



EARTHMETLTD



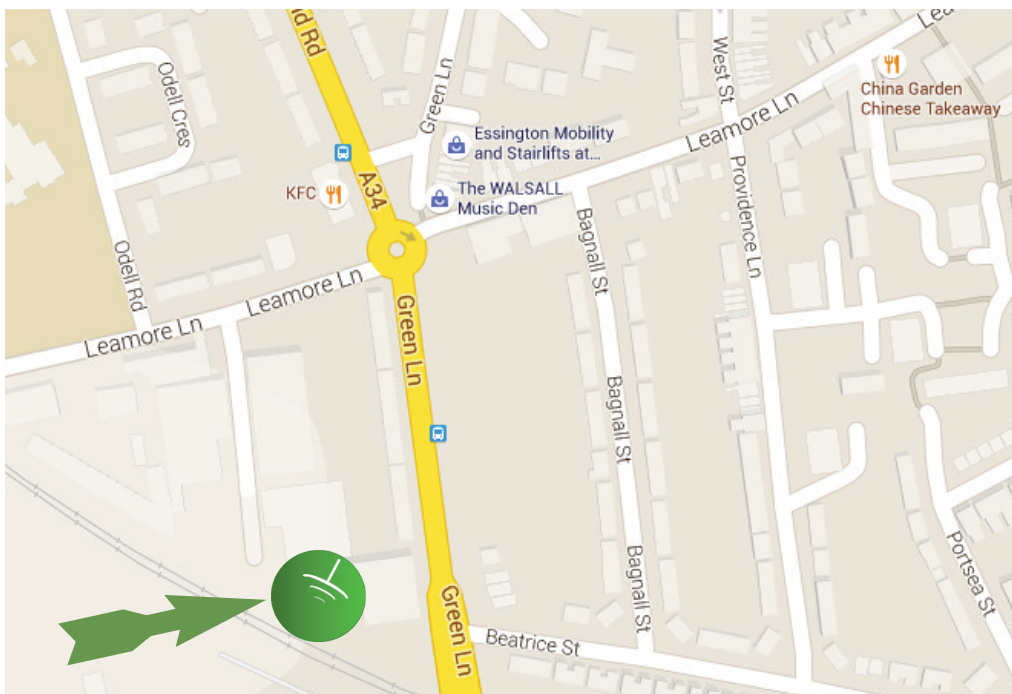
t: 01922 714290
www.earthmet.co.uk

**Comprehensive
Material Handbook**



HOW TO FIND US

WS2 7BZ



**Vulcan Industrial Estate, Leamore Lane,
Walsall, West Midlands, WS2 7BZ**

Call us on **t:** 01922 714290 **w:** www.earthmet.co.uk
e: sales@earthmet.co.uk



Earthmet Ltd have over 40 years expertise and experience in the Substation, Renewable and Lightning Protection Industries and can help you develop and grow your business, through innovative and hands on partnerships.

Our client areas include:-

Electricity Substations

Renewable Energy

Rail Networks

Oil and Gas

Mobile Mast Sites

Lightning Protection

We offer a guaranteed 24 hour delivery service on all items supplied from our extensive stock range, including evenings and weekends and our lines are open 24 hours a day, 7 days a week as we understand the importance of out of hour requests.

We are committed to the ideology of Quality and Service and this commitment follows through to all aspects of the company including manufacture, development and our customer support and service.

Please let us show you how we can be of benefit to your company by contacting us on 01922 714290 or email us on sales@earthmet.co.uk

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CONDUCTORS

HARD DRAWN COPPER CONDUCTORS

35mm² (7/2.5)

50mm² (7/3)

70mm² (7/3.55)

95mm² (19/2.52)

120mm² (19/2.8)

150mm² (19/3.2)

185mm² (19/3.55)

240mm² (61/2.25)

300mm² (61/2.52)

Other sizes available on request



SOFT DRAWN COPPER CONDUCTORS

6mm² (7/1.04)

95mm² (19/2.52)

10mm² (7/1.35)

120mm² (37/2.03)

16mm² (7/1.7)

150mm² (37/2.25)

25mm² (7/2.14)

185mm² (37/2.52)

35mm² (7/2.52)

240mm² (61/2.25)

50mm² (19/1.78)

300mm² (61/2.25)

70mm² (19/2.14)

400mm² (61/2.85)

Other sizes available on request



GREEN & YELLOW PVC INSULATED COPPER CONDUCTORS

6mm² (7 x 1.04)

95mm² (7 x 2.52)

10mm² (7 x 1.35)

120mm² (37 x 2.03)

16mm² (7 x 1.70)

150mm² (37 x 2.25)

25mm² (7 x 2.14)

185mm² (37 x 2.52)

35mm² (7 x 2.52)

240mm² (61 x 2.25)

50mm² (19 x 1.78)

300mm² (61 x 2.52)

70mm² (7 x 2.14)

400mm² (61 x 2.85)



Can also be supplied in Black PVC and Double Insulated PVC

'C' CRIMP CONNECTORS

To suit 10mm² up to 300mm² conductor



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HIGH STRENGTH SPLIT BOLT CONNECTORS

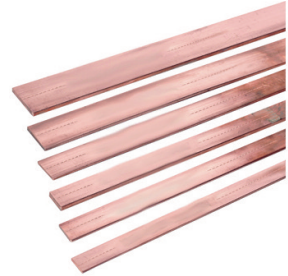
For 4mm² up to 185mm² Copper



BARE COPPER TAPES

12.5mm x 1.5mm	31mm x 3mm	40mm x 5mm	
20mm x 3mm	31.5mm x 4mm	40mm x 6mm	
25mm x 1.5mm	31mm x 6mm	40mm x 6.3mm	
25mm x 3mm	38mm x 3mm	50mm x 3mm	
25mm x 4mm	38mm x 5mm	50mm x 4mm	
25mm x 6mm	38mm x 6mm	50mm x 6mm	
30mm x 3mm	40mm x 3mm	50mm x 6.3mm	
30mm x 5mm	40mm x 4mm	50mm x 7mm	50mm x 8mm

