216	HCC00
		25	90	CR33-C-17225	HCC00
		35	90	CR33-C-17235	HCC00
		50	115	CR33-C-17250	HCC00
		70	115	CR33-C-17270	HCC00
		95	150	CR33-C-17295	HCC00
		120	200	CR33-C-172120	HCC00
		150	250	CR33-C-172150	HCC00
		185	2 x 200	CR33-D-172185	HCD00
		240	2 x 250	CR33-D-172240	HCD00

Special requirement can be requested

Tools Request :



Tools Advice :

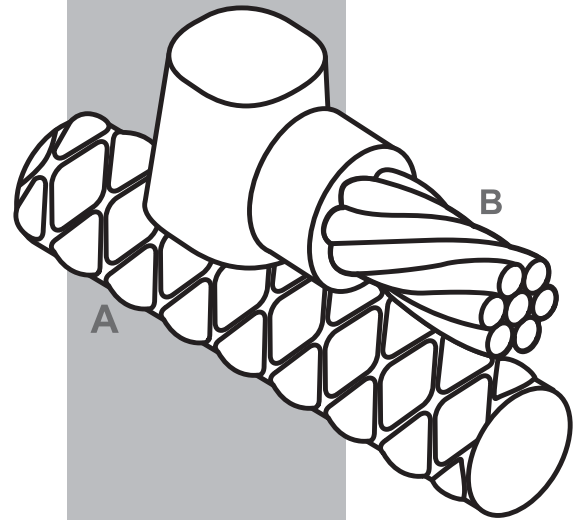
- Tool box
- Butane torch
- Butane gas
- Gloves

Note :

- "2x150" means to use 2 tubes of 150 g - metal powder for one connection
- "2x200" means to use 2 tubes of 200 g - metal powder for one connection
- "2x250" means to use 2 tubes of 250 g - metal powder for one connection
- For special rod size's requirement, please contact us
- For over 95 mm² conductor, we recommend to use handle clamp with cable clamp (Pls. see Part Tool and accessories) for perfect connection and long-lasting mould

CRE 1P

**Cable to Rebar Partially
Wrapped Connection**
Horizontal parallel
cable & rebar tap



Steel Size	Conductor Size	Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
A mm	B mm ²			
20 to 40	16	45	CRE1P-A-16	HCA00
20 to 40	25	45	CRE1P-A-25	HCA00
20 to 40	35	45	CRE1P-A-35	HCA00
20 to 40	50	90	CRE1P-C-50	HCC00-Z
20 to 40	70	90	CRE1P-C-70	HCC00-Z
20 to 40	95	115	CRE1P-C-95	HCC00-Z
20 to 40	120	115	CRE1P-C-120	HCC00-Z
25 to 40	150	150	CRE1P-C-150	HCC00-Z
28 to 40	185	200	CRE1P-C-185	HCC00-Z
32 to 40	240	200	CRE1P-C-240	HCC00-Z
32 to 40	300	250	CRE1P-C-300	HCC00-Z

Special requirement can be requested

Tools Request :



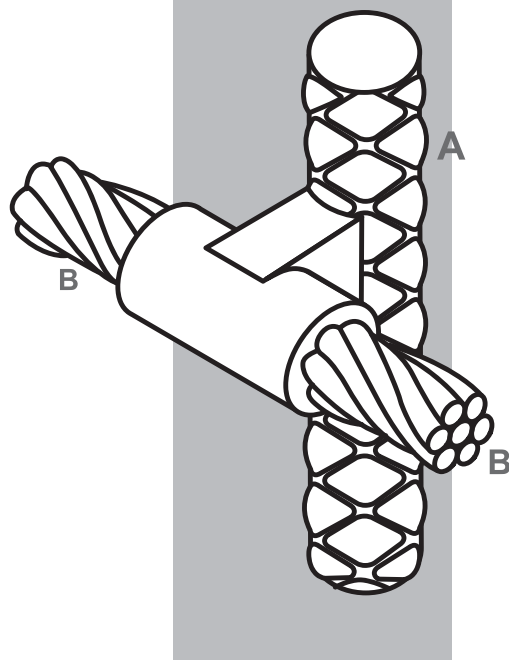
Tools Advice :

- Tool box
- Butane torch
- Butane gas
- Gloves

- Note :**
- For perfect welding, clean and remove oxide and moisture from reinforcement steel and conductor before making connection
 - Kumwell CRE Mould provides ceramic fiber to prevent leakage
 - "HCA00" Type A -Handle clamp is built-in graphite mould

CRE3P

**Cable to Rebar Partially
Wrapped Connection**
Horizontal thru cable
to vertical rebar



Steel Size	Conductor Size	Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
A mm	B mm ²			
20 to 40	16	45	CRE3P-C-16	HCC00-U
20 to 40	25	45	CRE3P-C-25	HCC00-U
20 to 40	35	45	CRE3P-C-35	HCC00-U
20 to 40	50	90	CRE3P-C-50	HCC00-U
20 to 40	70	90	CRE3P-C-70	HCC00-U
20 to 40	95	90	CRE3P-C-95	HCC00-U
20 to 40	120	90	CRE3P-C-120	HCC00-U
25 to 40	150	115	CRE3P-CR-150	HCC00-U
28 to 40	185	150	CRE3P-CR-185	HCC00-U
32 to 40	240	150	CRE3P-CR-240	HCC00-U
32 to 40	300	250	CRE3P-CR-300	HCC00-U

Special requirement can be requested

Tools Request :



Tools Advice :

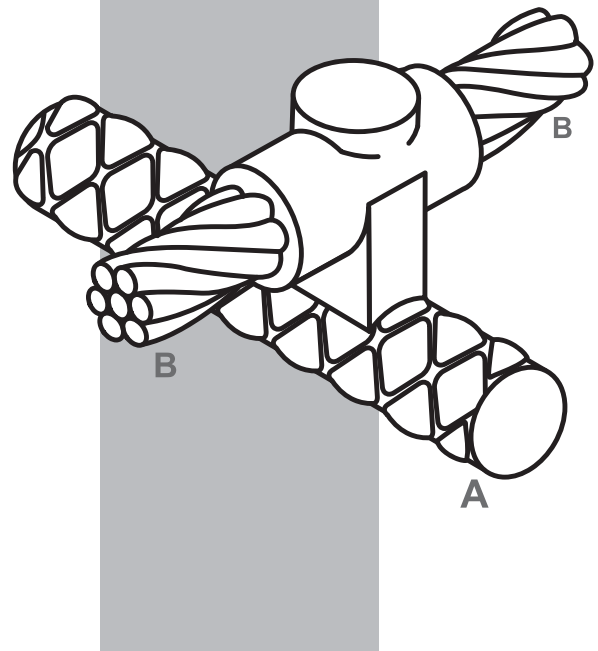
- Tool box
- Butane torch
- Butane gas
- Gloves

Note :

- For perfect welding, clean and remove oxide and moisture from reinforcement steel and conductor before making connection
- Kumwell CRE Mould provides ceramic fiber to prevent leakage

CRE 4P

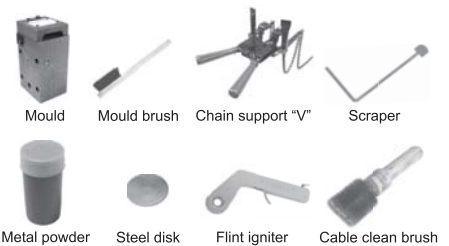
**Cable to Rebar Partially
Wrapped Connection**
Horizontal thru cable
to horizontal rebar



Steel Size	Conductor Size	Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
A _{mm}	B _{mm²}			
20 to 40	16	65	CRE4P-C-16	HCC00-V
20 to 40	25	65	CRE4P-C-25	HCC00-V
20 to 40	35	90	CRE4P-C-35	HCC00-V
20 to 40	50	115	CRE4P-C-50	HCC00-V
20 to 40	70	115	CRE4P-C-70	HCC00-V
20 to 40	95	150	CRE4P-C-95	HCC00-V
20 to 40	120	150	CRE4P-C-120	HCC00-V
25 to 40	150	200	CRE4P-C-150	HCC00-V
28 to 40	185	250	CRE4P-C-185	HCC00-V
32 to 40	240	2 x 200	CRE4P-D-240	HCD00-V
32 to 40	300	2 x 200	CRE4P-D-300	HCD00-V

Special requirement can be requested

Tools Request :



Tools Advice :

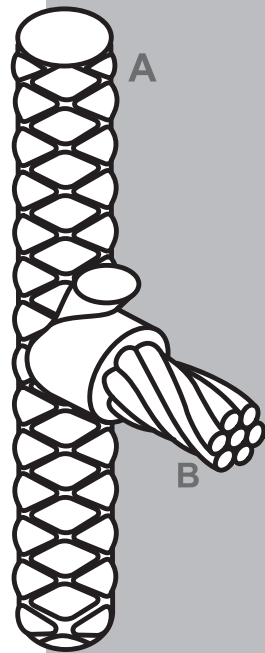
- Tool box
- Butane torch
- Butane gas
- Gloves

- Note :**
- "2x200" means to use 2 tubes of 200 g - metal powder for one connection
 - For perfect welding, clean and remove oxide and moisture from reinforcement steel and conductor before making connection
 - Kumwell CRE Mould provides ceramic fiber to prevent leakage

CRE 6P

Cable to Rebar Partially Wrapped Connection

Horizontal cable tap
to vertical rebar



Steel Size	Conductor Size	Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
A mm	B mm ²			
20 to 40	16	45	CRE6P-C-16	HCC00-X
20 to 40	25	45	CRE6P-C-25	HCC00-X
20 to 40	35	45	CRE6P-C-35	HCC00-X
20 to 40	50	90	CRE6P-C-50	HCC00-X
20 to 40	70	90	CRE6P-C-70	HCC00-X
20 to 40	95	90	CRE6P-C-95	HCC00-X
20 to 40	120	90	CRE6P-C-120	HCC00-X
25 to 40	150	115	CRE6P-CR-150	HCC00-X
28 to 40	185	150	CRE6P-CR-185	HCC00-X
32 to 40	240	200	CRE6P-CR-240	HCC00-X
32 to 40	300	250	CRE6P-CR-300	HCC00-X

Special requirement can be requested

Tools Request :



Tools Advice :

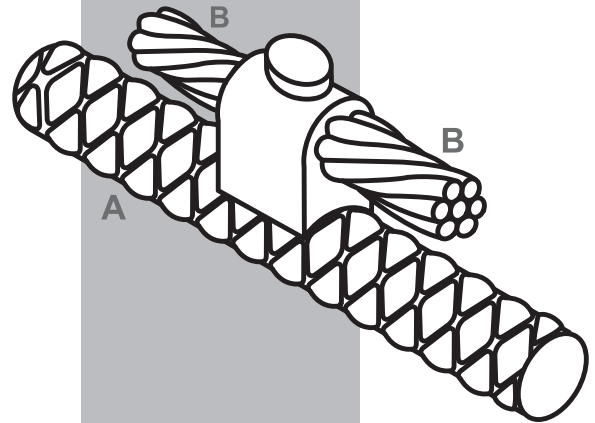
- Tool box
- Butane torch
- Butane gas
- Gloves

Note :

- For perfect welding, clean and remove oxide and moisture from reinforcement steel and conductor before making connection
- Kumwell CRE Mould provides ceramic fiber to prevent leakage

CRE17P

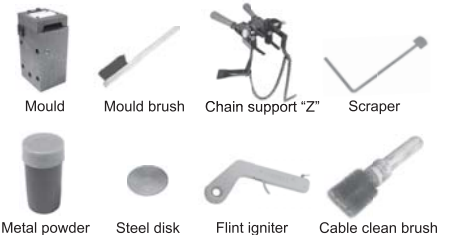
**Cable to Rebar Partially
Wrapped Connection**
Horizontal parallel thru cable
to horizontal rebar



Steel Size	Conductor Size	Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
A _{mm}	B _{mm²}			
20 to 40	16	45	CRE17P-C-16	HCC00-Z
20 to 40	25	45	CRE17P-C-25	HCC00-Z
20 to 40	35	45	CRE17P-C-35	HCC00-Z
20 to 40	50	65	CRE17P-C-50	HCC00-Z
20 to 40	70	90	CRE17P-C-70	HCC00-Z
20 to 40	95	90	CRE17P-C-95	HCC00-Z
20 to 40	120	90	CRE17P-C-120	HCC00-Z
25 to 40	150	115	CRE17P-C-150	HCC00-Z
28 to 40	185	250	CRE17P-C-185	HCC00-Z
32 to 40	240	2 x 150	CRE17P-D-240	HCD00-Z
32 to 40	300	2 x 200	CRE17P-D-300	HCD00-Z

Special requirement can be requested

Tools Request :



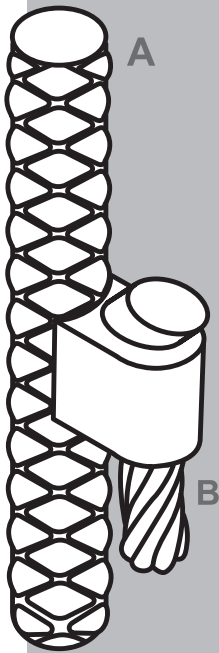
Tools Advice :

- Tool box
- Butane torch
- Butane gas
- Gloves

- Note :**
- "2x150" means to use 2 tubes of 150 g - metal powder for one connection
 - "2x200" means to use 2 tubes of 200 g - metal powder for one connection
 - For perfect welding, clean and remove oxide and moisture from reinforcement steel and conductor before making connection
 - Kumwell CRE Mould provides ceramic fiber to prevent leakage

CRE 18P

**Cable to Rebar Partially
Wrapped Connection**
Vertical parallel down cable
to vertical rebar



Steel Size	Conductor Size	Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
A mm	B mm ²			
20 to 40	16	90	CRE18P-C-16	HCC00-X
20 to 40	25	90	CRE18P-C-25	HCC00-X
20 to 40	35	115	CRE18P-C-35	HCC00-X
20 to 40	50	115	CRE18P-C-50	HCC00-X
20 to 40	70	150	CRE18P-CR-70	HCC00-X
20 to 40	95	200	CRE18P-CR-95	HCC00-X
20 to 40	120	250	CRE18P-CR-120	HCC00-X
25 to 40	150	250	CRE18P-DR-150	HCC00-X
28 to 40	185	2 x 150	CRE18P-DR-185	HCD00-X
32 to 40	240	2 x 150	CRE18P-DR-240	HCD00-X
32 to 40	300	2 x 200	CRE18P-DR-300	HCD00-X

Special requirement can be requested

Tools Request :



Tools Advice :

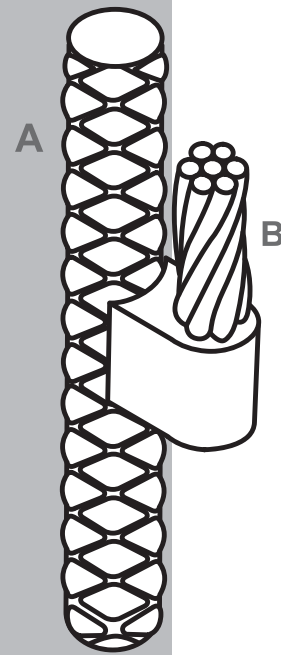
- Tool box
- Butane torch
- Butane gas
- Gloves

Note :

- "2x150" means to use 2 tubes of 150 g - metal powder for one connection
- "2x200" means to use 2 tubes of 200 g - metal powder for one connection
- For perfect welding, clean and remove oxide and moisture from reinforcement steel and conductor before making connection
- Kumwell CRE Mould provides ceramic fiber to prevent leakage

CRE 19P

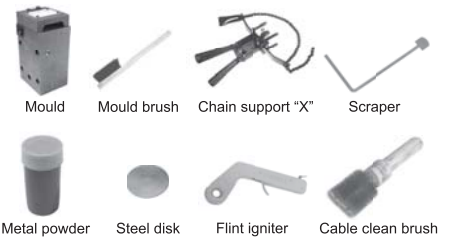
**Cable to Rebar Partially
Wrapped Connection**
Vertical parallel up cable
to vertical rebar



Steel Size	Conductor Size	Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
A _{mm}	B _{mm²}			
20 to 40	16	90	CRE19P-C-16	HCC00-X
20 to 40	25	90	CRE19P-C-25	HCC00-X
20 to 40	35	115	CRE19P-C-35	HCC00-X
20 to 40	50	115	CRE19P-C-50	HCC00-X
20 to 40	70	150	CRE19P-CR-70	HCC00-X
20 to 40	95	200	CRE19P-CR-95	HCC00-X
20 to 40	120	250	CRE19P-CR-120	HCC00-X
25 to 40	150	250	CRE19P-CR-150	HCC00-X
28 to 40	185	2 x 150	CRE19P-DR-185	HCD00-X
32 to 40	240	2 x 150	CRE19P-DR-240	HCD00-X
32 to 40	300	2 x 200	CRE19P-DR-300	HCD00-X

Special requirement can be requested

Tools Request :



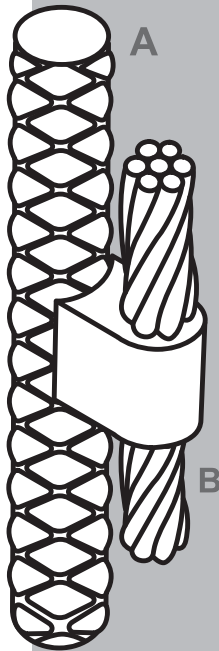
Tools Advice :

- Tool box
- Butane torch
- Butane gas
- Gloves

- Note :**
- "2x150" means to use 2 tubes of 150 g - metal powder for one connection
 - "2x200" means to use 2 tubes of 200 g - metal powder for one connection
 - For perfect welding, clean and remove oxide and moisture from reinforcement steel and conductor before making connection
 - Kumwell CRE Mould provides ceramic fiber to prevent leakage

CRE20P

**Cable to Rebar Partially
Wrapped Connection**
Vertical parallel thru cable
to vertical rebar



Steel Size	Conductor Size	Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
A mm	B mm ²			
20 to 40	16	90	CRE20P-C-16	HCC00-X
20 to 40	25	90	CRE20P-C-25	HCC00-X
20 to 40	35	115	CRE20P-C-35	HCC00-X
20 to 40	50	115	CRE20P-CR-50	HCC00-X
20 to 40	70	150	CRE20P-CR-70	HCC00-X
20 to 40	95	200	CRE20P-CR-95	HCC00-X
20 to 40	120	250	CRE20P-CR-120	HCC00-X
25 to 40	150	250	CRE20P-DR-150	HCC00-X
28 to 40	185	2 x 150	CRE20P-DR-185	HCD00-X
32 to 40	240	2 x 150	CRE20P-DR-240	HCD00-X
32 to 40	300	2 x 200	CRE20P-DR-300	HCD00-X

Special requirement can be requested

Tools Request :



Tools Advice :

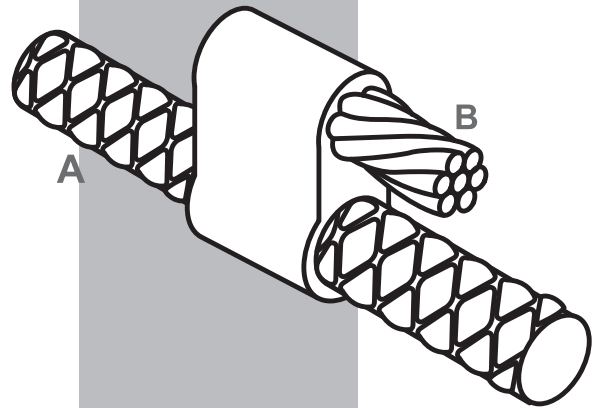
- Tool box
- Butane torch
- Butane gas
- Gloves

Note :

- "2x150" means to use 2 tubes of 150 g - metal powder for one connection
- "2x200" means to use 2 tubes of 200 g - metal powder for one connection
- For perfect welding, clean and remove oxide and moisture from reinforcement steel and conductor before making connection
- Kumwell CRE Mould provides ceramic fiber to prevent leakage

CRE1

**Cable to Rebar Fully
Wrapped Connection**
Horizontal parallel cable
to horizontal rebar



Steel Size	Conductor Size		Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
	A mm	B mm ²			
10	16	115	115	CRE1-C-1610R	HCC00
	25	115	115	CRE1-C-2510R	HCC00
	35	115	115	CRE1-C-3510R	HCC00
	50	150	150	CRE1-C-5010R	HCC00
	70	150	150	CRE1-C-7010R	HCC00
	95	200	200	CRE1-CH-9510R	HCC00
12	16	115	115	CRE1-C-1612R	HCC00
	25	115	115	CRE1-C-2512R	HCC00
	35	115	115	CRE1-C-3512R	HCC00
	50	150	150	CRE1-C-5012R	HCC00
	70	150	150	CRE1-C-7012R	HCC00
	95	200	200	CRE1-CH-9512R	HCC00
16	16	115	115	CRE1-C-1616R	HCC00
	25	115	115	CRE1-C-2516R	HCC00
	35	115	115	CRE1-C-3516R	HCC00
	50	150	150	CRE1-C-5016R	HCC00
	70	200	200	CRE1-CH-7016R	HCC00
	95	200	200	CRE1-CH-9516R	HCC00
20	16	150	150	CRE1-C-1620R	HCC00
	25	150	150	CRE1-C-2520R	HCC00
	35	150	150	CRE1-C-3520R	HCC00
	50	200	200	CRE1-CH-5020R	HCC00
	70	200	200	CRE1-CH-7020R	HCC00
	95	250	250	CRE1-CH-9520R	HCC00
25	16	150	150	CRE1-CH-1625R	HCC00
	25	150	150	CRE1-CH-2525R	HCC00
	35	200	200	CRE1-CH-3525R	HCC00
	50	200	200	CRE1-CH-5025R	HCC00
	70	250	250	CRE1-CH-7025R	HCC00
	95	250	250	CRE1-CH-9525R	HCC00
30	16	200	200	CRE1-CH-1630R	HCC00
	25	200	200	CRE1-CH-2530R	HCC00
	35	200	200	CRE1-CH-3530R	HCC00
	50	250	250	CRE1-CH-5030R	HCC00
	70	250	250	CRE1-CH-7030R	HCC00
	95	250	250	CRE1-CH-9530R	HCC00
	120	250	250	CRE1-CH-12030R	HCC00

Special requirement can be requested

Tools Request :



Tools Advice :

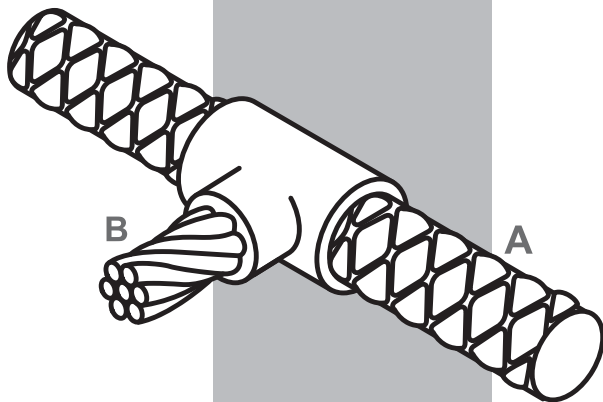
- Tool box
- Butane torch
- Butane gas
- Gloves

Note :

- For perfect welding, clean and remove oxide and moisture from reinforcement steel and conductor before making connection
- Kumwell CRE Mould provides ceramic fiber to prevent leakage

CRE 2

**Cable to Rebar Fully
Wrapped Connection**
Horizontal cable tap
to horizontal rebar



Tools Request :



Tools Advice :

- Tool box
- Butane torch
- Butane gas
- Gloves

Note :

- "2x150" means to use 2 tubes of 150 g-metal powder for one connection
- "2x200" means to use 2 tubes of 200 g-metal powder for one connection
- "2x250" means to use 2 tubes of 250 g-metal powder for one connection
- For perfect welding, clean and remove oxide and moisture from reinforcement steel and conductor before making connection
- Kumwell CRE Mould provides ceramic fiber to prevent leakage

