



**SMARTLY
CONNECTED**

**SAFELY
GROUNDED**

Earthing & Lightning Protection Systems





Nestled in the
very bosom of
mother nature
the HEX factory at
Vadkhambha - Vapi.

REMEMBERING THE PAST,
SINCE 24th October 1991,
EMBRACING THE FUTURE...

HEX Factory situated near Vapi, Gujarat.

PREFACE

The competitive and challenging natures of today's business tend to push some of the critical and important safety aspects to the periphery of our priority. Safe earthing and effective protection against lightning are amongst such neglected issues whose improper functioning or lack could have devastative and fatal implications for the concerned stake holders.

At BRASS COPPER & ALLOY (I) LTD, we provide an array of products to address the needs of earthing and lightning protection to fit your design needs as per relevant standards. With an established manufacturing and solution centre we can manufacture products to your specific needs as well.



TEST CERTIFICATES

CENTRAL POWER RESEARCH INSTITUTE		 CPRI <small>Central Power Research Institute</small>
Test Report No. HPR-15033		
DESCRIPTION OF SAMPLE TESTED		
(As assigned by the manufacturer)		
Sample:	SAPPHIRE TARTH ELECTRODE - 26 mm dia x 2 cm length, 100 microns Hot Dip Coating(s).	
Product Code	: HRP-763-100	
Designation	: Pipe to Pipe Electrode	
Serial number(s)	: ----	
Rated short-time withstand current and peak withstand current	: 3750 A peak & 50 kA rms for 1.0 second	
Duration of short circuit	: 1.0 second	
		 (Authorized Signature / Stamp) TEST ENGINEER
<small>SOLID STATE CIRCUITRY DIVISION 7/7-A, JLN, BARODA UNIVERSITY CAMPUS, BARODA - 380 015 PHONE : 0662-2510001 FAX : 0662-2510004 TELEFAX : 0662-2510005 E-MAIL : cpri@cpri.res.in</small>		
		Sheet No. 2 of 6

<h1 style="margin: 0;">CENTRAL POWER RESEARCH INSTITUTE</h1>	
<p style="margin: 0;">Test Report No. EPR/19032</p>	
<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="width: 40%;"> <h2 style="margin: 0;">DESCRIPTION OF SAMPLE TESTED</h2> <p style="margin: 0;">(As compared to the manufacturer)</p> </div> <div style="width: 50%; text-align: right;">  <p style="margin: 0;">CPRI</p> </div> </div>	
<p>Sample:</p> <p>Old Product Code:</p> <p>New Product Code:</p> <p>Designation:</p> <p>Serial number:</p> <p>Rated short-time withstand current and peak withstand current:</p> <p>Duration of short circuit:</p>	<p>• 16X COPPER BONDED EARTH ROD, 17.2 mm dia x 3 m length, 250 micron copper plating.</p> <p>• HBR-230</p> <p>• HDB 172500000-230</p> <p>• Copper Bonded Earth Rod.</p> <p>• ---</p> <p>• 10 KA peak & 16 KA rms for 1.0 second</p> <p>• 10 second</p>
<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="width: 40%;"> <p style="margin: 0;">TESTED BY</p> <p style="margin: 0;">TESTED ON</p> </div> <div style="width: 50%; text-align: right;">  <p style="margin: 0;">TEST ENGINEER</p> <p style="margin: 0; font-size: small;">(Name of the Engineer)</p> </div> </div>	
<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="width: 40%;"> <p style="margin: 0;">APPROVED BY</p> <p style="margin: 0;">APPROVED ON</p> </div> <div style="width: 50%; text-align: right;"> <p style="margin: 0;">Signature of Manager</p> <p style="margin: 0;">MANAGER</p> </div> </div>	

CENTRAL POWER RESEARCH INSTITUTE		 CPRI <small>Central Power Research Institute</small>
Test Report No. HPL/15013		
DESCRIPTION OF SAMPLE TESTED (As suggested by the manufacturer)		
Sample:	1 HEX COPPER BUSBARRIER LAMPH ROSE 11.2 mm dia x 7 m length, 210 milivolt copper plated	
Old Product Code:	1 EDRS-120	
New Product Code:	1 EDRS-1A220000-210	
Designation:	1 Copper Bonded Earth Wire	
Serial number	1 ---	
Hazardous - liner withstanding current and peak withstanding current	± 30 kA peak & 12.5 A rms for 1.0 second	
Duration of short circuit	12.0 second	
 TEST ENGINEER <small>(Should Signify Name)</small>		
[HPL/15013/15013/01/01] © HPL www.hpl.co.in Version 01/01/11 PWSR-WD-TM-WPWS-PWSS-RPSS/IN-FAB-IND-001-01/01 REVISED TO DISCONTINUE FAB IN INDIA		
		Sheet No. 2 of 6

CENTRAL POWER RESEARCH INSTITUTE		
Test Report No. IPT-12034		
DESCRIPTION OF SAMPLE TESTED		
(As specified by the manufacturer)		
Sample:	<ul style="list-style-type: none"> - SAFETYNET LIGHT ELECTRODE, 76 mm dia x 7 m length, 250 microns copper plated. 	
Product Code	14BNC-262-230	
Degeneration	1 Pipe in Pipe Electrode	
Serial number	---	
Rated steady state withstand current and peak withstand current	- 102.5 kA peak & 65 kA rms for 1.0 second	
Duration of short circuit	1.0 second	
 (Electronics section Chief) TEST ENGINEER		
Sheet No. 2 of 6 CPRI - 100-1, Bhatinda Road, Gandhinagar, New Delhi-110029. Phone : +91-11-26104000 & 26104001, Telex: 310104 CPRI INDIA		

	SRINAGAR International Bldg. Company Inc. - 471034 (X) No.1, Parkside Tower, Sector - 7, G.T. Road, GATE, Section 2, 471002 New Arera, Newer City Phase, Udaipur India - 335 001 Phone : 011 88448212 www.srinagar-bldg.org	
	TEST REPORT	
	REPORT NO. 2017EEA2556	PAGE: 1 OF 5
	The Test Report refers only to samples submitted by the applicant to SRINAGAR International Bldg. Sdn. and tested to SRINAGAR standards. This Test Report is not intended to affirmatively represent, without further appearance from the originating Company, SRINAGAR International Bldg. Sdn. Please refer to the test page in Condition Booklet for the full and complete details.	
Applicant :	BRASS COPPER & ALLOY (I) LTD. (HDI) 3 FLOOR, RAJAWAL BUILDING NO.2 475 LAKSHMIBAI ROAD 400004 MUMBAI, INDIA	
Manufacturer :	BRASS COPPER & ALLOY (I) LTD. (HDI) PLOT NO. 11, VADHANSHARI TALUKA - KAPARAKA, DIST - VALSAD 396128 GUJARAT, INDIA	
Product :	LIGHTNING PROTECTION SYSTEM COMPONENTS (PSC) – SOLID COPPER EARTH GROUNDING RIG	
Reference Standard / Method of test	BIS EN 52561-2: 2012	
Description of sample :	Brand	HEX
	Model	HEC-1812
	Size	ø19x L 1200 mm
	Material	Copper
Date received	08 JUN 2017	
Job No. /Ref. No.	:20171420550	
Overall Test Result	COMPLIED (See page 2 for details)	
Issue date	20 JUL 2017	
Approved Signatories:		
<div style="display: flex; justify-content: space-between; align-items: flex-end;"> <div style="text-align: center;">  DANISHAMU S. Bhatt Testing Executive </div> <div style="text-align: center;">  ELECTRICAL ELECTRONIC SECTION </div> <div style="text-align: center;">  M. ZAFAR B. MUSTAFA Head Testing & Electronic Section 1, Testing Services Department </div> </div>		

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INDEX

Tables of Contents	Pg.No.
1. Introduction to ELPS	1
2. ELPS Product Application Guide	2
3. Earthing Solutions	
a. Copper Bonded Grounding Rods & Clamps (UL Listed)	4
b. Copper Bonded Grounding Rods & Accessories	5
c. Solid Copper Grounding Rods & Accessories (UL Listed/Non UL)	6
d. Mechanically Cu. Claded / SS Grounding Rods	7
e. SAFEHEX Earth Electrodes (Pipe in Pipe/Strip in Pipe)	8
f. Earth Enhancement Compounds - TEREK + / TERRAHEX	9
g. HEX Earth Kits	10
h. Earth Pits / Earth Bars	11
i. Earth Rod Seals	12
4. Lightning Protection Systems	
a. ESE Air Terminals	13
· Satelit 3	
· TARAN	
b. Conventional Air Terminals	14, 15
5. Earthing & Lightning Protection Systems Accessories	16 - 30

INTRODUCTION TO EARTHING & LIGHTNING PROTECTION SYSTEMS

EARTHING :

Earthing is one of the fundamental and critical aspects of electrical engineering designs and has seen continuous innovations and improvements over the years gone by.

Since 1992, BRASS COPPER & ALLOY (I) LTD., has been providing Earthing components compliant with national & international standards. In keeping with the company policy we have ensured that our worldwide clients have the option to choose from the most innovative and technologically advanced products.

Our offerings include various Earthing Rods and Electrodes, Earth Enhancing Chemical Compounds, HEXPOLY & Concrete Earth Chambers, Clamps, Couplers, Bus Bars & other accessories used in ELPS.

We also have the expertise to offer appropriate solutions as per the customers requirement.

LIGHTNING PROTECTION SYSTEMS :

Lightning is a massive electrostatic discharge between electrically charged regions within clouds, or between a cloud and the earth's surface. The lightning which occurs between the cloud and earth's surface can have destructive and fatal results.

To protect lives, livestock and assets against this deadly phenomenon we offer lightning protection systems, which conform to standards like BS EN/IEC 62305, NFPA 780, NFC17 102 and IS 2309.

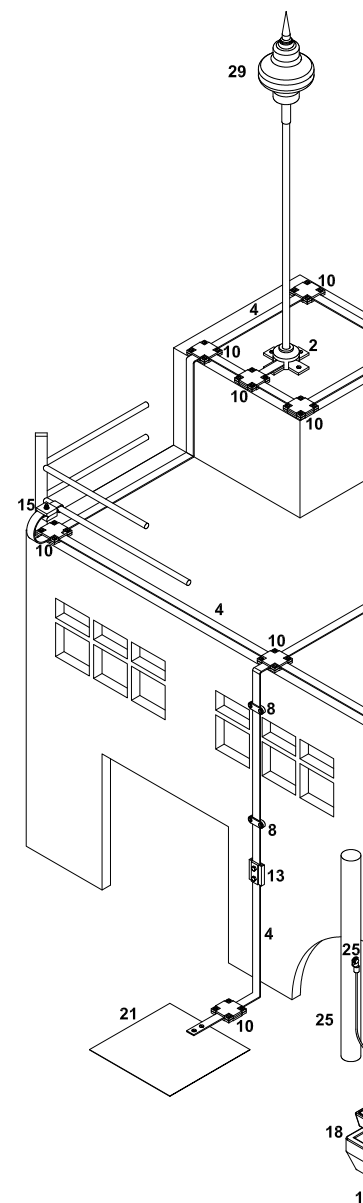
BRASS COPPER & ALLOY (I) LTD. provides the entire range of products that comprise a lightning protection system including air terminals, masts, saddles, bonds, joints, clamps, down conductors and earthing systems.

