



# 04

## Earthing rods and accessories

- > Extendable Earthrods – Tapered
- > Extendable Earthrods – Flush
- > Non Extendable Rods
- > Airport Earthing Terminals
- > Survey and Mapping
- > Data Marks
- > Earthing Bond
- > Earthing Connectors
- > Earth Rod Clamps
- > Earthing Enhancement
- > Compounds
- > Connection Boxes
- > Pole Earthing Terminals
- > Earth Mats

**Earthing Rods & Accessories**

**Extendable Earth Rods**

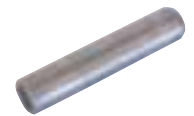
Taperlock Coupled Type CTE

Type CTE earth rods are among the simplest to use. They have identical taper ends and are joined by a one-piece tapered coupling which locks upon driving. These rods may be driven by hand or machine.

<b>Diameter</b>	<b>13mm</b>	<b>15mm</b>	<b>19mm</b>
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**Hand Driving Head**

Average Driving	DHT15 DHTU22	DHT15 DHTU22	DHT19 DHTU22
Hard Driving	DHTU25	DHTU25	DHTU25



DHT15

**Earthrods**

Length mm	Cat No.	Pack Qty	Cat No.	Pack Qty	Cat No.	Pack Qty
1200	CTE1312	10	CTE1512	10	-	-
1440	CTE1314	10	CTE1514	5	-	-
1800	CTE1318	5	CTE1518	5	-	-
2000	-	-	-	-	CTE1920	5
2400	CTE1324	5	CTE1524	5	-	-
3000	CTE1330	5	CTE1530	5	-	-



CTE1314  
Tapered end

**Coupling**

Cat No.	CCT13	CCT15	CCT19
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CCT13

**Driving Point**

Average Driving	DPT13 SDP13T	DPT15 SDP15T	DPT19
Hard Driving			



DPT13



SDP13T



**Earthing Rods & Accessories**

**Extendable Earth Rods**

**Taperlock Coupled Type STE**

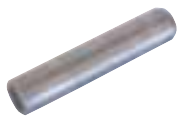
Type STE earth rods are among the simplest to use. They have identical taper ends and are joined by a one-piece tapered coupling which locks upon driving. These rods may be driven by hand or machine.



<b>Diameter</b>	<b>13mm</b>	<b>14mm</b>
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**Hand Driving Head**

Average Driving	DHT15 DHTU22	DHT15 DHTU22
Hard Driving	DHTU25	DHTU25



DHT15

**Earthrods**

Length mm	Cat No.	Pack Qty	Cat No.	Pack Qty
1200	STE1312	10	STE1412	10
1440	STE1314	10	STE1415	5
1800	STE1318	5	STE1418	5
2400	STE1324	5	STE1424	5
3000	STE1330	5	STE1430	5



STE  
Tapered end

**Coupling**

<b>Cat No.</b>	<b>SCT13</b>	<b>SCT15</b>
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SCT13

**Driving Point**

Average Driving	DPT12 SDP12T	DPT15 SDP15T
Hard Driving		



DPT12



SDP12T

**Earthing Rods & Accessories**

**Extendable Deep Driving Rods**

Flush Jointed Series Type CCE - Copper

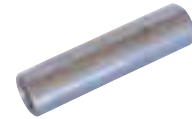
These deep driving flush-jointed electrodes have identical swaged ends to take driving points and coupling pins. They may be either hand or machine driven.



<b>Diameter</b>	<b>13mm</b>	<b>15mm</b>
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**Hand Driving Head**

<b>Average Driving</b>	<b>DH15</b>	<b>DH15</b>
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DH15

**Earthrods**

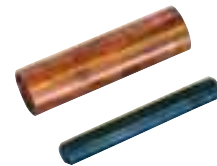
<b>Length mm</b>	<b>Cat No.</b>	<b>Pack Qty</b>	<b>Cat No.</b>	<b>Pack Qty</b>
1200	CCE1312	10	CCE1512	10
1440	CCE1314	10	CCE1514	5
1800	CCE1318	5	CCE1518	5
2400	CCE1324	5	CCE1524	5
3000	CCE1330	5	CCE1530	5



CCE1314  
Swaged end

**Coupling**

<b>Cat No.</b>	<b>CCA13</b>	<b>CCA15</b>
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CCA13

**Driving Point**

<b>Average Driving</b>	<b>DP13</b>	<b>DP15</b>
<b>Hard Driving</b>	<b>SDP13</b>	<b>SDP15</b>



DP13



SDP13

**Earthing Rods & Accessories**

**Extendable Earthing Rods**

**Expansion Jointed - Type SDE (Telstra)**

Telstra designed and approved earth rod featuring corrosion resistant stainless steel clad rods, extendable in 1440mm lengths.