Steel Size	Conductor Size	Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
A mm	B mm ²			
10	16	45	CRE2-C-1610R	HCC00
	25	45	CRE2-C-2510R	HCC00
	35	65	CRE2-C-3510R	HCC00
	50	90	CRE2-C-5010R	HCC00
	70	90	CRE2-C-7010R	HCC00
	95	115	CRE2-C-9510R	HCC00
	120	115	CRE2-C-12010R	HCC00
	150	150	CRE2-C-15010R	HCC00
	185	150	CRE2-C-18510R	HCC00
	240	200	CRE2-C-24010R	HCC00
12	16	45	CRE2-C-1612R	HCC00
	25	45	CRE2-C-2512R	HCC00
	35	65	CRE2-C-3512R	HCC00
	50	90	CRE2-C-5012R	HCC00
	70	90	CRE2-C-7012R	HCC00
	95	115	CRE2-C-9512R	HCC00
	120	115	CRE2-C-12012R	HCC00
	150	150	CRE2-C-15012R	HCC00
	185	150	CRE2-C-18512R	HCC00
	240	200	CRE2-C-24012R	HCC00
16	16	90	CRE2-C-1616R	HCC00
	25	90	CRE2-C-2516R	HCC00
	35	90	CRE2-C-3516R	HCC00
	50	115	CRE2-C-5016R	HCC00
	70	115	CRE2-C-7016R	HCC00
	95	150	CRE2-C-9516R	HCC00
	120	150	CRE2-C-12016R	HCC00
	150	200	CRE2-C-15016R	HCC00
	185	200	CRE2-C-18516R	HCC00
	240	250	CRE2-C-24016R	HCC00
20	16	115	CRE2-C-1620R	HCC00
	25	115	CRE2-C-2520R	HCC00
	35	115	CRE2-C-3520R	HCC00
	50	150	CRE2-C-5020R	HCC00
	70	150	CRE2-C-7020R	HCC00
	95	200	CRE2-C-9520R	HCC00
	120	200	CRE2-C-12020R	HCC00
	150	200	CRE2-C-15020R	HCC00
	185	250	CRE2-C-18520R	HCC00
	240	2 x 150	CRE2-D-24020R	HCD00
25	16	200	CRE2-C-1625R	HCC00
	25	200	CRE2-C-2525R	HCC00
	35	200	CRE2-C-3525R	HCC00
	50	200	CRE2-C-5025R	HCC00
	70	250	CRE2-C-7025R	HCC00
	95	250	CRE2-C-9525R	HCC00
	120	250	CRE2-C-12025R	HCC00
	150	2 x 150	CRE2-D-15025R	HCD00
	185	2 x 150	CRE2-D-18525R	HCD00
	240	2 x 200	CRE2-D-24025R	HCD00
30	16	250	CRE2-C-1630R	HCC00
	25	250	CRE2-C-2530R	HCC00
	35	250	CRE2-C-3530R	HCC00
	50	2 x 150	CRE2-D-5030R	HCD00
	70	2 x 150	CRE2-D-7030R	HCD00
	95	2 x 150	CRE2-D-9530R	HCD00
	120	2 x 200	CRE2-D-12030R	HCD00
	150	2 x 200	CRE2-D-15030R	HCD00
	185	2 x 250	CRE2-D-18530R	HCD00
	240	3 x 200	CRE2-D-24030R	HCD00
30	300	3 x 200	CRE2-D-30030R	HCD00

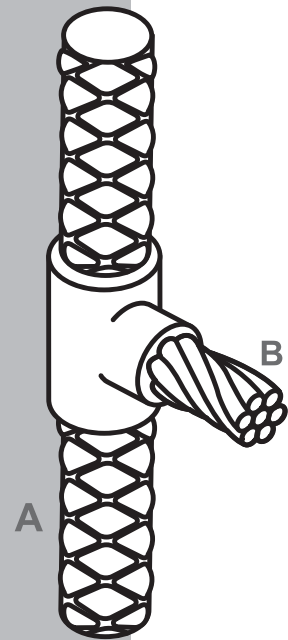
Special requirement can be requested

Steel Size	Conductor Size		Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
	A mm	B mm ²			
10	16	65	65	CRE6-C-1610R	HCC00
	25	65	65	CRE6-C-2510R	HCC00
	35	65	65	CRE6-C-3510R	HCC00
	50	115	115	CRE6-CL-5010R	HCC00
	70	115	115	CRE6-CL-7010R	HCC00
	95	150	150	CRE6-CL-9510R	HCC00
12	16	65	65	CRE6-C-1612R	HCC00
	25	65	65	CRE6-C-2512R	HCC00
	35	65	65	CRE6-C-3512R	HCC00
	50	115	115	CRE6-CL-5012R	HCC00
	70	115	115	CRE6-CL-7012R	HCC00
	95	150	150	CRE6-CL-9512R	HCC00
16	16	65	65	CRE6-C-1616R	HCC00
	25	65	65	CRE6-C-2516R	HCC00
	35	65	65	CRE6-C-3516R	HCC00
	50	115	115	CRE6-CL-5016R	HCC00
	70	115	115	CRE6-CL-7016R	HCC00
	95	150	150	CRE6-CL-9516R	HCC00
20	16	65	65	CRE6-CL-1620R	HCC00
	25	65	65	CRE6-CL-2520R	HCC00
	35	65	65	CRE6-CL-3520R	HCC00
	50	115	115	CRE6-CL-5020R	HCC00
	70	115	115	CRE6-CL-7020R	HCC00
	95	150	150	CRE6-CL-9520R	HCC00
25	16	65	65	CRE6-CL-1625R	HCC00
	25	65	65	CRE6-CL-2525R	HCC00
	35	65	65	CRE6-CL-3525R	HCC00
	50	115	115	CRE6-CL-5025R	HCC00
	70	115	115	CRE6-CL-7025R	HCC00
	95	150	150	CRE6-CL-9525R	HCC00
30	16	65	65	CRE6-CL-1630R	HCC00
	25	65	65	CRE6-CL-2530R	HCC00
	35	65	65	CRE6-CL-3530R	HCC00
	50	115	115	CRE6-CL-5030R	HCC00
	70	115	115	CRE6-CL-7030R	HCC00
	95	150	150	CRE6-CL-9530R	HCC00
	120	150	150	CRE6-CL-12030R	HCC00

Special requirement can be requested

CRE6

Cable to Rebar Fully Wrapped Connection
Horizontal cable tap to vertical rebar



Tools Request :



Tools Advice :

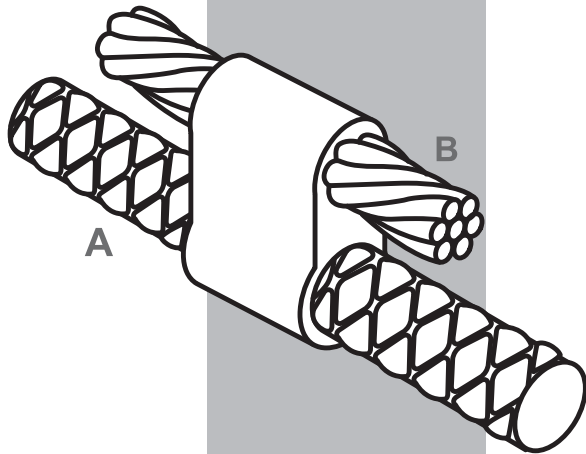
- Tool box
- Butane torch
- Butane gas
- Gloves

Note :

- For perfect welding, clean and remove oxide and moisture from reinforcement steel and conductor before making connection
- Kumwell CRE Mould provides ceramic fiber to prevent leakage

CRE 17

**Cable to Rebar Fully
Wrapped Connection**
Horizontal parallel thru cable
to horizontal rebar



Tools Request :



Tools Advice :

- Tool box
- Butane torch
- Butane gas
- Gloves

Note :

- For perfect welding, clean and remove oxide and moisture from reinforcement steel and conductor before making connection
- Kumwell CRE Mould provides ceramic fiber to prevent leakage

Steel Size	Conductor Size		Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
	A mm	B mm ²			
10	16	115	115	CRE17-C-1610R	HCC00
	25	115	115	CRE17-C-2510R	HCC00
	35	115	115	CRE17-C-3510R	HCC00
	50	150	150	CRE17-C-5010R	HCC00
	70	150	150	CRE17-C-7010R	HCC00
	95	200	200	CRE17-CH-9510R	HCC00
12	120	200	200	CRE17-CH-12010R	HCC00
	16	115	115	CRE17-C-1612R	HCC00
	25	115	115	CRE17-C-2512R	HCC00
	35	115	115	CRE17-C-3512R	HCC00
	50	150	150	CRE17-C-5012R	HCC00
	70	150	150	CRE17-C-7012R	HCC00
16	95	200	200	CRE17-CH-9512R	HCC00
	120	200	200	CRE17-CH-12012R	HCC00
	16	115	115	CRE17-C-1616R	HCC00
	25	115	115	CRE17-C-2516R	HCC00
	35	115	115	CRE17-C-3516R	HCC00
	50	150	150	CRE17-C-5016R	HCC00
20	70	200	200	CRE17-CH-7016R	HCC00
	95	200	200	CRE17-CH-9516R	HCC00
	120	200	200	CRE17-CH-12016R	HCC00
	16	150	150	CRE17-C-1620R	HCC00
	25	150	150	CRE17-C-2520R	HCC00
	35	150	150	CRE17-C-3520R	HCC00
25	50	200	200	CRE17-CH-5020R	HCC00
	70	200	200	CRE17-CH-7020R	HCC00
	95	250	250	CRE17-CH-9520R	HCC00
	120	250	250	CRE17-CH-12020R	HCC00
	16	150	150	CRE17-C-1625R	HCC00
	25	150	150	CRE17-C-2525R	HCC00
30	35	200	200	CRE17-CH-3525R	HCC00
	50	200	200	CRE17-CH-5025R	HCC00
	70	250	250	CRE17-CH-7025R	HCC00
	95	250	250	CRE17-CH-9525R	HCC00
	120	250	250	CRE17-CH-12025R	HCC00
	16	200	200	CRE17-CH-1630R	HCC00
30	25	200	200	CRE17-CH-2530R	HCC00
	35	200	200	CRE17-CH-3530R	HCC00
	50	250	250	CRE17-CH-5030R	HCC00
	70	250	250	CRE17-CH-7030R	HCC00
	95	250	250	CRE17-CH-9530R	HCC00
	120	250	250	CRE17-CH-12030R	HCC00

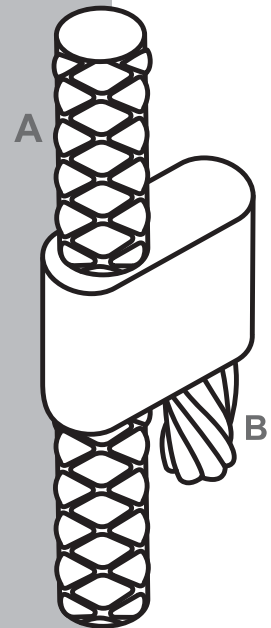
Special requirement can be requested

Steel Size	Conductor Size		Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
	A mm	B mm ²			
10	16	115	115	CRE18-CL-1610R	HCC00
	25	115	115	CRE18-CL-2510R	HCC00
	35	115	115	CRE18-CL-3510R	HCC00
	50	150	150	CRE18-CL-5010R	HCC00
	70	150	150	CRE18-CL-7010R	HCC00
	95	200	200	CRE18-CL-9510R	HCC00
12	16	115	115	CRE18-CL-1612R	HCC00
	25	115	115	CRE18-CL-2512R	HCC00
	35	115	115	CRE18-CL-3512R	HCC00
	50	150	150	CRE18-CL-5012R	HCC00
	70	150	150	CRE18-CL-7012R	HCC00
	95	200	200	CRE18-CL-9512R	HCC00
16	16	115	115	CRE18-CL-1616R	HCC00
	25	115	115	CRE18-CL-2516R	HCC00
	35	115	115	CRE18-CL-3516R	HCC00
	50	150	150	CRE18-CL-5016R	HCC00
	70	200	200	CRE18-CL-7016R	HCC00
	95	200	200	CRE18-CL-9516R	HCC00
20	16	150	150	CRE18-CL-1620R	HCC00
	25	150	150	CRE18-CL-2520R	HCC00
	35	150	150	CRE18-CL-3520R	HCC00
	50	200	200	CRE18-CL-5020R	HCC00
	70	200	200	CRE18-CL-7020R	HCC00
	95	250	250	CRE18-CL-9520R	HCC00
25	16	150	150	CRE18-CL-1625R	HCC00
	25	150	150	CRE18-CL-2525R	HCC00
	35	200	200	CRE18-CL-3525R	HCC00
	50	200	200	CRE18-CL-5025R	HCC00
	70	250	250	CRE18-CL-7025R	HCC00
	95	250	250	CRE18-CL-9525R	HCC00
30	16	200	200	CRE18-CL-1630R	HCC00
	25	200	200	CRE18-CL-2530R	HCC00
	35	200	200	CRE18-CL-3530R	HCC00
	50	250	250	CRE18-CL-5030R	HCC00
	70	250	250	CRE18-CL-7030R	HCC00
	95	250	250	CRE18-CL-9530R	HCC00
	120	250	250	CRE18-CL-12030R	HCC00

Special requirement can be requested

CRE 18

Cable to Rebar Fully Wrapped Connection
Vertical parallel down cable to vertical rebar



Tools Request :



Tools Advice :

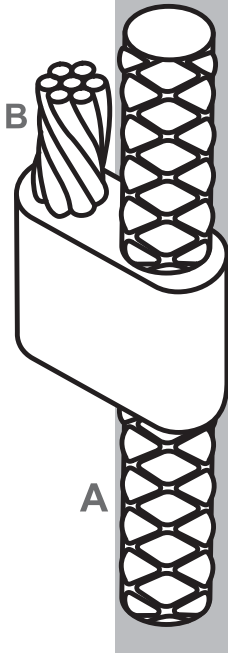
- Tool box
- Butane torch
- Butane gas
- Gloves

Note :

- For perfect welding, clean and remove oxide and moisture from reinforcement steel and conductor before making connection
- Kumwell CRE Mould provides ceramic fiber to prevent leakage

CRE 19

**Cable to Rebar Fully
Wrapped Connection**
Vertical parallel up cable
to vertical rebar



Tools Request :



Tools Advice :

- Tool box
- Butane torch
- Butane gas
- Gloves

Note :

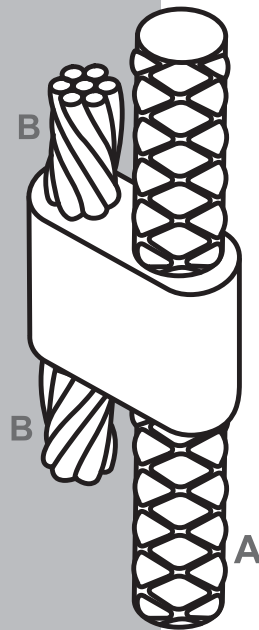
- For perfect welding, clean and remove oxide and moisture from reinforcement steel and conductor before making connection
- Kumwell CRE Mould provides ceramic fiber to prevent leakage

Steel Size	Conductor Size	Metal Powder	Graphite Mold Type	Handle Clamp Type
A mm	B mm ²	(g)		
10	16	115	CRE19-CL-1610R	HCC00
	25	115	CRE19-CL-2510R	HCC00
	35	115	CRE19-CL-3510R	HCC00
	50	150	CRE19-CL-5010R	HCC00
	70	150	CRE19-CL-7010R	HCC00
	95	200	CRE19-CL-9510R	HCC00
12	16	115	CRE19-CL-1612R	HCC00
	25	115	CRE19-CL-2512R	HCC00
	35	115	CRE19-CL-3512R	HCC00
	50	150	CRE19-CL-5012R	HCC00
	70	150	CRE19-CL-7012R	HCC00
	95	200	CRE19-CL-9512R	HCC00
16	16	115	CRE19-CL-1616R	HCC00
	25	115	CRE19-CL-2516R	HCC00
	35	115	CRE19-CL-3516R	HCC00
	50	150	CRE19-CL-5016R	HCC00
	70	200	CRE19-CL-7016R	HCC00
	95	200	CRE19-CL-9516R	HCC00
20	16	150	CRE19-CL-1620R	HCC00
	25	150	CRE19-CL-2520R	HCC00
	35	150	CRE19-CL-3520R	HCC00
	50	200	CRE19-CL-5020R	HCC00
	70	200	CRE19-CL-7020R	HCC00
	95	250	CRE19-CL-9520R	HCC00
25	16	150	CRE19-CL-1625R	HCC00
	25	150	CRE19-CL-2525R	HCC00
	35	200	CRE19-CL-3525R	HCC00
	50	200	CRE19-CL-5025R	HCC00
	70	250	CRE19-CL-7025R	HCC00
	95	250	CRE19-CL-9525R	HCC00
30	16	200	CRE19-CL-1630R	HCC00
	25	200	CRE19-CL-2530R	HCC00
	35	200	CRE19-CL-3530R	HCC00
	50	250	CRE19-CL-5030R	HCC00
	70	250	CRE19-CL-7030R	HCC00
	95	250	CRE19-CL-9530R	HCC00
	120	250	CRE19-CL-12030R	HCC00

Special requirement can be requested

CRE 20

**Cable to Rebar Fully
Wrapped Connection**
Vertical parallel thru cable
to vertical rebar



Steel Size	Conductor Size		Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
	A mm	B mm ²			
10	16	115	115	CRE20-CL-1610R	HCC00
	25	115	115	CRE20-CL-2510R	HCC00
	35	115	115	CRE20-CL-3510R	HCC00
	50	150	150	CRE20-CL-5010R	HCC00
	70	150	150	CRE20-CL-7010R	HCC00
	95	200	200	CRE20-CL-9510R	HCC00
12	16	115	115	CRE20-CL-1612R	HCC00
	25	115	115	CRE20-CL-2512R	HCC00
	35	115	115	CRE20-CL-3512R	HCC00
	50	150	150	CRE20-CL-5012R	HCC00
	70	150	150	CRE20-CL-7012R	HCC00
	95	200	200	CRE20-CL-9512R	HCC00
16	16	115	115	CRE20-CL-1616R	HCC00
	25	115	115	CRE20-CL-2516R	HCC00
	35	115	115	CRE20-CL-3516R	HCC00
	50	150	150	CRE20-CL-5016R	HCC00
	70	200	200	CRE20-CL-7016R	HCC00
	95	200	200	CRE20-CL-9516R	HCC00
20	16	150	150	CRE20-CL-1620R	HCC00
	25	150	150	CRE20-CL-2520R	HCC00
	35	150	150	CRE20-CL-3520R	HCC00
	50	200	200	CRE20-CL-5020R	HCC00
	70	200	200	CRE20-CL-7020R	HCC00
	95	250	250	CRE20-CL-9520R	HCC00
25	16	150	150	CRE20-CL-1625R	HCC00
	25	150	150	CRE20-CL-2525R	HCC00
	35	200	200	CRE20-CL-3525R	HCC00
	50	200	200	CRE20-CL-5025R	HCC00
	70	250	250	CRE20-CL-7025R	HCC00
	95	250	250	CRE20-CL-9525R	HCC00
30	16	200	200	CRE20-CL-1630R	HCC00
	25	200	200	CRE20-CL-2530R	HCC00
	35	200	200	CRE20-CL-3530R	HCC00
	50	250	250	CRE20-CL-5030R	HCC00
	70	250	250	CRE20-CL-7030R	HCC00
	95	250	250	CRE20-CL-9530R	HCC00
	120	250	250	CRE20-CL-12030R	HCC00

Special requirement can be requested

Tools Request :



Tools Advice :

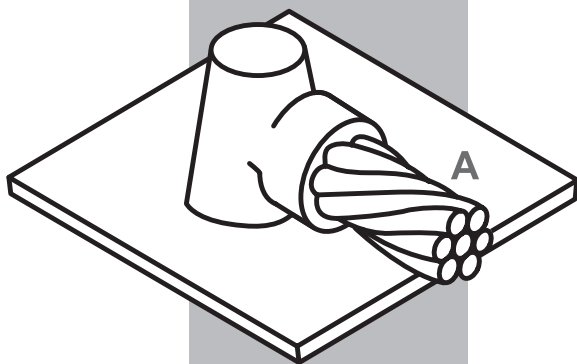
- Tool box
- Butane torch
- Butane gas
- Gloves

Note :

- For perfect welding, clean and remove oxide and moisture from reinforcement steel and conductor before making connection
- Kumwell CRE Mould provides ceramic fiber to prevent leakage

CS1

Cable to Steel
Horizontal cable
to horizontal steel surface
(off surface)



Conductor Size	Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
A mm ²			
10	45	CS1-A-10	HCA00
16	45	CS1-A-16	HCA00
25	45	CS1-A-25	HCA00
35	45	CS1-A-35	HCA00
∅ 8 mm	90	CS1-C-8SC	HCC00
50	90	CS1-C-50	HCC00
∅ 10 mm	90	CS1-C-10SC	HCC00
70	90	CS1-C-70	HCC00
95	115	CS1-C-95	HCC00
120	115	CS1-C-120	HCC00
150	150	CS1-C-150	HCC00
185	200	CS1-C-185	HCC00
240	200	CS1-C-240	HCC00
300	250	CS1-C-300	HCC00

Special requirement can be requested

Tools Request :



Tools Advice :

- Tool box
- Butane torch
- Butane gas
- Gloves

Note :

- SC means Solid Copper
- For perfect welding between conductor and flat steel, making connection need to remove moisture, oxide and galvanized metal
- After welding process, coating steel's surface and connection by Rust-Oleum cold galvanizing is required
- "HCA00" Type A - Handle clamp is built-in graphite mould
- "Off surface" means that the cable is higher than steel surface

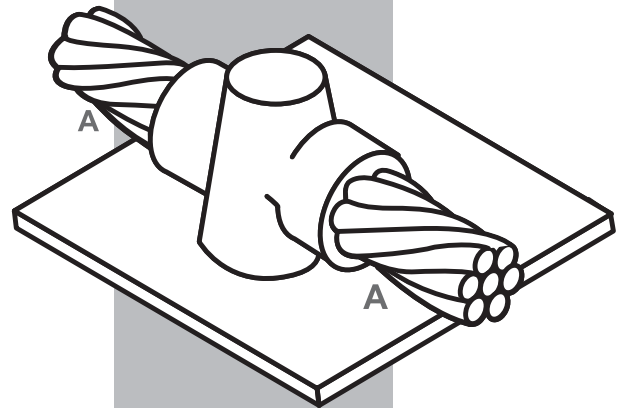
CS 2

Cable to Steel

Horizontal thru cable to horizontal steel surface (off surface)

Conductor Size	Metal Powder	Graphite Mould	Handle Clamp
A mm ²	(g)	Type	Type
10	45	CS2-A-10	HCA00
16	45	CS2-A-16	HCA00
25	45	CS2-A-25	HCA00
35	45	CS2-A-35	HCA00
∅ 8 mm	90	CS2-C-8SC	HCC00
50	90	CS2-C-50	HCC00
∅ 10 mm	115	CS2-C-10SC	HCC00
70	115	CS2-C-70	HCC00
95	115	CS2-C-95	HCC00
120	150	CS2-C-120	HCC00
150	200	CS2-C-150	HCC00
185	250	CS2-C-185	HCC00
240	2 x 150	CS2-D-240	HCD00
300	2 x 200	CS2-D-300	HCD00

Special requirement can be requested



Tools Request :



Tools Advice :

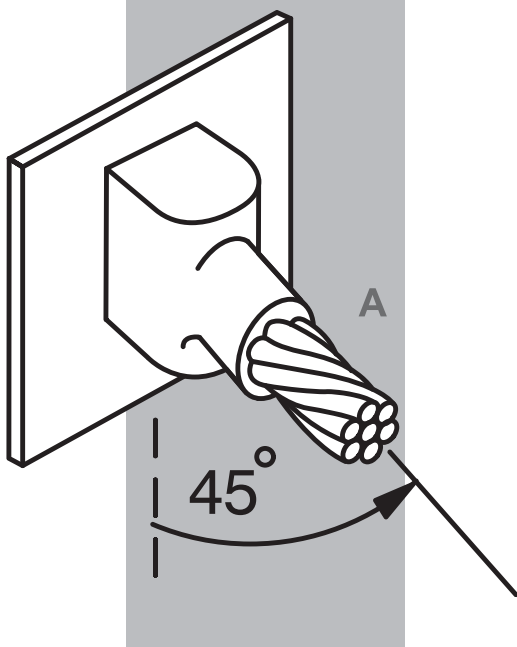
- Tool box
- Butane torch
- Butane gas
- Gloves

