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Smart Energy in Action

UPDATE -2018

TOPWELD®

• GROUNDING AND LIGHTNING PROTECTION SYSTEM •

SERVICE SUPPORT SALE

Awards

The grounding and lightning Protection Product under **TOPWELD** brand is continually developed and researched by the electrical specialist. We realize the important and the damage for lightning strike, so we provide and supply the material specification , design and installation as the following standards namely UL486 , UL 467 , IEEE80 , NFPA 780 , IEC 62305 series.

APEA 2016 Outstanding Category

โล่ประกาศเกียรติคุณ เป็นผู้มีคุณูปการต่อโรงเรียนวัดน้อยนพคุณ อย่างต่อเนื่อง สมควรได้รับการยกย่องเชิดชูเกียรติ

โล่เกียรติคุณเฉลิมพระเกียรติสมเด็จพระเทพรัตนราชสุดาฯ (GKP) เพื่อแสดงว่าเป็นสถานประกอบการที่มีความมุ่งมั่นดำเนินการโครงการสถานประกอบการปลอดภัย

โล่เกียรติคุณเฉลิมพระเกียรติสมเด็จพระเทพรัตนราชสุดาฯ (GKA) เพื่อแสดงว่าเป็นสถานประกอบการที่มีความมุ่งมั่นดำเนินการโครงการสถานประกอบการปลอดภัย

โล่เกียรติคุณโรงเรียนเทศบาลปลายบางวัดโคนอนราษฎร์บำรุง ผู้มีคุณูปการต่อการจัดการศึกษาของโรงเรียน

โล่เกียรติคุณกรมพัฒนาฝีมือแรงงาน กระทรวงแรงงาน ได้รับการคัดเลือกเป็นสถานประกอบกิจการดีเด่นด้านการส่งเสริมการพัฒนาฝีมือแรงงาน

โล่เกียรติคุณมาตรฐานการป้องกันและแก้ไขปัญหายาเสพติด (GKA) ได้ตามเกณฑ์มาตรฐานการป้องกันและแก้ไขปัญหายาเสพติดในสถานประกอบการ

โล่เกียรติคุณด้านการบริหารและคุ้มเครองความปลอดภัย งานสัปดาห์ความปลอดภัยในการทำงานแห่งชาติ

โล่เกียรติคุณ CSR -DIW Award 2015 มาตรฐานความรับผิดชอบของผู้ประกอบการอุตสาหกรรมต่อสังคม

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ใบรับรอง ISO9001

ใบรับรอง ISO9001

ใบอนุญาต หลอด แอล อี ดี ที่มีอุปกรณ์รับหลอดในตัว

โล่เกียรติคุณจากสถานีตำรวจนครบาลสามเสน
ผู้ทำประโยชน์ด้านสนับสนุนกิจกรรม
ของสถานีตำรวจนครบาลสามเสน

KTB SME ดิดดาว

SET AWARDS 2015 Outstanding CEO Awards CEO of Compay listed on SET Sopacha Dhumrongpiyawut President GUNKUL PCL

Quality Management

Four main components, quality planning, quality insurance , quality control and quality improvement, are consistent. Neither the quality product and service quality are realized, we control the all process to achieve q quality product and service. The quality standards must be continually developed in order to meet the market requirements and competitive prices.

Quality Assurance by Certification (ISO 9001 : 2008)

The good quality management leads the organization to the accomplishment. All product and service quality are guaranteed by ISO 9001 : 2008 standard.

GUNKUL

Customer Service

TOPWELD®

Company Profile

Projects Reference

Wind Farm Project Reference

Power Plant Project Reference

Solar Farm Projects Reference

Solar Roof Top Projects Reference

NEC IEEE ASTM INTERNATIONAL IEC NFPA UL

Company Profile

TOPWELD®

Grounding & Lightning Protection System

A lightning strike is an electric discharge between the atmosphere and an earth-bound object. They mostly originate in a Cumulonimbus cloud and terminate on the ground, called cloud to ground (CG) lightning. A less common type of strike, called ground to cloud (GC), is upward propagating lightning initiated from a tall grounded object and reaches into the clouds. About 25% of all lightning events worldwide are strikes between the atmosphere and earth-bound objects. The bulk of lightning events are intracloud (IC) or cloud to cloud (CC), where discharges only occur high in the atmosphere. A single lightning event is a "flash", which is a complex, multi-stage process, some parts of which are not fully understood. Most ground to cloud flashes only "strike" one physical location, referred to as a "termination". The primary conducting channel, the bright coursing light that may be seen and is called a "strike", is only about one inch in diameter, but because of its extreme

.

brilliance, it often looks much larger to the human eye and in photographs. Lightning discharges are typically miles long, but certain types of horizontal discharges can be upwards of tens of miles in length. The entire flash lasts only a fraction of a second. Most of the early formative and propagation stages are much dimmer and not visible to the human eye.

Caused by ground current from a lightning strike

Lightning strikes can injure humans in several different ways

1.Direct

● Direct strike – the person is part of the flash channel. Enormous quantities of energy pass through the body very quickly and this can result in internal burns and organ damage, explosions of flesh and bone, and a damaged nervous system. Depending on the flash strength and access to medical services, it may be instantaneously fatal or cause permanent injuries and impairments.

● Contact injury – the person was touching an object, generally a conductor, that is electrified by the strike.

● Side splash – branches form "jumping" from the primary flash channel, electrifying the person.

● Blast injuries – being thrown and suffering blunt force trauma from the shock wave (if very close) and possible hearing damage from the thunder

2. Indirect

● Ground current or "step potential" – Earth surface charges race towards the flash channel during discharge. Due to the high impedance of the ground, the current "chooses" a better conductor, often a person's legs, passing through the body. The near instantaneous rate of discharge causes a potential (difference) over distance, which may amount to several thousand volts per linear foot. This phenomenon is responsible for more injuries and deaths than the above three combined. Reports of "Tens of cows killed by a lightning strike..." are classic examples.[citation needed]

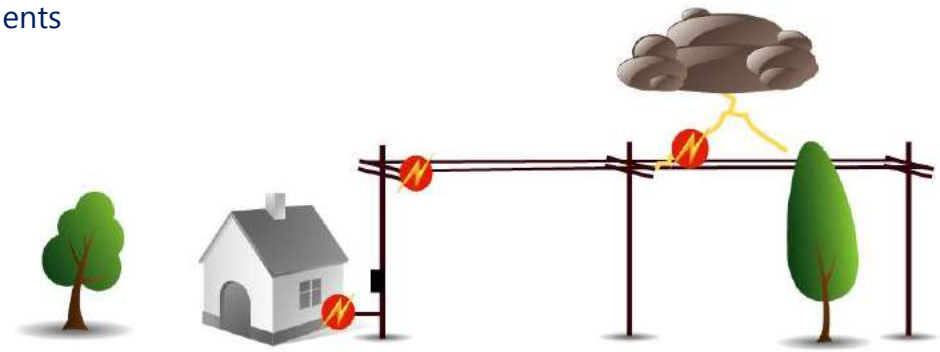
● EMPs – the discharge process produces an electromagnetic pulse (EMP) which may damage an artificial pacemaker, or otherwise affect normal biological processes.

3. Secondary or resultant

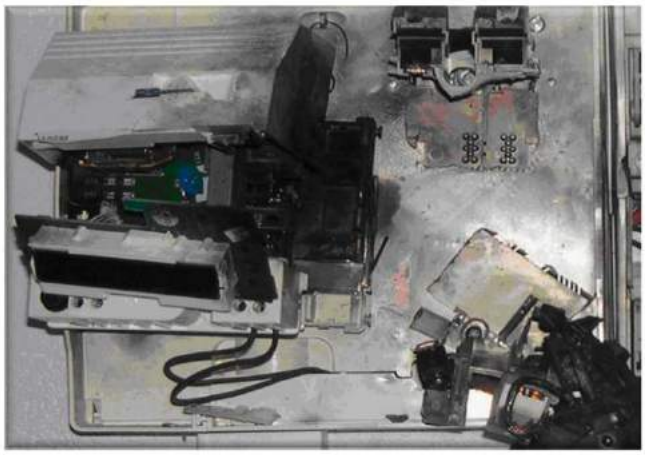
● Explosions

● Fires

● Accidents



Electrical and structural damage



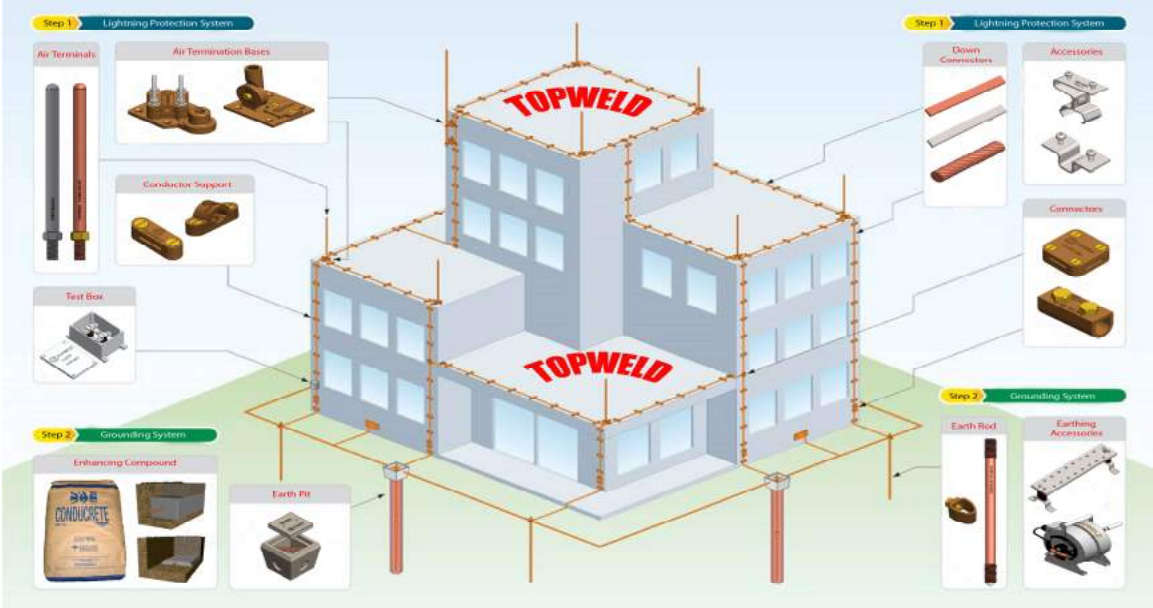
Telephones, modems, computers and other electronic devices can be damaged by lightning, as harmful overcurrent can reach them through the phone jack, Ethernet cable, or electricity outlet . Close strikes can also generate electromagnetic pulses (EMPs) – especially during "positive" lightning discharges . Lightning currents have a very fast rise time, on the order of 40 kA per microsecond. Hence, conductors of such currents exhibit marked skin effect, causing most of the currents to flow through the outer surface of the conductor. In addition to electrical wiring damage, the other types of possible damage to consider include structural, fire, and property damage.

A sculpture damaged by lightning in Wellington, New Zealand

Prevention and mitigations

The field of lightning protection systems is an enormous industry world-wide due to the impacts lightning can have on the constructs and activities of man. Lightning, as varied in properties measured across orders of magnitude as it is, can cause direct effects or have secondary impacts; lead to the complete destruction of a facility or process or simply cause the failure of a remote electronic sensor; it can result in outdoor activities being halted for safety concerns to employees as a thunderstorm nears an area and until it has sufficiently passed; it can ignite volatile commodities stored in large quantities or interfere with the normal operation of a piece of equipment at critical periods of time. The impacts of a lightning event are as varied and far reaching as the nearly infinite products and systems devised to mitigate the effects of lightning on our lives. Most lightning protection devices and systems protect physical structures on the earth, aircraft in flight being the notable exception, however some attention has been paid to attempting to control lightning in the atmosphere, however all the attempts proved extremely limited in success. Chaff and silver iodide crystal concepts were devised to deal directly with the cloud cells and were dispensed directly into the clouds from an overflying aircraft. The chaff was devised to deal with the electrical manifestations of the storm from within, while the silver iodide salting technique was devised to deal with the mechanical forces of the storm.

Lightning protection systems



Hundreds of devices, including lightning rods and charge transfer systems, are used to mitigate lightning damage and influence the path of a lightning flash . A lightning rod (or lightning protector) is a metal strip or rod connected to earth through conductors and a grounding system, used to provide a preferred pathway to ground if lightning terminates on a structure. The class of these products are often called a "finial" or "air terminal". A lightning rod or "Franklin rod" in honor of its famous inventor, Benjamin Franklin, is simply a metal rod, and without being connected to the lightning protection system, as was sometimes the case in the old days, will provide no added protection to a structure. Other names include "lightning conductor", "arrester", and "discharger"; however, over the years these names have been incorporated into other products or industries with a stake in lightning protection. Lightning arrester, for example, often refers to fused links that explode when a strike occurs to a high voltage overhead power line to protect the more expensive transformers down the line by opening the circuit. In reality, it was an early form of a heavy duty surge protection device (SPD). Modern arresters, constructed with metal oxides, are capable of safely shunting abnormally high voltage surges to ground while preventing normal system voltages from being shorted to ground.

NFPA 780
Standard for The Installation of Lightning Protection System

IEC 62305-3
Protection Against Lightning Part 3: Physical Damage to Structures and Life Hazard

UL 96A
Installation Requirements for Lightning Protection System

Lightning protection system

Installation Standard

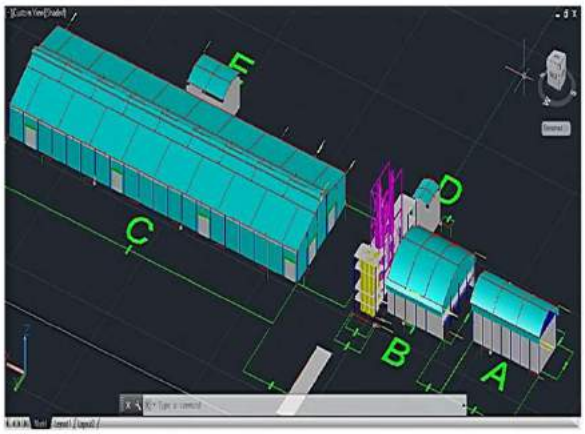
Classification	Title
IEC 62305-1 (EN 62305-1):2010-12	Protection against lightning Part 1: General principles
IEC 62305-2 (EN 62305-2):2010-12	Protection against lightning Part 2: Risk management
IEC 62305-3 (EN 62305-3):2010-12	Protection against lightning Part 3: Physical damage to structures and life hazard
IEC 62305-4 (EN 62305-4):2010-12	Protection against lightning Part 4: Electrical and electronic systems within structures

TOPWELD Technical guide for design

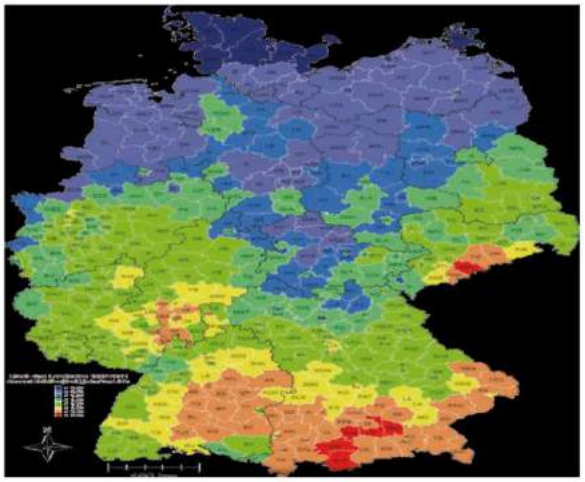
The requirement for design and installation of grounding and lightning protection system are dedicated by The National and International Standards. With the complex content in the standards lead to delayed project and over budget. With a long term experience, can help the customer to avoid and these risks by concept design support.

TOPWELD Technical Services

While we have a completed information for grounding and lightning protection system, our technical team can provide the technical document, advice and assistance on all aspects of lightning protection system as below.



- Structural lightning and transient overvoltage protection system design
- grounding design
- Supply of comprehensive drawings
- Training seminars lightning protection system designs



Total Solution of Grounding & Lightning Protection System

Service, Support, Sales (3S)

Supporting our customers with project consultation.

- Site surveys
- Typical Detail of installation Drawings.
- Guidance on standards
- Product Training
- Technical data documents support

Our engineering team with accumulated knowledge of grounding & Lightning protection system, we can design and advice the solution as IEC & NFPA and another standard.
In addition, the active participation in the development product in accordance with international electro technical commission and National Fire Protection Association standards, will ensure you for the best solution and up-to-date technical advice to global market.

Whenever any customer send the requirement, our engineering team will support and provide without delay.

We believe in sharing our knowledge , so you will design and installation on the best grounding & lightning protection solution to suit your needs.

GUNKUL

Smart Energy in Action

TOPWELD®

Grounding & Lightning Protection Solution-2018

Standard • Solution • Best Quality

Gunkul Engineering Public Company Limited

Copper – Bonded Ground Rod

The rods are manufactured from low carbon, high tensile steel with a 99.9 % pure electrolytic copper thickness of 250 microns. Thread rolling after plating preserves the copper thickness ensuring corrosion resistance across the threads. Threads comply with ANSI/ASME B1.1-2003.Extensible earth rods are coupled using threaded, easy to use brass couplings. Connections can be made by using bolted clamps or exothermic welding process . By specifying UL listed earth rods you ensure full compliance to the standard UL 467.

Standard size diameters being common use are 1/2'' , 5/8'' , 3/4'' and 1''.

Standard lengths being common used are 8' to 10'.

Advantage

- Long life
- Low resistance
- Effective cost
- High resistance to corrosion in soil
- Ability to carry high-frequency current
- Making installation easier

Bending Test

The bend test is carried out by a rod bending machine to provide an equal force at all point. The rod is subjected to bent through ≥ 30 Degrees. The copper sheath should not crack or tear at any point of the rod.

Adherence Test

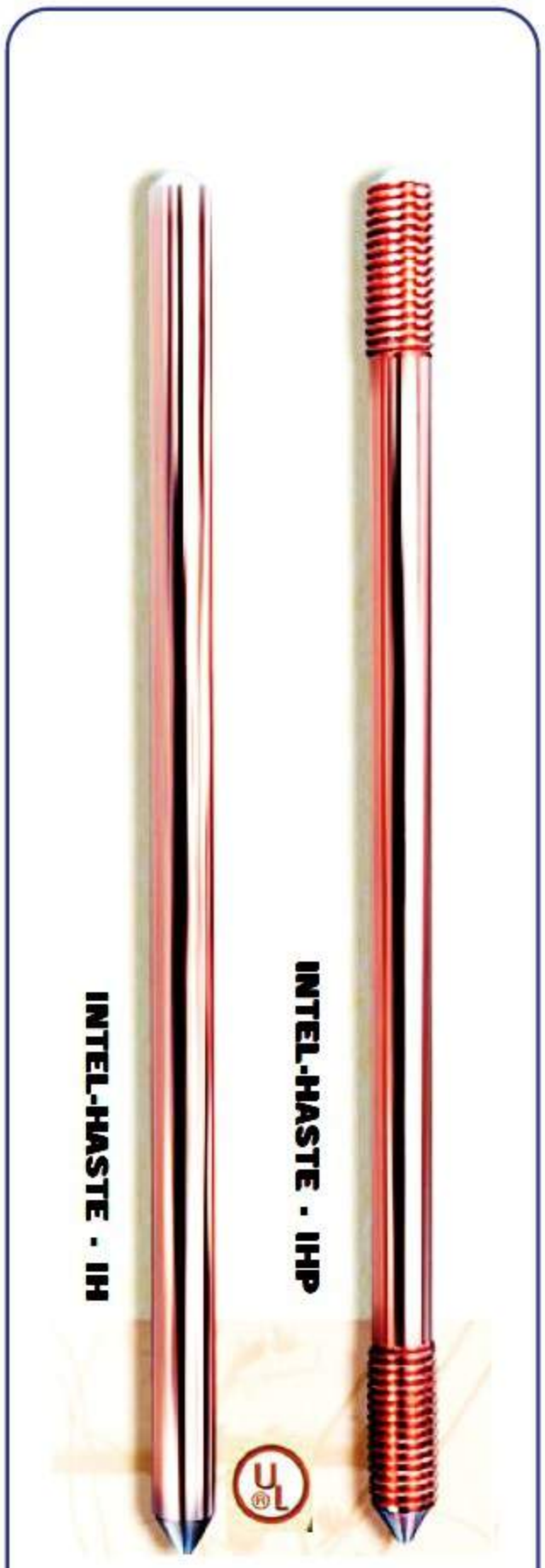
There shall be no separation of the coating from the steel core when set 0.04 inch less than the diameter of the rod , so as to shear off sufficient metal to expose the bond between the jacket and rod . Peeling of the jacket by the steel plates or the jaws of the vise is acceptable.

Thickness Inspection

Copper shell of each copper bonded ground rod must be passed the thickness inspection to ensure its protective coating. The copper shell must be not less than 0.254 mm thick at any point met to UL 467 standard

www.gunkul.com
E-mail : gk_eng@gunkul.com

COPPER BONDED STEEL GROUND ROD



Standard Ground Rod (Single Type)

Cat. No.	Dia. Size inch	Actual Size mm.	Length Ft.
IH-558	5/8	14.2	5
IH-658	5/8	14.2	6
IH-858	5/8	14.2	8
IH-1058	5/8	14.2	10
IH-1258	5/8	14.2	12
IH-534	3/4	17.2	5
IH-634	3/4	17.2	6
IH-834	3/4	17.2	8
IH-1034	3/4	17.2	10
IH-1234	3/4	17.2	12

Sectional Ground Rod (Screw Type)

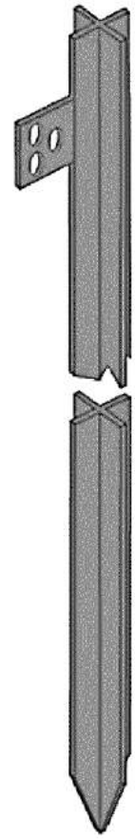
Cat. No.	Dia. Size inch	Actual Size mm.	Length Ft.
IHP-558	5/8	14.2	5
IHP-658	5/8	14.2	6
IHP-858	5/8	14.2	8
IHP-1058	5/8	14.2	10
IHP-1258	5/8	14.2	12
IHP-534	3/4	17.2	5
IHP-634	3/4	17.2	6
IHP-834	3/4	17.2	8
IHP-1034	3/4	17.2	10
IHP-1234	3/4	17.2	12

Couplings Ground Rod

Cat. No.	Size inch
LEH-58-R	5/8
LEH-34-R	3/4

Earthing Spike

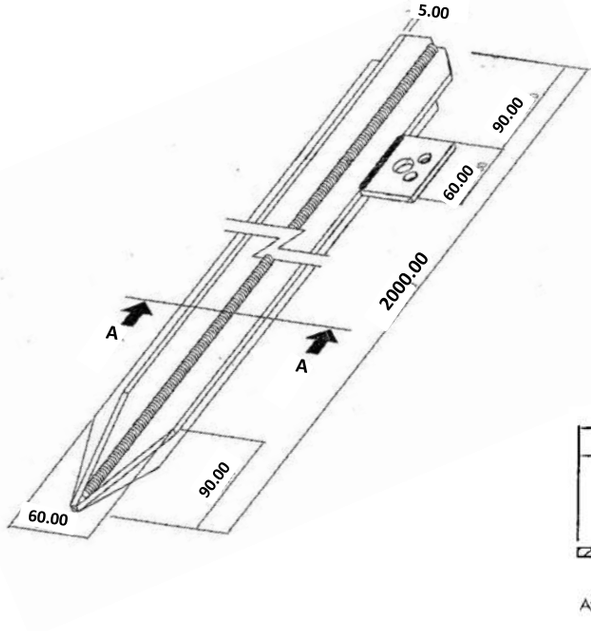
Earthing Spike are ideally suited for installation in earth termination syatems of temporary structures such as antennas or distribution boards on construction sites.

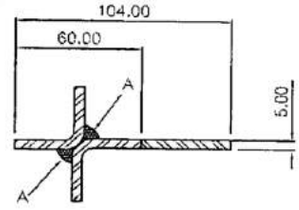


Cat. No.	Section (mm.)	Length (mm.)
GKA-ETS-2000	60 x 60 x 5	2,000

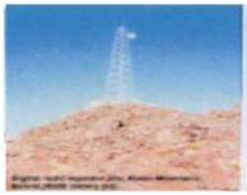
Remark : 1. Material : Cross Profile 60x60x5 , Mild Steel

2. Hot Dip. Galvanized Not Less Than 85 Microns.

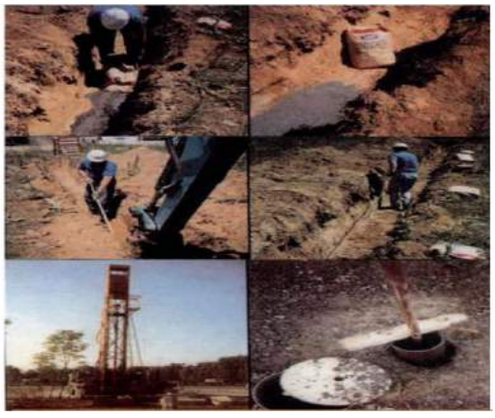




CONDUCRETE : Conductive Conducrete For Grounding







รายละเอียดผลิตภัณฑ์

CONDUCRETE มีลักษณะเป็นผงคล้ายปูนบรรจุในถุงที่มีปริมาณ 25 kg. ด้วยคุณสมบัติพิเศษของ CONDUCRETE คือ สามารถช่วยแก้ปัญหา Grounding ต่างๆ ให้มีประสิทธิภาพมากขึ้น และเป็นสารที่มีความปลอดภัย ต่อสภาพแวดล้อม CONDUCRETE ถูกพัฒนาขึ้นมาเพื่อช่วยแก้ปัญหาการติดตั้งเสาสายส่งไฟฟ้าแรงสูงในบริเวณที่มีพื้นที่เป็นภูเขา หรือพื้นที่ติดตั้งลำบาก เนื่องจากโดยทั่วไปลักษณะพื้นที่แบบนั้นจะมีค่าความต้านทานเฉพาะของดินสูง CONDUCRETE จึงพิสูจน์ให้เห็นได้ว่ามีประสิทธิภาพ สามารถใช้กับงานได้อย่างกว้างขวาง เช่น Grounding แบบวิธี Grid ในโรงงานไฟฟ้า หรือภายในสถานีไฟฟ้าย่อยระบบการสื่อสารต่างๆ เสาส่งสัญญาณวิทยุ การวางระบบคอมพิวเตอร์ และระบบการป้องกัน การสึกกร่อนขั้วบวกไฟฟ้า (Cathodic Protection)

CONDUCRETE ผ่านการทดสอบแล้วว่าไม่เป็นอันตรายต่อสภาพแวดล้อมด้วยคุณสมบัติที่ไม่เปลี่ยนแปลงง่ายทำให้ ระบบ Grounding มีอายุการใช้งานนานกว่าระบบแบบเดิมและ Copper Electrode ที่ป้องกันด้วย CONDUCRETE จะมีอายุการใช้งานนานกว่าแบบเปลือยถึง 10 เท่า การติดตั้ง CONDUCRETE ทำได้ง่ายๆ โดยเทผง CONDUCRETE ในแนวยาวให้กับ Conductor ที่วางในร่องที่ขุดขึ้นมา CONDUCRETE จะดูดความชื้นในดินแล้วแข็งกลายเป็นส่วนหนึ่งของ Grounding Electrode เป็นผลให้ความต้านทานของดินลดลงอย่างมาก และ พื้นที่ผิวรอบๆ Electrode มีค่ามากขึ้น รวมทั้ง Surge impedance ลดลงอีกด้วย การใช้ CONDUCRETE เป็น Electrode นั้นมีประโยชน์ทั้งด้านการทำงานและความปลอดภัยต่อบุคคล CONDUCRETE จึงเป็นผลิตภัณฑ์ที่เหมาะสมอย่างยิ่ง กับระบบงานต่างๆ ที่ต้อง Grounding

ข้อดีผลิตภัณฑ์

* ไม่ต้องบำรุงรักษาและอายุการใช้งานยาวนาน
* คุ้มค่ากับการลงทุน
* ติดตั้งง่าย ใช้ได้กับพื้นดินทุกสภาพ
* ลดความต้านทานของดินได้ถึง 50%
* ลดความสึกกร่อนของ Grounding Conductor ได้ถึง 90%
* ไม่เป็นอันตรายต่อสภาพแวดล้อม ช่วยการทำงานของอุปกรณ์ Surge impedance ให้ดีขึ้น

ลักษณะการใช้งาน

* Grounding ในโรงงานไฟฟ้า
* Grounding ในสถานีไฟฟ้าย่อย และในโรงงานอุตสาหกรรม
* เสาส่งสัญญาณวิทยุ และสัญญาณไมโครเวฟ
* เสาสายส่งไฟฟ้าแรงสูง และเสาสายส่งไฟฟ้าแรงต่ำ
* โทรคมนาคม : Cellular, Satellite, Fiber Optic
* ระบบงานคอมพิวเตอร์
* แผงควบคุม ไฟฟ้าส่วนกลางในสำนักงาน

CONDUCRETE is a conductive cementitious product used in the construction of ground electrodes. For horizontal or vertical installations, CONDUCRETE electrodes offer superior performance.

CONDUCRETE electrodes are :

* Permanent and maintenance free
* Cost effective
* Easy to install
* Environmentally safe
* Suitable for all terrain

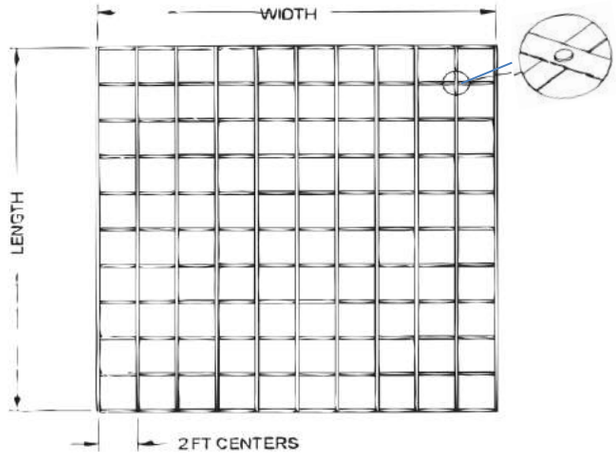
For All Grounding Requirements

* Computer systems
* Industry
* Mining
* Power
* Residence
* Telecommunications
* Utilities

Cat. No.	Weight Per Bag kg/lbs
T-DM-100	25 kg. / 55 lbs

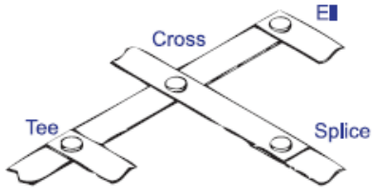
Signal Reference Grid (SRG)

TOPWELD can now supply your Signal Reference Grid (SRG) needs. **TOPWELD** can also supply you with the molds and accessories required for your computer room grounding

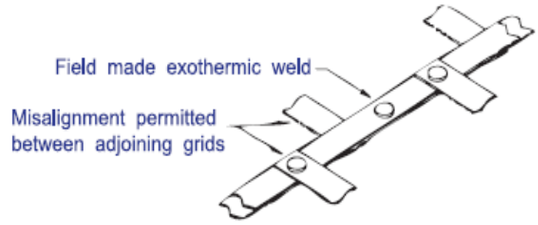


SIGNAL REFERENCE GRID IS :

- manufactured from 2"x26 gage copper strips
- spaced on 2 ft centers
- factory welded at each crossover
- furnished in sections with widths from 4 ft. to 18 ft. (length limited by weight, approx. 200 Ibs)
- shipped on tubes and protected for tansporting
- interconnected in the field using **TOPWELD** molds and powder



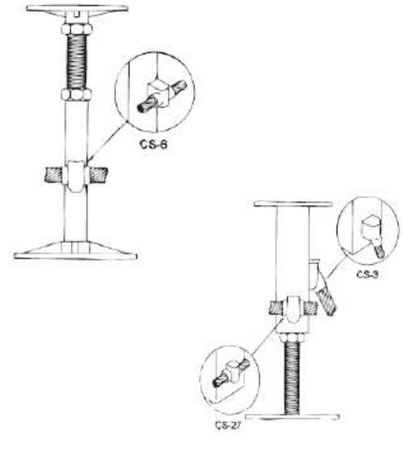
The Same TOPWELD mold used to connect adjoining SRG's may be used to make splices, tees, ell or crosses



Adjoining sections of SRG are to be exothermically welded by installer using TOPWELD molds and powder.

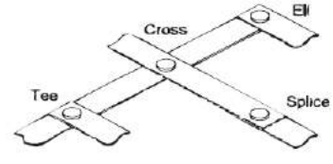
CABLE TO FLOOR PEDESTALS

Type	Cable Size	Pedestal Type	Weld Type	Powder No.
T-M-6124-G	# 6 STR	1' ROUND	CS - 6	# 15
T-M-6125-G	# 6 STR	7/8" SQUARE	CS - 27	# 15
T-M-6609-G	# 6 STR	1' ROUND	CS - 3	# 15
T-M-6610-G	# 6 STR	7/8" SQUARE	CS - 3	# 15
T-M-6252-G	# 4 STR	1' ROUND	CS - 6	# 15
T-M-8502-G	# 4 STR	7/8" SQUARE	CS - 27	# 15
T-M-6783-G	# 4 STR	1' ROUND	CS - 3	# 15
T-M-6784-G	# 4 STR	7/8" SQUARE	CS - 3	# 15
T-M-8863-G	# 2 STR	1' ROUND	CS - 6	# 15
T-M-8743-G	# 2 STR	7/8" SQUARE	CS - 27	# 15
T-M-6785-G	# 2 STR	1' ROUND	CS - 3	# 15
T-M-6786-G	# 2 STR	7/8" SQUARE	CS - 3	# 15



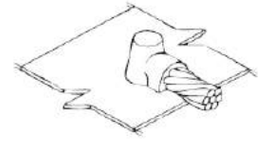
SIGNAL REFERENCE GRID (SRG) CONECTIONS

Type	Cable Size	Pedestal Type	Weld Type	Powder No.
T-M-6164	26 GAGE x 2"		BB - 46	# 32



CABLE TO SIGNAL REFERENCE GRID (SRG) CONECTIONS

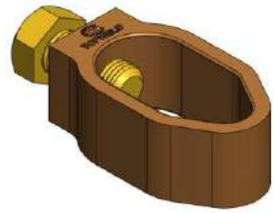
Type	Cable Size	Pedestal Type	Weld Type	Powder No.
T-M-2763	# 6 STR		CB - 34	# 25
T-M-6253	# 4 STR		CB - 34	# 32
T-M-6254	# 2 STR		CB - 34	# 32



Rod to Cable Clamp

Clamp suitable for use with a combination of rod size and conductors.

Cat. No.	Dia. Size (inch)	Actual Size (mm.)	Cable Size (mm^2)
T-GRC-12-95	1/2	12.7	16 - 95
T-GRC-58-50	5/8	14.2	16 - 50
T-GRC-58-120	5/8	14.2	70 - 120
T-GRC-34-50	3/4	17.2	16 - 50
T-GRC-34-120	3/4	17.2	70 - 120



Material : Copper Alloy - BS EN 1982 , Bolt - Brass

Rod to Cable Lug Clamp

Clamp rod to cable lug conductor.

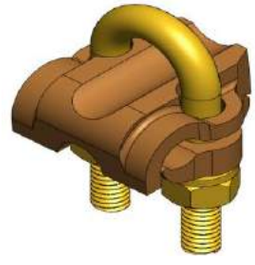
Cat. No.	Dia. Size (inch)	Actual Size (mm.)
T-GRL 12	1/2	12.7
T-GRL 58	5/8	14.2
T-GRL 34	3/4	17.2

Material : Copper Alloy - BS EN 1982 , Bolt - Brass

Rod Parallel to Cable Clamp

The Clamp Characteristic is a U-bolt connection onto a strong cast body which can provide both of vertical and horizontal connection of conductor wire.

Cat. No.	Dia. Size (inch)	Actual Size (mm.)	Cable Size (mm^2)
T-GRP-172-50	5/8 - 3/4	14.2 - 17.2	16 - 50
T-GRP-172-120	5/8 - 3/4	14.2 - 17.2	70 - 120
T-GRP-172-300	5/8 - 3/4	14.2 - 17.2	150 - 300

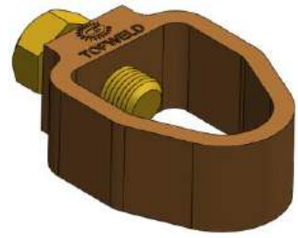


Material : Copper Alloy - BS EN 1982 , Bolt - Brass

Ground Rod To Tape Clamp

Clamp suitable for use with a combination of rod and tape.

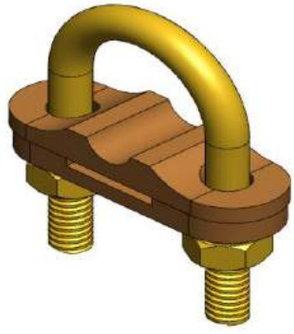
Cat. No.	rod diameter (Ø)		Max. Tape Size (mm.)
	(inch)	(mm.)	
T-GRT 58-2512	5/8	14.2	25 x 12
T-GRT 58-2618	5/8	14.2	26 x 18
T-GRT 58-302	5/8	14.2	30 x 2
T-GRT 34-2512	3/4	17.2	25 x 12
T-GRT 34-2618	3/4	17.2	26 x 18
T-GRT 34-302	3/4	17.2	30 x 2



Material : Copper Alloy - BS EN 1982 , Bolt - Brass

U Bolt Rod or Pipe To Tape Clamp

Clamp suitable for connecting copper tape to rod or pipe.



Cat. No.	rod or pipe diameter (Ø)		Max. Tape Size (mm.)
	(inch)	(mm.)	
T-GUT 172-254	5/8 - 3/4	14.2 - 17.2	25 x 4
T-GUT 38-254	1 - 1 1/4	31 - 38	25 x 4
T-GUT 50-254	1 1/2"	50	25 x 4

Material : Copper Alloy - BS EN 1982

U Bolt, Nut - Brass

Conductor to Rebar Clamp

For bonding to reinforcing bar, steam pipes, handrails etc.

Cat. No.	Conductor Size (mm^2)	Rebar Size (mm.)
T-GCTRC	16 - 70	8 - 18

Material : Copper Alloy - BS EN 1982 , Bolt - Brass

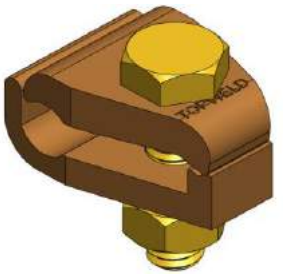
Ground Clamp Bonding For Cable To Flat Surface

Clamp used for bonding copper cable or wires to steel structures.

Cat. No.	Cable Size (sq.mm)	Bolt Size (inch)
T-GMS 2	25 - 50	3/8" x 1 1/2"
T-GMS 3	70 - 120	1/2" x 2"
T-GMS 4	150 - 240	1/2" x 2"

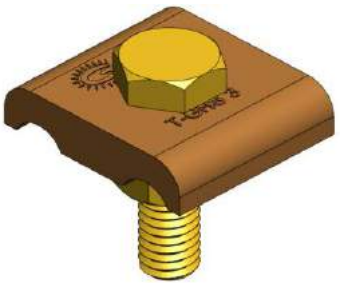
Clamp used for bonding copper cable or wires with grooving piece to steel structures.

Cat. No.	Cable Size (sq.mm)	Bolt Size (inch)
T-GM 2	25 - 50	3/8" x 1 1/2"
T-GM 3	70 - 120	1/2" x 2"
T-GM 4	150 - 240	1/2" x 2"



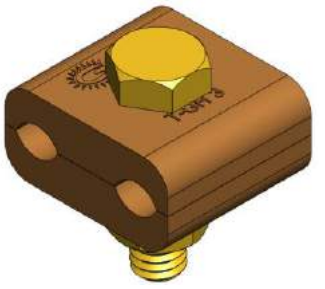
Material : Copper Alloy - BS EN 1982
Bolt, Nut - Brass

Ground Clamp Bonding For Two Cable to Flat Surface



Clamp used for bonding two copper cable or wires to steel structures.

Cat. No.	Cable Size (sq.mm)	Bolt Size (inch)
T-GHS 2	25 - 50	3/8" x 1 1/2"
T-GHS 3	70 - 120	1/2" x 2"
T-GHS 4	150 - 240	1/2" x 2"



Clamp used for bonding two copper cable or wires with grooving piece to steel structures.

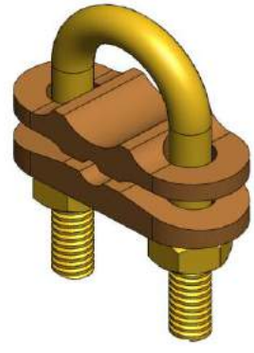
Cat. No.	Cable Size (sq.mm)	Bolt Size (inch)
T-GH 2	25 - 50	3/8" x 1 1/2"
T-GH 3	70 - 120	1/2" x 2"
T-GH 4	150 - 240	1/2" x 2"

Material : Copper Alloy - BS EN 1982
Bolt, Nut - Brass

Ground Clamp Connectors For Cable Connection To Rod Or Pipe

Clamp suitable for connecting copper conductor parallel to rod or pipe.

Cat. No.	Cable Size (mm^2)	Conductor		
		Rod (inch)	Pipe (inch)	O.D. Renge (mm.)
T-GCRP1-50	16 - 50	5/8 - 3/4	-	14.2 - 17.2
T-GCRP1-120	70 - 120	5/8 - 3/4	-	14.2 - 17.2
T-GCRP1-300	150 - 300	5/8 - 3/4	-	14.2 - 17.2
T-GCRP1-231-50	16 - 50	1	-	23.1
T-GCRP1-231-120	70 - 120	1	-	23.1
T-GCRP1-231-300	150 - 300	1	-	23.1
T-GCRP1-267-50	16 - 50	-	3/8 - 3/4	17.1 - 26.7
T-GCRP1-267-120	70 - 120	-	3/8 - 3/4	17.1 - 26.7
T-GCRP1-1-50	16 - 50	-	1 - 1 1/2	33.4 - 48.3
T-GCRP1-1-120	70 - 120	-	1 - 1 1/2	33.4 - 48.3
T-GCRP1-1-300	150 - 300	-	1 - 1 1/2	33.4 - 48.3
T-GCRP1-2-50	16 - 50	-	2 - 2 1/2	60.3 - 73
T-GCRP1-2-120	70 - 120	-	2 - 2 1/2	60.3 - 73
T-GCRP1-2-300	150 - 300	-	2 - 2 1/2	60.3 - 73
T-GCRP1-3-50	16 - 50	-	3 - 3 1/2	88.9 - 101.6
T-GCRP1-3-120	70 - 120	-	3 - 3 1/2	88.9 - 101.6
T-GCRP1-3-300	150 - 300	-	3 - 3 1/2	88.9 - 101.6
T-GCRP1-4-50	16 - 50	-	4	114.3
T-GCRP1-4-120	70 - 120	-	4	114.3



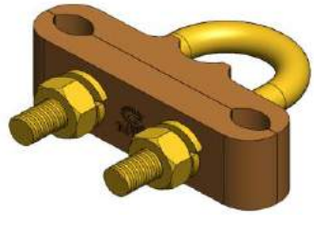
*** Other size is also available upon request**

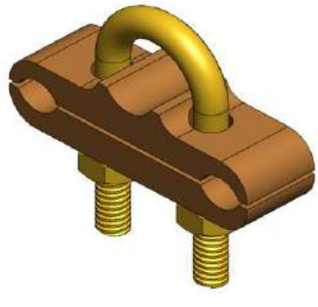
Material : Copper Alloy - BS EN 1982 , U Bolt, Nut - Brass

Ground Clamp Connectors For Two Cable Connection To Rod Or Pipe

Clamp suitable for connecting two copper conductor parallel to rod or pipe.