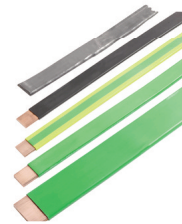
Can be supplied plain or logo'd to your companies specification



Also supplied
pre-tinned

PVC COVERED TAPES

12mm x 1.5mm	30mm x 3mm
20mm x 3mm	40mm x 4mm
25mm x 3mm	40mm x 6mm
25mm x 6mm	50mm x 6mm



BARE ALUMINIUM TAPES

12mm x 1.5mm	30mm x 3mm
20mm x 3mm	40mm x 6mm
25mm x 3mm	50mm x 6mm
25mm x 6mm	60mm x 6mm

Can be supplied plain or logo'd to your companies specification



BARE PERFORATED COPPER TAPE

25mm x 1.5mm



BARE COPPER FLAT BRAIDS

12mm x 1mm	25mm x 3.5mm
15mm x 1.5mm	30mm x 5mm
19mm x 2.5mm	32mm x 6mm
23mm x 2mm	



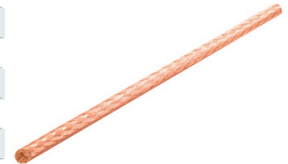
TINNED COPPER FLAT BRAIDS

12mm x 1mm	25mm x 3.5mm
15mm x 1.5mm	30mm x 5mm
19mm x 2.5mm	32mm x 6mm
23mm x 2mm	



BARE COPPER ROUND BRAIDS

6mm ²
10mm ²
16mm ²
25mm ²
35mm ²
50mm ²



TINNED COPPER ROUND BRAIDS

6mm ²
10mm ²
16mm ²
25mm ²
35mm ²
50mm ²



Other braided sizes and constructions are available on request

FITTINGS

EARTH RODS

Copperbonded Earth Rods

1/2" x 1.2m, 1/2" x 1.5m, 1/2" x 1.8m,

5/8" x 1.2m, 5/8" x 1.5m, 5/8" x 1.8m, 5/8" x 2.4m, 5/8" x 3m

3/4" x 1.2m, 3/4" x 1.5m, 3/4" x 1.8m, 3/4" x 2.4m, 3/4" x 3m

Solid Copper Earth Rods

15mm x 1.2m

16mm x 1.5m, 16mm x 1.8m, 16mm x 2.4m, 16mm x 3m,

20mm x 1.2m, 20mm x 1.5m, 20mm x 1.8m, 20mm x 2.4m, 20mm x 3m

25mm x 1.2m, 25mm x 1.5m, 25mm x 1.8m, 25mm x 2.4m, 25mm x 3m

Stainless Steel Rods

15mm x 1.2m

16mm x 1.5m, 16mm x 1.8m, 16mm x 2.4m, 16mm x 3m,

20mm x 1.2m, 20mm x 1.5m, 20mm x 1.8m, 20mm x 2.4m, 20mm x 3m

25mm x 1.2m, 25mm x 1.5m, 25mm x 1.8m, 25mm x 2.4m, 25mm x 3m



COUPLERS

1/2" 5/8" 3/4"



DRIVING STUDS

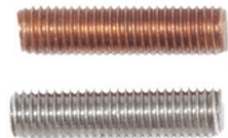
1/2" 5/8" 3/4"



COUPLING DOWELS

M10 x 40mm

M12 x 50mm



DRIVING SPIKES

M10 x 40mm

M12 x 50mm



METAL CLIPS

25mm x 3mm up to 50mm x 6mm



PLASTIC CLIPS

25mm x 3mm up to 80mm x 6mm

Supplied in Black Polypropylene (B) and Fire Retardant Polypropylene (FR)



ONE HOLE PLASTIC CABLE CLAMPS

10mm dia up to 57mm dia

Supplied in Black Polypropylene (B) and Fire Retardant Polypropylene (FR)



TWO HOLE PLASTIC CABLE CLAMPS

38mm dia p to 135mm dia

Supplied in Black Polypropylene (B) and Fire Retardant Polypropylene (FR)



ROD TO TAPE CLAMPS (Type A)

1/2" to 1" rod and 25mm x 3mm to 50mm x 8mm



ROD TO CABLE CLAMPS (Type G)

3/8" to 1" rod and 6mm² to 150mm² Cable



'U' BOLT ROD CLAMPS (Type E)

1/2" dia up to 2" dia

Can be supplied with additional plate to allow tape to be clamped without drilling



'U' BOLT ROD CLAMPS (Type GUV)

1/2" Dia to 1" dia and 16mm² up to 300mm²



EARTH INSPECTION HOUSING

Heavy Duty

306mm L x 306mm W x 216mm H

Polypropylene base with GRP lid. Lid supplied in both Black and Grey

Light Duty

260mm L x 260mm W x 230mm H

Polypropylene. Lid supplied in both Black and Grey

Concrete Earth

315mm L x 315mm W x 170mm H



INSPECTION HOUSING EARTH BARS

Supplied as both 5 hole and 7 hole bars



REBAR CLAMPS

10mm to 40mm dia Rebar or Conductor



TOWER EARTH CLAMPS

For bonding Copper Cable on to Steel structures

16mm² up to 240mm²



B BONDS

For bonding Tape to Steel structures



EARTH MAT LATTICE COPPER

600mm x 600mm x 3mm

900mm x 900mm x 3mm



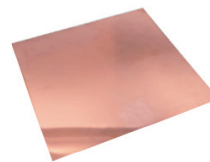
EARTH MAT - SOLID COPPER

600mm x 600mm x 1.5mm

600mm x 600mm x 3mm

900mm x 900mm x 1.5mm

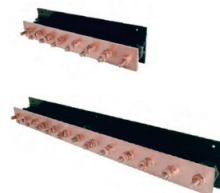
900mm x 900mm x 3mm



EARTH BARS

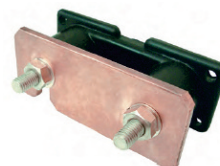
Available in a variety of sizes and specifications and can be manufactured to customer requirements.