Application :

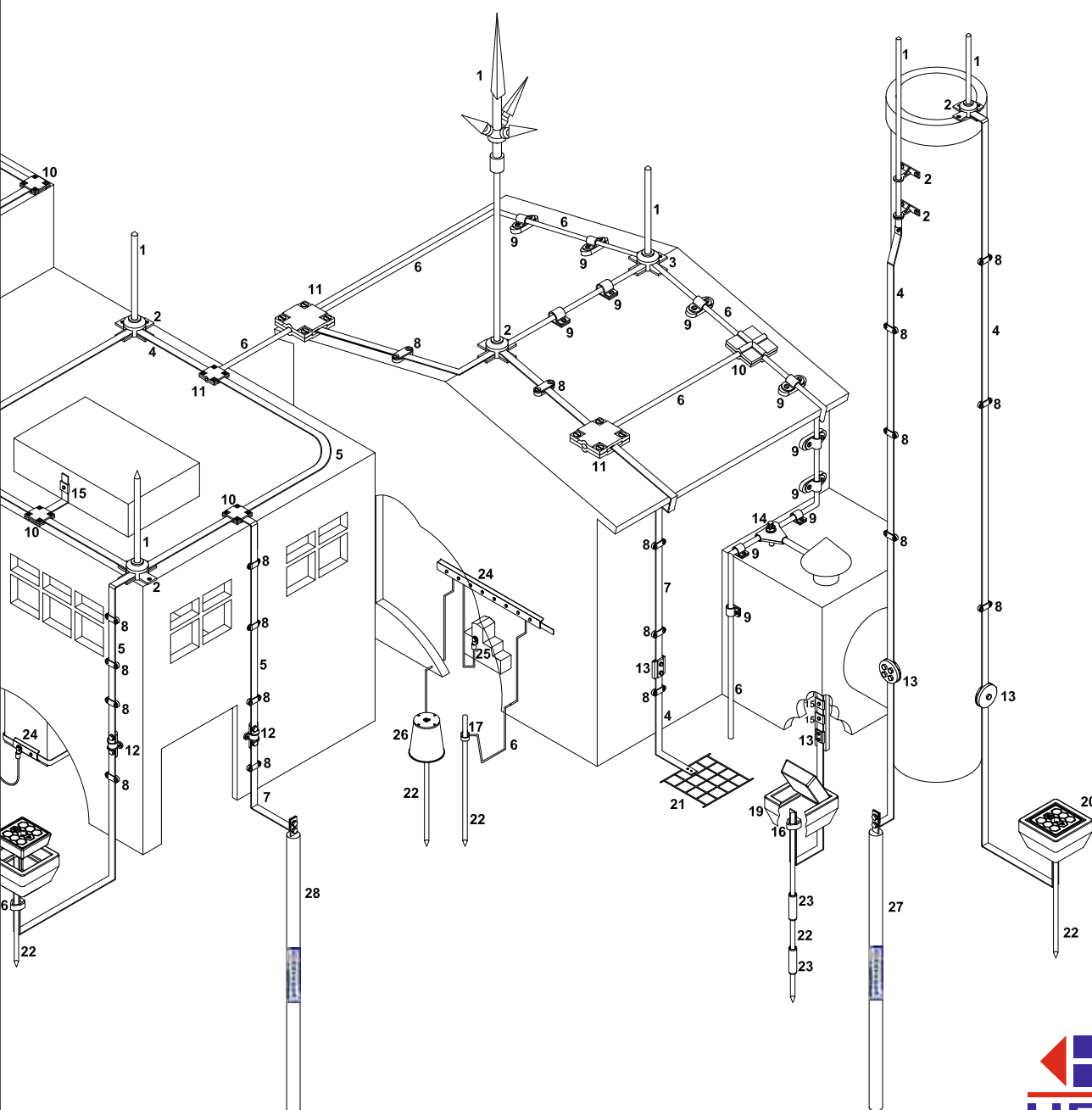
- Industry (Oil, Gas, Chemical etc)
- Telecom
- IT Park / Pharmaceuticals
- Real Estate / Hospitals / Schools
- Stadiums / Recreation Arenas
- Transport
- Defence
- Commercial Building / Malls
- Heritage Structures
- Irrigation / Dams

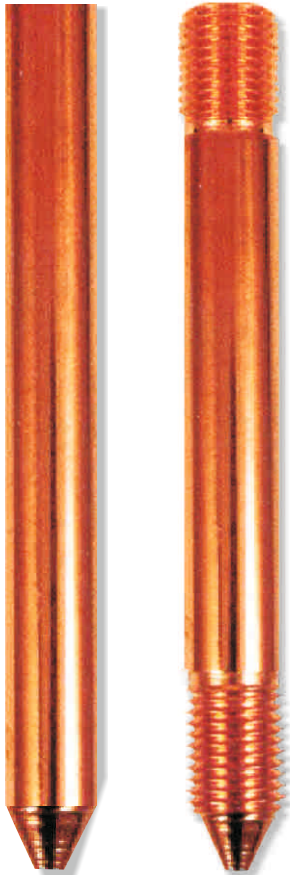


SR NO.	DESCRIPTION	PG. No.
1	AIR TERMINAL / AERIAL ROD	12, 13
2	AIR TERMINAL FIXINGS FOR TAPE	13, 17
3	AIR TERMINAL FIXINGS FOR CABLE OR WIRE	17
4	COPPER TAPE	26, 27
5	ALUMINIUM TAPE	-
6	COPPER STRANDED WIRE	27
7	PVC COVERED TAPE	26
8	TAPE FIXINGS	18, 23
9	CABLE FIXINGS	18, 23
10	JUNCTION CLAMPS FOR TAPE OR CABLE	21
11	JUNCTION CLAMPS FOR CABLE TO TAPE	21
12	BIMETALLIC CONNECTORS	30
13	TEST CLAMPS FOR TAPE	20
14	TEST CLAMPS FOR CABLE	20
15	BONDS	19
16	TAPE-EARTH ROD CLAMPS	15, 16
17	CABLE-EARTH ROD CLAMPS	15, 16
18	EARTH PIT-CONCRETE	11
19	EARTH PIT-PLASTIC BODY & COVER	11
20	EARTH PIT-PLASTIC BODY & METAL COVER	11
21	EARTH PLATES & MATS	29
22	EARTH RODS	4, 5, 6
23	EARTH ROD COUPLINGS	5, 6
24	DISCONNECTING LINKS / EARTH BARS	28, 29
25	CABLE LUGS	-
26	ROUND EARTH PIT-PLASTIC BODY & COVER	11
27	EARTH ELECTRODE - PIPE IN PIPE	7
28	EARTH ELECTRODE - STRIP IN PIPE	7
29	ESE LIGHTNING ARRESTOR	14



EARTHING & LIGHTNING PROTECTION SYSTEM PRODUCT APPLICATION GUIDE





COPPER BONDED GROUNDING RODS

HEX copper bonded earth rods are made from low Carbon Steel as per IS 2062 standard with high tensile strength material. Low carbon steel rods are molecularly bonded with 99.9% pure electrolytic copper.

Salient Features :

- Perfectly bonded rod will last longer, drive easier and will not crack.
- Corrosion resistant while providing the lowest resistance to ground.
- Threads are formed by roll threading process, which ensure that an even copper coating is maintained, even at the root of the thread. Roll threads give greater strength than cut threads.
- Roll threading process raises the surface of the rod, so that thread diameter is greater than shank diameter.

Shank Diameter	Length		Copper Thk.		Thds.	Net kg/l	Product Code
	ft	mm	mil.	µm			
12.7 mm	6	1830	10	250	/	1.8	HBR - 183
12.7 mm	8	2440	10	254	/	2.4	HBR - 244 *
12.7 mm	10	3050	10	254	/	3.0	HBR - 305E *
12.7 mm	8	2440	10	254	1/2"	2.4	HBR - 244D *
12.7 mm	10	3050	10	254	1/2"	3.0	HBR - 305D *
14.2 mm	4	1220	10	250	/	1.5	HBR - 122
14.2 mm	5	1530	10	250	/	1.8	HBR - 153
14.2 mm	6	1830	10	250	/	2.2	HBR - 183
14.2 mm	8	2440	10	254	5/8"	3.0	HBR - 244 A *
14.2 mm	10	3050	10	254	5/8"	3.7	HBR - 305 *
14.2 mm	4	1220	10	250	5/8"	1.5	HBR - 122 A
14.2 mm	5	1530	10	250	5/8"	1.8	HBR - 153 A
14.2 mm	6	1830	10	250	5/8"	2.2	HBR - 183 A
14.2 mm	8	2440	10	254	/	3.0	HBR - 244 E *
14.2 mm	10	3050	10	254	/	3.7	HBR - 305 A *
17.2 mm	5	1530	10	250	/	2.7	HBR - 153 B
17.2 mm	6	1830	10	250	/	3.3	HBR - 183 B
17.2 mm	8	2440	10	254	/	4.4	HBR - 244 B *
17.2 mm	10	3050	10	254	/	5.5	HBR - 305 B *
17.2 mm	5	1530	10	250	3/4"	2.7	HBR - 153 C
17.2 mm	6	1830	10	250	3/4"	3.3	HBR - 183 C
17.2 mm	8	2440	10	254	3/4"	4.4	HBR - 244 C *
17.2 mm	10	3050	10	254	3/4"	5.5	HBR - 305 C *
25.0 mm	10	3050	10	254	/	12.0	HBR - 2530
32.0 mm	10	3050	10	254	/	19.6	HBR - 3230

Copper bonded grounding rods are also available with Internal Threading on order. Please refer solid copper grounding rod section for dimensional details.

* These are UL listed Grounding / Earthing Rods. As per UL 467 Standard, the Copper Bonding on UL listed Grounding / Earthing Rods will be min. 254 microns.

GROUNDING ROD CLAMPS

FOR DIRECT BURIAL WITH STAINLESS STEEL SCREW

Material	Size of Earthing Rod/Pipe	Product Code
Bronze	1/2"	HGC - 411
Bronze	5/8"	HGC - 412
Bronze	3/4"	HGC - 413



COPPER BONDED GROUNDING RODS

HEX copper bonded earth rods are made from low Carbon Steel as per IS 2062 standard with high tensile strength material. Low carbon steel rods are molecularly bonded with 99.9% pure electrolytic copper.

Salient Features :

- Perfectly bonded rod will last longer, drive easier and will not crack.
- Corrosion resistant while providing the lowest resistance to ground.
- Threads are formed by roll threading process, which ensure that an even copper coating is maintained, even at the root of the thread. Roll threads give greater strength than cut threads.
- Roll threading process raises the surface of the rod, so that thread diameter (T). is greater than shank diameter (S).
- Copper Bonding Thickness - 25 Microns.