- Note :**
- SC means Solid Copper
 - "2x150" means to use 2 tubes of 150 g - metal powder for one connection
 - "2x200" means to use 2 tubes of 200 g - metal powder for one connection
 - For perfect welding between conductor and flat steel, making connection need to remove moisture, oxide and galvanized metal
 - After welding process, coating steel's surface and connection by Rust-Oleum cold galvanizing is required
 - "HCA00" Type A - Handle clamp is buitied - in graphite mould
 - "Off surface" means that the cable is higher than steel surface

CS3

Cable to Steel

Angular cable drop
to vertical steel surface



Conductor Size	Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
A mm ²			
10	45	CS3-C-10	HCC00-Y
16	45	CS3-C-16	HCC00-Y
25	45	CS3-C-25	HCC00-Y
35	45	CS3-C-35	HCC00-Y
∅ 8 mm	90	CS3-C-8SC	HCC00-Y
50	90	CS3-C-50	HCC00-Y
∅ 10 mm	115	CS3-C-10SC	HCC00-Y
70	90	CS3-C-70	HCC00-Y
95	115	CS3-C-95	HCC00-Y
120	115	CS3-C-120	HCC00-Y
150	150	CS3-C-150	HCC00-Y
185	200	CS3-C-185	HCC00-Y
240	200	CS3-C-240	HCC00-Y
300	250	CS3-C-300	HCC00-Y

Special requirement can be requested

Tools Request :



Tools Advice :

- Tool box
- Butane torch
- Butane gas
- Gloves

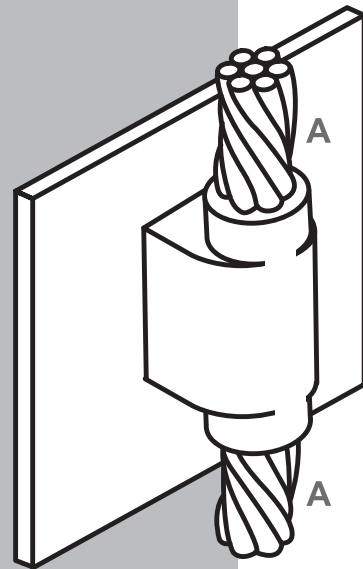
Note :

- SC means Solid Copper
- For perfect welding between conductor and flat steel, making connection need to remove moisture, oxide and galvanized metal
- After welding process, coating steel's surface and connection by Rust-Oleum cold galvanizing is required

CS 4

Cable to Steel

Vertical thru cable
to vertical steel surface
(off surface)



Conductor Size	Metal Powder	Graphite Mould Type	Handle Clamp Type
A _{mm²}	(g)	Type	Type
25	90	CS4-C-25	HCC00-Y
35	115	CS4-C-35	HCC00-Y
50	200	CS4-CR-50	HCC00-Y
70	200	CS4-CR-70	HCC00-Y
95	250	CS4-CR-95	HCC00-Y
120	250	CS4-CR-120	HCC00-Y
150	250	CS4-CR-150	HCC00-Y
185	2 x 150	CS4-DR-185	HCD00-Y
240	2 x 200	CS4-DR-240	HCD00-Y
300	2 x 250	CS4-DR-300	HCD00-Y

Special requirement can be requested

Tools Request :



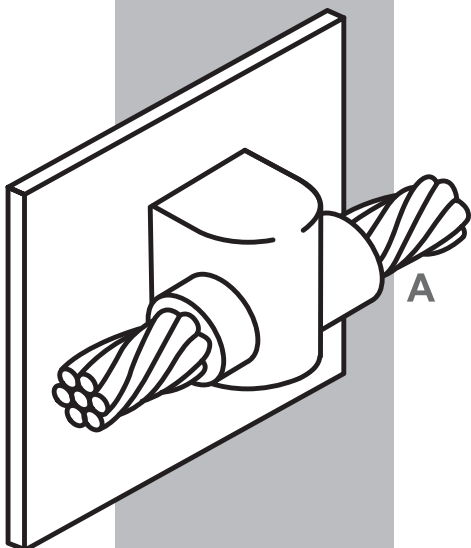
Tools Advice :

- Tool box
- Butane torch
- Butane gas
- Gloves

- Note :**
- "2x150" means to use 2 tubes of 150 g - metal powder for one connection
 - "2x200" means to use 2 tubes of 200 g - metal powder for one connection
 - "2x250" means to use 2 tubes of 250 g - metal powder for one connection
 - For perfect welding between conductor and flat steel, making connection need to remove moisture, oxide and galvanized metal
 - After welding process, coating steel's surface and connection by Rust-Oleum cold galvanizing is required
 - "Off surface" means that the cable is higher than steel surface

CS6

Cable to Steel
Horizontal thru cable
to vertical steel surface
(off surface)



Conductor Size	Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
A mm ²			
25	65	CS6-C-25	HCC00-W
35	65	CS6-C-35	HCC00-W
50	115	CS6-C-50	HCC00-W
70	115	CS6-C-70	HCC00-W
95	150	CS6-C-95	HCC00-W
120	150	CS6-C-120	HCC00-W
150	250	CS6-C-150	HCC00-W
185	2 x 150	CS6-DR-185	HCD00-W
240	2 x 200	CS6-DR-240	HCD00-W
300	2 x 250	CS6-DR-300	HCD00-W

Special requirement can be requested

Tools Request :



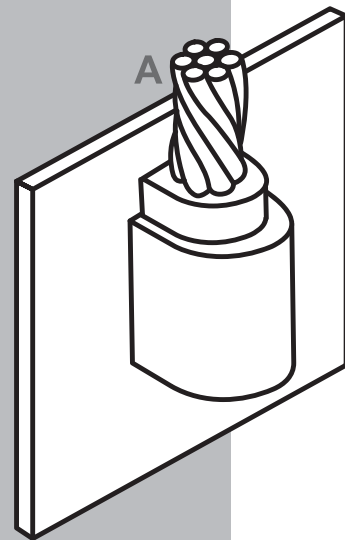
- Tools Advice :**
- Tool box
 - Butane torch
 - Butane gas
 - Gloves

- Note :**
- SC means Solid Copper
 - "2x150" means to use 2 tubes of 150 g - metal powder for one connection
 - "2x200" means to use 2 tubes of 200 g - metal powder for one connection
 - "2x250" means to use 2 tubes of 250 g - metal powder for one connection
 - For perfect welding between conductor and flat steel, making connection need to remove moisture, oxide and galvanized metal
 - After welding process, coating steel's surface and connection by Rust-Oleum cold galvanizing is required
 - "Off surface" means that the cable is higher than steel surface

CS 7

Cable to Steel

Overhead vertical tap cable
to vertical steel surface
(on surface)



Conductor Size	Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
A mm ²			
10	65	CS7-C-10	HCC00-Y
16	65	CS7-C-16	HCC00-Y
25	65	CS7-C-25	HCC00-Y
35	65	CS7-C-35	HCC00-Y
∅ 8 mm	90	CS7-C-8SC	HCC00-Y
50	150	CS7-C-50	HCC00-Y
∅ 10 mm	150	CS7-C-10SC	HCC00-Y
70	150	CS7-C-70	HCC00-Y
95	200	CS7-CR-95	HCC00-Y
120	200	CS7-CR-120	HCC00-Y
150	250	CS7-CR-150	HCC00-Y
185	2 x 150	CS7-CR-185	HCC00-Y
240	2 x 200	CS7-DR-240	HCD00-Y
300	2 x 250	CS7-DR-300	HCD00-Y

Special requirement can be requested

Tools Request :



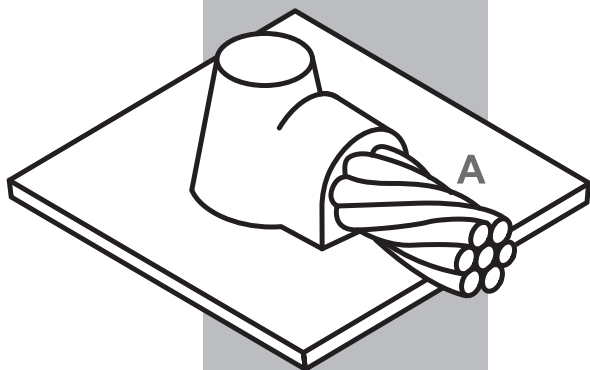
Tools Advice :

- Tool box
- Butane torch
- Butane gas
- Gloves

- Note :**
- SC means Solid Copper
 - "2x150" means to use 2 tubes of 150 g - metal powder for one connection
 - "2x200" means to use 2 tubes of 200 g - metal powder for one connection
 - "2x250" means to use 2 tubes of 250 g - metal powder for one connection
 - For perfect welding between conductor and flat steel, making connection need to remove moisture, oxide and galvanized metal
 - After welding process, coating steel's surface and connection by Rust-Oleum cold galvanizing is required
 - "On surface" means that the cable is closed to steel surface

CS8

Cable to Steel
Horizontal cable
to horizontal steel surface
(on surface)



Conductor Size	Metal Powder (g)	Graphite Mold Type	Handle Clamp Type
A mm ²			
10	45	CS8-A-10	HCA00
16	45	CS8-A-16	HCA00
25	45	CS8-A-25	HCA00
35	45	CS8-A-35	HCA00
∅ 8 mm	45	CS8-A-8SC	HCA00
50	65	CS8-A-50	HCA00
∅ 10 mm	65	CS8-A-10SC	HCA00
70	90	CS8-C-70	HCC00
95	115	CS8-C-95	HCC00
120	115	CS8-C-120	HCC00
150	150	CS8-C-150	HCC00
185	200	CS8-C-185	HCC00
240	200	CS8-C-240	HCC00
300	250	CS8-C-300	HCC00

Special requirement can be requested

Tools Request :



Tools Advice :

- Tool box
- Butane torch
- Butane gas
- Gloves

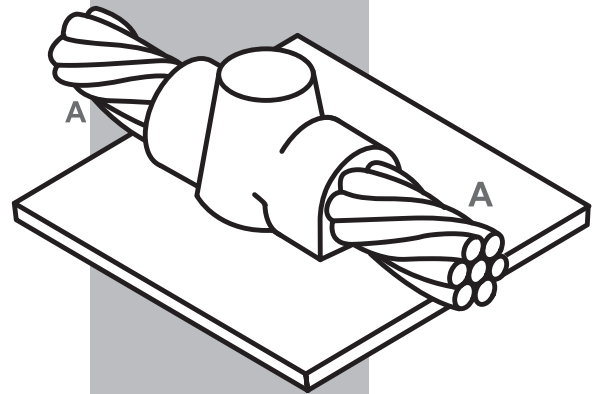
Note :

- SC means Solid Copper
- For perfect welding between conductor and flat steel, making connection need to remove moisture, oxide and galvanized metal
- After welding process, coating steel's surface and connection by Rust-Oleum cold galvanizing is required
- "On surface" means that the cable is closed to steel surface
- "HCA00" Type A -Handle clamp is built-in graphite mould

CS9

Cable to Steel

Horizontal thru cable to horizontal steel surface (on surface)



Conductor Size	Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
A mm ²			
10	45	CS9-A-10	HCA00
16	45	CS9-A-16	HCA00
25	45	CS9-A-25	HCA00
35	45	CS9-A-35	HCA00
∅ 8 mm	90	CS9-C-8SC	HCC00
50	90	CS9-C-50	HCC00
∅ 10 mm	115	CS9-C-10SC	HCC00
70	115	CS9-C-70	HCC00
95	115	CS9-C-95	HCC00
120	150	CS9-C-120	HCC00
150	200	CS9-C-150	HCC00
185	250	CS9-C-185	HCC00
240	2 x 150	CS9-D-240	HCD00
300	2 x 200	CS9-D-300	HCD00

Special requirement can be requested

Tools Request :



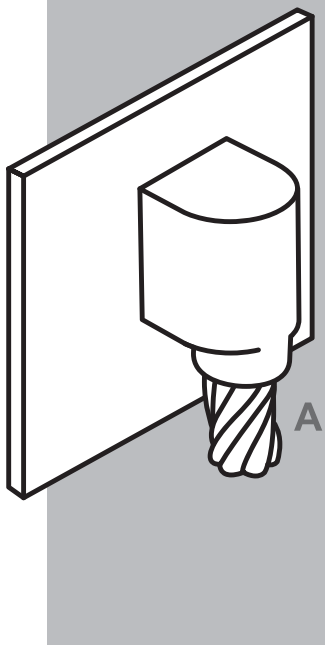
Tools Advice :

- Tool box
- Butane torch
- Butane gas
- Gloves

- Note :**
- SC means Solid Copper
 - "2x150" means to use 2 tubes of 150 g - metal powder for one connection
 - "2x200" means to use 2 tubes of 200 g - metal powder for one connection
 - For perfect welding between conductor and flat steel, making connection need to remove moisture, oxide and galvanized metal
 - After welding process, coating steel's surface and connection by Rust-Oleum cold galvanizing is required
 - "HCA00" Type A - Handle clamp is built-in graphite mould
 - "On surface" means that the cable is closed to steel surface

CS 23

Cable to Steel
Vertical cable down
to vertical steel surface
(off surface)



Conductor Size	Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
A _{mm²}			
25	65	CS23-C-25	HCC00-Y
35	65	CS23-C-35	HCC00-Y
50	115	CS23-C-50	HCC00-Y
70	115	CS23-C-70	HCC00-Y
95	150	CS23-C-95	HCC00-Y
120	200	CS23-C-120	HCC00-Y
150	200	CS23-C-150	HCC00-Y
185	250	CS23-C-185	HCC00-Y
240	2 x 150	CS23-CR-240	HCC00-Y
300	2 x 200	CS23-DR-300	HCD00-Y

Special requirement can be requested

Tools Request :



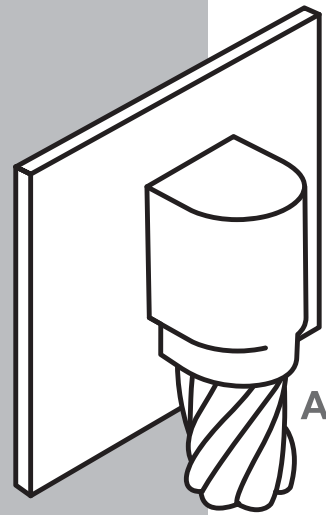
Tools Advice :

- Tool box
- Butane torch
- Butane gas
- Gloves

- Note :**
- "2x150" means to use 2 tubes of 150 g - metal powder for one connection
 - "2x200" means to use 2 tubes of 200 g - metal powder for one connection
 - For perfect welding between conductor and flat steel, making connection need to remove moisture, oxide and galvanized metal
 - After welding process, coating steel's surface and connection by Rust-Oleum cold galvanizing is required
 - "Off surface" means that the cable is higher than steel surface

CS 25

Cable to Steel
Vertical cable drop
to vertical steel surface
(on surface)



Conductor Size	Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
A mm ²			
10	45	CS25-C-10	HCC00-Y
16	45	CS25-C-16	HCC00-Y
25	45	CS25-C-25	HCC00-Y
35	45	CS25-C-35	HCC00-Y
50	65	CS25-C-50	HCC00-Y
70	90	CS25-C-70	HCC00-Y
95	115	CS25-C-95	HCC00-Y
120	115	CS25-C-120	HCC00-Y
150	150	CS25-C-150	HCC00-Y
185	200	CS25-CR-185	HCC00-Y
240	200	CS25-CR-240	HCC00-Y
300	250	CS25-CR-300	HCC00-Y

Special requirement can be requested

Tools Request :



Tools Advice :

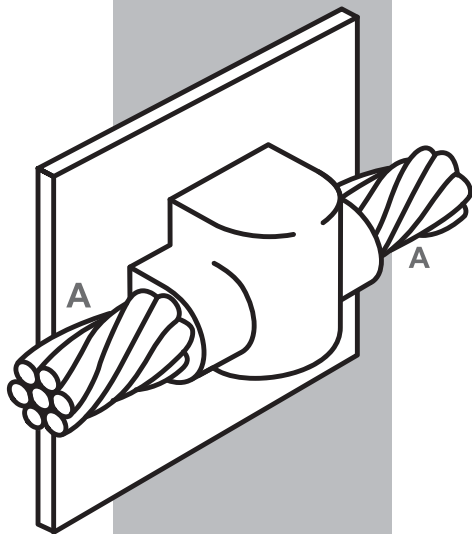
- Tool box
- Butane torch
- Butane gas
- Gloves

Note :

- For perfect welding between conductor and flat steel, making connection need to remove moisture, oxide and galvanized metal
- After welding process, coating steel's surface and connection by Rust-Oleum cold galvanizing is required
- "On surface" means that the cable is closed to steel surface

CS 27

Cable to Steel
Horizontal thru cable
to vertical steel surface
(on surface)



Conductor Size	Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
A mm ²			
10	45	CS27-C-10	HCC00-Y
16	45	CS27-C-16	HCC00-Y
25	45	CS27-C-25	HCC00-Y
35	45	CS27-C-35	HCC00-Y
∅ 8 mm	65	CS27-C-8SC	HCC00-Y
50	115	CS27-C-50	HCC00-Y
∅ 10 mm	115	CS27-C-10SC	HCC00-Y
70	115	CS27-C-70	HCC00-Y
95	150	CS27-C-95	HCC00-Y
120	150	CS27-C-120	HCC00-Y
150	200	CS27-CR-150	HCC00-Y
185	250	CS27-CR-185	HCC00-Y
240	2 x 150	CS27-D-240	HCD00-Y
300	2 x 200	CS27-D-300	HCD00-Y

Special requirement can be requested

Tools Request :



Tools Advice :

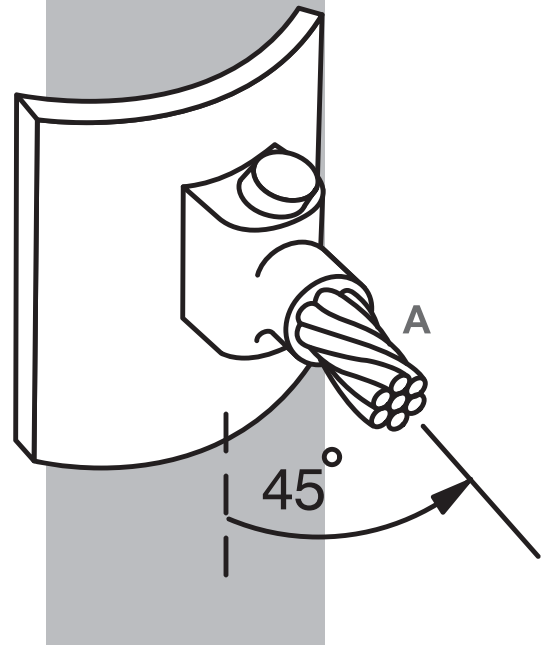
- Tool box
- Butane torch
- Butane gas
- Gloves

- Note :**
- "2x150" means to use 2 tubes of 150 g - metal powder for one connection
 - "2x200" means to use 2 tubes of 200 g - metal powder for one connection
 - For perfect welding between conductor and flat steel, making connection need to remove moisture, oxide and galvanized metal
 - After welding process, coating steel's surface and connection by Rust-Oleum cold galvanizing is required
 - "On surface" means that the cable is closed to steel surface

CP1

Cable to Pipe

Angular cable drop
to vertical pipe



Conductor Size	Metal Powder	Graphite Mould Type	Handle Clamp Type
A _{mm²}	(g)	Type	Type
10	45	CP1-C-10	HCC00-X
16	45	CP1-C-16	HCC00-X
25	45	CP1-C-25	HCC00-X
35	45	CP1-C-35	HCC00-X
∅ 8 mm	90	CP1-C-8SC	HCC00-X
50	90	CP1-C-50	HCC00-X
∅ 10 mm	115	CP1-C-10SC	HCC00-X
70	90	CP1-C-70	HCC00-X
95	115	CP1-C-95	HCC00-X
120	115	CP1-C-120	HCC00-X
150	150	CP1-C-150	HCC00-X
185	200	CP1-C-185	HCC00-X
240	200	CP1-C-240	HCC00-X
300	250	CP1-C-300	HCC00-X

Special requirement can be requested

Tools Request :



Tools Advice :

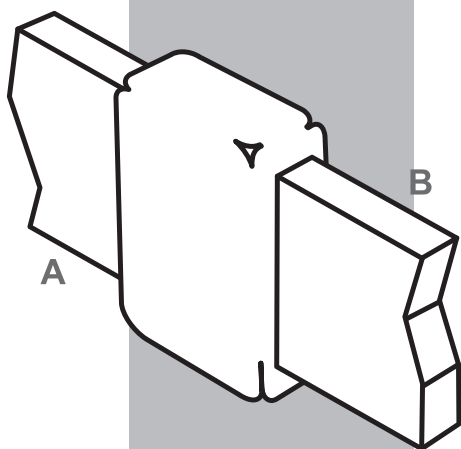
- Tool box
- Butane torch
- Butane gas
- Gloves

Note :

- SC means Solid Copper
- For perfect welding between conductor and flat steel, making connection need to remove moisture, oxide and galvanized metal
- After welding process, coating steel's surface and connection by Rust-Oleum cold galvanizing is required

BB1

Bus Bar to Bus Bar
Horizontal bus bar end to end
(vertical flat side)



Conductor Size		Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
A mm x mm	B mm x mm			
20 x 2	20 x 2	45	BB1-C-202	HCC00
20 x 3	20 x 3	45	BB1-C-203	HCC00
20 x 4	20 x 4	65	BB1-C-204	HCC00
20 x 5	20 x 5	90	BB1-C-205	HCC00
25 x 2	25 x 2	65	BB1-C-252	HCC00
25 x 3	25 x 3	65	BB1-C-253	HCC00
25 x 4	25 x 4	90	BB1-C-254	HCC00
25 x 5	25 x 5	90	BB1-C-255	HCC00
25 x 6	25 x 6	115	BB1-C-256	HCC00
25 x 8	25 x 8	150	BB1-C-258	HCC00
25 x 12	25 x 12	200	BB1-C-2512	HCC00
30 x 2	30 x 2	65	BB1-C-302	HCC00
30 x 3	30 x 3	65	BB1-C-303	HCC00
30 x 4	30 x 4	115	BB1-C-304	HCC00
30 x 5	30 x 5	115	BB1-C-305	HCC00
30 x 6	30 x 6	150	BB1-C-306	HCC00
31 x 3	31 x 3	65	BB1-C-313	HCC00
31 x 6	31 x 6	115	BB1-C-316	HCC00
38 x 3	38 x 3	150	BB1-C-383	HCC00
38 x 5	38 x 5	150	BB1-C-385	HCC00
38 x 6	38 x 6	200	BB1-C-386	HCC00
38 x 8	38 x 8	200	BB1-C-388	HCC00
40 x 3	40 x 3	115	BB1-C-403	HCC00
40 x 4	40 x 4	150	BB1-C-404	HCC00
40 x 5	40 x 5	150	BB1-C-405	HCC00
40 x 6	40 x 6	200	BB1-C-406	HCC00
50 x 3	50 x 3	90	BB1-C-503	HCC00
50 x 4	50 x 4	115	BB1-C-504	HCC00
50 x 5	50 x 5	200	BB1-C-505	HCC00
50 x 6	50 x 6	250	BB1-C-506	HCC00
50 x 8	50 x 8	2 x 150	BB1-D-508	HCD00
50 x 10	50 x 10	2 x 200	BB1-D-5010	HCD00
60 x 6	60 x 6	250	BB1-C-606	HCC00
60 x 8	60 x 8	2 x 200	BB1-D-608	HCD00
60 x 10	60 x 10	2 x 250	BB1-D-6010	HCD00
80 x 6	80 x 6	2 x 200	BB1-D-806	HCD00
80 x 8	80 x 8	2 x 250	BB1-D-808	HCD00
80 x 10	80 x 10	3 x 200	BB1-D-8010	HCD00