From 6 way up to 30 way. Can be supplied with and without single and twin disconnecting links



DISCONNECTING LINKS

120mm L x 45mm W x 45mm H



COMPRESSION TERMINALS

To suit 6mm² up to 800mm² conductor

In M8, M10, M12, M14, M16 and M20 hole sizes

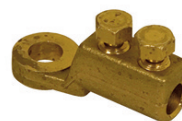
Tin Plated Copper



CABLE TERMINATION LUGS

Suitable from 6mm² up to 150mm²

Supplied in Brass



FLEXIBLE COPPER BRAID BONDS

12mm x 1mm up to 50mm x 8mm in made to order lengths

Supplied Plain and Tinned



INSULATORS

Supplied with or without studs and locking nuts.
M10 thread size in reinforced Polyester



EARTH BONDING POINTS

Bonding points only

1 hole x 38mm x 38mm

2 hole x 70mm x 35mm

4 hole x 65mm x 65mm

Bonding points with pre-welded tails (70mm² PVC)

1 hole x 500mm long

2 hole x 500mm, 1000mm and 1500mm long

4 hole x 500mm, 1000mm and 1500mm long



EARTH BOSSES

40mm dia x 30mm and 40mm Long

50mm dia x 30mm, 40mm and 50mm long

Mild Steel with S/S fittings



STATIC EARTH BARS

350mm L x 100mm H.

Supplied in Phosphor Bronze



EARTH ROD SEALS

Suitable for 5/8" and 3/4" rods.

Supplied in plastic



STATIC EARTH RECEPTACLES

135mm H x 125mm D.

Supplied in Gunmetal



BENTONITE

A clay used as an earth electrode backfill to reduce soil resistivity, by retaining moisture. Supplied in 20kg granular and powder forms



LOW-RESISTANCE EARTHING COMPOUND

When mixed with cement and water, this compound forms a high strength, electrically conductive concrete to last for the life of the system.

Supplied in 10kg and 25kg only and 25kg pre-mixed with cement



'C' CRIMP CONNECTORS

To suit 10mm² up to 300mm² conductor

Supplied in Plain Copper



PIPE CLAMPS

Suitable for 1/2" up to 12" pipe diameter



LIGHTNING PROTECTION

TAPE CLIPS

12.5mm x 1.5mm up to 50mm x 7mm



AIR ROD SADDLES

- a) Light Duty – M16 and M20 in both Gunmetal and Aluminium
- b) Ridge Saddles – M16 in both Gunmetal and Aluminium
- c) Flat – M16 in both Gunmetal and Aluminium
- d) Multi purpose – M10 in both Gunmetal and Aluminium
- e) Cable Saddles – M16 in Gunmetal



COUPLINGS

- a) Rod to Tape Couplings - M16 and M20 in Gunmetal and Aluminium
- b) Rod to Cable Couplings - M16 in Gunmetal for 50mm² and 70mm² Cable



SLATE HOLDFASTS

25mm x 3mm Copper and Aluminium Tapes bare and PVC covered



SIDE MOUNTING AIR ROD BRACKETS

16mm and 20mm diameter



AIR RODS

- a) Tapered – M16 x 300mm, 500mm, 1000mm, 1500mm and 2000mm in both Copper and Aluminium
- b) Non Tapered – M10 x 500mm, 1000mm in both Copper and Aluminium



FREE-STANDING AIR TERMINAL SUPPORTS

- a) Square plate support for use up to 4m terminal height.
 - b) Tripod Support for use between 4.5m and 10m terminal height.
 - c) Quad Support for use between 11m and 12m terminal height.
- Supplied in Stainless Steel



FREE-STANDING AIR TERMINALS

From 3m up to 12m Terminal Height



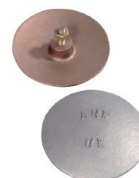
MULTI-POINTS

16mm and 20mm diameter



STRIKE PADS

Supplied in both Copper and Aluminium



BACK PLATE HOLDFASTS

For use with Copper Tapes



GLAZING BAR HOLDFASTS

35mm L x 22mm W x 20mm H

Supplied in Gun Metal and Aluminium



CLAMPS

- a) **Square Tape Clamp** – 25mm x 3mm, 25mm x 4mm, 25mm x 6mm, 31mm x 3mm, 38mm x 6mm, 40mm x 4mm, 50mm x 3mm, 50mm x 6mm. Supplied in both Gunmetal and Aluminium
- b) **Oblong Junction Clamp** – To suit up to 26mm x 8mm and 51mm x 10mm conductor. Supplied in both Copper and Aluminium
- c) **Plate Type Test Clamp** – To suit up to 26mm x 15mm conductor. Supplied in Gunmetal and Aluminium.
- d) **Screw Down Test Clamp** – To suit up to 26mm x 8mm conductor. Supplied in Gunmetal.
- e) **Cable to Tape Clamp** To suit 50mm², 70mm² and 95mm² cable to 25mm x 3mm tape



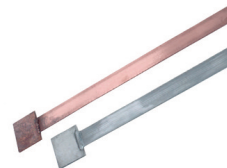
BI-METALLIC CONNECTORS

- a) Aluminium and Copper Tapes – For 25mm x 3mm conductor and supplied in copper, aluminium and stainless steel
- b) Aluminium and Copper solid circular conductors – For 8mm dia conductor and supplied in copper, aluminium and stainless steel