Dimensions Rod Size (Dia. X Length)	Shank Dia. 'S' in mm	Thread Dia. 'T' in mm	Product Code
9.5 X 1200	9.5	/	HBR - 012
9.5 x 1800	9.5	/	HBR - 018
14 x 1200	12	14	HBR - 1412
14 x 1500	12	14	HBR - 1415
14 x 1800	12	14	HBR - 1418
14 x 2000	12	14	HBR - 1420
14 x 2400	12	14	HBR - 1424
5/8" x 4' or 16 mm x 1200	14.2	5/8"	HBR - 112
5/8" x 5' or 16 mm x 1500	14.2	5/8"	HBR - 115
5/8" x 6' or 16 mm x 1800	14.2	5/8"	HBR - 118
5/8" x 8' or 16 mm x 2400	14.2	5/8"	HBR - 124
5/8" x 10' or 16 mm x 3000	14.2	5/8"	HBR - 130
5/8" x 4' or 16 mm x 1200	16	5/8"	HBR - 312
5/8" x 5' or 16 mm x 1500	16	5/8"	HBR - 315
5/8" x 6' or 16 mm x 1800	16	5/8"	HBR - 318
3/4" x 4' or 19 mm x 1200	17.2	3/4"	HBR - 212
3/4" x 5' or 19 mm x 1500	17.2	3/4"	HBR - 215
3/4" x 6' or 19 mm x 1800	17.2	3/4"	HBR - 218
3/4" x 8' or 19 mm x 2400	17.2	3/4"	HBR - 224
3/4" x 10' or 19 mm x 3000	17.2	3/4"	HBR - 230

- Copper Bonding thickness available above 25 Microns on request.
- HEX also offers other sizes as per customer specification.

ACCESSORIES - THREADED RODS

COUPLER

Material : Copper Alloys

Couplers are counter bored to completely enclose the threads & protect from damage and corrosion.

Size mm	Product Code Brass	Product Code Al. Bronze	Product Code Gunmetal
14	HEC - 14	HEC - 15	HEC - 15G
16 or 5/8"	HEC - 16	HEC - 17	HEC - 17G
19 or 3/4"	HEC - 19	HEC - 20	HEC - 20G

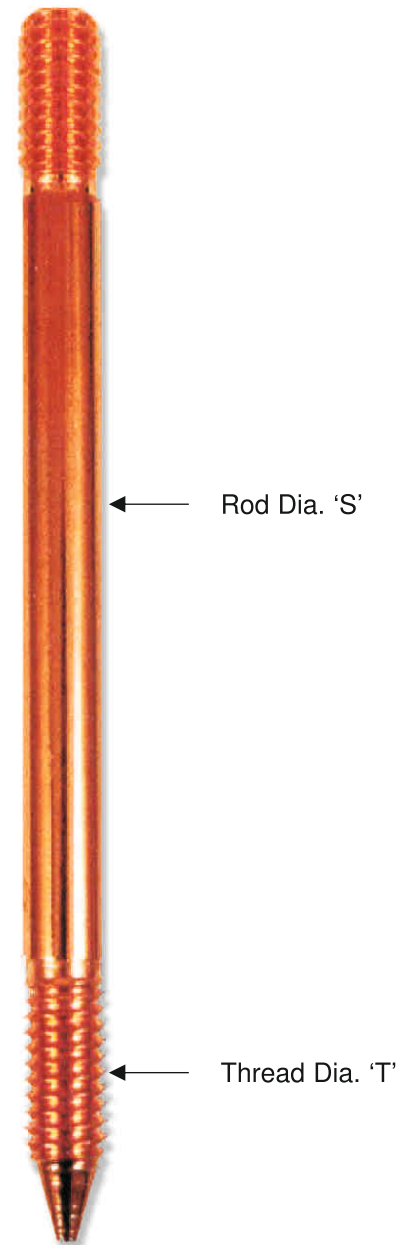
DRIVING STUD

Material : High Tensile Steel

These are used to drive the grounding rod into the ground.

Size	Product Code
14 mm	HDS - 14
5/8" or 16 mm	HDS - 16
3/4" or 19 mm	HDS - 19
1/2"	HDS - 12

ALLEN KEY type hardened Driving Stud available on request.



SOLID COPPER GROUNDING RODS

INTERNALLY THREADED

HEX solid Copper earth rods are made from 99.9% pure electrolytic copper. Solid Copper rods offers greater resistance to corrosion. They are ideally used in applications where soil conditions are very aggressive, for eg. soil with high salt content.

Rod Dia.	Length	Product Code
15 mm	1200 mm or 4'	HSC - 512
15 mm	1500 mm or 5'	HSC - 515
16 mm	1200 mm or 4'	HSC - 1612 **
20 mm	1200 mm or 4'	HSC - 520
20 mm	1500 mm or 5'	HSC - 521
20 mm	3050 mm or 10'	HSC - 1021 *

* Tested as per UL 467 Standard.

** Tested as per BS EN 62561 - 2 : 2012

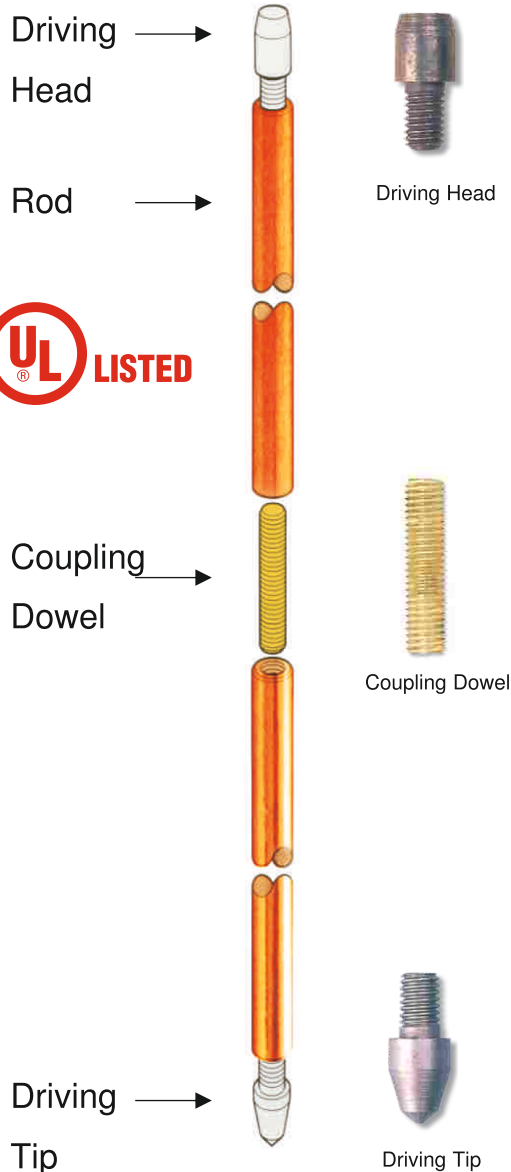
ACCESSORIES

Size	Item	Product Code
15 mm	Driving Head	HDH - 15
20 mm	Driving Head	HDH - 20
15 mm	Coupling Dowel	HCH - 15
20 mm	Coupling Dowel	HCH - 20
15 mm	Driving Tip	HDT - 15
20 mm	Driving Tip	HDT - 20

EXTERNALLY THREADED

Dimensions Rod Size (Dia X Length)	Thread Dia. 'T' in mm	Product Code
14 x 1200	14	HBRS - 1412
14 x 1500	14	HBRS - 1415
5/8" x 4" or 16 mm x 1200	5/8"	HBRS - 112
5/8" x 5" or 16 mm x 1500	5/8"	HBRS - 115
3/4" x 4" or 19 mm x 1200	3/4"	HBRS - 212
3/4" x 5" or 19 mm x 1500	3/4"	HBRS - 215

- Same accessories of copper bonded grounding rods are applicable.
- HEX also offers other sizes as per customer specification.



MECHANICALLY CU. CLADED/COATED GROUNDING ROD

Mechanically cladded Copper coated grounding rod is made when electrolytic grade 99.9% copper tube with wall thickness of 0.25 (250 microns) is cladded to a low carbon steel rod.

Rod Size "S"	Length	Product Code
12	1200 (4 ft)	HCR - 1412
	1800 (6 ft)	HCR - 1418
	2400 (8 ft)	HCR - 1424
14	1200 (4 ft)	HCR - 112
	1800 (6 ft)	HCR - 118
	2400 (8 ft)	HCR - 124
16	1200 (4 ft)	HCR - 312
	1800 (6 ft)	HCR - 318
	2400 (8 ft)	HCR - 324
	3000 (10 ft)	HCR - 330
19	1200 (4 ft)	HCR - 412
	1800 (6 ft)	HCR - 418
	2400 (8 ft)	HCR - 424
	3000 (10 ft)	HCR - 430

This rod can also be supplied with threading & also can be made as per customer specification.

STAINLESS STEEL GROUNDING ROD



"HEX" stainless steel ground rods are used to overcome many of the problems caused by galvanic corrosion which can take place between dissimilar metals buried in close proximity. Other advantages of Stainless Steel rod are that they are highly resistant to corrosion and are much more anodic than Copper.

Diameter		Length		Pkg.	Weight Unit (kg)	Product Code
Inches	mm	ft	m			
5/8"	14.2	5'	1.52	10	2,05	HSS - 145
5/8"	14.2	8'	2.44	10	3,28	HSS - 148 *
5/8"	14.2	10'	3.05	10	4,10	HSS - 1410 *
3/4"	17.2	5'	1.52	5	2,75	HSS - 175
3/4"	17.2	10'	3.05	5	5,50	HSS - 1710 *
1.0"	23.1	10'	3.05	1	10,23	HSS - 2410 *

* These are UL listed Grounding / Earthing Rods as per UL Standard.

GROUNDING ROD ACCESSORIES - UNTHREADED RODS

Couplers

These couplers are used to drive the unthreaded Rods deep and ensure continuous contact for Earthing.

Material : Copper Alloy

Product Code : HERC

P. S.: Specify Rod diameter to be used with.

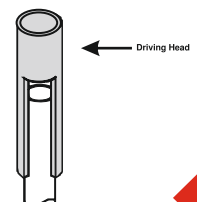
Driving Head

These are used to drive the unthreaded grounding Rods in the Ground.

Material : High Tensile Steel

Product Code : HDSU

P. S.: Specify Rod diameter to be used with.



SAFEHEX EARTH ELECTRODES

A simple GI pipe with or without salt / charcoal mixture can provide the necessary path for the fault current to be grounded. However, over a period of time, depending on the effect of the corrosive elements in the soil, the GI pipe gets eaten away resulting in an increase of the Earth pit's resistance.