Cat. No.	Cable Size (mm^2)	Conductor		
		Rod (inch)	Pipe (inch)	O.D. Renge (mm.)
T-GCRP2-50	16 - 50	5/8 - 3/4	-	14.2 - 17.2
T-GCRP2-120	70 - 120	5/8 - 3/4	-	14.2 - 17.2
T-GCRP2-300	150 - 300	5/8 - 3/4	-	14.2 - 17.2
T-GCRP2-231-50	16 - 50	1	-	23.1
T-GCRP2-231-120	70 - 120	1	-	23.1
T-GCRP2-231-300	150 - 300	1	-	23.1
T-GCRP2-267-50	16 - 50	-	3/8 - 3/4	17.1 - 26.7
T-GCRP2-267-120	70 - 120	-	3/8 - 3/4	17.1 - 26.7
T-GCRP2-1-50	16 - 50	-	1 - 1 1/2	33.4 - 48.3
T-GCRP2-1-120	70 - 120	-	1 - 1 1/2	33.4 - 48.3
T-GCRP2-1-300	150 - 300	-	1 - 1 1/2	33.4 - 48.3
T-GCRP2-2-50	16 - 50	-	2 - 2 1/2	60.3 - 73
T-GCRP2-2-120	70 - 120	-	2 - 2 1/2	60.3 - 73
T-GCRP2-2-300	150 - 300	-	2 - 2 1/2	60.3 - 73
T-GCRP2-3-50	16 - 50	-	3 - 3 1/2	88.9 - 101.6
T-GCRP2-3-120	70 - 120	-	3 - 3 1/2	88.9 - 101.6
T-GCRP2-3-300	150 - 300	-	3 - 3 1/2	88.9 - 101.6
T-GCRP2-4-50	16 - 50	-	4	114.3
T-GCRP2-4-120	70 - 120	-	4	114.3





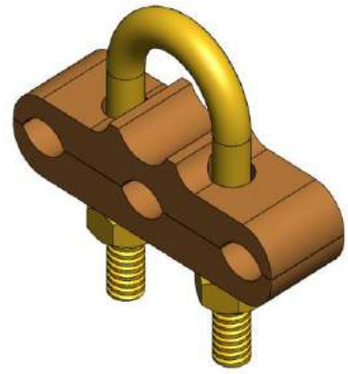
*** Other size is also available upon request**

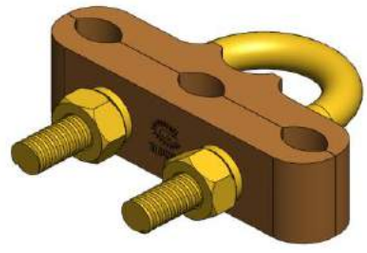
Material : Copper Alloy - BS EN 1982 , U Bolt, Nut - Brass

Ground Clamp Connectors For Three Cable Connection To Rod Or Pipe

Clamp suitable for connecting three copper conductor parallel to rod or pipe.

Cat. No.	Cable Size (mm^2)	Conductor		
		Rod (inch)	Pipe (inch)	O.D. Renge (mm.)
T-GCRP3-50	16 - 50	5/8 - 3/4	-	14.2 - 17.2
T-GCRP3-120	70 - 120	5/8 - 3/4	-	14.2 - 17.2
T-GCRP3-300	150 - 300	5/8 - 3/4	-	14.2 - 17.2
T-GCRP3-231-50	16 - 50	1	-	23.1
T-GCRP3-231-120	70 - 120	1	-	23.1
T-GCRP3-231-300	150 - 300	1	-	23.1
T-GCRP3-267-50	16 - 50	-	3/8 - 3/4	17.1 - 26.7
T-GCRP3-267-120	70 - 120	-	3/8 - 3/4	17.1 - 26.7
T-GCRP3-1-50	16 - 50	-	1 - 1 1/2	33.4 - 48.3
T-GCRP3-1-120	70 - 120	-	1 - 1 1/2	33.4 - 48.3
T-GCRP3-1-300	150 - 300	-	1 - 1 1/2	33.4 - 48.3
T-GCRP3-2-50	16 - 50	-	2 - 2 1/2	60.3 - 73
T-GCRP3-2-120	70 - 120	-	2 - 2 1/2	60.3 - 73
T-GCRP3-2-300	150 - 300	-	2 - 2 1/2	60.3 - 73
T-GCRP3-3-50	16 - 50	-	3 - 3 1/2	88.9 - 101.6
T-GCRP3-3-120	70 - 120	-	3 - 3 1/2	88.9 - 101.6
T-GCRP3-3-300	150 - 300	-	3 - 3 1/2	88.9 - 101.6
T-GCRP3-4-50	16 - 50	-	4	114.3
T-GCRP3-4-120	70 - 120	-	4	114.3
T-GCRP3-4-300	150 - 300	-	4	114.3





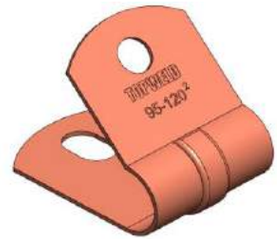
*** Other size is also available upon request**

Material : Copper Alloy - BS EN 1982 , U Bolt, Nut - Brass

One Hole Cable Grip

Support and secure round conductor on structure.

Cat. No.	Cable Size (mm^2)	Hole Size (mm.)
T-GOCG 35	25 - 35	6
T-GOCG 70	50 - 70	6
T-GOCG 120	95 - 120	8
T-GOCG 185	150 - 185	13
T-GOCG 300	240 - 300	13



Material : Copper - BS EN 13601

Ground Clamp

Lock wire or cable conductor on flat surface. These pressed clamp are available to suit bare copper stranded conductor.

Cat. No.	Cable Size (mm^2)	Hole Size (mm.)
T-GC 50-70	50 - 70	8
T-GC 95-120	95 - 120	8
T-GC 150-185	150 - 185	8
T-GC 240-300	240 - 300	10

Material : Copper Alloy - BS EN 1982

Ground Clamp One Hole with Anchor Bolt Washer

Lock wire or cable conductor on flat surface. These pressed clamp are available to suit bare copper stranded conductor.

Cat. No.	Cable Size (mm^2)	Bolt Size (mm.)
T-GC 95-120-M625	95 - 120	M6 x 25
T-GC 150-185-M825	150 - 185	M8 x 25
T-GC 240-300-M825	240 - 300	M8 x 25

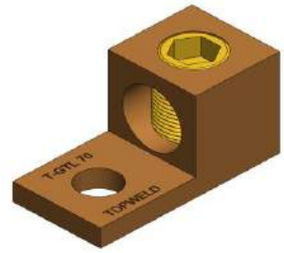
Material : Copper Alloy - BS EN 1982
Bolt and Nut - Stainless Steel, Drop-In Anchors - Stainless Steel

Remark : Use for Substation (EGAT)

Terminal Lug, Socket Type

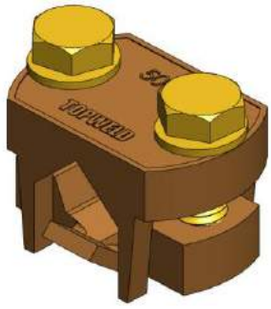
Connect stranded copper or solid copper conductor to flat bar.

Cat. No.	Cable Size (mm^2)	Hole Size (mm.)
T-GTL 35	16 - 35	6.0
T-GTL 70	50 - 70	10.5
T-GTL 120	95 - 120	10.5
T-GTL 185	150 - 185	14.5
T-GTL 300	240 - 300	14.5



Material : Copper Alloy - BS EN 1982 , Bolt - Silicon Bronze

Clamp Connector Screw Type



Suitable for joint copper conductor.

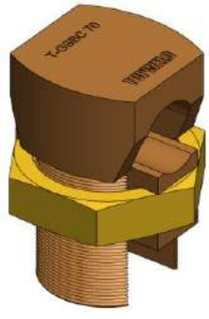
Cat No.	Cable Size (mm^2)		Bolt Size
	Run	Tap	
T-GCST 35	16 - 35	6 - 35	1/4" x 1"
T-GCST 70	50 - 70	6 - 70	1/4" x 1 1/2"
T-GCST 120	95 - 120	6 - 120	5/16" x 1 1/2"
T-GCST 185	150 - 185	6 - 185	3/8" x 2"
T-GCST 300	240 - 300	6 - 300	3/8" x 2"

Material : Copper Alloy - BS EN 1982, Bolt and Nut - Stainless Steel

Split Bolt Connector

Connection is compression type which is suitable for cable conductor in grounding & Lightning system and industry.

Cat No.	Cable Size (mm^2)	
	Run	Tap
T-GSBC 35	16 - 35	6 - 35
T-GSBC 70	50 - 70	6 - 70
T-GSBC 120	95 - 120	6 - 120
T-GSBC 185	150 - 185	6 - 185
T-GSBC 300	240 - 300	6 - 300



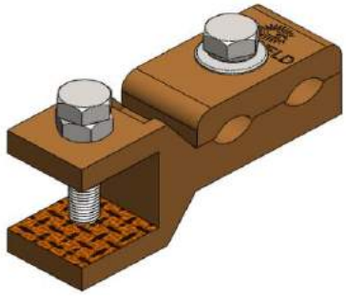
Material : Copper Alloy - BS EN 1982

Earth Boss

The earth boss is used to provide an earth connection point on a steel structure, It is welded onto steel vessels, tanks and other structures.

Cat. No.	Diameter (Ø)(mm.)	Length (mm.)	Stud Size
T-GEB	50	45	M10 x 45

Material : Stainless Steel - 304, Stud, Nut - Stainless Steel



Beam Clamp

Connect stranded copper conductors onto tower structure, H-beam or steel structure.

Cat. No.	Cable Size (mm^2)	Bolt Size
T-GBC 35-120	35 - 120	M8 x 35
T-GBC 150-240	150 - 240	M10 x 45

Material : Copper Alloy - BS EN 1982 , Bolt - Stainless Steel

Static Earth Receptacle

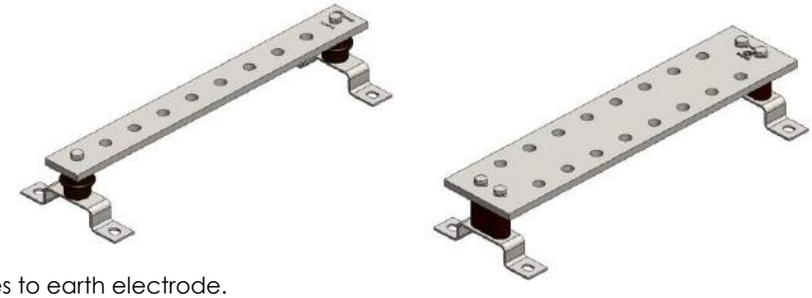
Connect to grounding system by installing runway, gas station or else to discharge static electricity from airplane or oil tank.

Cat. No.	dia. (Ø)
T-GSER	12.7

Material : Copper Alloy - BS EN 1982

Ground Station

Power Ground Station



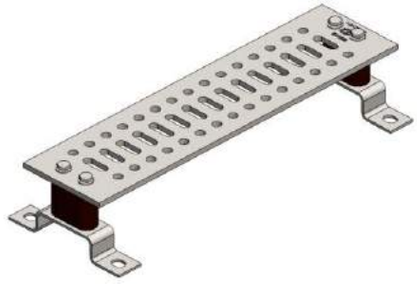
Connect ground conductor wires to earth electrode.

Cat. No.	Busbar (mm.)	No. of Hole	Ø Stud (mm.)	Dimensions (mm.)		
				L	W	H
T-GSPS-6	50.8 x 350 x 6.35	6	14.3	350	148	76.35
T-GSPS-8	50.8 x 440 x 6.35	8	14.3	440	148	76.35
T-GSPS-12	50.8 x 610 x 6.35	12	14.3	610	148	76.35
T-GSPS-6D	101.6 x 350 x 6.35	12	14.3	350	148	76.35
T-GSPS-8D	101.6 x 440 x 6.35	16	14.3	440	148	76.35
T-GSPS-12D	101.6 x 610 x 6.35	24	14.3	610	148	76.35

*** special Length size can be requested**

Material : Tin Plated Copper Bar - BS EN 13601 , Bolt - Stainless Steel
Support - Hot Dip Galvanized Steel with Insulator

Communication Ground Station



Connect ground conductor wires to earth electrode.

Cat. No.	Busbar (mm.)	No. of Hole	Ø Stud (mm.)	Dimensions (mm.)		
				L	W	H
T-GSCS-200	101.6 x 200 x 6.35	6	10	200	148	76.35
T-GSCS-300	101.6 x 300 x 6.35	11	10	300	148	76.35
T-GSCS-400	101.6 x 400 x 6.35	15	10	400	148	76.35
T-GSCS-450	101.6 x 450 x 6.35	18	10	450	148	76.35
T-GSCS-600	101.6 x 600 x 6.35	24	10	600	148	76.35

*** special Length size can be requested**

Material : Tin Plated Copper Bar - BS EN 13601 , Bolt - Stainless Steel
Support - Hot Dip Galvanized Steel with Insulator

Ground Bar

Connect ground conductor wires to earth electrode.

Cat. No.	No. of Hole	Ø Stud (mm.)	Dimensions (mm.)		
			L	W	H
T-GB-6	6	M8 x 25	355.6	50.8	71.75
T-GB-8	8	M8 x 25	455	50.8	71.75
T-GB-12	12	M8 x 25	660	50.8	71.75
T-GB-6D	12	M8 x 25	355.6	101.6	74.90
T-GB-8D	16	M8 x 25	457	101.6	74.90
T-GB-12D	24	M8 x 25	760	101.6	74.90

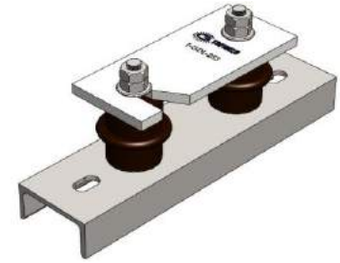
*** special Length size can be requested**

Material : Tin Plated Copper Bar - BS EN 13601

Bolt - Stainless Steel

Disconnecting Link

Suitable for bonding and testing point in grounding system.
All the above products consist of 50x6 mm. copper bar.



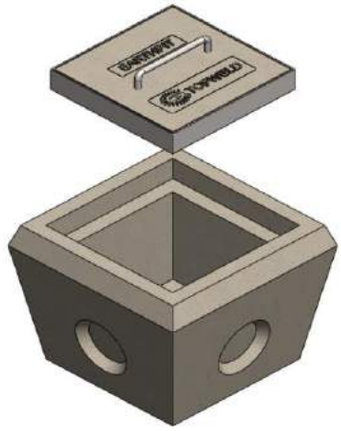
Cat No.	Dimensions (mm.)		
	L	W	H
T-GDL-253	200	50	90

Material : Tin Plated Copper Bar - BS EN 13601

Concrete Inspection Pit

Concrete Inspection Pit are designed to convenient in maintenance and measure ground resistance on lightning protection system.

Cat. No.	Dimensions (mm.)		
	L	W	H
T-GCIPB	330	330	254



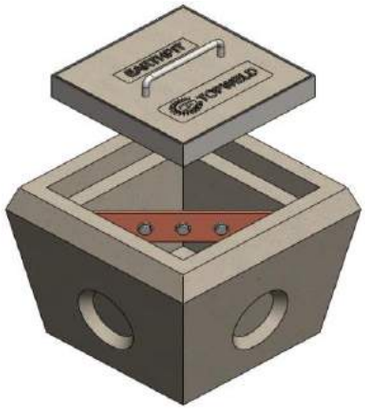
Material : Concrete

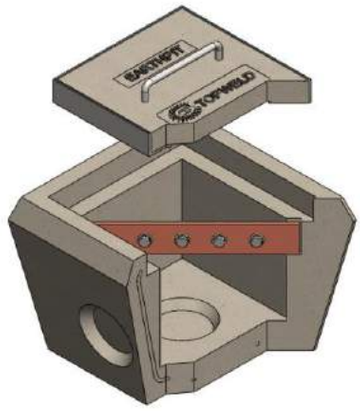
Ground Bar Pit

These earth bars fit into the slots provided in the concrete inspection housing and are used when multiple connections to the earth rod are required.

Cat. No.	Dimensions (mm.)			No. of Hole	Ø Hole (mm.)
	L	W	T		
T-GBP-5	315	50.8	6.35	5	10
T-GBP-7	315	50.8	6.35	7	10

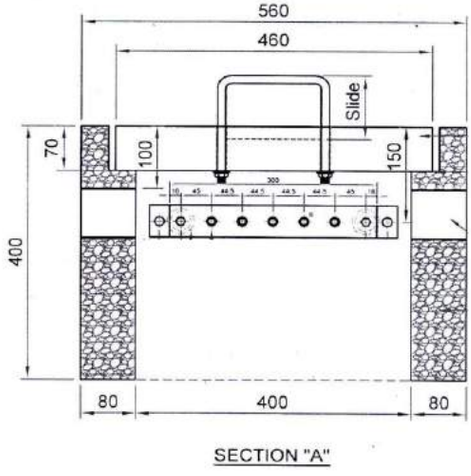
Material : Copper - BS EN 13601



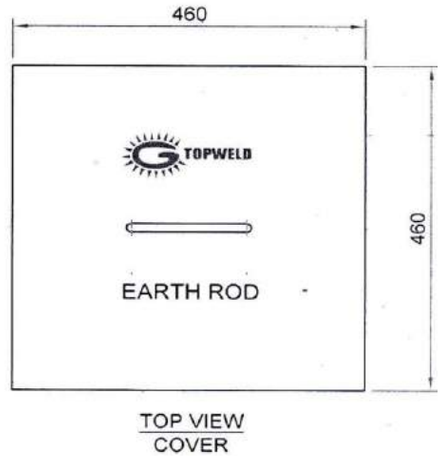


Ground Inspection Pit

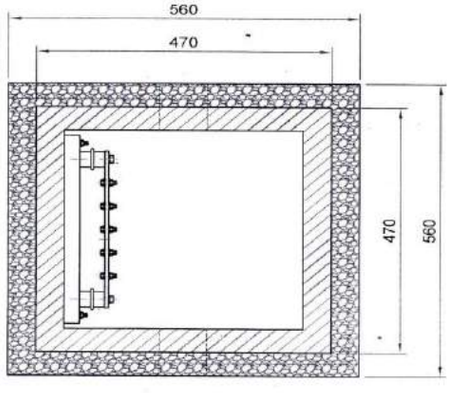
Concrete Inspection Pit is designed to convenient in maintenance and measure ground resistance on lightning protection system.



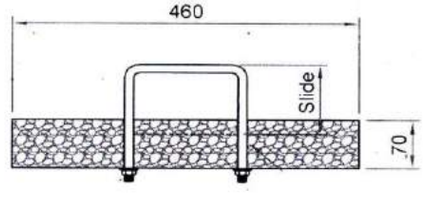
SECTION "A"



TOP VIEW
COVER



TOP VIEW
OPEN COVER



SECTION A-A
CONCRETE COVER

Cat. No.	Dimensions (mm.)		
	Internal size	External size	H
T-GCIP 565640	460	560	400

*** Other size is also available upon request.**

Material : - Concrete

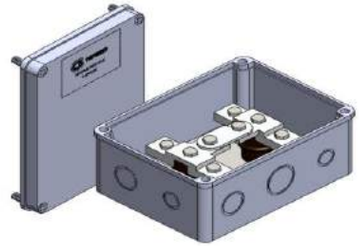
- Tin Plated Copper Bar - BS EN 13601 , Bolt - Stainless Steel

Ground Test Box

PVC Test Box

PVC Test boxes with connection bar are suitable for inspection and testing point for grounding system.

Cat. No.	Lug Size (mm^2)	Dimensions (mm.)		
		L	W	H
T-GPVCTB	16 - 120	200	150	100

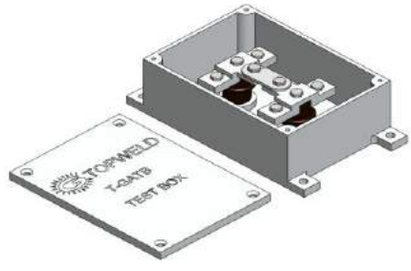


Material : Box - ABS IP66 , Bolt - Stainless steel

Aluminium Test Box

Aluminium Test boxes are cast aluminium with connection bar.
They are suitable for inspection and testing point for grounding system.

Cat. No.	Lug Size (mm^2)	Dimensions (mm.)		
		L	W	H
T-GATB	16 - 120	260	163	77



Material : Box -Cast Aluminium Alloy , Bolt - Stainless steel

Tin Plated Copper Flexible Braid Bond

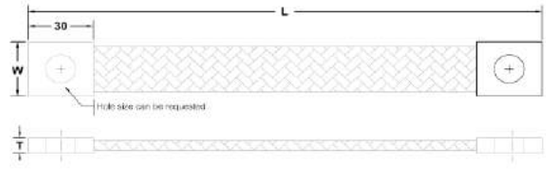
Suitable for bonding of metal door, gate, fence, etc., where flexibility is required or the bond is subject to movements.

Cat No.	Amp Rating (A)	No. of Layer	Length (mm.)	Width (mm.)	Cross Section (mm^2)
T-LFB2-150386	700	3	386	31.8	150

Material : Hight conductivity copper wire with tinned.
Remark : Use for Substation (EGAT)

Tin Plated Copper Flexible Braid Bond

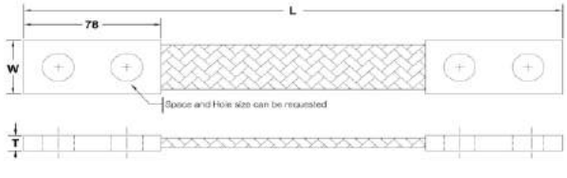
Flexible leads suitable for use wherever it is necessary to take up expansion, allow for misalignment, or take up vibration. Made of flat, extra flexible, pure copper braid, with tin plated, seamless, pure copper ferrules formed on each, Inside ends of ferrules are rounded to prevent chafing of stands.



Cat. No. : (1 Hole)	No. of Braids	Amp Rating (A)	Cross Section (mm^2)	Approx. Diamension inch (mm.)		
				Thickness	Width	Length
T-LFB1-25300	1	150	25	2	25	300
T-LFB1-35300	1	200	35	2.8	25	300
T-LFB1-50400	1	250	50	3.5	30	400
T-LFB1-70300	1	290	70	4.7	30	300
T-LFB1-95300	1	350	95	6	37	300
T-LFB1-120300	1	400	120	6	45	300

*** Other size is also available upon request**

Material : Hight conductivity copper wite with tinned.



Cat. No. : (2 Hole)	No. of Braids	Amp Rating (A)	Cross Section (mm^2)	Approx. Diamension inch (mm.)		
				Thickness	Width	Length
T-LFB2-25300	1	150	25	2	25	300
T-LFB2-35300	1	200	35	2.8	25	300
T-LFB2-50300	1	250	50	3.5	30	300
T-LFB2-70300	1	290	70	4.7	30	300
T-LFB2-95300	1	350	95	6	37	300
T-LFB2-120300	1	400	120	6	45	300

*** Other size is also available upon request**

Material : Hight conductivity copper wite with tinned.

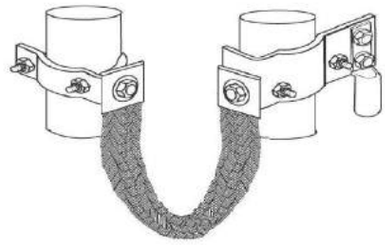
Tin Plated Copper Flexible Braid Bond (Round Type)

Flexible leads suitable for use wherever it is necessary to take up expansion, allow for misalignment, or take up vibration. Made of flat, extra flexible, pure copper braid, with tin plated, seamless, pure copper ferrules formed on each, Inside ends of ferrules are rounded to prevent chafing of stands.

Cat. No.	Amp Rating (A)	Cross Section (mm^2)	Length (mm.)
T-LFBR1-25300	130	25	300
T-LFBR1-35300	180	35	300
T-LFBR1-50300	230	50	300
T-LFBR1-70300	280	70	300
T-LFBR1-95300	330	95	300
T-LFBR1-120300	370	120	300

*** Other size is also available upon request**

Material : Hight conductivity copper wite with tinned.



Size			Length
Sq.mm.	Width (mm.)	Thick (mm.)	per roll (m.)
5	8	1	100
10	10	1.5	100
16	15	2	100
25	25	2	100
35	25	2.4	100
50	30	3.5	100
100	40	5	50

*** Other size is also available upon request**

Material : Hight conductivity copper wite with tinned.

Ground Earth Point

Earth Point

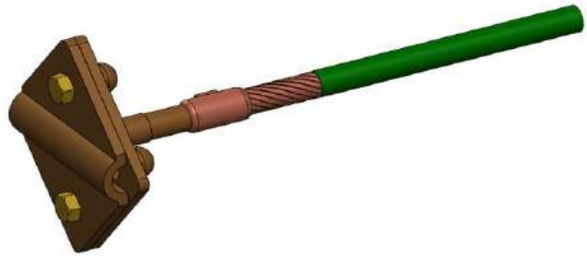


Used providing an earth point when connected to continuous reinforcing bars.

Cat. No.	No. of Hole	Size (mm.) L x W x H	Hole Size (mm.)
T-GEP1	1	Ø50 x 60	M 10
T-GEP2	2	82.5 x 40 x 70	M 10
T-GEP4	4	82.5 x 82.5 x 76.3	M 12

Material : Copper Alloy - BS EN 1982

Earth Point Tail Type



Used providing an earth point when connected to continuous reinforcing bars

Cat. No.	No. of Hole	Cable		Hole Size (mm.)
		Size (mm^2)	Length (mm.)	
T-GEPT1-70-500	1	70	500	M 10
T-GEPT2-70-500	2	70	500	M 10
T-GEPT2-70-1000	2	70	1000	M 10
T-GEPT4-70-500	4	70	500	M 12
T-GEPT4-70-1000	4	70	1000	M 12

*** Other size is also available upon request**

Material : Copper Alloy - BS EN 1982 , Connection - Exothermic welding

Cable - Stranded Copper with Green PVC cover or Bar Copper

Front Cover For Earth Point

Clamp conductor on earth point.

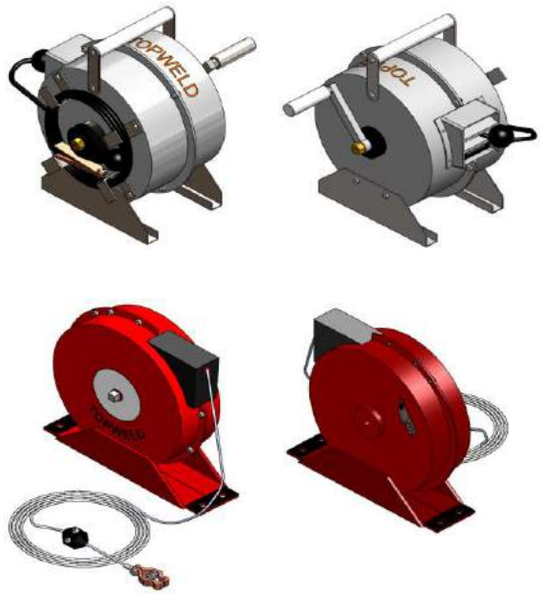
Cat. No.	Cable Size (mm^2)	Earth Point (Cat. No.)
T-GEP4-FC	70	T-GEP4

Material : Copper Alloy - BS EN 1982

Static Discharge Reel & Heavy Duty Clamp

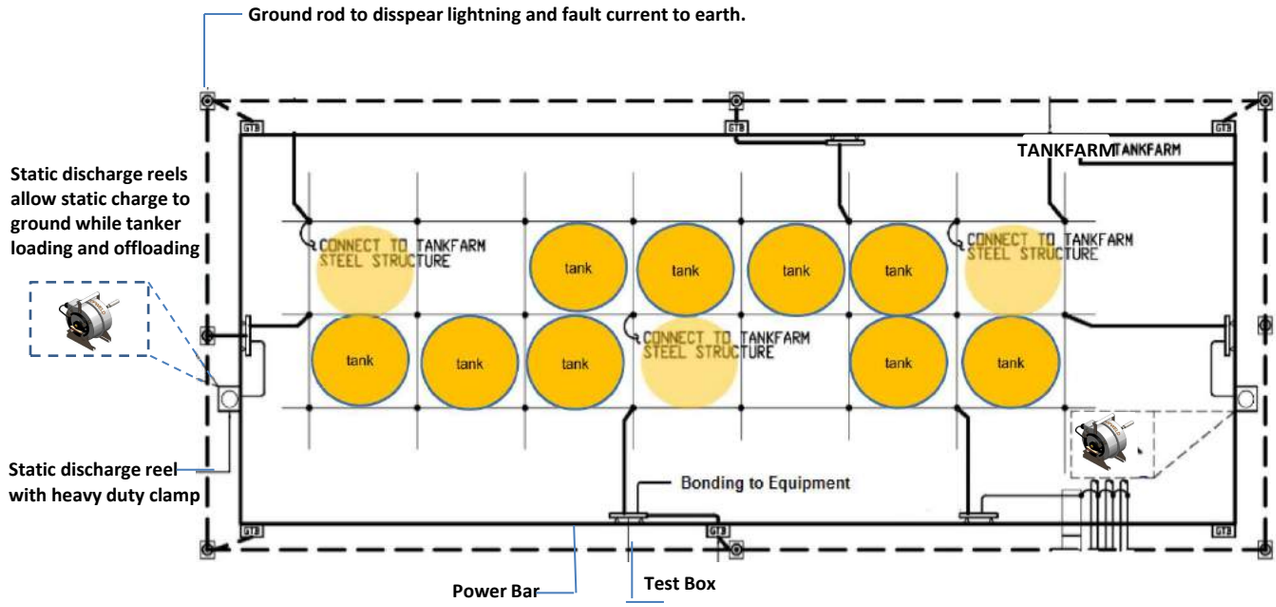
Used to bond two pieces of equipment to allow static charge to be safely equalised. Static discharge reels are typically used when product is transferred from one tank to another e.g. When pumping between a tanker and storage tank or when fueling aircraft or truck loading.

Cat No.	Conductor (mm^2)	Cable Length (m.)
T-SDR-VCT-1610	16	10
T-SDR-VCT-1615	16	15
T-SDR-VCT-1620	16	20
T-SDR-VCT-3510	35	10
T-SDR-VCT-3515	35	15
T-SDR-VCT-3520	35	20
T-SDR-VCT-3530	35	30



*** special size can be requested.**

Material : Tin Plate Copper - BS EN 13601
Ground Clamp - Copper Bond Steel
Conductor - VCT 1 Core
Body - Color Coating Steel Plate



Lightning Rod

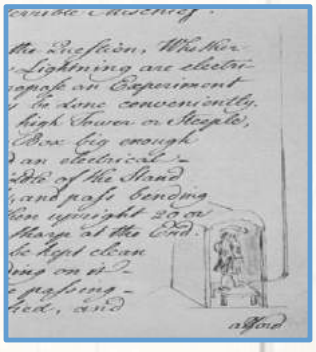
Air Termination Rod

A lightning rod (US, AUS) or lightning conductor (UK) is a metal rod or metallic object mounted on top of an elevated structure, such as a building, a ship, or even a tree, electrically bonded using a wire or electrical conductor to interface with ground or "earth" through an electrode, engineered to protect the structure in the event of lightning strike. If lightning hits the structure, it will preferentially strike the rod and be conducted to ground through the wire, instead of passing through the structure, where it could start a fire or cause electrocution. Lightning rods are also called finials, air terminals or strike termination devices.

In a lightning protection system, a lightning rod is a single component of the system. The lightning rod requires a connection to earth to perform its protective function. Lightning rods come in many different forms, including hollow, solid, pointed, rounded, flat strips or even bristle brush-like. The main attribute common to all lightning rods is that they are all made of conductive materials, such as copper and aluminum. Copper and its alloys are the most common materials used in lightning protection.

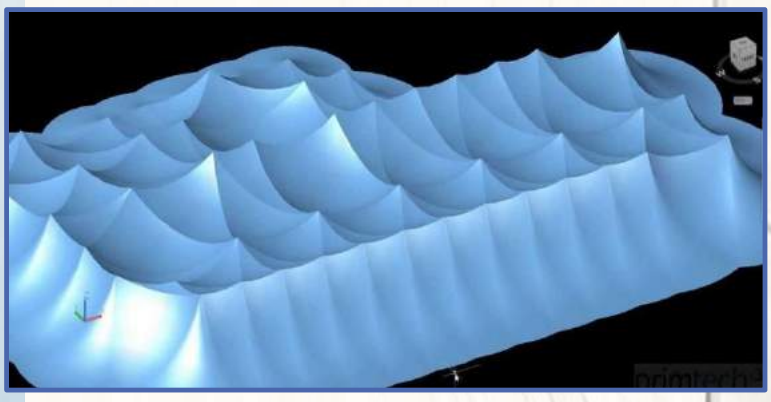
History

The principle of the lightning rod was first detailed by Benjamin Franklin in Pennsylvania in 1749, who in the subsequent years developed his invention for household application (published in 1753) and further improvements towards a reliable system around 1760. Nevyansk Tower in Russia crowned with a metallic rod grounded through a complex system of rebars (some are seen at the basement)"Machina meteorologica" invented by Diviš worked like a lightning rod Franklin's earliest papers on electricity As buildings become taller, lightning becomes more of a threat. Lightning can damage structures made of most materials, such as masonry, wood, concrete and steel, because the huge currents and voltages involved can heat materials to high temperature, causing a potential for fire.



Franklin's earliest papers on electricity

Faraday cage TOPWELD can supply total solution.



TOPWELD copper rod air terminals are designed to be installed directly to structural steel in locations such as communication towers. A 1-5/8" threaded end with hardware is used to secure the terminal to a horizontal location where a continuous structure provides the path to ground. These terminals are complied with IEC 62561 standard. Topweld can manufacture any length or style air terminal . Special pricing will apply

Multi Point Air Terminal

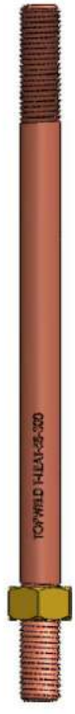
Multi-point air terminal are copper alloys.
Suitable for lightning protection system.

Cat. No.	Rod diameter (Ø) (inch.)
T-LMPAT 58	5/8
T-LMPAT 34	3/4

Material : Copper Alloy - BS EN 1982

Elevation Air Terminal

Suitable for typical installation.



Cat. No.	Rod Length (mm.)	Rod diameter (Ø) (mm.)	Thread (inch.)
T-LEAT-58-300	300	15	5/8
T-LEAT-58-500	500	15	5/8
T-LEAT-58-600	600	15	5/8
T-LEAT-58-1000	1000	15	5/8
T-LEAT-58-1500	1500	15	5/8
T-LEAT-58-2000	2000	15	5/8
T-LEAT-34-300	300	19	3/4
T-LEAT-34-500	500	19	3/4
T-LEAT-34-600	600	19	3/4
T-LEAT-34-1000	1000	19	3/4
T-LEAT-34-1500	1500	19	3/4
T-LEAT-34-2000	2000	19	3/4

*** special Length size can be requested.**

Material : Copper - BS EN 13601

Air Terminal

Copper

Suitable for typical installation.

Cat. No.	Rod Length (mm.)	Rod diameter (Ø) (mm.)	Thread (inch.)
T-LBAT-58-300	300	15	5/8
T-LBAT-58-500	500	15	5/8
T-LBAT-58-600	600	15	5/8
T-LBAT-58-1000	1000	15	5/8
T-LBAT-58-1500	1500	15	5/8
T-LBAT-58-2000	2000	15	5/8
T-LBAT-34-300	300	19	3/4
T-LBAT-34-500	500	19	3/4
T-LBAT-34-600	600	19	3/4
T-LBAT-34-1000	1000	19	3/4
T-LBAT-34-1500	1500	19	3/4
T-LBAT-34-2000	2000	19	3/4

*** special Length size can be requested.**

Material : Copper - BS EN 13601

Aluminium

Suitable for typical installation.

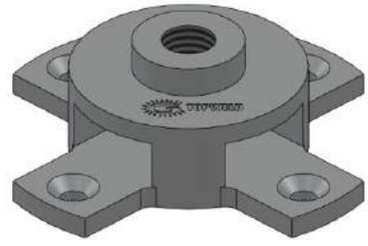
Cat. No.	Rod Length (mm.)	Rod diameter (Ø) (mm.)	Thread (inch.)
T-LBAT-58-300A	300	15	5/8
T-LBAT-58-500A	500	15	5/8
T-LBAT-58-600A	600	15	5/8
T-LBAT-58-1000A	1000	15	5/8
T-LBAT-58-1500A	1500	15	5/8
T-LBAT-58-2000A	2000	15	5/8
T-LBAT-34-300A	300	19	3/4
T-LBAT-34-500A	500	19	3/4
T-LBAT-34-600A	600	19	3/4
T-LBAT-34-1000A	1000	19	3/4
T-LBAT-34-1500A	1500	19	3/4
T-LBAT-34-2000A	2000	19	3/4

*** special Length size can be requested.**

Material : Aluminium - BS 2898

Tape Saddle

For supporting air terminal onto flat roof surfaces and to accommodate copper tape or aluminium tape conductors for lightning protection system.

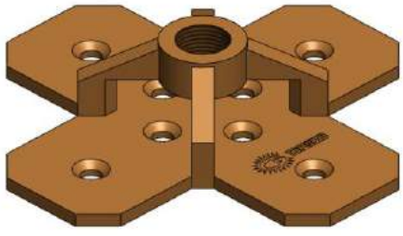


Cat. No.	Thread Size (inch)	Max. Conductor Width (mm.)
T-LTS 58	5/8	25
T-LTS 34	3/4	25

Aluminum

T-LTS 58A	5/8	25
T-LTS 34A	3/4	25

Material : Copper Alloy - BS EN 1982
Aluminium Alloy - BS 2898



Flat Saddle

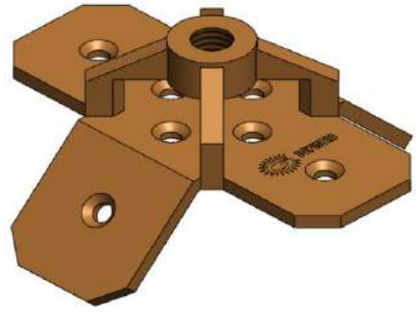
For support air terminal to connect with copper tape or copper stranded conductors.

Cat. No.	Thread Size (inch)	Max. Conductor	
		Tape Width (mm.)	Cable Size (mm^2)
T-LFS-58	5/8	25	25 - 120
T-LFS-34	3/4	25	25 - 120

Material : Copper Alloy - BS EN 1982

Ridge Saddle

For supporting air terminal to connect with copper tape or copper stranded conductors.



Cat. No.	Thread Size (inch)	Max. Conductor	
		Tape Width (mm.)	Cable Size (mm^2)
T-LRDS-58	5/8	25	25 - 120
T-LRDS-34	3/4	25	25 - 120

Material : Copper Alloy - BS EN 1982

Round Saddle

Support air terminal to connect with copper stranded conductors.

Cat. No.	Thread Size (inch)	Cable Size (mm^2)
T-LRS 58-70	5/8	50 - 70
T-LRS 58-120	5/8	95 - 120
T-LRS 34-70	3/4	50 - 70
T-LRS 34-120	3/4	95 - 120

Material : Copper Alloy - BS EN 1982

Floor Saddle

Support air terminal to connect with copper stranded conductors.

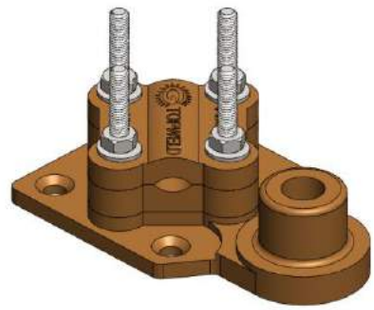
Cat. No.	Thread Size (inch)	Cable Size (mm^2)
T-LFRS 58	5/8	50 - 120
T-LFRS 34	3/4	50 - 120

Material : Copper Alloy - BS EN 1982

Cross Cable Saddle

Support air terminal to connect with copper stranded conductors.

Cat. No.	Thread Size (inch)	Cable Size (mm^2)
T-LCCS 58	5/8	50 - 120
T-LCCS 34	3/4	50 - 120



Material : Copper Alloy - BS EN 1982

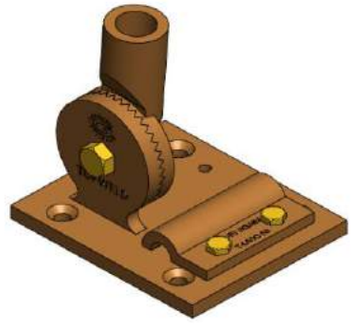
Adjustable Saddle

For Cable

Support air terminal to connect with copper stranded conductors.

Cat. No.	Thread Size (inch)	Cable Size (mm^2)
T-LASC 58	5/8	50 - 70
T-LASC 58-120	5/8	95 - 120
T-LASC 34	3/4	50 - 70
T-LASC 34-120	3/4	95 - 120

Material : Copper Alloy - BS EN 1982



For Tape

Support air terminal to connect with copper tape or aluminium tape conductors.

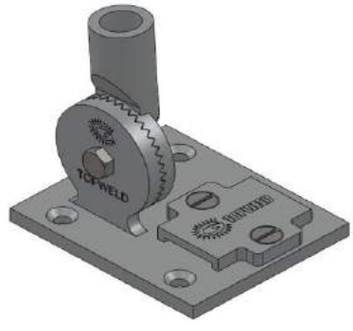
Cat. No.	Thread Size (inch)	Tape Size (mm.)
T-LAST 58-253	5/8	25 x 3
T-LAST 34-253	3/4	25 x 3

Material : Copper Alloy - BS EN 1982

Aluminum

T-LAST 58-254A	5/8	25 x 4
T-LAST 34-254A	3/4	25 x 4

Material : Aluminium Alloy - BS 2898



Wall Saddle

Support air terminal to connect with copper stranded conductors.

Cat. No.	Thread Size (inch)	Cable Size (mm^2)
T-LWS 58	5/8	50 - 120
T-LWS 34	3/4	50 -120

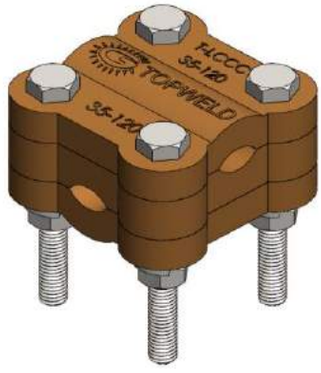
Material : Copper Alloy - BS EN 1982

Cable Saddle

Clamp used in conjunction for cable.

Cat. No.	Cable Size (mm^2)
T-LCS 35	25 - 35
T-LCS 70	50 - 70
T-LCS 120	95 - 120
T-LCS 185	150 - 185
T-LCS 300	240 - 300

Material : Copper Alloy - BS EN 1982



Cable Cross Clamp

Clamp suitable for 4 way connections, straight through or tee joints for cable.

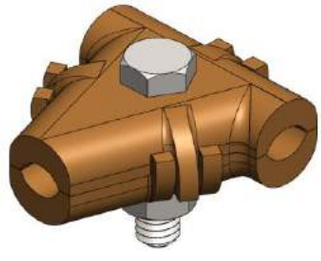
Cat. No.	Cable Size (mm^2)
T-LCCC 35-120	35 - 120
T-LCCC 150-240	150 - 240

Material : Copper Alloy - BS EN 1982

Tee Clamp

Clamp used for forming tee joints for cable.

Cat. No.	Cable Size (mm^2)
T-LTC 70	50 - 70
T-LTC 120	95 - 120

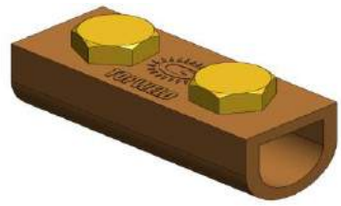


Material : Copper Alloy - BS EN 1982

Cable Test Connector

Connect copper stranded conductors.