INTERCEPTOR PLATES

500mm x 50mm x 50mm. Supplied in both Gunmetal and Aluminium



UNIVERSAL CABLE CONNECTORS

500mm x 50mm x 50mm. Supplied in both Gunmetal and Aluminium



WATERMAIN PIPE BONDS

For use up to 26mm max width
 Supplied in both gunmetal and aluminium



PUDDLE FLANGES

500mm x 50mm x 50mm.
 Supplied in both Gunmetal and Aluminium



'B' BONDS

– 25mm x 3mm conductor
 Supplied in both gunmetal and aluminium



CIRCULAR CONDUCTOR SHOES

To suit 8mm Bore Solid Copper and Aluminium Conductor
 Supplied in both Gunmetal and Aluminium



PYRAMID HOLDFASTS

Supports 8mm diameter bare solid
 circular conductors on flat roofs.
 Plastic filled with concrete



CONCRETE BASES

- Concrete Square used in conjunction with Square Plate Support.
 Supplied in 12kg and 16kg base weights
- Concrete Round used in conjunction with Tripod and Quad supports.
 Supplied in 12kg, 16kg, 20kg and 25kg base weights
- Rubber Protective roof pad suits all round and square concrete bases



EXOTHERMIC WELD SYSTEM



Earthmet offer 2 types of Exothermic Weld Systems, CADWELD PLUS and the traditional powder system.

Earthmet are now an appointed authorised seller and distributor for ERICO CADWELD PLUS exothermic welding products.

The ERICO CADWELD PLUS system provides the weld metals in a sealed metallic cup with no need for starting powder or a metal disk. Easier and quicker to use, the CADWELD PLUS weld metals are ignited with a remote control unit at a distance, enabling the operator to be further away from the ignition process, an important safety feature.

The traditional system uses a flint gun and starting material to make the joint and both systems use the same semi-permanent graphite mould, handle clamps, PPE and cleaning accessories.

Full onsite or office training provided, along with certification

CADWELD® PLUS connections offer all the benefits of conventional CADWELD® connections:

- Current carrying capacity equal to or greater than that of the conductor
- Withstand repeated fault currents without failing during operation
- Permanent, molecular bond that will not loosen or corrode, resulting in a connection with a lifetime equal to that of the installation
- Join copper to copper, copper to galvanized or plain steel, copper to copper clad steel, copper to bronze/brass/stainless steel, steel to steel, etc.
- No external power or heat source required
- Quality Assurance Inspection is easy and visual
- Minimal installation training required
- Exceed requirements of "IEEE® Std 837- Std. for Qualifying Permanent Connections Used In Substation Grounding"



The CADWELD molecular bond will last the lifetime of the conductors.

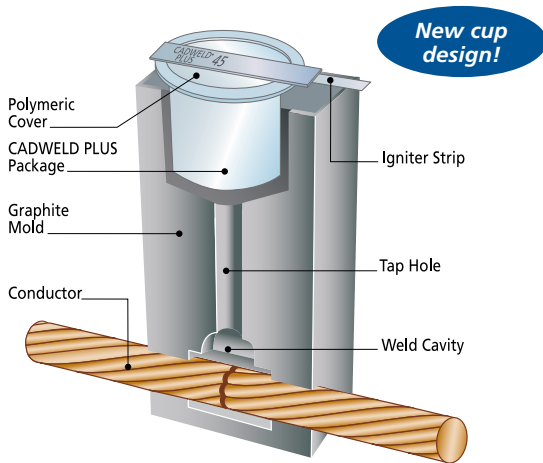
CADWELD® PLUS

The ultimate welded connection that will never loosen, corrode or increase in resistance.

ERICO is dedicated to continuous product improvement to meet its customers' needs and maintain the highest level of satisfaction. The introduction of CADWELD® electrical connections in 1938 enabled them to be quickly recognized as the ultimate connection for rail, cathodic, power and grounding applications.

Continuing the tradition of technical leadership, CADWELD® PLUS was developed as a simplified method of performing exothermically welded electrical connections. This trusted system now features a new CADWELD PLUS cup design for the integrated welding material package which has streamlined the installation process by eliminating ignition materials.

The tamper proof, integrated welding material package consists of a steel cup containing CADWELD patented welding material alloys and an ignition source. This newly shaped welding material package is designed for use in all standard CADWELD molds, including CADWELD® MULTI. Once placed in the CADWELD mold, the welding material is electronically ignited using a simple battery-powered control unit with a six-foot lead.



CADWELD® PLUS

Feature

Integrated Welding Material Package

Color Coded Welding Material

Electronic Control Unit

Replaceable Six or Fifteen Foot Control Unit Lead

Benefits

- Simplifies training and set up
- Saves labor
- Simplifies cleaning
- Helps reduce risk of misapplication
- Simple visual verification of correct welding material size
- No starting material required
- Easy ignition
- Increased flexibility in hard to reach areas

The CADWELD® PLUS system:

- Consists of a tamper proof, disposable, moisture-resistant welding material cup. The welding material, disk and ignition source are incorporated into the self-contained package
- Long shelf life
- Completes welds at distances of up to 6 ft/1.8 meters (up to 15 ft/4.6 meters with optional lead)
- Requires minimum components – no starting material, no disks, no flint igniters
- Easy to handle, store and transport – by air, land or sea in unlimited quantities
- Reduces installation time by 20%
- Has color-coded welding material containers – by size and alloy type – for easy identification
- Has electronic ignition with a CE/UL battery powered controller box that is designed for 600 connections with one set of 8 standard AA batteries (included) – requiring no special batteries or chargers
- Designed for use in standard CADWELD® molds including CADWELD® MULTI

Installation Is Easy!