To ensure that the life of the earth electrode is enhanced exponentially, the HEX Team engineered an innovative design for the Earth Electrode System, the SAFEHEX Earth Electrode.

The SAFEHEX electrode consists of the main earth electrode which is either a pipe or a strip, encapsulated within another pipe filled with the highly conductive & corrosion resisting compound HEXFILL. The main earth electrode is protected by the presence of this highly conductive compound and the outer pipe. Because of its highly conductive property the fault current gets immediately discharged through the outer pipe to the surrounding area.

The size of the robust top connection plate is scientifically designed so as to prevent a bottleneck for fault current flow at this critical junction.

The whole assembly of SAFEHEX electrode is then inserted into a bore made in the earth and the space around is filled by the scientifically developed Back Fill Compound TERRAHEX.

SAFEHEX Earth Electrodes have been successfully tested at CPRI, Bangalore for Short Circuit and other tests. The reports are given in this catalogue for your reference.



SAFEHEX - PIPE IN PIPE (PIP)		
COPPER PLATED 250 MICRONS		
PROD. CODE	OUTER PIPE OD (mm)	LENGTH (Mtrs.)
HSPC-502-250	50	2
HSPC-503-250	50	3
HSPC-762-250	76	2
HSPC-763-250	76	3
COPPER PLATED 100 MICRONS		
PROD. CODE	OUTER PIPE OD (mm)	LENGTH (Mtrs.)
HSPC-502-100	50	2
HSPC-503-100	50	3
HSPC-762-100	76	2
HSPC-763-100	76	3
COPPER PLATED 25 MICRONS		
PROD. CODE	OUTER PIPE OD (mm)	LENGTH (Mtrs.)
HSPC-502-025	50	2
HSPC-503-025	50	3
HSPC-762-025	76	2
HSPC-763-025	76	3
HOT DIP GALVANIZED 100 MICRONS		
PROD. CODE	OUTER PIPE OD (mm)	LENGTH (Mtrs.)
HSPG-502-100	50	2
HSPG-503-100	50	3
HSPG-762-100	76	2
HSPG-763-100	76	3

SAFEHEX - STRIP IN PIPE (SIP)		
COPPER PLATED 250 MICRONS		
PROD. CODE	OUTER PIPE OD (mm)	LENGTH (Mtrs.)
HSSC-502-250	50	2
HSSC-503-250	50	3
HSSC-762-250	76	2
HSSC-763-250	76	3
COPPER PLATED 100 MICRONS		
PROD. CODE	OUTER PIPE OD (mm)	LENGTH (Mtrs.)
HSSC-502-100	50	2
HSSC-503-100	50	3
HSSC-762-100	76	2
HSSC-763-100	76	3
COPPER PLATED 25 MICRONS		
PROD. CODE	OUTER PIPE OD (mm)	LENGTH (Mtrs.)
HSSC-502-025	50	2
HSSC-503-025	50	3
HSSC-762-025	76	2
HSSC-763-025	76	3
HOT DIP GALVANIZED 100 MICRONS		
PROD. CODE	OUTER PIPE OD (mm)	LENGTH (Mtrs.)
HSSG-502-100	50	2
HSSG-503-100	50	3
HSSG-762-100	76	2
HSSG-763-100	76	3

OD OF PIPES MAY CHANGE SUBJECT TO MARKET AVAILABILITY

IMPORTANT NOTE :

SAFEHEX Earth Electrodes have been successfully tested by CPRI for Short Circuit Tests as given below.

- SAFEHEX PIP 76mm X 3M Cu 250 microns – 65kA
- SAFEHEX PIP 76mm X 3M HDG 100 microns – 60kA
- SAFEHEX PIP 50mm X 3M HDG 100 microns – 50kA

Copies of these Test Reports can be provided on request.

TEREC +

As per IEEE 80 2000, the following observations have been made:

Clause 14.5 states "It is often impossible to achieve the desired reduction in ground resistance by adding more grid conductors or ground rods. An alternate solution is to effectively increase the diameter of the electrode by modifying the soil surrounding the electrode."

TEREC + maintenance free earthing compound ensures that deteriorating earthing is no longer a factor for compromising the safety of life and asset. The use of TEREC + maintenance free earthing compound adheres to specifications described in IEEE 80:2000 clause 14.5(d), which describes the use of ground enhancement material to improve the resistivity of the soil surrounding the electrode and provide a permanence to the earth pit reading.

TEREC + has undergone stability tests in third party laboratories to confirm the maintenance free capability.

TEREC + has also been tested for eco friendliness and as a non-pollutant to nature.

Properties exhibited by TEREC +

- **Ionic** : Salts creates ions for easy conduction.
- **Dispersion** : Spreads the salts equally in the earth pit.
- **Expansion** : Expands 18 to 20 times & removes entrapped air to create a strong connection between the rod & soil.
- **Diffusion** : Diffuses into soil pores & creates conductive silicate roots enlarging conductive zone of the earth pit.
- **Hygroscopic** : Absorbs atmospheric & surrounding moisture & retains it in the soil.
- **Other patented chemicals**

TERRAHEX

The Earth Electrode reduces the pit resistance as per tables and charts as detailed in various international specifications. Any amount of costly electrodes installations do not give needed resistivity. It is thus essential to understand the technique of altering the soil resistivity. By effective artificial treatment using TERRAHEX earth enhancing compound which is as per IEEE 80:2000 clause 14.5(b) the soil resistivity is reduced to approximately 55% of the original value depending on the soil condition.

TERRAHEX conforms to IEC 62561-7 / EN 12467-2. It is also RoHS compliant & hence does not pollute the soil in any way.

PHYSICAL PROPERTIES

- **Presentation** : Amorphous
- **Granulometry** : Powder to less than 0.3 mm
- **Colour / Smell** : Grey / Inodorous
- **Solubility** : Partially miscible in water
- **PH value** : 7.5 to 8.5 of 1000 gms/litre at 20 degrees C

The TERRAHEX Advantage

- Earth Enhancing Compound
- Achieves resistance acceptable to any international body
- Low step and touch potential
- Environmental friendly

Properties exhibited by TERRAHEX

- **Ionic** : Salts creates ions for easy conduction.
- **Expansion** : Expands 3 to 5 times & removes entrapped air to create a strong connection between the rod & soil.
- **Hygroscopic** : Absorbs atmospheric & surrounding moisture & retains it in the soil.





★ Rod to Tape Clamp



★ Surface plating
to be selected from
Catalogue pg.no. 7



READY TO USE EARTHING KITS

The ready to use HEX EARTH KIT ensures the user has not missed out basic components and makes ordering a simple affair. These kits come with a simple instruction sheet to ensure special expertise is not required during installation.

The kits come with either Cu Bonded Rod or SAFEHEX PIP Earth Electrodes, TERRAHEX Earth Enhancing Compound, relevant clamping arrangement and HDPE Earth Pit Chamber.

HEX EARTH KIT 17.2

- Cu Bonded Rod 17mm dia. x 2mtrs. length
- TERRAHEX 1 bag (25 kg)
- Rod to Tape Clamp
- HDPE Earth Pit Chamber

HEX EARTH KIT 17.3

- Cu Bonded Rod 17mm dia. x 3mtrs. length
- TERRAHEX 2 bags x 25 kgs
- Rod to Tape Clamp
- HDPE Earth Pit Chamber

HEX EARTH KIT 50.2

- PIP/SIP 50mm dia. x 2mtrs. length *
- TERRAHEX 1 bag x 25 kgs
- HDPE Earth Pit Chamber

HEX EARTH KIT 50.3

- PIP/SIP 50mm dia. x 3mtrs. length *
- TERRAHEX 2 bags x 25 kgs
- HDPE Earth Pit Chamber

HEX EARTH KIT 76.2

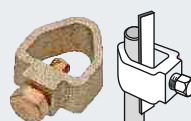
- PIP/SIP 76mm dia. x 2mtrs. length *
- TERRAHEX 1 bag x 25 kgs
- HDPE Earth Pit Chamber

HEX EARTH KIT 76.3

- PIP/SIP 76mm dia. x 3mtrs. length *
- TERRAHEX 2 bags x 25 kgs
- HDPE Earth Pit Chamber

HEX EARTH KIT 14.3

- Cu bonded Rod 14mm dia. x 3mtrs. length - 3 nos
- TERRAHEX 4 bags x 25 kgs
- Clamps
- HDPE Earth Pit Chamber



★ Rod to Tape Clamp



SQUARE POLYMER EARTH PITS

These **HEX** Earth housing pits are manufactured from high-grade polypropylene for high strength & stress levels to absorb significant loads as given below. They are stabilised against degradation by sunlight and non-brittle to prevent cold weather damage. The light weight feature allows easy handling, storage and transportation, thus increasing installation efficiency. Termination area is increased by 100% due to simple locking of two units together, allowing deeper earth electrode connections to be made and reducing the effects from harmful voltage gradients.

Product Code	Length (mm)	Width (mm)	Height (mm)	Weight (Kgs.)	Load (Tons)
HEP	308	308	214	2.5	5.0
HEP-S	245	245	195	1.0	3.0
HEP-B	500	500	315	6.0	2.0

Material : Body : HEXPOLY - COM & **Cover :** HEXPOLY - GLASS

HEPM	308	308	214	5.0	5.0
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Material : Body : HEXPOLY - COM & **Cover :** CAST IRON

ROUND POLYMER EARTH PITS

These compact **HEX** Round Earth Pits are manufactured from special high-grade polymer compounds which ensure high strength and stress levels. They are tested for high loads as given below and are stabilised against degradation by sunlight and cold weather damage. Being ultra light weight they allow for easy handling, storage and transportation. The knock out areas provided allow for easy termination, thus increasing installation efficiency.

Material : Body : HEXPOLY - COM & **Cover :** HEXPOLY - GLASS

Product Code	Top Dia. (mm)	Bottom Dia. (mm)	Height (mm)	Weight (Kgs.)	Load (Tons)
HEPR	154	213	230	0.75	5.0
HEPR-A	250	350	260	2.0	5.0

CONCRETE EARTH PITS

The **HEX** Concrete Earth Pits are suitable for load rating as given below and can have an internal Earth Bar (5 hole OR 7 hole) fitted diagonally across in slots provided for multiple connections. They are made with a proprietary mortar formulation with advanced polymer & glass fibers for light weight. They also offer water resistance (low porosity) & high insulation properties, long life, stability under all weather conditions.

Product Code	Length (mm)	Width (mm)	Height (mm)	Weight (Kgs.)	Load (Tons)
HCEP	310	310	170	25	5.0
HCEP-A	320	320	195	30	5.0

EARTH BARS FOR EARTH PITS

These earth bars fit into the slots provided in the earth pits housings and are used when multiple connections to the grounding rod are required.

Material : Copper

No. of Holes	Holes Dia. mm	L mm	W mm	T mm	Product Code
5	12	290	30	6	HEBC 05
7					HEBC 07

P.S. : Other hole sizes / extra holes available on request.