The coupling system comprises of a stainless steel sleeve and hardened steel pin having a raised convolution at the midpoint. A secure and non-detachable joint is achieved by means of the pins convolute expanding and deforming the ends of the rod into the coupling sleeve as the rods are driven together.



DH14



SDE  
Machined end



C14L



DP14



SDP14D

<b>Diameter</b>	<b>14mm</b>
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**Hand Driving Head**

Average Driving	DH14
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**Earthrods**

Length mm	Cat No.	Pack Qty
1200	SDE1412K	10
1440	SDE1414L	10

**Coupling**

Cat No.	C14L
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**Driving Point**

Average Driving	DP14
Hard Driving	SDP14D

**Earthing Rods & Accessories**

**Earth Rod Driving Accessories**

Couplings, Driving Points, Tools

Machine Driving Heads	For Tapered End Extendable Rods		For Flush Jointed Extendable Rods
	CTE	STE	CCE Series Copper
Kango 900/950	MDH15K		MDH15KF



MDH15KF



MDH15K

Machine Driving Pin		
For use with above machine driving tools	---	MDP10M

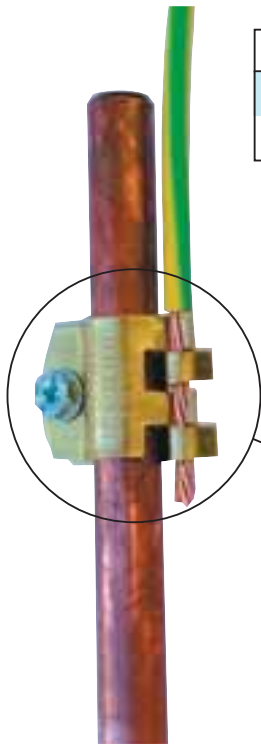


MDP10M

Earthing Rods & Accessories

Non-extendable Earth Rods

Dulmison manufacture a broad range of non-extendable earth rods. Each rod incorporates an integral driving point, machined (not ground) to preserve the strength and rigidity of cold-drawn steel. The flat tip was developed for penetrating all types of soil.



Domestic Rod Pack, CNE1314D		
10 pcs/pack	CNE1314D	Domestic earth rod
10 pcs/pack	EC13D	Earth clip

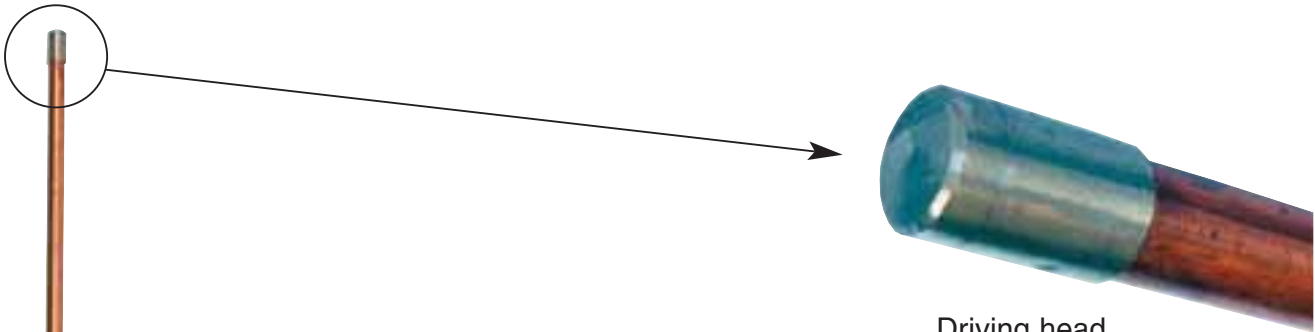


**Domestic Rod Earth Clip  
EC13D**  
Suitable for cables in the  
range 6 - 16mm<sup>2</sup>

Earthing Rods & Accessories

**Non-Extendable Earth Rods - Heavy Duty Series**

Type LGR - Copper Clad



Driving head incorporated onto rod

- Copper clad only
- Incorporating driving head and point
- Nominal diameter 19mm

**Recommended Clamps:**

Clamp Types EP; ET; GB and FSC provide a copper to copper connection, either in parallel or right angle mode, accommodating single, two & three conductors.