Cat. No.	Cable Size (mm^2)
T-LCTC 35-120	35 - 120



Material : Copper Alloy - BS EN 1982
Bolt - Stainless Steel

Bi-Metallic Washer Connector

This connectors are used in bi-metallic earthing systems. It is recommended to use inhibiting compound with this assembly.

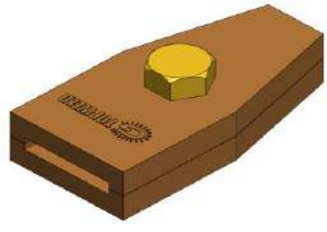
Cat. No.	Materials	Hole Size (mm.)
T-LBWC-10	Copper / Aluminium	11
T-LBWC-12	Copper / Aluminium	14

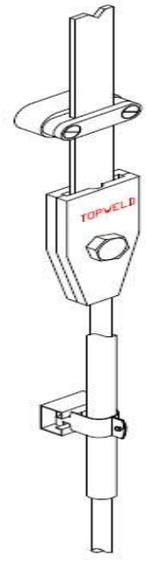
Material : Copper / Aluminium

Cable-Tape Test Connector

Connect copper stranded with copper tape conductors.

Cat. No.	Conductor	Tape
	Size (sq.mm.)	Size (mm.)
T-LCTT 70-253	70	25 x 3
T-LCTT 95-253	95	25 x 3
T-LCTT 120-253	120	25 x 3



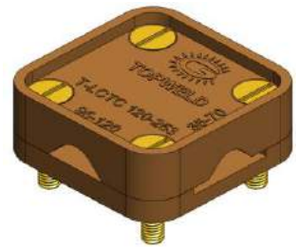


Material : Copper Alloy - BS EN 1982 , Bolt - Brass

Cable to Tape Clamp

Suitable to connect conductor to tape.

Cat. No.	Cable Size (mm^2)	Tape Size (mm.)
T-LCTC 35-253	35 - 120	25 x 3

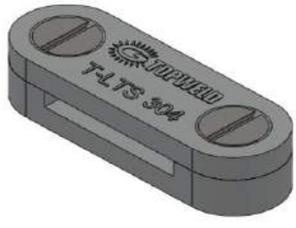


Material : Copper Alloy - BS EN 1982 , Bolt - Brass

Tape Support

Fix copper or aluminium tape conductors.

Cat. No.	Tape Size (mm.)
T-LTS 253	25 x 3
T-LTS 324	32 x 4
T-LTS 404	40 x 4
T-LTS 405	40 x 5
T-LTS 505	50 x 5
T-LTS 506	50 x 6



Aluminium

T-LTS 253A	25 x 3
T-LTS 254A	25 x 4

Material : Copper Alloy - BS EN 1982 , Bolt - Brass
Aluminium Alloy - BS EN 2898 , Bolt - Stainless Steel

Square Tape Support

Suitable for 4 way connections, straight through or tee joints for copper tape or aluminium tape.

Cat. No.	Tape Size (mm.)
T-LSTS 253	25 x 3
T-LSTS 304	32 x 4
T-LSTS 405	40 x 5
T-LSTS 505	50 x 5

Aluminium

T-LSTS 253A	25 x 3
T-LSTS 254A	25 x 4

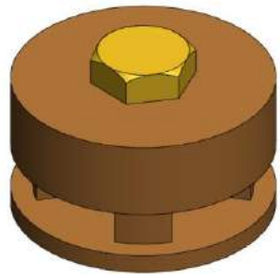
Material : Copper Alloy - BS EN 1982 , Bolt - Brass
Aluminium Alloy - BS EN 2898 , Bolt - Stainless Steel

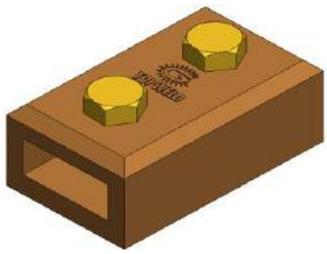
Screw Down Test Clamp

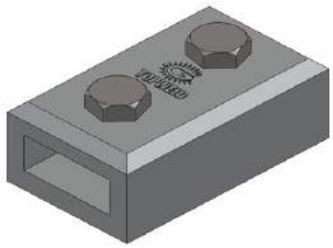
Used to create a disconnecting joint between the down conductor system and earthing system.

Cat. No.	Materials
T-LSDT 253	Copper Alloy

Material : Copper Alloy - BS EN 1982







Tape Test Connector

Suitable for straight through tape joint.

Cat. No.	Maximum Tape (mm)
T-LTTC 256	26 x 8
T-LTTC 518	51 x 8

Material : Copper Alloy - BS EN 1982 , Bolt - Brass

Aluminium

T-LTTC 256A	26 x 8
T-LTTC 518A	51 x 8

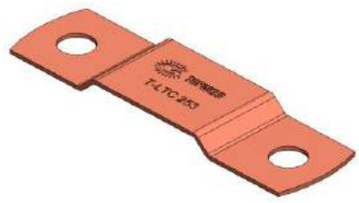
Material : Aluminium Alloy - BS EN 2898 ,
Bolt - Stainless Steel

Tape Clip

Support and Secure flat tape to the structure.

Cat. No.	Tape Size (mm.)
T-LTC 253	25 x 3
T-LTC 254	25 x 4
T-LTC 304	30 x 4
T-LTC 506	50 x 6

Material : Copper - BS EN 13601



Bar Holefast

Provides secure anchorage to thin metallic sections that cannot be drille e.g. window mullions, angle iron etc. Once fixed any metallic or non metallic conductor clip can be attached with the screw provided.

Cat. No.	Bolt Size (inch)
T-LBH	1/4" x 3/4"

Material : Copper Alloy - BS EN 1982 , Bolt - Brass

Back Plate Holdfast

Required for installation of tape when the tape is to be secured away from the face of wall. This should be used with appropriate tape support.

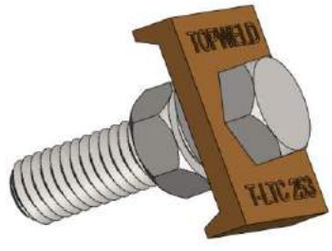
Cat. No.	Hole Size (mm.)	Hight (mm.)
T-LBPH	1/4"	98
T-LBPH-A	1/4"	98

Material : Copper Alloy - BS EN 1982
Aluminium Alloy - BS 2898

Tape Clamp

Used for bonding tape to steel structures.

Cat. No.	Tape Size (mm.)	Bolt Size (mm.)
T-LTC 253	25 x 3	M10 x 35



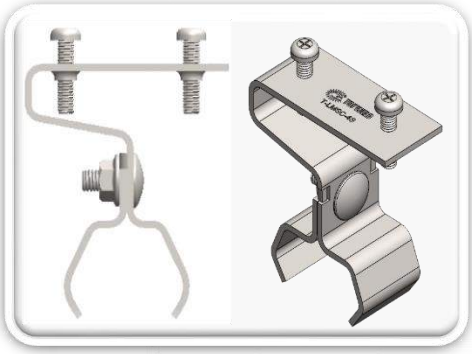
Material : Copper Alloy - BS EN 1982
Bolt / Nut - Stainless Steel

Metal Sheet Clamp (Can supply one complete set)

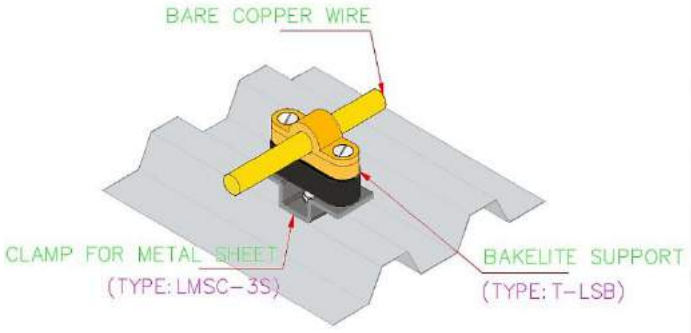
TOPWELD , we realize to design , material selection, galvanic corrosion avoidance, accurate production, practically installation and architectural harmony.

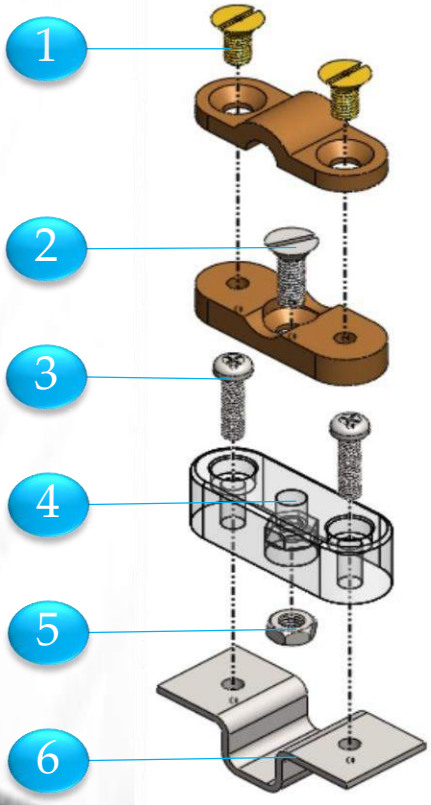
Production

- No effect to roof structure
- No galvanic corrosion
- Effective cost
- Special Type can be request
- Customer can send example of roof to our factory
- Easy to Installation (Supply one set)



Supply Typical Detail





Material

304 stainless steel has excellent resistance to a wide range of atmospheric environments and many corrosive media. It is subject to pitting and crevice corrosion in warm chloride environments and to stress corrosion cracking above about 60 ◦C. It is considered resistant to potable water with up to about 200 mg/L chlorides at ambient temperatures, reducing to about 150 mg/L at 60 ◦C.

Item	Description	Quantity /Set
1	Bolt for Cable Support ,Brass	2
2	Stainless Steel Bolt Taper Head Size ¼″ x ¾″	1
3	Stainless Steel Bolt JP M5 x 25 mm.	2
4	Bakelite Support	1
5	Nut ¼″ in Insulator	1
6	Metal Sheet Clamp	1

Metal Sheet Clamp

Hold copper stranded or tape conductors to metal roof.

Cat. No.	Material
T-LMSC-1S	Stainless Steel
T-LMSC-2S	Stainless Steel
T-LMSC-3S	Stainless Steel
T-LMSC-4S1	Stainless Steel

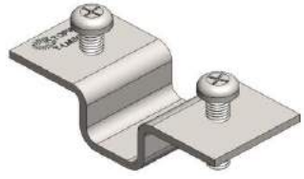
*** special new model can be requested.**

Material : Stainless Steel

Bolt - Stainless Steel

T-LMSC-1S

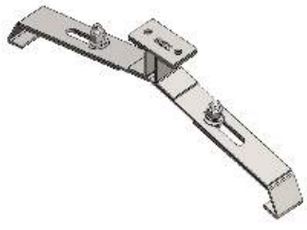
T-LMSC-2S



T-LMSC-3S

T-LMSC-4S1

T-LRHHR-100S



T-LRHHR-200S

Roof Holders

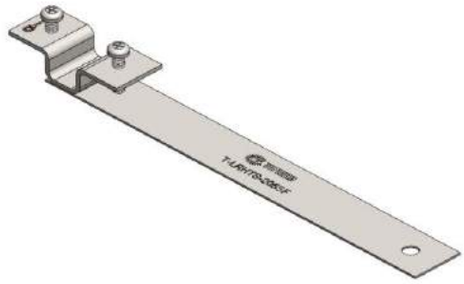
Hole copper stranded or tape conductors for hip, ridge and sheet tiled roof installation.

For Hip or Ridge Tiles

Cat. No.	Dimensions (mm.)			
	Vary (H)		Vary (L)	
	Max.	Min.	Max.	Min.
T-LRHHR-100S	180	90	242	235
T-LRHHR-200S	180	145	340	225

Material : Stainless Steel

Roof Holders



T-LRHTS

Hole copper stranded or tape conductors for hip, ridge and sheet tiled roof installation.

For Tile Sheet

Cat. No.	Dimensions (mm.)		
	H	W	L
T-LRTHS-205SF	20	25	205
T-LRTHS-405SF	20	25	405

Material : Stainless steel

Support (Bakelite)

Support equipment as an insulator.

Cat. No.	Color
T-LSB	Black

Material : Bakelite

Supporting (Porcelain)

Support equipment as an insulator.

Cat. No.	Color
T-LSP	White

Material : Porcelain

Ground Wire

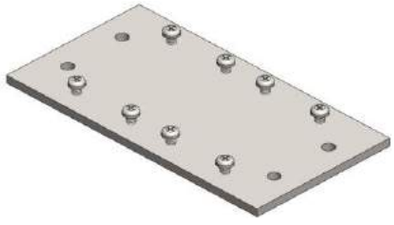
Support equipment as an insulator.

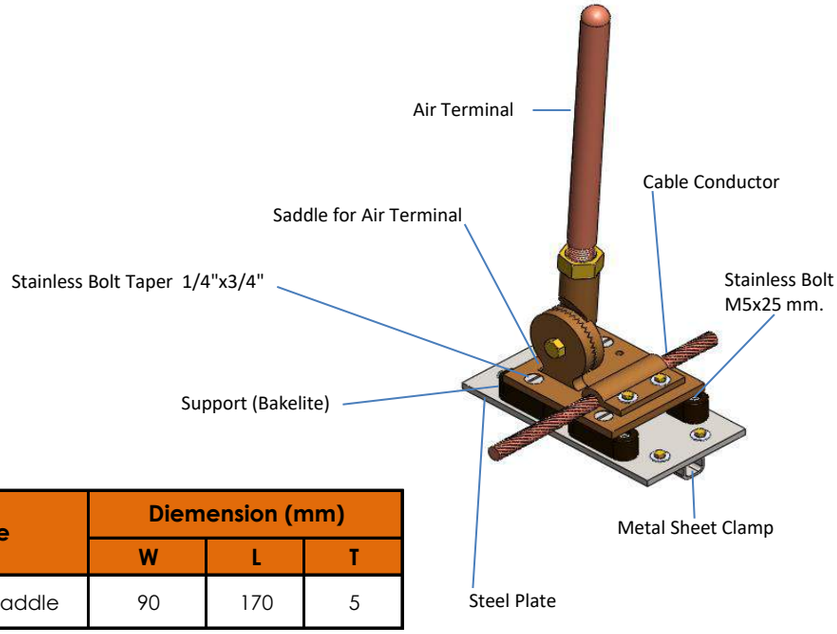
Cat. No.	Conductor Size (mm^2)	Tape Size (mm.)
T-LGWS 25-120	25 - 120	-
T-LGWS 253	-	25 x 3

Material : Support - Brass
Insulator - Caramic

Steel Plate For Saddle Of Air Terminal with Stainless Steel Bolt JP size M5x25 mm.

Support air terminal and saddle base onto metal sheet roof.





Cat. No.	For Saddle	Diemension (mm)		
		W	L	T
T-LSPS-BS525	For Adjustable Saddle	90	170	5

Material : Hot Dip Galvanized Steel

Stainless Steel Bolt For Support

Cat. No.	Type/Size
T-BS525	Stainless Steel Bolt JP size M5x25 mm.

Cat. No.	Type/Size
T-BS26	Stainless Steel Bolt Taper Head size 1/4" x 3/4"

Cat. No.	Type/Size
T-BSN1/4	Stainless Steel Nut 1/4"

Lightning Pole

Suitable for any areas or projects where air terminal is unable to install and maunt on the roof such as oil / gas tank, solar farm , power plant etc.

A

B

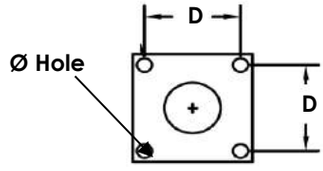


Figure 1

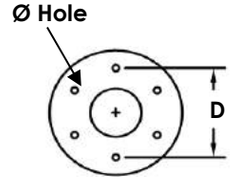


Figure 2

Flange Base

Model : A	Pole Diemension (mm.)					OD.	Flange Base Dimension (mm.)		
	Hight (mm.)	Air Terminal	Pole 1	Pole 2	Pole 3	Ø(mm.)	Figure	Øhole (mm.)	D (mm.)
T-LPT-3000-70	3000	600	2400	-	-	60	2	25	160
T-LPT-6000-70	6000	600	5400	-	-	60	2	32	250
T-LPT-9000-70	9000	600	5400	3000	-	60	2	32	250
T-LPT-12000-70	12000	600	5400	3000	3000	76	2	32	300
T-LPT-15000-70	15000	600	5400	4500	4500	76	2	32	300

Model : B	Pole Diemension (mm.)			OD.	Flange Base Dimension (mm.)		
	Hight (mm.)	Air Terminal	Pole	Ø(mm.)	Figure	Øhole (mm.)	D (mm.)
T-LPS-3000-70	3000	600	2400	60	1	23	140
T-LPS-6000-70	6000	600	5400	60	1	23	200

*** special Length size can be requested**

Material :			
	Air - Teminal, Busbar	-	Solid Copper - BS EN 13601
	Saddle	-	Copper Alloy - BS EN 1982
	Pole	-	Hot Dip Galvanized Steel ASTM A123
	Down Conductor	-	

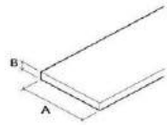
Tape Conductors

Copper Tape

High conductivity bar copper tape is used on both lightning protection and earthing application.

Cat. No.	Size (mm.)		Size (mm^2)	Coil Size (m.)
	A Width	B Thickness		
T-LCT 253	25	3	75	100
T-LCT 254	25	4	100	100

*** Other size is also available upon request.**



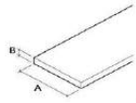
Material : Copper - BS EN 13601

Tinned Copper Tape

Suitable for grounding and lightning protection in high corrosion resistance area.

Cat. No.	Size (mm.)		Size (mm^2)	Coil Size (m.)
	A Width	B Thickness		
T-LTCT 253	25	3	75	100
T-LTCT 254	25	4	100	100

*** Other size is also available upon request.**



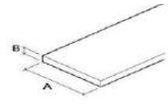
Material : Tin plated copper - BS EN 13601

Aluminium Tape

Suitable for grounding and lightning protection.

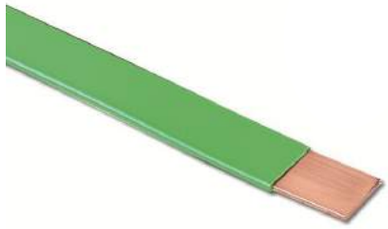
Cat. No.	Size (mm.)		Size (mm^2)	Coil Size (m.)
	A Width	B Thickness		
T-LAT 253	25	3	75	50
T-LAT 254	25	4	100	50

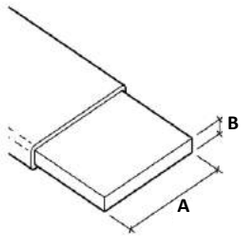
*** Other size is also available upon request.**



Material : Aluminium - BS 2898

Tape Conductors





Copper with PVC

PVC covered copper tapes are mainly used as down conductors on a building's structural lightning protection system.

Cat. No.	Size (mm.)		Size (mm^2)	Coil Size (m.)
	A Width	B Thickness		
T-LCT 253P	25	3	75	50
T-LCT 254P	25	4	100	50

*** Other size is also available upon request.**

Material : Copper - BS EN 13601

Green PVC cover with low smoke halogen free

Aluminium with PVC

Suitable for grounding and lightning protection.

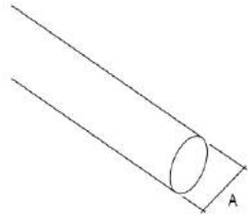
Cat. No.	Size (mm.)		Size (mm^2)	Coil Size (m.)
	A Width	B Thickness		
T-LAT 253P	25	3	75	50
T-LAT 254P	25	4	100	50

*** Other size is also available upon request.**

Material : Aluminium - BS 2898

Green PVC cover with low smoke halogen free

Circular Conductors



Copper

Suitable for grounding and lightning protection.

Cat. No.	Conductor (Ø) / (mm.)	Size (mm^2)	Coil Size (m)
T-CC-8	8	50	50
T-CC-9.5	9.5	70	50

*** Other size is also available upon request.**

Material : Copper - BS EN 13601

Stranded Copper Conductor

Used as neutrals, in circuit ground connections as well as machinery and equipment grounding systems.
Conductor : Soft drawn copper wire, concentric Stranded conductor sizes 10 mm^2 up to 500 mm^2

Cat No.	Cable Size (mm^2)	Number and Diameter of Wire (no./mm)
T-SCC 010	10	7/1.35
T-SCC 016	16	7/1.70
T-SCC 025	25	7/2.14
T-SCC 035	35	19/1.53
T-SCC 050	50	19/1.78
T-SCC 070	70	19/2.14
T-SCC 095	95	19/2.52
T-SCC 120	120	37/2.03
T-SCC 150	150	37/2.25
T-SCC 185	185	37/2.52
T-SCC 240	240	61/2.25
T-SCC 300	300	61/2.52
T-SCC 400	400	61/2.85
T-SCC 500	500	61/3.20

Material : Copper
Reference Standard : TIS 2427-2552

Copper-Clad Steel Wire

Single Wire

Cat No.	Cable Size (mm^2)	Diameter of Wire A : (mm.)
T-ACCS-50	50.24	8.0
T-ACCS-70	78.00	10.0

7 Wire Strand

Cat No.	Cable Size		Diameter of Wire (mm.)
	AWG.	(mm^2)	
T-ACCS7-50	1/0	53.49	3.12
T-ACCS7-70	7 No. 7	73.86	3.67

Material : Annealed Copper-Clad Steel Wire - ASTM B 910/B 910 M

Copper - Clad Steel Wire

According to Standard (IACS), it is taken as 30% conductivity which is suitable for transmission line's grounding in high corrosive area such as seaside.

Cat No.	Cable Size		Diameter of Wire (mm.)
	AWG.	(mm^2)	
T-2AWG	2	33.63	6.54

Material : Annealed Copper-Clad Steel Wire

Standard : ASTM B 910/B 910 M

Dead Soft Galvanized Steel Wire

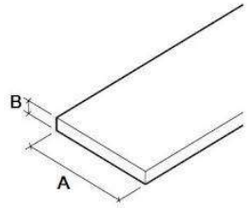
Suitable for bonding stub angle to reinforcing steel in tower grounding system.

Code No.	Diameter (± 0.1 mm.)	Zinc Coating (g/m^2)
T-DSG-8	3.5	153 - 250

Material : Hot Dip Galvanized Iron Wire

Standard : TIS 71-2532

Hard Draw Bus Bar



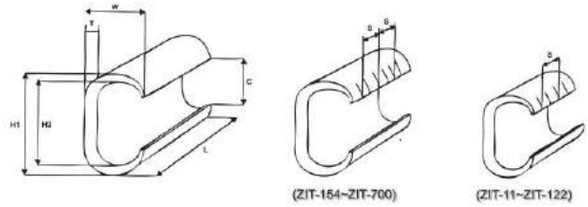
Suitable for grounding connection.

Cat No.	Size (mm^2)	Coil Size (m.)	Size (mm.)	
			A Width	B Thickness
T-HDBB304	120	5	30	4
T-HDBB324	128	5	32	4
T-HDBB305	150	5	30	5
T-HDBB325	160	5	32	5
T-HDBB405	200	5	40	5
T-HDBB505	250	5	50	5

*** Other size is also available upon request.**

Material : Copper - TIS 408

C-Type Copper Compression Connectors



The range of C-CONNECTORS are manufactured in "C" shaped High purity copper section for connection to main and tap copper conductors.

Cat. No.	Dimensions mm.						Installation		Total Sectional area of applicable wire sq.mm.
	H1	H2	w	L	T	C	# of Crimps	S	
ZIT-11	9.5	6.3	6.2	12	1.6	4.0	2	7	7.5-11
ZIT-16	11.5	7.8	7.8	13	2.0	5.0	2	8	11.5-16
ZIT-20	12.8	8.4	9.7	13	2.9	5.1	1	8	14-20
ZIT-26	14.7	10.2	10.9	16	3.2	6.5	1	8	21.26
ZIT-44	19.0	13.4	14.4	20	4.0	8.5	1	8	27-44
ZIT-60	21.0	15.4	15.1	22	4.0	9.7	2	11	45-60
ZIT-76	24.4	17.3	17.6	22	5.0	10.8	2	11	61-76
ZIT-98	27.8	20.8	18.8	25	5.0	13.8	2	11	77-98
ZIT-122	29.8	22.1	21.2	26	5.5	13.5	2	12	99-122
ZIT-154	34.0	25.7	24.4	28	6.0	17.0	3	8.5	123-154
ZIT-190	37.0	28.5	25.4	35	6.0	17.4	3	10.5	155-190
ZIT-240	40.0	30.2	28.5	40	7.0	19.0	3	13	191-240
ZIT-288	44.5	34.7	31.1	45	7.0	22.3	3	14.5	241-288
ZIT-365	47.5	37.7	34.0	50	7.0	22.3	3	16	289-365
ZIT-450	57.0	42.5	41.0	60	10.0	28.0	3	18.5	366-450
ZIT-560	62.0	46.0	45.0	65	11.0	31.0	3	20	451-560
ZIT-700	68.0	51.0	49.5	70	12.0	34.0	3	21	561-700

Combination Chart (Applicable range & IZUMI tools to be used)

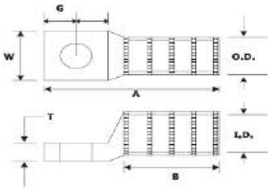
Conductor main sq.mm.	Conductor tap sq.mm.																
	2 Ø1.6	3.5 Ø2.0	5.5 Ø2.6	8	14	22	30	38	50	60	80	100	125	150	200	250	325
5.5 (Ø2.6)	#11	#11	#11														
8	#11	#16	#11	#16 / #20													
14	#16 / #20	##20	##20	##26	##44												
22	##26	##26	##44	##44	##44	##44											
30	##44	##44	##44	##44	##44	##60	##60										
38	##44	##44	##44	##60	##60	##60	##76	##76									
50	##60	##60	##60	##60	##76	##76	##98	##98	##122								
60	##76	##76	##76	##76	##76	##98	##98	##98	##122	##122							
80	##98	##98	##98	##98	##98	##122	##122	##122	*154	*154	*190						
100	##122	##122	##122	##122	##122	##122	*154	*154	*154	*190	*190	*240					
125	*154	*154	*154	*154	*154	*154	*190	*190	*190	*190	*240	*240	*288				
150	*154	*154	*190	*190	*190	*190	*190	*190	*240	*240	*240	*288	*288	*365			
200	*240	*240	*240	*240	*240	*240	*240	*240	*288	*288	*288	*365	*365	*365	**450		
250			*288	*288	*288	*288	*288	*288	*365	*365	*365	*365	**450	**450	**450	**560	
325			*365	*365	*365	*365	*365	*365	**450	**450		**450	**450	**560	**560	**700	**700
400									**450	**560		**560	**560	**560	**700	**700	
500									**560	**560	**700	**700	**700	**700	**700		
600									**700	**700	**700	**700					

Tooling Guide : # EH-2C ## No. 15B * No. 16B ** EP520C

Double length barrel permiting two crimps in the larger sizes for additional assurance with heavy duty loads Seamless one piece, pure copper construction with tin plating assures maximum conductivity. Generous entrance chamfer provides easy cable insertion. End of cable is fully protected from environment transition. Catalog number and conductor sizes marked on every piece insures positive identification. Can be used with high voltage system up to 35 kv

Copper Lugs High Voltage One-Hole Long Barrel

Part Number	Copper Conductor Size		Stud Size (inch)	Barrel (mm.)		Approximate Dimension (mm.)					
				I.D.	O.D.	A	W	G	C	T	B
ZIC 8-6 S	#8 AWG	10 mm^2	1/4	4.10	5.72	43.40	11.60	9.50	9.40	1.80	20.00
ZIC 8-12 S	#8 AWG	10 mm^2	1/2	4.10	5.72	53.20	21.33	12.70	16.00	3.00	20.00
ZIC 6-6 S	#6 AWG	16 mm^2	1/4	5.80	7.42	57.90	11.60	9.50	9.40	2.00	29.00
ZIC 6-12 S	#6 AWG	16 mm^2	1/2	5.80	7.42	67.70	21.33	12.70	16.00	3.00	29.00
ZIC 4-6 S	#4 AWG	25 mm^2	1/4	6.40	8.02	59.00	14.00	8.60	9.40	2.40	29.00
ZIC 4-12 S	#4 AWG	25 mm^2	1/2	6.40	8.02	69.70	21.33	12.70	16.00	3.00	29.00
ZIC 2-8 S	#2 AWG	35 mm^2	5/16	8.50	10.54	59.79	16.70	9.25	11.17	2.50	29.50
ZIC 2-12 S	#2 AWG	35 mm^2	1/2	8.50	10.54	68.16	21.33	12.70	16.00	3.00	29.50
ZIC 1-8 S	#1 AWG	35 mm^2	5/16	9.50	11.54	69.00	18.10	9.25	11.76	2.50	34.50
ZIC 1-12 S	#1 AWG	35 mm^2	1/2	9.50	11.54	75.20	21.00	12.70	16.00	2.60	34.50
ZIC 1/0-8 S	#1/0 AWG	50 mm^2	5/16	10.10	12.70	71.57	21.00	9.25	11.17	3.00	39.00
ZIC 1/0-12 S	#1/0 AWG	50 mm^2	1/2	10.10	12.70	80.18	21.33	12.70	16.00	3.00	39.00
ZIC 2/0-10 S	#2/0 AWG	70 mm^2	3/8	11.40	14.00	75.68	21.33	12.70	12.70	3.00	39.00
ZIC 2/0-12 S	#2/0 AWG	70 mm^2	1/2	11.40	14.00	79.03	21.33	12.70	16.00	3.00	39.00
ZIC 3/0-12S	#3/0 AWG	95 mm^2	1/2	12.70	15.30	78.70	24.00	12.70	16.00	3.20	39.00
ZIC 4/0-12 S	#4/0 AWG	120 mm^2	1/2	14.20	17.34	83.70	27.00	12.70	16.00	3.40	40.00
ZIC 250-12 S	250 MCM	120 mm^2	1/2	16.50	19.64	84.00	29.50	12.70	16.00	3.50	40.00
ZIC 300-12 S	300 MCM	150 mm^2	1/2	17.80	20.94	99.50	31.00	13.46	16.00	3.70	51.00
ZIC 350-12 S	350 MCM	185 mm^2	1/2	18.80	21.94	97.50	32.50	13.46	16.00	4.40	52.00
ZIC 400-16 S	400 MCM	185 mm^2	1/2	19.70	23.36	106.00	35.80	16.76	17.52	4.60	52.00
ZIC 500-16 S	500 MCM	240 mm^2	1/2	21.10	24.76	110.25	40.00	16.76	17.52	5.50	59.00
ZIC 600-16 S	600 MCM	300 mm^2	1/2	23.40	27.98	136.50	44.00	20.35	20.35	6.40	67.80
ZIC 750-16 S	750 MCM	400 mm^2	1/2	27.05	31.93	151.25	49.00	20.35	20.35	6.50	77.00
ZIC 800-16 S	800 MCM	400 mm^2	1/2	27.40	32.28	154.00	50.00	20.35	20.35	7.30	79.00
ZIC 1000-16 S	1000 MCM	500 mm^2	1/2	30.70	36.28	160.00	55.00	24.63	24.63	8.40	79.00
ZIC 1250-20 S	1250 MCM	630 mm^2	3/4	33.02	42.67	166.55	62.50	26.92	26.92	9.30	81.00
ZIC 1500-20 S	1500 MCM	800 mm^2	3/4	36.58	46.99	165.85	69.00	26.92	26.92	10.20	81.00
ZIC 2000-20 S	2000 MCM	1000 mm^2	3/4	41.91	54.36	174.84	80.00	26.92	26.92	12.00	81.00



S = Singel Hole
* For non-specific die reference, please contact us

TOLERANCE DIMENSION (mm.)							
I.D	O.D	A	W	G	C	T	B
± 0.2	± 0.2	± 1.5	± 0.5	± 0.3	± 0.5	± 0.3	± 1.0

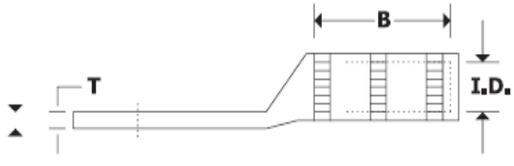
Double length barrel permitting two crimps in the larger sizes for additional assurance with heavy duty loads. Seamless, one piece, pure copper construction with tin plating assures maximum conductivity. Generous entrance chamfer provides easy cable insertion. End of cable is fullly protected from environment transition catalogue number and conductor sizes marked on every piece insures positive indentification. Can be used with high voltage system up to 35 kv.

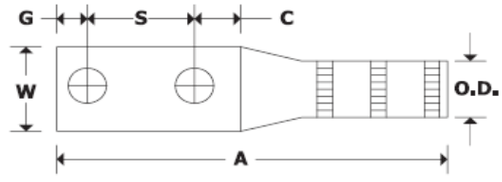
Copper Lugs High Voltage Two-Hole Long Barrel

Part Number	Copper Conductor Size	Stud Size	Approximate Dimension (mm.)								
			I.D.	O.D.	A	W	G	S	C	T	W
ZLC 8-6 DN	# 8 AWG	1/4"	4.10	5.72	56.25	11.60	6.35	16.00	9.40	1.80	20.00
ZLC 8-12 D	# 8 AWG	1/2"	4.10	5.72	101.00	21.33	16.00	44.45	16.00	3.00	20.00
ZLC 6-6 DN	# 6 AWG	1/4"	5.80	7.42	69.00	11.60	6.35	16.00	9.40	2.00	29.00
ZLC 6-12 D	# 6 AWG	1/2'	5.80	7.42	113.62	21.33	16.00	44.45	16.00	3.00	29.00
ZLC 4-6 DN	# 4 AWG	1/4"	6.40	8.02	70.75	14.00	6.35	16.00	9.40	2.40	29.00
ZLC 4-12 D	# 4 AWG	1/2"	6.40	8.02	117.45	21.33	16.00	44.45	16.00	3.00	29.00
ZLC 2-8 DN	# 2 AWG	5/16"	8.50	10.54	78.89	16.70	9.14	19.05	11.17	2.50	29.50
ZLC 2-12 D	# 2 AWG	1/2"	8.50	10.54	115.98	21.33	16.00	44.45	16.00	3.00	29.50
ZLC 1-8 DN	# 1 AWG	5/16"	9.50	11.54	88.15	18.10	8.12	22.35	11.18	2.50	34.50
ZLC 1-12 D	# 1AWG	1/2"	9.50	11.54	120.95	21.33	16.00	44.45	16.00	2.60	34.50
ZLC 1/0-12 DN	#1/0 AWG	1/2"	10.10	12.70	126.45	21.33	16.00	44.45	16.00	3.00	39.00
ZLC 2/0-12 DN	# 2/0 AWG	1/2"	11.40	14.00	127.30	21.33	16.00	44.45	16.00	3.00	39.00
ZLC 3/0-12 DN	# 3/0 AWG	1/2	12.70	15.30	127.50	24.00	16.00	44.45	16.00	3.20	39.00
ZLC 4/0-12 DN	# 4/0 AWG	1/2"	14.20	17.34	132.00	27.00	16.00	44.45	16.00	3.40	40.00
ZLC 250-12 DN	250 MCM	1/2"	16.50	19.64	131.50	29.50	16.00	44.45	16.00	3.50	40.00
ZLC 300-12 DN	300 MCM	1/2"	17.80	20.94	146.50	31.00	16.00	44.45	16.00	3.70	51.00
ZLC 350-12 DN	350 MCM	1/2"	18.80	21.94	147.00	32.50	16.00	44.45	16.00	4.40	52.00
ZLC 400-12 DN	400 MCM	1/2"	19.70	23.36	151.22	35.80	16.00	44.45	19.05	4.60	52.00
ZLC 500-12 DN	500 MCM	1/2"	21.10	24.76	155.00	40.00	16.00	44.45	19.05	5.50	59.00
ZLC 600-12 DN	600 MCM	1/2"	23.40	27.98	171.31	44.00	16.00	44.45	19.05	6.40	67.80
ZLC 750-12 DN	750 MCM	1/2"	27.05	31.93	181.50	49.00	16.00	44.45	19.05	6.50	77.00
ZLC 800-12 DN	800 MCM	1/2"	27.40	32.28	182.50	50.00	16.00	44.45	19.05	7.30	79.00
ZLC 1000-12 DN	1000 MCM	1/2"	30.70	36.28	183.50	55.00	16.00	44.45	19.05	8.40	79.00

D = Double Hole N = NEMA hole sizes and spacing
* For non-specific die reference, please contact us.

TOLERANCE DIMENSION (MM.)							
I.D.	O.D.	A	W	G	C	T	B
± 0.2	± 0.2	± 1.5	± 0.5	± 0.3	± 0.5	± 0.3	± 1.0



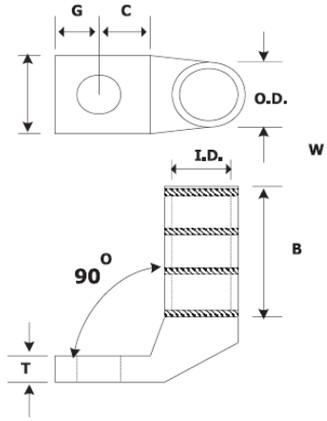


Double length barrel permiting two crimps in the larger sizes for additional assurance with heavy duty loads. Seamless, one piece, pure copper construction with tin plating assures maximum conductivity. Generous entrance chamfer provides easy cable insertion. End of cable is fully protected from environment transition. Catalog number and conductor sizes marked on every piece insures positive identification. Can be used with high voltage system up to 35 kV

Copper Lugs High Voltage One-Hole Long Barrel 90⁰ Pad

Part Number	Copper Conductor Size		Stud Size (inch)	Barrel (mm.)		Approximate Dimensions (mm.)				
				I.D.	O.D.	W	G	C	T	B
ZAC 8-6 S	#8 AWG	10 mm^2	1/4	4.10	5.72	11.60	9.50	9.40	1.80	20.00
ZAC 8-12 S	#8 AWG	10 mm^2	1/2	4.10	5.72	21.33	12.70	16.00	3.00	20.00
ZAC 6-6 S	#6 AWG	16 mm^2	1/4	5.80	7.42	11.60	9.50	9.40	2.00	29.00
ZAC 6-12 S	#6 AWG	16 mm^2	1/2	5.80	7.42	21.33	12.70	16.00	3.00	29.00
ZAC 4-6 S	#4 AWG	25 mm^2	1/4	6.40	8.02	14.00	8.60	9.40	2.40	29.00
ZAC 4-12 S	#4 AWG	25 mm^2	1/2	6.40	8.02	21.33	12.70	16.00	3.00	29.00
ZAC 2-8 S	#2 AWG	35 mm^2	5/16	8.50	10.54	16.70	9.25	11.17	2.50	29.50
ZAC 1-12 S	#2 AWG	35 mm^2	1/2	8.50	10.54	21.33	12.70	16.00	3.00	29.50
ZAC 1-8 S	#1 AWG	35 mm^2	5/16	9.50	11.54	18.10	9.25	11.76	2.50	34.50
ZAC 1-12 S	#1 AWG	35 mm^2	1/2	9.50	11.54	21.00	12.70	16.00	2.60	34.50
ZAC 1/0-8 S	#1/0 AWG	50 mm^2	5/16	10.10	12.70	21.00	9.25	11.17	3.00	39.00
ZAC 1/0-12 S	#1/0 AWG	50 mm^2	1/2	10.10	12.70	21.33	12.70	16.00	3.00	39.00
ZAC 2/0-10 S	#2/0 AWG	70 mm^2	3/8	11.40	14.00	21.33	12.70	12.70	3.00	39.00
ZAC 2/0-12 S	#2/0 AWG	70 mm^2	1/2	11.40	14.00	21.33	12.70	16.00	3.00	39.00
ZAC 3/0-12 S	#3/0 AWG	95 mm^2	1/2	12.70	15.30	24.00	12.70	16.00	3.20	39.00
ZAC 4/0-12 S	#4/0 AWG	120 mm^2	1/2	14.20	17.34	27.00	12.70	16.00	3.40	40.00
ZAC 250-12 S	250 MCM	120 mm^2	1/2	16.50	19.64	29.50	12.70	16.00	3.50	40.00
ZAC 300-12 S	300 MCM	150 mm^2	1/2	17.80	20.94	31.00	13.46	16.00	3.70	51.00
ZAC 350-12 S	350 MCM	185 mm^2	1/2	18.80	21.94	32.50	13.46	16.00	4.40	52.00
ZAC 400-16 S	400 MCM	185 mm^2	5/8	19.70	23.36	35.80	16.76	17.52	4.60	52.00
ZAC 500-16 S	500 MCM	240 mm^2	5/8	21.10	24.76	44.00	16.76	17.52	5.50	59.00
ZAC 600-16 S	600 MCM	300 mm^2	5/8	23.40	27.98	44.00	22.35	22.35	6.40	67.80
ZAC 750-16 S	750 MCM	400 mm^2	5/8	27.05	31.93	49.00	22.35	26.90	6.50	77.00
ZAC 800-16 S	800 MCM	400 mm^2	5/8	27.40	32.28	50.00	22.35	28.65	7.30	79.00
ZAC 1000-16 S	1000 MCM	500 mm^2	5/8	30.70	36.28	55.00	24.63	31.37	8.40	79.00
ZAC 1500-20 S	1500 MCM	800 mm^2	3/4	36.58	46.99	69.00	26.92	26.92	10.20	81.00
ZAC 2000-20 S	2000 MCM	1000 mm^2	3/4	41.91	54.36	80.00	26.92	26.92	12.00	81.00

TOLERANCE DIMENSION (MM.)							
I.D.	O.D.	A	W	G	C	T	B
± 0.2	± 0.2	± 1.5	± 0.5	± 0.3	± 0.5	± 0.3	± 1.0

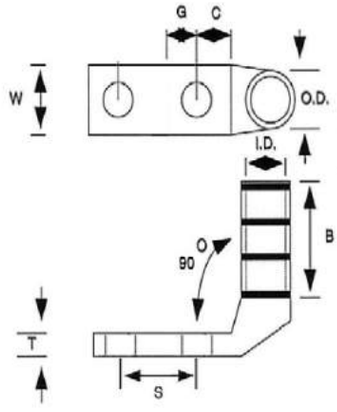


Double length barrel permiting two crimps in the larger sizes for additional assurance with heavy duty loads. Seamless, one piece, pure copper construction with tin plating assures maximum conductivity. Generous entrance chamfer provides easy cable insertion. End of cable is fully protected from environment transition. Catalog number and conductor sizes marked on every piece insures positive identification. Can be used with high voltage system up to 35 kV