4 Simple Steps For Permanently Welded Electrical Connections



1
Insert CADWELD PLUS cup into mold (may require use of a cover/baffle)



2
Attach control unit termination clip to ignition strip



3
Press and hold control unit switch and wait for the ignition

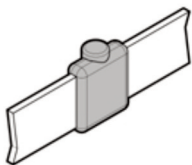


4
Open the mold and remove the expended steel cup – no special disposal required

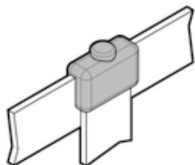
CADWELD PLUS Control Unit initiates the reaction of the metal crucible. The standard unit includes a 6-foot (1.8 meter) high temperature control unit lead. The lead attaches to the ignition strip using a custom made, purpose-designed termination clip.

After the termination clip is installed on the ignition strip, the installer pushes and holds the ignition button to start a charging and discharging sequence. Within a few seconds the control unit sends a predetermined voltage to the ignition strip and the reaction is initiated.

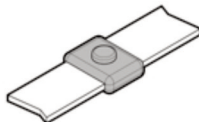
CONNECTION LOCATOR



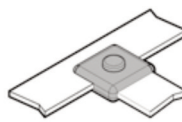
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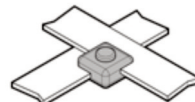
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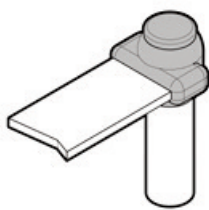
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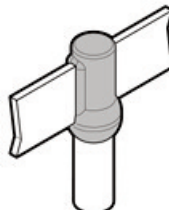
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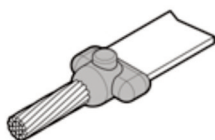
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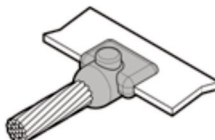
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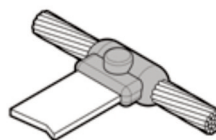
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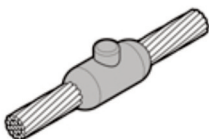
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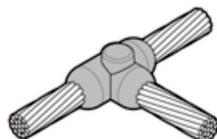
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EMCB5



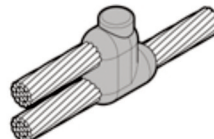
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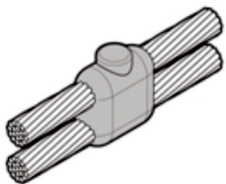


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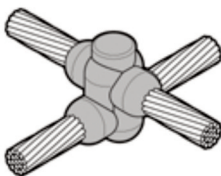


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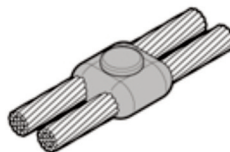
CONNECTION LOCATOR



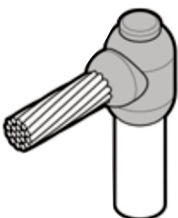
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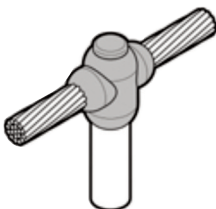
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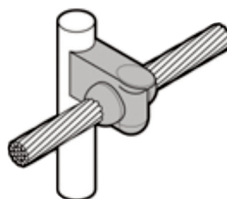
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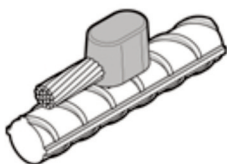
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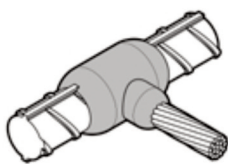
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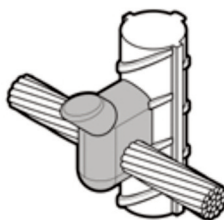
EMCR3



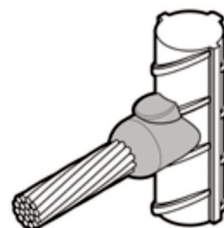
EMCE1



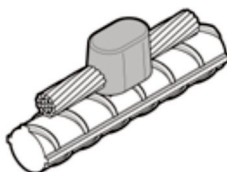
EMCE2



EMCE3



EMCE6



EMCRE17

SAFEMET SECURITY PRODUCTS

The Safemet Security Product Range is designed to deter the theft of both Copper and Aluminium Tape from concrete and metal structures.

Currently approved by National Grid and most of the Distribution Network Operators, the Safemet Security Pin is now the UK's most cost effective solution.

SAFEMET SECURITY PINS

Made from a high corrosion resistant stainless steel, the Safemet Security Pin surpasses all current existing security pins on the market.

Our pins are essential in securing both Copper and Aluminium Tape to concrete and brick structures. They are suitable for both cracked and non-cracked conditions.



SAFEMET SECURITY SCREWS

The Safemet Pin Hex Security Screws have been manufactured with an internal pin within the standard socket aperture and secure Copper and Aluminium Tape to metal structures.

This prevents removal with standard hexagon keys and is one of the most difficult screws to remove without the matching driver



SAFEMET REMOVABLE NUTS

This Stainless Steel product is extra resilient to attack because of its rounded shape and case hardened steel construction. It can only be undone with the unique matching Driver Socket shown.



SAFEMET SHEAR NUTS

A high security permanent nut fastening. The hexagonal part of the nut shears off at a pre determined torque, leaving a tamper resistant cone.



SAFEMET SECURITY TOOLS

Of course with every security screw that we supply, you will need the matching drivers and tools in order to utilise them. We supply the insert bits, one piece screwdrivers and 'L' Key wrenches to go with all our security nuts and bolts which are made specifically for our products.



Insert bit



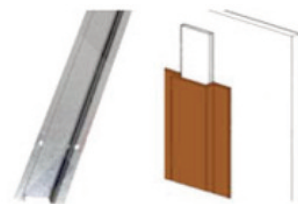
One Piece Screwdriver



L key wrench

SAFEMET SECURITY CAPPING

The Safemet Security Capping provides protection from accidental damage, vandalism and theft for Copper and Aluminium Tape. It's easy to secure, the guard has a low profile and the galvanised finish which offers long lasting resistance to corrosion.