HEP



HEP-B



HEPM



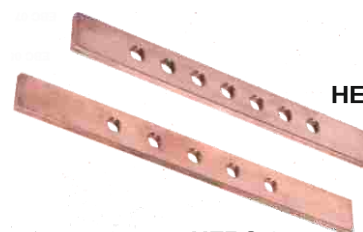
HEPR



HEPR-A



HCEP



HEBC 07

HEBC 05

ESE BASED LIGHTNING PROTECTION AIR TERMINAL

Satelit 3

(SGI is an authorised distributor only for Indian Sub-continent & Middle East Countries.)

The Early Streamer Emission Lightning Conductor Including Teletesting supervision

This third generation of the Duval Messien “Satelit” range uses this technology to force the lighting strike to follow a predetermined path towards the earthing system. The Satelit 3 concept consists of polarising the lightning conductor tip with a voltage of between 35 kV and 45kV, synchronised with the progress of the descending tracer, and of triggering an anticipated start for the ascending tracer. With its Satelit 3, Duval Messien is offering a ground-breaking development by introducing a remote system testing facility: the TELETESTER-S3. Satelit 3 has been designed inside a 304L grade Stainless Steel shell in order to guarantee high resistance to impact, corrosion and chemical agents. The electronic components selected for the Satelit 3 are completely protected inside an inert resin block. The spark gap is designed to conduct currents greater than 180 kA. Satelit 3 is powered by a Ni-MH type battery, continuously recharged by indestructible, flexible solar cells.

CERTIFICATIONS

The Bazet Test Center (COFRAC approved) under Lloyd’s Register control (the certified European body).



- Taran is a 2nd generation ESE type of ‘active’ lightning conductor that provides zonal protection in accordance with the French Standard NFC 17-102.
- It is a sturdy robust device made of 316L Stainless Steel.
- It is highly resistant against impact, corrosion and chemical agents.
- Maintenance free, compact and easy to install.
- Needs no external power source.
- Warranty for 2 years on manufacturing defects.
- Analog or Digital Lightning Strike Counter’s are available on request.

CERTIFICATIONS

- | | |
|--------------------|--------------------------|
| • ICMET - Romania. | • CITEL - France. |
| • CPRI - India. | • TUV Rheinland - India. |

Weight : 2.4 kg

Radius of Protection :

LA MODEL	TIP HEIGHT OF ESEAT (IN METERS)								LA MODEL
	2	4	5	7	10	15	20	30	
	LEVEL 1 RADIUS OF PROTECTION (IN METERS)								
SATELIT 3 - 25	17	34	42	43	44	45	45	45	-
SATELIT 3 - 45	25	51	63	64	64	65	65	65	-
SATELIT 3 - 60	32	64	79	79	79	80	80	80	TARAN-60
	LEVEL 2 RADIUS OF PROTECTION (IN METERS)								
SATELIT 3 - 25	20	40	49	50	51	53	54	55	-
SATELIT 3 - 45	30	60	71	71	72	73	74	75	-
SATELIT 3 - 60	34	68	86	87	88	89	89	90	TARAN-60
	LEVEL 3 RADIUS OF PROTECTION (IN METERS)								
SATELIT 3 - 25	23	46	57	59	61	63	65	68	-
SATELIT 3 - 45	34	64	81	82	83	85	86	89	-
SATELIT 3 - 60	40	78	97	98	99	101	102	104	TARAN-60
	LEVEL 4 RADIUS OF PROTECTION (IN METERS)								
SATELIT 3 - 25	26	52	65	66	69	72	75	80	-
SATELIT 3 - 45	36	72	89	91	92	95	97	101	-
SATELIT 3 - 60	44	87	107	108	109	111	113	116	TARAN-60

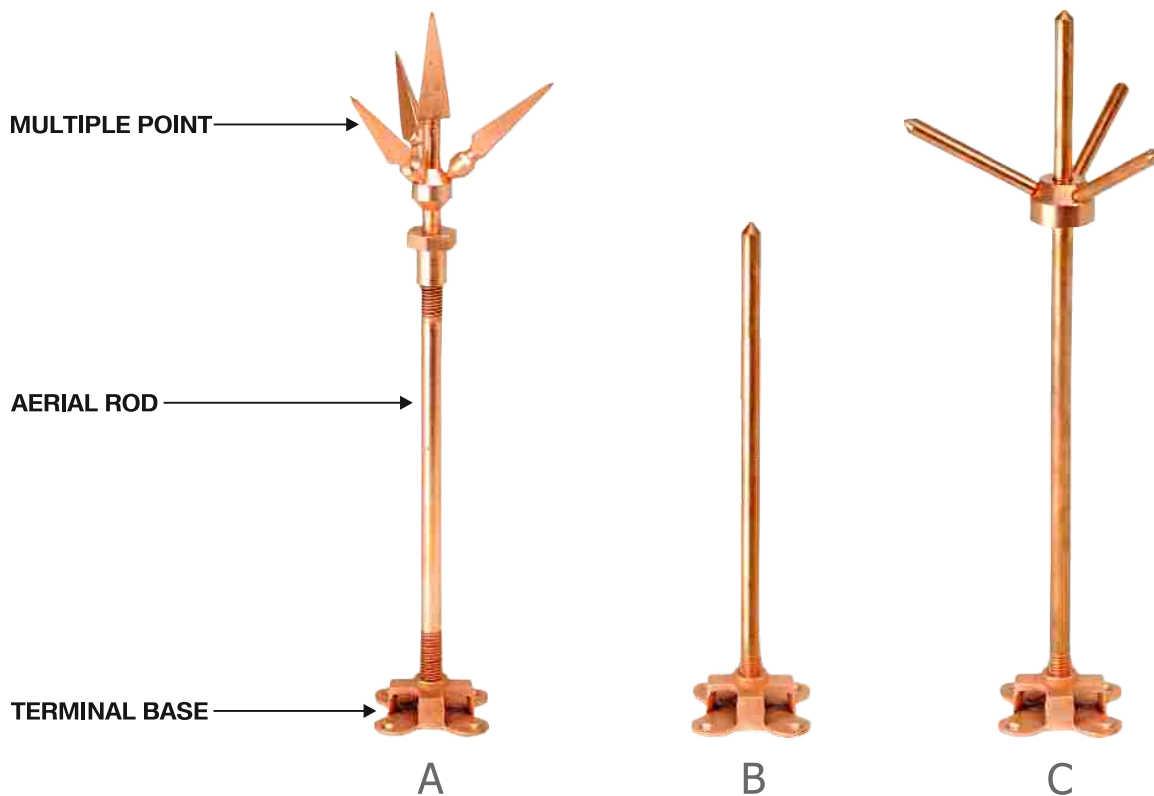


CONVENTIONAL AERIAL RODS

Aerial Elevation Rods, also known as Franklin rods or conventional lightning rods are installed on the highest point of the structure to be protected from direct lightning strikes.

These provide a zone of protection emanating from the installed height of the tip. To achieve optimum protection, the number of these rods to be installed should be as per the relevant IS/IEC standards.

The Aerial Rods should be connected to earth by the smallest possible direct path. HEX offers them in various models of single point & multiple points.



ITEM	MULTIPLE POINT	AERIAL ROD			TERMINAL BASE	PRODUCT CODE
		RM	DIA.(mm)	LENGTH (mm)		
A	HMP-16	CBR*	14	1200	HTB-LP-16	HLA - 144
B	-	CBR*	14	1200	HTB-LP-16	HLA - 14
C	HMP-SPL	SCR*	15	1200	HTB-LP-16	HLA - 154

Notes :

*CBR = Copper Bonded Rod

*SCR = Solid Copper Rod

Other sizes are available on request.

CONVENTIONAL AERIAL RODS ACCESSORIES



AERIAL ELEVATION ROD

Material : Electrolytic Copper

Aerial Rod can be installed with or without Multiple Point.

ROD DIAMETER	THREAD SIZE	LENGTH OF ROD	PRODUCT CODE
15	5/8"	500	HAE - 15
15	5/8"	1000	HAE - 40
15	5/8"	2000	HAE - 120



HMP

MULTIPLE POINT

Multiple Point is used with Elevation rod.

THREAD SIZE	MATERIAL	PRODUCT CODE
M16 or 5/8"	Brass (Copper Plated)	HMP - 16
M20 or 3/4"	Brass (Copper Plated)	HMP - 20
M16 to M20	Copper	HMP - SPL



HMP-SPL

MULTIPLE POINT WITH INSULATOR

Material : Copper Alloy / Enamelled Porcelain

The Enamelled Porcelain insulator breaks the path of lightning strikes which are safely grounded by the down conductor which is connected above it. The zone of protection provided by this aerial rod is as per the relevant IS/IEC standards.

ROD DIAMETER	PROD. CODE
16 mm to 20 mm	HLAI - 121



HLAI - 121

TERMINAL BASE

Material : Brass (Copper Plated)

Used for fixing Aerial Rod and Down Conductor.

Four fixing holes are provided on it.



THREAD SIZE	PRODUCT CODE
M16 or 5/8"	HTB - LP - 16
M20 or 3/4"	HTB - LP - 20

Also available in Gunmetal.

Please add G to Prod. Code (Ex. HTB - LP - 16G)

ELPS ACCESSORIES

Copper Alloy Clamps

These clamps are made from a Copper alloy body which gives strong resistance to corrosion. HEX offers following range of clamps :-

Clamp - A type

Suitable for Rod dia. 12 mm

Material : Brass with MS fastener

PROD. CODE : HAC - 1

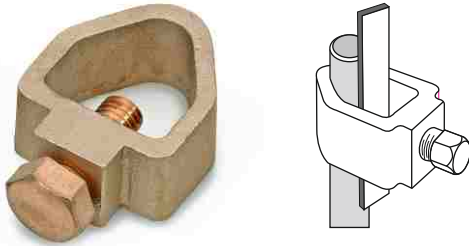


Rod to Tape Clamp - B type

Rod Size	Tape Size	Product Code
5/8"	26 x 12	HBC - 1
5/8"	40 x 12	HBC - 2
5/8"	51 x 12	HBC - 3

Also available in Gunmetal.

Please add G to Prod. Code (Ex. HBC-1 G for HBC-1)

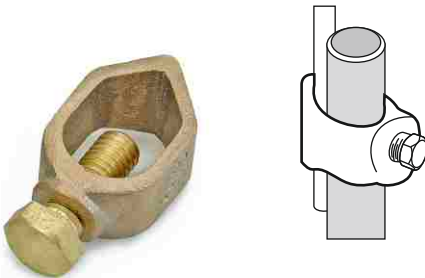


Rod to Cable Clamp - C type

Rod Size	Cable Size	Product Code
3/8" or 9.5mm	35mm ²	HCC - 1
5/8" or 16mm	50mm ²	HCC - 2
5/8" or 16mm	70mm ²	HCC - 3
3/4" or 20mm	95mm ²	HCC - 4

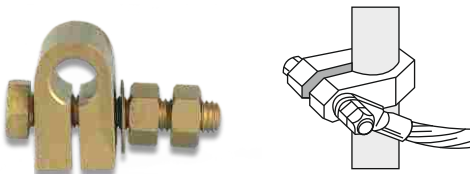
Also available in Gunmetal.