Special requirement can be requested

Tools Request :



Tools Advice :

- Tool box
- Butane torch
- Butane gas
- Gloves

Note :

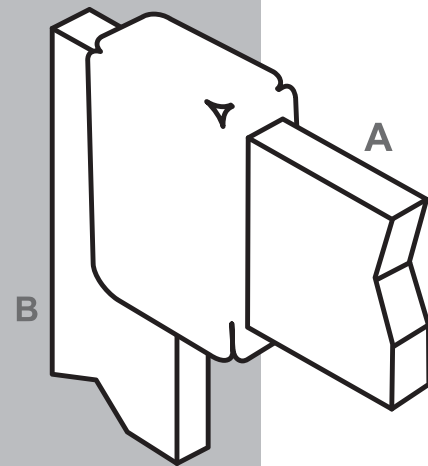
- "2x150" means to use 2 tubes of 150 g - metal powder for one connection
- "2x200" means to use 2 tubes of 200 g - metal powder for one connection
- "2x250" means to use 2 tubes of 250 g - metal powder for one connection
- "3x200" means to use 3 tubes of 200 g - metal powder for one connection

BB2

Bus Bar to Bus Bar Horizontal bus bar tap to vertical bus bar down

Conductor Size		Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
A mm x mm	B mm x mm			
20 x 2	20 x 2	45	BB2-C-202	HCC00
20 x 3	20 x 3	45	BB2-C-203	HCC00
20 x 4	20 x 4	65	BB2-C-204	HCC00
20 x 5	20 x 5	90	BB2-C-205	HCC00
25 x 2	25 x 2	45	BB2-C-252	HCC00
25 x 3	25 x 3	65	BB2-C-253	HCC00
25 x 4	25 x 4	90	BB2-C-254	HCC00
25 x 5	25 x 5	90	BB2-C-255	HCC00
25 x 6	25 x 6	115	BB2-C-256	HCC00
25 x 8	25 x 8	150	BB2-C-258	HCC00
25 x 12	25 x 12	250	BB2-C-2512	HCC00
30 x 2	30 x 2	65	BB2-C-302	HCC00
30 x 3	30 x 3	65	BB2-C-303	HCC00
30 x 4	30 x 4	90	BB2-C-304	HCC00
30 x 5	30 x 5	115	BB2-C-305	HCC00
30 x 6	30 x 6	150	BB2-C-306	HCC00
31 x 3	31 x 3	65	BB2-C-313	HCC00
31 x 6	31 x 6	150	BB2-C-316	HCC00
38 x 3	38 x 3	115	BB2-C-383	HCC00
38 x 5	38 x 5	115	BB2-C-385	HCC00
38 x 6	38 x 6	200	BB2-C-386	HCC00
38 x 8	38 x 8	250	BB2-C-388	HCC00
40 x 3	40 x 3	90	BB2-C-403	HCC00
40 x 4	40 x 4	115	BB2-C-404	HCC00
40 x 5	40 x 5	150	BB2-C-405	HCC00
40 x 6	40 x 6	200	BB2-C-406	HCC00
50 x 3	50 x 3	90	BB2-C-503	HCC00
50 x 4	50 x 4	115	BB2-C-504	HCC00
50 x 5	50 x 5	200	BB2-C-505	HCC00
50 x 6	50 x 6	250	BB2-C-506	HCC00
50 x 8	50 x 8	2 x 150	BB2-D-508	HCD00
50 x 10	50 x 10	2 x 200	BB2-D-5010	HCD00
60 x 6	60 x 6	2 x 150	BB2-D-606	HCD00
60 x 8	60 x 8	2 x 200	BB2-D-608	HCD00
60 x 10	60 x 10	2 x 250	BB2-D-6010	HCD00
80 x 6	80 x 6	2 x 150	BB2-D-806	HCD00
80 x 8	80 x 8	2 x 200	BB2-D-808	HCD00
80 x 10	80 x 10	2 x 250	BB2-D-8010	HCD00

Special requirement can be requested



Tools Request :



Tools Advice :

- Tool box
- Butane torch
- Butane gas
- Gloves

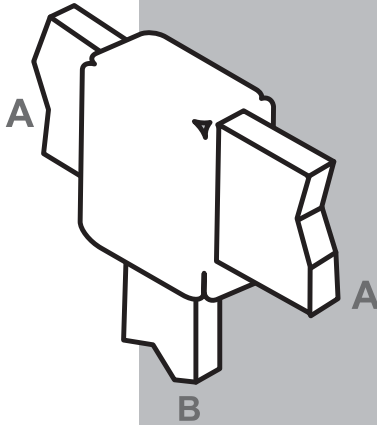
Note :

- "2x150" means to use 2 tubes of 150 g - metal powder for one connection
- "2x200" means to use 2 tubes of 200 g - metal powder for one connection
- "2x250" means to use 2 tubes of 250 g - metal powder for one connection

BB3

Bus Bar to Bus Bar

Vertical bus bar drop tap
to horizontal bus run



Conductor Size		Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
A mm x mm	B mm x mm			
20 x 2	20 x 2	45	BB3-C-202202	HCC00
20 x 3	20 x 3	65	BB3-C-203203	HCC00
20 x 4	20 x 4	65	BB3-C-204204	HCC00
20 x 5	20 x 5	65	BB3-C-205205	HCC00
25 x 2	25 x 2	65	BB3-C-252252	HCC00
25 x 3	25 x 3	65	BB3-C-253253	HCC00
25 x 4	25 x 4	90	BB3-C-254254	HCC00
25 x 5	25 x 5	115	BB3-C-255255	HCC00
25 x 6	25 x 6	150	BB3-C-256256	HCC00
25 x 8	25 x 8	250	BB3-C-258258	HCC00
25 x 12	25 x 12	2 x 150	BB3-C-25122512	HCC00
30 x 2	30 x 2	65	BB3-C-302302	HCC00
30 x 3	30 x 3	90	BB3-C-303303	HCC00
30 x 4	30 x 4	115	BB3-C-304304	HCC00
30 x 5	30 x 5	150	BB3-C-305305	HCC00
30 x 6	30 x 6	200	BB3-C-306306	HCC00
31 x 3	31 x 3	115	BB3-C-313313	HCC00
31 x 6	31 x 6	200	BB3-C-316316	HCC00
38 x 3	38 x 3	115	BB3-C-383383	HCC00
38 x 5	38 x 5	150	BB3-C-385385	HCC00
38 x 6	38 x 6	200	BB3-C-386386	HCC00
38 x 8	38 x 8	250	BB3-C-388388	HCC00
40 x 3	40 x 3	115	BB3-C-403403	HCC00
40 x 4	40 x 4	150	BB3-C-404404	HCC00
40 x 5	40 x 5	150	BB3-C-405405	HCC00
40 x 6	40 x 6	200	BB3-C-406406	HCC00
50 x 3	50 x 3	200	BB3-C-503503	HCC00
50 x 4	50 x 4	200	BB3-C-504504	HCC00
50 x 5	50 x 5	200	BB3-C-505505	HCC00
50 x 6	50 x 6	250	BB3-C-506506	HCC00
50 x 8	50 x 8	2 x 150	BB3-D-508508	HCD00
50 x 10	50 x 10	2 x 250	BB3-D-50105010	HCD00
60 x 6	60 x 6	2 x 150	BB3-D-606606	HCD00
60 x 8	60 x 8	2 x 200	BB3-D-608608	HCD00
60 x 10	60 x 10	2 x 250	BB3-D-60106010	HCD00
80 x 6	80 x 6	2 x 200	BB3-D-806806	HCD00
80 x 8	80 x 8	2 x 250	BB3-D-808808	HCD00
80 x 10	80 x 10	3 x 200	BB3-D-80108010	HCD00

Special requirement can be requested

Tools Request :



Tools Advice :

- Tool box
- Butane torch
- Butane gas
- Gloves

Note :

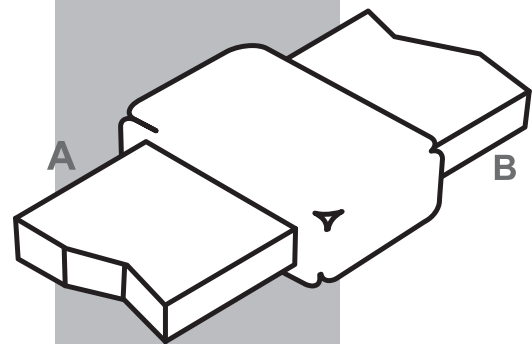
- "2x150" means to use 2 tubes of 150 g - metal powder for one connection
- "2x200" means to use 2 tubes of 200 g - metal powder for one connection
- "2x250" means to use 2 tubes of 250 g - metal powder for one connection
- "3x200" means to use 3 tubes of 200 g - metal powder for one connection

BB7

Bus Bar to Bus Bar Horizontal flat bus bar end to end

Conductor Size		Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
A mm x mm	B mm x mm			
20 x 2	20 x 2	45	BB7-C-202	HCC00
20 x 3	20 x 3	45	BB7-C-203	HCC00
20 x 4	20 x 4	65	BB7-C-204	HCC00
20 x 5	20 x 5	90	BB7-C-205	HCC00
25 x 2	25 x 2	45	BB7-C-252	HCC00
25 x 3	25 x 3	65	BB7-C-253	HCC00
25 x 4	25 x 4	90	BB7-C-254	HCC00
25 x 5	25 x 5	90	BB7-C-255	HCC00
25 x 6	25 x 6	115	BB7-C-256	HCC00
25 x 8	25 x 8	150	BB7-C-258	HCC00
25 x 12	25 x 12	200	BB7-C-2512	HCC00
30 x 2	30 x 2	65	BB7-C-302	HCC00
30 x 3	30 x 3	65	BB7-C-303	HCC00
30 x 4	30 x 4	90	BB7-C-304	HCC00
30 x 5	30 x 5	115	BB7-C-305	HCC00
30 x 6	30 x 6	150	BB7-C-306	HCC00
31 x 3	31 x 3	65	BB7-C-313	HCC00
31 x 6	31 x 6	150	BB7-C-316	HCC00
38 x 3	38 x 3	90	BB7-C-383	HCC00
38 x 5	38 x 5	150	BB7-C-385	HCC00
38 x 6	38 x 6	200	BB7-C-386	HCC00
38 x 8	38 x 8	250	BB7-C-388	HCC00
40 x 3	40 x 3	90	BB7-C-403	HCC00
40 x 4	40 x 4	115	BB7-C-404	HCC00
40 x 5	40 x 5	150	BB7-C-405	HCC00
40 x 6	40 x 6	200	BB7-C-406	HCC00
50 x 3	50 x 3	150	BB7-C-503	HCC00
50 x 4	50 x 4	200	BB7-D-504	HCD00
50 x 5	50 x 5	200	BB7-D-505	HCD00
50 x 6	50 x 6	250	BB7-D-506	HCD00
50 x 8	50 x 8	2 x 150	BB7-D-508	HCD00
50 x 10	50 x 10	2 x 200	BB7-D-5010	HCD00
60 x 6	60 x 6	2 x 150	BB7-D-606	HCD00
60 x 8	60 x 8	2 x 200	BB7-D-608	HCD00
60 x 10	60 x 10	2 x 250	BB7-D-6010	HCD00
80 x 6	80 x 6	2 x 200	BB7-D-806	HCD00
80 x 8	80 x 8	2 x 250	BB7-D-808	HCD00
80 x 10	80 x 10	3 x 200	BB7-D-8010	HCD00

Special requirement can be requested



Tools Request :



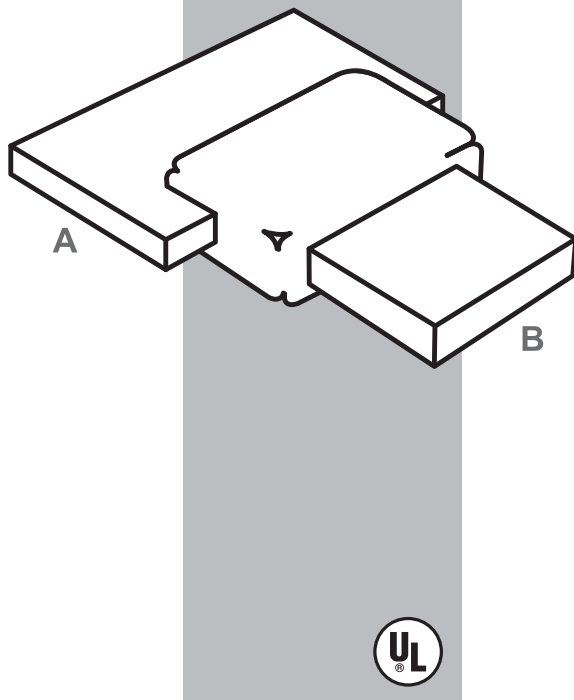
Tools Advice :

- Tool box
- Butane torch
- Butane gas
- Gloves

- Note :**
- "2x150" means to use 2 tubes of 150 g - metal powder for one connection
 - "2x200" means to use 2 tubes of 200 g - metal powder for one connection
 - "2x250" means to use 2 tubes of 250 g - metal powder for one connection
 - "3x200" means to use 3 tubes of 200 g - metal powder for one connection

BB 14

Bus Bar to Bus Bar
Horizontal flat
bus bar run and tap



Conductor Size		Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
A mm x mm	B mm x mm			
20 x 2	20 x 2	45	BB14-C-202202	HCC00
20 x 3	20 x 3	45	BB14-C-203203	HCC00
20 x 4	20 x 4	65	BB14-C-204204	HCC00
20 x 5	20 x 5	90	BB14-C-205205	HCC00
25 x 2	25 x 2	45	BB14-C-252252	HCC00
25 x 3	25 x 3	65	BB14-C-253253	HCC00
25 x 4	25 x 4	90	BB14-C-254254	HCC00
25 x 5	25 x 5	90	BB14-C-255255	HCC00
25 x 6	25 x 2	115	* BB14-C-256252	HCC00
25 x 6	25 x 6	115	BB14-C-256256	HCC00
25 x 6	50 x 6	250	BB14-D-256506	HCD00
25 x 8	25 x 8	150	BB14-C-258258	HCC00
25 x 12	25 x 12	250	BB14-C-25122512	HCC00
30 x 2	30 x 2	65	BB14-C-302302	HCC00
30 x 3	30 x 3	65	BB14-C-303303	HCC00
30 x 4	30 x 4	90	BB14-C-304304	HCC00
30 x 5	30 x 5	115	BB14-C-305305	HCC00
30 x 6	30 x 6	150	BB14-C-306306	HCC00
31 x 3	31 x 3	90	BB14-C-313313	HCC00
31 x 6	31 x 6	150	BB14-C-316316	HCC00
38 x 3	38 x 3	90	BB14-C-383383	HCC00
38 x 5	38 x 5	150	BB14-C-385385	HCC00
38 x 6	38 x 6	200	BB14-C-386386	HCC00
38 x 8	38 x 8	250	BB14-C-388388	HCC00
40 x 3	40 x 3	90	BB14-C-403403	HCC00
40 x 4	40 x 4	115	BB14-C-404404	HCC00
40 x 5	40 x 5	150	BB14-C-405405	HCC00
40 x 6	40 x 6	200	BB14-C-406406	HCC00
50 x 3	50 x 3	150	BB14-D-503503	HCD00
50 x 4	50 x 4	200	BB14-D-504504	HCD00
50 x 5	50 x 5	200	BB14-D-505505	HCD00
50 x 6	25 x 6	115	BB14-C-506256	HCC00
50 x 6	50 x 6	250	BB14-D-506506	HCD00
50 x 8	50 x 8	2 x 150	BB14-D-508508	HCD00
50 x 10	50 x 10	2 x 200	BB14-D-50105010	HCD00
60 x 6	60 x 6	2 x 150	BB14-D-606606	HCD00
60 x 8	60 x 8	2 x 200	BB14-D-608608	HCD00
60 x 10	60 x 10	2 x 250	BB14-D-60106010	HCD00
80 x 6	80 x 6	2 x 200	BB14-D-806806	HCD00
80 x 8	80 x 8	2 x 250	BB14-D-808808	HCD00
80 x 10	80 x 10	3 x 200	BB14-D-80108010	HCD00

Special requirement can be requested

Tools Request :



Tools Advice :

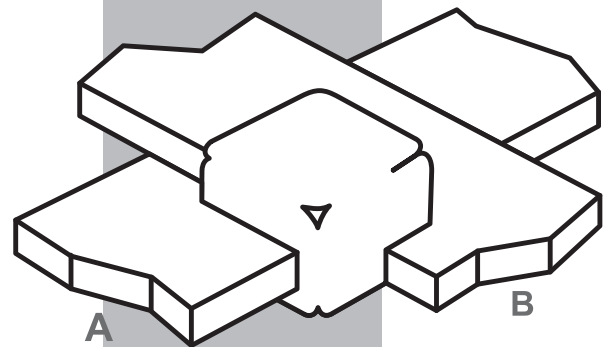
- Tool box
- Butane torch
- Butane gas
- Gloves

- Note :**
- "2x150" means to use 2 tubes of 150 g - metal powder for one connection
 - "2x200" means to use 2 tubes of 200 g - metal powder for one connection
 - "2x250" means to use 2 tubes of 250 g - metal powder for one connection
 - "3x200" means to use 3 tubes of 200 g - metal powder for one connection
 - "*" means to meet UL Listed

BB 41

Bus Bar to Bus Bar

Horizontal flat bus bar cross



Conductor Size		Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
A mm x mm	B mm x mm			
20 x 2	20 x 2	65	BB41-C-202202	HCC00
20 x 3	20 x 3	65	BB41-C-203203	HCC00
20 x 4	20 x 4	90	BB41-C-204204	HCC00
20 x 5	20 x 5	90	BB41-C-205205	HCC00
25 x 2	25 x 2	65	BB41-C-252252	HCC00
25 x 3	25 x 3	65	BB41-C-253253	HCC00
25 x 4	25 x 4	90	BB41-C-254254	HCC00
25 x 5	25 x 5	90	BB41-C-255255	HCC00
25 x 6	25 x 6	115	BB41-C-256256	HCC00
25 x 8	25 x 8	250	BB41-C-258258	HCC00
25 x 12	25 x 12	250	BB41-C-25122512	HCD00
30 x 2	30 x 2	90	BB41-C-302302	HCC00
30 x 3	30 x 3	115	BB41-C-303303	HCC00
30 x 4	30 x 4	115	BB41-C-304304	HCC00
30 x 5	30 x 5	115	BB41-C-305305	HCC00
30 x 6	30 x 6	200	BB41-C-306306	HCC00
31 x 3	31 x 3	115	BB41-C-313313	HCC00
31 x 6	31 x 6	115	BB41-C-316316	HCC00
38 x 3	38 x 3	150	BB41-C-383383	HCC00
38 x 5	38 x 5	150	BB41-C-385385	HCC00
38 x 6	38 x 6	200	BB41-C-386386	HCC00
38 x 8	38 x 8	250	BB41-C-388388	HCC00
40 x 3	40 x 3	150	BB41-C-403403	HCC00
40 x 4	40 x 4	200	BB41-C-404404	HCC00
40 x 5	40 x 5	200	BB41-C-405405	HCC00
40 x 6	40 x 6	200	BB41-C-406406	HCC00
50 x 3	50 x 3	200	BB41-D-503503	HCD00
50 x 4	50 x 4	200	BB41-D-504504	HCD00
50 x 5	50 x 5	200	BB41-D-505505	HCD00
50 x 6	50 x 6	200	BB41-D-506506	HCD00
50 x 8	50 x 8	250	BB41-D-508508	HCD00
50 x 10	50 x 10	2 x 150	BB41-D-50105010	HCD00
60 x 6	60 x 6	200	BB41-D-606606	HCD00
60 x 8	60 x 8	250	BB41-D-608608	HCD00
60 x 10	60 x 10	2 x 150	BB41-D-60106010	HCD00
80 x 6	80 x 6	200	BB41-D-806806	HCD00
80 x 8	80 x 8	250	BB41-D-808808	HCD00
80 x 10	80 x 10	2 x 150	BB41-D-80108010	HCD00

Special requirement can be requested

Tools Request :



Tools Advice :

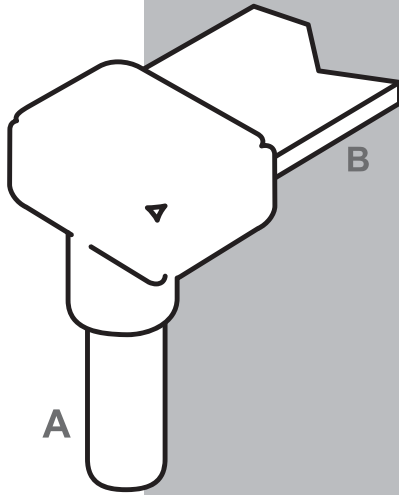
- Tool box
- Butane torch
- Butane gas
- Gloves

Note : • "2x150" means to use 2 tubes of 150 g - metal powder for one connection

BR1

Bus Bar to Ground Rod

Horizontal bus end to ground rod



Tools Request :



Tools Advice :

- Tool box
- Butane torch
- Butane gas
- Gloves

Note :

- "2x150" means to use 2 tubes of 150 g - metal powder for one connection
- "2x200" means to use 2 tubes of 200 g - metal powder for one connection
- For special rod size's requirement, please contact us

Rod Size		Conductor Size	Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
A _{mm}	A _{inch}	B _{mm x mm}			
12.7	1/2	20 x 2	65	BR1-C-127202	HCC00
		20 x 3	90	BR1-C-127203	HCC00
		20 x 4	90	BR1-C-127204	HCC00
		25 x 2	65	BR1-C-127252	HCC00
		25 x 3	90	BR1-C-127253	HCC00
		25 x 4	90	BR1-C-127254	HCC00
		30 x 2	90	BR1-C-127302	HCC00
		30 x 3	90	BR1-C-127303	HCC00
		40 x 3	90	BR1-C-127403	HCC00
		50 x 3	115	BR1-C-127503	HCC00
14.2	5/8	20 x 3	90	BR1-C-142203	HCC00
		20 x 4	90	BR1-C-142204	HCC00
		25 x 3	90	BR1-C-142253	HCC00
		25 x 4	115	BR1-C-142254	HCC00
		25 x 5	115	BR1-C-142255	HCC00
		25 x 6	115	BR1-C-142256	HCC00
		30 x 2	115	BR1-C-142302	HCC00
		30 x 3	115	BR1-C-142303	HCC00
		30 x 5	150	BR1-C-142305	HCC00
		30 x 6	150	BR1-C-142306	HCC00
		31 x 3	115	BR1-C-142313	HCC00
		31 x 6	150	BR1-C-142316	HCC00
		38 x 3	115	BR1-C-142383	HCC00
		38 x 5	150	BR1-C-142385	HCC00
		38 x 6	200	BR1-C-142386	HCC00
		40 x 3	115	BR1-C-142403	HCC00
		40 x 4	150	BR1-C-142404	HCC00
		40 x 5	150	BR1-C-142405	HCC00
		40 x 6	200	BR1-C-142406	HCC00
		17.2	3/4	20 x 3	115
20 x 4	150			BR1-C-172204	HCC00
25 x 3	150			BR1-C-172253	HCC00
25 x 4	150			BR1-C-172254	HCC00
25 x 5	150			BR1-C-172255	HCC00
25 x 6	200			BR1-C-172256	HCC00
30 x 2	150			BR1-C-172302	HCC00
30 x 3	150			BR1-C-172303	HCC00
30 x 5	200			BR1-C-172305	HCC00
30 x 6	250			BR1-C-172306	HCC00
31 x 3	150			BR1-C-172313	HCC00
31 x 6	250			BR1-C-172316	HCC00
38 x 3	200			BR1-C-172383	HCC00
38 x 5	200			BR1-C-172385	HCC00
38 x 6	2 x 150			BR1-C-172386	HCC00
40 x 3	200			BR1-C-172403	HCC00
40 x 4	200	BR1-C-172404	HCC00		
40 x 5	2 x 150	BR1-D-172405	HCD00		
40 x 6	2 x 150	BR1-D-172406	HCD00		
50 x 3	2 x 150	BR1-D-172503	HCD00		
50 x 4	2 x 150	BR1-D-172504	HCD00		
50 x 5	2 x 150	BR1-D-172505	HCD00		
50 x 6	2 x 200	BR1-D-172506	HCD00		