LGR 19mm Rods		
Length mm	Cat No.	Pack Qty.
1800	LGR1918	5
2000	LGR1920	3
2400	LGR1924	3
3000	LGR1930	3
3600	LGR1936	3
4500	LGR1945	3



**Earthing Rods & Accessories**

**Airport Earthing Terminal for Static Electricity Earthing  
Type AET**

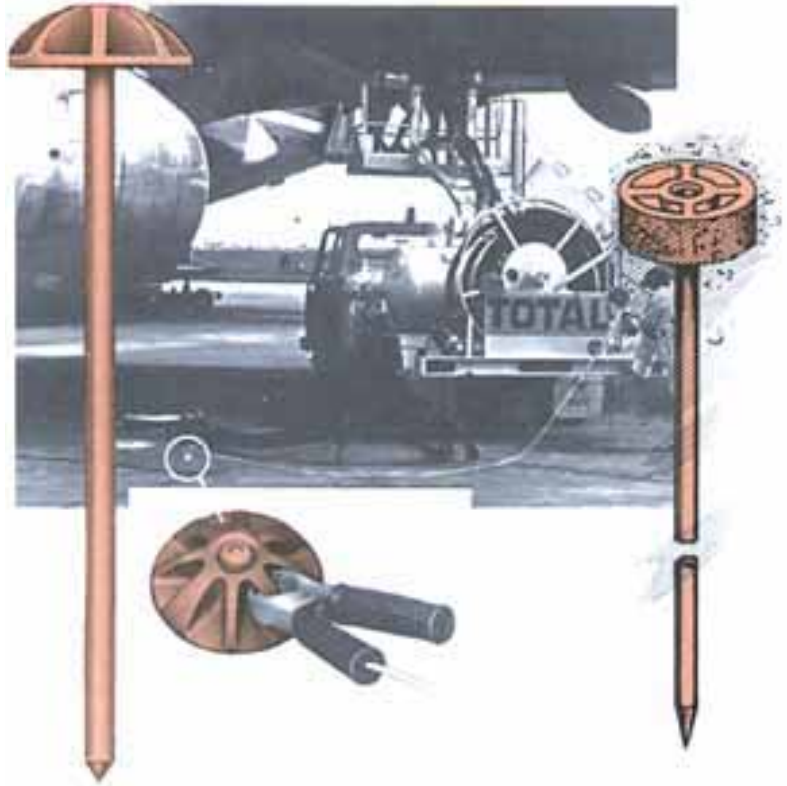
**Catalogue No. AET1918**

Standard length 1.8M, other lengths made to special order. Type AET electrodes provide for the earthing of airport tarmac areas where any generation of static electricity could be hazardous e.g. aircraft refuelling, servicing and cargo loading areas. The heavy duty capping has a ribbed design affording a fast, and positive earthing connection by means of earth lead connector clips.

Also available flush fitted,  
**Catalogue No. AET1918F**

**Material:** Solid steel core overlaid with copper cladding; heavy bronze cap.

**Installation procedure:** Drive electrode into ground to required depth. Remove protruding portion of rod above cap and finish flush.



AET1918



AET1918F

**Earthing Rods & Accessories**

**Earthing Bond for Commercial Earthing Installations**

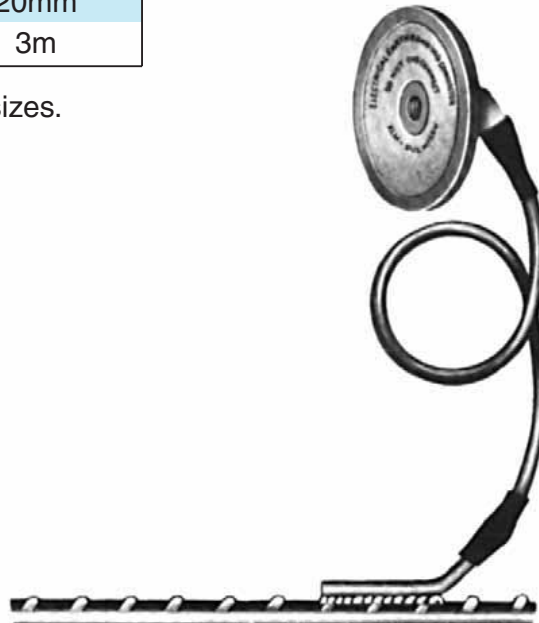
**Type C70**

The earthing bond system provides an earth connection welded to the steel reinforcement, thus offering a virtually indestructible, stable and low resistance path to earth.