Copper Lugs High Voltage TWO-Hole Long Barrel 90⁰ Pad

Part Number	Copper Conductor Size		Stud Size (inch)	Barrel (mm.)		Approximate Dimensions (mm.)					
				I.D.	O.D.	W	G	S	C	T	B
ZAC 8-6 DN	# 8 AWG	10 mm^2	1/4	4.10	5.72	11.60	6.35	16.00	9.40	1.80	20.00
ZAC 8-12 D	# 8 AWG	10 mm^2	1/2	4.10	5.72	21.33	16.00	44.45	16.00	3.00	20.00
ZAC 6-6 DN	# 6 AWG	16 mm^2	1/4	5.80	7.42	11.60	6.35	16.00	9.40	2.00	29.00
ZAC 6-12 D	# 6 AWG	16 mm^2	1/2	5.80	7.42	21.33	16.00	44.45	16.00	3.00	29.00
ZAC 4-6 DN	# 4 AWG	25 mm^2	1/4	6.40	8.02	14.00	6.35	16.00	9.40	2.40	29.00
ZAC 4-12 D	# 4 AWG	25 mm^2	1/2	6.40	8.02	21.33	16.00	44.45	16.00	3.00	29.00
ZAC 2-8 DN	# 2 AWG	35 mm^2	5/16	8.50	10.54	16.70	9.14	19.05	11.17	2.50	29.50
ZAC 2-12 D	# 2 AWG	35 mm^2	1/2	8.50	10.54	21.33	16.00	44.45	16.00	3.00	29.50
ZAC 1-8 DN	# 1 AWG	35 mm^2	5/16	9.50	11.54	18.10	8.12	22.35	11.18	2.50	34.50
ZAC 1-12 D	# 1 AWG	35 mm^2	1/2	9.50	11.54	21.33	16.00	44.45	16.00	2.60	34.50
ZAC 1/0-12 DN	# 1/0 AWG	50 mm^2	1/2	10.10	12.70	21.33	16.00	44.45	16.00	3.00	39.00
ZAC 2/0-12 DN	# 2/0 AWG	70 mm^2	1/2	11.40	14.00	21.33	16.00	44.45	16.00	3.00	39.00
ZAC 3/0-12 DN	# 3/0 AWG	95 mm^2	1/2	12.70	15.30	24.00	16.00	44.45	16.00	3.20	39.00
ZAC 4/0-12 DN	# 4/0 AWG	120 mm^2	1/2	14.20	17.34	27.00	16.00	44.45	16.00	3.40	40.00
ZAC 250-12 DN	250 MCM	120 mm^2	1/2	16.50	19.64	29.50	16.00	44.45	16.00	3.50	40.00
ZAC 300-12 DN	300 MCM	150 mm^2	1/2	17.80	20.94	31.00	16.00	44.45	16.00	3.70	51.00
ZAC 350-12 DN	350 MCM	185 mm^2	1/2	18.80	21.94	32.50	16.00	44.45	16.00	4.40	52.00
ZAC 400-12 DN	400 MCM	185 mm^2	1/2	10.70	23.36	35.80	16.00	44.45	19.05	4.60	52.00
ZAC 500-12 DN	500 MCM	240 mm^2	1/2	21.10	24.76	40.00	16.00	44.45	19.05	5.50	59.00
ZAC 600-12 DN	600 MCM	300 mm^2	1/2	23.40	27.98	44.00	16.00	44.45	19.05	6.40	67.80
ZAC 750-12 DN	750 MCM	400 mm^2	1/2	27.05	31.93	49.00	16.00	44.45	19.05	6.50	77.00
ZAC 800-12 DN	800 MCM	400 mm^2	1/2	27.40	32.28	50.00	16.00	44.45	19.05	7.30	79.00
ZAC 1000-12 DN	1000 MCM	500 mm^2	1/2	30.70	36.28	55.00	16.00	44.45	19.05	8.40	79.00
ZAC 1500-12 DN	1500 MCM	800 mm^2	1/2	36.58	46.99	69.00	16.00	44.45	19.05	10.20	81.00
ZAC 2000-12 DN	2000 MCM	1000 mm^2	1/2	41.91	54.36	80.00	16.00	44.45	19.05	12.00	81.00

TOLERANCE DIMENSION (MM.)							
I.D.	O.D.	A	W	G	C	T	B
± 0.2	± 0.2	± 1.5	± 0.5	± 0.3	± 0.5	± 0.3	± 1.0



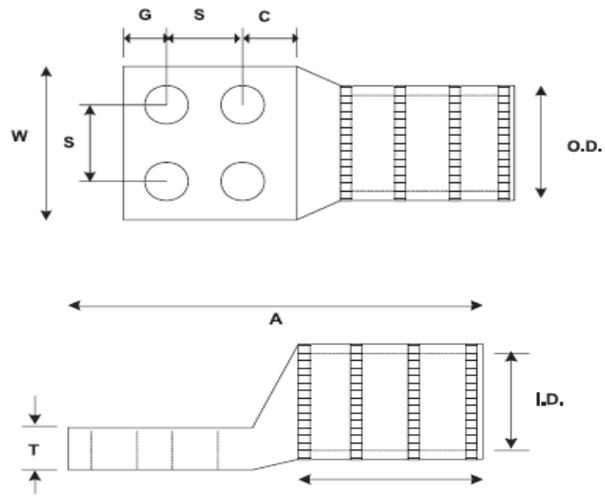
Double length barrel permiting two crimps in the larger sizes for additional assurance with heavy duty loads. Seamless, one piece, pure copper construction with tin plating assures maximum conductivity. Generous entrance chamfer provides easy cable insertion. End of cable is fully protected from environment transition Catalog number and conductor sizes marked on protected every piece insures positive identification. Can be used with high voltage system up to 35 kV

Copper Lugs High Voltage Four-Hole Long Barrel

Part Number	Copper Conductor Size	Stud Size (inch)	Barrel (mm.)		Approximate Dimensions (mm.)					
			I.D.	O.D.	A	W	G	S	C	T
ZFC 250-12-4N	250 MCM	1/2	16.50	19.64	134.50	76.20	16	44.5	19	4
ZFC 300-12-4N	300 MCM	1/2	17.80	20.94	149.50	76.20	16	44.5	19	5
ZFC 350-12-4N	350 MCM	1/2	18.80	21.94	148.50	76.20	16	44.5	19	5
ZFC 400-12-4N	400 MCM	1/2	19.70	23.36	151.50	76.20	16	44.5	19	5
ZFC 500-12-4N	500 MCM	1/2	21.10	24.76	155.00	76.20	16	44.5	19	6
ZFC 600-12-4N	600 MCM	1/2	23.40	27.98	171.30	76.20	16	44.5	19	7
ZFC 750-12-4N	750 MCM	1/2	27.05	31.93	181.50	76.20	16	44.5	19	7
ZFC 800-12-4N	800 MCM	1/2	27.40	32.28	182.50	76.20	16	44.5	19	7
ZFC 1000-12-4N	1000 MCM	1/2	30.70	36.28	183.50	76.20	16	44.5	19	9
ZFC 1250-12-4N	1250 MCM	1/2	33.02	42.67	191.50	76.20	16	44.5	19	10
ZFC 1500-12-4N	1500 MCM	1/2	36.58	46.99	190.50	76.20	16	44.5	19	10
ZFC 2000-12-4N	2000 MCM	1/2	41.91	54.36	204.00	77.72	16	44.5	19	12

N = NEMA hole sizes and spacing

For non-specific die reference, contact factory

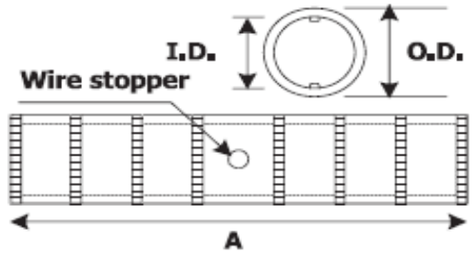


ZIP CRIMP SPLICES FOR # 8 STRANDED THRU 2000 MCM

Seamless, one piece, pure copper construction with tin plating assures maximum conductivity. Generous entrance chamfer provides easy cable insertion. Catalog number and conductor sizes marked on every piece to insure positive identification. Positive cable stops insure proper insertion of conductor to full depth.

Copper Splices Long Barrel

Part Number	Copper Conductor Size		Approximate Dimensions (inch)		
			Barrel		A
			I.D.	O.D.	
ZIP 8 L	# 8 AWG	10 mm^2	4.10	5.72	57.15
ZIP 6 L	# 6 AWG	16 mm^2	5.80	7.42	60.45
ZIP4 L	# 4 AWG	25 mm^2	6.40	8.02	60.45
ZIP 2 L	# 2 AWG	35 mm^2	8.50	10.54	66.55
ZIP 1 L	# 1 AWG	35 mm^2	9.50	11.54	72.90
ZIP 1/0 L	# 1/0 AWG	50 mm^2	10.10	12.70	72.90
ZIP 2/0 L	# 2/0 AWG	70 mm^2	11.40	14.00	79.50
ZIP 3/0 L	# 3/0 AWG	95 mm^2	12.70	15.30	79.50
ZIP 4/0 L	# 4/0 AWG	120 mm^2	14.20	17.34	85.60
ZIP 250 L	250 MCM	120 mm^2	16.50	19.64	85.60
ZIP 300 L	300 MCM	150 mm^2	17.80	20.94	104.65
ZIP 350 L	350 MCM	185 mm^2	18.80	21.94	104.65
ZIP 400 L	400 MCM	185 mm^2	19.70	23.36	111.00
ZIP 500 L	500 MCM	240 mm^2	21.10	24.76	117.35
ZIP 600 L	600 MCM	300 mm^2	23.40	27.98	139.70
ZIP 750 L	750 MCM	400 mm^2	27.05	31.93	149.10
ZIP 800 L	800 MCM	400 mm^2	27.40	32.28	152.40
ZIP 1000 L	1000 MCM	500 mm^2	30.70	36.28	155.45
ZIP 1500 L	1500 MCM	800 mm^2	36.58	46.99	165.10
ZIP 2000 L	2000 MCM	1000 mm^2	41.91	54.36	177.80



TOLERANCE	I.D.	O.D.	A
DIMENSION (m.m.)	± 0.2	± 0.2	± 1.0

Model EP-410

EP-410	
Applicable Range Cu/Al (mm^2)	250
Force at die face (Short ton)	11.4 - 12.5
Ram Stroke (mm)	25
Reservoir Capacity (cc)	124
Withstand Voltage (kV/1min)	20
Weight (kg)	6.2

Model EP-431

EP-431	
Applicable Range Cu/Al (mm^2)	250
Force at die face (Short ton)	11.4 - 12.5
Ram Stroke (mm)	31
Reservoir Capacity (cc)	145
Withstand Voltage (kV/1min)	20
Weight (kg)	6.4

Model EP-510C

EP-510C	
Applicable Range Cu/Al (mm^2)	380
Force at die face (Short ton)	13
Ram Stroke (mm)	42
Reservoir Capacity (cc)	200
Withstand Voltage (kV/1min)	20
Weight (kg)	7.8

UC-6B

UC-6B	
Output force (Metric ton)	5.6
Jaw Opening (mm)	32
Length (mm)	565
Weight (kg)	5

ND58O

Low cost ND58O accept a wide range of insert dies, making them suitable for installing a wide range of compression fitting for over head line construction fixed dies D3 & O for ND58O insert dies are securely locked in position by individually operated spring-loaded push pins positive action of the tools ensures constant crimp-height for each compression.

ND58O	
Die	0 & D3 & 5/8”

EP-50

DIN 46235 TERMINALS

HEXAGONAL DIES FOR EP TYPE

EP 60 DIES & ADAPTER

EP

EP-520 & EP-1000

MODEL : EP-50

Applicable Range		Up to 120mm^{2}Cu Lug			
Force at die face		5.2 metric ton			
Ram Stroke		10mm to 15 mm adjustable			
Reservior Capacity		Approx. 60 cc			
Dimensions		130 x372 mm			
Hydraulic oil		SHELL TELLUS T-15 or equal			
Case		Steel carrying case			
Dies for Din 46235 Terminals					
Model		K6/8	K10/12	K14/16	K18/20
Range	Cu	10-16	25-35	50-70	95-120
	Al	-	16-25	35-50	70-95

HEXAGONAL DIE FOR EP TYPE For copper & Aluminium Terminals Suitable for DIN 46235 Terminals	
Die No.	Cable Size Al/Cu (mm^2)
K6	Cu 10
K8	Cu 16
K10	Cu 25 / Al 16
K12	Cu 35 / Al 25
K 14	Cu 50 / Al 30
K16	Cu 70 / Al 50
K18	Cu 95 / Al 70
K20	Cu 120 / Al 95
K22	Cu 150 / Al 120
K25	Cu 185 / Al 150
K28	Cu 240 / Al 185
K32	Cu 300/ Al 240
K34	Cu 400 / Al 300

EP 60 DIES & ADAPTER ALCOA TYPE DIES (HEXAGONAL)
Cable Size Al/Cu (mm^2)
Cu 300
Cu 400
Cu 500
Cu 630
Cu 800
Cu 1000
AAC 400
ACSR 477
ACSR 795
ACSR 1272
ADAPTER EP60 S FOR EP 410 DIES

Die for H Taps for Tools Model EP

Size (inch)
HT41G (UBG)
HT41AK (UO)
HT41V (UD)
HT41X (UD3)
HT41AJ (UN)

Dies for EP-520 & EP-1000

Cable Size Al/Cu (mm^2)
240
300
400
500

Model: EP-150A

SPECIFICATION		
Force at die face		90kN
Applicable range		up to 150sq.mm.
Die	Nest	Rotary
	Indentor	14, 22, 38-70, 80-150sq.mm.
Size		512 (L) mm
Weight		7.8 kg (less battery)
Standard Accessories		
Dedicated Indentor: 14, 22, 38-70, 80-150sq.mm., Carrying case		

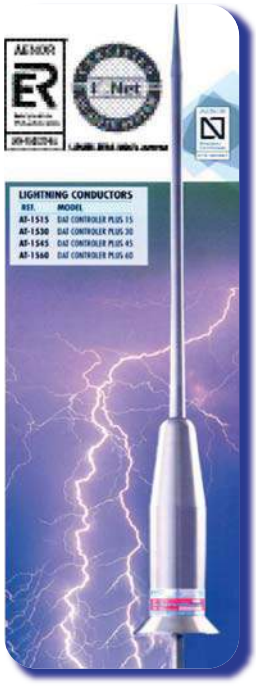
No.15B

No.16B

Model	Type	Output (ton)	Weight (kg)	Length (mm)	Applicable Range	Dies	Standard Accessories
No.15B	Hand hydraulic	6	3	465	T11-T122	T11*,T16*,T20,T26,T44, T60,T76,T98,T122	1. Plastic case 2. Dies-7sets
No.16B	Hydraulic Head	12	4.1	284	T20-T365	T20*,T26*,T44*,T60* T76*,T98*,T122*,T154, T190,T240,T288,T365	1. Plastic case 2. Dies-5sets
Optional dies		For No. 15B					Unit price/Set
Optional dies		For No. 16B					Unit price/Set
(*)Marks show OPTIONAL DIES (Available on request)							

EXTERNAL PROTECTION

Protection radii according to standards UNE 21186 and NF C 17-102



SPECIFICATIONS :

Early Streamer Emission Air Terminal (ESEAT), Pulsating emission lightning conductor, ION-CORONA DAT-CONTROLER, model (M), with gain in time of breakdown AT ,determining a radious of protection of (R) meters, for protection level (L) and insulating between armature superior to the 95%, in weather condition. Tested and certified by the Laboratorio Central Official de Electrotecnia, Madrid (Ministry of Industry)

Equipped with triple insulating system protector,stopped electrostatic charge accumulator, upward streamer electronic generator and multiple spark-gap, Wholly made of stainless steel type AIS-316, no need unnatural power supply

TEST ACCREDITATION AND APPLYING STANDARD

1. ESE Air Terminal Qualification Test, proving the gain in time of breakdown, following Annex C of standard UNE 21 186/96 and NF C 17-102/95
2. Performance test in weather condition, proving that the insulating between armatures,is superior to the 95%, following standard UNE 21 308/89.

For installation purpose, standard must be considered UNE 21 186/96, NF C 17-102/95, UNE 21 185/95y NTE-IPP pararrayos

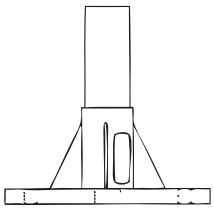
PROTECTION RADIUS (Rp) IN METERS
AS CTE SU 8, UNE 21186 and NFC 17102

CTE SU 8	UNE 21186 NFC 17102		DAT CONTROLER® PLUS			
			AT-1515	AT-1530	AT-1545	AT-1560
		h	DC+15	DC+30	DC+45	DC+60
Level 4	Level IV	2	20	28	36	43
		4	41	57	72	85
		6	52	72	90	107
		8	54	73	91	108
		10	56	75	92	109
Level 3	Level III	2	18	25	32	39
		4	36	51	64	78
		6	46	64	81	97
		8	47	65	82	98
		10	49	66	83	99
Level 2	Level II	2	15	22	28	35
		4	30	44	57	69
		6	38	55	71	87
		8	39	56	72	87
		10	40	57	72	88
Level 1	Level I	2	13	19	25	31
		4	25	38	51	63
		6	32	48	63	79
		8	33	49	64	79
		10	34	49	64	79

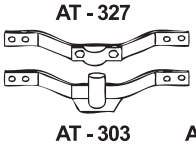
h: air terminal height over the surface to be protected.

AT-01G
Lightning event counter

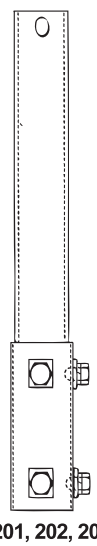
AT-1515 DAT PLUS-15	AT-1530 DAT PLUS-30	AT-1545 DAT PLUS-45	AT-1560 DAT PLUS-60
Unit / Price ราคา	Unit / Price ราคา	Unit / Price ราคา	Unit / Price ราคา
96,000.00	109,000.00	129,000.00	156,000.00



AT - 327



AT - 303



AT - 201, 202, 203

Accessories for Fitting

Code	Description	Unit / Price ราคา
AT-101	Adapting piece	3,200.00
AT-327	Flat position base	4,400.00
AT-303	Wall mounted anchoring base	2,500.00
AT-201	Mast 1 m Long	1,600.00
AT-202	Mast 2 m Long	2,500.00
AT-203	Mast 3 m Long	3,200.00
AT-01G	Lightning event counter	25,000.00

INTERNAL PROTECTION

ระบบป้องกันฟ้าผ่าภายใน

OVERVOLTAGES

TRANSIENT

Transient Overvoltages are caused by a short but very high increase of voltage caused by atmospheric electric discharges (lightning) or by machinery switching manoeuvres.

PERMANENT

Permanent overvoltages are those having a relatively long duration (several seconds). The usual causes of tese overvoltages are a defective connection of the neutral or power consumption drops.

PROTECTION FOR POWER SUPPLY LINES

อุปกรณ์ป้องกันฟ้าผ่าสำหรับแหล่งจ่ายไฟฟ้ากำลัง

PROTECTION OF DATA AND COMMUNICATION LINES

อุปกรณ์ป้องกันฟ้าผ่าสำหรับอุปกรณ์สื่อสาร

PREVENTIVE PROTECTION

ระบบตรวจวัดสภาพอากาศ

Sensor with FCES technology

Workstation

STORM DETECTOR ATSTROM v2

เครื่องมือตรวจวัดสภาพอากาศ

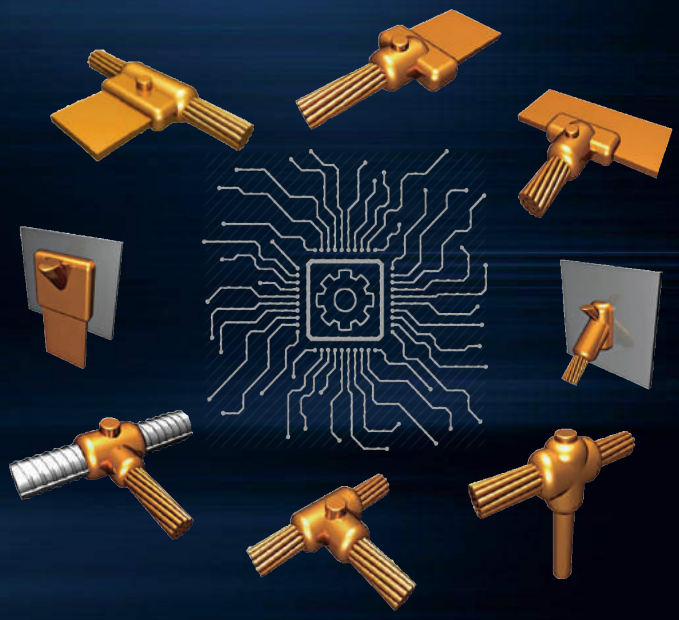
is a strom detector by atmospheric electric field measurement, fully electronic, with no mobile parts, robust and most highly reliable. The basic configuration of the ATSTROM v2 strom detector is formed by:

- Software
- Electronic module with 4 contact-free outputs allowing connections to:
  - Visual and sonorous alarms
  - UPS devices
  - Auxiliary power generators
  - Data storage
  - System access through internet
  - Integration of the equipment into the local networks

GUNKUL

Smart Energy in Action

TOPWELD®



Exothermic Welding

Standard • Solution • Best Quality

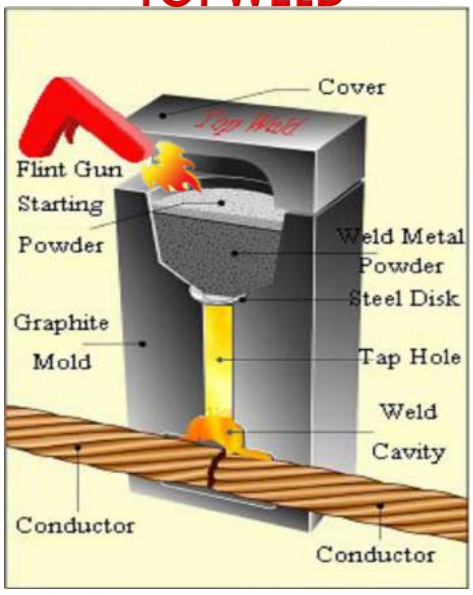
Gunkul Engineering Public Company Limited

Exothermic Welding Process

TOPWELD® Exothermic Welding System is the use of exothermic chemical reactions as heat flux generated by a molecular chemical reaction between copper oxide and aluminium while welding must use a handle clamp clamps on graphite mold to safety position and contain any weld required. The exothermic reaction creates an intense miniature furnace with temperatures exceed 2,500° C. instantly producing molten metal which flows into the weld cavity, filling any available space. Moments later the mold must be cleaned immediately and preparation for the next weld.

UL LISTED

TOPWELD®



SAFETY INSTRUCTIONS

A. Only **TOPWELD** manufactured equipment and materials should be used to make Exothermic welding connections.

B. Do not connect items except as detailed in instruction

C. Do not use broken the graphite mold which could cause leakage.

D. Do not alter equipment or material without **TOPWELD** authorization.

E. Make connections in conformance with **TOPWELD** instructions and all governing codes.

F. Ignition temperatures are in excess of 400°C for welding material.

G. The **TOPWELD** welding procedures will minimize risk of burns and fire caused by hot molten material spillage. In case of fire, use of water or CO.

H. Avoid moisture and contaminants in mold and materials being welded.

I. Base material thickness must be sufficient for the weight of metal powder in order to prevent melt-through and leakage of hot molten metal.

Exothermic Welding Connection

Requirements of Grounding Connection

Around 80% of all power quality problems are related to grounding, bonding. Poor joint between conductor are often the cause of electrical failures however our safety and foundation of power quality, an property of connection has to possess the following qualities.

1. Withstand overload conditions with out melting, not loosen or failing
2. Long service life. Will not deteriorate or corrode when subjected to weather such as misty salt, humidity, PH-Value.
3. The connector temperature should remain lower than the conductor when conducting electrical current.
4. Perfect contact and electrical continuity.

Qualities of Exothermic Welding

- It has a best electrical conductivity than the compression connector.
- Not corrode oxide or degrade with time and is resistant to corrosive surrounding.
- It is able to withstand repeated electrical discharges.
- Stable low resistance.
- It has higher mechanical and than the compression connector .
- Permanent Connections Used in Substation Grounding.
- The most common connections not only between copper cables but also for welding tapes and metallic pieces made of brass, stainless steel, and copper bond steel ground rods.

Exothermic Welding Connection

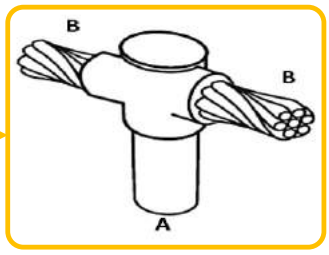
Fusion Welding

Customer Order

TOPWELD Exothermic Welding

E → **CR-2 : Horizontal Cable Thru Vertical Ground Rod**

F →



Rod Size A mm.	Rod Size A inch	Conductor Size B (mm²)	Graphite Mould Code	Metal Powder (g.)	Handle Clamp
14.2	5/8	10	CR2-T4-5/810	65	MC-4
14.2	5/8	16	CR2-T4-5/816	65	MC-4
14.2	5/8	25	CR2-T4-5/825	90	MC-4
14.2	5/8	35	CR2-T4-5/835	90	MC-4
14.2	5/8	50	CR2-T4-5/850	90	MC-4
14.2	5/8	70	CR2-T4-5/870	115	MC-4
14.2	5/8	95	CR2-T4-5/895	115	MC-4
14.2	5/8	120	CR2-T4-5/8120	150	MC-4
14.2	5/8	150	CR2-T4-5/8150	200	MC-4
14.2	5/8	185	CR2-T4-5/8185	200	MC-4
14.2	5/8	240	CR2-T4-5/8240	250	MC-4
14.2	5/8	300	CR2-T4-5/8300	150 x 2	MC-4
14.2	5/8	Ø 8 mm.	CR2-T4-5/88m	90	MC-4
14.2	5/8	Ø 9.5 mm.	CR2-T4-5/89.5m	90	MC-4
14.2	5/8	2AWG	CR2-T4-5/82A	90	MC-4
17.2	3/4	10	CR2-T4-3/410	65	MC-4
17.2	3/4	16	CR2-T4-3/416	65	MC-4
17.2	3/4	25	CR2-T4-3/425	90	MC-4
17.2	3/4	35	CR2-T4-3/435	90	MC-4
17.2	3/4	50	CR2-T4-3/450	115	MC-4
17.2	3/4	70	CR2-T4-3/470	115	MC-4
17.2	3/4	95	CR2-T4-3/495	115	MC-4
17.2	3/4	120	CR2-T4-3/4120	150	MC-4
17.2	3/4	150	CR2-T4-3/4150	200	MC-4
17.2	3/4	185	CR2-T4-3/4185	200	MC-4
17.2	3/4	240	CR2-T4-3/4240	250	MC-4
17.2	3/4	300	CR2-T4-3/4300	150 x 2	MC-4
17.2	3/4	Ø 8 mm.	CR2-T4-3/48m	115	MC-4
17.2	3/4	Ø 9.5 mm.	CR2-T4-3/49.5m	115	MC-4

** Special request, please contact us **

G →

Accessories for Exothermic Welding

H →

Manual Installation

1. Position cleaned conductors in dry, clean TOPWELD mold.
2. Place metal disc in bottom of mold crucible.
3. Employ powder into crucible, spreading starting powder on mold edge.
4. Close lid, ignite with flint gun from side, sparking starting powder.
5. TOPWELD fusion reaction take place.
6. Softly clean slag from the crucible by scraper and mold brush.
7. Remove mold and move on the next connection.

A B C D

Gunkul Engineering Public Company Limited

A - Cross section Area of Conductor

B - Code of Graphite Mold

C - Size of Weld Metal Powder (g)

D - Handle Clamp Type

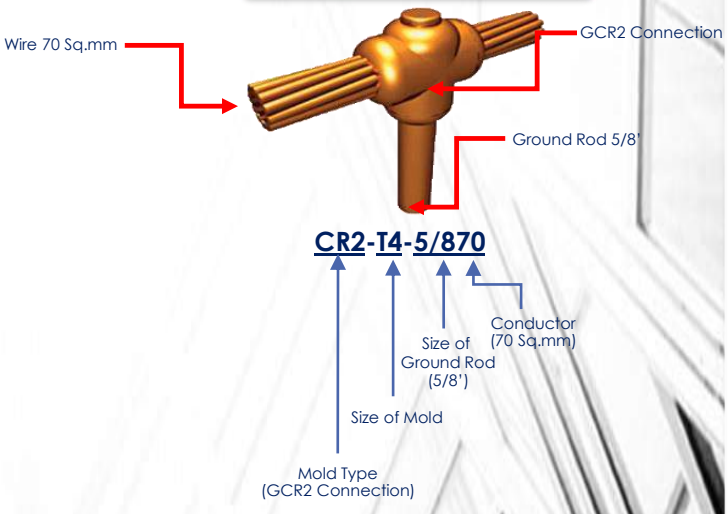
E - Type of Connection

F - Example of Connection

G - Tools of Instruction

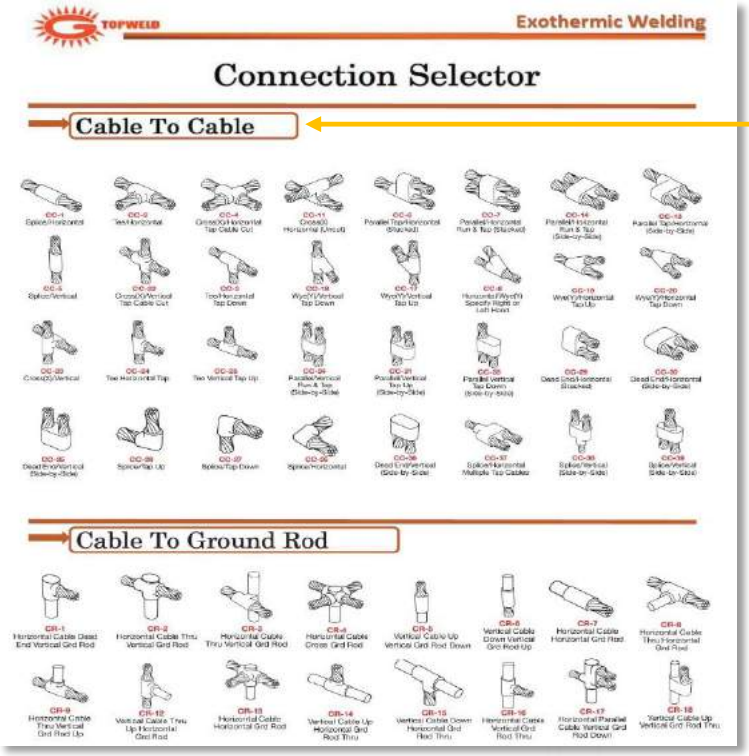
H - Manual Installation

Part Numbering System

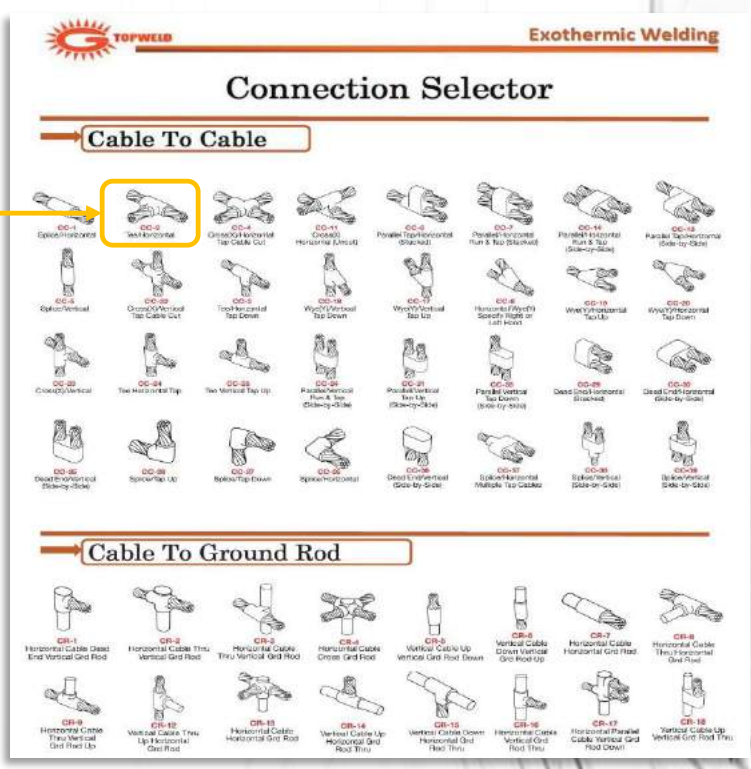


Exothermic Welding Connection

Customer Order



1.Select your connection type in table as your design

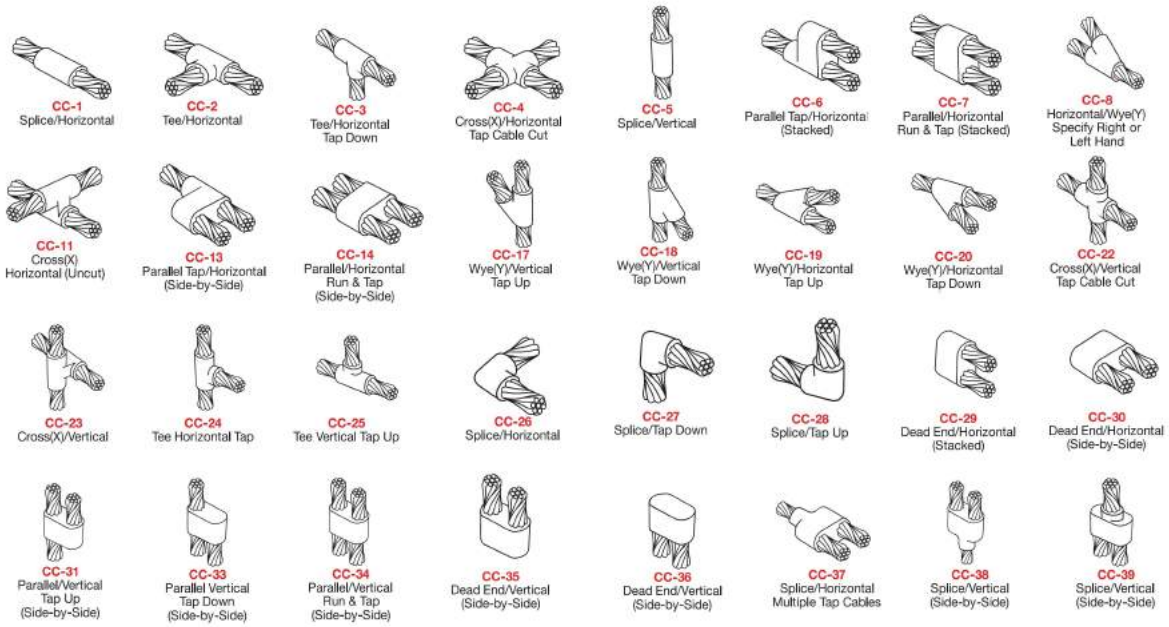


2.Select your connection type in table and then go to the page number in the corner of picture box

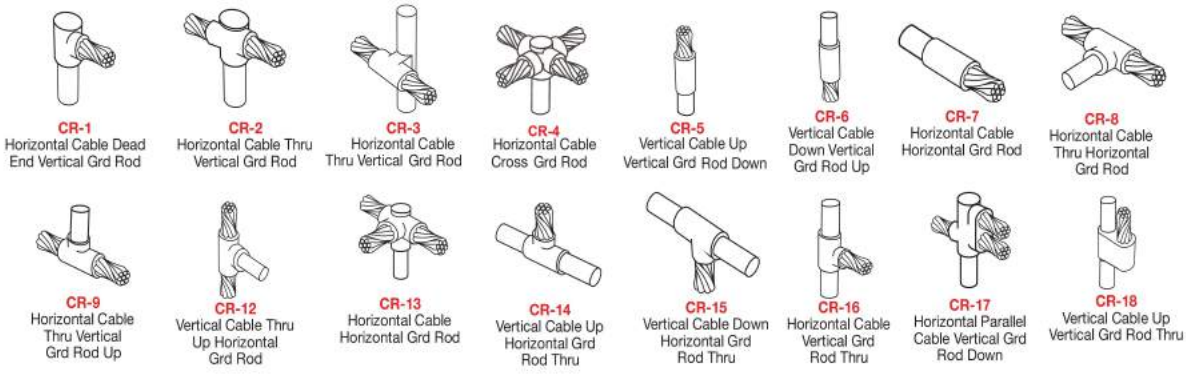
• Special requirement can be requested •

Connection Selector

Cable To Cable

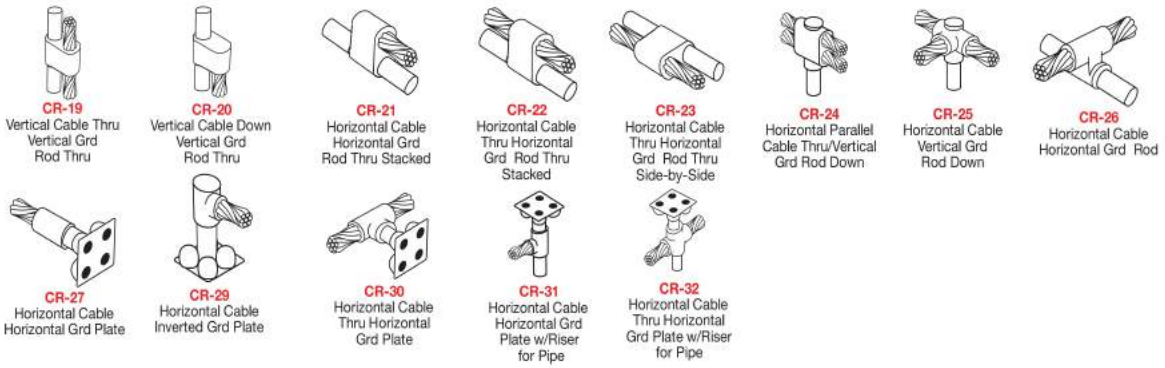


Cable To Ground Rod



Connection Selector

Cable To Ground Rod



CR-19 Vertical Cable Thru Vertical Grd Rod Thru

CR-20 Vertical Cable Down Vertical Grd Rod Thru

CR-21 Horizontal Cable Horizontal Grd Rod Thru Stacked

CR-22 Horizontal Cable Thru Horizontal Grd Rod Thru Stacked

CR-23 Horizontal Cable Thru Horizontal Grd Rod Thru Side-by-Side

CR-24 Horizontal Parallel Cable Thru/Vertical Grd Rod Down

CR-25 Horizontal Cable Vertical Grd Rod Down

CR-26 Horizontal Cable Horizontal Grd Rod

CR-27 Horizontal Cable Horizontal Grd Plate

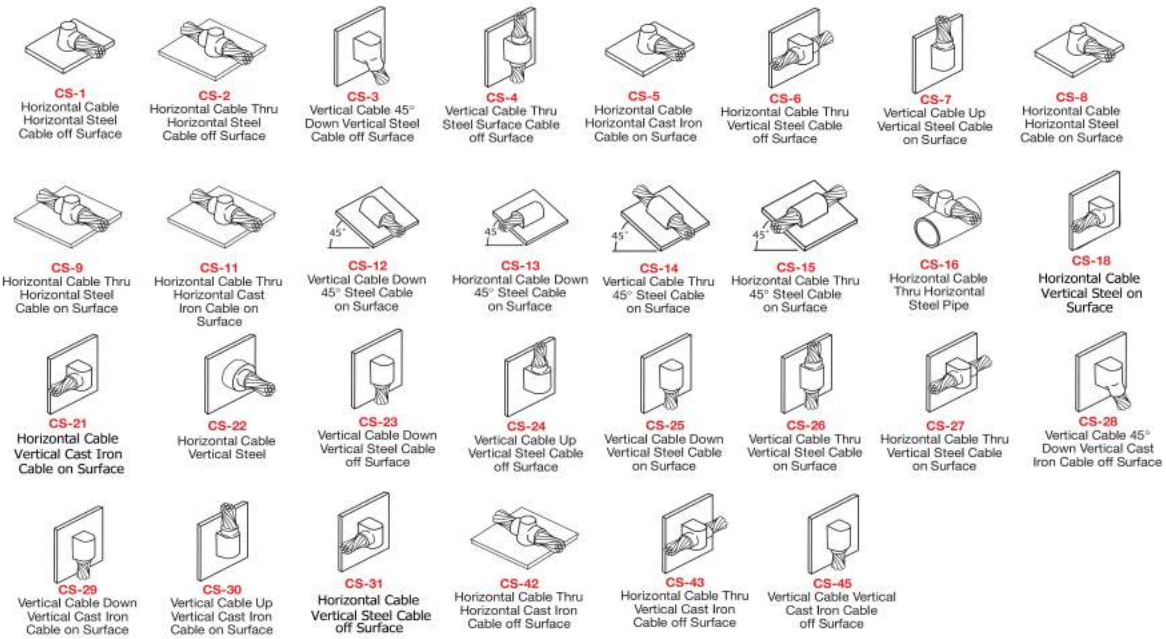
CR-29 Horizontal Cable Inverted Grd Plate

CR-30 Horizontal Cable Thru Horizontal Grd Plate

CR-31 Horizontal Cable Horizontal Grd Plate w/Riser for Pipe

CR-32 Horizontal Cable Thru Horizontal Grd Plate w/Riser for Pipe

Cable To Steel



CS-1 Horizontal Cable Horizontal Steel Cable off Surface

CS-2 Horizontal Cable Thru Horizontal Steel Cable off Surface

CS-3 Vertical Cable 45° Down Vertical Steel Cable off Surface

CS-4 Vertical Cable Thru Steel Surface Cable off Surface

CS-5 Horizontal Cable Horizontal Cast Iron Cable on Surface

CS-6 Horizontal Cable Thru Vertical Steel Cable off Surface

CS-7 Vertical Cable Up Vertical Steel Cable on Surface

CS-8 Horizontal Cable Horizontal Steel Cable on Surface

CS-9 Horizontal Cable Thru Horizontal Steel Cable on Surface

CS-11 Horizontal Cable Thru Horizontal Cast Iron Cable on Surface

CS-12 Vertical Cable Down 45° Steel Cable on Surface

CS-13 Horizontal Cable Down 45° Steel Cable on Surface

CS-14 Vertical Cable Thru 45° Steel Cable on Surface

CS-15 Horizontal Cable Thru 45° Steel Cable on Surface

CS-16 Horizontal Cable Thru Horizontal Steel Pipe

CS-18 Horizontal Cable Vertical Steel on Surface

CS-21 Horizontal Cable Vertical Cast Iron Cable on Surface

CS-22 Horizontal Cable Vertical Steel

CS-23 Vertical Cable Down Vertical Steel Cable off Surface

CS-24 Vertical Cable Up Vertical Steel Cable off Surface

CS-25 Vertical Cable Down Vertical Steel Cable on Surface

CS-26 Vertical Cable Thru Vertical Steel Cable on Surface

CS-27 Horizontal Cable Thru Vertical Steel Cable on Surface

CS-28 Vertical Cable 45° Down Vertical Cast Iron Cable off Surface

CS-29 Vertical Cable Down Vertical Cast Iron Cable on Surface

CS-30 Vertical Cable Up Vertical Cast Iron Cable on Surface

CS-31 Horizontal Cable Vertical Steel Cable off Surface

CS-42 Horizontal Cable Thru Horizontal Cast Iron Cable off Surface

CS-43 Horizontal Cable Thru Vertical Cast Iron Cable off Surface

CS-45 Vertical Cable Vertical Cast Iron Cable off Surface

Connection Selector

Cable To Bus Bar


CB-1
Horizontal Cable
Horizontal Lug
or Bus Bar


CB-2
Vertical Cable Up
Vertical Bus Bar
Down over 5"
clearance behind bar


CB-3
Vertical Cable Down
Horizontal Bus Bar
on Edge over 5"
clearance behind bar

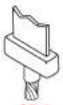

CB-4
Horizontal Cable
Horizontal Bus Bar


CB-5
Horizontal Cable
Horizontal Bus Bar


CB-6
Vertical Cable Up
Vertical Bus Bar
Down over 3/4"-5"
clearance behind bar


CB-7
Vertical Cable Down
Horizontal Bus Bar
on Edge over 3/4"- 5"
clearance behind bar