Please add G to Prod. Code (Ex. HCC-1 G for HCC-1)



Rod to Cable Lug Clamp - D type

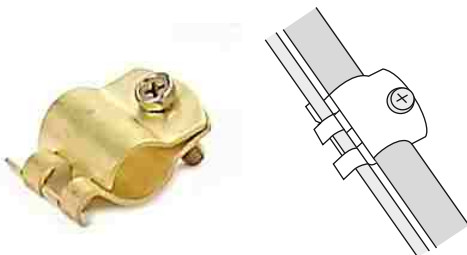
Rod Dia.	Product Code
3/8" or 9.5mm	HDC - 1
5/8" or 16mm	HDC - 2
3/4" or 20mm	HDC - 4



Brass Cable Clip

Used for connecting 13mm rod to a cable range from 6 - 16 mm²

PROD. CODE : HBCC - 1



ELPS ACCESSORIES

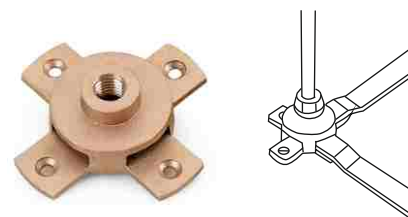
Light Duty Saddle

Mtl : Brass / Gunmetal

Used for supporting Air Terminals.

Thread Dia. mm	Max Cond. Width mm	Product Code
10	25	HLD - 1025
16	25	HLD - 1625
20	25	HLD - 2025

Also available for Aluminium conductor, please specify your requirement.



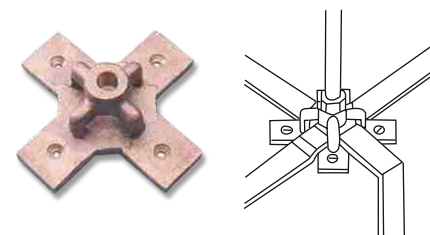
Flat Saddle

Mtl : Brass / Gunmetal

Used for supporting Air Terminals.

Thread Dia. mm	Max Cond. Width mm	Product Code
10	25	HFLD - 1025
16	25	HFLD - 1625
20	25	HFLD - 2025

Also available for Aluminium conductor, please specify your requirement.

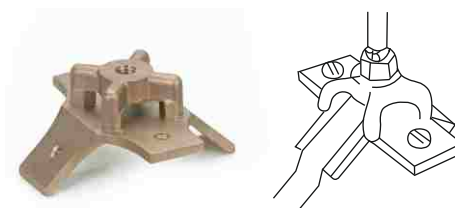


Ridge Saddle

PROD. CODE : HRDS - 1

Mtl - Gunmetal / Brass

Used for supporting Air Terminals on Ridges.



Side Mounting Rod Bracket

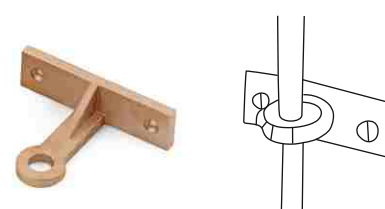
Mtl : Brass / Gunmetal

Above bracket provides a 75mm projection from the face of a wall.

Mfd. either in Gunmetal or Brass.

Air Rod Diameter (mm)	Product Code
10	HSM - 10
16	HSM - 16
20	HSM - 20

Also available for Aluminium conductor, please specify your requirement.



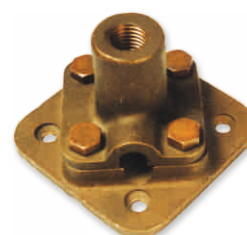
Flat Saddle - A

Mtl : Brass / Gunmetal

Used for fixing air rods on flat surfaces.

Recommended fixing :- Countersunk woodscrew 1½" x no.10 & wall plug.

Rod Length	Rod Dia.	Thread Dia.	Prod. Code
50 mm	15 mm	5/8	HSD - 155
70 mm	15 mm	5/8	HSD - 160
95 mm	15 mm	5/8	HSD - 165



ELPS ACCESSORIES

Copper Alloy Clamps

U Bolt - Rod Clamp

These are made from Copper with Gunmetal plate.

They can be supplied for all rods from 5/8" to 1" and Copper Tape

Nom. Rod	Hole Centres	Product Code
5/8"	37 mm	HUU - 16
3/4"	37 mm	HUU - 20
1"	37 mm	HUU - 25

Double Plate "U" Bolt Clamp

Used to connect flat tapes in a vertical position on the rod.

Material : Gunmetal Plate with M10 threaded 'U' Bolt.

Maximum Rod Dia. mm	Tape Width mm	Product Code
16	25	HUDP 216
25		HUDP 225
31		HUDP 231
38		HUDP 238
50		HUDP 250

U Bolt - Rod to Cable Clamp

These are used for connecting Rods to Cables.

Available with different Rod & Cable size.

Material : Gunmetal Plates with 'U' Bolt

Nominal Rod Diameter		Conductor Range mm ²	Product Code
5/8"	16 mm	16 - 95	HURC - 1
3/4"	20 mm	16 - 70	HURC - 2
5/8"	16 mm	70 - 185	HURC - 3
3/4"	20 mm	70 - 150	HURC - 4
5/8"	16 mm	150 - 300	HURC - 5
3/4"	20 mm	150 - 300	HURC - 6

Comb Clamps

Max Cond.	Product Code
6 - 8	HCP - 1
9 - 12	HCP - 2

1 bolt brass comb clamp for round conductors with galvanised steel screws in accordance with IEC Standards

Max Cond.	Product Code
6 - 8	HCP - 3
9 - 12	HCP - 4

2 bolts brass comb clamp for round conductors with galvanised steel screws in accordance with IEC Standards

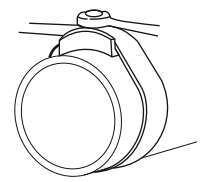
ELPS ACCESSORIES

Watermain Bond

Mtl - Gunmetal

These are used for bonding copper tape to Watermain pipes.

Max. Tape Width mm	Conductor Material	Product Code
26	Copper	HWMB - 26C
26	Aluminium	HWMB - 26A

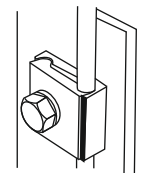
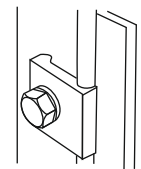


Tower Bond Clamp

Mtl - Gunmetal

These are suitable for bonding copper cable or wire to steel structures.

Cond. Size mm ²		Channel Thickness mm	Bolt	Product Code
Min.	Max.			
16	70	10	M10	HTB - 16
70	120	10	M12	HTB - 70
25	50	10	M10	HTB - 25
25	50	10	M10	HTB - 25A

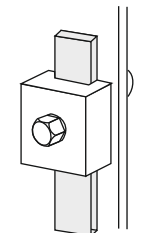
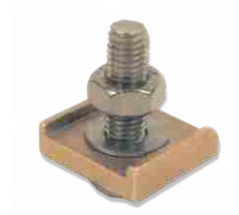


Tower Bond Clamp

Mtl - Gunmetal

These are used for bonding tape to steel structures.

Max. Tape Width mm	Bolt Size	Product Code
26	M 10	HB - 26C (For Copper Conductor)
26	M 10	HB - 26A (For Aluminium Conductor)

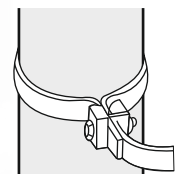


Rain Water Pipe Bonds - A

Mtl - Gunmetal

These are suitable for bonding solid tape to Rain Water Pipes, Handrails etc.

Max. Tape Width mm	Bolt Size	Product Code
26	M 10	HRW - 26C (For Copper Conductor)
26	M 10	HRW - 26A (For Aluminium Conductor)

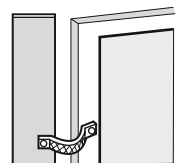


Flexible Braid Bond

Mtl - Copper

Copper Flexible Braids are used for bonding gates, doors, fences etc.

Size mm	Cross Section area	Hole Size mm	Hole Centre mm	Product Code
25 x 3.5	35 mm ²	11	200	HFB - 252
25 x 3.5	35 mm ²	11	400	HFB - 254



ELPS ACCESSORIES

Rod to Tape Coupling

Mtl : Brass / Gunmetal

Used to secure Air Terminals by means of a bolted connection.

Air Rod Dia. mm	Thread Dia. mm	Rod Material	Prod. Code
15	16	Copper	HRT - 16C
15	16	Aluminium	HRT - 16A

Tape Clip

Mtl : Brass

These are used with Bare Copper Tape.

Conductor Size mm	Prod. Code
20 x 3	HTC - 203
25 x 3	HTC - 253
50 x 6	HTC - 506

DC Tape Clip

Mtl : Naval Brass / Gunmetal

These are used with Bare Copper Tape Down Conductor.

Conductor Size mm	Prod. Code
25 x 3	HDTC - 253
25 x 6	HDTC - 256
40 x 6	HDTC - 406
50 x 6	HDTC - 506

Square Tape Clamp

Mtl : Brass / Gunmetal

These are suitable for Two Way Connections of Copper Tape

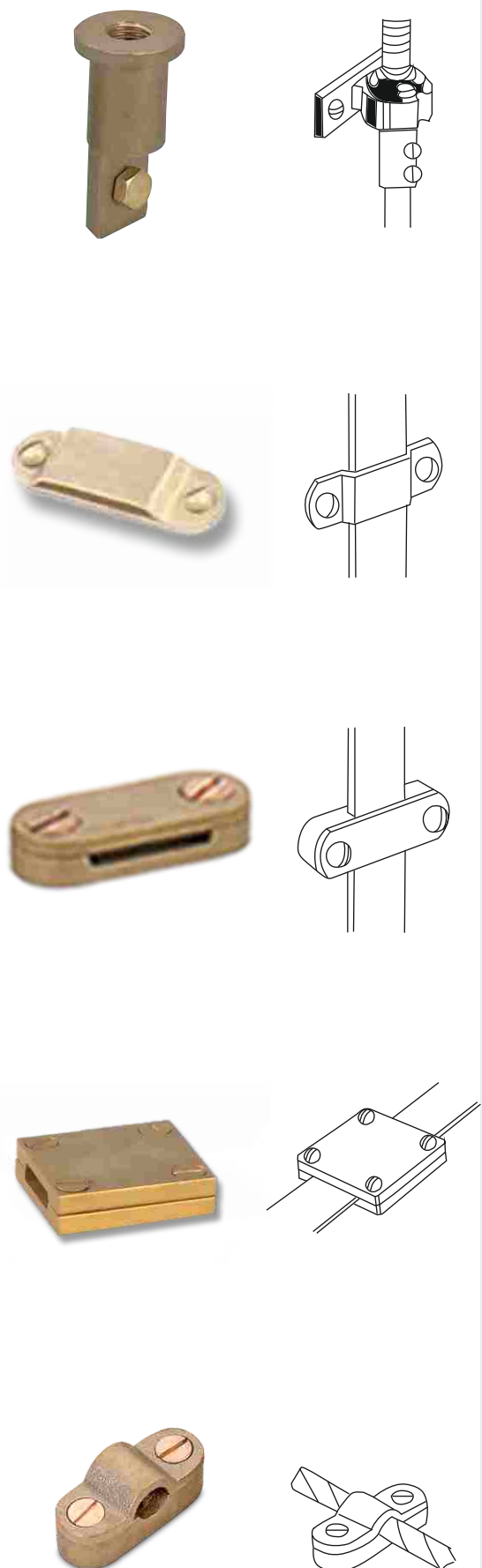
Conductor Size mm	Prod. Code
25 x 3	HSTC - 253
25 x 4	HSTC - 254
25 x 6	HSTC - 256
50 x 6	HSTC - 506

Heavy Duty Cast Cable saddle

Mtl : Copper / Brass

These are used with 8mm conductor or for supporting Air Terminals when used in conjunction with wall mounted Air Terminal base.