	<b>Cat No. C70</b>
Bonding Cable	70mm <sup>2</sup>
3 sec current rating	10kA
Lug Dia.	10mm
Terminal Thread	M10
Thread Depth	20mm
Cable Length	3m

Please enquire for other sizes.



**Earthing Rods & Accessories**

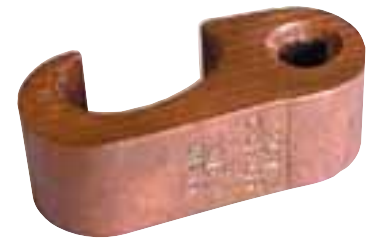
**Heavy Duty Earthing Connector**

Type CEC

**Compress-on copper connections for copper earth rods & grid systems**

- High strength, high conductivity connection
- Shake-proof, permanent and corrosion resistant
- High fault current capacity
- Versatile - covers wide variety of single or multi-earthing applications including grid systems
- Two profiles - '6' and 'C' - cover a wide variety of applications. Refer to table for specific catalogue numbers.

Cat No.	Box Qty	Open Section	Tap Off Conductor		Die Set
			Dia. mm	Cross Section mm <sup>2</sup>	
CEC15035	40	Conductors	8.4	25 - 40	DU1315
CEC15070	40	50 - 120mm <sup>2</sup>	11	50 - 70	
CEC15120	50	or Earth rods 13	15	95 - 120	
CEC15150	50	- 15mm dia	16.5	120 - 150	

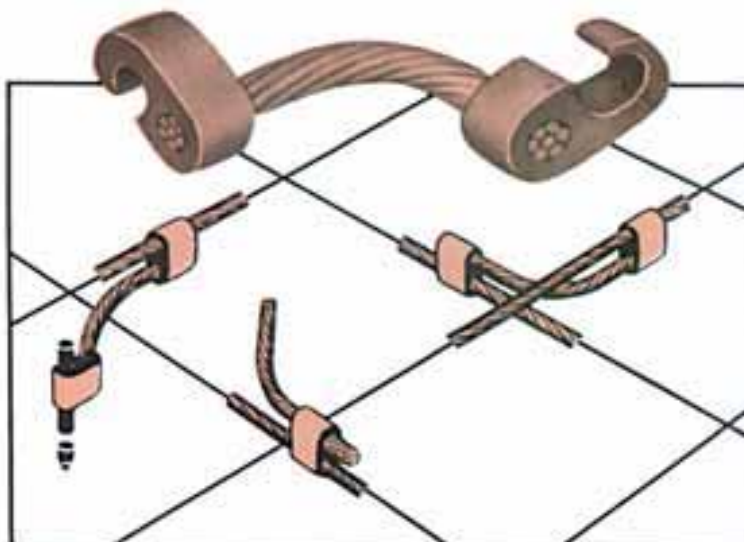


Profile '6'

Cat No.	Box Qty	Conductor Combination mm <sup>2</sup>	Die Set
CEC070	50	70 - 35	DUOT
		50 - 50	
		70 - 50	
		70 - 70	
CEC095	50	70 - 95	DU1315
		95 - 95	



Profile 'C'  
Crimp conductors side by side



Typical uses of Profile '6'

Earthing Rods & Accessories

Earth Rod Clamps

Types GB & EL

This clamp is designed for either parallel or right angle connections, as illustrated.

**Material:** High copper content alloy castings with stainless steel U bolt, spring washers and nuts.



Cat No.	Conductor Range		Diameter of Electrode mm
	mm <sup>2</sup>	Dia. mm	
GB1	16 - 35	5.10 - 7.65	13 - 19
GB2	50 - 120	8.90 - 14.21	13 - 19
GB3	150 - 185	15.75 - 17.64	13 - 19
EL21090	35 - 120	7.65 - 14.21	12 - 15

**Earthing Rods & Accessories**

**Earth Rod Clamps**

Types EP & ET for multi-conductor earthing

For two earth conductors parallel to rod, or two or three earth conductors at right angles to rod.