CB-8
Horizontal Cable
Horizontal Bus Bar
on Edge


CB-9
Vertical Cable Down
Vertical Bus Bar Up


CB-11
Vertical Cable Up
Vertical Bus
Bar Down


CB-12
Multiple Horizontal
Cables/Horizontal
Bus Bar


CB-15
Horizontal Cable
Horizontal Bus Bar
on Edge


CB-16
Vertical Cable Up
Horizontal Bus Bar
on Edge


CB-17
Vertical Cable Down
Horizontal Bus Bar
on Edge


CB-18
Horizontal Cable
Vertical Bus Bar Up


CB-19
Horizontal Cable
Vertical Bus Bar Down


CB-20
Horizontal Cable
Vertical Bus Bar Up


CB-21
Horizontal Cable
Vertical Bus Bar Down


CB-22
Horizontal Cable
Horizontal Bus Bar


CB-23
Vertical Cable Up
Horizontal Bus Bar


CB-24
Vertical Cable Down
Horizontal Bus Bar


CB-25
Horizontal Cable
Vertical Bus Bar Down


CB-26
Horizontal Cable Thru
Horizontal Bus Bar on Edge


CB-27
Horizontal Cable
Vertical Bus Bar Up


CB-28
Vertical Cable Down
Horizontal Bus Bar
on Edge


CB-29
Vertical Cable Thru
Horizontal Bus Bar
on Edge


CB-30
Horizontal Cable Thru
Vertical Bus Bar Up


CB-31
Horizontal Cable Thru
Vertical Bus Bar Down


CB-32
Vertical Cable Thru
Horizontal Bus Bar on Edge


CB-34
Horizontal Cable
Horizontal Copper
Strip Thru


CB-38
Vertical Cable Down
Horizontal Bus Bar

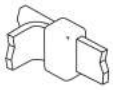
Bus Bar To Bus Bar


BB-1
Horizontal Splice Bars
on Edge


BB-2
Ell/Tap Down


BB-3
Vertical Tee/Tap
Down Bars Lapped


BB-4
Vertical Tee/Tap Up


BB-5
Parallel/Bars on Edge


BB-6
Horizontal Tee Bars
on Edge


BB-7
Horizontal Splice
Bars Flat


BB-8
Vertical Tee/Tap Down
Bars Lapped /3/4"-5"
Clearance Behind Bars


BB-11
Vertical Tee/Tap Up
3/4"-5" Clearance
Behind Bars


BB-12
Vertical Tee/Tap Down


BB-14
Horizontal Tee
Bars Flat


BB-17
Vertical Tee Tap
Horizontal


BB-20
Vertical Ell/Tap Up


BB-21
Horizontal Ell Bars
on Edge

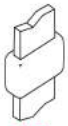

BB-22
Horizontal Ell Bars Flat


BB-27
Vertical Splice

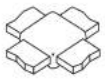
Connection Selector

Bus Bar To Bus Bar

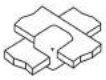
BB-28
Horizontal Splice/Bars on Edge /3/4"-5" Clearance Behind Bars



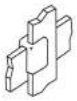
BB-29
Vertical Splice /3/4"-5" Clearance Behind Bars



BB-40
Horizontal Cross Tap Cut/Bars Flat



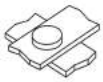
BB-41
Horizontal Cross Bars Uncut/Bars Flat



BB-43
Vertical Cross Bars Uncut

BB-44
Horizontal Button Weld For Copper Strip Only

BB-45
Vertical Button Weld For Copper Strip Only



BB-46
Horizontal Button Weld Cross/For Copper Strip Only

Cable To Rebar (Partially Wrapped)

CRE1P
Parallel/Horizontal Cable Horizontal Rebar

CRE3P
Cross/Horizontal Cable Thru/ Vertical Rebar

CRE4P
Cross/Horizontal Cable Thru/ Horizontal Rebar

CRE5P
Cross/Vertical Cable Thru Horizontal Rebar

CRE6P
Horizontal cable tap to vertical rebar

CRE17P
Horizontal parallel thru cable to horizontal rebar

CRE18P
Vertical parallel down cable to vertical rebar

CRE19P
Vertical parallel up cable to vertical rebar

CRE20P
Vertical parallel thru cable to vertical rebar

Cable To Rebar (Fully Wrapped)

CRE-1
Parallel/Horizontal Cable Horizontal Rebar

CRE-2
Tee/Horizontal Cable Horizontal Rebar

CRE-6
Tee/Horizontal Cable Vertical Rebar

CRE-7
Splice/Vertical Cable Up/Vertical Rebar Down

CRE-8
Splice/Vertical Cable Down/Vertical Rebar Up

CRE-9
Splice/Horizontal Cable Horizontal Rebar

CRE-11
Tee/Horizontal Cable Thru Horizontal Rebar

CRE-12
Vertical Cable Thru Horizontal Rebar

CRE-13
Tee/Vertical Cable Up/Horizontal Rebar

CRE-14
Tee/Vertical Cable Down

CRE-15
Tee/Horizontal Cable Thru/Vertical Rebar Up

CRE-16
Tee/Horizontal Cable Thru/Vertical Rebar Down

CRE-17
Parallel/Horizontal Cable Horizontal Rebar

CRE-18
Parallel/Vertical Cable Down/Vertical Rebar

CRE-19
Parallel/Vertical Cable Up Vertical Rebar

CRE-20
Parallel/Vertical Cable Thru/Vertical Rebar Thru

Connection Selector

Rebar to Rebar

RE-1
Splice/Horizontal

RE-2
Splice/Vertical

Ground Rod to Ground Rod

RR1
Splice/Vertical

RR2
Splice/Horizontal

RR3
Vertical Thru
Horizontal Tap

RR4
Horizontal to
Vertical

RR5
Horizont Thru
Vertical

Bus Bar to Steel

BS-1
Vertical Bar Tap
Down Vertical Steel

BS-2
Horizontal Bar Tap
Horizontal Steel

BS-3
Horizontal Bar Thru
Horizontal Steel

BS-4
Horizontal Bar Thru/Bar
on Edge/Vertical Steel

BS-5
Vertical Bar Thru
Vertical Steel

BS-6
Horizontal Bar Tap/Bar
on Edge/Horizontal Steel

BS-7
Vertical Bar Thru/Bar
on Edge/Horizontal Steel

BS-8
Vertical Bar Tap/Bar
on Edge/Vertical Steel

BS-9
Horizontal Bar Tap/Bar
on Edge/Vertical Steel

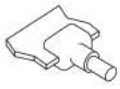
BS-11
Horizontal Bar Thru/Bar
on Edge/Vertical Steel

BS-13
Horizontal Bar Tap/Bar
on Edge/Vertical Steel

Bus Bar to Ground Rod

BR-1
Horizontal Bars Dead
End Bar Flat

BR-2
Horizontal Bars
Thru Bar on Edge



BR-4
Horizontal Bars
Thru Bar Flat

BR-7
Horizontal Bars
Thru Bar Flat

BR-8
Horizontal Bars
on Edge

BR-9
Horizontal Bar Thru
Bar on Edge/Lapped

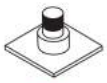
BR-11
Vertical Splice/Bar Up

BR-12
Horizontal Bar Dead
End Bar on Edge

Connection Selector

Copper or Steel Stud to Steel

RS-1
Horizontal Stud
Vertical Steel



RS-2
Vertical Stud
Horizontal Steel

RS3
Ground plates
to vertical steel

Ground Plates to Cable & Steel

RC1
Ground plates to
horizontal cable end

RC2
Ground plates to
horizontal cable thru

CRS1
Ground plates to
vertical steel and
cable down

CRS2
Ground plates to
vertical steel and
cable up

Cathodic Protection

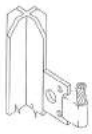
CA1
Horizontal thru to
horizontal pipe

CA2
Horizontal thru
cable to horizontal pipe

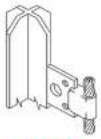
CA3
Angular cable drop
to vertical pipe surface

Steel Cable to Steel Rod

CG 98
Horizontal cable to
Vertical rod



CG 99
Vertical cable to
Vertical rod



CG 66
Vertical cable thru
Vertical rod

Grounding Receptacle to Ground Rod

AR-1
ground receptacle
to the top of ground rod

ACR-1
Horizontal cable and ground receptacle
to the top of ground rod

ACR-2
Horizontal cable thru and ground
receptacle to the top of ground rod

Connection Selector

Grounding Receptacle

AC1
Horizontal cable to ground receptacle

AC2
Horizontal thru cable to ground receptacle

Railway Application

CX1
Horizontal Cable to Rail termination

CX2
Horizontal Thru cable to Rail termination

CX5
Horizontal cable end tap to rail

CX7
Bond to base of rail

CX8
Horizontal cable End tap to web rail

CX10
Horizontal thru cable end tap to web rail

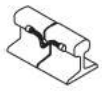
CX11
Horizontal parallel cable end tap to web rail

BX1
Bar to foot of rail at angle 90°

BX3
Horizontal bus Bar to web rail

BX4
Vertical bus Bar to web rail

KWRT (R/L)
Horizontal cable end tap to web rail



KHRT
Horizontal cable end tap to head rail

KWS
Stud tap to web rail

Exothermic Welding Connection

Type of Weld Metal Powder

S type General Construction

C type Cathodic Protection

R type Railway Signaling

TOPWELD®

Exothermic Welding

S type
General Construction

Exothermic Welding Connection

www.gunkul.com

Weld Metal and Accessories

S Type
Welding Metal Powder

TOPWELD® welding metal type S is high quality welding powder for exothermic grounding connection. Recommended to be used for welding between steel to steel, copper to copper and copper to steel. One cartridge of welding powder shall be used with mold graphite for one welding point, each mold graphite can be used more than 50 times of welding. Before use, please read instruction carefully and recheck the metal number on nameplate of the mold.

Application

Copper , Copper Clad Steel , Steel and related Metals in stranded and solid wire , bar , pipe , plate form , horizontal or vertical attachment.

Standards Reference

- UL 467- Grounding and Bonding Equipment
- IEEE 837- Standard for Qualifying Permanent Connections Used in Substation Grounding

Weld Metal Packaging

We package strictly in moisture-resistant plastic cartridges. These cartridges and the necessary steel discs are then packaged in plastic boxes that are shrink wrapped.

Starting Powder Packaging

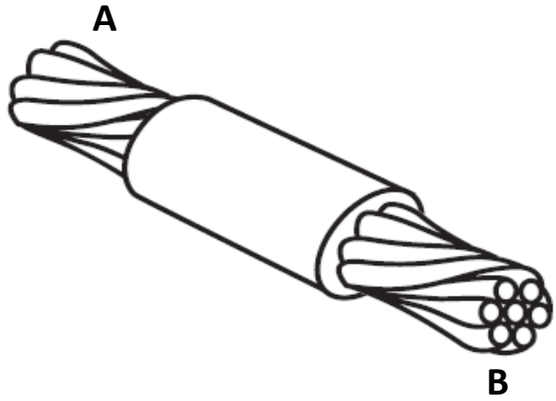
The starting powder is packed in the bottom of the container so as not to loosen during shipping and normal handing.
According to AREMA Standard.

Storage

Room ambient , protected for maximum shelf life averaging 5 years.

Code	32S	45S	65S	90S	115S	150S	200S	250S	500S
Tube/Box	20	20	20	10	10	10	10	10	10
Size	32g	45g	65g	90g	115g	150g	200g	250g	500g

CC-1 : Horizontal End To End (Splice)



Conductor Size		Graphite Mould	Metal	Handle
A mm^2	B mm^2	Code	Powder (g.)	Clamp
10	10	CC1-T4-10	25	MC-4
16	16	CC1-T4-16	32	MC-4
25	25	CC1-T4-25	32	MC-4
35	35	CC1-T4-35	32	MC-4
50	50	CC1-T4-50	45	MC-4
	35	CC1-T4-5035	45	MC-4
	25	CC1-T4-5025	32	MC-4
70	70	CC1-T4-70	65	MC-4
	50	CC1-T4-7050	65	MC-4
	35	CC1-T4-7035	45	MC-4
	25	CC1-T4-7025	45	MC-4
95	95	CC1-T4-95	90	MC-4
	70	CC1-T4-9570	90	MC-4
	50	CC1-T4-9550	65	MC-4
	35	CC1-T4-9535	65	MC-4
	25	CC1-T4-9525	65	MC-4
120	120	CC1-T4-120	115	MC-4
	95	CC1-T4-12095	115	MC-4
	70	CC1-T4-12070	115	MC-4
	50	CC1-T4-12050	90	MC-4
	35	CC1-T4-12035	90	MC-4
150	150	CC1-T4-150	115	MC-4
	120	CC1-T4-150120	115	MC-4
	95	CC1-T4-15095	115	MC-4
	70	CC1-T4-15070	90	MC-4
	50	CC1-T4-15050	90	MC-4
185	185	CC1-T4-185	150	MC-4
	150	CC1-T4-185150	150	MC-4
	120	CC1-T4-185120	150	MC-4
	95	CC1-T4-18595	115	MC-4
	70	CC1-T4-19570	115	MC-4
240	240	CC1-T4-240	200	MC-4
	185	CC1-T4-240185	200	MC-4
	150	CC1-T4-240150	200	MC-4
	120	CC1-T4-240120	200	MC-4
	95	CC1-T4-24095	150	MC-4
300	300	CC1-T4-300	250	MC-4
	185	CC1-T4-300185	250	MC-4
	150	CC1-T4-300150	200	MC-4
	120	CC1-T4-300120	200	MC-4
	95	CC1-T4-30095	200	MC-4
Ø 8 mm.	Ø 8 mm.	CC1-T4-8m	45	MC-4
Ø 9.5 mm.	Ø 9.5 mm.	CC1-T4-9.5m	65	MC-4

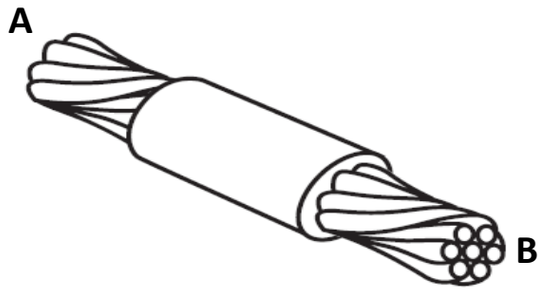
** Special request, please contact us **

Accessories for Exothermic Welding

Manual Installation

1. Position cleaned conductors in dry, clean **TOPWELD** mold.
2. Place metal disc in bottom of mold crucible.
3. Employ powder into crucible, spreading starting powder on mold edge.
4. Close lid, ignite with flint gun from side, sparking starting powder.
5. **TOPWELD** fusion reaction take place.
6. Softly clean slag from the crucible by scraper and mold brush.
7. Remove mold and move on the next connection.

CC-1 : Horizontal End To End (Splice)



Conductor Size		Graphite Mould Code	Metal Powder (g.)	Handle Clamp
A AWG./MCM.	B AWG./MCM.			
2	2	CC1-T4-2A	32	MC-4
4/0	4/0	CC1-T4-4/0	90	MC-4
250MCM	250MCM	CC1-T4-250M	115	MC-4
300MCM	300MCM	CC1-T4-300M	115	MC-4
500MCM	500MCM	CC1-T4-500M	200	MC-4

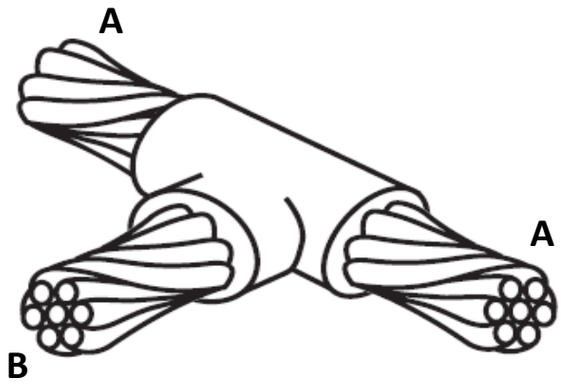
** Special request, please contact us **

Accessories for Exothermic Welding

Manual Installation

1. Position cleaned conductors in dry, clean **TOPWELD** mold.
2. Place metal disc in bottom of mold crucible.
3. Employ powder into crucible, spreading starting powder on mold edge.
4. Close lid, ignite with flint gun from side, sparking starting powder.
5. **TOPWELD** fusion reaction take place.
6. Softly clean slag from the crucible by scraper and mold brush.
7. Remove mold and move on the next connection.

CC-2 : Horizontal Cable Run and Tap (Tee)



Conductor Size		Graphite Mould	Metal	Handle
A mm^2	B mm^2	Code	Powder (g.)	Clamp
10	10	CC2-T4-1010	32	MC-4
16	16	CC2-T4-1616	45	MC-4
25	25	CC2-T4-2525	45	MC-4
35	35	CC2-T4-3535	45	MC-4
50	50	CC2-T4-5050	90	MC-4
	35	CC2-T4-5035	45	MC-4
	25	CC2-T4-5025	45	MC-4
70	70	CC2-T4-7070	90	MC-4
	50	CC2-T4-7050	90	MC-4
	35	CC2-T4-7035	45	MC-4
	25	CC2-T4-7025	45	MC-4
95	95	CC2-T4-9595	115	MC-4
	70	CC2-T4-9570	90	MC-4
	50	CC2-T4-9550	90	MC-4
	35	CC2-T4-9535	90	MC-4
	25	CC2-T4-9525	90	MC-4
120	120	CC2-T4-120120	150	MC-4
	95	CC2-T4-12095	150	MC-4
	70	CC2-T4-12070	90	MC-4
	50	CC2-T4-12050	90	MC-4
	35	CC2-T4-12035	90	MC-4
	25	CC2-T4-12025	90	MC-4
	16	CC2-T4-12016	90	MC-4
150	150	CC2-T4-150150	200	MC-4
	120	CC2-T4-150120	150	MC-4
	95	CC2-T4-15095	150	MC-4
	70	CC2-T4-15070	90	MC-4
	50	CC2-T4-15050	90	MC-4
	25	CC2-T4-15025	90	MC-4
185	185	CC2-T4-185185	200	MC-4
	150	CC2-T4-185150	200	MC-4
	120	CC2-T4-185120	200	MC-4
	95	CC2-T4-18595	150	MC-4
	70	CC2-T4-18570	90	MC-4
240	240	CC2-T4-240240	150 x 2	MC-4
	185	CC2-T4-240185	200	MC-4
	150	CC2-T4-240150	200	MC-4
	120	CC2-T4-240120	200	MC-4
	95	CC2-T4-24095	150	MC-4
300	300	CC2-T4-300300	200 x 2	MC-4
	185	CC2-T4-300185	250	MC-4
	150	CC2-T4-300150	200	MC-4
	120	CC2-T4-300120	150	MC-4
	95	CC2-T4-30095	150	MC-4
Ø 8 mm.	Ø 8 mm.	CC2-T4-8m8m	65	MC-4
Ø 9.5 mm.	Ø 9.5 mm.	CC2-T4-9.5m9.5m	90	MC-4

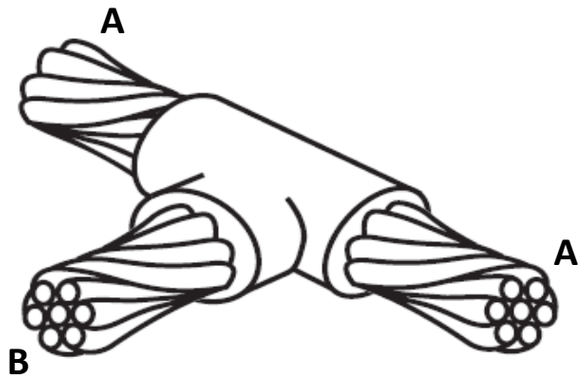
** Special request, please contact us **

Accessories for Exothermic Welding

Manual Installation

1. Position cleaned conductors in dry, clean **TOPWELD** mold.
2. Place metal disc in bottom of mold crucible.
3. Employ powder into crucible, spreading starting powder on mold edge.
4. Close lid, ignite with flint gun from side, sparking starting powder.
5. **TOPWELD** fusion reaction take place.
6. Softly clean slag from the crucible by scraper and mold brush.
7. Remove mold and move on the next connection.

CC-2 : Horizontal Cable Run and Tap (Tee)



Conductor Size		Graphite Mould	Metal	Handle
A AWG./MCM.	B AWG./MCM.	Code	Powder (g.)	Clamp
2	2	CC2-T4-2A2A	45	MC-4
4/0	4/0	CC2-T4-4/04/0	150	MC-4
250MCM	250MCM	CC2-T4-250M250M	150	MC-4
300MCM	300MCM	CC2-T4-300M300M	200	MC-4
500MCM	500MCM	CC2-T4-500M500M	150 x 2	MC-4

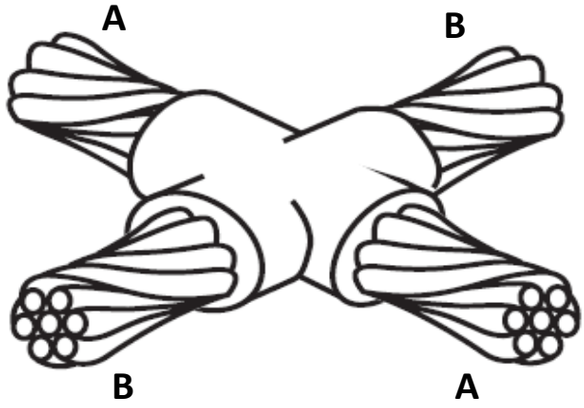
** Special request, please contact us **

Accessories for Exothermic Welding

Manual Installation

1. Position cleaned conductors in dry, clean **TOPWELD** mold.
2. Place metal disc in bottom of mold crucible.
3. Employ powder into crucible, spreading starting powder on mold edge.
4. Close lid, ignite with flint gun from side, sparking starting powder.
5. **TOPWELD** fusion reaction take place.
6. Softly clean slag from the crucible by scraper and mold brush.
7. Remove mold and move on the next connection.

CC-4 : Horizontal Cable To Horizontal Cable Cross (Cut)



Conductor Size		Graphite Mould	Metal	Handle
A mm^2	B mm^2	Code	Powder (g.)	Clamp
10	10	CC4-T4-1010	32	MC-4
16	16	CC4-T4-1616	45	MC-4
25	25	CC4-T4-2525	45	MC-4
35	35	CC4-T4-3535	65	MC-4
50	50	CC4-T4-5050	90	MC-4
	35	CC4-T4-5035	90	MC-4
	25	CC4-T4-5025	90	MC-4
70	70	CC4-T4-7070	115	MC-4
	50	CC4-T4-7050	115	MC-4
	35	CC4-T4-7035	115	MC-4
	25	CC4-T4-7025	115	MC-4
95	95	CC4-T4-9595	150	MC-4
	70	CC4-T4-9570	150	MC-4
	50	CC4-T4-9550	115	MC-4
	35	CC4-T4-9535	115	MC-4
	25	CC4-T4-9525	115	MC-4
120	120	CC4-T4-120120	200	MC-4
	95	CC4-T4-12095	200	MC-4
	70	CC4-T4-12070	150	MC-4
	50	CC4-T4-12050	150	MC-4
	35	CC4-T4-12035	115	MC-4
150	150	CC4-T4-150150	250	MC-4
	120	CC4-T4-150120	250	MC-4
	95	CC4-T4-15095	200	MC-4
	70	CC4-T4-15070	150	MC-4
	50	CC4-T4-15050	150	MC-4
185	185	CC4-T4-185185	150 x 2	MC-4
	150	CC4-T4-185150	250	MC-4
	120	CC4-T4-185120	250	MC-4
	95	CC4-T4-18595	200	MC-4
	70	CC4-T4-18570	200	MC-4
240	240	CC4-T5-240240	250 x 2	MC-5
	185	CC4-T5-240185	200 x 2	MC-5
	150	CC4-T5-240150	200 x 2	MC-5
	120	CC4-T5-240120	150 x 2	MC-5
	95	CC4-T5-24095	150 x 2	MC-5
300	300	CC4-T5-300300	200 x 3	MC-5
	185	CC4-T5-300185	250 x 2	MC-5
	150	CC4-T5-300150	250 x 2	MC-5
	120	CC4-T5-300120	200 x 2	MC-5
	95	CC4-T5-30095	200 x 2	MC-5
Ø 8 mm.	Ø 8 mm.	CC4-T4-8m8m	90	MC-4
Ø 9.5 mm.	Ø 9.5 mm.	CC4-T4-9.5m9.5m	115	MC-4

** Special request, please contact us **

Accessories for Exothermic Welding

Manual Installation

1. Position cleaned conductors in dry, clean **TOPWELD** mold.
2. Place metal disc in bottom of mold crucible.
3. Employ powder into crucible, spreading starting powder on mold edge.
4. Close lid, ignite with flint gun from side, sparking starting powder.
5. **TOPWELD** fusion reaction take place.
6. Softly clean slag from the crucible by scraper and mold brush.
7. Remove mold and move on the next connection.

CC-4 : Horizontal Cable To Horizontal Cable Cross (Cut)

Conductor Size		Graphite Mould	Metal	Handle
A AWG./MCM.	B AWG./MCM.	Code	Powder (g.)	Clamp
2	2	CC4-T4-2A2A	65	MC-4
4/0	4/0	CC4-T4-4/04/0	200	MC-4
250MCM	250MCM	CC4-T4-250M250M	200	MC-4
300MCM	300MCM	CC4-T4-300M300M	250	MC-4
500MCM	500MCM	CC4-T5-500M500M	250 x 2	MC-5

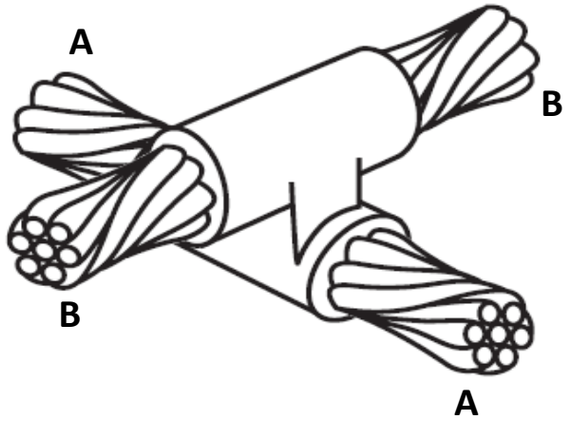
** Special request, please contact us **

Accessories for Exothermic Welding

Manual Installation

1. Position cleaned conductors in dry, clean **TOPWELD** mold.
2. Place metal disc in bottom of mold crucible.
3. Employ powder into crucible, spreading starting powder on mold edge.
4. Close lid, ignite with flint gun from side, sparking starting powder.
5. **TOPWELD** fusion reaction take place.
6. Softly clean slag from the crucible by scraper and mold brush.
7. Remove mold and move on the next connection.

CC-11 : Horizontal Cable To Horizontal Cable Cross (Uncut)



Conductor Size		Graphite Mould	Metal	Handle
A mm^2	B mm^2	Code	Powder (g.)	Clamp
10	10	CC11-T4-1010	45	MC-4
16	16	CC11-T4-1616	65	MC-4
25	25	CC11-T4-2525	65	MC-4
35	35	CC11-T4-3535	90	MC-4
50	50	CC11-T4-5050	150	MC-4
	35	CC11-T4-5035	115	MC-4
	25	CC11-T4-5025	115	MC-4
70	70	CC11-T4-7070	200	MC-4
	50	CC11-T4-7050	200	MC-4
	35	CC11-T4-7035	150	MC-4
	25	CC11-T4-7025	150	MC-4
95	95	CC11-T4-9595	250	MC-4
	70	CC11-T4-9570	200	MC-4
	50	CC11-T4-9550	200	MC-4
	35	CC11-T4-9535	150	MC-4
	25	CC11-T4-9525	150	MC-4
120	120	CC11-T4-120120	150 x 2	MC-4
	95	CC11-T4-12095	150 x 2	MC-4
	70	CC11-T4-12070	250	MC-4
	50	CC11-T4-12050	250	MC-4
	35	CC11-T4-12035	200	MC-4
150	150	CC11-T4-150150	200 x 2	MC-4
	120	CC11-T4-150120	200 x 2	MC-4
	95	CC11-T4-15095	150 x 2	MC-4
	70	CC11-T4-15070	250	MC-4
	50	CC11-T4-15050	250	MC-4
185	185	CC11-T5-185185	250 x 2	MC-5
	150	CC11-T5-185150	250 x 2	MC-5
	120	CC11-T5-185120	250 x 2	MC-5
	95	CC11-T5-18595	200 x 2	MC-5
	70	CC11-T5-18570	150 x 2	MC-5
240	240	CC11-T5-240240	200 x 3	MC-5
	185	CC11-T5-240185	200 x 3	MC-5
	150	CC11-T5-240150	200 x 3	MC-5
	120	CC11-T5-240120	200 x 3	MC-5
	95	CC11-T5-24095	250 x 2	MC-5
300	300	CC11-T5-300300	250 x 3	MC-5
	185	CC11-T5-300185	200 x 3	MC-5
	150	CC11-T5-300150	200 x 3	MC-5
	120	CC11-T5-300120	250 x 2	MC-5
	95	CC11-T5-30095	250 x 2	MC-5
Ø 8 mm.	Ø 8 mm.	CC11-T4-8m8m	90	MC-4
Ø 9.5 mm.	Ø 9.5 mm.	CC11-T4-9.5m9.5m	90	MC-4

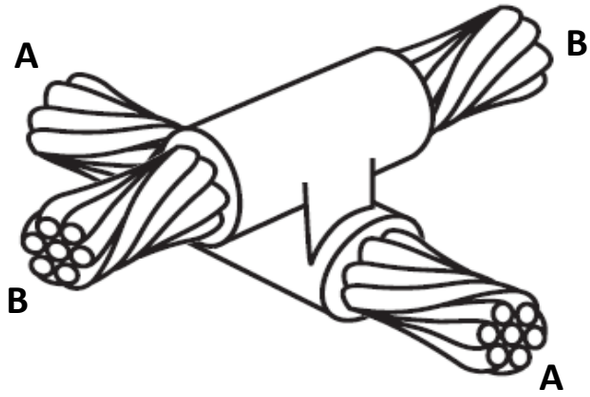
** Special request, please contact us **

Accessories for Exothermic Welding

Manual Installation

1. Position cleaned conductors in dry, clean **TOPWELD** mold.
2. Place metal disc in bottom of mold crucible.
3. Employ powder into crucible, spreading starting powder on mold edge.
4. Close lid, ignite with flint gun from side, sparking starting powder.
5. **TOPWELD** fusion reaction take place.
6. Softly clean slag from the crucible by scraper and mold brush.
7. Remove mold and move on the next connection.

CC-11 : Horizontal Cable To Horizontal Cable Cross (Uncut)



Conductor Size		Graphite Mould	Metal	Handle
A AWG./MCM.	B AWG./MCM.	Code	Powder (g.)	Clamp
2	2	CC11-T4-2A2A	90	MC-4
4/0	4/0	CC11-T4-4/04/0	250	MC-4
250MCM	250MCM	CC11-T4-250M250M	150 X 2	MC-4
300MCM	300MCM	CC11-T4-300M300M	200 X 2	MC-4
500MCM	500MCM	CC11-T5-500M500M	200 X 3	MC-5

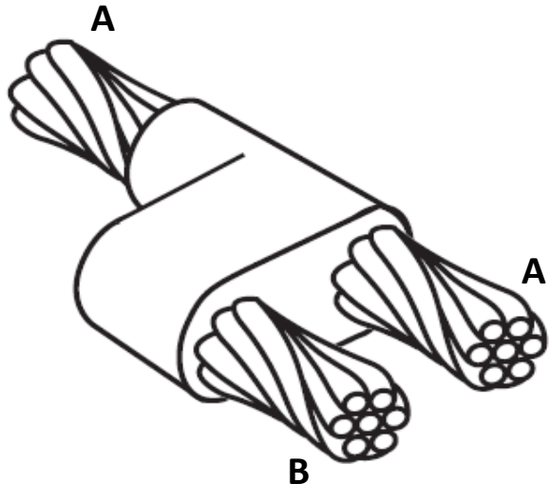
** Special request, please contact us **

Accessories for Exothermic Welding

Manual Installation

1. Position cleaned conductors in dry, clean **TOPWELD** mold.
2. Place metal disc in bottom of mold crucible.
3. Employ powder into crucible, spreading starting powder on mold edge.
4. Close lid, ignite with flint gun from side, sparking starting powder.
5. **TOPWELD** fusion reaction take place.
6. Softly clean slag from the crucible by scraper and mold brush.
7. Remove mold and move on the next connection.

CC-13 : Horizontal Parallel Cable Tap (Side by Side)



Conductor Size		Graphite Mould Code	Metal Powder (g.)	Handle Clamp
A mm^2	B mm^2			
10	10	CC13-T4-1010	45	MC-4
16	16	CC13-T4-1616	45	MC-4
25	25	CC13-T4-2525	45	MC-4
35	35	CC13-T4-3535	65	MC-4
50	50	CC13-T4-5050	90	MC-4
	35	CC13-T4-5035	65	MC-4
	25	CC13-T4-5025	65	MC-4
70	70	CC13-T4-7070	115	MC-4
	50	CC13-T4-7050	115	MC-4
	35	CC13-T4-7035	90	MC-4
	25	CC13-T4-7025	90	MC-4
95	95	CC13-T4-9595	150	MC-4
	70	CC13-T4-9570	115	MC-4
	50	CC13-T4-9550	115	MC-4
	35	CC13-T4-9535	115	MC-4
120	120	CC13-T4-120120	200	MC-4
	95	CC13-T4-12095	200	MC-4
	70	CC13-T4-12070	150	MC-4
	50	CC13-T4-12050	115	MC-4
150	150	CC13-T4-150150	250	MC-4
	120	CC13-T4-150120	250	MC-4
	95	CC13-T4-15095	200	MC-4
	70	CC13-T4-15070	150	MC-4
185	185	CC13-T5-185185	150 x 2	MC-5
	150	CC13-T5-185150	150 x 2	MC-5
	120	CC13-T5-185120	250	MC-5
	95	CC13-T5-18595	200	MC-5
240	240	CC13-T5-240240	200 x 2	MC-5
	185	CC13-T5-240185	150 x 2	MC-5
	150	CC13-T5-240150	150 x 2	MC-5
	120	CC13-T5-240120	250	MC-5
300	300	CC13-T5-300300	250 x 2	MC-5
	185	CC13-T5-300185	200 x 2	MC-5
	150	CC13-T5-300150	150 x 2	MC-5
	120	CC13-T5-300120	150 x 2	MC-5
Ø 8 mm.	Ø 8 mm.	CC13-T4-8m8m	90	MC-4
Ø 9.5 mm.	Ø 9.5 mm.	CC13-T4-9.5m9.5m	90	MC-4

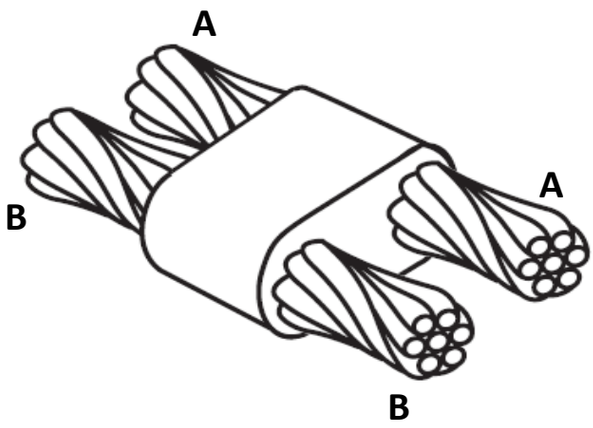
** Special request, please contact us **

Accessories for Exothermic Welding

Manual Installation

1. Position cleaned conductors in dry, clean **TOPWELD** mold.
2. Place metal disc in bottom of mold crucible.
3. Employ powder into crucible, spreading starting powder on mold edge.
4. Close lid, ignite with flint gun from side, sparking starting powder.
5. **TOPWELD** fusion reaction take place.
6. Softly clean slag from the crucible by scraper and mold brush.
7. Remove mold and move on the next connection.

CC-14 : Horizontal Parallel Thru Cable Tap (Side by Side)



Conductor Size		Graphite Mould Code	Metal Powder (g.)	Handle Clamp
A mm^2	B mm^2			
10	10	CC14-T4-1010	45	MC-4
16	16	CC14-T4-1616	45	MC-4
25	25	CC14-T4-2525	45	MC-4
35	35	CC14-T4-3535	65	MC-4
50	50	CC14-T4-5050	90	MC-4
	35	CC14-T4-5035	65	MC-4
	25	CC14-T4-5025	65	MC-4
70	70	CC14-T4-7070	115	MC-4
	50	CC14-T4-7050	115	MC-4
	35	CC14-T4-7035	90	MC-4
	25	CC14-T4-7025	90	MC-4
95	95	CC14-T4-9595	150	MC-4
	70	CC14-T4-9570	150	MC-4
	50	CC14-T4-9550	115	MC-4
	35	CC14-T4-9535	115	MC-4
120	120	CC14-T4-120120	200	MC-4
	95	CC14-T4-12095	200	MC-4
	70	CC14-T4-12070	150	MC-4
	50	CC14-T4-12050	150	MC-4
150	150	CC14-T4-150150	150 x 2	MC-4
	120	CC14-T4-150120	250	MC-4
	95	CC14-T4-15095	200	MC-4
	70	CC14-T4-15070	150	MC-4
185	185	CC14-T5-185185	150 x 2	MC-5
	150	CC14-T5-185150	150 x 2	MC-5
	120	CC14-T5-185120	250	MC-5
	95	CC14-T5-18595	200	MC-5
240	240	CC14-T5-240240	200 x 2	MC-5
	185	CC14-T5-240185	150 x 2	MC-5
	150	CC14-T5-240150	150 x 2	MC-5
	120	CC14-T5-240120	250	MC-5
300	300	CC14-T5-300300	250 x 2	MC-5
	185	CC14-T5-300185	200 x 2	MC-5
	150	CC14-T5-300150	150 x 2	MC-5
	120	CC14-T5-300120	150 x 2	MC-5
Ø 8 mm.	Ø 8 mm.	CC14-T4-8m8m	90	MC-4

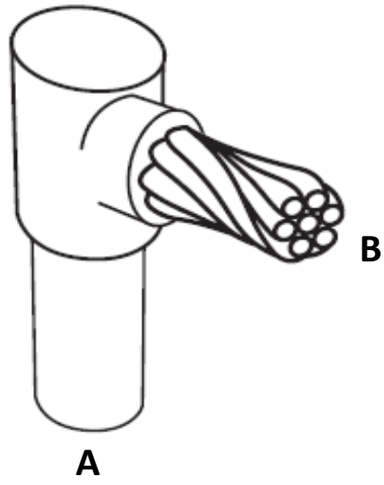
** Special request, please contact us **

Accessories for Exothermic Welding

Manual Installation

1. Position cleaned conductors in dry, clean **TOPWELD** mold.
2. Place metal disc in bottom of mold crucible.
3. Employ powder into crucible, spreading starting powder on mold edge.
4. Close lid, ignite with flint gun from side, sparking starting powder.
5. **TOPWELD** fusion reaction take place.
6. Softly clean slag from the crucible by scraper and mold brush.
7. Remove mold and move on the next connection.

CR-1 : Horizontal Cable Dead End Vertical Ground Rod



Rod Size		Conductor Size	Graphite Mould	Metal	Handle
A mm.	A inch	B (mm^2)	Code	Powder (g.)	Clamp
14.2	5/8	10	CR1-T4-5/810	65	MC-4
14.2	5/8	16	CR1-T4-5/816	65	MC-4
14.2	5/8	25	CR1-T4-5/825	65	MC-4
14.2	5/8	35	CR1-T4-5/835	90	MC-4
14.2	5/8	50	CR1-T4-5/850	90	MC-4
14.2	5/8	70	CR1-T4-5/870	90	MC-4
14.2	5/8	95	CR1-T4-5/895	90	MC-4
14.2	5/8	120	CR1-T4-5/8120	90	MC-4
14.2	5/8	150	CR1-T4-5/8150	115	MC-4
14.2	5/8	185	CR1-T4-5/8185	150	MC-4
14.2	5/8	240	CR1-T4-5/8240	150	MC-4
14.2	5/8	300	CR1-T4-5/8300	200	MC-4
14.2	5/8	Ø 8 mm.	CR1-T4-5/88m	90	MC-4
14.2	5/8	Ø 9.5 mm.	CR1-T4-5/89.5m	90	MC-4
17.2	3/4	10	CR1-T4-3/410	65	MC-4
17.2	3/4	16	CR1-T4-3/416	65	MC-4
17.2	3/4	25	CR1-T4-3/425	65	MC-4
17.2	3/4	35	CR1-T4-3/435	65	MC-4
17.2	3/4	50	CR1-T4-3/450	90	MC-4
17.2	3/4	70	CR1-T4-3/470	90	MC-4
17.2	3/4	95	CR1-T4-3/495	90	MC-4
17.2	3/4	120	CR1-T4-3/4120	90	MC-4
17.2	3/4	150	CR1-T4-3/4150	115	MC-4
17.2	3/4	185	CR1-T4-3/4185	150	MC-4
17.2	3/4	240	CR1-T4-3/4240	150	MC-4
17.2	3/4	300	CR1-T4-3/4300	200	MC-4
17.2	3/4	Ø 8 mm.	CR1-T4-3/48m	90	MC-4
17.2	3/4	Ø 9.5 mm.	CR1-T4-3/49.5m	90	MC-4

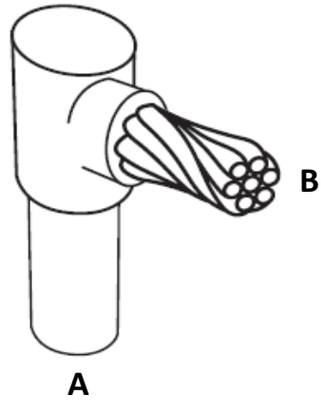
** Special request, please contact us **

Accessories for Exothermic Welding

Manual Installation

1. Position cleaned conductors in dry, clean **TOPWELD** mold.
2. Place metal disc in bottom of mold crucible.
3. Employ powder into crucible, spreading starting powder on mold edge.
4. Close lid, ignite with flint gun from side, sparking starting powder.
5. **TOPWELD** fusion reaction take place.
6. Softly clean slag from the crucible by scraper and mold brush
7. Remove mold and move on the next connection.

CR-1 : Horizontal Cable Dead End Vertical Ground Rod



Rod Size		Conductor Size	Graphite Mould	Metal	Handle
A mm.	A inch	B (AWG./MCM)	Code	Powder (g.)	Clamp
14.2	5/8	2	CR1-T4-5/82A	90	MC-4
14.2	5/8	4/0	CR1-T4-5/84/0	90	MC-4
14.2	5/8	250MCM	CR1-T4-5/8250M	90	MC-4
14.2	5/8	300MCM	CR1-T4-5/8300M	115	MC-4
14.2	5/8	500MCM	CR1-T4-5/8500M	150	MC-4

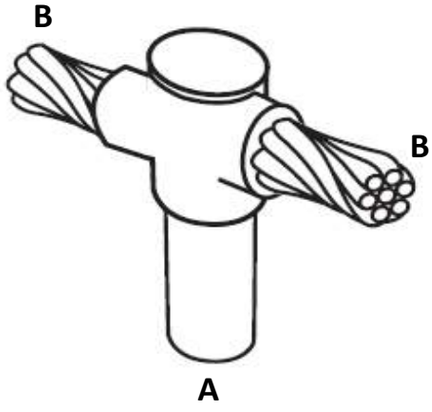
** Special request, please contact us **

Accessories for Exothermic Welding

Manual Installation

1. Position cleaned conductors in dry, clean **TOPWELD** mold.
2. Place metal disc in bottom of mold crucible.
3. Employ powder into crucible, spreading starting powder on mold edge.
4. Close lid, ignite with flint gun from side, sparking starting powder.
5. **TOPWELD** fusion reaction take place.
6. Softly clean slag from the crucible by scraper and mold brush.
7. Remove mold and move on the next connection.