We now also offer durable plastic capping to secure both Copper and Aluminium Cable

SAFEMET DRILL BITS

Safemet Masonry and Metal drill bits:

6mm Dia SDS, Masonry

6.5mm Dia HSS. Metal

8mm Dia HSS Metal

9mm Dia HSS Metal

10mm Dia HSS Metal

12mm Dia HSS Metal



SAFEMET ANTI-CLIMB PAINTS

The Safemet Anti-Climb Paint is probably the most effective and long lasting way of deterring unwanted intruders as it stays wet to provide a constant slippery surface.



SAFEMET CAMOUFLAGE PAINTS

The Safemet Camouflage Paint can be applied over existing metalwork and is particularly good for protecting exterior paintwork.



SAFEMET BITUMASTIC PAINTS

The Safemet Bitumastic Paint is a general purpose black bitumen paint for metal concrete and brickwork.



SAFEMET PAINTBRUSHES

Our low cost brushes are simple and convenient. Once the jobs finished, just throw away.



PORTABLE EARTHING

Earthmet's range of Earthing Equipment has been designed and developed to provide portable earthing on outdoor high voltage substations, overhead transmission lines and distribution lines during maintenance or erection.



They have been designed to provide safe and secure clamping where connections are to be made to dirty or heavily oxidised copper/aluminium busbars, stubs or stranded conductors. The clamps, operating poles, sockets and cables have safely withstood their respective mechanical type tests and short time current type tests as specified in relevant standards.

Earthmet supply a broad range of Portable Earthing Equipment including, Earth End Clamps, Line End Clamps, Operating Poles, Operating Sockets, Pole Heads, Flexible Cable assemblies, Tree Pruning equipment, General Purpose Earthing Clamps and Carrying Bags.

DISTRIBUTION LINE EARTHING

Distribution Line Earthing Kits are suitable for temporary earthing of conductors between 11kV & 66kV.

The DLE/1 is complete with S9B & S9A clamps, Aluflex lead & a cluster bar. The complete kit can be used with a fibreglass operating pole which enables the kit to be raised and attached to the conductor.



Substation Earthing

The range of substation portable earthing equipment is suitable for temporary earthing within the range of conductors 66kV to 400kV.

Transmission Line Earthing

The Transmission Line range of portable earthing is suitable for temporary earthing of conductors within the ranges of 132kV, 275kV and 400kV.

TUBULAR BUSBARS, CONNECTORS AND INSULATORS

We stock the UK's most comprehensive range of Tubular Busbars, Connectors and Insulators. Supplied in both Aluminium and Copper and guaranteed to be resilient and long lasting.

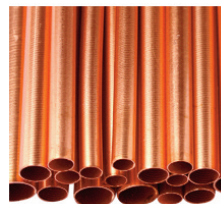
Whether you need to cover a 13m span or just need to finish off a smaller connection, we can cut to any length specified, without any extra charge.

COPPER TUBULAR BUSBARS

Sizes Available

1" od x 10g	1.1/2" od x 10g	2" od x 16g
2" od x 14g	2" od x 12g	2" od x 10g
2" od x 4mm	2" od x 6mm	3" od x 16g
3" od x 10g	3" od x 6mm	

Supplied in C101 Hard Drawn, Half Hard and Soft Conditions



ALUMINIUM TUBULAR BUSBARS

Sizes Available

90mm od x 6mm	90mm od x 10mm	139.75mm od x 9.53mm
140mm od x 10mm	200mm od x 10mm	250mm od x 6mm
250mm od x 10mm		

Supplied in 6101AT6 Condition

Please also note that we specialise in offering pre-formed, painted and milled finishes and all of our tubes can be supplied with both external and internal plastic end caps



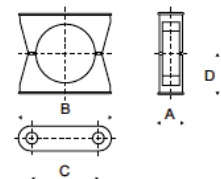
CLAMPS FOR ALUMINIUM AND COPPER BUSBARS

Brass:

C12mm Dia
C20mm Dia
C25mm Dia
C30mm Dia
C35mm Dia
C38mm Dia
C40mm Dia
C50mm Dia
C63.5mm Dia
C76mm Dia

Aluminium:

A40mm Dia
A50mm Dia
A60mm Dia
A76mm Dia
A90mm Dia
A140mm Dia



BUSBAR CONNECTORS

Our busbar connectors are designed to interface with all associated products including circuit breakers, disconnectors, voltage transformers and sealing ends.

Earthmet has in depth knowledge in providing substation busbar connectors up to 145kV and accessories within the UK market.

Rigid to Palm Connectors

A Rigid Connector to suit Copper/Aluminium Conductor to Flat Palm. Supplied in Single, Double and Triple clamp configurations.



Expansion to Palm Connectors

An Expansion Connector to suit Copper Conductor to Flat Palm. Supplied in 800amp, 1600amp and 2000amp laminations.



Rigid to Plain Stem Connectors

A Rigid Connector to suit Copper/Aluminium conductor to Plain Stem. Supplied in single, double and triple clamp configurations.



Expansion to Plain Stem Connectors

An Expansion Connector to suit Copper Conductor to Plain Stem. Supplied in 800amp, 1600amp and 2000amp laminations.



Tee Connectors

A Tee Connector to suit Copper/Aluminium Conductor through and branch. Supplied in single to single, double to double and double to triple clamp configurations



Universal Connectors

This Universal Connector is to suit 60mm and 90mm diameter Aluminium Busbar Tube and is fully adjustable in the vertical and horizontal planes



POST INSULATORS

We can provide Brown Glazed Porcelain and Silicone Rubber Post Insulators for 33kV, 66kV and 132kV applications to IEC 273 & 168

C4-250

Voltage 33kV

Height 560mm

Creepage 1320mm

Impulse Withstand 250kVp

C6-325

Voltage 66kV

Height 762mm

Creepage 1850mm

Impulse Withstand 325kVp

C6-650

Voltage 145kV

Height 1500mm

Creepage 4000mm

Impulse Withstand 650kVp



GRP GRATING AND FLOORING

The Earthmet GRP grating and flooring has open mesh and solid grating. It is a cost effective, lightweight solution for Walkways, Platforms, Gullies, Trenches and Mezzanines. They offer a good chemical resistance together with excellent anti-slip properties.