**Materials:** Body - high copper content alloy casting; Hardware - stainless steel.

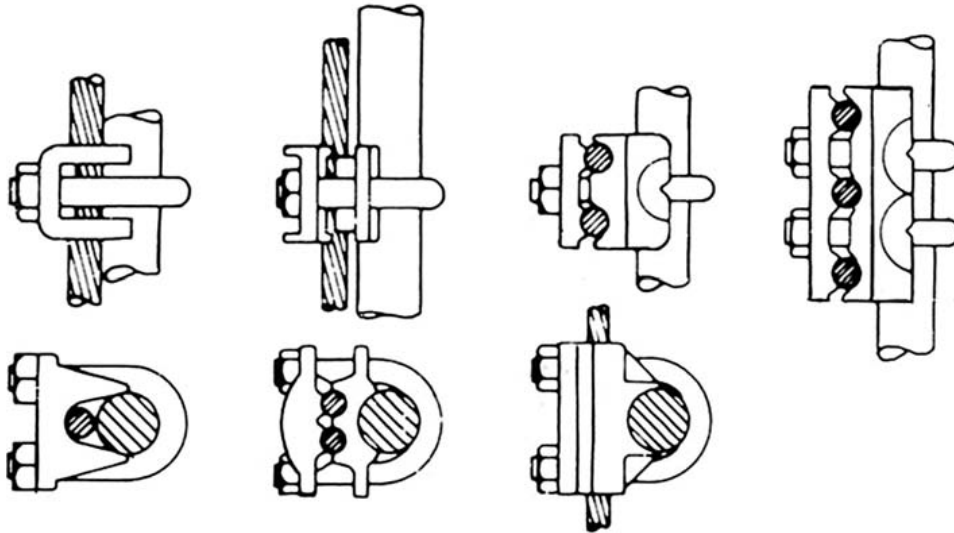


Fig. 1

Fig. 2

Fig. 3

Fig. 4

Multiple Conductor Installations					
Cat No.	O.D. Ground Rod mm	Conductor Range		Fig. No.	No. of Conductors
		mm <sup>2</sup>	Dia. mm		
EPO1	14-16	16 - 35	5.10 - 7.65	1	1
EP1	17-19	16 - 120	5.10 - 14.21	1	1
EP3	17-19	16 - 35	5.10 - 7.65	2	2
EP4	17-19	50 - 120	8.90 - 14.21	2	2
ET1	17-19	16 - 35	5.10 - 7.65	3	2
ET2	17-19	50 - 120	8.90 - 14.21	3	2
ET4	17-19	50 - 120	8.90 - 14.21	4	3



Type EP



Type ET



Type EP3

**Earthing Rods & Accessories**

**Earth Rod Clamps**

Type GP for connecting up to 3 conductors to galvanised pipe

This clamp makes all connections parallel to the pipe.