CR-2 : Horizontal Cable Thru Vertical Ground Rod



Rod Size		Conductor Size	Graphite Mould	Metal	Handle
A mm.	A inch	B (mm^2)	Code	Powder (g.)	Clamp
14.2	5/8	10	CR2-T4-5/810	65	MC-4
14.2	5/8	16	CR2-T4-5/816	65	MC-4
14.2	5/8	25	CR2-T4-5/825	90	MC-4
14.2	5/8	35	CR2-T4-5/835	90	MC-4
14.2	5/8	50	CR2-T4-5/850	90	MC-4
14.2	5/8	70	CR2-T4-5/870	115	MC-4
14.2	5/8	95	CR2-T4-5/895	115	MC-4
14.2	5/8	120	CR2-T4-5/8120	150	MC-4
14.2	5/8	150	CR2-T4-5/8150	200	MC-4
14.2	5/8	185	CR2-T4-5/8185	200	MC-4
14.2	5/8	240	CR2-T4-5/8240	250	MC-4
14.2	5/8	300	CR2-T4-5/8300	150 x 2	MC-4
14.2	5/8	Ø 8 mm.	CR2-T4-5/88m	90	MC-4
14.2	5/8	Ø 9.5 mm.	CR2-T4-5/89.5m	90	MC-4
14.2	5/8	2AWG	CR2-T4-5/82A	90	MC-4
17.2	3/4	10	CR2-T4-3/410	65	MC-4
17.2	3/4	16	CR2-T4-3/416	65	MC-4
17.2	3/4	25	CR2-T4-3/425	90	MC-4
17.2	3/4	35	CR2-T4-3/435	90	MC-4
17.2	3/4	50	CR2-T4-3/450	115	MC-4
17.2	3/4	70	CR2-T4-3/470	115	MC-4
17.2	3/4	95	CR2-T4-3/495	115	MC-4
17.2	3/4	120	CR2-T4-3/4120	150	MC-4
17.2	3/4	150	CR2-T4-3/4150	200	MC-4
17.2	3/4	185	CR2-T4-3/4185	200	MC-4
17.2	3/4	240	CR2-T4-3/4240	250	MC-4
17.2	3/4	300	CR2-T4-3/4300	150 x 2	MC-4
17.2	3/4	Ø 8 mm.	CR2-T4-3/48m	115	MC-4
17.2	3/4	Ø 9.5 mm.	CR2-T4-3/49.5m	115	MC-4

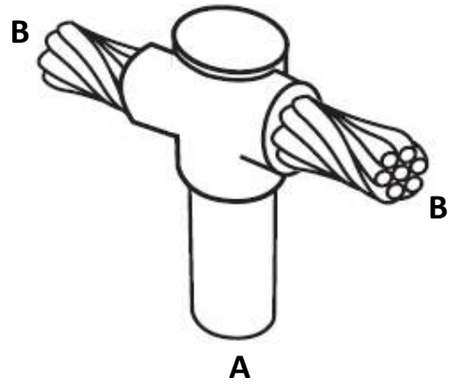
** Special request, please contact us **

Accessories for Exothermic Welding

Manual Installation

1. Position cleaned conductors in dry, clean **TOPWELD** mold.
2. Place metal disc in bottom of mold crucible.
3. Employ powder into crucible, spreading starting powder on mold edge.
4. Close lid, ignite with flint gun from side, sparking starting powder.
5. **TOPWELD** fusion reaction take place.
6. Softly clean slag from the crucible by scraper and mold brush.
7. Remove mold and move on the next connection.

CR-2 : Horizontal Cable Thru Vertical Ground Rod



Rod Size		Conductor Size	Graphite Mould	Metal	Handle
A mm.	A inch	B (AWG./MCM.)	Code	Powder (g.)	Clamp
14.2	5/8	2	CR2-T4-5/82A	90	MC-4
14.2	5/8	4/0	CR2-T4-5/84/0	115	MC-4
14.2	5/8	250MCM	CR2-T4-5/8250M	150	MC-4
14.2	5/8	300MCM	CR2-T4-5/8300M	200	MC-4
14.2	5/8	500MCM	CR2-T4-5/8500M	250	MC-4

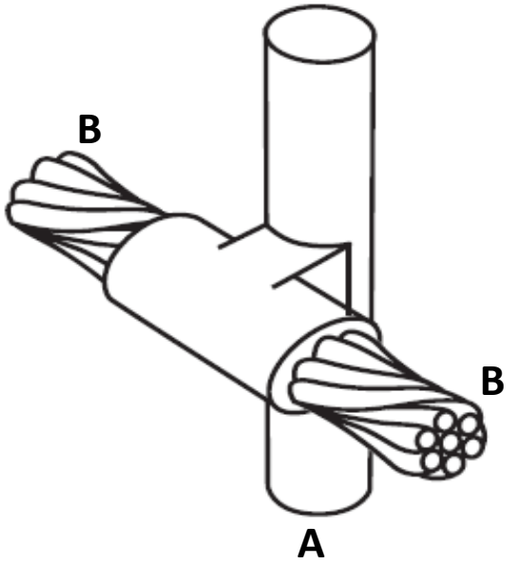
** Special request, please contact us **

Accessories for Exothermic Welding

Manual Installation

1. Position cleaned conductors in dry, clean **TOPWELD** mold.
2. Place metal disc in bottom of mold crucible.
3. Employ powder into crucible, spreading starting powder on mold edge.
4. Close lid, ignite with flint gun from side, sparking starting powder.
5. **TOPWELD** fusion reaction take place.
6. Softly clean slag from the crucible by scraper and mold brush.
7. Remove mold and move on the next connection.

CR-3 : Horizontal Thru Cable To Side Of Ground Rod



Rod Size		Conductor Size	Graphite Mould	Metal	Handle
A mm.	A inch	B (mm^2)	Code	Powder (g.)	Clamp
14.2	5/8	16	CR3-T4-5/816	115	MC-4
14.2	5/8	25	CR3-T4-5/825	115	MC-4
14.2	5/8	35	CR3-T4-5/835	150	MC-4
14.2	5/8	50	CR3-T4-5/850	200	MC-4
14.2	5/8	70	CR3-T4-5/870	250	MC-4
14.2	5/8	95	CR3-T5-5/895	150 x 2	MC-5
14.2	5/8	120	CR3-T5-5/8120	200 x 2	MC-5
14.2	5/8	150	CR3-T5-5/8150	250 x 2	MC-5
14.2	5/8	185	CR3-T5-5/8185	250 x 2	MC-5
14.2	5/8	240	CR3-T5-5/8240	250 x 3	MC-5
14.2	5/8	300	CR3-T5-5/8300	250 x 3	MC-5
17.2	3/4	16	CR3-T4-3/416	115	MC-4
17.2	3/4	25	CR3-T4-3/425	115	MC-4
17.2	3/4	35	CR3-T4-3/435	150	MC-4
17.2	3/4	50	CR3-T4-3/450	200	MC-4
17.2	3/4	70	CR3-T4-3/470	250	MC-4
17.2	3/4	95	CR3-T5-3/495	150 x 2	MC-5
17.2	3/4	120	CR3-T5-3/4120	200 x 2	MC-5
17.2	3/4	150	CR3-T5-3/4150	250 x 2	MC-5
17.2	3/4	185	CR3-T5-3/4185	250 x 2	MC-5
17.2	3/4	240	CR3-T5-3/4240	250 x 2	MC-5
17.2	3/4	300	CR3-T5-3/4300	250 x 3	MC-5

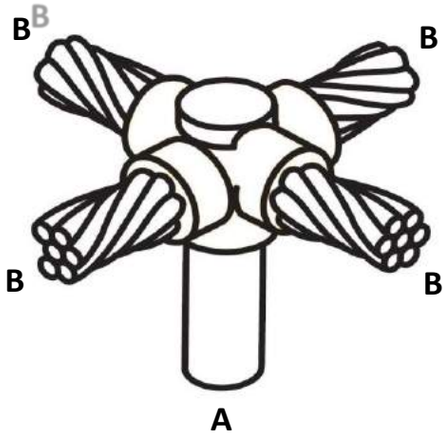
** Special request, please contact us **

Accessories for Exothermic Welding

Manual Installation

1. Position cleaned conductors in dry, clean **TOPWELD** mold.
2. Place metal disc in bottom of mold crucible.
3. Employ powder into crucible, spreading starting powder on mold edge.
4. Close lid, ignite with flint gun from side, sparking starting powder.
5. **TOPWELD** fusion reaction take place.
6. Softly clean slag from the crucible by scraper and mold brush.
7. Remove mold and move on the next connection.

CR-4 : Horizontal Cable Cross To Vertical Ground Rod Down



Rod Size		Conductor	Graphite Mould	Metal	Handle
A mm.	A inch	B (mm^2)	Code	Powder (g.)	Clamp
14.2	5/8	10	CR4-T5-5/810	90	MC-5, PK7
14.2	5/8	16	CR4-T5-5/816	90	MC-5, PK7
14.2	5/8	25	CR4-T5-5/825	90	MC-5, PK7
14.2	5/8	35	CR4-T5-5/835	90	MC-5, PK7
14.2	5/8	50	CR4-T5-5/850	115	MC-5, PK7
14.2	5/8	70	CR4-T5-5/870	115	MC-5, PK7
14.2	5/8	95	CR4-T5-5/895	150	MC-5, PK7
14.2	5/8	120	CR4-T5-5/8120	200	MC-5, PK7
14.2	5/8	150	CR4-T5-5/8150	250	MC-5, PK7
14.2	5/8	185	CR4-T5-5/8185	250	MC-5, PK7
14.2	5/8	240	CR4-T5-5/8240	150 x 2	MC-5, PK7
14.2	5/8	300	CR4-T5-5/8300	500	MC-5, PK7
14.2	5/8	Ø 8 mm.	CR4-T5-5/88m	90	MC-5, PK7
14.2	5/8	Ø 9.5 mm.	CR4-T5-5/89.5m	115	MC-5, PK7
17.2	3/4	10	CR4-T5-3/410	90	MC-5, PK7
17.2	3/4	16	CR4-T5-3/416	90	MC-5, PK7
17.2	3/4	25	CR4-T5-3/425	90	MC-5, PK7
17.2	3/4	35	CR4-T5-3/435	90	MC-5, PK7
17.2	3/4	50	CR4-T5-3/450	115	MC-5-PK7
17.2	3/4	70	CR4-T5-3/470	115	MC-5, PK7
17.2	3/4	95	CR4-T5-3/495	150	MC-5, PK7
17.2	3/4	120	CR4-T5-3/4120	200	MC-5, PK7
17.2	3/4	150	CR4-T5-3/4150	250	MC-5, PK7
17.2	3/4	185	CR4-T5-3/4185	200 x 2	MC-5, PK7
17.2	3/4	240	CR4-T5-3/4240	250 x 2	MC-5, PK7
17.2	3/4	300	CR4-T5-3/4300	500	MC-5, PK7
17.2	3/4	Ø 8 mm.	CR4-T5-3/48m	90	MC-5, PK7
17.2	3/4	Ø 9.5 mm.	CR4-T5-3/49.5m	115	MC-5, PK7

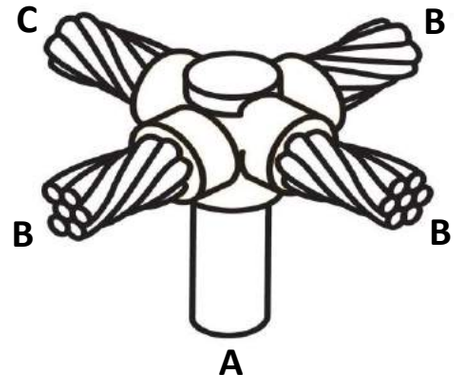
** Special request, please contact us **

Accessories for Exothermic Welding

Manual Installation

1. Position cleaned conductors in dry, clean **TOPWELD** mold.
2. Place metal disc in bottom of mold crucible.
3. Employ powder into crucible, spreading starting powder on mold edge.
4. Close lid, ignite with flint gun from side, sparking starting powder.
5. **TOPWELD** fusion reaction take place.
6. Softly clean slag from the crucible by scraper and mold brush.
7. Remove mold and move on the next connection.

CR-4 : Horizontal Cable Cross To Vertical Ground Rod Down



Rod Size		Conductor Size		Graphite Mould Code	Metal Powder (g.)	Handle Clamp
A mm.	A inch	B(AWG./MCM.)	C (AWG/MCM/mm²)			
14.2	5/8	2	50	CR4-T5-5/82A2A50	115	MC-5, PK7
14.2	5/8	2	2	CR4-T5-5/82A	90	MC-5, PK7
14.2	5/8	4/0	4/0	CR4-T5-5/84/0	200	MC-5, PK7
14.2	5/8	250MCM	250MCM	CR4-T5-5/8250M	200	MC-5, PK7
14.2	5/8	300MCM	300MCM	CR4-T5-5/8300M	250	MC-5, PK7
14.2	5/8	500MCM	500MCM	CR4-T5-5/8500M	150 X 2	MC-5, PK7

** Special request, please contact us **

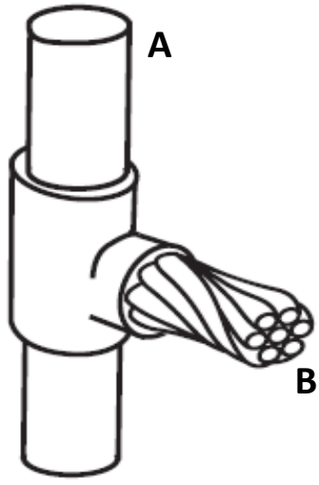
Accessories for Exothermic Welding


Mould with support Metal Powder Handle Clamp Flint Gun Wire Brush Mold Brush Scraper Butane Torch&Gas

Manual Installation

1. Position cleaned conductors in dry, clean **TOPWELD** mold.
2. Place metal disc in bottom of mold crucible.
3. Employ powder into crucible, spreading starting powder on mold edge.
4. Close lid, ignite with flint gun from side, sparking starting powder.
5. **TOPWELD** fusion reaction take place.
6. Softly clean slag from the crucible by scraper and mold brush.
7. Remove mold and move on the next connection.

CR-16 : Horizontal Cable Vertical Ground Rod Thru



Rod Size		Conductor Size	Graphite Mould	Metal	Handle
A mm.	A inch	B (AWG/MCM)	Code	Powder (g.)	Clamp
14.2	5/8	2	CR16-T4-5/82A	90	MC-4
14.2	5/8	4/0	CR16-T4-5/84/0	115	MC-4
14.2	5/8	250MCM	CR16-T4-5/8250M	115	MC-4
14.2	5/8	300MCM	CR16-T4-5/8300M	150	MC-4
14.2	5/8	500MCM	CR16-T4-5/8500M	200	MC-4

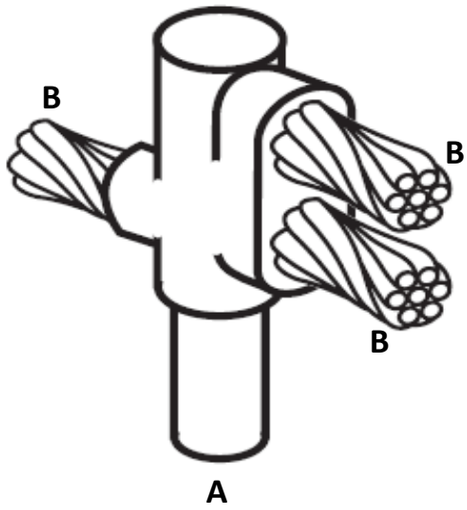
** Special request, please contact us **

Accessories for Exothermic Welding

Manual Installation

1. Position cleaned conductors in dry, clean **TOPWELD** mold.
2. Place metal disc in bottom of mold crucible.
3. Employ powder into crucible, spreading starting powder on mold edge.
4. Close lid, ignite with flint gun from side, sparking starting powder.
5. **TOPWELD** fusion reaction take place.
6. Softly clean slag from the crucible by scraper and mold brush.
7. Remove mold and move on the next connection.

CR-17 : Horizontal Parallel Cable To Vertical Ground Rod Down



Rod Size		Conductor Size	Graphite Mould	Metal	Handle
A mm.	A inch	B (mm^2)	Code	Powder (g.)	Clamp
14.2	5/8	16	CR17-T4-5/816	90	MC-4
14.2	5/8	25	CR17-T4-5/825	90	MC-4
14.2	5/8	35	CR17-T4-5/835	115	MC-4
14.2	5/8	50	CR17-T4-5/850	150	MC-4
14.2	5/8	70	CR17-T4-5/870	200	MC-4
14.2	5/8	95	CR17-T4-5/895	250	MC-4
14.2	5/8	120	CR17-T5-5/8120	150 x 2	MC-5
14.2	5/8	150	CR17-T5-5/8150	200 x 2	MC-5
14.2	5/8	185	CR17-T5-5/8185	200 x 2	MC-5
14.2	5/8	240	CR17-T5-5/8240	200 x 3	MC-5
14.2	5/8	300	CR17-T5-5/8300	250 x 3	MC-5
17.2	3/4	16	CR17-T4-3/416	90	MC-4
17.2	3/4	25	CR17-T4-3/425	90	MC-4
17.2	3/4	35	CR17-T4-3/435	115	MC-4
17.2	3/4	50	CR17-T4-3/450	150	MC-4
17.2	3/4	70	CR17-T4-3/470	200	MC-4
17.2	3/4	95	CR17-T4-3/495	250	MC-4
17.2	3/4	120	CR17-T5-3/4120	150 x 2	MC-5
17.2	3/4	150	CR17-T5-3/4150	200 x 2	MC-5
17.2	3/4	185	CR17-T5-3/4185	200 x 2	MC-5
17.2	3/4	240	CR17-T5-3/4240	200 x 3	MC-5
17.2	3/4	300	CR17-T5-3/4300	250 x 3	MC-5

** Special request, please contact us **

Accessories for Exothermic Welding

Manual Installation

1. Position cleaned conductors in dry, clean **TOPWELD** mold.
2. Place metal disc in bottom of mold crucible.
3. Employ powder into crucible, spreading starting powder on mold edge.
4. Close lid, ignite with flint gun from side, sparking starting powder.
5. **TOPWELD** fusion reaction take place.
6. Softly clean slag from the crucible by scraper and mold brush.
7. Remove mold and move on the next connection.

CR-18 : Vertical Cable Up Vertical Ground Rod Thru

Rod Size		Conductor Size	Graphite Mould	Metal	Handle
A mm.	A inch	B (AWG/MCM)	Code	Powder (g.)	Clamp
14.2	5/8	2	CR18-T5-5/82A	115	MC-5
14.2	5/8	4/0	CR18-T5-5/84/0	200	MC-5
14.2	5/8	250MCM	CR18-T5-5/8250M	200	MC-5
14.2	5/8	300MCM	CR18-T5-5/8300M	250	MC-5
14.2	5/8	500MCM	CR18-T5-5/8500M	250	MC-5

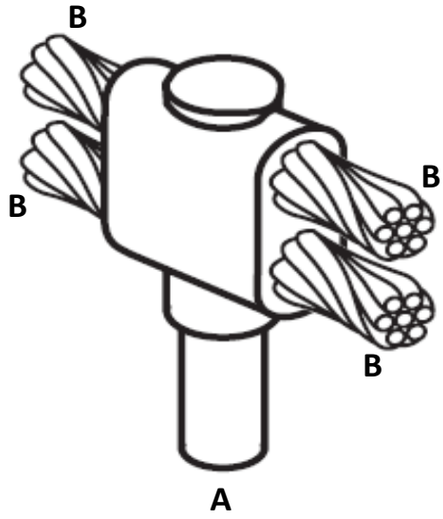
** Special request, please contact us **

Accessories for Exothermic Welding

Manual Installation

1. Position cleaned conductors in dry, clean **TOPWELD** mold.
2. Place metal disc in bottom of mold crucible.
3. Employ powder into crucible, spreading starting powder on mold edge.
4. Close lid, ignite with flint gun from side, sparking starting powder.
5. **TOPWELD** fusion reaction take place.
6. Softly clean slag from the crucible by scraper and mold brush.
7. Remove mold and move on the next connection.

CR-24 : Horizontal Parallel Cable Thru To Vertical Ground Rod Down



Rod Size		Conductor	Graphite Mould	Metal	Handle
A mm.	A inch	B (mm^2)	Code	Powder (g.)	Clamp
14.2	5/8	16	CR24-T4-5/816	115	MC-4
14.2	5/8	25	CR24-T4-5/825	115	MC-4
14.2	5/8	35	CR24-T4-5/835	150	MC-4
14.2	5/8	50	CR24-T4-5/850	200	MC-4
14.2	5/8	70	CR24-T4-5/870	250	MC-4
14.2	5/8	95	CR24-T5-5/895	150 x 2	MC-5
14.2	5/8	120	CR24-T5-5/8120	200 x 2	MC-5
14.2	5/8	150	CR24-T5-5/8150	250 x 2	MC-5
14.2	5/8	185	CR24-T5-5/8185	250 x 2	MC-5
14.2	5/8	240	CR24-T5-5/8240	250 x 3	MC-5
14.2	5/8	300	CR24-T5-5/8300	250 x 3	MC-5
17.2	3/4	16	CR24-T4-3/416	115	MC-4
17.2	3/4	25	CR24-T4-3/425	115	MC-4
17.2	3/4	35	CR24-T4-3/435	150	MC-4
17.2	3/4	50	CR24-T4-3/450	200	MC-4
17.2	3/4	70	CR24-T4-3/470	250	MC-4
17.2	3/4	95	CR24-T5-3/495	150 x 2	MC-5
17.2	3/4	120	CR24-T5-3/4120	200 x 2	MC-5
17.2	3/4	150	CR24-T5-3/4150	250 x 2	MC-5
17.2	3/4	185	CR24-T5-3/4185	250 x 2	MC-5
17.2	3/4	240	CR24-T5-3/4240	250 x 2	MC-5
17.2	3/4	300	CR24-T5-3/4300	250 x 3	MC-5

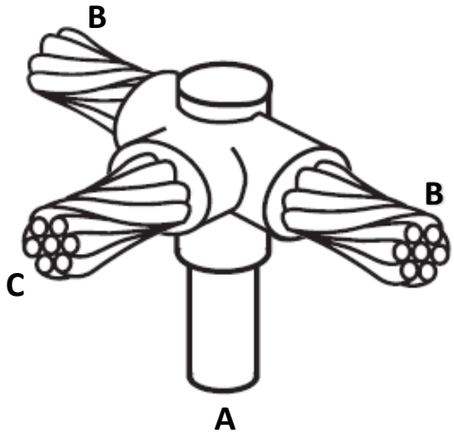
** Special request, please contact us **

Accessories for Exothermic Welding

Manual Installation

1. Position cleaned conductors in dry, clean **TOPWELD** mold.
2. Place metal disc in bottom of mold crucible.
3. Employ powder into crucible, spreading starting powder on mold edge.
4. Close lid, ignite with flint gun from side, sparking starting powder.
5. **TOPWELD** fusion reaction take place.
6. Softly clean slag from the crucible by scraper and mold brush.
7. Remove mold and move on the next connection.

CR-25 : Horizontal Cable Run And Tap To Vertical Ground Rod



Rod Size		Conductor Size		Graphite Mould	Metal	Handle
A mm.	A inch	B mm^2	C mm^2	Code	Powder (g.)	Clamp
14.2	5/8	10	10	CR25-T6-5/810	65	MC-4, PK7
14.2	5/8	16	16	CR25-T6-5/816	65	MC-4, PK7
14.2	5/8	25	25	CR25-T6-5/825	90	MC-4, PK7
14.2	5/8	35	35	CR25-T6-5/835	90	MC-4, PK7
14.2	5/8	50	50	CR25-T6-5/850	115	MC-4, PK7
14.2	5/8	70	70	CR25-T6-5/870	115	MC-4, PK7
		70	50	CR25-T6-5/87050	115	MC-4, PK7
14.2	5/8	95	95	CR25-T6-5/895	150	MC-4, PK7
		95	70	CR25-T6-5/89570	150	MC-4, PK7
		95	50	CR25-T6-5/89550	115	MC-4, PK7
14.2	5/8	120	120	CR25-T6-5/8120	150	MC-4, PK7
		120	95	CR25-T6-5/812095	150	MC-4, PK7
		120	70	CR25-T6-5/812070	150	MC-4, PK7
14.2	5/8	150	150	CR25-T6-5/8150	200	MC-4, PK7
		150	120	CR25-T6-5/8150120	200	MC-4, PK7
		150	95	CR25-T6-5/815095	200	MC-4, PK7
14.2	5/8	185	185	CR25-T6-5/8185	250	MC-4, PK7
		185	120	CR25-T6-5/8185120	150 x 2	MC-4, PK7
		185	95	CR25-T6-5/818595	250	MC-4, PK7
14.2	5/8	240	240	CR25-T6-5/8240	200 x 2	MC-4, PK7
		240	185	CR25-T6-5/8240185	200 x 2	MC-4, PK7
14.2	5/8	300	300	CR25-T6-5/8300	500	MC-4, PK7
14.2	5/8	Ø 8 mm.	Ø 8 mm.	CR25-T6-5/88m	115	MC-4, PK7
14.2	5/8	Ø 9.5 mm.	Ø 9.5 mm.	CR25-T6-5/89.5m	150	MC-4, PK7
17.2	3/4	10	10	CR25-T6-3/410	65	MC-4, PK7
17.2	3/4	16	16	CR25-T6-3/416	65	MC-4, PK7
17.2	3/4	25	25	CR25-T6-3/425	90	MC-4, PK7
17.2	3/4	35	35	CR25-T6-3/435	90	MC-4, PK7
17.2	3/4	50	50	CR25-T6-3/450	115	MC-4, PK7
17.2	3/4	70	70	CR25-T6-3/470	150	MC-4, PK7
		70	50	CR25-T6-3/47050	150	MC-4, PK7
17.2	3/4	95	95	CR25-T6-3/495	200	MC-4, PK7
		95	70	CR25-T6-3/49570	200	MC-4, PK7
		95	50	CR25-T6-3/49550	150	MC-4, PK7
17.2	3/4	120	120	CR25-T6-3/4120	250	MC-4, PK7
		120	95	CR25-T6-3/412095	250	MC-4, PK7
		120	70	CR25-T6-3/412070	200	MC-4, PK7
17.2	3/4	150	150	CR25-T6-3/4150	250	MC-4, PK7
		150	120	CR25-T6-3/4150120	250	MC-4, PK7
		150	95	CR25-T6-3/415095	250	MC-4, PK7
17.2	3/4	185	185	CR25-T6-3/4185	150 x 2	MC-4, PK7
		185	120	CR25-T6-3/4185120	150 x 2	MC-4, PK7
		185	95	CR25-T6-3/418595	150 x 2	MC-4, PK7
17.2	3/4	240	240	CR25-T6-3/4240	200 x 2	MC-4, PK7
		240	185	CR25-T6-3/4240185	200 x 2	MC-4, PK7
17.2	3/4	300	300	CR25-T6-3/4300	500	MC-4, PK7
17.2	3/4	Ø 8 mm.	Ø 8 mm.	CR25-T6-3/48m	115	MC-4, PK7
17.2	3/4	Ø 9.5 mm.	Ø 9.5 mm.	CR25-T6-3/49.5m	150	MC-4, PK7

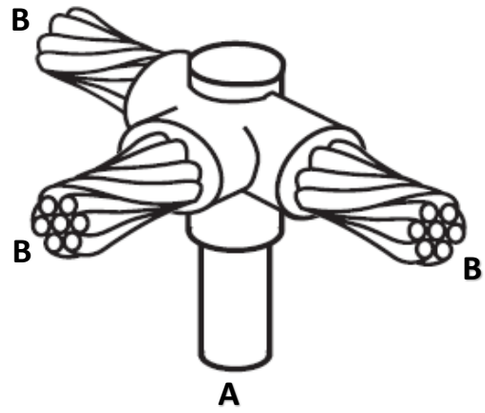
** Special request, please contact us **

Accessories for Exothermic Welding

Manual Installation

1. Position cleaned conductors in dry, clean **TOPWELD** mold.
2. Place metal disc in bottom of mold crucible.
3. Employ powder into crucible, spreading starting powder on mold edge.
4. Close lid, ignite with flint gun from side, sparking starting powder.
5. **TOPWELD** fusion reaction take place.
6. Softly clean slag from the crucible by scraper and mold brush.
7. Remove mold and move on the next connection.

CR-25 : Horizontal Cable Run And Tap To Vertical Ground Rod



Rod Size		Conductor Size	Graphite Mould	Metal	Handle
A mm.	A inch	B (AWG./MCM.)	Code	Powder (g.)	Clamp
14.2	5/8	2	CR25-T6-5/82A	90	MC-4, PK7
14.2	5/8	4/0	CR25-T6-5/84/0	150	MC-4, PK7
14.2	5/8	250MCM	CR25-T6-5/8250M	150	MC-4, PK7
14.2	5/8	300MCM	CR25-T6-5/8300M	200	MC-4, PK7
14.2	5/8	500MCM	CR25-T6-5/8500M	200 X 2	MC-4, PK7

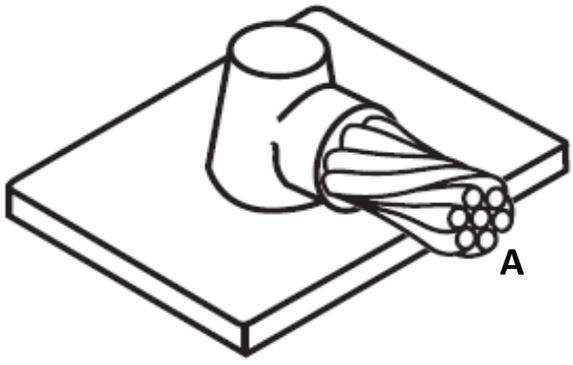
** Special request, please contact us **

Accessories for Exothermic Welding

Manual Installation

1. Position cleaned conductors in dry, clean **TOPWELD** mold.
2. Place metal disc in bottom of mold crucible.
3. Employ powder into crucible, spreading starting powder on mold edge.
4. Close lid, ignite with flint gun from side, sparking starting powder.
5. **TOPWELD** fusion reaction take place.
6. Softly clean slag from the crucible by scraper and mold brush.
7. Remove mold and move on the next connection.

CS-1 : Horizontal Cable Horizontal Steel Cable Off surface



Conductor Size A (mm^2)	Graphite Mould Code	Metal Powder (g.)	Handle Clamp
10	CS1-T4-10	45	MC-4
16	CS1-T4-16	45	MC-4
25	CS1-T4-25	45	MC-4
35	CS1-T4-35	45	MC-4
50	CS1-T4-50	90	MC-4
70	CS1-T4-70	90	MC-4
95	CS1-T4-95	115	MC-4
120	CS1-T4-120	115	MC-4
150	CS1-T4-150	150	MC-4
185	CS1-T4-185	200	MC-4
240	CS1-T4-240	200	MC-4
300	CS1-T4-300	250	MC-4
Ø 8 mm.	CS1-T4-8m	90	MC-4
Ø 9.5 mm.	CS1-T4-9.5m	90	MC-4

** Special request, please contact us **

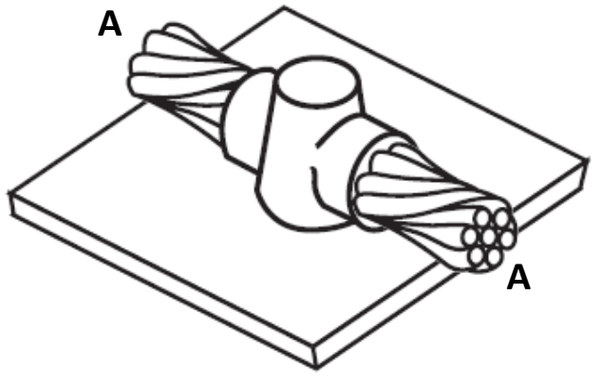
Accessories for Exothermic Welding

Manual Installation

1. Position cleaned conductors in dry, clean **TOPWELD** mold.
2. Place metal disc in bottom of mold crucible.
3. Employ powder into crucible, spreading starting powder on mold edge.
4. Close lid, ignite with flint gun from side, sparking starting powder.
5. **TOPWELD** fusion reaction take place.
6. Softly clean slag from the crucible by scraper and mold brush.
7. Remove mold and move on the next connection.

Remark : ** Off surface means that the cables is higher than Bus bar surface.

CS-2 : Horizontal Cable Thru Horizontal Steel Cable Off surface



Conductor Size A (mm^2)	Graphite Mould Code	Metal Powder (g.)	Handle Clamp
10	CS2-T4-10	45	MC-4
16	CS2-T4-16	45	MC-4
25	CS2-T4-25	45	MC-4
35	CS2-T4-35	45	MC-4
50	CS2-T4-50	90	MC-4
70	CS2-T4-70	115	MC-4
95	CS2-T4-95	115	MC-4
120	CS2-T4-120	150	MC-4
150	CS2-T4-150	200	MC-4
185	CS2-T4-185	250	MC-4
240	CS2-T5-240	150 x 2	MC-5
300	CS2-T5-300	200 x 2	MC-5
Ø 8 mm.	CS2-T4-8m	90	MC-4
Ø 9.5 mm.	CS2-T4-9.5m	115	MC-4

** Special request, please contact us **

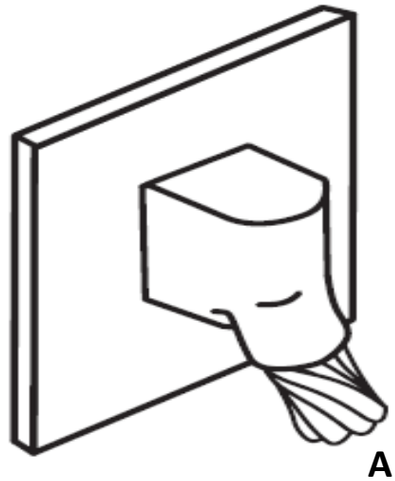
Accessories for Exothermic Welding

Manual Installation

1. Position cleaned conductors in dry, clean **TOPWELD** mold.
2. Place metal disc in bottom of mold crucible.
3. Employ powder into crucible, spreading starting powder on mold edge.
4. Close lid, ignite with flint gun from side, sparking starting powder.
5. **TOPWELD** fusion reaction take place.
6. Softly clean slag from the crucible by scraper and mold brush.
7. Remove mold and move on the next connection.

Remark : ** Off surface means that the cables is higher than Bus bar surface.

CS-3 : Vertical Cable 45^0 Down Vertical Steel Cable Off Surface



A

Conductor Size A (mm^2)	Graphite Mould Code	Metal Powder (g.)	Handle Clamp
10	CS3-T4-10	45	MC-4, A3657
16	CS3-T4-16	45	MC-4, A3657
25	CS3-T4-25	45	MC-4, A3657
35	CS3-T4-35	45	MC-4, A3657
50	CS3-T4-50	90	MC-4, A3657
70	CS3-T4-70	90	MC-4, A3657
95	CS3-T4-95	115	MC-4, A3657
120	CS3-T4-120	115	MC-4, A3657
150	CS3-T4-150	150	MC-4, A3657
185	CS3-T4-185	200	MC-4, A3657
240	CS3-T4-240	200	MC-4, A3657
300	CS3-T4-300	250	MC-4, A3657
Ø 8 mm.	CS3-T4-8m	90	MC-4, A3657
Ø 9.5 mm.	CS3-T4-9.5m	115	MC-4, A3657

** Special request, please contact us **

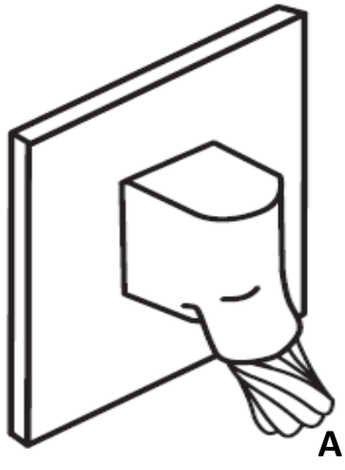
Accessories for Exothermic Welding

Manual Installation

1. Position cleaned conductors in dry, clean **TOPWELD** mold.
2. Place metal disc in bottom of mold crucible.
3. Employ powder into crucible, spreading starting powder on mold edge.
4. Close lid, ignite with flint gun from side, sparking starting powder.
5. **TOPWELD** fusion reaction take place.
6. Softly clean slag from the crucible by scraper and mold brush.
7. Remove mold and move on the next connection.

Remark : ** Off surface means that the cables is higher than Bus bar surface.

CS-3 : Vertical Cable 45^0 Down Vertical Steel Cable Off Surface



Conductor Size A (AWG./MCM)	Graphite Mould Code	Metal Powder (g.)	Handle Clamp
2	CS3-T4-2A	45	MC-4, A3657
4/0	CS3-T4-4/0	115	MC-4, A3657
250MCM	CS3-T4-250M	115	MC-4, A3657
300MCM	CS3-T4-300M	150	MC-4, A3657
500MCM	CS3-T4-500M	200	MC-4, A3657

** Special request, please contact us **

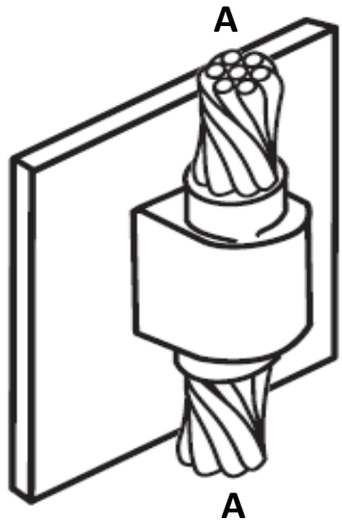
Accessories for Exothermic Welding

Manual Installation

1. Position cleaned conductors in dry, clean **TOPWELD** mold.
2. Place metal disc in bottom of mold crucible.
3. Employ powder into crucible, spreading starting powder on mold edge.
4. Close lid, ignite with flint gun from side, sparking starting powder.
5. **TOPWELD** fusion reaction take place.
6. Softly clean slag from the crucible by scraper and mold brush.
7. Remove mold and move on the next connection.

Remark : ** Off surface means that the cables is higher than Bus bar surface.

CS-4 : Vertical Cable Thru Steel Surface Cable Off Surface



Conductor Size A (mm^2)	Graphite Mould Code	Metal Powder (g.)	Handle Clamp
10	CS4-T5-10	90	MC-5, A3657
16	CS4-T5-16	90	MC-5, A3657
25	CS4-T5-25	90	MC-5, A3657
35	CS4-T5-35	115	MC-5, A3657
50	CS4-T5-50	200	MC-5, A3657
70	CS4-T5-70	200	MC-5, A3657
95	CS4-T5-95	250	MC-5, A3657
120	CS4-T5-120	250	MC-5, A3657
150	CS4-T5-150	250	MC-5, A3657
185	CS4-T5-185	150 x 2	MC-5, A3657
240	CS4-T5-240	200 x 2	MC-5, A3657
300	CS4-T5-300	250 x 2	MC-5, A3657
Ø 8 mm.	CS4-T5-8m	90	MC-5, A3657
Ø 9.5 mm.	CS4-T5-9.5m	90	MC-5, A3657

** Special request, please contact us **

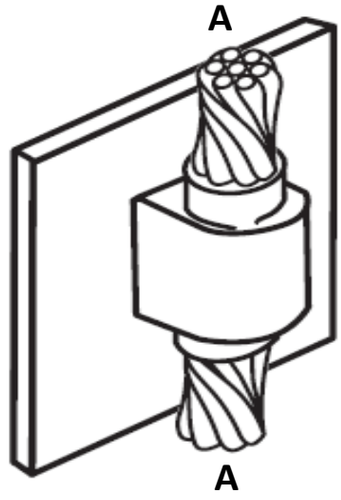
Accessories for Exothermic Welding

Manual Installation

1. Position cleaned conductors in dry, clean **TOPWELD** mold.
2. Place metal disc in bottom of mold crucible.
3. Employ powder into crucible, spreading starting powder on mold edge.
4. Close lid, ignite with flint gun from side, sparking starting powder.
5. **TOPWELD** fusion reaction take place.
6. Softly clean slag from the crucible by scraper and mold brush.
7. Remove mold and move on the next connection.

Remark : ** Off surface means that the cables is higher than Bus bar surface.

CS-4 : Vertical Cable Thru Steel Surface Cable Off Surface



Conductor Size A (AWG./MCM.)	Graphite Mould Code	Metal Powder (g.)	Handle Clamp
2	CS4-T5-2A	115	MC-5, A3657
4/0	CS4-T5-4/0	250	MC-5, A3657
250MCM	CS4-T5-250M	250	MC-5, A3657
300MCM	CS4-T5-300M	250	MC-5, A3657
500MCM	CS4-T5-500M	200 x 2	MC-5, A3657

** Special request, please contact us **

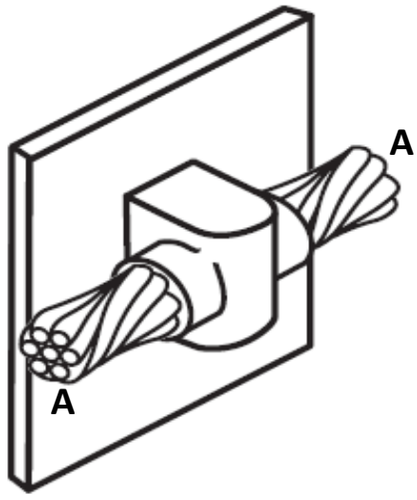
Accessories for Exothermic Welding

Manual Installation

1. Position cleaned conductors in dry, clean **TOPWELD** mold.
2. Place metal disc in bottom of mold crucible.
3. Employ powder into crucible, spreading starting powder on mold edge.
4. Close lid, ignite with flint gun from side, sparking starting powder.
5. **TOPWELD** fusion reaction take place.
6. Softly clean slag from the crucible by scraper and mold brush.
7. Remove mold and move on the next connection.

Remark : ** Off surface means that the cables is higher than Bus bar surface.

CS-6 : Horizontal Cable Thru Vertical Steel Cable Off Surface



Conductor Size A (mm^2)	Graphite Mould Code	Metal Powder (g.)	Handle Clamp
10	CS6-T4-10	65	MC-4, A3657
16	CS6-T4-16	65	MC-4, A3657
25	CS6-T4-25	65	MC-4, A3657
35	CS6-T4-35	65	MC-4, A3657
50	CS6-T4-50	115	MC-4, A3657
70	CS6-T4-70	115	MC-4, A3657
95	CS6-T4-95	150	MC-4, A3657
120	CS6-T4-120	150	MC-4, A3657
150	CS6-T4-150	250	MC-4, A3657
185	CS6-T5-185	150 x 2	MC-5, A3657
240	CS6-T5-240	200 x 2	MC-5, A3657
300	CS6-T5-300	250 x 2	MC-5, A3657
Ø 8 mm.	CS6-T4-8m	65	MC-4, A3657
Ø 9.5 mm.	CS6-T4-9.5m	65	MC-4, A3657

** Special request, please contact us **

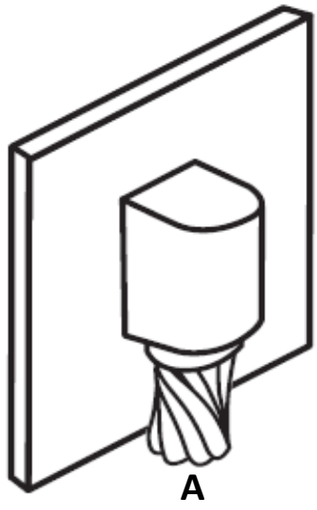
Accessories for Exothermic Welding

Manual Installation

1. Position cleaned conductors in dry, clean **TOPWELD** mold.
2. Place metal disc in bottom of mold crucible.
3. Employ powder into crucible, spreading starting powder on mold edge.
4. Close lid, ignite with flint gun from side, sparking starting powder.
5. **TOPWELD** fusion reaction take place.
6. Softly clean slag from the crucible by scraper and mold brush.
7. Remove mold and move on the next connection.

Remark : ** Off surface means that the cables is higher than Bus bar surface.