Special requirement can be requested

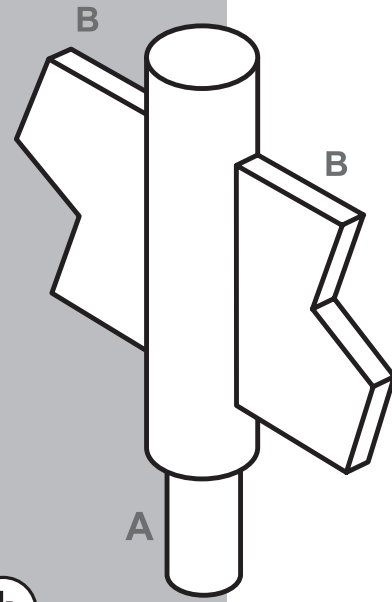
Rod Size		Conductor Size	Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
A mm	A inch	B mm x mm			
12.7	1/2	20 x 2	65	BR2-C-127202	HCC00
		20 x 3	90	BR2-C-127203	HCC00
		20 x 4	90	BR2-C-127204	HCC00
		25 x 2	65	BR2-C-127252	HCC00
		25 x 3	90	BR2-C-127253	HCC00
		25 x 4	90	BR2-C-127254	HCC00
		30 x 2	90	BR2-C-127302	HCC00
		30 x 3	90	BR2-C-127303	HCC00
		40 x 3	90	BR2-C-127403	HCC00
		50 x 3	115	BR2-C-127503	HCC00
14.2	5/8	20 x 3	90	BR2-C-142203	HCC00
		20 x 4	90	BR2-C-142204	HCC00
		25 x 3	90	BR2-C-142253	HCC00
		25 x 4	115	BR2-C-142254	HCC00
		25 x 5	115	BR2-C-142255	HCC00
		25 x 6	150	BR2-C-142256	HCC00
		30 x 2	90	BR2-C-142302	HCC00
		30 x 3	115	BR2-C-142303	HCC00
		30 x 5	150	BR2-C-142305	HCC00
		30 x 6	150	BR2-C-142306	HCC00
		31 x 3	115	BR2-C-142313	HCC00
		31 x 6	150	BR2-C-142316	HCC00
		38 x 3	150	BR2-C-142383	HCC00
		38 x 5	150	BR2-C-142385	HCC00
		38 x 6	200	BR2-C-142386	HCC00
		40 x 3	150	BR2-C-142403	HCC00
		40 x 4	150	BR2-C-142404	HCC00
		40 x 5	150	BR2-C-142405	HCC00
		40 x 6	200	BR2-C-142406	HCC00
		50 x 3	200	BR2-C-142503	HCC00
50 x 4	200	BR2-C-142504	HCC00		
50 x 5	200	BR2-C-142505	HCC00		
50 x 6	250	BR2-C-142506	HCC00		
17.2	3/4	20 x 3	150	BR2-C-172203	HCC00
		20 x 4	150	BR2-C-172204	HCC00
		25 x 3	150	BR2-C-172253	HCC00
		25 x 4	200	BR2-C-172254	HCC00
		25 x 5	150	BR2-C-172255	HCC00
		25 x 6	200	* BR2-C-172256	HCC00
		30 x 2	150	BR2-C-172302	HCC00
		30 x 3	150	BR2-C-172303	HCC00
		30 x 5	200	BR2-C-172305	HCC00
		30 x 6	250	BR2-C-172306	HCC00
		31 x 3	200	BR2-C-172313	HCC00
		31 x 6	250	BR2-C-172316	HCC00
		38 x 3	200	BR2-C-172383	HCC00
		38 x 5	200	BR2-C-172385	HCC00
		38 x 6	250	BR2-C-172386	HCC00
		40 x 3	200	BR2-C-172403	HCC00
		40 x 4	200	BR2-C-172404	HCC00
		40 x 5	200	BR2-C-172405	HCC00
		40 x 6	250	BR2-C-172406	HCC00
		50 x 3	2 x 150	BR2-D-172503	HCD00
50 x 4	2 x 150	BR2-D-172504	HCD00		
50 x 5	2 x 150	BR2-D-172505	HCD00		
50 x 6	2 x 150	BR2-D-172506	HCD00		

Special requirement can be requested

BR2

Bus Bar to Ground Rod

Horizontal thru bus to ground rod



Tools Request :



Tools Advice :

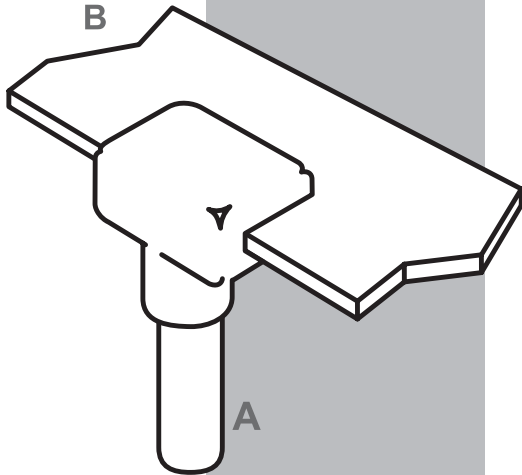
- Tool box
- Butane torch
- Butane gas
- Gloves

Note :

- "2x150" means to use 2 tubes of 150 g - metal powder for one connection
- For special rod size's requirement, please contact us
- "*" means to meet UL Listed

BR7

Bus Bar to Ground Rod
Horizontal flat bar thru to ground rod



Tools Request :



Tools Advice :

- Tool box
- Butane torch
- Butane gas
- Gloves

Note : • For special rod size's requirement, please contact us

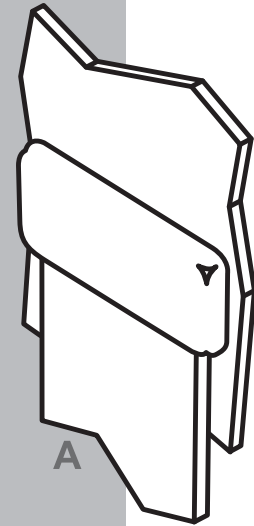
Rod Size		Conductor Size	Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
A mm	A inch	B mm x mm			
12.7	1/2	20 x 2	65	BR7-C-127202	HCC00
		20 x 3	65	BR7-C-127203	HCC00
		20 x 4	90	BR7-C-127204	HCC00
		25 x 2	65	BR7-C-127252	HCC00
		25 x 3	90	BR7-C-127253	HCC00
		25 x 4	90	BR7-C-127254	HCC00
		30 x 2	65	BR7-C-127302	HCC00
		30 x 3	65	BR7-C-127303	HCC00
		40 x 3	65	BR7-C-127403	HCC00
		50 x 3	65	BR7-C-127503	HCC00
14.2	5/8	20 x 3	90	BR7-C-142203	HCC00
		20 x 4	115	BR7-C-142204	HCC00
		25 x 3	90	BR7-C-142253	HCC00
		25 x 4	115	BR7-C-142254	HCC00
		25 x 5	150	BR7-C-142255	HCC00
		25 x 6	150	BR7-C-142256	HCC00
		30 x 2	90	BR7-C-142302	HCC00
		30 x 3	90	BR7-C-142303	HCC00
		30 x 5	150	BR7-C-142305	HCC00
		30 x 6	150	BR7-C-142306	HCC00
		40 x 3	90	BR7-C-142403	HCC00
		40 x 5	150	BR7-C-142405	HCC00
		40 x 6	150	BR7-C-142406	HCC00
		50 x 3	90	BR7-C-142503	HCC00
		50 x 5	150	BR7-C-142505	HCC00
		50 x 6	150	BR7-C-142506	HCC00
17.2	3/4	20 x 3	115	BR7-C-172203	HCC00
		20 x 4	115	BR7-C-172204	HCC00
		25 x 3	115	BR7-C-172253	HCC00
		25 x 4	150	BR7-C-172254	HCC00
		25 x 6	200	BR7-C-172256	HCC00
		30 x 2	115	BR7-C-172302	HCC00
		30 x 3	115	BR7-C-172303	HCC00
		30 x 6	200	BR7-C-172306	HCC00
		40 x 3	115	BR7-C-172403	HCC00
		40 x 5	200	BR7-C-172405	HCC00
		40 x 6	200	BR7-C-172406	HCC00
		50 x 3	115	BR7-C-172503	HCC00
50 x 5	200	BR7-C-172505	HCC00		
50 x 6	200	BR7-C-172506	HCC00		

Special requirement can be requested

BS1

Bus Bar to Steel Surface

Vertical bus bar tap to vertical steel surface



Conductor Size	Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
A mm x mm			
20 x 2	65	BS1-C-202	HCC00-Y
20 x 3	65	BS1-C-203	HCC00-Y
20 x 4	90	BS1-C-204	HCC00-Y
20 x 5	115	BS1-C-205	HCC00-Y
25 x 2	90	BS1-C-252	HCC00-Y
25 x 3	90	BS1-C-253	HCC00-Y
25 x 4	90	BS1-C-254	HCC00-Y
25 x 5	150	BS1-C-255	HCC00-Y
25 x 6	150	BS1-C-256	HCC00-Y
25 x 8	200	BS1-C-258	HCC00-Y
25 x 12	250	BS1-C-2512	HCC00-Y
30 x 2	90	BS1-C-302	HCC00-Y
30 x 3	90	BS1-C-303	HCC00-Y
30 x 4	115	BS1-C-304	HCC00-Y
30 x 5	150	BS1-C-305	HCC00-Y
30 x 6	200	BS1-C-306	HCC00-Y
31 x 3	90	BS1-C-313	HCC00-Y
31 x 6	200	BS1-C-316	HCC00-Y
38 x 3	150	BS1-C-383	HCC00-Y
38 x 5	200	BS1-C-385	HCC00-Y
38 x 6	250	BS1-C-386	HCC00-Y
38 x 8	250	BS1-C-388	HCC00-Y
40 x 3	150	BS1-C-403	HCC00-Y
40 x 4	200	BS1-C-404	HCC00-Y
40 x 5	200	BS1-C-405	HCC00-Y
40 x 6	250	BS1-C-406	HCC00-Y
50 x 3	200	BS1-C-503	HCC00-Y
50 x 4	250	BS1-C-504	HCC00-Y
50 x 5	250	BS1-C-505	HCC00-Y
50 x 6	2 x 150	BS1-D-506	HCD00-Y
50 x 8	2 x 200	BS1-D-508	HCD00-Y
50 x 10	2 x 200	BS1-D-5010	HCD00-Y
60 x 6	2 x 200	BS1-D-606	HCD00-Y
60 x 8	2 x 250	BS1-D-608	HCD00-Y
60 x 10	3 x 200	BS1-D-6010	HCD00-Y
80 x 6	2 x 250	BS1-D-806	HCD00-Y
80 x 8	3 x 200	BS1-D-808	HCD00-Y
80 x 10	3 x 250	BS1-D-8010	HCD00-Y

Special requirement can be requested

Tools Request :



Tools Advice :

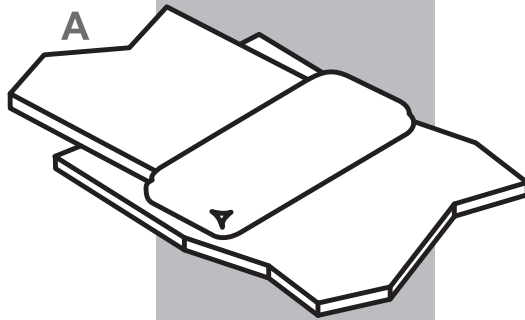
- Tool box
- Butane torch
- Butane gas
- Gloves

- Note :**
- "2x150" means to use 2 tubes of 150 g - metal powder for one connection
 - "2x200" means to use 2 tubes of 200 g - metal powder for one connection
 - "2x250" means to use 2 tubes of 250 g - metal powder for one connection
 - "3x200" means to use 3 tubes of 200 g - metal powder for one connection
 - "3x250" means to use 3 tubes of 250 g - metal powder for one connection
 - For perfect welding, making connection need to remove moisture, oxide and galvanized metal
 - After welding process, coating steel's surface and connection by Rust-Oleum cold galvanizing is required

BS2

Bus Bar to Steel Surface

Horizontal bus bar tap to horizontal steel surface



Conductor Size	Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
A mm x mm			
20 x 2	65	BS2-C-202	HCC00
20 x 3	90	BS2-C-203	HCC00
20 x 4	90	BS2-C-204	HCC00
20 x 5	115	BS2-C-205	HCC00
25 x 2	90	BS2-C-252	HCC00
25 x 3	90	BS2-C-253	HCC00
25 x 4	90	BS2-C-254	HCC00
25 x 5	150	BS2-C-255	HCC00
25 x 6	150	BS2-C-256	HCC00
25 x 8	200	BS2-C-258	HCC00
25 x 12	250	BS2-C-2512	HCC00
30 x 2	115	BS2-C-302	HCC00
30 x 3	115	BS2-C-303	HCC00
30 x 4	150	BS2-C-304	HCC00
30 x 5	200	BS2-C-305	HCC00
30 x 6	200	BS2-C-306	HCC00
31 x 3	115	BS2-C-313	HCC00
31 x 6	200	BS2-C-316	HCC00
38 x 3	150	BS2-C-383	HCC00
38 x 5	200	BS2-C-385	HCC00
38 x 6	200	BS2-C-386	HCC00
38 x 8	250	BS2-C-388	HCC00
40 x 3	115	BS2-C-403	HCC00
40 x 4	200	BS2-C-404	HCC00
40 x 5	200	BS2-C-405	HCC00
40 x 6	250	BS2-C-406	HCC00
50 x 3	200	BS2-C-503	HCC00
50 x 4	2 x 150	BS2-D-504	HCD00
50 x 5	2 x 150	BS2-D-505	HCD00
50 x 6	2 x 150	BS2-D-506	HCD00
50 x 8	2 x 200	BS2-D-508	HCD00
50 x 10	2 x 200	BS2-D-5010	HCD00
60 x 6	2 x 200	BS2-D-606	HCD00
60 x 8	2 x 250	BS2-D-608	HCD00
60 x 10	3 x 200	BS2-D-6010	HCD00
80 x 6	2 x 250	BS2-D-806	HCD00
80 x 8	3 x 200	BS2-D-808	HCD00
80 x 10	3 x 250	BS2-D-8010	HCD00

Special requirement can be requested

Tools Request :



Tools Advice :

- Tool box
- Butane torch
- Butane gas
- Gloves

- Note :**
- "2x150" means to use 2 tubes of 150 g - metal powder for one connection
 - "2x200" means to use 2 tubes of 200 g - metal powder for one connection
 - "2x250" means to use 2 tubes of 250 g - metal powder for one connection
 - "3x200" means to use 3 tubes of 200 g - metal powder for one connection
 - "3x250" means to use 3 tubes of 250 g - metal powder for one connection
 - For perfect welding, making connection need to remove moisture, oxide and galvanized metal
 - After welding process, coating steel's surface and connection by Rust-Oleum cold galvanizing is required

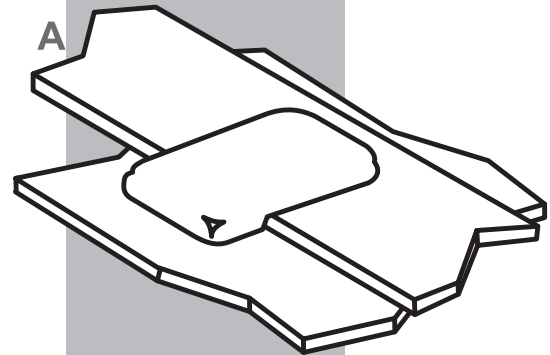
BS3

Bus Bar to Steel Surface

Horizontal bus bar tap to horizontal steel surface

Conductor Size	Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
A mm x mm			
20 x 2	65	BS3-C-202	HCC00
20 x 3	90	BS3-C-203	HCC00
20 x 4	115	BS3-C-204	HCC00
20 x 5	115	BS3-C-205	HCC00
25 x 2	90	BS3-C-252	HCC00
25 x 3	115	BS3-C-253	HCC00
25 x 4	115	BS3-C-254	HCC00
25 x 5	115	BS3-C-255	HCC00
25 x 6	150	BS3-C-256	HCC00
25 x 8	200	BS3-C-258	HCC00
25 x 12	250	BS3-C-2512	HCC00
30 x 2	115	BS3-C-302	HCC00
30 x 3	115	BS3-C-303	HCC00
30 x 4	150	BS3-C-304	HCC00
30 x 5	200	BS3-C-305	HCC00
30 x 6	200	BS3-C-306	HCC00
31 x 3	115	BS3-C-313	HCC00
31 x 6	200	BS3-C-316	HCC00
38 x 3	150	BS3-C-383	HCC00
38 x 5	200	BS3-C-385	HCC00
38 x 6	200	BS3-C-386	HCC00
38 x 8	250	BS3-C-388	HCC00
40 x 3	150	BS3-C-403	HCC00
40 x 4	200	BS3-C-404	HCC00
40 x 5	250	BS3-C-405	HCC00
40 x 6	250	BS3-C-406	HCC00
50 x 3	250	BS3-C-503	HCC00
50 x 4	250	BS3-D-504	HCD00
50 x 5	250	BS3-D-505	HCD00
50 x 6	250	BS3-D-506	HCD00
50 x 8	2 x 150	BS3-D-508	HCD00
50 x 10	2 x 200	BS3-D-5010	HCD00
60 x 6	2 x 200	BS3-D-606	HCD00
60 x 8	2 x 150	BS3-D-608	HCD00
60 x 10	2 x 200	BS3-D-6010	HCD00
80 x 6	2 x 150	BS3-D-806	HCD00
80 x 8	2 x 200	BS3-D-808	HCD00
80 x 10	2 x 250	BS3-D-8010	HCD00

Special requirement can be requested



Tools Request :



Tools Advice :

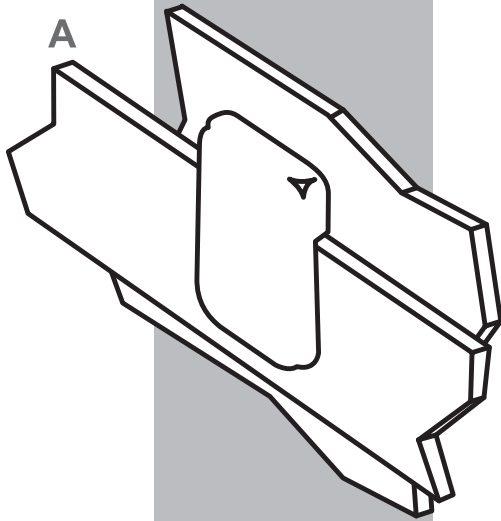
- Tool box
- Butane torch
- Butane gas
- Gloves

- Note :**
- "2x150" means to use 2 tubes of 150 g - metal powder for one connection
 - "2x200" means to use 2 tubes of 200 g - metal powder for one connection
 - "2x250" means to use 2 tubes of 250 g - metal powder for one connection
 - For perfect welding, making connection need to remove moisture, oxide and galvanized metal
 - After welding process, coating steel's surface and connection by Rust-Oleum cold galvanizing is required

BS4

Bus Bar to Steel Surface

Horizontal thru bus to vertical steel surface



Conductor Size	Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
A mm x mm			
20 x 2	90	BS4-C-202	HCC00-Y
20 x 3	90	BS4-C-203	HCC00-Y
20 x 4	115	BS4-C-204	HCC00-Y
20 x 5	150	BS4-C-205	HCC00-Y
25 x 2	115	BS4-C-252	HCC00-Y
25 x 3	115	BS4-C-253	HCC00-Y
25 x 4	150	BS4-C-254	HCC00-Y
25 x 5	150	BS4-C-255	HCC00-Y
25 x 6	150	BS4-C-256	HCC00-Y
25 x 8	200	BS4-C-258	HCC00-Y
25 x 12	250	BS4-C-2512	HCC00-Y
30 x 2	115	BS4-C-302	HCC00-Y
30 x 3	115	BS4-C-303	HCC00-Y
30 x 4	200	BS4-C-304	HCC00-Y
30 x 5	200	BS4-C-305	HCC00-Y
30 x 6	200	BS4-C-306	HCC00-Y
31 x 3	150	BS4-C-313	HCC00-Y
31 x 6	200	BS4-C-316	HCC00-Y
38 x 3	150	BS4-C-383	HCC00-Y
38 x 5	200	BS4-C-385	HCC00-Y
38 x 6	250	BS4-C-386	HCC00-Y
38 x 8	250	BS4-C-388	HCC00-Y
40 x 3	150	BS4-C-403	HCC00-Y
40 x 4	200	BS4-C-404	HCC00-Y
40 x 5	200	BS4-C-405	HCC00-Y
40 x 6	250	BS4-C-406	HCC00-Y
50 x 3	200	BS4-C-503	HCC00-Y
50 x 4	250	BS4-C-504	HCC00-Y
50 x 5	250	BS4-C-505	HCC00-Y
50 x 6	2 x 150	BS4-D-506	HCD00-Y
50 x 8	2 x 200	BS4-D-508	HCD00-Y
50 x 10	2 x 200	BS4-D-5010	HCD00-Y
60 x 6	2 x 200	BS4-D-606	HCD00-Y
60 x 8	2 x 250	BS4-D-608	HCD00-Y
60 x 10	3 x 250	BS4-D-6010	HCD00-Y
80 x 6	2 x 150	BS4-D-806	HCD00-Y
80 x 8	2 x 200	BS4-D-808	HCD00-Y
80 x 10	2 x 250	BS4-D-8010	HCD00-Y

Special requirement can be requested

Tools Request :



Tools Advice :

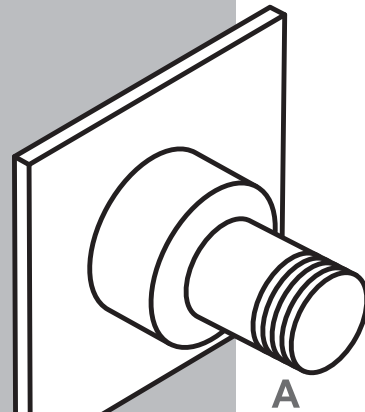
- Tool box
- Butane torch
- Butane gas
- Gloves

- Note :**
- "2x150" means to use 2 tubes of 150 g - metal powder for one connection
 - "2x200" means to use 2 tubes of 200 g - metal powder for one connection
 - "2x250" means to use 2 tubes of 250 g - metal powder for one connection
 - "3x250" means to use 3 tubes of 250 g - metal powder for one connection
 - For perfect welding, making connection need to remove moisture, oxide and galvanized metal
 - After welding process, coating steel's surface and connection by Rust-Oleum cold galvanizing is required

RS1

Stud to Steel

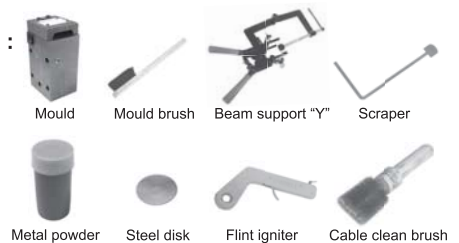
Horizontal stud
to vertical steel surface



Stud Size	Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
A mm			
M6	25	RS1-C-M6	HCC00-Y
M8	32	RS1-C-M8	HCC00-Y
M10	45	RS1-C-M10	HCC00-Y
M12	65	RS1-C-M12	HCC00-Y
M16	115	RS1-C-M16	HCC00-Y

Special requirement can be requested

Tools Request :



Tools Advice :