**Materials:** Clamp body - high copper content alloy.

**Hardware:** Comprising U-bolts, washers and nuts - stainless steel.

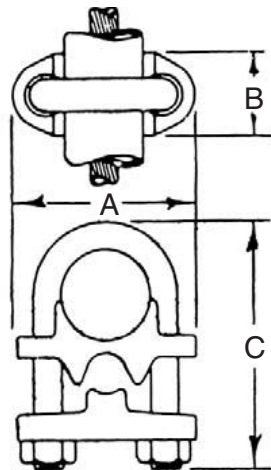


Fig. 1

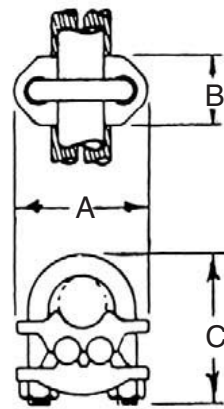


Fig. 2

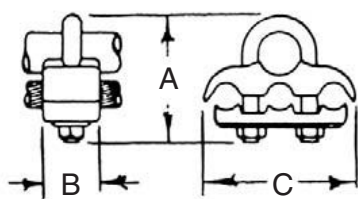


Fig. 3

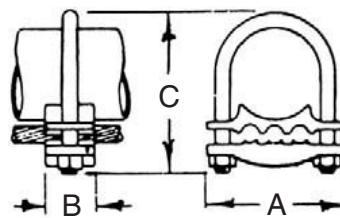


Fig. 4

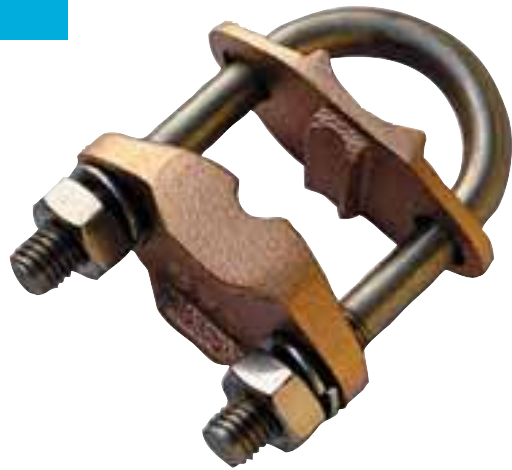
For dimensions, refer to table on next page.



**Earthing Rods & Accessories**

**Earth Rod Clamps**

Type GP for connecting up to 3 conductors to galvanised pipe



Cat No.	BS Pipe Series		Conductor Range		Fig. No.	No. of Cons	A	B	C	U-bolt Dia.		
	OD of Pipe	Nom. Bore	mm <sup>2</sup>	Dia. mm								
GP01	26	19.00	16 - 35	5.10 - 7.65	1	1	57	32	71	M10		
GP1	34	25.40			1	1	65	32	86			
GP3					2	2	76	32	86			
GP5					3	3	95	38	86			
GP7	43	32.00			1	1	73	32	95			
GP9					2	2	81	32	95			
GP11					3	3	103	38	95			
GP13	48	38.00			1	1	80	32	102			
GP15					2	2	80	32	102			
GP19	60	51.00			1	1	100	32	124			
GP21					2	2	100	32	124			
GP23					4	3	100	38	124			
GP02	26	19.00			50 - 120	8.90 - 14.21	1	1	57	32	71	M10
GP2	34	25.40					1	1	65	32	86	
GP4							2	2	76	32	86	
GP6			3	3			95	38	86			
GP8	43	32.00	1	1			73	32	95			
GP10			2	2			81	32	95			
GP12			3	3			103	38	95			
GP14	48	38.00	1	1			80	32	102			
GP16			2	2			80	38	102			
GP20	60	51.00	1	1			100	32	124			
GP22			2	2			100	32	124			
GP24			4	3			100	38	124			

**Earthing Rods & Accessories**

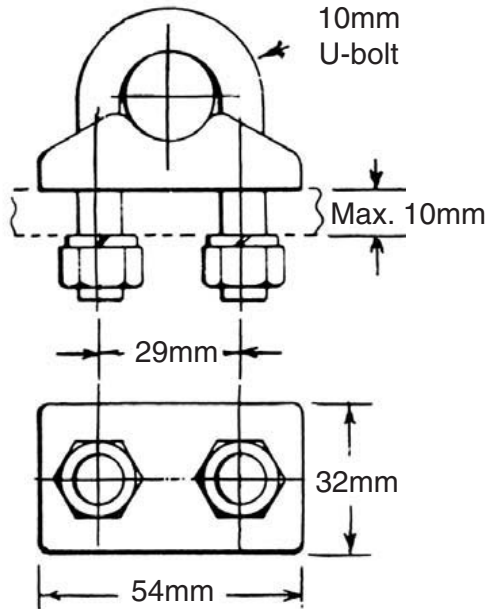
**Earth Rod Clamps**

Type FSC for earth to flat bar

For connecting copper earthing strip at right angles or parallel to the earthing electrode.