CS-23 : Vertical Cable Down Vertical Steel Cable Off Surface



Conductor Size A (mm^2)	Graphite Mould Code	Metal Powder (g.)	Handle Clamp
10	CS23-T4-10	65	MC-4, A3657
16	CS23-T4-16	65	MC-4, A3657
25	CS23-T4-25	65	MC-4, A3657
35	CS23-T4-35	65	MC-4, A3657
50	CS23-T4-50	115	MC-4, A3657
70	CS23-T4-70	115	MC-4, A3657
95	CS23-T4-95	150	MC-4, A3657
120	CS23-T4-120	200	MC-4, A3657
150	CS23-T4-150	200	MC-4, A3657
185	CS23-T4-185	250	MC-4, A3657
240	CS23-T5-240	150 x 2	MC-5, A3657
300	CS23-T5-300	200 x 2	MC-5, A3657
Ø 8 mm.	CS23-T4-8m	65	MC-4, A3657
Ø 9.5 mm.	CS23-T4-9.5m	65	MC-4, A3657

** Special request, please contact us **

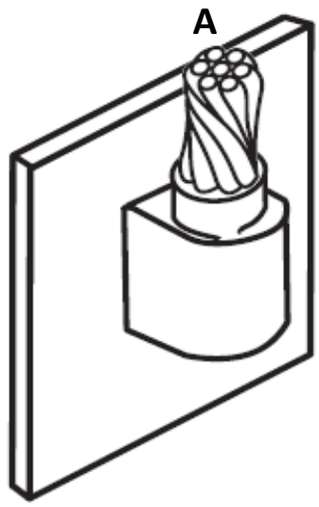
Accessories for Exothermic Welding

Manual Installation

1. Position cleaned conductors in dry, clean **TOPWELD** mold.
2. Place metal disc in bottom of mold crucible.
3. Employ powder into crucible, spreading starting powder on mold edge.
4. Close lid, ignite with flint gun from side, sparking starting powder.
5. **TOPWELD** fusion reaction take place.
6. Softly clean slag from the crucible by scraper and mold brush.
7. Remove mold and move on the next connection.

Remark : ** Off surface means that the cables is higher than Bus bar surface.

CS-24 : Vertical Cable Up Vertical Steel Cable Off Surface



Conductor Size A (mm^2)	Graphite Mould Code	Metal Powder (g.)	Handle Clamp
10	CS24-T4-10	65	MC-4, A3657
16	CS24-T4-16	65	MC-4, A3657
25	CS24-T4-25	65	MC-4, A3657
35	CS24-T4-35	65	MC-4, A3657
50	CS24-T4-50	115	MC-4, A3657
70	CS24-T4-70	115	MC-4, A3657
95	CS24-T4-95	150	MC-4, A3657
120	CS24-T4-120	200	MC-4, A3657
150	CS24-T4-150	200	MC-4, A3657
185	CS24-T4-185	250	MC-4, A3657
240	CS24-T5-240	150 x 2	MC-5, A3657
300	CS24-T5-300	200 x 2	MC-5, A3657
Ø 8 mm.	CS24-T4-8m	65	MC-4, A3657
Ø 9.5 mm.	CS24-T4-9.5m	65	MC-4, A3657

** Special request, please contact us **

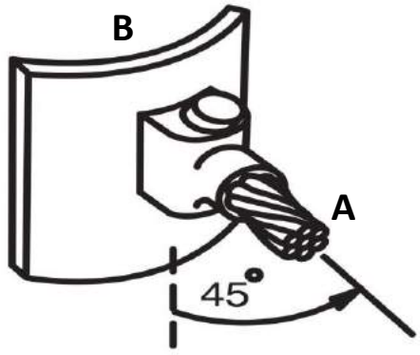
Accessories for Exothermic Welding

Manual Installation

1. Position cleaned conductors in dry, clean **TOPWELD** mold.
2. Place metal disc in bottom of mold crucible.
3. Employ powder into crucible, spreading starting powder on mold edge.
4. Close lid, ignite with flint gun from side, sparking starting powder.
5. **TOPWELD** fusion reaction take place.
6. Softly clean slag from the crucible by scraper and mold brush.
7. Remove mold and move on the next connection.

Remark : ** Off surface means that the cables is higher than Bus bar surface.

CP-1 : Angular Cable Drop To Vertical Pipe



Conductor Size A (mm^2/AWG./MCM.)	Pipe Size B inch	Graphite Mould Code	Metal Powder (g.)	Handle Clamp
70	3 - 4	CP1-T4-704P	90	MC-4, A3658
	5 - 6	CP1-T4-706P	90	MC-4, A3658
95	1 - 2	CP1-T4-952P	115	MC-4, A3658
	3 - 4	CP1-T4-954P	115	MC-4, A3658
	5 - 6	CP1-T4-956P	115	MC-4, A3658
120	1 - 2	CP1-T4-1202P	115	MC-4, A3658
	3 - 4	CP1-T4-1204P	115	MC-4, A3658
	5 - 6	CP1-T4-1206P	115	MC-4, A3658
4/0AWG	1 - 2	CP1-T4-4/02P	115	MC-4, A3658
	3 - 4	CP1-T4-4/04P	115	MC-4, A3658
	5 - 6	CP1-T4-4/06P	115	MC-4, A3658
250MCM	3 - 4	CP1-T4-250M4P	115	MC-4, A3658
	5 - 6	CP1-T4-250M6P	115	MC-4, A3658
300MCM	3 - 4	CP1-T4-300M4P	150	MC-4, A3658
	5 - 6	CP1-T4-300M6P	150	MC-4, A3658
500MCM	3 - 4	CP1-T4-500M4P	250	MC-4, A3658
	5 - 6	CP1-T4-500M6P	250	MC-4, A3658

** Special request, please contact us **

Accessories for Exothermic Welding

Manual Installation

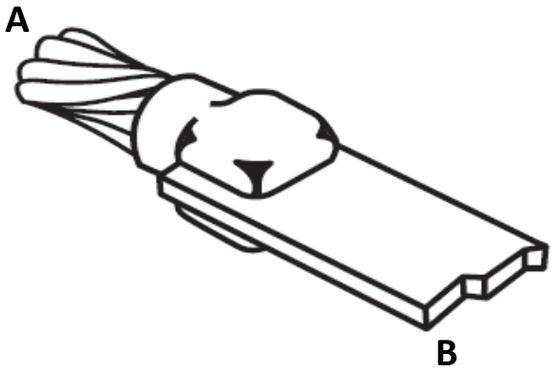
1. Position cleaned conductors in dry, clean **TOPWELD** mold.
2. Place metal disc in bottom of mold crucible.
3. Employ powder into crucible, spreading starting powder on mold edge.
4. Close lid, ignite with flint gun from side, sparking starting powder.
5. **TOPWELD** fusion reaction take place.
6. Softly clean slag from the crucible by scraper and mold brush.
7. Remove mold and move on the next connection.

Remark : ** The conductor and pipes size can be identified.

** 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

CB-1 : Horizontal Cable Tap To Horizontal Bus Bar



Conductor Size		Graphite Mould	Metal	Handle
A mm^2	B mm.	Code	Powder (g.)	Clamp
10	25 x 3	CB1-T4-10253	45	MC-4
16	25 x 3	CB1-T4-16253	45	MC-4
25	25 x 3	CB1-T4-25253	45	MC-4
35	25 x 3	CB1-T4-35253	45	MC-4
50	25 x 3	CB1-T4-50253	65	MC-4
70	25 x 3	CB1-T4-70253	65	MC-4
	25 x 4	CB1-T4-70254	90	MC-4
	40 x 5	CB1-T4-70405	90	MC-4
	50 x 6	CB1-T4-70506	115	MC-4
95	25 x 3	CB1-T4-95253	90	MC-4
	25 x 4	CB1-T4-95254	90	MC-4
	40 x 5	CB1-T4-95405	90	MC-4
	50 x 6	CB1-T4-95506	115	MC-4
120	25 x 3	CB1-T4-120253	90	MC-4
	25 x 4	CB1-T4-120254	90	MC-4
	40 x 5	CB1-T4-120405	115	MC-4
	50 x 6	CB1-T4-120506	150	MC-4
150	40 x 5	CB1-T4-150405	150	MC-4
	50 x 6	CB1-T4-150506	150	MC-4
185	30 x 5	CB1-T5-185305	150	MC-5
	50 x 6	CB1-T5-185506	200	MC-5
240	50 x 5	CB1-T5-240505	200	MC-5
	50 x 6	CB1-T5-240506	150 x 2	MC-5
300	50 x 6	CB1-T5-300506	150 x 2	MC-5

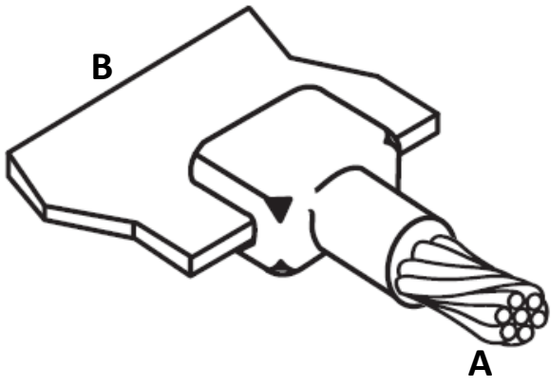
** Special request, please contact us **

Accessories for Exothermic Welding

Manual Installation

1. Position cleaned conductors in dry, clean **TOPWELD** mold.
2. Place metal disc in bottom of mold crucible.
3. Employ powder into crucible, spreading starting powder on mold edge.
4. Close lid, ignite with flint gun from side, sparking starting powder.
5. **TOPWELD** fusion reaction take place.
6. Softly clean slag from the crucible by scraper and mold brush.
7. Remove mold and move on the next connection.

CB-4 : Horizontal Cable Tap To Horizontal Bus Bar



Conductor Size		Graphite Mould	Metal	Handle
A mm^2	B mm.	Code	Powder (g.)	Clamp
10	25 x 3	CB4-T4-10253	32	MC-4
16	25 x 3	CB4-T4-16253	32	MC-4
25	25 x 3	CB4-T4-25253	32	MC-4
35	25 x 3	CB4-T4-35253	45	MC-4
50	25 x 3	CB4-T4-50253	45	MC-4
70	25 x 3	CB4-T4-70253	65	MC-4
	25 x 4	CB4-T4-70254	65	MC-4
	40 x 5	CB4-T4-70405	90	MC-4
	50 x 6	CB4-T4-70506	90	MC-4
95	25 x 3	CB4-T4-95253	90	MC-4
	25 x 4	CB4-T4-95254	90	MC-4
	40 x 5	CB4-T4-95405	90	MC-4
	50 x 6	CB4-T4-95506	90	MC-4
120	25 x 3	CB4-T4-120253	90	MC-4
	25 x 4	CB4-T4-120254	90	MC-4
	40 x 5	CB4-T4-120405	115	MC-4
	50 x 6	CB4-T4-120506	115	MC-4
150	40 x 5	CB4-T4-150405	150	MC-4
	50 x 6	CB4-T4-150506	150	MC-4
185	30 x 5	CB4-T4-185305	150	MC-4
	50 x 6	CB4-T4-185506	150	MC-4
240	50 x 5	CB4-T4-240505	200	MC-4
	50 x 6	CB4-T4-240506	250	MC-4
300	50 x 6	CB4-T5-300506	150 x 2	MC-5
4/0AWG	30 x 4	CB4-T4-4/0304	90	MC-4

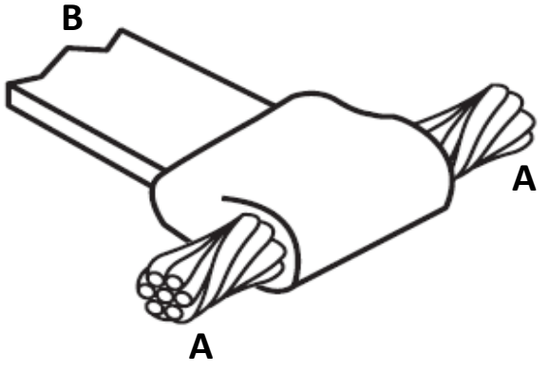
** Special request, please contact us **

Accessories for Exothermic Welding

Manual Installation

1. Position cleaned conductors in dry, clean **TOPWELD** mold.
2. Place metal disc in bottom of mold crucible.
3. Employ powder into crucible, spreading starting powder on mold edge.
4. Close lid, ignite with flint gun from side, sparking starting powder.
5. **TOPWELD** fusion reaction take place.
6. Softly clean slag from the crucible by scraper and mold brush.
7. Remove mold and move on the next connection.

CB-5 : Horizontal Cable Run To Horizontal Bus Bar Tap



Conductor Size		Graphite Mould	Metal	Handle
A mm^2	B mm.	Code	Powder (g.)	Clamp
10	25 x 3	CB5-T4-10253	65	MC-4
16	25 x 3	CB5-T4-16253	65	MC-4
25	25 x 3	CB5-T4-25253	65	MC-4
35	25 x 3	CB5-T4-35253	65	MC-4
50	25 x 3	CB5-T4-50253	65	MC-4
70	25 x 3	CB5-T4-70253	90	MC-4
	25 x 4	CB5-T4-70254	115	MC-4
	40 x 5	CB5-T4-70405	150	MC-4
	50 x 6	CB5-T4-70506	200	MC-4
95	25 x 3	CB5-T4-95253	150	MC-4
	25 x 4	CB5-T4-95254	150	MC-4
	40 x 5	CB5-T4-95405	150	MC-4
	50 x 6	CB5-T4-95506	200	MC-4
120	25 x 3	CB5-T4-120253	150	MC-4
	25 x 4	CB5-T4-120254	150	MC-4
	40 x 5	CB5-T4-120405	200	MC-4
	50 x 6	CB5-T4-120506	250	MC-4
150	40 x 5	CB5-T4-150405	250	MC-4
	50 x 6	CB5-T4-150506	250	MC-4
185	30 x 5	CB5-T4-185305	250	MC-4
	50 x 6	CB5-T4-185506	150 x 2	MC-4
240	50 x 5	CB5-T5-240505	150 x 2	MC-5
	50 x 6	CB5-T5-240506	200 x 2	MC-5
300	50 x 6	CB5-T5-300506	250 x 2	MC-5

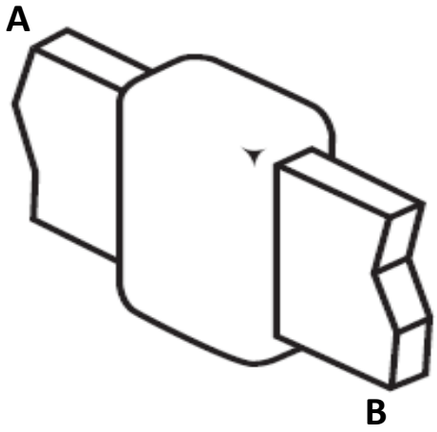
** Special request, please contact us **

Accessories for Exothermic Welding

Manual Installation

1. Position cleaned conductors in dry, clean **TOPWELD** mold.
2. Place metal disc in bottom of mold crucible.
3. Employ powder into crucible, spreading starting powder on mold edge.
4. Close lid, ignite with flint gun from side, sparking starting powder.
5. **TOPWELD** fusion reaction take place.
6. Softly clean slag from the crucible by scraper and mold brush.
7. Remove mold and move on the next connection.

BB-1 : Horizontal Bus Bar End To End (vertical flat side)



Conductor Size		Graphite Mould Code	Metal Powder (g.)	Handle Clamp
A mm.	B mm.			
25 x 3	25 x 3	BB1-T4-253	65	MC-4
25 x 4	25 x 4	BB1-T4-254	90	MC-4
25 x 5	25 x 5	BB1-T4-255	90	MC-4
25 x 6	25 x 6	BB1-T4-256	115	MC-4
30 x 4	30 x 4	BB1-T4-304	115	MC-4
30 x 5	30 x 5	BB1-T4-305	115	MC-4
40 x 4	40 x 4	BB1-T4-404	150	MC-4
40 x 5	40 x 5	BB1-T4-405	150	MC-4
50 x 4	50 x 4	BB1-T4-504	115	MC-4
50 x 5	50 x 5	BB1-T4-505	200	MC-4
50 x 6	50 x 6	BB1-T4-506	250	MC-4
50 x 10	50 x 10	BB1-T5-5010	200 x 2	MC-5

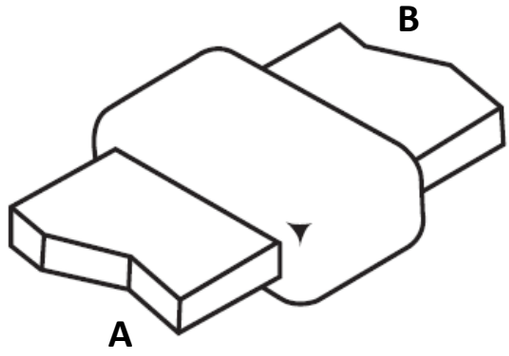
** Special request, please contact us **

Accessories for Exothermic Welding

Manual Installation

1. Position cleaned conductors in dry, clean **TOPWELD** mold.
2. Place metal disc in bottom of mold crucible.
3. Employ powder into crucible, spreading starting powder on mold edge.
4. Close lid, ignite with flint gun from side, sparking starting powder.
5. **TOPWELD** fusion reaction take place.
6. Softly clean slag from the crucible by scraper and mold brush.
7. Remove mold and move on the next connection.

BB-7 : Horizontal Flat Bus Bar End To End



Conductor Size		Graphite Mould	Metal	Handle
A mm.	B mm.	Code	Powder (g.)	Clamp
25 x 3	25 x 3	BB7-T4-253	65	MC-4
25 x 4	25 x 4	BB7-T4-254	90	MC-4
25 x 5	25 x 5	BB7-T4-255	90	MC-4
25 x 6	25 x 6	BB7-T4-256	115	MC-4
30 x 4	30 x 4	BB7-T4-304	90	MC-4
30 x 5	30 x 5	BB7-T4-305	115	MC-4
40 x 4	40 x 4	BB7-T4-404	115	MC-4
40 x 5	40 x 5	BB7-T4-405	150	MC-4
50 x 4	50 x 4	BB7-T5-504	200	MC-5
50 x 5	50 x 5	BB7-T5-505	200	MC-5
50 x 6	50 x 6	BB7-T5-506	250	MC-5
50 x 10	50 x 10	BB7-T5-5010	200 x 2	MC-5

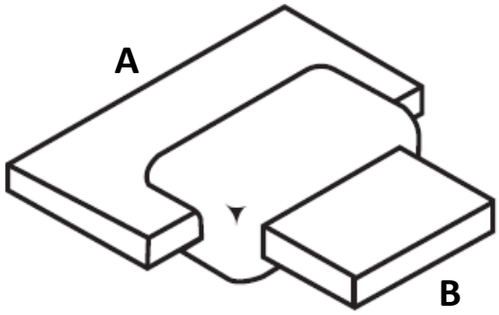
** Special request, please contact us **

Accessories for Exothermic Welding

Manual Installation

1. Position cleaned conductors in dry, clean **TOPWELD** mold.
2. Place metal disc in bottom of mold crucible.
3. Employ powder into crucible, spreading starting powder on mold edge.
4. Close lid, ignite with flint gun from side, sparking starting powder.
5. **TOPWELD** fusion reaction take place.
6. Softly clean slag from the crucible by scraper and mold brush.
7. Remove mold and move on the next connection.

BB-14 : Horizontal Flat Bus Bar Run And Tap



Conductor Size		Graphite Mould	Metal	Handle
A mm.	B mm.	Code	Powder (g.)	Clamp
25 x 3	25 x 3	BB14-T4-253253	65	MC-4
25 x 4	25 x 4	BB14-T4-254254	90	MC-4
25 x 5	25 x 5	BB14-T4-255255	90	MC-4
25 x 6	25 x 6	BB14-T4-256256	115	MC-4
30 x 4	30 x 4	BB14-T4-304304	90	MC-4
30 x 5	30 x 5	BB14-T4-305305	115	MC-4
40 x 4	40 x 4	BB14-T4-404404	115	MC-4
40 x 5	40 x 5	BB14-T4-405405	150	MC-4
50 x 4	50 x 4	BB14-T5-504504	200	MC-5
50 x 5	50 x 5	BB14-T5-505505	200	MC-5
50 x 6	50 x 6	BB14-T5-506506	250	MC-5
50 x 10	50 x 10	BB14-T5-50105010	200 x 2	MC-5

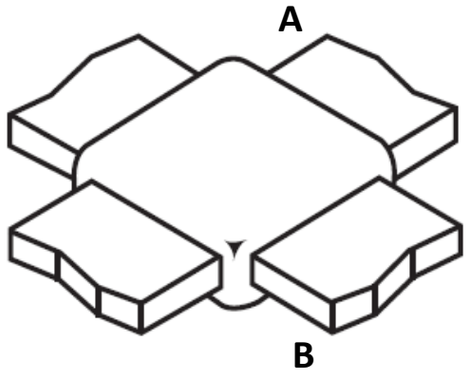
** Special request, please contact us **

Accessories for Exothermic Welding

Manual Installation

1. Position cleaned conductors in dry, clean **TOPWELD** mold.
2. Place metal disc in bottom of mold crucible.
3. Employ powder into crucible, spreading starting powder on mold edge.
4. Close lid, ignite with flint gun from side, sparking starting powder.
5. **TOPWELD** fusion reaction take place.
6. Softly clean slag from the crucible by scraper and mold brush.
7. Remove mold and move on the next connection.

BB-40 : Horizontal Flat Bus Bar Cross (Uncut)



Conductor Size		Graphite Mould	Metal	Handle
A mm.	B mm.	Code	Powder (g.)	Clamp
25 x 3	25 x 3	BB40-T4-253253	90	MC-4
25 x 4	25 x 4	BB40-T4-254254	115	MC-4
25 x 5	25 x 5	BB40-T4-255255	150	MC-4
25 x 6	25 x 6	BB40-T4-256256	150	MC-4
30 x 4	30 x 4	BB40-T4-304304	200	MC-4
30 x 5	30 x 5	BB40-T4-305305	250	MC-4
40 x 4	40 x 4	BB40-T5-404404	200 x 2	MC-5
40 x 5	40 x 5	BB40-T5-405405	200 x 2	MC-5
50 x 4	50 x 4	BB40-T5-504504	250 x 2	MC-5
50 x 5	50 x 5	BB40-T5-505505	250 x 2	MC-5
50 x 6	50 x 6	BB40-T5-506506	250 x 2	MC-5
50 x 10	50 x 10	BB40-T5-50105010	250 x 4	MC-5

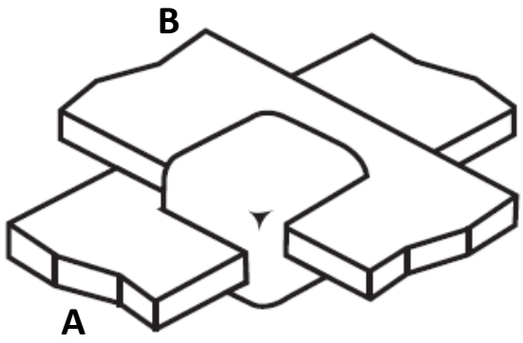
** Special request, please contact us **

Accessories for Exothermic Welding

Manual Installation

1. Position cleaned conductors in dry, clean **TOPWELD** mold.
2. Place metal disc in bottom of mold crucible.
3. Employ powder into crucible, spreading starting powder on mold edge.
4. Close lid, ignite with flint gun from side, sparking starting powder.
5. **TOPWELD** fusion reaction take place.
6. Softly clean slag from the crucible by scraper and mold brush.
7. Remove mold and move on the next connection.

BB-41 : Horizontal Flat Bus Bar Cross



Conductor Size		Graphite Mould	Metal	Handle
A mm.	B mm.	Code	Powder (g.)	Clamp
25 x 3	25 x 3	BB41-T4-253253	65	MC-4
25 x 4	25 x 4	BB41-T4-254254	90	MC-4
25 x 5	25 x 5	BB41-T4-255255	90	MC-4
25 x 6	25 x 6	BB41-T4-256256	115	MC-4
30 x 4	30 x 4	BB41-T4-304304	115	MC-4
30 x 5	30 x 5	BB41-T4-305305	115	MC-4
40 x 4	40 x 4	BB41-T5-404404	200	MC-5
40 x 5	40 x 5	BB41-T5-405405	200	MC-5
50 x 4	50 x 4	BB41-T5-504504	200	MC-5
50 x 5	50 x 5	BB41-T5-505505	200	MC-5
50 x 6	50 x 6	BB41-T5-506506	200	MC-5
50 x 10	50 x 10	BB41-T05-50105010	150 x 2	MC-5

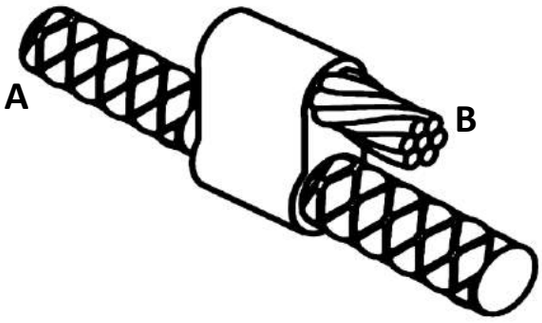
** Special request, please contact us **

Accessories for Exothermic Welding

Manual Installation

1. Position cleaned conductors in dry, clean **TOPWELD** mold.
2. Place metal disc in bottom of mold crucible.
3. Employ powder into crucible, spreading starting powder on mold edge.
4. Close lid, ignite with flint gun from side, sparking starting powder.
5. **TOPWELD** fusion reaction take place.
6. Softly clean slag from the crucible by scraper and mold brush.
7. Remove mold and move on the next connection.

CRE1 : Horizontal Parallel Cable To Horizontal Rebar (Cable To Rebar Fully Wrapped Connection)



Steel Size A mm.	Conductor Size B mm^2	Graphite Mould Code	Metal Powder (g.)	Handle Clamp
10	16	CRE1-T4-1610R	115	MC-4
	25	CRE1-T4-2510R	115	MC-4
	35	CRE1-T4-3510R	115	MC-4
	50	CRE1-T4-5010R	150	MC-4
	70	CRE1-T4-7010R	150	MC-4
	95	CRE1-T4-9510R	200	MC-4
	120	CRE1-T4-12010R	200	MC-4
12	16	CRE1-T4-1612R	115	MC-4
	25	CRE1-T4-2512R	115	MC-4
	35	CRE1-T4-3512R	115	MC-4
	50	CRE1-T4-5012R	150	MC-4
	70	CRE1-T4-7012R	150	MC-4
	95	CRE1-T4-9512R	200	MC-4
	4/0AWG	CRE1-T4-4/012R	200	MC-4
	120	CRE1-T4-12012R	200	MC-4
16	16	CRE1-T4-1616R	115	MC-4
	25	CRE1-T4-2516R	115	MC-4
	35	CRE1-T4-3516R	115	MC-4
	50	CRE1-T4-5016R	150	MC-4
	70	CRE1-T4-7016R	200	MC-4
	95	CRE1-T4-9516R	200	MC-4
	120	CRE1-T4-12016R	200	MC-4
20	16	CRE1-T4-1620R	150	MC-4
	25	CRE1-T4-2520R	150	MC-4
	35	CRE1-T4-3520R	150	MC-4
	50	CRE1-T4-5020R	200	MC-4
	70	CRE1-T4-7020R	200	MC-4
	95	CRE1-T4-9520R	250	MC-4
	120	CRE1-T4-12020R	250	MC-4
25	16	CRE1-T4-1625R	150	MC-4
	25	CRE1-T4-2525R	150	MC-4
	35	CRE1-T4-3525R	200	MC-4
	50	CRE1-T4-5025R	200	MC-4
	70	CRE1-T4-7025R	250	MC-4
	95	CRE1-T4-9525R	250	MC-4
	120	CRE1-T4-12025R	250	MC-4

** Special request, please contact us **

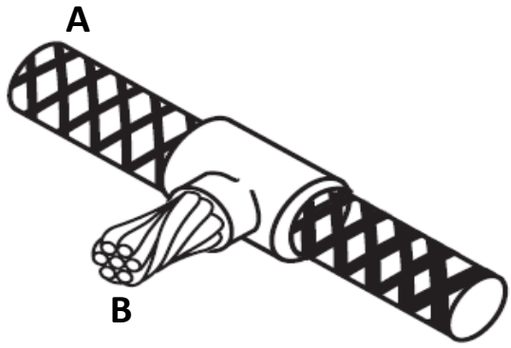
Accessories for Exothermic Welding

Manual Installation

1. Position cleaned conductors in dry, clean **TOPWELD** mold.
2. Place metal disc in bottom of mold crucible.
3. Employ powder into crucible, spreading starting powder on mold edge.
4. Close lid, ignite with flint gun from side, sparking starting powder.
5. **TOPWELD** fusion reaction take place.
6. Softly clean slag from the crucible by scraper and mold brush.
7. Remove mold and move on the next connection.

Remark : ** For perfect welding, clean and remove oxide and moisture from reinforcement steel and conductor before making connection.

CRE2 : Horizontal Rebar To Horizontal Cable Tap (Cable To Rebar Fully Wrapped Connection)



Steel Size A mm.	Conductor Size B mm^2	Graphite Mould Code	Metal Powder (g.)	Handle Clamp
10	16	CRE2-T4-1610R	45	MC-4
	25	CRE2-T4-2510R	45	MC-4
	35	CRE2-T4-3510R	65	MC-4
	50	CRE2-T4-5010R	90	MC-4
	70	CRE2-T4-7010R	90	MC-4
	95	CRE2-T4-9510R	115	MC-4
	120	CRE2-T4-12010R	115	MC-4
	150	CRE2-T4-15010R	150	MC-4
	185	CRE2-T4-18510R	150	MC-4
12	16	CRE2-T4-1612R	45	MC-4
	25	CRE2-T4-2512R	45	MC-4
	35	CRE2-T4-3512R	65	MC-4
	50	CRE2-T4-5012R	90	MC-4
	70	CRE2-T4-7012R	90	MC-4
	95	CRE2-T4-9512R	115	MC-4
	120	CRE2-T4-12012R	115	MC-4
	150	CRE2-T4-15012R	150	MC-4
	185	CRE2-T4-18512R	150	MC-4
16	16	CRE2-T4-1616R	90	MC-4
	25	CRE2-T4-2516R	90	MC-4
	35	CRE2-T4-3516R	90	MC-4
	50	CRE2-T4-5016R	115	MC-4
	70	CRE2-T4-7016R	115	MC-4
	95	CRE2-T4-9516R	150	MC-4
	120	CRE2-T4-12016R	150	MC-4
	150	CRE2-T4-15016R	200	MC-4
	185	CRE2-T4-18516R	200	MC-4
20	16	CRE2-T4-1620R	115	MC-4
	25	CRE2-T4-2520R	115	MC-4
	35	CRE2-T4-3520R	115	MC-4
	50	CRE2-T4-5020R	150	MC-4
	70	CRE2-T4-7020R	150	MC-4
	95	CRE2-T4-9520R	200	MC-4
	120	CRE2-T4-12020R	200	MC-4
	150	CRE2-T4-15020R	200	MC-4
	185	CRE2-T4-18520R	250	MC-4
25	16	CRE2-T4-1625R	200	MC-4
	25	CRE2-T4-2525R	200	MC-4
	35	CRE2-T4-3525R	200	MC-4
	50	CRE2-T4-5025R	200	MC-4
	70	CRE2-T4-7025R	250	MC-4
	95	CRE2-T4-9525R	250	MC-4
	120	CRE2-T4-12025R	250	MC-4
	150	CRE2-T5-15025R	150 x 2	MC-5
	185	CRE2-T5-18525R	150 x 2	MC-5

** Special request, please contact us **

Accessories for Exothermic Welding

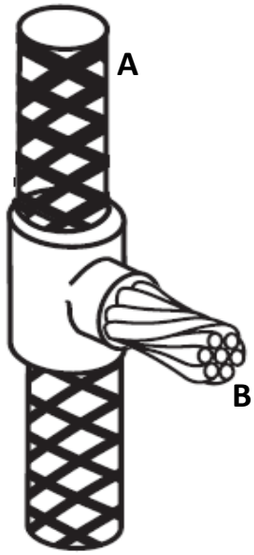
Manual Installation

1. Position cleaned conductors in dry, clean **TOPWELD** mold.
2. Place metal disc in bottom of mold crucible.
3. Employ powder into crucible, spreading starting powder on mold edge.
4. Close lid, ignite with flint gun from side, sparking starting powder.
5. **TOPWELD** fusion reaction take place.
6. Softly clean slag from the crucible by scraper and mold brush.
7. Remove mold and move on the next connection.

Remark : ** For perfect welding, clean and remove oxide and moisture from reinforcement steel and conductor before making connection.

CRE6 : Vertical Rebar To Horizontal Cable Tap

(Cable To Rebar Fully Wrapped Connection)



Steel Size A mm.	Conductor Size B mm^2	Graphite Mould Code	Metal Powder (g.)	Handle Clamp
10	16	CRE6-T4-1610R	65	MC-4
	25	CRE6-T4-2510R	65	MC-4
	35	CRE6-T4-3510R	65	MC-4
	50	CRE6-T4-5010R	115	MC-4
	70	CRE6-T4-7010R	115	MC-4
	95	CRE6-T4-9510R	150	MC-4
	120	CRE6-T4-12010R	150	MC-4
12	16	CRE6-T4-1612R	65	MC-4
	25	CRE6-T4-2512R	65	MC-4
	35	CRE6-T4-3512R	65	MC-4
	50	CRE6-T4-5012R	115	MC-4
	70	CRE6-T4-7012R	115	MC-4
	95	CRE6-T4-9512R	150	MC-4
	120	CRE6-T4-12012R	150	MC-4
16	16	CRE6-T4-1616R	65	MC-4
	25	CRE6-T4-2516R	65	MC-4
	35	CRE6-T4-3516R	65	MC-4
	50	CRE6-T4-5016R	115	MC-4
	70	CRE6-T4-7016R	115	MC-4
	95	CRE6-T4-9516R	150	MC-4
	120	CRE6-T4-12016R	150	MC-4
20	16	CRE6-T4-1620R	65	MC-4
	25	CRE6-T4-2520R	65	MC-4
	35	CRE6-T4-3520R	65	MC-4
	50	CRE6-T4-5020R	115	MC-4
	70	CRE6-T4-7020R	115	MC-4
	95	CRE6-T4-9520R	150	MC-4
	120	CRE6-T4-12020R	150	MC-4
25	16	CRE6-T4-1625R	65	MC-4
	25	CRE6-T4-2525R	65	MC-4
	35	CRE6-T4-3525R	65	MC-4
	50	CRE6-T4-5025R	115	MC-4
	70	CRE6-T4-7025R	115	MC-4
	95	CRE6-T4-9525R	150	MC-4
	120	CRE6-T4-12025R	150	MC-4

** Special request, please contact us **

Accessories for Exothermic Welding

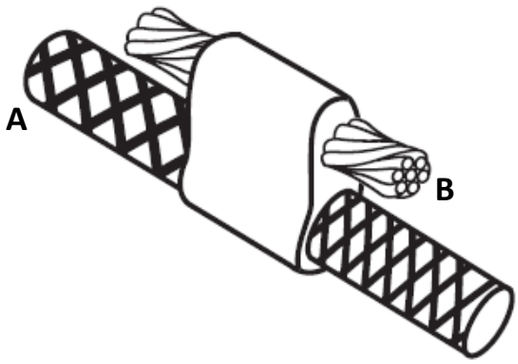
Manual Installation

1. Position cleaned conductors in dry, clean **TOPWELD** mold.
2. Place metal disc in bottom of mold crucible.
3. Employ powder into crucible, spreading starting powder on mold edge.
4. Close lid, ignite with flint gun from side, sparking starting powder.
5. **TOPWELD** fusion reaction take place.
6. Softly clean slag from the crucible by scraper and mold brush.
7. Remove mold and move on the next connection.

Remark : ** For perfect welding, clean and remove oxide and moisture from reinforcement steel and conductor before making connection.

CRE17 : Horizontal Parallel Thru Cable To Horizontal Rebar

(Cable To Rebar Fully Wrapped Connection)



Steel Size A mm.	Conductor Size B mm^2	Graphite Mould Code	Metal Powder (g.)	Handle Clamp
10	16	CRE17-T4-1610R	115	MC-4
	25	CRE17-T4-2510R	115	MC-4
	35	CRE17-T4-3510R	115	MC-4
	50	CRE17-T4-5010R	150	MC-4
	70	CRE17-T4-7010R	150	MC-4
	95	CRE17-T4-9510R	200	MC-4
	120	CRE17-T4-12010R	200	MC-4
12	16	CRE17-T4-1612R	115	MC-4
	25	CRE17-T4-2512R	115	MC-4
	35	CRE17-T4-3512R	115	MC-4
	50	CRE17-T4-5012R	150	MC-4
	70	CRE17-T4-7012R	150	MC-4
	95	CRE17-T4-9512R	200	MC-4
	120	CRE17-T4-12012R	200	MC-4
16	16	CRE17-T4-1616R	115	MC-4
	25	CRE17-T4-2516R	115	MC-4
	35	CRE17-T4-3516R	115	MC-4
	50	CRE17-T4-5016R	150	MC-4
	70	CRE17-T4-7016R	200	MC-4
	95	CRE17-T4-9516R	200	MC-4
	120	CRE17-T4-12016R	200	MC-4
20	16	CRE17-T4-1620R	150	MC-4
	25	CRE17-T4-2520R	150	MC-4
	35	CRE17-T4-3520R	150	MC-4
	50	CRE17-T4-5020R	200	MC-4
	70	CRE17-T4-7020R	200	MC-4
	95	CRE17-T4-9520R	250	MC-4
	120	CRE17-T4-12020R	250	MC-4
25	16	CRE17-T4-1625R	150	MC-4
	25	CRE17-T4-2525R	150	MC-4
	35	CRE17-T4-3525R	200	MC-4
	50	CRE17-T4-5025R	200	MC-4
	70	CRE17-T4-7025R	250	MC-4
	95	CRE17-T4-9525R	250	MC-4
	120	CRE17-T4-12025R	250	MC-4

** Special request, please contact us **

Accessories for Exothermic Welding

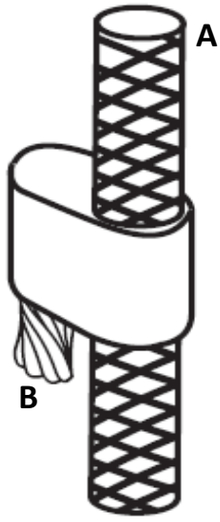
Manual Installation

1. Position cleaned conductors in dry, clean **TOPWELD** mold.
2. Place metal disc in bottom of mold crucible.
3. Employ powder into crucible, spreading starting powder on mold edge.
4. Close lid, ignite with flint gun from side, sparking starting powder.
5. **TOPWELD** fusion reaction take place.
6. Softly clean slag from the crucible by scraper and mold brush.
7. Remove mold and move on the next connection.

Remark : ** For perfect welding, clean and remove oxide and moisture from reinforcement steel and conductor before making connection.

CRE18 : Vertical Parallel Down Cable To Vertical Rebar

(Cable To Rebar Fully Wrapped Connection)



Steel Size A mm.	Conductor Size B mm^2	Graphite Mould Code	Metal Powder (g.)	Handle Clamp
10	16	CRE18-T5-1610R	115	MC-5
	25	CRE18-T5-2510R	115	MC-5
	35	CRE18-T5-3510R	115	MC-5
	50	CRE18-T5-5010R	150	MC-5
	70	CRE18-T5-7010R	150	MC-5
	95	CRE18-T5-9510R	200	MC-5
	120	CRE18-T5-12010R	200	MC-5
12	16	CRE18-T5-1612R	115	MC-5
	25	CRE18-T5-2512R	115	MC-5
	35	CRE18-T5-3512R	115	MC-5
	50	CRE18-T5-5012R	150	MC-5
	70	CRE18-T5-7012R	150	MC-5
	95	CRE18-T5-9512R	200	MC-5
	120	CRE18-T5-12012R	200	MC-5
16	16	CRE18-T5-1616R	115	MC-5
	25	CRE18-T5-2516R	115	MC-5
	35	CRE18-T5-3516R	115	MC-5
	50	CRE18-T5-5016R	150	MC-5
	70	CRE18-T5-7016R	200	MC-5
	95	CRE18-T5-9516R	200	MC-5
	120	CRE18-T5-12016R	200	MC-5
20	16	CRE18-T5-1620R	150	MC-5
	25	CRE18-T5-2520R	150	MC-5
	35	CRE18-T5-3520R	150	MC-5
	50	CRE18-T5-5020R	200	MC-5
	70	CRE18-T5-7020R	200	MC-5
	95	CRE18-T5-9520R	250	MC-5
	120	CRE18-T5-12020R	250	MC-5
25	16	CRE18-T5-1625R	150	MC-5
	25	CRE18-T5-2525R	150	MC-5
	35	CRE18-T5-3525R	200	MC-5
	50	CRE18-T5-5025R	200	MC-5
	70	CRE18-T5-7025R	250	MC-5
	95	CRE18-T5-9525R	250	MC-5
	120	CRE18-T5-12025R	250	MC-5

** Special request, please contact us **

Accessories for Exothermic Welding

Manual Installation

1. Position cleaned conductors in dry, clean **TOPWELD** mold.
2. Place metal disc in bottom of mold crucible.
3. Employ powder into crucible, spreading starting powder on mold edge.
4. Close lid, ignite with flint gun from side, sparking starting powder.
5. **TOPWELD** fusion reaction take place.
6. Softly clean slag from the crucible by scraper and mold brush.
7. Remove mold and move on the next connection.

Remark : ** For perfect welding, clean and remove oxide and moisture from reinforcement steel and conductor before making connection.

CRE19 : Vertical Parallel Up Cable To Vertical Rebar

(Cable To Rebar Fully Wrapped Connection)

Steel Size A mm.	Conductor Size B mm^2	Graphite Mould Code	Metal Powder (g.)	Handle Clamp
10	16	CRE19-T4-1610R	115	MC-4
	25	CRE19-T4-2510R	115	MC-4
	35	CRE19-T4-3510R	115	MC-4
	50	CRE19-T4-5010R	150	MC-4
	70	CRE19-T4-7010R	150	MC-4
	95	CRE19-T4-9510R	200	MC-4
	120	CRE19-T4-12010R	200	MC-4
12	16	CRE19-T4-1612R	115	MC-4
	25	CRE19-T4-2512R	115	MC-4
	35	CRE19-T4-3512R	115	MC-4
	50	CRE19-T4-5012R	150	MC-4
	70	CRE19-T4-7012R	150	MC-4
	95	CRE19-T4-9512R	200	MC-4
	120	CRE19-T4-12012R	200	MC-4
16	16	CRE19-T4-1616R	115	MC-4
	25	CRE19-T4-2516R	115	MC-4
	35	CRE19-T4-3516R	115	MC-4
	50	CRE19-T4-5016R	150	MC-4
	70	CRE19-T4-7016R	200	MC-4
	95	CRE19-T4-9516R	200	MC-4
	120	CRE19-T4-12016R	200	MC-4
20	16	CRE19-T4-1620R	150	MC-4
	25	CRE19-T4-2520R	150	MC-4
	35	CRE19-T4-3520R	150	MC-4
	50	CRE19-T4-5020R	200	MC-4
	70	CRE19-T4-7020R	200	MC-4
	95	CRE19-T4-9520R	250	MC-4
	120	CRE19-T4-12020R	250	MC-4
25	16	CRE19-T4-1625R	150	MC-4
	25	CRE19-T4-2525R	150	MC-4
	35	CRE19-T4-3525R	200	MC-4
	50	CRE19-T4-5025R	200	MC-4
	70	CRE19-T4-7025R	250	MC-4
	95	CRE19-T4-9525R	250	MC-4
	120	CRE19-T4-12025R	250	MC-4

** Special request, please contact us **

Accessories for Exothermic Welding

Manual Installation

1. Position cleaned conductors in dry, clean **TOPWELD** mold.
2. Place metal disc in bottom of mold crucible.
3. Employ powder into crucible, spreading starting powder on mold edge.
4. Close lid, ignite with flint gun from side, sparking starting powder.
5. **TOPWELD** fusion reaction take place.
6. Softly clean slag from the crucible by scraper and mold brush.
7. Remove mold and move on the next connection.

Remark : ** For perfect welding, clean and remove oxide and moisture from reinforcement steel and conductor before making connection.