Conductor Dia. (mm)	Product Code
8	HDCC - 8
10	HDCC - 10



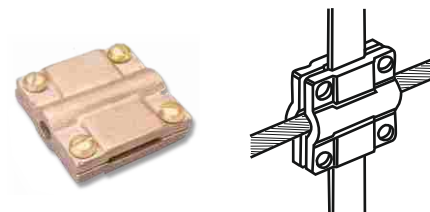
ELPS ACCESSORIES

Cable to Tape Junction Clamp

Mtl : Gunmetal / Brass

These are used for connecting Copper Tape to round conductors.

Tape Size mm	Cable Size mm ²	Product Code
25 x 3	50	HCTJ - 253

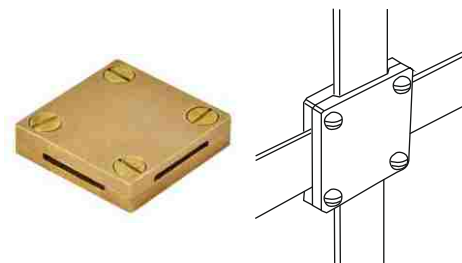


Tape to Tape Junction Clamp

Mtl : Gunmetal / Brass

These are used for connecting Copper Tape to Tape.

TAPE SIZE mm	PROD. CODE
25 x 3	HTTJ - 253

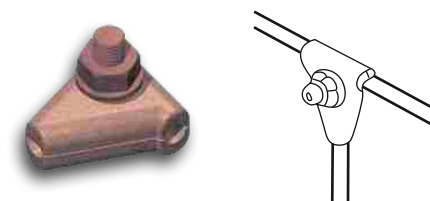


Tee Clamp

Mtl : Copper / Brass

These are used for forming a Tee joint for solid circular conductors.

Conductor Dia. (mm)	Product Code
8 Cu	HTEC - 8C
8 Al	HTEC - 8A



Jointing Clamp

Mtl : Copper / Brass

These are used for forming straight through parallel joints of solid circular conductors.

Conductor Dia. (mm)	Product Code
8 Cu	HJC - 8C
8 Al	HJC - 8A

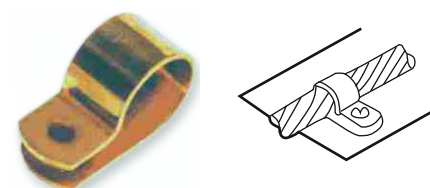


One Hole Cable Clip

Mtl : Copper

These clips are designed as fixings for a wide range of stranded cable conductors.

Conductor Dia. (mm)	Product Code
8	HOH - 8
12	HOH - 12
16	HOH - 16
20	HOH - 20



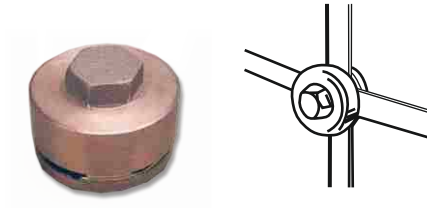
ELPS ACCESSORIES

Screwdown Test Clamp

Mtl : Gunmetal / Brass

These are used for fixing 4 Way Copper Tape

Conductor Size (mm)	Product Code
25 x 3	HSDTC - 253

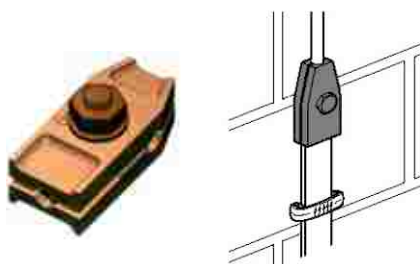


Interface Test Clamps

These Clamps are used to connect flat tape to solid round conductor.

It will also serve for making through joints and tee connections for 8 mm solid round conductor.

Application with	Material	Product Code
Copper Conductor	Gunmetal	HJYG - 08
Aluminum Conductor	Aluminum	HJYA - 08



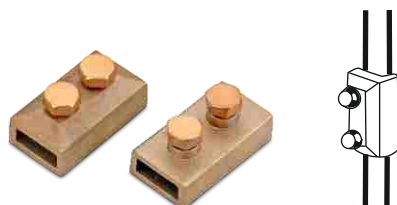
Oblong Test Clamp

Mtl : Gunmetal / Brass

These are used with Bare Copper Tape Conductor

Conductor Size (mm)	Product Code
25 x 3	HOT - 253
40 x 6	HOT - 406
50 x 6	HOT - 506

Also available for Aluminium conductor, please specify your requirement.



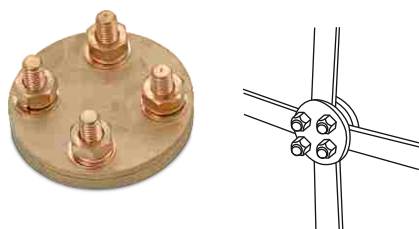
Test Bond / Test Clamp

Mtl : Gunmetal / Brass

These are used for 4 way Copper Tape connection.

Conductor Size (mm)	Product Code
26 x 12	HTBC - 2612

Also available for Aluminium conductor, please specify your requirement.



ELPS ACCESSORIES

Plastic DC Tape Clip

Material	Specification	Product Code
25 x 3 mm	High Impact PVC	HPDT - 021



Wire Holder

Nylon - 6 holder for 10mm wire.
Product Code HWHP - 6



Pipe Holder

Nylon - 6 holder for 1" dia. Pipes / Cables / Conduits.
Product Code HPHN - 6



Square Type Earth-clamp Holder

Size mm	Specification	Product Code
8.0	Nylon 6 Clamp	HNSC - 028



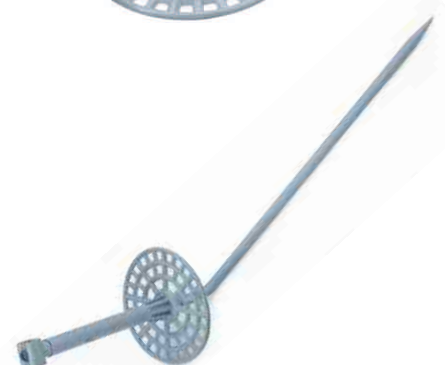
Round Type Earth-clamp Holder

Size mm	Specification	Product Code
8.0	Nylon 6 Clamp	HNSC - 028



Round Disc Holder With PVC Pointed Earthing Rod Assembly

Size mm	Specification	Product Code
8.0	Round Clamp Assembly	HRCA - 028



Roof Conductor Support

Used for flat roof made up of black, weather resistant plastic a recyclable filling with one conductor holder.

Size mm	Specification	Product Code
8.0	Plastic Enclosed box and Lid	HURCH - 010





ELPS ACCESSORIES

Wall & Roof Conductor Holders

Niro Clip Snap-on-holder

Used for attaching wires to walls.

Material : Snap - on mechanism and base made up of stainless steel grade 304

Size mm	Specification Metal -Top & Base	Dia. in mm	Product Code
8.0 / Type HFL	S.S. 304	7.0	HNC - 001
8.0 / Type HFL	S.S. 304	6.0	HNC - 002



Roof Conductor Holder With Niro-clip

Universal Roof Conductor Holder as per DIN 48826 B

Size mm	Specification	Holder	Product Code
8.0	S.S. 304	Plastic	HURCH - 008
8.0	Copper	Plastic	HURCH - 009



Wall & Roof Conductor Holders (for attaching wire to wall)

As per DIN 48286 B pit for all the sizes

Size mm	Specification Clips	Holder	Product Code
8.0 / Type HFL	S.S./Galvanized/Varnished	Niro Clip	HNC - 011
8.0 / Type HFL	S.S./Galvanized/Varnished	Niro Clip	HNC - 012
8.0 / Type HFL	S.S./Galvanized/Varnished	Niro Clip	HNC - 013
8.0 / Type HFL	S.S./Galvanized/Varnished	Niro Clip	HNC - 014



Half Saddle

Material : SS / MS Zinc Plated / Hot Dip galvanised
(to be specified in the enquiry)

Range : 16mm to 50mm



Full Saddle

Material : SS / MS Zinc Plated / Hot Dip galvanised
(to be specified in the enquiry)

Range : 12mm to 50mm



Multi Clamp

Available from 8 mm to 16 mm rod connection

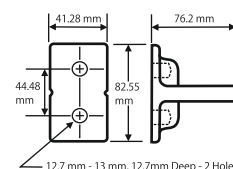
Size mm	Specification	Product Code
8.0 - 10.0	S. S. 304 / Glavanized	HMC - 024
8.0 - 16.0	Copper	HMC - 025

ELPS ACCESSORIES

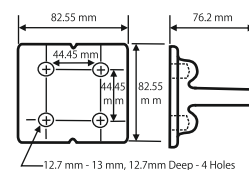
Cast Ground Plate or Earth Plate

These Plates when used in concrete structures offer convenient ground system connection points. They are used where reinforcing bars are electrically continuous & are to be used as down conductors. These earth points allow easy access for the lightning protection & earthing system.

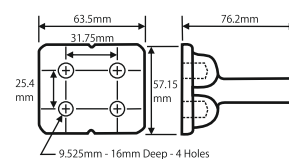
Drwg. No.	Cond. Size	Hole	Product Code
A	120	2 Hole	HCCP - 2120
B	120	4 Hole	HCCP - 4120
B	240	4 Hole	HCCP - 4240
C	240	4 Hole	HCCPL - 4240



Drwg. A : HCCP - 2120



Drwg. B : HCCP - 4120 / HCCP - 4240



Drwg. C : HCCPL - 4240

Equipotential Bonding Bars

Equipotential Bonding Bar with HIP Plastic Cover and Base suitable for connecting.