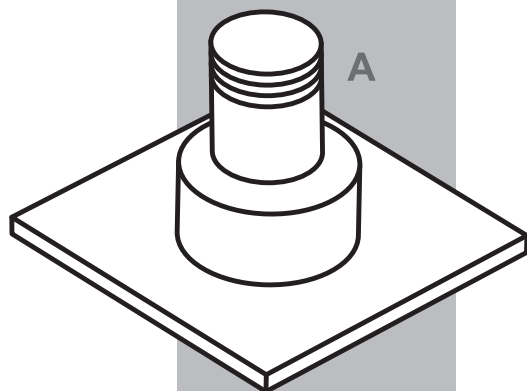
- Tool box
- Butane torch
- Butane gas
- Gloves

- Note :**
- For perfect welding, making connection need to remove moisture, oxide and galvanized metal
 - After welding process, coating steel's surface and connection by Rust-Oleum cold galvanizing is required

RS2

Stud to Steel

Vertical stud
to horizontal steel surface



Stud Size	Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
A mm			
M6	25	RS2-C-M6	HCC00
M8	32	RS2-C-M8	HCC00
M10	45	RS2-C-M10	HCC00
M12	65	RS2-C-M12	HCC00
M16	115	RS2-C-M16	HCC00

Special requirement can be requested

Tools Request :



Tools Advice :

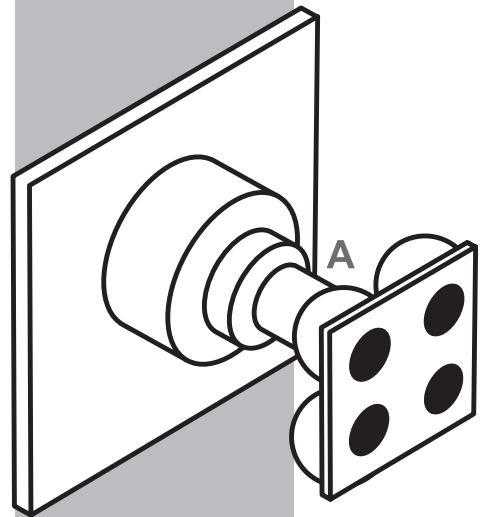
- Tool box
- Butane torch
- Butane gas
- Gloves

- Note :**
- For perfect welding, making connection need to remove moisture, oxide and galvanized metal
 - After welding process, coating steel's surface and connection by Rust-Oleum cold galvanizing is required

RS3

Ground Plates to Cable & Steel

Ground plates to vertical steel



Rod Size	Metal Powder	Graphite Mould Type	Handle Clamp Type
A mm	(g)	Type	Type
12.7	150	RS3-C-127	HCC00-Y

Special requirement can be requested

Tools Request :



Tools Advice :

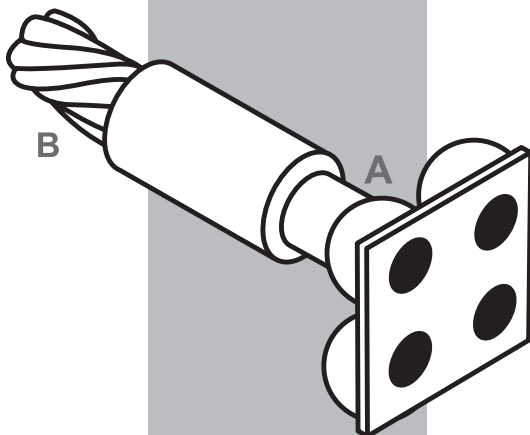
- Tool box
- Butane torch
- Butane gas
- Gloves

- Note :**
- For perfect welding, making connection need to remove moisture, oxide and galvanized metal
 - After welding process, coating steel's surface and connection by Rust-Oleum cold galvanizing is required

RC1

Ground Plates to Cable & Steel

Ground plates to horizontal cable end



Rod Size	Conductor Size	Metal Powder	Graphite Mould Type	Handle Clamp Type
A mm	B mm ²	(g)		
12.7	50	65	RC1-C-12750	HCC00
	70	90	RC1-C-12770	HCC00
	95	90	RC1-C-12795	HCC00
	120	115	RC1-C-127120	HCC00
	150	115	RC1-C-127150	HCC00
	185	150	RC1-C-127185	HCC00
	240	200	RC1-C-127240	HCC00
	300	250	RC1-C-127300	HCC00

Special requirement can be requested

Tools Request :



Tools Advice :

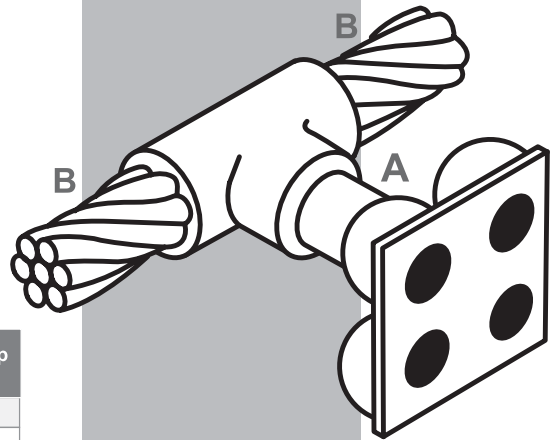
- Tool box
- Butane torch
- Butane gas
- Gloves

Note : • For perfect connection, Remove oxide and moisture where making connection

RC2

Ground Plates to Cable & Steel

Ground plates to horizontal cable thru



Rod Size	Conductor Size	Metal Powder	Graphite Mould Type	Handle Clamp Type
A _{mm}	B _{mm²}	(g)		
12.7	50	90	RC2-C-12750	HCC00
	70	90	RC2-C-12770	HCC00
	95	90	RC2-C-12795	HCC00
	120	115	RC2-C-127120	HCC00
	150	115	RC2-C-127150	HCC00
	185	115	RC2-C-127185	HCC00
	240	150	RC2-C-127240	HCC00
	300	150	RC2-C-127300	HCC00

Special requirement can be requested

Tools Request :



Tools Advice :

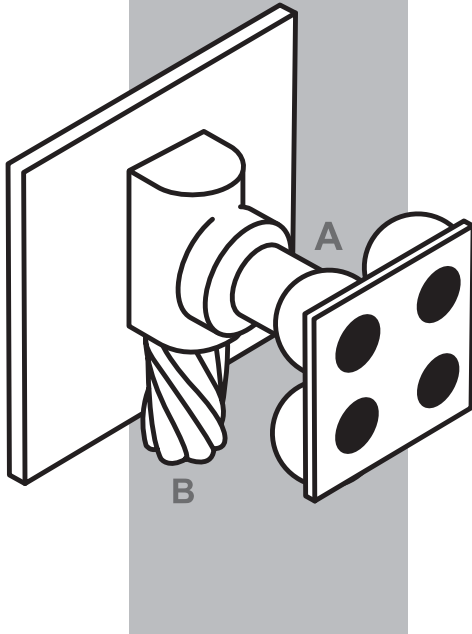
- Tool box
- Butane torch
- Butane gas
- Gloves

Note : • For perfect connection,
Remove oxide and moisture where making connection

CRS1

Ground Plates to Cable & Steel

Ground plates to vertical steel and cable down



Rod Size	Conductor Size	Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
A mm	B mm ²			
12.7	50	200	CRS1-C-12750	HCC00-Y
	70	200	CRS1-C-12770	HCC00-Y
	95	250	CRS1-C-12795	HCC00-Y
	120	250	CRS1-C-127120	HCC00-Y

Special requirement can be requested

Tools Request :



Tools Advice :

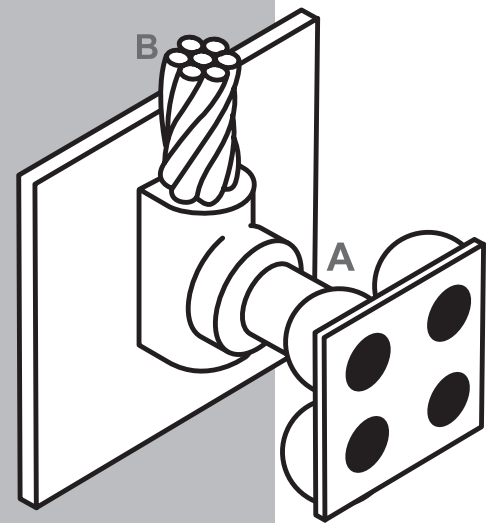
- Tool box
- Butane torch
- Butane gas
- Gloves

- Note :**
- For perfect welding, making connection need to remove moisture, oxide and galvanized metal
 - After welding process, coating steel's surface and connection by Rust-Oleum cold galvanizing is required

CRS2

Ground Plates to Cable & Steel

Ground plates to vertical steel and cable up



Rod Size	Conductor Size	Metal Powder	Graphite Mould Type	Handle Clamp Type
A _{mm}	B _{mm²}	(g)		
12.7	50	200	CRS2-C-12750	HCC00-Y
	70	200	CRS2-C-12770	HCC00-Y
	95	250	CRS2-C-12795	HCC00-Y
	120	250	CRS2-C-127120	HCC00-Y

Special requirement can be requested

Tools Request :



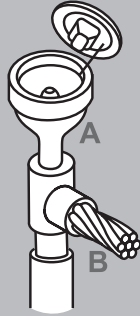
Tools Advice :

- Tool box
- Butane torch
- Butane gas
- Gloves

- Note :**
- For perfect welding, making connection need to remove moisture, oxide and galvanized metal
 - After welding process, coating steel's surface and connection by Rust-Oleum cold galvanizing is required

AC1

Cable to Grounding Receptacle
Horizontal cable to ground receptacle

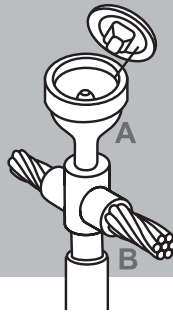


Rod Size	Conductor Size	Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
A _{mm}	B _{mm²}			
12.7	35	115	AC1-C-12735	HCC00
	50	150	AC1-C-12750	HCC00
	70	150	AC1-C-12770	HCC00
	95	150	AC1-C-12795	HCC00
	120	150	AC1-C-127120	HCC00

Special requirement can be requested

AC2

Cable to Grounding Receptacle
Horizontal thru cable to ground receptacle



Rod Size	Conductor Size	Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
A _{mm}	B _{mm²}			
12.7	35	115	AC2-C-12735	HCC00
	50	150	AC2-C-12750	HCC00
	70	150	AC2-C-12770	HCC00
	95	200	AC2-C-12795	HCC00
	120	200	AC2-C-127120	HCC00

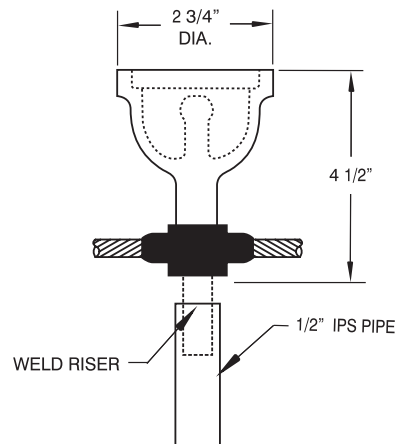
Special requirement can be requested

Tools Request :



Tools Advice :

- Tool box
- Butane torch
- Butane gas
- Gloves



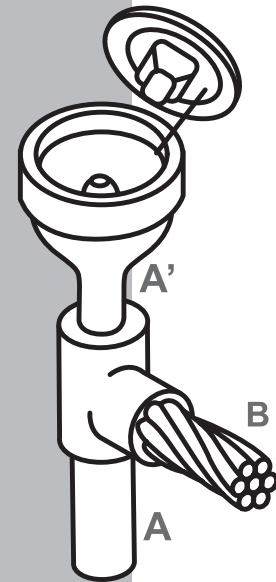
ACR1

Cable and Grounding Receptacle to Ground Rod

Horizontal cable and ground receptacle to the top of ground rod

Rod Size			Conductor Size		Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
A mm	A inch	A' mm	B mm ²				
14.2	5/8	12.7	50	2 x 200	ACR1-J-14212750	HCD00	
			70	2 x 200	ACR1-J-14212770	HCD00	
			95	2 x 200	ACR1-J-14212795	HCD00	
			120	2 x 200	ACR1-J-142127120	HCD00	
17.2	3/4	12.7	50	2 x 200	ACR1-J-17212750	HCD00	
			70	2 x 200	ACR1-J-17212770	HCD00	
			95	2 x 200	ACR1-J-17212795	HCD00	
			120	2 x 200	ACR1-J-172127120	HCD00	
23.1	1	12.7	50	2 x 250	ACR1-J-23112750	HCD00	
			70	2 x 250	ACR1-J-23112770	HCD00	
			95	2 x 250	ACR1-J-23112795	HCD00	
			120	2 x 250	ACR1-J-231127120	HCD00	

Special requirement can be requested



Tools Request :



Tools Advice :

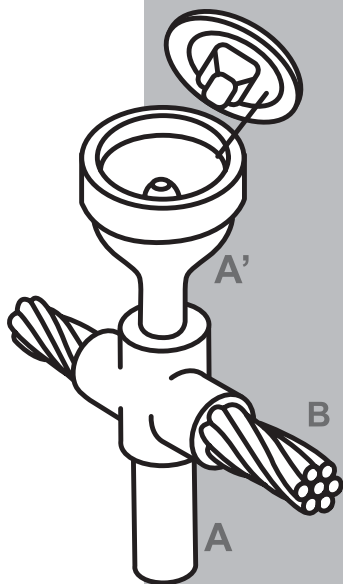
- Tool box
- Butane torch
- Butane gas
- Gloves

- Note :**
- "2x200" means to use 2 tubes of 200 g - metal powder for one connection
 - "2x250" means to use 2 tubes of 250 g - metal powder for one connection

ACR2

Cable and Grounding Receptacle to Ground Rod

Horizontal cable thru and ground receptacle to the top of ground rod



Rod Size			Conductor Size	Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
A _{mm}	A _{inch}	A' _{mm}	B _{mm²}			
14.2	5/8	12.7	50	2 x 200	ACR2-J-14212750	HCD00
			70	2 x 200	ACR2-J-14212770	HCD00
			95	2 x 200	ACR2-J-14212795	HCD00
			120	2 x 200	ACR2-J-142127120	HCD00
17.2	3/4	12.7	50	2 x 200	ACR2-J-17212750	HCD00
			70	2 x 200	ACR2-J-17212770	HCD00
			95	2 x 200	ACR2-J-17212795	HCD00
			120	2 x 200	ACR2-J-172127120	HCD00
23.1	1	12.7	50	2 x 250	ACR2-J-23112750	HCD00
			70	2 x 250	ACR2-J-23112770	HCD00
			95	2 x 250	ACR2-J-23112795	HCD00
			120	2 x 250	ACR2-J-231127120	HCD00

Special requirement can be requested

Tools Request :



Tools Advice :

- Tool box
- Butane torch
- Butane gas
- Gloves

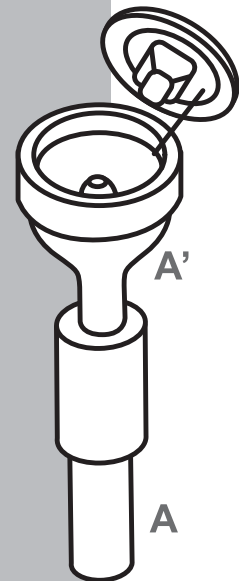
Note :

- "2x200" means to use 2 tubes of 200 g - metal powder for one connection
- "2x250" means to use 2 tubes of 250 g - metal powder for one connection

AR1

Grounding Receptacle to Ground Rod

Ground receptacle to the top of ground rod



Rod Size			Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
A _{mm}	A _{inch}	A' _{mm}			
14.2	5/8	12.7	2 x 150	AR1-CL-142	HCC00
17.2	3/4	12.7	2 x 150	AR1-CL-172	HCC00
23.1	1	12.7	2 x 200	AR1-CL-231	HCC00

Special requirement can be requested

Tools Request :



Tools Advice :

- Tool box
- Butane torch
- Butane gas
- Gloves

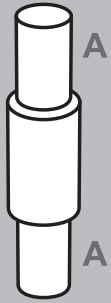
Note :

- "2x150" means to use 2 tubes of 150 g - metal powder for one connection
- "2x200" means to use 2 tubes of 200 g - metal powder for one connection

RR1

Ground Rod to Ground Rod

Vertical ground rod end to end



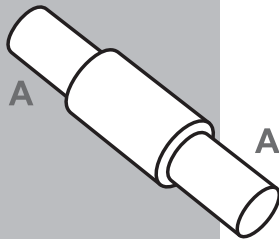
Rod Size (A)		Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
mm	inch			
12.7	1/2	150	RR1-CL-127127	HCC00
14.2	5/8	200	RR1-CL-142142	HCC00
17.2	3/4	200	RR1-CL-172172	HCC00
23.1	1	250	RR1-CL-231231	HCC00

Special requirement can be requested

RR2

Ground Rod to Ground Rod

Horizontal ground rod end to end



Rod Size (A)		Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
mm	inch			
12.7	1/2	150	RR2-C-127127	HCC00
14.2	5/8	200	RR2-C-142142	HCC00
17.2	3/4	200	RR2-C-172172	HCC00
23.1	1	250	RR2-C-231231	HCC00

Special requirement can be requested

Tools Request :



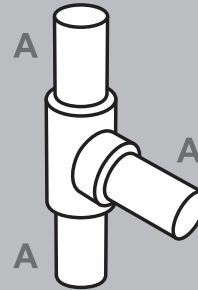
Tools Advice :

- Tool box
- Butane torch
- Butane gas
- Gloves

RR3

Ground Rod to Ground Rod

Horizontal ground rod tap to vertical ground rod



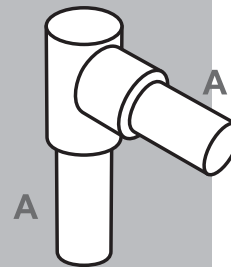
Rod Size (A)		Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
mm	inch			
12.7	1/2	200	RR3-CL-127127	HCC00
14.2	5/8	200	RR3-CL-142142	HCC00
17.2	3/4	250	RR3-CL-172172	HCC00
23.1	1	2 x 150	RR3-DL-231231	HCD00

Special requirement can be requested

RR4

Ground Rod to Ground Rod

Horizontal ground rod to ground rod



Rod Size (A)		Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
mm	inch			
12.7	1/2	200	RR4-C-127127	HCC00
14.2	5/8	200	RR4-C-142142	HCC00
17.2	3/4	250	RR4-C-172172	HCC00
23.1	1	2 x 150	RR4-D-231231	HCD00

Special requirement can be requested

Tools Request :



Tools Advice :

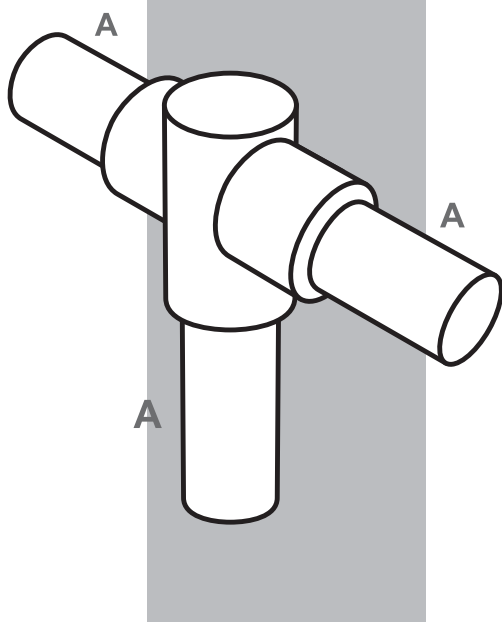
- Tool box
- Butane torch
- Butane gas
- Gloves

Note : • "2x150" means to use 2 tubes of 150 g - metal powder for one connection

RR5

Ground Rod to Ground Rod

Horizontal ground rod thru to ground rod



Rod Size (A)		Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
mm	inch			
12.7	1/2	200	RR5-C-127127	HCC00
14.2	5/8	200	RR5-C-142142	HCC00
17.2	3/4	250	RR5-C-172172	HCC00
23.1	1	2 x 150	RR5-D-231231	HCD00

Special requirement can be requested

Tools Request :



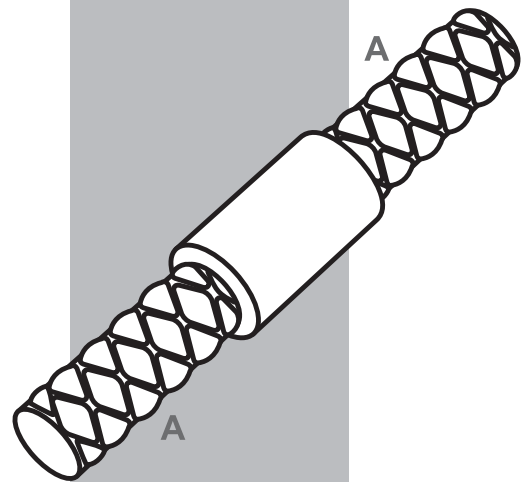
Tools Advice :

- Tool box
- Butane torch
- Butane gas
- Gloves

Note : • "2x150" means to use 2 tubes of 150 g - metal powder for one connection

RE1

Rebar to Rebar Horizontal rebar end to end



Rod Size	Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
A _{mm}			
10	90	RE1-C-1010	HCC00
12	115	RE1-C-1212	HCC00
16	200	RE1-C-1616	HCC00
20	250	RE1-C-2020	HCC00
25	2 x 200	RE1-D-2525	HCD00

Special requirement can be requested

Tools Request :



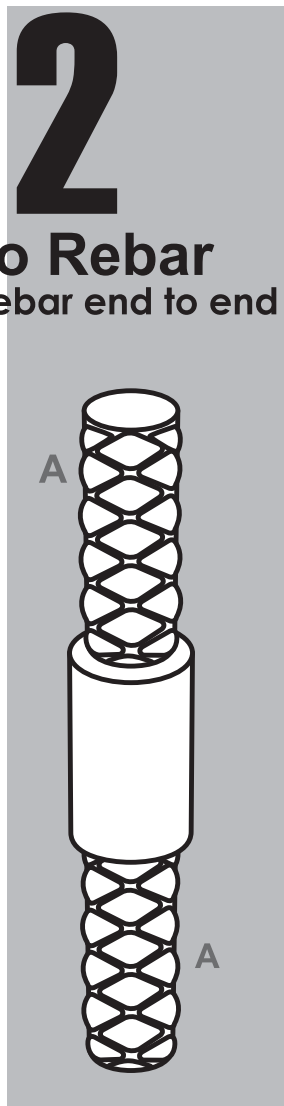
Tools Advice :

- Tool box
- Butane torch
- Butane gas
- Gloves

- Note :**
- "2x200" means to use 2 tubes of 200 g - metal powder for one connection
 - For perfectly welding, it need to clean and remove oxide and moisture from reinforcement steel and conductor before making connection
 - Kumwell RE Mould provides ceramic fiber to prevent leakage

RE2

Rebar to Rebar Horizontal rebar end to end



Rod Size	Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
A mm			
10	90	RE2-CL-1010	HCC00
12	115	RE2-CL-1212	HCC00
16	200	RE2-CL-1616	HCC00
20	250	RE2-CL-2020	HCC00
25	2 x 200	RE2-DL-2525	HCD00

Special requirement can be requested

Tools Request :



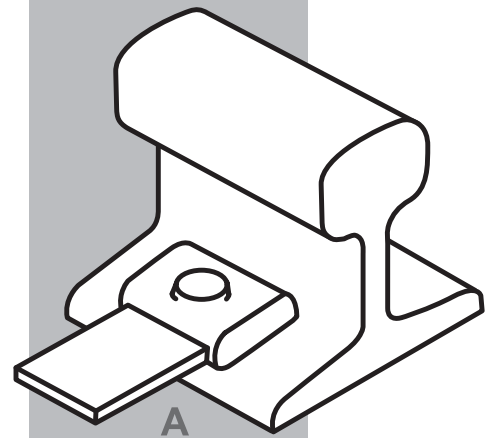
Tools Advice :

- Tool box
- Butane torch
- Butane gas
- Gloves

- Note :**
- "2x200" means to use 2 tubes of 200 g - metal powder for one connection
 - For perfectly welding, it need to clean and remove oxide and moisture from reinforcement steel and conductor before making connection
 - Kumwell RE Mould provides ceramic fiber to prevent leakage