GRP grating and flooring is supplied cut and shaped exactly to your requirements.

Available in Grey, Brown, Green and Yellow.

GRATING AND FLOORING

<i>Thickness (mm)</i>	<i>Panel Size (mm)</i>	<i>Mesh (mm)</i>	<i>Open Area %</i>	<i>Appx Weight Kg/m²</i>
13	3660 x 1220	50 x 50	72	7
25	3660 x 1220	25 x 100	65	13
25	3660 x 1220	38 x 38	70	12
40	3660 x 1220	38 x 38	70	18
40	3660 x 1220	19 x 19	34	24
50	3660 x 1220	50 x 50	72	20
50	3660 x 1220	Solid	Solid	24



SWITCHING MATS

For Earth mat installation on substation structure mounted switches.

Supplied in 1M squares with fixing spike for earth mat grating.



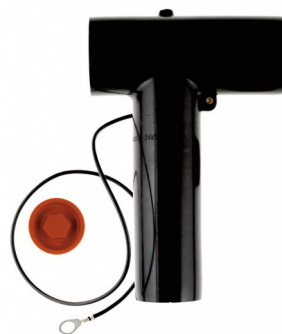
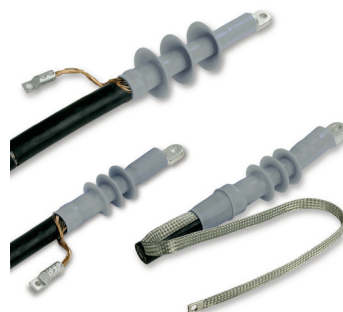
CABLE ACCESSORIES



Cable Jointing Solutions, a trading arm company of Earthmet, are a cable and cable accessories distributor supplying a wide range of materials covering voltage classes from 1000v through to 33KV. With a wealth of knowledge in this industry, we pride ourselves on our service and the added value we can bring as a supply chain partner.

Product groupings we keep in stock

- 11/33kv Terminations (Heat Shrink, Cold shrink, Separable Connectors, GIS male plugs etc)
- 11/33kv Straight/Branch joints for all cable types
- Power Cable (Project work)
- Cable Glands
- Cable Cleats
- Cable ties and banding
- Lugs and Connectors (both crimp and mechanical)
- Cable protection covers
- Cable preparation tooling/Hydraulic Tooling
- Heat shrink tubing (LV and MV)
- Duct Sealing Systems
- Cable Lubricants
- Cable Cleaning Wipes
- Cable Management Solutions



Tel.: 01922 714297

www.cablejointingsolutions.co.uk

Email: sales@cablejointingsolutions.co.uk

Call us on **t:** 01922 714290 **w:** www.earthmet.co.uk

e: sales@earthmet.co.uk

EARTHING DESIGN



Power Systems Earthing - Introduction

An earth electrode system, professionally designed by competent Engineers, is essential to ensure the safety of personnel and protection of equipment from dangerous voltages in and around substations.

Earthmet are able to offer earth electrode system designs and associated testing services using the most up-to-date equipment and design software 'CDEGS'.

All design works are carried out in accordance with:

BS 7430:2011 – The code of practice for protective earthing of electrical installations and BS EN 50522:2010 –

Earthing of power installations exceeding 1kV a.c.

All materials supplied by Earthmet have been tested and certified by an independent body ensuring the highest quality materials are made available to you.



Earthing System Design

Considerations

An earth electrode system should be designed to safely dissipate fault current or other unwanted electrical current to the general mass of earth. This could include power transmission and distribution, static dissipation, lightning protection as well as other associated systems.

The main considerations of an earth electrode system design should be:

1. Is the system safe and suitable for the purpose for which it is intended?
2. Is the system rated to carry the design fault currents?

To achieve this a number of steps are required and are detailed below.



Soil Resistivity Surveys

BS 7430:2011 states that 'on-site resistivity testing should always be carried out prior to carrying out an earth system design and installation.'

The soil resistivity survey is the first step in ensuring the correct design of an earth electrode system.

It is essential that accurate measurements are taken at this stage as this data is used to determine what conductors are required in the finished earthing system to give a safe and suitable design. Corrupt data taken with inadequate test equipment could lead to a vastly over- or under-engineered solution.

Earthmet use high specification test equipment to carry out soil resistivity testing, gaining data from tried and tested methods. This raw data is then analysed using CDEGS software to produce a representative electrical equivalent soil model which can then be used in the earthing design process.

Earth Electrode System Design

There are many factors that go into producing a compliant earth electrode system design: fault current levels, fault duration, ground make up, interconnected sites are but a few.

All of the parameters are analysed using the CDEGS software to ensure Touch, Step and Rise of Earth Potentials are within safe levels.

Our team of competent Engineers

consider all of the above and more to ensure the final design is not only safe and suitable for its purpose, but also to ensure the system

can be installed using the most economic processes giving you the most cost effective solution.



Overall System Testing

BS 7430:2011 states that 'all work should be carried out under the control and direction of a competent person.'

Earthmet are able to offer test and inspection services for both new and existing installations. All works are carried out in accordance with BS 7430:2011 by our trained and competent Engineers and Technicians.

The period between periodic inspection and tests can only be determined by the environment that the system is installed in, for example the harsher the environment the more regular the inspection.

Please feel free to contact us to discuss your particular requirements.