**Material:** High strength copper alloy casting; stainless steel U-bolt, nuts and spring washers.

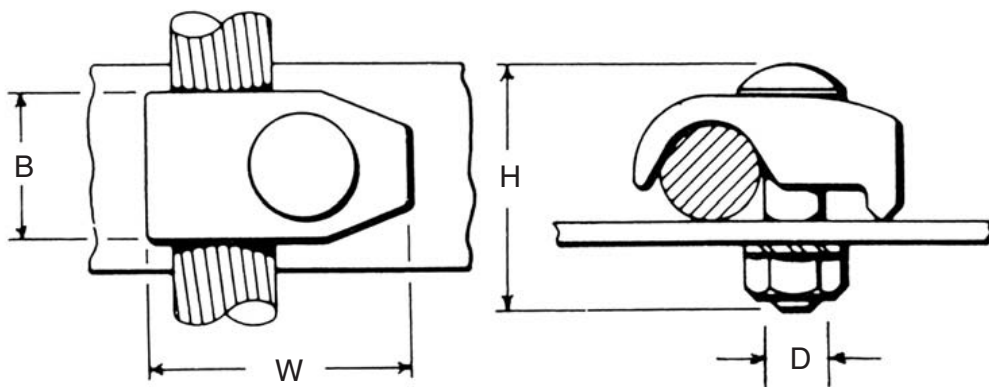
Cat No.	Earth Rod Dia. mm
FSC4	13 - 14
FSC5	15 - 16
FSC6	17 - 19



Type GF for conductor to flat bar

For clamping earth cable to flat metal. Needs only one spanner as head of bolt has square shank to prevent turning. Standard bolt grips 6mm bar.

**Material:** Cast copper alloy body accommodates range of cable sizes; stainless steel bolt, nut and spring washer.



Cat No.	Conductor Range		Dimensions mm			
	mm <sup>2</sup>	Dia. mm	W	B	H	D
GF42	16 - 70	5.10 - 10.70	39	27	27	M10
GF58	70 - 135	10.70 - 15.25	50	37	37	M12



**Earthing Rods & Accessories**

**Earth Rod Clamps**

**Single Conductor - Parallel**

Simple and robust, these pinch and U-Bolt type clamps have a vee groove embodied in the casting to accommodate the earthing cable.

**Material:** Bodies are made from a high copper content alloy casting.

Cat No.	Rod Size	Conductor Size	
		CSA mm <sup>2</sup>	Dia. mm
GRC5	13 - 15	10 - 35	4.05 - 7.65
CLAMP210	13 - 15	16 - 120	5.10 - 14.21
EP1	17 - 19	16 - 120	5.10 - 14.21



Type GRC5



CLAMP210



Type EP1

Earthing Rods & Accessories

Earthing Enhancement Compounds

Cat No.	Composition	Standard
EARTHFIL	Bentonite, Gypsum, Sodium Sulphate	Conforms to AS2239
EARTHRITE	Bentonite, Gypsum, Sodium Sulphate	N/A
EARTH5050	Bentonite, Gypsum	Conforms to AS2239



**Features:** Stable, high conductivity providing long term low ground resistance. High expansion, low shrink characteristics. Non-toxic, non-corrosive.

**Packaging:** 20kg non-tear, plastic lined bags.

**Installation:** Apply as a dry mix or pourable slurry.

Dry mix will yield a volume of approximately 0.0176m<sup>3</sup> (roughly 57 bags to the cubic metre).

Slurry will yield a volume of approximately 0.030m<sup>3</sup> when mixed with 20 to 25 litres of water (roughly 33 bags to the cubic metre)

Connection Boxes

Boxes ERB1 and ERB3 feature hinged inspection lids & cable entry holes on the sides. Both boxes provide ample space for conductors and clamps.



Type ERB1



Type ERB3

**Earthing Rods & Accessories**

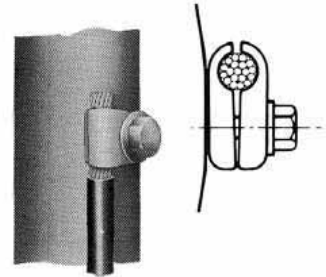
**Pole Earthing Terminal**

Type CPET

The pole earthing conductor is held by two half-clamps which directly attach to the pole as illustrated.

**Materials:** Cast brass with stainless steel hardware.

Cat No.	Conductor Range		Dia. Bolt & Washer	Bolt Length mm
	Stranding	Overall Dia.		
CPETM6	7/2.75 - 19/1.75	8.25 - 8.75	M10	35
CPETM24	19/1.75 - 19/2.00	8.75 - 10.00	M12	35



**Earth Mat and Installation Kit**

Cat No.	Description
EARTHMAT	Material: Galvanised steel Size: 1500 x 900mm Mesh: 76 x 50mm
KITY	Switching Kit to EARTHMAT