BX1

Bus Bar to Rail Bar to foot of rail at angle 90°



Conductor A mm ²	Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
25 x 3	65	BX1-C-253	HCF00

Special requirement can be requested

Tools Request :



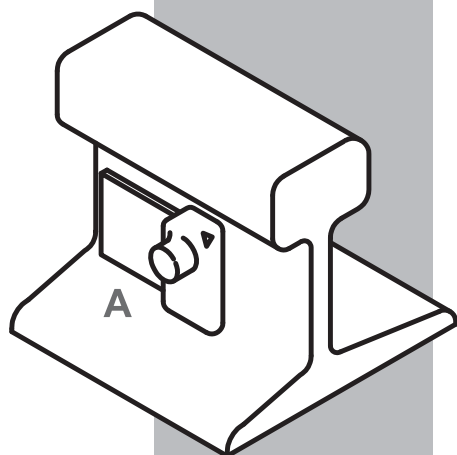
- Tools Advice :**
- Tool box
 - Butane torch
 - Butane gas
 - Gloves

Note : • For perfect connection,
Remove oxide and moisture where making connection

BX3

Bus Bar to Rail

Horizontal bus bar to web rail



Conductor A _{mm}	Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
40 x 5	2 x 150	BX3R-CL-405	HCW00
40 x 5	2 x 150	BX3L-CL-405	HCW00
40 x 6	2 x 150	BX3R-CL-406	HCW00
40 x 6	2 x 150	BX3L-CL-406	HCW00
50 x 6	2 x 200	BX3R-CL-506	HCW00
50 x 6	2 x 200	BX3L-CL-506	HCW00

Special requirement can be requested

Tools Request :



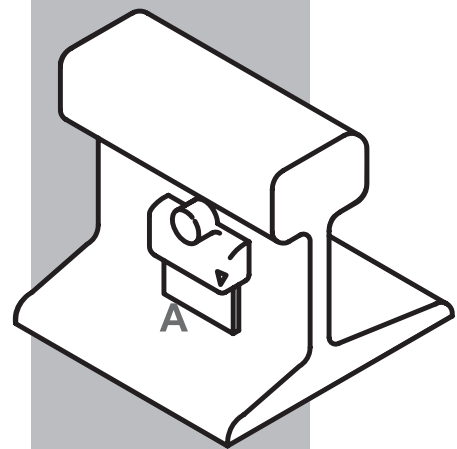
Tools Advice :

- Tool box
- Butane torch
- Butane gas
- Gloves

- Note :**
- "2x150" means to use 2 tubes of 150 g - metal powder for one connection
 - "2x200" means to use 2 tubes of 200 g - metal powder for one connection
 - For perfect connection, Remove oxide and moisture where making connection
 - "L" for Left connection
 - "R" for Right connection

BX4

Bus Bar to Rail Horizontal bus bar to web rail



Conductor A mm ²	Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
40 x 5	2 x 150	BX4-CL-405	HCW00
40 x 6	2 x 150	BX4-CL-406	HCW00
50 x 6	2 x 200	BX4-CL-506	HCW00

Special requirement can be requested

Tools Request :



Tools Advice :

- Tool box
- Butane torch
- Butane gas
- Gloves

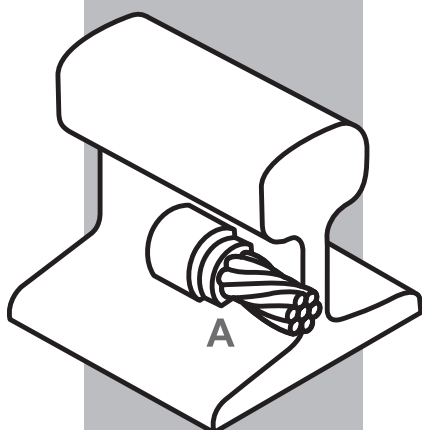
Note :

- "2x150" means to use 2 tubes of 150 g - metal powder for one connection
- "2x200" means to use 2 tubes of 200 g - metal powder for one connection
- For perfect connection, Remove oxide and moisture where making connection

CX1

Cable to Rail

Horizontal cable to rail termination
(fillet)



Conductor	Metal Powder	Graphite Mould	Handle Clamp
A _{mm²}	(g)	Type	Type
50	115	CX1L-C-50	HCF00
50	115	CX1R-C-50	HCF00
70	115	CX1L-C-70	HCF00
70	115	CX1R-C-70	HCF00
95	150	CX1L-C-95	HCF00
95	150	CX1R-C-95	HCF00
120	150	CX1L-C-120	HCF00
120	150	CX1R-C-120	HCF00
150	200	CX1L-C-150	HCF00
150	200	CX1R-C-150	HCF00

Special requirement can be requested

Tools Request :



Tools Advice :

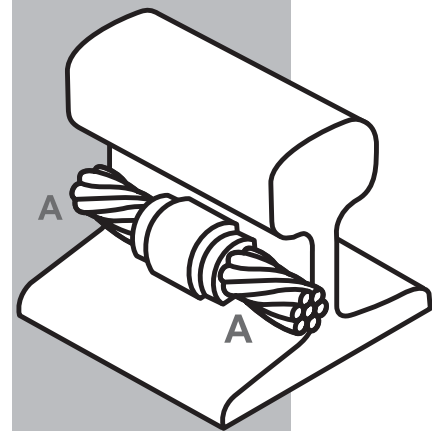
- Tool box
- Butane torch
- Butane gas
- Gloves

- Note :**
- For perfect connection, Remove oxide and moisture where making connection
 - "L" for Left connection
 - "R" for Right connection

CX2

Cable to Rail

Horizontal thru cable to rail termination
(fillet)



Conductor A mm ²	Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
50	150	CX2-CL-50	HCF00
70	150	CX2-CL-70	HCF00
95	200	CX2-CL-95	HCF00
120	200	CX2-CL-120	HCF00
150	250	CX2-CL-150	HCF00

Special requirement can be requested

Tools Request :



Tools Advice :

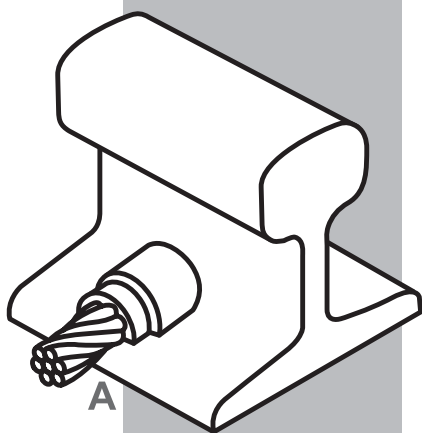
- Tool box
- Butane torch
- Butane gas
- Gloves

Note : • For perfect connection,
Remove oxide and moisture where making connection

CX5

Cable to Rail

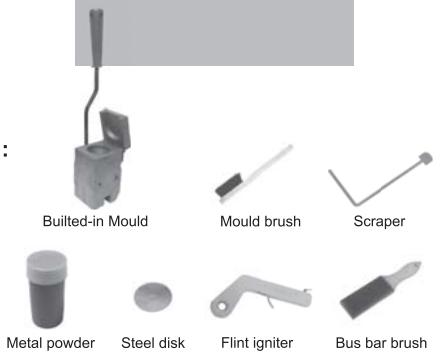
Horizontal cable end tap to rail
(foot)



Conductor	Metal Powder	Graphite Mould	Handle Clamp
A _{mm²}	(g)	Type	Type
16	25	CX5-A-16	HCA00
25	25	CX5-A-25	HCA00
35	32	CX5-A-35	HCA00
50	45	CX5-A-50	HCA00
70	65	CX5-A-70	HCA00
95	65	CX5-A-95	HCA00
120	90	CX5-CL-120	HCF00
150	115	CX5-CL-150	HCF00

Special requirement can be requested

Tools Request :



Tools Advice :

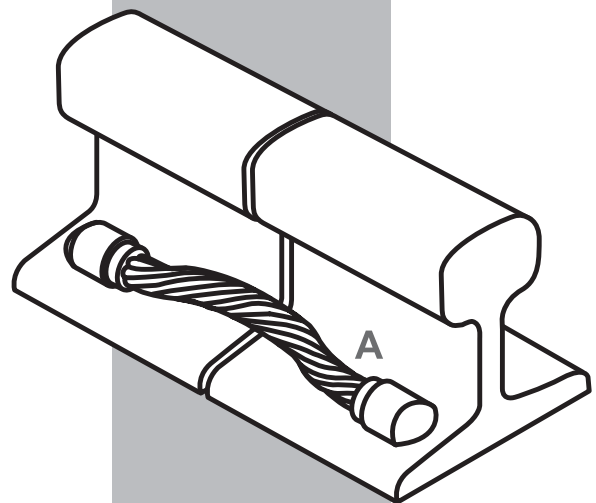
- Tool box
- Butane torch
- Butane gas
- Gloves

Note :

- "HCA00" Type A -Handle clamp is built-in graphite mould
- For perfect connection, Remove oxide and moisture where making connection

CX7

Cable to Rail
Bond to base of rail
(foot)



Conductor	Metal Powder	Graphite Mould Type	Handle Clamp Type
A mm ²	(g)	Type	Type
50	45	CX7L-C-50	HCF00
50	45	CX7R-C-50	HCF00
70	45	CX7L-C-70	HCF00
70	45	CX7R-C-70	HCF00
120	65	CX7L-C-120	HCF00
120	65	CX7R-C-120	HCF00
150	90	CX7L-C-150	HCF00
150	90	CX7R-C-150	HCF00

Special requirement can be requested

Tools Request :



Tools Advice :

- Tool box
- Butane torch
- Butane gas
- Gloves

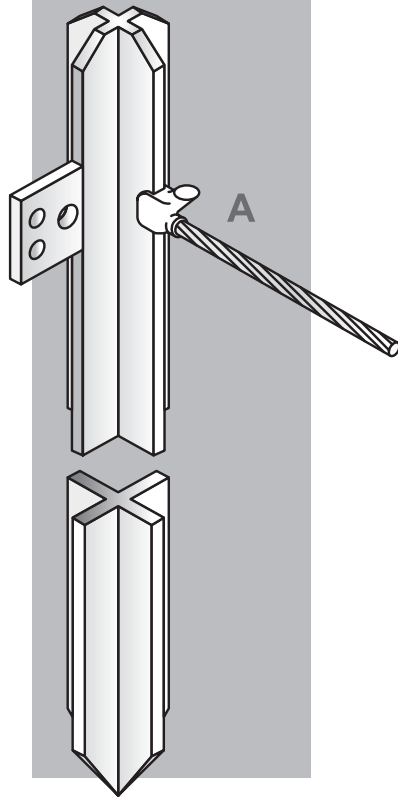
Note :

- For perfect connection, Remove oxide and moisture where making connection
- "L" for Left connection
- "R" for Right connection

SRS1

Steel Cable to Steel Rod

Vertical steel rod tap to horizontal cable



Conductor	Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
A mm ²			
50	45	SRS1-C-50	HCC00-X

Special requirement can be requested

Tools Request :



Tools Advice :

- Tool box
- Butane torch
- Butane gas
- Gloves

Note : • For perfect connection,
Remove oxide and moisture where making connection

KR
Type for
Railway Signaling



KR Type Weld Metal Powder



Kumwell designed a welding process of making railway signaling bond.

Applications

Suitable for Signaling bond's connections, that is, Horizontal cable end tap to web rail, Horizontal cable end tap to head rail, Stud tap to web rail

Standards

- American Railway Engineering Association (AREA, Chapter 4 Part2)
- Test Method for Tension Testing of Metallic Material (ASTM E8M)



Storage

It should be stored in an ambient temperature and avoid moisture.



Packaging

Kumwell weld metal powder is contained a moisture - resistant plastic cartridge, packed in a paper box. Integral weld metal package is identified as to the weld metal powder's amount, type of metal powder to be connected, Lot No., the number of tubes to manufacturing date (MFD).

Code	KR15	KR25	KR32	KR45	KR65	KR90	KR115
Size	15g	25g	32g	45g	65g	90g	115g
Tubes/box	40	50	20	20	20	20	10

Railway Signaling

Kumwell KR type's exothermic welding powder for railway signaling is tin free that can prevent metallurgical damage to the rail. Weld material provides a final joint to the average of 43,000 psi tensile strength tested by ASTM E8M (Test Methods for Tension Testing of Metallic Material). KR Type has been complied with the standards of American Railway Engineering Association Chapter 4 Part 2 (AREA).



Signaling cable to head rail



Signaling cable to web rail



Stud to rail

Process

Kumwell Exothermic Welding process is a molecular chemical reaction between copper oxide and aluminum, generates a tremendous superheat with molten metals reaching approximately temperatures of 4,000° F (2,600° C). The process can be completed itself automatically without external source of power or heat.

Railway Signaling

Safety

Starting and weld metal powder

- Non toxic and heavy metal
- Non self-ignite
- Ignition temperature at least 400° C
- Smooth reaction

Mould

- Earnest design: cavity, flow path
- High quality raw material
- Accurate tolerance

Welding Metal

- No Tin
- Non toxic and heavy metal
- Steady burn without pop and fire out
- No slag and porosity
- Consistency of color
- High conductivity with at least 93% Cu
- No affect to rail

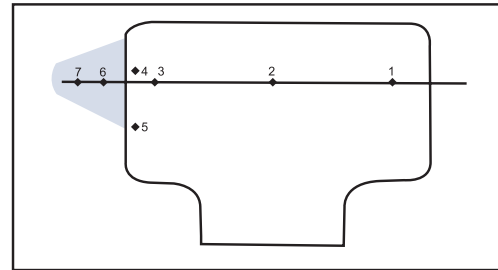
Martensite

Railway signaling is a system used to control traffic safely, essentially to prevent trains from colliding. Exothermic welding is one of the most popular methods of railway signaling bond.

In welding process, the martensite is formed by rapid cooling, quenching, of austenite which traps carbon atoms that do not have enough time to diffuse out of the crystal structure. When viewed in cross-section, the lenticular (lens-shaped) crystal grains appear acicular (needle-shaped).

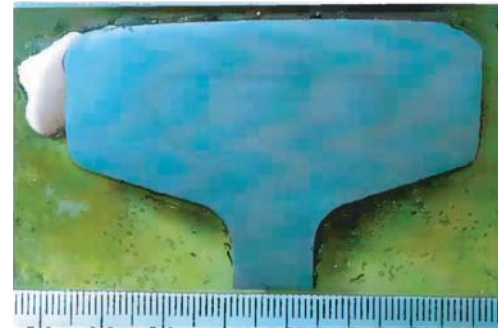
Martensite affect to the rail with increasing risk of cracking and brittle.

K.M.L. Technology Co.,Ltd. has commissioned the national laboratory to carry out macrostructure, microstructure analysis and hardness test of the specimens of railway signaling bond according to ASM Handbook Vol.9-2004 and Hardness test (HV10) according to ASTM E 92-1982.

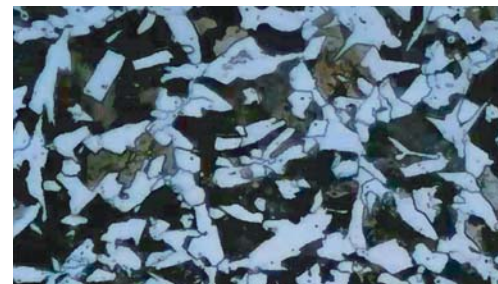


		Point						
Specimen		1	2	3	4	5	6	7
Railway Signaling Bond		240	245	240	276	287	118	124

Hardness survey location of vickers hardness test (HV 10) of railway signaling bond



Macrostructure of a cross-section of exothermic welding for railway signaling bond

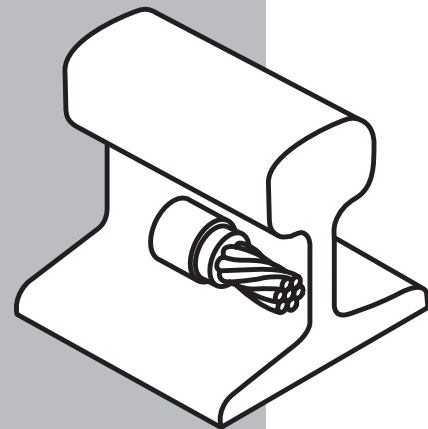


Macrostructure of a cross-section of exothermic welding for railway signaling bond

KWRT^(R/L)

Signaling Bond

Horizontal cable end tap
to web rail



Application for Connection Railway

Suitable for railway signaling cable for rail size 3/16" or 5/16" on web rail completed with graphite mould No. KWRT3R, KWRT3L, KWRT5R, KWRT5L and handle clamp No.HCW00

Signaling Cable Diameter	Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
3/16"	KR 25	KWRT3R	HCW00
3/16"	KR 25	KWRT3L	HCW00
5/16"	KR 32	KWRT5R	HCW00
5/16"	KR 32	KWRT5L	HCW00

Special requirement can be requested



Handle Clamp with Mould

Tools Request :



Mould



Handle clamp



Scraper



Metal powder



Steel disk



Flint igniter



Bus bar brush

Tools Advice :

- Tool box
- Butane torch
- Butane gas
- Gloves

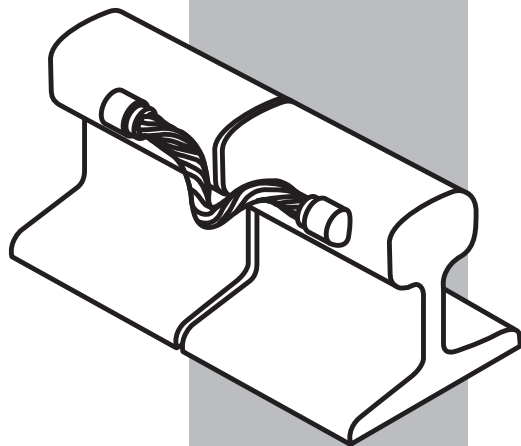
Note :

- For perfect connection, Remove oxide and moisture where making connection
- "L" for Left connection
- "R" for Right connection

KHRT

Signaling Bond

Horizontal cable end tap to head rail



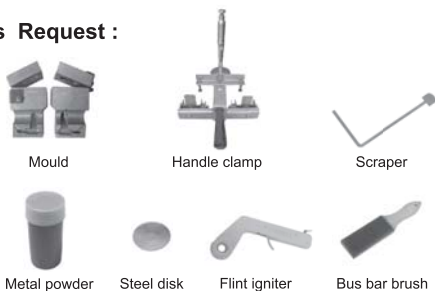
Application for Connection Railway

Suitable for connection railway signaling cable for rail size 3/16" x 7-1/2" or 5/16" x 7-1/2" on head rail completed with graphite mould No. KHRT3R, KHRT3L, KHRT5R, KHRT5L and handle clamp No.HCH00

Signaling Cable		Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
Diameter	Length			
3/16"	7-1/2"	KR 25	KHRT3R	HCH00
3/16"	7-1/2"	KR 25	KHRT3L	HCH00
5/16"	7-1/2"	KR 32	KHRT5R	HCH00
5/16"	7-1/2"	KR 32	KHRT5L	HCH00

Special requirement can be requested

Tools Request :



Tools Advice :

- Tool box
- Butane torch
- Butane gas
- Gloves

Note :

- For perfect connection, Remove oxide and moisture where making connection
- "L" for Left connection
- "R" for Right connection



Handle Clamp with Mould

KWS

Signaling Bond

Stud tap to web rail

Application for Connection Railway

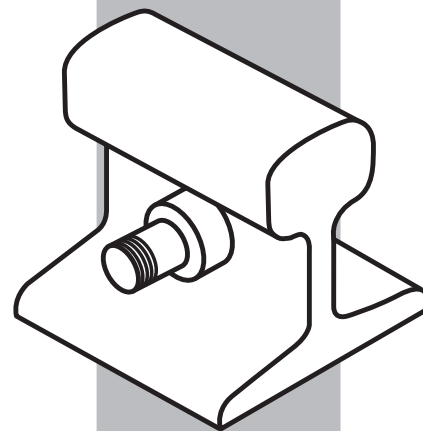
Suitable for joint stud tap to web rail completed with handle clamp No. HCW00

Stud mm	Metal Powder (g)	Graphite Mould Type	Handle Clamp Type
M6	KR45	KWS6	HCW00
M8	KR45	KWS8	HCW00
M10	KR65	KWS10	HCW00
M12	KR90	KWS12	HCW00
M16	KR115	KWS16	HCW00

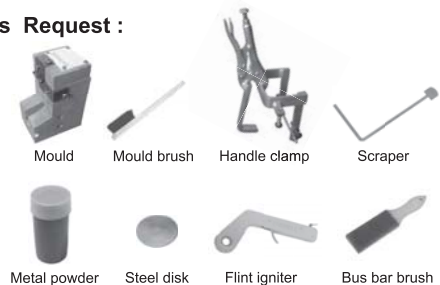
Special requirement can be requested



Handle Clamp with Mould



Tools Request :



Tools Advice :

- Tool box
- Butane torch
- Butane gas
- Gloves

Note : • For perfect connection,
Remove oxide and moisture where making connection

Conductors

Cadmium Bronze Wire with Tin Plating for Rail Head Bond



Code No.	Length (Inch)	Overall Diameter (Inch)
KWSBS 37.5	7-1/2"	3/16"

Material : Signaling wire - Cadmium bronze with tin
Sleeves - Copper

Cadmium Bronze Wire with Tin Plating for Switch Bond



Code No.	Length (Inch)	Overall Diameter (Inch)
KSBTBS 318T	18"	3/16"

Material : Signaling wire - Cadmium bronze with tin
Sleeves - Copper

Cadmium Bronze Wire with Tin Plating for Jumper Bond



Code No.	Length (Inch)	Overall Diameter (Inch)
KSBTBJ 318T	18"	3/16"

Material : Signaling wire - Cadmium bronze with tin
Sleeves - Copper

Cadmium Bronze Wire with Tin Plating for Web Bond



Code No.	Length (Inch)	Overall Diameter (Inch)
KSBW 34T	4 -1/8"	3/16"

Material : Signaling wire - Cadmium bronze with tin
Sleeves - Copper
Lug - Copper with tin

Cadmium Bronze Wire with Tin Plating



Code No.	Length (Inch)	Overall Diameter (Inch)
SB 3T	As Request	3/16"

Material : Signaling wire - Cadmium bronze with tin

PVC Covered Galvanized Steel Wire



Code No.	Coil Size (m)	Overall Diameter (mm)
KWB TG 4-0	100	12

Material : Signaling wire - Galvanized Steel Ø 4 mm
PVC Cover - Orange PVC UV Stabiliser

KB

Type for
Cathodic Protection



KB Type Weld Metal Powder



Kumwell designed a welding process of making connection in cathodic protection.

Applications

Suitable for Cathodic protection's connections, that is, Horizontal through cable to horizontal pipe, Angular cable drop to vertical pipe surface



Standards

- ANSI/ASME B 31.4 Pipeline Translation System For Liquid Hydrocarbons and Other Liquid
- ANSI/ASME B 31.8 Gas Transmission and Distribution Piping System

Storage

It should be stored in an ambient temperature and avoid moisture.