CRE20 : Vertical Parallel Thru Cable To Vertical Rebar

(Cable To Rebar Fully Wrapped Connection)

Steel Size A mm.	Conductor Size B mm^2	Graphite Mould Code	Metal Powder (g.)	Handle Clamp
10	16	CRE20-T04-1610R	115	MC-4
	25	CRE20-T04-2510R	115	MC-4
	35	CRE20-T04-3510R	115	MC-4
	50	CRE20-T04-5010R	150	MC-4
	70	CRE20-T04-7010R	150	MC-4
	95	CRE20-T04-9510R	200	MC-4
	120	CRE20-T04-12010R	200	MC-4
12	16	CRE20-T04-1612R	115	MC-4
	25	CRE20-T04-2512R	115	MC-4
	35	CRE20-T04-3512R	115	MC-4
	50	CRE20-T04-5012R	150	MC-4
	70	CRE20-T04-7012R	150	MC-4
	95	CRE20-T04-9512R	200	MC-4
	120	CRE20-T04-12012R	200	MC-4
16	16	CRE20-T04-1616R	115	MC-4
	25	CRE20-T04-2516R	115	MC-4
	35	CRE20-T04-3516R	115	MC-4
	50	CRE20-T04-5016R	150	MC-4
	70	CRE20-T04-7016R	200	MC-4
	95	CRE20-T04-9516R	200	MC-4
	120	CRE20-T04-12016R	200	MC-4
20	16	CRE20-T04-1620R	150	MC-4
	25	CRE20-T04-2520R	150	MC-4
	35	CRE20-T04-3520R	150	MC-4
	50	CRE20-T04-5020R	200	MC-4
	70	CRE20-T04-7020R	200	MC-4
	95	CRE20-T04-9520R	250	MC-4
	120	CRE20-T04-12020R	250	MC-4
25	16	CRE20-T04-1625R	150	MC-4
	25	CRE20-T04-2525R	150	MC-4
	35	CRE20-T04-3525R	200	MC-4
	50	CRE20-T04-5025R	200	MC-4
	70	CRE20-T04-7025R	250	MC-4
	95	CRE20-T04-9525R	250	MC-4
	120	CRE20-T04-12025R	250	MC-4

** Special request, please contact us **

Accessories for Exothermic Welding

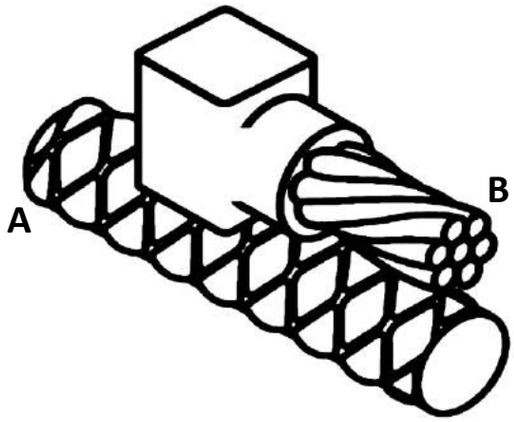
Manual Installation

1. Position cleaned conductors in dry, clean **TOPWELD** mold.
2. Place metal disc in bottom of mold crucible.
3. Employ powder into crucible, spreading starting powder on mold edge.
4. Close lid, ignite with flint gun from side, sparking starting powder.
5. **TOPWELD** fusion reaction take place.
6. Softly clean slag from the crucible by scraper and mold brush.
7. Remove mold and move on the next connection.

Remark : ** For perfect welding, clean and remove oxide and moisture from reinforcement steel and conductor before making connection.

CRE1P : Horizontal Parallel Cable & Rebar Tap

(Cable To Rebar Partially Wrapped Connection)



Steel Size A mm.	Conductor Size B mm^2	Graphite Mould Code	Metal Powder (g.)	Handle Clamp
20 to 40	16	CRE1P-T4-16	45	MC-4, CVH
20 to 40	25	CRE1P-T4-25	45	MC-4, CVH
20 to 40	35	CRE1P-T4-35	45	MC-4, CVH
20 to 40	50	CRE1P-T4-50	90	MC-4, CVH
20 to 40	70	CRE1P-T4-70	90	MC-4, CVH
20 to 40	95	CRE1P-T4-95	90	MC-4, CVH
20 to 40	4/0AWG	CRE1P-T4-4/0	90	MC-4, CVH
20 to 40	120	CRE1P-T4-120	90	MC-4, CVH
25 to 40	150	CRE1P-T4-150	150	MC-4, CVH
28 to 40	185	CRE1P-T4-185	200	MC-4, CVH
32 to 40	240	CRE1P-T4-240	200	MC-4, CVH
32 to 40	300	CRE1P-T4-300	250	MC-4, CVH

** Special request, please contact us **

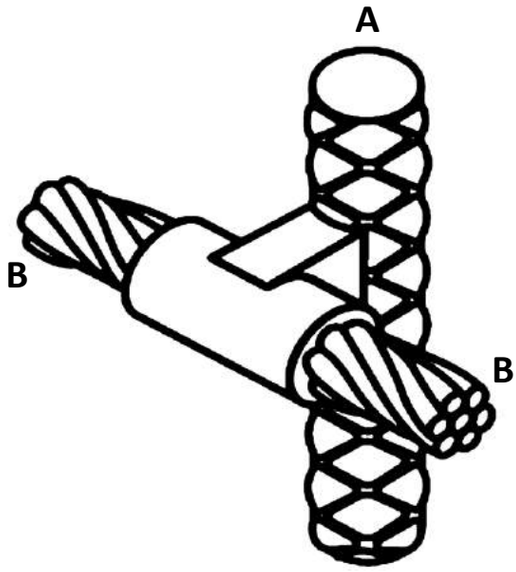
Accessories for Exothermic Welding

Manual Installation

1. Position cleaned conductors in dry, clean **TOPWELD** mold.
2. Place metal disc in bottom of mold crucible.
3. Employ powder into crucible, spreading starting powder on mold edge.
4. Close lid, ignite with flint gun from side, sparking starting powder.
5. **TOPWELD** fusion reaction take place.
6. Softly clean slag from the crucible by scraper and mold brush.
7. Remove mold and move on the next connection.

Remark : ** For perfect welding, clean and remove oxide and moisture from reinforcement steel and conductor before making connection.

CRE3P : Horizontal Thru Cable To Vertical Rebar
(Cable To Rebar Partially Wrapped Connection)



Steel Size A mm.	Conductor Size B mm^2	Graphite Mould Code	Metal Powder (g.)	Handle Clamp
20 to 40	16	CRE3P-T6-16	45	MC-4, PK7
20 to 40	25	CRE3P-T6-25	45	MC-4, PK7
20 to 40	35	CRE3P-T6-35	45	MC-4, PK7
20 to 40	50	CRE3P-T6-50	90	MC-4, PK7
20 to 40	70	CRE3P-T6-70	90	MC-4, PK7
20 to 40	95	CRE3P-T6-95	90	MC-4, PK7
20 to 40	120	CRE3P-T6-120	90	MC-4, PK7
25 to 40	150	CRE3P-T6-150	115	MC-4, PK7
28 to 40	185	CRE3P-T6-185	150	MC-4, PK7
32 to 40	240	CRE3P-T6-240	150	MC-4, PK7
32 to 40	300	CRE3P-T6-300	250	MC-4, PK7

** Special request, please contact us **

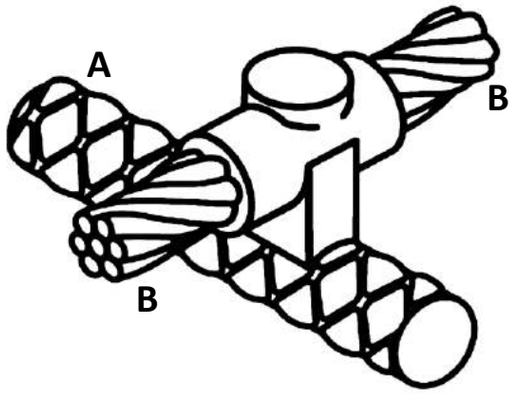
Accessories for Exothermic Welding

Manual Installation

1. Position cleaned conductors in dry, clean **TOPWELD** mold.
2. Place metal disc in bottom of mold crucible.
3. Employ powder into crucible, spreading starting powder on mold edge.
4. Close lid, ignite with flint gun from side, sparking starting powder.
5. **TOPWELD** fusion reaction take place.
6. Softly clean slag from the crucible by scraper and mold brush.
7. Remove mold and move on the next connection.

Remark : ** For perfect welding, clean and remove oxide and moisture from reinforcement steel and conductor before making connection.

CRE4P : Horizontal Thru Cable To Horizontal Rebar
(Cable To Rebar Partially Wrapped Connection)



Steel Size A mm.	Conductor Size B mm^2	Graphite Mould Code	Metal Powder (g.)	Handle Clamp
20 to 40	16	CRE4P-T4-16	65	MC-4, A3658
20 to 40	25	CRE4P-T4-25	65	MC-4, A3658
20 to 40	35	CRE4P-T4-35	90	MC-4, A3658
20 to 40	50	CRE4P-T4-50	115	MC-4, A3658
20 to 40	70	CRE4P-T4-70	115	MC-4, A3658
20 to 40	95	CRE4P-T4-95	150	MC-4, A3658
20 to 40	4/0AWG	CRE4P-T4-4/0	150	MC-4, A3658
20 to 40	120	CRE4P-T4-120	150	MC-4, A3658
25 to 40	150	CRE4P-T4-150	200	MC-4, A3658
28 to 40	185	CRE4P-T4-185	250	MC-4, A3658
32 to 40	240	CRE4P-T5-240	200 x 2	MC-5, A3658
32 to 40	300	CRE4P-T5-300	200 x 2	MC-5, A3658

** Special request, please contact us **

Accessories for Exothermic Welding

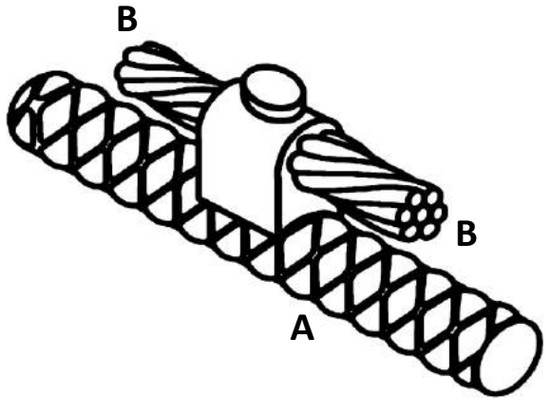
Manual Installation

1. Position cleaned conductors in dry, clean **TOPWELD** mold.
2. Place metal disc in bottom of mold crucible.
3. Employ powder into crucible, spreading starting powder on mold edge.
4. Close lid, ignite with flint gun from side, sparking starting powder.
5. **TOPWELD** fusion reaction take place.
6. Softly clean slag from the crucible by scraper and mold brush.
7. Remove mold and move on the next connection.

Remark : ** For perfect welding, clean and remove oxide and moisture from reinforcement steel and conductor before making connection.

CRE17P : Horizontal Parallel Thru Cable To Horizontal Rebar

(Cable To Rebar Partially Wrapped Connection)



Steel Size A mm.	Conductor Size B mm^2	Graphite Mould Code	Metal Powder (g.)	Handle Clamp
20 to 40	16	CRE17P-T4-16	45	MC-4, CVH
20 to 40	25	CRE17P-T4-25	45	MC-4, CVH
20 to 40	35	CRE17P-T4-35	45	MC-4, CVH
20 to 40	50	CRE17P-T4-50	65	MC-4, CVH
20 to 40	70	CRE17P-T4-70	90	MC-4, CVH
20 to 40	95	CRE17P-T4-95	90	MC-4, CVH
20 to 40	4/0AWG	CRE17P-T4-4/0	90	MC-4, CVH
20 to 40	120	CRE17P-T4-120	90	MC-4, CVH
25 to 40	150	CRE17P-T4-150	115	MC-4, CVH
28 to 40	185	CRE17P-T4-185	250	MC-4, CVH
32 to 40	240	CRE17P-T5-240	150 x 2	MC-5, CVH
32 to 40	300	CRE17P-T5-300	200 x 2	MC-5, CVH

** Special request, please contact us **

Accessories for Exothermic Welding

Manual Installation

1. Position cleaned conductors in dry, clean **TOPWELD** mold.
2. Place metal disc in bottom of mold crucible.
3. Employ powder into crucible, spreading starting powder on mold edge.
4. Close lid, ignite with flint gun from side, sparking starting powder.
5. **TOPWELD** fusion reaction take place.
6. Softly clean slag from the crucible by scraper and mold brush.
7. Remove mold and move on the next connection.

Remark : ** For perfect welding, clean and remove oxide and moisture from reinforcement steel and conductor before making connection.

CRE20P : Vertical Parallel Thru Cable To Vertical Rebar

(Cable To Rebar Partially Wrapped Connection)

Steel Size A mm.	Conductor Size B mm^2	Graphite Mould Code	Metal Powder (g.)	Handle Clamp
20 to 40	16	CRE120P-T4-16	90	MC-4, A3658
20 to 40	25	CRE20P-T4-25	90	MC-4, A3658
20 to 40	35	CRE20P-T4-35	115	MC-4, A3658
20 to 40	50	CRE20P-T4-50	115	MC-4, A3658
20 to 40	70	CRE20P-T4-70	150	MC-4, A3658
20 to 40	95	CRE20P-T4-95	200	MC-4, A3658
20 to 40	120	CRE20P-T4-120	250	MC-4, A3658
25 to 40	150	CRE20P-T4-150	250	MC-4, A3658
28 to 40	185	CRE20P-T5-185	150 x 2	MC-5, A3658
32 to 40	240	CRE20P-T5-240	150 x 2	MC-5, A3658
32 to 40	300	CRE20P-T5-300	200 x 2	MC-5, A3658

** Special request, please contact us **

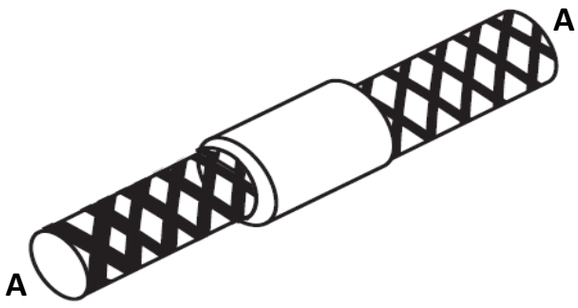
Accessories for Exothermic Welding

Manual Installation

1. Position cleaned conductors in dry, clean **TOPWELD** mold.
2. Place metal disc in bottom of mold crucible.
3. Employ powder into crucible, spreading starting powder on mold edge.
4. Close lid, ignite with flint gun from side, sparking starting powder.
5. **TOPWELD** fusion reaction take place.
6. Softly clean slag from the crucible by scraper and mold brush.
7. Remove mold and move on the next connection.

Remark : ** For perfect welding, clean and remove oxide and moisture from reinforcement steel and conductor before making connection.

RE1 : Horizontal Rebar End To End (Splice)



Steel Size A mm.	Graphite Mould Code	Metal Powder (g.)	Handle Clamp
10	RE1-T4-1010R	90	MC-4
12	RE1-T4-1212R	115	MC-4
16	RE1-T4-1616R	200	MC-4
20	RE1-T4-2020R	250	MC-4
25	RE1-T5-2525R	200 x 2	MC-5

** Special request, please contact us **

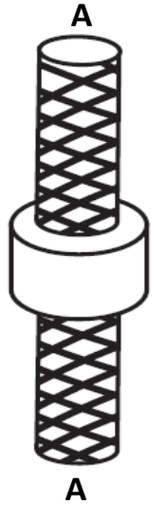
Accessories for Exothermic Welding

Manual Installation

1. Position cleaned conductors in dry, clean **TOPWELD** mold.
2. Place metal disc in bottom of mold crucible.
3. Employ powder into crucible, spreading starting powder on mold edge.
4. Close lid, ignite with flint gun from side, sparking starting powder.
5. **TOPWELD** fusion reaction take place.
6. Softly clean slag from the crucible by scraper and mold brush.
7. Remove mold and move on the next connection.

Remark : ** For perfect welding, clean and remove oxide and moisture from reinforcement steel and conductor before making connection.

RE2 : Vertical Rebar End To End (Splice)



Steel Size A mm.	Graphite Mould Code	Metal Powder (g.)	Handle Clamp
10	RE2-T4-1010R	90	MC-4
12	RE2-T4-1212R	115	MC-4
16	RE2-T4-1616R	200	MC-4
20	RE2-T4-2020R	250	MC-4
25	RE2-T5-2525R	200 x 2	MC-5

** Special request, please contact us **

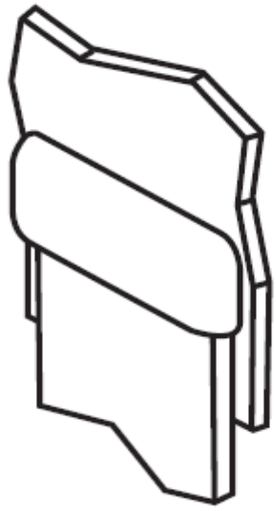
Accessories for Exothermic Welding

Manual Installation

1. Position cleaned conductors in dry, clean **TOPWELD** mold.
2. Place metal disc in bottom of mold crucible.
3. Employ powder into crucible, spreading starting powder on mold edge.
4. Close lid, ignite with flint gun from side, sparking starting powder.
5. **TOPWELD** fusion reaction take place.
6. Softly clean slag from the crucible by scraper and mold brush.
7. Remove mold and move on the next connection.

Remark : ** For perfect welding, clean and remove oxide and moisture from reinforcement steel and conductor before making connection.

BS-1 : Vertical Bus Bar Tap To Vertical Down Steel Surface



A

Conductor Size A (mm.)	Graphite Mould Code	Metal Powder (g.)	Handle Clamp
25 x 3	BS1-T4-253	90	MC-4, A3657
25 x 4	BS1-T4-254	90	MC-4, A3657
25 x 5	BS1-T4-255	150	MC-4, A3657
25 x 6	BS1-T4-256	150	MC-4, A3657
30 x 4	BS1-T4-304	115	MC-4, A3657
30 x 5	BS1-T4-305	150	MC-4, A3657
40 x 4	BS1-T4-404	200	MC-4, A3657
40 x 5	BS1-T4-405	200	MC-4, A3657
50 x 4	BS1-T4-504	250	MC-4, A3657
50 x 5	BS1-T4-505	250	MC-4, A3657
50 x 6	BS1-T5-506	150 x 2	MC-5, A3657

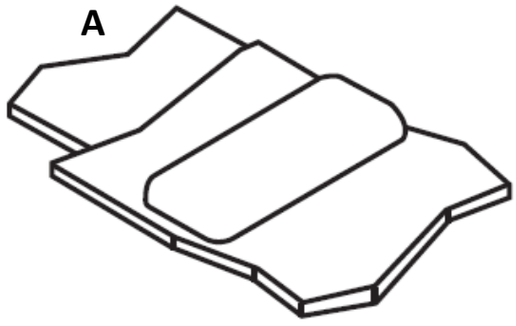
** Special request, please contact us **

Accessories for Exothermic Welding

Manual Installation

1. Position cleaned conductors in dry, clean **TOPWELD** mold.
2. Place metal disc in bottom of mold crucible.
3. Employ powder into crucible, spreading starting powder on mold edge.
4. Close lid, ignite with flint gun from side, sparking starting powder.
5. **TOPWELD** fusion reaction take place.
6. Softly clean slag from the crucible by scraper and mold brush.
7. Remove mold and move on the next connection.

BS-2 : Horizontal Bus Bar Tap To Horizontal Steel Surface



Conductor Size A (mm.)	Graphite Mould Code	Metal Powder (g.)	Handle Clamp
25 x 3	BS2-T4-253	90	MC-4
25 x 4	BS2-T4-254	90	MC-4
25 x 5	BS2-T4-255	150	MC-4
25 x 6	BS2-T4-256	150	MC-4
30 x 4	BS2-T4-304	150	MC-4
30 x 5	BS2-T4-305	200	MC-4
40 x 4	BS2-T4-404	200	MC-4
40 x 5	BS2-T4-405	200	MC-4
50 x 4	BS2-T5-504	150 x 2	MC-5
50 x 5	BS2-T5-505	150 x 2	MC-5
50 x 6	BS2-T5-506	150 x 2	MC-5

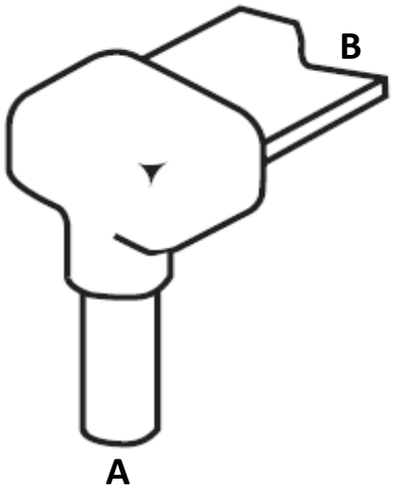
** Special request, please contact us **

Accessories for Exothermic Welding

Manual Installation

1. Position cleaned conductors in dry, clean **TOPWELD** mold.
2. Place metal disc in bottom of mold crucible.
3. Employ powder into crucible, spreading starting powder on mold edge.
4. Close lid, ignite with flint gun from side, sparking starting powder.
5. **TOPWELD** fusion reaction take place.
6. Softly clean slag from the crucible by scraper and mold brush.
7. Remove mold and move on the next connection.

BR-1 : Horizontal Bus Bar End To Ground Rod



Rod Size		Conductor Size	Graphite Mould	Metal	Handle
A mm.	A inch	B (mm.)	Code	Powder (g.)	Clamp
14.2	5/8	25 x 3	BR1-T4-5/8253	90	MC-4
14.2	5/8	25 x 4	BR1-T4-5/8254	115	MC-4
14.2	5/8	25 x 5	BR1-T4-5/8255	115	MC-4
14.2	5/8	25 x 6	BR1-T4-5/8256	115	MC-4
14.2	5/8	30 x 4	BR1-T4-5/8304	150	MC-4
14.2	5/8	30 x 5	BR1-T4-5/8305	150	MC-4
14.2	5/8	40 x 4	BR1-T4-5/8404	150	MC-4
14.2	5/8	40 x 5	BR1-T4-5/8405	150	MC-4
14.2	5/8	50 x 4	BR1-T5-5/8504	200	MC-5
14.2	5/8	50 x 5	BR1-T5-5/8505	200	MC-5
14.2	5/8	50 x 6	BR1-T5-5/8506	200	MC-5
17.2	3/4	25 x 3	BR1-T4-3/4253	150	MC-4
17.2	3/4	25 x 4	BR1-T4-3/4254	150	MC-4
17.2	3/4	25 x 5	BR1-T4-3/4255	150	MC-4
17.2	3/4	25 x 6	BR1-T4-3/4256	200	MC-4
17.2	3/4	30 x 4	BR1-T4-3/4304	200	MC-4
17.2	3/4	30 x 5	BR1-T4-3/4305	200	MC-4
17.2	3/4	40 x 4	BR1-T4-3/4404	200	MC-4
17.2	3/4	40 x 5	BR1-T4-3/4405	150 x 2	MC-4
17.2	3/4	50 x 4	BR1-T5-3/4504	150 x 2	MC-5
17.2	3/4	50 x 5	BR1-T5-3/4505	150 x 2	MC-5
17.2	3/4	50 x 6	BR1-T5-3/4506	200 x 2	MC-5

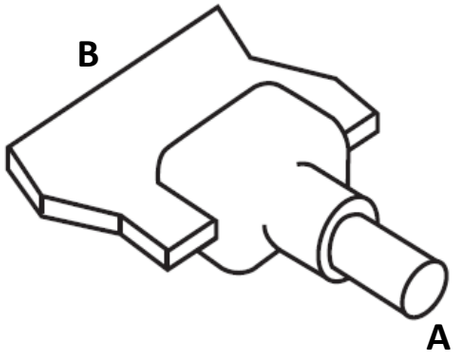
** Special request, please contact us **

Accessories for Exothermic Welding

Manual Installation

1. Position cleaned conductors in dry, clean **TOPWELD** mold.
2. Place metal disc in bottom of mold crucible.
3. Employ powder into crucible, spreading starting powder on mold edge.
4. Close lid, ignite with flint gun from side, sparking starting powder.
5. **TOPWELD** fusion reaction take place.
6. Softly clean slag from the crucible by scraper and mold brush.
7. Remove mold and move on the next connection.

BR-4 : Horizontal Ground Rod Tap To Horizontal Bus Bar



Rod Size		Conductor Size	Graphite Mould	Metal	Handle
A mm.	A inch	B (mm.)	Code	Powder (g.)	Clamp
14.2	5/8	25 x 3	BR4-T4-5/8253	90	MC-4
14.2	5/8	25 x 4	BR4-T4-5/8254	90	MC-4
14.2	5/8	25 x 5	BR4-T4-5/8255	90	MC-4
14.2	5/8	25 x 6	BR4-T4-5/8256	115	MC-4
14.2	5/8	30 x 4	BR4-T4-5/8304	90	MC-4
14.2	5/8	30 x 5	BR4-T4-5/8305	90	MC-4
14.2	5/8	40 x 4	BR4-T4-5/8404	90	MC-4
14.2	5/8	40 x 5	BR4-T4-5/8405	90	MC-4
14.2	5/8	50 x 4	BR4-T4-5/8504	90	MC-4
14.2	5/8	50 x 5	BR4-T4-5/8505	90	MC-4
14.2	5/8	50 x 6	BR4-T4-5/8506	115	MC-4
17.2	3/4	25 x 3	BR4-T4-3/4253	115	MC-4
17.2	3/4	25 x 4	BR4-T4-3/4254	150	MC-4
17.2	3/4	25 x 5	BR4-T4-3/4255	150	MC-4
17.2	3/4	25 x 6	BR4-T4-3/4256	150	MC-4
17.2	3/4	30 x 4	BR4-T4-3/4304	150	MC-4
17.2	3/4	30 x 5	BR4-T4-3/4305	150	MC-4
17.2	3/4	40 x 4	BR4-T4-3/4404	150	MC-4
17.2	3/4	40 x 5	BR4-T4-3/4405	150	MC-4
17.2	3/4	50 x 4	BR4-T4-3/4504	150	MC-4
17.2	3/4	50 x 5	BR4-T4-3/4505	150	MC-4
17.2	3/4	50 x 6	BR4-T4-3/4506	150	MC-4

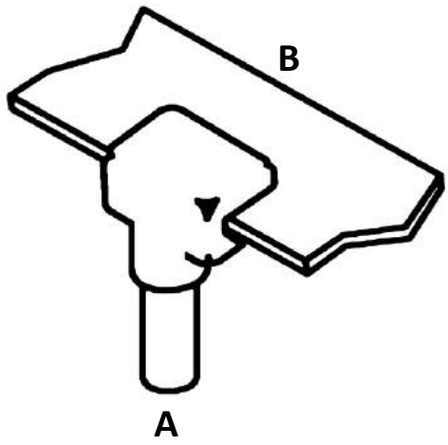
** Special request, please contact us **

Accessories for Exothermic Welding

Manual Installation

1. Position cleaned conductors in dry, clean **TOPWELD** mold.
2. Place metal disc in bottom of mold crucible.
3. Employ powder into crucible, spreading starting powder on mold edge.
4. Close lid, ignite with flint gun from side, sparking starting powder.
5. **TOPWELD** fusion reaction take place.
6. Softly clean slag from the crucible by scraper and mold brush.
7. Remove mold and move on the next connection.

BR-7 : Horizontal Flat Bar Thru To Ground Rod



Rod Size		Conductor Size	Graphite Mould	Metal	Handle
A mm.	A inch	B (mm.)	Code	Powder (g.)	Clamp
14.2	5/8	25 x 3	BR7-T4-5/8253	90	MC-4
14.2	5/8	25 x 4	BR7-T4-5/8254	115	MC-4
14.2	5/8	25 x 5	BR7-T4-5/8255	150	MC-4
14.2	5/8	25 x 6	BR7-T4-5/8256	150	MC-4
14.2	5/8	30 x 4	BR7-T4-5/8304	150	MC-4
14.2	5/8	30 x 5	BR7-T4-5/8305	150	MC-4
14.2	5/8	40 x 4	BR7-T4-5/8404	150	MC-4
14.2	5/8	40 x 5	BR7-T4-5/8405	150	MC-4
14.2	5/8	50 x 4	BR7-T4-5/8504	150	MC-4
14.2	5/8	50 x 5	BR7-T4-5/8505	150	MC-4
14.2	5/8	50 x 6	BR7-T4-5/8506	150	MC-4
17.2	3/4	25 x 3	BR7-T4-3/4253	115	MC-4
17.2	3/4	25 x 4	BR7-T4-3/4254	150	MC-4
17.2	3/4	25 x 5	BR7-T4-3/4255	200	MC-4
17.2	3/4	25 x 6	BR7-T4-3/4256	200	MC-4
17.2	3/4	30 x 4	BR7-T4-3/4304	200	MC-4
17.2	3/4	30 x 5	BR7-T4-3/4305	200	MC-4
17.2	3/4	40 x 4	BR7-T4-3/4404	200	MC-4
17.2	3/4	40 x 5	BR7-T4-3/4405	200	MC-4
17.2	3/4	50 x 4	BR7-T4-3/4504	200	MC-4
17.2	3/4	50 x 5	BR7-T4-3/4505	200	MC-4
17.2	3/4	50 x 6	BR7-T4-3/4506	200	MC-4

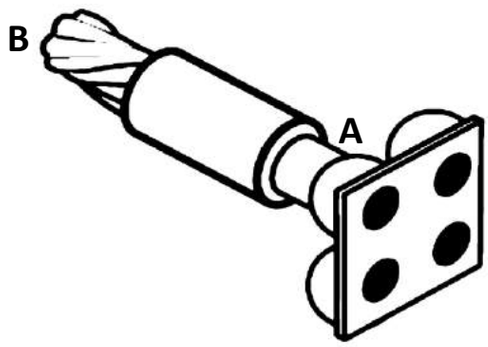
** Special request, please contact us **

Accessories for Exothermic Welding

Manual Installation

1. Position cleaned conductors in dry, clean **TOPWELD** mold.
2. Place metal disc in bottom of mold crucible.
3. Employ powder into crucible, spreading starting powder on mold edge.
4. Close lid, ignite with flint gun from side, sparking starting powder.
5. **TOPWELD** fusion reaction take place.
6. Softly clean slag from the crucible by scraper and mold brush.
7. Remove mold and move on the next connection.

RC-1 : Ground Plates To Horizontal Cable End



Rod Size A mm.	Conductor Size B (mm^2)	Graphite Mould Code	Metal Powder (g.)	Handle Clamp
12.7	50	RC1-T4-12750	65	MC-4
12.7	70	RC1-T4-12770	90	MC-4
12.7	95	RC1-T4-12795	90	MC-4
12.7	120	RC1-T4-127120	115	MC-4
12.7	150	RC1-T4-127150	115	MC-4
12.7	185	RC1-T4-127185	150	MC-4
12.7	240	RC1-T4-127240	200	MC-4
12.7	300	RC1-T4-127300	250	MC-4

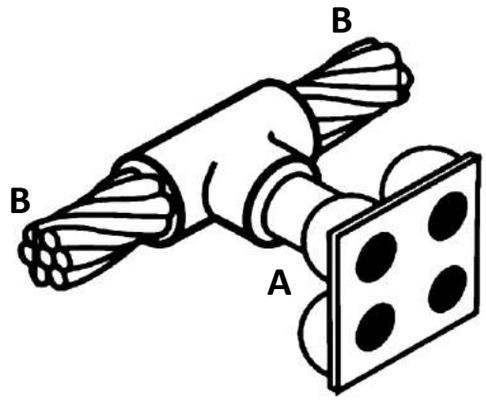
** Special request, please contact us **

Accessories for Exothermic Welding

Manual Installation

1. Position cleaned conductors in dry, clean **TOPWELD** mold.
2. Place metal disc in bottom of mold crucible.
3. Employ powder into crucible, spreading starting powder on mold edge.
4. Close lid, ignite with flint gun from side, sparking starting powder.
5. **TOPWELD** fusion reaction take place.
6. Softly clean slag from the crucible by scraper and mold brush.
7. Remove mold and move on the next connection.

RC-2 : Ground Plates To Horizontal Cable Thru



Rod Size A mm.	Conductor Size B (mm^2)	Graphite Mould Code	Metal Powder (g.)	Handle Clamp
12.7	50	RC2-T4-12750	90	MC-4
12.7	70	RC2-T4-12770	90	MC-4
12.7	95	RC2-T4-12795	90	MC-4
12.7	120	RC2-T4-127120	115	MC-4
12.7	150	RC2-T4-127150	115	MC-4
12.7	185	RC2-T4-127185	115	MC-4
12.7	240	RC2-T4-127240	150	MC-4
12.7	300	RC2-T4-127300	150	MC-4

** Special request, please contact us **

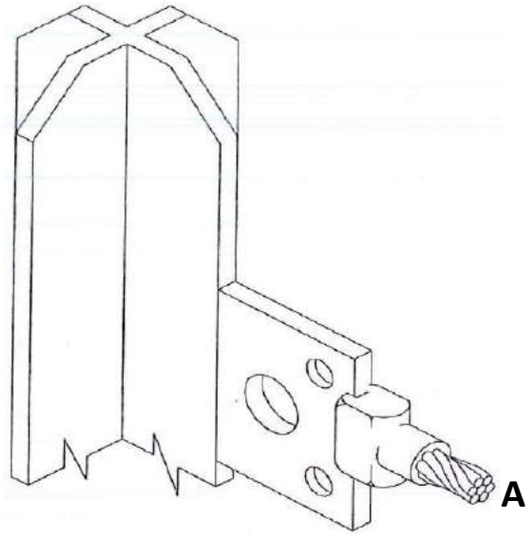
Accessories for Exothermic Welding

Manual Installation

1. Position cleaned conductors in dry, clean **TOPWELD** mold.
2. Place metal disc in bottom of mold crucible.
3. Employ powder into crucible, spreading starting powder on mold edge.
4. Close lid, ignite with flint gun from side, sparking starting powder.
5. **TOPWELD** fusion reaction take place.
6. Softly clean slag from the crucible by scraper and mold brush.
7. Remove mold and move on the next connection.

Mould for SPIKE Ground Rod

CG 98 : Horizontal Cable To Vertical Cross Steel Ground Rod



SPIKE Ground Rod Size 4x50 mm.

Conductor Size A mm^2	Graphite Mould Code	Metal Powder (g.)	Handle Clamp
25	CG98-G9801	45	MC-4
35	CG98-G9803	65	MC-4
50	CG98-G9805	65	MC-4

** Special request, please contact us **

SPIKE Ground Rod Size 5x50 mm.

Conductor Size A mm^2	Graphite Mould Code	Metal Powder (g.)	Handle Clamp
25	CG98-G9802	45	MC-4
35	CG98-G9804	65	MC-4
50	CG98-G9806	65	MC-4

** Special request, please contact us **

Accessories for Exothermic Welding

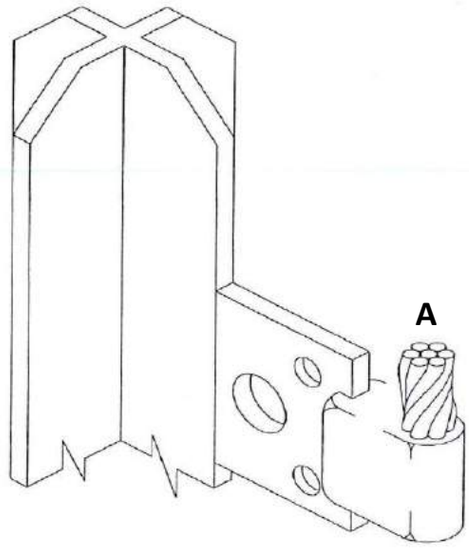
Manual Installation

1. Position cleaned conductors in dry, clean **TOPWELD** mold.
2. Place metal disc in bottom of mold crucible.
3. Employ powder into crucible, spreading starting powder on mold edge.
4. Close lid, ignite with flint gun from side, sparking starting powder.
5. **TOPWELD** fusion reaction take place.
6. Softly clean slag from the crucible by scraper and mold brush.
7. Remove mold and move on the next connection.

Remark : ** ** For perfect connection, remove oxide and moisture where making connection.

Mould for SPIKE Ground Rod

CG 99 : Vertical Cable To Vertical Cross Steel Ground Rod



SPIKE Ground Rod Size 4x50 mm.

Conductor Size A mm^2	Graphite Mould Code	Metal Powder (g.)	Handle Clamp
25	CG99-G9901	45	MC-4
35	CG99-G9903	65	MC-4
50	CG99-G9905	90	MC-4

** Special request, please contact us **

SPIKE Ground Rod Size 5x50 mm.

Conductor Size A mm^2	Graphite Mould Code	Metal Powder (g.)	Handle Clamp
25	CG99-G9902	45	MC-4
35	CG99-G9904	65	MC-4
50	CG99-G9906	90	MC-4

** Special request, please contact us **

Accessories for Exothermic Welding

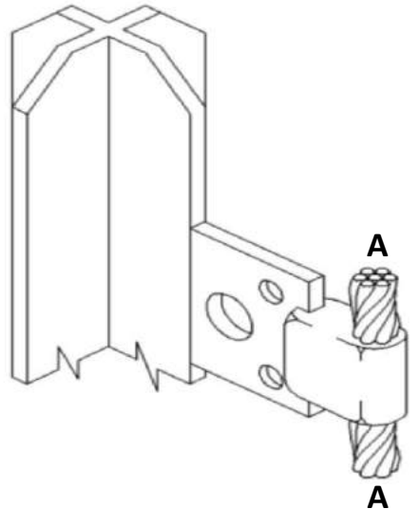
Manual Installation

1. Position cleaned conductors in dry, clean **TOPWELD** mold.
2. Place metal disc in bottom of mold crucible.
3. Employ powder into crucible, spreading starting powder on mold edge.
4. Close lid, ignite with flint gun from side, sparking starting powder.
5. **TOPWELD** fusion reaction take place.
6. Softly clean slag from the crucible by scraper and mold brush.
7. Remove mold and move on the next connection.

Remark : ** ** For perfect connection, remove oxide and moisture where making connection.

Mould for SPIKE Ground Rod

CG 66 : Vertical Cable Thru Vertical Cross Steel Ground Rod



SPIKE Ground Rod Size 5x50 mm.

Conductor Size A mm^2	Graphite Mould Code	Metal Powder (g.)	Handle Clamp
50	CG66-G9901	90	MC-4

** Special request, please contact us **

Accessories for Exothermic Welding

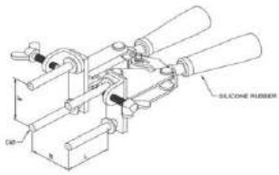
Manual Installation

1. Position cleaned conductors in dry, clean **TOPWELD** mold.
2. Place metal disc in bottom of mold crucible.
3. Employ powder into crucible, spreading starting powder on mold edge.
4. Close lid, ignite with flint gun from side, sparking starting powder.
5. **TOPWELD** fusion reaction take place.
6. Softly clean slag from the crucible by scraper and mold brush.
7. Remove mold and move on the next connection.

Remark : ** ** For perfect connection, remove oxide and moisture where making connection.

Handle Clamp and Support

The clamping mold for graphite mold TOPWELD the standard version. Intended for close and easy to use, easy open mold. Mold usually recommended model MC.
Handle clamp has only 2 type differences; MC-4 and MC-5, which is adequate to assort with many different sizes and types of graphite mold.



Handle Clamp Type MC-4 or MC-5

Cat. No.	Dimension (mm.)			
	D Ø	A	B	L
MC-4	9.50	58.50	58.50	50.00
MC-5	11.20	76.20	76.20	57.00

Note

1. The Mold Clamp Type MC for use with standard mold
2. All the metal parts through a corrosion protection coating
3. Tolerance all dimensions +/- 5%

Vertical Beam Support Cat. No. : A3657

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

A3658

Chain Support Cat. No. : A3658 / CVH

It is used to hold a mold fit at its horizontal and vertical position on up to 6" pipe's diameter.

Lock Mould Support Cat. No. : PK 7

It is used to lock a mold fit at its horizontal and vertical position.

Tool and Accessories for mold

Figure	Cat No.	Discription
	A302	**Tool Box** Suitable storing of exothermic welding equipments before and after process.
	A305	**Wire Cleaning Brush** Used for cleaning cable only before making connection.
	A306	**Bus Bar Cleaning Brush** Used for cleaning metal flat surface before maing connection.
	A309	**Flint Gun** Used for starting the reaction.
	A310	**Mold Cleaning Brush** Used for cleaning crucible and graphite mould's surface by its soft brush.
	A311	**Slag Removal Scrapper** Used for removing slag from the mould crucible after finishing the connection.
	A312 A313	**Butane Gas** **Butane Torch** Used for removing moisture from mould and conductor to ensure they are totally dry.
	A314	**Duct Seal (1 pack : 5 ea.)** Used to protect the leak of exothermic welding process.

Tool and Accessories for mold (Set)
T-A300

Figure	Discription
	**Tool Box** Suitable storing of exothermic welding equipments before and after process.
	**Wire Cleaning Brush** Used for cleaning cable only before making connection.
	**Flint Gun** Used for starting the reaction.
	**Mold Cleaning Brush** Used for cleaning crucible and graphite mould's surface by its soft brush.
	**Slag Removal Scrapper** Used for removing slag from the mould crucible after finishing the connection.
	**Butane Gas** **Butane Torch** Used for removing moisture from mould and conductor to ensure they are totally dry.

The TOPWELD "ONE TIME"

Connection is a ceramic disposable unit replacing the familiar semi-permanent graphite mold and associated Handle clamp.

The TOPWELD "ONE TIME"

Consists of the ceramic mold which contains :

: The TOPWELD Weld metal

: a metal disk

: a flared sleeve or sleeves

: a cover

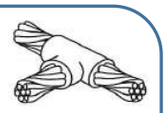
Type CC1 : Cable End to End

Cat No.	Cable Size
CC1 - Series	16 - 35
	50 - 70
	95 - 120
	150 - 300

Type GR1 : Cable to Rod

Cat No.	Cable Size	Rod inch
GR1 - Series	16 - 35	5/8" or 3/4"
	50 - 70	
	95 - 120	
	150 - 300	

Type CC2 : Cable Run & Tap

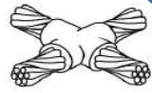


Cat No.	Cable Size
CC2 - Series	16 - 35
	50 - 70
	95 - 120
	150 - 300

Type GT2 : Cable Horizontal to Rod

Cat No.	Cable Size	Rod inch
GT2 - Series	16 - 35	5/8" or 3/4"
	50 - 70	
	95 - 120	
	150 - 300	

Type CC4 : Cable Cross

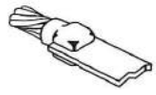


Cat No.	Cable Size
CC4 - Series	16 - 35
	50 - 70
	95 - 120
	150 - 300

Type NT3 : Cable Run & Tap to Rod

Cat No.	Cable Size	Rod inch
NT3 - Series	16 - 35	5/8" or 3/4"
	50 - 70	
	95	
	120 - 300	

Type CB1 : Cable to Bar



Cat No.	Cable Size
CB1 - Series	16 - 35
	50 - 70
	95 - 120
	150 - 300

Type XT4 : Cable Cross to Rod

Cat No.	Cable Size	Rod inch
XT4 - Series	16 - 35	5/8" or 3/4"
	50 - 70	
	95 - 120	
	150 - 300	

Instruction Manual

After preparing surface, install the mold-fixing handle, place the wire, and press it tightly.

Install steel disk in the mold.

Pour exothermic welding powder in mold case.

Pour starter powder contained at terminal of the tube on the exothermic welding powder .

Ignite starter powder by flint igniter. Igniting reaction will occur by touch between spark and starter powder

After having finished welding, cool the joint by normal air and then open the mold.

Note :

1. Material surface welded should be cleaned before welding by cable clean brush in order to increase the surface adhesion.
2. If there are some oil or water stains, burn the connecting joint by butain-ignited blaze in order to eliminate the moisture.
3. For complete internal structure of connecting joint without pores and holes, should heat up the mold by butain-ignited blaze before first exorthermic welding.
4. After having finished welding, Open the mold when the heat decreased (Notice : Do not open the mold when the connecting joint is on fire).
5. Cleaning mold after welding by mold brush will extend graphite mold lifetime.
6. Graphite mold can continuously weld no matter how much the mold heat is.
7. Do not pour water on graphite mold because sudden temperature shifting can cause the cracks, and lessen the mold next time-welding qualification.

2017-2018

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