MISCELLANEOUS

COPPER FLAT BARS

Sizes Available

25mm x 3mm

25mm x 6mm

40mm x 6mm

40mm x 10mm

50mm x 6mm

50mm x 8mm

50mm x 10mm

60mm x 6mm

60mm x 10mm

100mm x 6mm

100mm x 10mm

125mm x 6mm

150mm x 6mm

150mm x 10mm

Can be supplied Bright Electro Tinned and cut to length



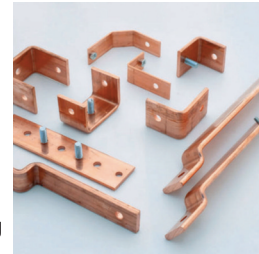
FABRICATED COMPONENTS

Earthmet now boast one of the UK's largest capacity for fabricated copper components for the electrical and power industries. These include:-

- 3 x Automatic hole punch machines
- 1 x EHRT bending machine
- 2 x Euromac 500 Digibend
- 3 x Drilling Station
- 2 x CNC Bandsaws
- 1 x CNC Circular saw
- 1 x CNC Vertical Milling Centre
- 3 x Linishing stations

Our processes include:

- Machining
- Punching
- Bending
- Folding
- Turning
- Tapping
- Digital Machining
- Brazing
- Welding
- Cladding
- Silvering/Tinning/Nickel Plating
- Assembly
- Kits



SILFOS

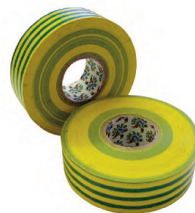
Silfos is an alloy of silver, phosphorous and copper. It is used to braze copper to copper in air without the use of flux.

Available in 50mm x 0.12mm x 8m



GREEN & YELLOW PVC INSULATING TAPES

A general purpose tape for electrical purposes available in 25mm wide x 33m



FRYOLUX

Fryolux Solder Paint ideally suited to tinning and sweating of many materials.

Supplied in 125g and 500g pots



CUPROTECTIC BRAZING RODS

Suitable for brazing copper to copper without a flux.

Supplied in 1.5mm to 5mm dia and 2mm to 3mm square 1kg packs



TRANSITION WASHERS

These washers consist of a sharply profiled copper alloy washer encapsulated in protective grease. When inserted between the mating faces of a bolted connection, the sharp profile penetrates surface oxide films and the grease is extruded to form a seal against corrosion. This type of Transition Washer is designed for use between aluminium and copper/tinned copper surfaces.

Supplied in M6, M8, M10, M12, M16 and M20 sizes



EARTHMET BENDING MACHINE

Our specialist bending machine works up to 100mm x 6mm flat bar and up to 20mm diameter.

	Model No. AB2
Flats up to	1/4" x 4" (6 x 100mm)
or	1/2" x 2" (13 x 50mm)
Notched angles	4" x 4" x 1/4"
	100 x 100 x 6mm
Squares up to	3/4" (20mm)
Rounds up to	3/4" (20mm)
Width of Jaws	3 1/2"
Weight kg	42



JIZER

A powerful, non-flammable degreasing solvent which removes oil, grease, carbon, tar and bitumen from machinery and components.
Comes in a 25L tin



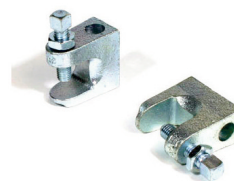
SCOTCH-BRITE PADS IN A ROLL

An abrasive hand pad for cleaning and preparing metal ready for brazing.
8" x 4" and 60 sheets per roll



BRAZING TAPE CLAMPS

A steel brazing clamp for a variety of materials.
Supplied in cast iron.



UNIAL JOINTING PASTE

UNIAL Universal electrical jointing paste is a unique electrical jointing compound, formulated to prevent galvanic corrosion and enhance connections in electrical joints.



NON CONDUCTIVE TAPE MEASURES

No metal parts, hence non-conductive rather than insulated, meaning it is inherently unable to carry a current. Recommended for low voltage use with proof tests up to 20kV
Supplied in a 3m length



SAFEMET COPPER TOP HATS

Our Copper portable earth loops are suitable for bolting and braising to copper earth tape. Can also be supplied pre-tinned



DENSO TAPE

A waterproof tape for wrapping around joints



COPPER HAMMERS

Earthmet supply both Copper and Copper Hide hammers. They are ideal where a heavy blow is required combined with a relatively small striking area. Faces are designed to wear and can be replaced.



CABLE PROTECTION

Tape Tile

Our cable warning and protection rolls (Tape Tile) are rolled out into the trench for quick and easy protection of low voltage, high voltage (up to 11kV), street lighting, telecoms and fibre optic cables - also suitable for underground gas and water pipe protection.



Electric: (Red/brown background with yellow tape/black lettering)

Fibre Optic: (Green background with black lettering)

Gas: (Yellow background with black lettering)

Water: (Blue background with black lettering)

Custom printed underground cable warning Tape Tile for low and high voltage power cable protection is available to all DNO specifications.

Cable Protection Covers

Our underground cable protection covers are heavy duty cable protection covers designed to withstand damage and protect HV cables from plant and hand tools - suitable for underground high voltage cable protection (22kV, 33kV, 66kV, 132kV and up to 400kV).

Stokbord cable covers are fully jointed, laid overlapped and connected with plastic jointing pegs to provide safe high voltage underground cable protection. Stokbord cable covers feature a red background with yellow top tape containing visible warning "Caution Electric Cable Below". Stokbord cable covers meet BS2482 impact requirements for underground cable cover protection.



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Call us on **t:** 01922 714290 **w:** www.earthmet.co.uk**e:** sales@earthmet.co.uk

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SPECIALIST SUPPLIER TO THE SUBSTATION, RENEWABLE AND LIGHTNING PROTECTION INDUSTRIES

Vulcan Industrial Estate, Leamore Lane,
Walsall, West Midlands, WS2 7BZ

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e: sales@earthmet.co.uk

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CARD PAYMENTS ACCEPTED