Packaging

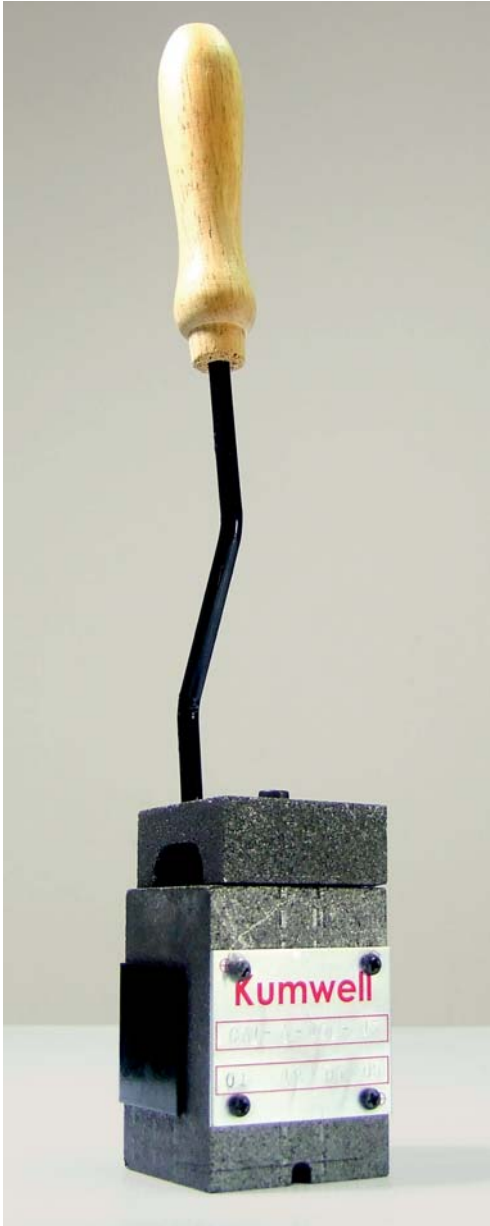
Kumwell weld metal powder is contained a moisture - resistant plastic cartridge, packed in a paper box. Integral weld metal package is identified as to the weld metal powder's amount, type of metal powder to be connected, Lot No., the number of tubes to manufacturing date (MFD).

Code	KB15	KB25	KB32	KB45	KB65
Size	15g	25g	32g	45g	65g
Tubes/box	40	20	20	20	20



KB

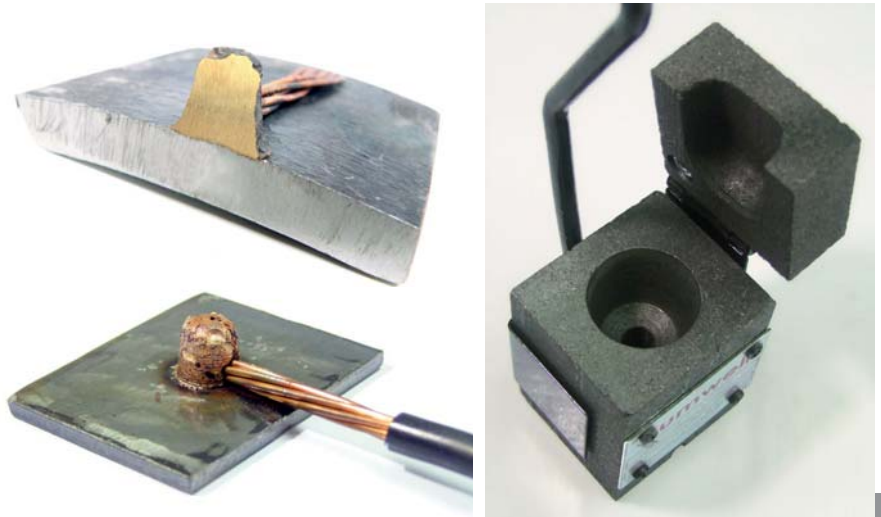
Weld Metal Powder



Kumwell Exothermic welding process for cable to piping's steel surface provides perfect connections with corrosion resistance and no effect in welding process on pipeline such as martensite at Heat-Affected Zone (HAZ). High conductivity of high copper composition withstands repeated fault current without loosening up.

Process

Kumwell Exothermic Welding process is a molecular chemical reaction between copper oxide and aluminum, generates a tremendous superheat with molten metals reaching approximately temperatures of 4,000°F (2,600°C). The process can be completed itself automatically without external source of power or heat.



Handle with care and follow the instruction, Cathodic protection mould can be used 100 times average.

Cathodic Protection

Safety

Starting and weld metal powder

- Non toxic and heavy metal
- Non self-ignite
- Ignition temperature at least 400° C
- Smooth reaction

Mould

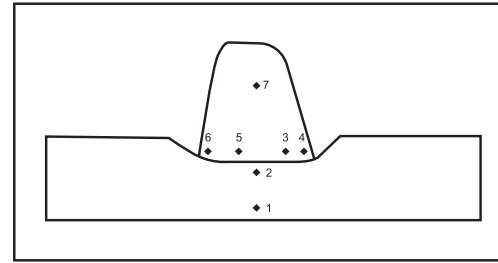
- Earnest design: cavity, flow path
- High quality raw material
- Accurate tolerance

Welding metal

- No Tin and Phosphorous
- Non toxic and heavy metal
- Steady burn without pop and fire out
- No slag and porosity
- Consistency of color
- High conductivity with at least 93% Cu

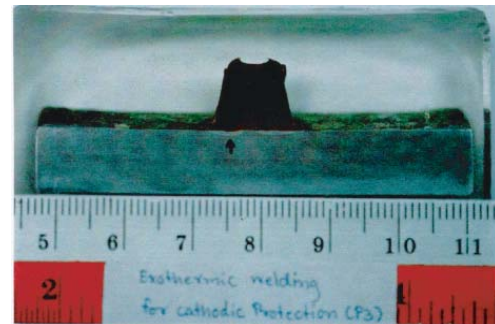
Cathodic Protection is a method for controlling the corrosion deterioration of metallic structures in contact with most forms of electrolytically conducting environments such as soils, seawater and basically all natural waters. Cathodic Protection has grown to have many uses in marine and underground structures, water storage tanks, gas pipelines, oil platform supports, and many other facilities exposed to a corrosive environment. In welding process, we shall ensure that there is no affect to welding area in term of inside pressure and martensite, which is formed by rapid cooling, quenching, of austenite can be affected to the pipe with increasing risk of penetration.

K.M.L. Technology Co.,Ltd. has commissioned the national laboratory to carry out macrostructure, microstructure analysis and hardness test of the specimens of for cathodic protection according to ASM Handbook Vol.9-2004 and Hardness test (HV10) according to ASTM E92-1982.

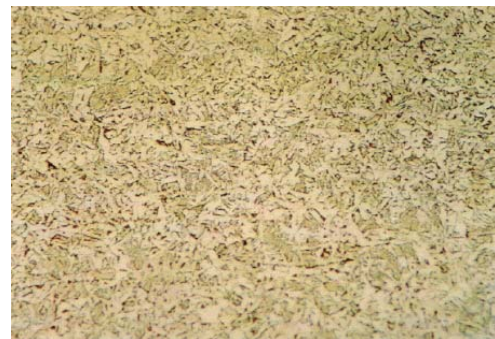


Point	1	2	3	4	5	6	7
Specimen	147	145	173	150	164	153	121

Hardness survey location of vickers hardness test (HV10) of cathodic protection.



Macrostructure of a cross-section of exothermic welding for cathodic protection.

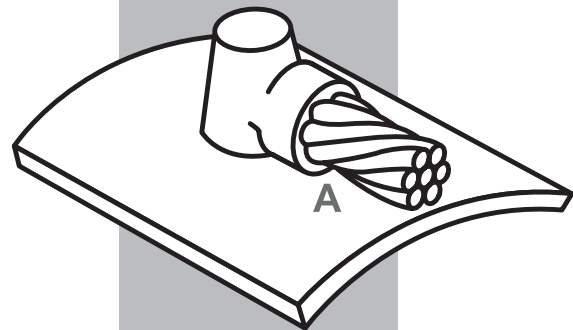


Macrostructure of a cross-section of exothermic welding for cathodic protection.

CA1

Cathodic Protection

Horizontal thru cable to horizontal pipe



Conductor	Metal Powder	Graphite Mould Type	Handle Clamp Type
A mm ²	(g)		
2.5	KB15	CA1-A-2.5	HCA00
4	KB15	CA1-A-4	HCA00
6	KB15	CA1-A-6	HCA00
10	KB15	CA1-A-10	HCA00
16	KB15	CA1-A-16	HCA00
25	KB15	CA1-A-25	HCA00
35	KB32	CA1-A-35	HCA00
50	KB65	CA1-A-50	HCA00
70	KB65	CA1-A-70	HCA00

Special requirement can be requested

Tools Request :

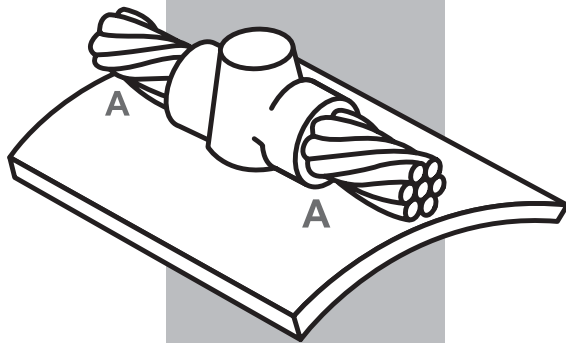


- #### Tools Advice :
- Tool box
 - Butane torch
 - Butane gas
 - Gloves

- #### Note :
- For perfect connection, Remove oxide and moisture where making connection
 - Coat surfaces of steel and connection by Rust-Oleum cold galvanizing
 - KB weld metal powder is special design for cathodic protection
 - "HCA00" Type A -Handle clamp is built-in graphite mould

CA2

Cathodic Protection Horizontal thru cable to horizontal pipe



Conductor	Metal Powder	Graphite Mould Type	Handle Clamp Type
A mm ²	(g)		
2.5	KB25	CA2-A-2.5	HCA00
4	KB25	CA2-A-4	HCA00
6	KB25	CA2-A-6	HCA00
10	KB25	CA2-A-10	HCA00
16	KB25	CA2-A-16	HCA00
25	KB25	CA2-A-25	HCA00
35	KB45	CA2-A-35	HCA00
50	KB65	CA2-A-50	HCA00
70	KB65	CA2-A-70	HCA00

Special requirement can be requested

Tools Request :



- Tools Advice :**
- Tool box
 - Butane torch
 - Butane gas
 - Gloves

- Note :**
- For perfect connection, Remove oxide and moisture where making connection
 - Coat surfaces of steel and connection by Rust-Oleum cold galvanizing
 - KB weld metal powder is special design for cathodic protection
 - "HCA00" Type A -Handle clamp is built-in graphite mould

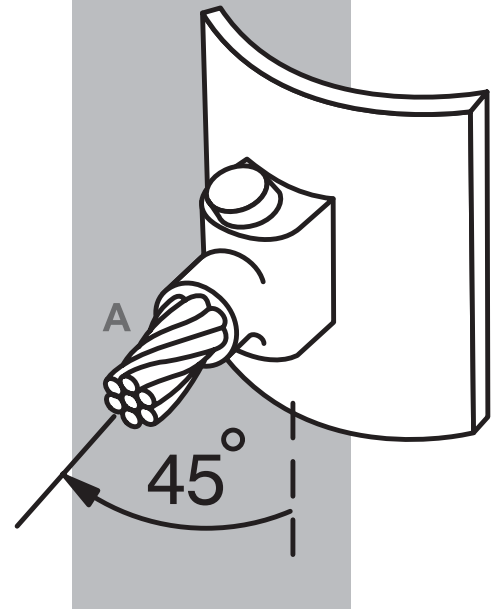
CA3

Cathodic Protection

Angular cable drop
to vertical pipe surface

Conductor	Metal Powder	Graphite Mould Type	Handle Clamp Type
A mm²	(g)	Type	Type
2.5	KB15	CA3-B-2.5	HCB00 - X
4	KB15	CA3-B-4	HCB00 - X
6	KB15	CA3-B-6	HCB00 - X
10	KB15	CA3-B-10	HCB00 - X
16	KB15	CA3-B-16	HCB00 - X
25	KB15	CA3-B-25	HCB00 - X
35	KB32	CA3-B-35	HCB00 - X
50	KB65	CA3-B-50	HCB00 - X
70	KB65	CA3-B-70	HCB00 - X

Special requirement can be requested



Tools Request :



Tools Advice :

- Tool box
- Butane torch
- Butane gas
- Gloves

- Note :**
- For perfect connection, Remove oxide and moisture where making connection
 - Coat surfaces of steel and connection by Rust-Oleum cold galvanizing
 - KB weld metal powder is special design for cathodic protection

Handle Clamp & Handle Clamp Support

Kumwell Handle Clamp is used for handling and clamping the mould fit to the right position and tightening, without leakage during the exothermic welding process.

Kumwell Handle Clamp Support is designed to use with standard handle clamp to increase the capability of usage in all applications such as cable to steel pipe connection, cable to flat surface, etc.



Standard Tools

Kumwell Standard Tools are dedicated to use with the main equipments in exothermic welding connection process.

- **Flint Igniter** - for starting the reaction.
- **Cable Clean Brush** – for cleaning cables and other circular conductor
- **Mould Brush** – for cleaning mould
- **Busbar Brush** – for cleaning metal flat surface
- **Scraper** – for removing slag from mould's crucible after finishing the connection.



Tool Box

Kumwell Tool Box is a special designed steel case suitable storing of exothermic welding equipments before and after process.

Handle Clamp

Kumwell handle clamp has only 2 type differences; HCC00 and HCD00, which is adequate to assort with many different sizes and types of graphite mould.



HCC00 or HCD00

HCC00 type handle clamp assorting with 3-1/8" x 3-1/8" sized mould and 2-5/16" distance between prongs.

HCD00 type handle clamp assorting with 4"x4" sized mould and 3" distance between prongs.



HCC00-X or HCD00-X

Handle clamp with chain support "X"

It is used to hold a mould fit at its horizontal and vertical position on up to 4" pipe's diameter.

Special chain support can be requested.

HCC00-X and HCD00-X suit to collaborate with CRE6P, CRE18P, CRE19P, CRE20P, CP1 mould's types.



HCC00-Y or HCD00-Y

Handle clamp with vertical beam support "Y"

It is used to hold a mould fit at its vertical position on steel beam or column.

HCC00-Y and HCD00-Y suit to collaborate with CS3, CS4, CS7, CS18, CS21, CS22, CS23, CS24, CS25, CS26, CS27, CS28, CS29, CS30, BS1, BS4, BS5, BS8, BS13 mould's types.

Handle Clamp



HCC00-Z or HCD00-Z

Handle clamp with chain support "Z"

It is used to hold a mould fit in its position on top of rebar.

HCC00-Z and HCD00-Z suit to collaborate with CRE1P, CRE17P mould's types.



HCC00-V or HCD00-V

Handle clamp with chain support "V"

This type is recommended to CRE4P, CS16.



HCC00-V1 or HCD00-V1

Handle clamp with chain support "V1"

This type is recommended to CRE5P.



HCC00-U or HCD00-U

Handle clamp with chain support "U"

This type is recommended to CRE3P.

Handle Clamp



HCC00-W or HCD00-W

Handle clamp with chain support "W"

This type is recommended to CS6, CS31, CS43, BS9, BS11.



HCC00-T or HCD00-T

Handle clamp with chain support "T"

This type is recommended to CS12, CS13, CS14, CS15.



HCC00-M or HCD00-M

Handle clamp with vertical magnetic support "M"

It is used to hold a mould fit at its position on vertical steel surface especially on a large size H-beam that another chain or beam support cannot be used.

HCC00-M and HCD00-M suit to collaborate with CS-type mould.

Tool & Accessories

KTA001

Tool box Code No.KTA001

Tool Box is a special designed steel case, suitable for storing of exothermic welding equipments before and after process.



KTA002

8" File Code No.KTA002

File is used for rubbing metal surface smooth before making connection.



KTA003

Busbar Brush Code No.KTA003

Busbar Brush is used for cleaning metal flat surface before making connection.



KTA004

Pincers Code No.KTA004

Pincers are used to facilitate in making connection.



KTA005

Screwdriver Code No. KTA005

Screwdriver is used to facilitate in making connection.



KTA006

Cable Clean Brush Code No.KTA006

Cable Clean Brush is used for cleaning cable only before making connection.

Note : Cable Clean Brush is made from brass, thus do not use for cleaning mould.



KTA007

Mould Brush Code No. KTA007

Mould Brush is used for cleaning crucible and graphite mould's surface by its soft brush.



Tool & Accessories



KTA008-011

Scraper Code No. KTA008 is recommended for metal powder size 15 – 32 g

Scraper Code No. KTA009 is recommended for metal powder size 45 - 90 g

Scraper Code No. KTA010 is recommended for metal powder size 115 - 250 g

Scraper Code No. KTA011 is recommended for metal powder size 300 g or more

Scraper is used for removing slag from the mould crucible after finishing the connection.



KTA014

Flint Igniter Code No. KTA014

Flint Igniter is used for starting the reaction.



KTA015

Disk Container Code No. KTA015

Disk Container is used to store the steel disk and prevent possible damage.



KTA016

Cable clamp Code No.KTA016

Cable Clamp is used for tightening a large-size cable conductor up to 95 mm².



KTA017 – KTA018

Butane Torch Code No.KTA017

Butane Gas Code No.KTA018

Butane Torch and Gas is used for removing moisture from mould and conductor to ensure they are totally dry.



KTA019

Gloves Code No. KTA019

Gloves can help prevent your hands from possible damage.



KTA020

Ceramic Fiber Code No.KTA020

Ceramic Fiber is used to prevent leakage from mould and conductors for complete connection.

Instruction

step 1

Assemble mould with handle clamp



step 2

Preheat by butane torch to ensure the mould is totally dry before every first joint regardless new or used mould



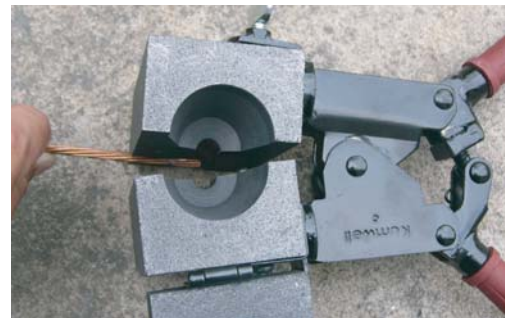
step 3

Clean the surfaces of conductor and rod by cable clean brush and preheat by butane torch to ensure the conductor is totally dry



step 4

Fit Conductors and ground rod snugly into the mould and lock the handle clamp
Always make sure the mould is in a level position



step 5

Place retaining disk ensuring the disk sits well at the base of the weld metal cavity

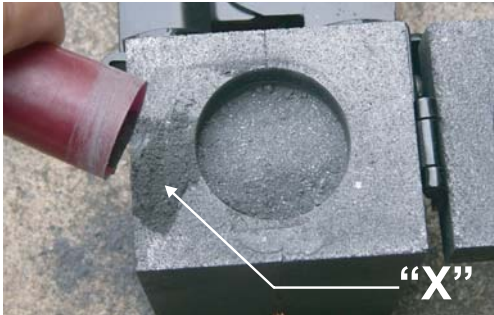


Instruction



step 6

Pour a recommended size of weld metal into the mould crucible
Check for leaks of weld metal
Repeat step 4 in case of leak



step 7

Loosen starting powder from the bottom of tube
Pour 2/3 of it on top of the weld metal and the mouth of mould lid marked "X"



step 8

Ignite the starting powder at the lid opening by flint gun
The process takes 30 - 60 second



step 9

Gently rub slag from the crucible by scraper
Clean the crucible and weld cavity by mould cleaning brush to endure the mould



step 10

Complete Connection

Owner	Project Name	Distributor	Period
OMAN	AL KAMIL POWER PLANT	GULF RADIANT ELECTRICAL & TRADING L.L.C.	2001-2002
OMAN	SALALAH POWER PLANT	GULF RADIANT ELECTRICAL & TRADING L.L.C.	2001-2002
OMAN	BARKHA POWER PLANT	GULF RADIANT ELECTRICAL & TRADING L.L.C.	2001-2002
U.A.E	DEWA PROJECT	GULF RADIANT ELECTRICAL & TRADING L.L.C.	2001-2002
U.A.E	ADWEA PROJECT	GULF RADIANT ELECTRICAL & TRADING L.L.C.	2001-2002
INDIA	PURULA-HYDRO POWER PLANT	TAISEI CORPORATION	2003
QATAR	QATAR PETROLEUM GAS	GULF RADIANT ELECTRICAL & TRADING L.L.C.	2003
SUDAN	MELUT BASIN OIL	GULF RADIANT ELECTRICAL & TRADING L.L.C.	2003
INDIA	PURULA-HYDRO POWER PLANT	TAISEI CORPORATION	2003-2004
VIETNAM	BINH TRIEU-HCM 110KV, PHU THO-HCM 110KV	V.T.E.C.H. ELECTRICAL TECHNOLOGY CO.,LTD.	2004
CHINA	SHANGHAI POWER PLANT	NOVA TECHNOLOGY CO.,LTD.	2004
PAKISTAN	LPG EXTRACTION PLANT	ABB PVT.LTD.	2004
PAKISTAN	500KV/220 NTOC-KEKC	PACIFIC ENGINEERING CO.,LTD.	2005
MALAYSIA	500KV T/L TRANSMISSION LINES FOR 1400MW JIMAH POWER PROJECT	FUJIKURA LTD.	2005
LAOS	NAM THEUN 2 HYDRO POWER PROJECT EM2 TRANSMISSION LINE	J-POWER SYSTEMS CORPORATION	2005
VIETNAM	CU MAU COMBINE CYCLE POWER PLANT PETRO	V.T.E.C.H. ELECTRICAL TECHNOLOGY CO.,LTD.	2006-2007
CHINA	SHANTOU 500 KV SUBSTATION	NOVA TECHNOLOGY CO.,LTD.	2007
CHINA	SHI HUA YANG ZHUANG RIVER PROJECT	NOVA TECHNOLOGY CO.,LTD.	2008
MALAYSIA	HOSPITAL PETRONAS (KLCC HEALTH CARE CENTER)	HELLERMAN LETRIK SDN BHD	2008
MALAYSIA	KUALA LUMPUR INTERNATIONAL AIRPORT (KLIA)	HELLERMAN LETRIK SDN BHD	2008
MALAYSIA	SYSTEM MONORAIL -DEPOT, SWITCH DEPOT, STATION, TPSS, STEEL ARCH BRIDGE	HELLERMAN LETRIK SDN BHD	2008
MALAYSIA	CU MAU COMBINE CYCLE POWER PLANT PETRO	HELLERMAN LETRIK SDN BHD	2008
MALAYSIA	MAXIS TELECOM MALAYSIA	HELLERMAN LETRIK SDN BHD	2008
MALAYSIA	KTM DOUBLE TRACK PROJECT	HELLERMAN LETRIK SDN BHD	2008
PAKISTAN	GAS TURBINE POWER PLANT	PACIFIC ENGINEERING CO.,LTD.	2008
PAKISTAN	KABUL DISTRIBUTION ENHANCEMENT PROJECT	PACIFIC ENGINEERING CO.,LTD.	2009
U.A.E	DEWA -D.F.O. PIPELINE	GULF RADIANT ELECTRICAL & TRADING L.L.C.	2009
U.A.E	ABU-DHABI INTERNATIONAL AIRPORT 2K RUNWAY PROJECT	GULF RADIANT ELECTRICAL & TRADING L.L.C.	2009
U.A.E	DU TELECOM TOWER CIVIL WORKS	GULF RADIANT ELECTRICAL & TRADING L.L.C.	2009
EGYPT	EZZ- STEEL PLANT, SUEZ	DANIELI	2009
IRAQ	US ARMY JLSC- DOHA, PROJECT IRAQ/ AFGHANISTAN	GULF RADIANT ELECTRICAL & TRADING L.L.C.	2009
IRAQ	PIER & SEAWALL PROJECT, UMM QASR, BASRA -IRAQ	CCI INC.,	2009
VIETNAM	MAIN GAS FILLING STATION	V.T.E.C.H. ELECTRICAL TECHNOLOGY CO.,LTD.	2009
CHINA	YINNAN PROVINCE XIAO WAN HYDRO-POWER PLANT	NOVA TECHNOLOGY CO.,LTD.	2009
CHINA	SHANGDONG PROVINCE DEZHOU 500 KV SUBSTATION	NOVA TECHNOLOGY CO.,LTD.	2009
CHINA	BEIJING FORBIDDEN CITY	NOVA TECHNOLOGY CO.,LTD.	2009
THAILAND	SOUTH BANGKOK COMBINED CYCLE POWER PLANT	SINO-THAI ENGINEERING & CONSTRUCTION PLC.	2009
THAILAND	500 KV GIS AT ON NUCH SUBSTATION UNDER BLUK PAWER SUPPLY FOR THE GREATER BANGKOK AREA PHASE 2	SRI-U-THONG CO., LTD.	2009