Specification in mm

1 x flat bands to max. 30 x 5 or 8 to 10

1 x 8 - 12 round conductor

7 x one or multi-wired conductor to max. 25 mm² and 16 mm²



Earth Blocks

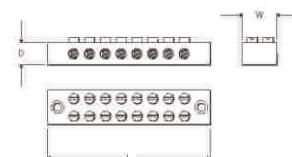
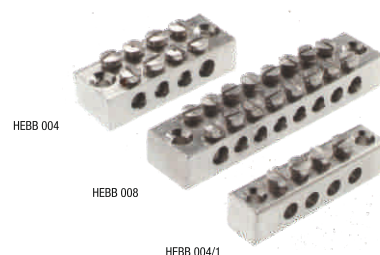
HEX Earth Blocks are used for Termination of earth Conductors or live conductors.

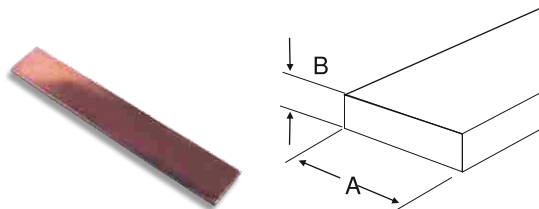
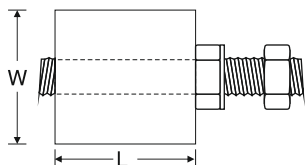
Type	L mm	W mm	D mm	Product Code
4 -Way Single	54	18	12	HEBB 004/1
4 -Way Double	51	19	12	HEBB 004
8 -Way Double	88	19	12	HEBB 008

Material : Brass

Finish : Nickel Plated

Tin Plated available on request.





ELPS ACCESSORIES

Copper Earth / Link

Product Code : Copper Earth/Link

Finish : Copper/Tinned

Earth Boss

Material : Body - Mild Steel, Fittings - Stainless Steel

The earth boss is designed to provide an earth point on a steel structure.

It is welded into place.

Hole Thread	L	W	Product Code
10	50	50	HPB - 01

Other sizes are manufactured on request.

Conductors

Hard Drawn Copper Bar

High conductivity Copper Bar to

BS - 2874 - C101/C103

Supplied in max. lengths of 3 mtrs.

Tinned on request.

Conductor Size mm	Product Code
25 x 3	HDCB - 253
25 x 6	HDCB - 256
38 x 6	HDCB - 386
50 x 6	HDCB - 506
50 x 10	HDCB - 5010
75 x 6	HDCB - 756

PVC Covered Copper Tape

Conductor size mm	Standard coil size (mtrs.)	Product Code
12.5 x 1.5 mm	50m	HCTI - 125/15
25 x 3 mm	50m	HCTI - 253
25 x 6 mm	25m	HCTI - 256
50 x 6 mm	20m	HCTI - 506

Std. Colour : Black

Other colours are available on request.

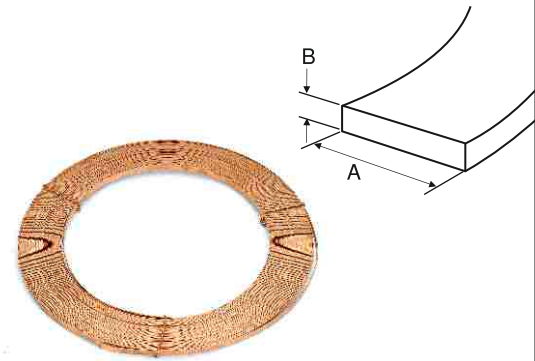
ELPS ACCESSORIES

Conductors

Bare Copper Tape

High conductivity Cu Tape to BS - 1432 - C101/C103

Conductor (A x B) mm	Product Code
20 x 1.5	HCT - 2015
25 x 1.5	HCT - 2515
25 x 3	HCT - 253
25 x 4	HCT - 254
25 x 6	HCT - 256
40 x 6	HCT - 406
50 x 3	HCT - 503
50 x 6	HCT - 506



Flexible Copper Braids

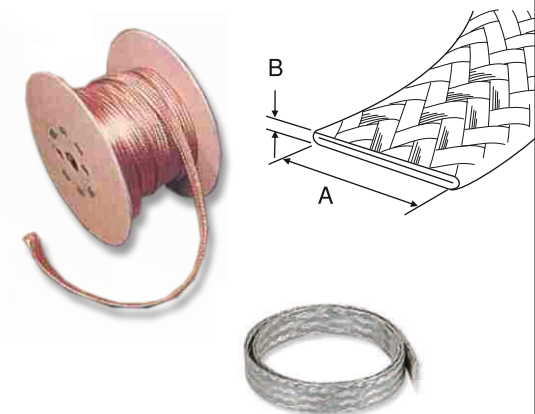
High conductivity Copper Wire to BS - 4109 - C101

Suitable for Earth Bonding.

Also supplied as Standard Drilled & Pre-Cut Bonds.

Customer specific sizes & types of braid can be manufactured on order.

Size mm ²	Overall Nominal Equivalent Size mm (AxB)	Product Code
8.75	Bare Braid 15 x 1.4	HBB - 151
34.7	Bare Braid 25 x 3.5	HBB - 253
34.7	Tinned Braid 25 x 3.5	HTB - 253



Conductors - Solid / Stranded

Bare Solid round Conductor

Cu to BS - 1433 - C101 / 103

Al to BS 2898 - 1350

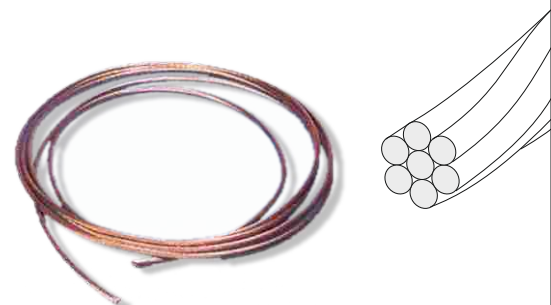
Conductor	Dia. (D) mm	Cross Section area mm ²	Product Code
Copper	8	50.27	HBSC - 8C
Aluminium	8	50.27	HBSC - 8A



Bare Stranded Copper Conductor

Soft Drawn Cu Conductor to BS - 6360

Size mm ²	No. of Strands	Dia. of Strands (mm)	Product Code
6	7	1.04	HBCU - 6
16	7	1.70	HBCU - 16
25	7	2.14	HBCU - 25
35	7	2.52	HBCU - 35
50	19	1.75	HBCU - 50
70	19	2.14	HBCU - 70
95	19	2.52	HBCU - 95





HDL - 11



HDL - 14



HDL - 12

ELPS ACCESSORIES

Disconnecting Links

Material for Disconnecting Links and Earth Bars :

Bar : 50 x 6mm hard drawn copper bar BS EN 13601

Base : Plastic. Also available with Steel Base on request.

Fittings : M10 Hexagon Head Set Screws, Nuts & Washers.

Other sizes & combinations of Earth Bars / Disconnecting Links are manufactured as "Special Items" and on request.

Recommended fixing by countersunk wood screw 1½" No. 12 and No. 12 wall plug.

Disconnecting Link	Length in mm	Width in mm	Product Code
	125	90	HDL - 11

Earth Bars

No. of Terminations	L mm	W mm	Product Code
6	400		HDL 14
8	500		HDL 15
10	600		HDL 16
12	700		HDL 17
14	800		HDL 18
16	950		HDL 19
18	1100	90	HDL 20
20	1250		HDL 21
22	1300		HDL 22
24	1400		HDL 23
26	1550		HDL 24
28	1650		HDL 25
30	1800		HDL 26

Earth Bars with Single Disconnecting Link

No. of Terminations	L mm	W mm	Product Code
6	475		HDL 12
8	575		HDL 27
10	680		HDL 28
12	780		HDL 29
14	880		HDL 30
16	1025		HDL 31
18	1175	90	HDL 32
20	1325		HDL 33
22	1375		HDL 34
24	1475		HDL 35
26	1625		HDL 36
28	1725		HDL 37
30	1875		HDL 38

ELPS ACCESSORIES

Earth Bars with Double Disconnecting Links

No. of Terminations	L mm	W mm	Product Code
6	550		HDL 13
8	650		HDL 39
10	750		HDL 40
12	900		HDL 41
14	1000		HDL 42
16	1100		HDL 43
18	1250	90	HDL 44
20	1400		HDL 45
22	1450		HDL 46
24	1550		HDL 47
26	1700		HDL 48
28	1800		HDL 49
30	1950		HDL 50



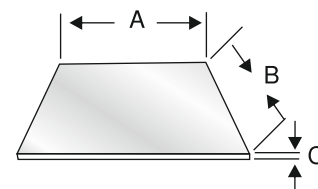
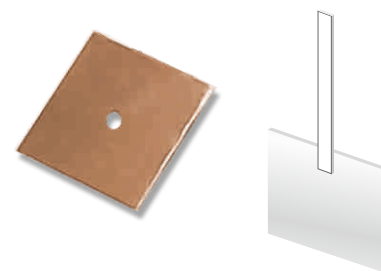
HDL - 13

Earth Plate

Solid Copper Earth Plate

Mtl : Electrolytic Copper

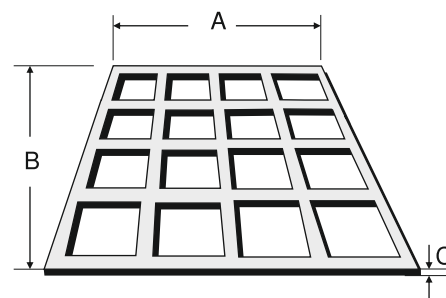
SIZE (A x B x C)	PRODUCT CODE
600 x 600 x 1.5	HSCP - 615
600 x 600 x 3	HSCP - 63
600 x 600 x 5	HSCP - 65
500 x 500 x 3	HSCP - 53
500 x 500 x 3	HSCP - 55
900 x 900 x 3	HSCP - 93
900 x 900 x 5	HSCP - 95
1000 x 1000 x 3	HSCP - 103
1000 x 1000 x 5	HSCP - 105



Copper Bonded Earth Plate

Mtl : Steel

SIZE (A x B x C)	PRODUCT CODE
600 x 600 x 1.5	HBP - 615
600 x 600 x 1.5	HBP - 515
600 x 600 x 3	HBP - 63
900 x 900 x 3	HBP - 93
500 x 500 x 3	HBP - 53



Earth Plate Lattice - Copper

Mtl : Electrolytic Copper

SIZE (A x B x C)	PRODUCT CODE
600 x 600 x 3	HLP - 63
900 x 900 x 3	HLP - 93
500 x 500 x 3	HLP - 53



ELPS ACCESSORIES

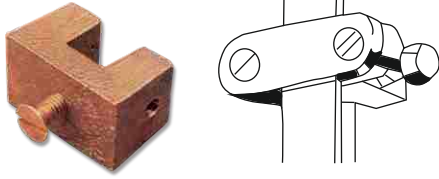
Glazing Bar Holdfast

Mtl : Gunmetal / Aluminium

These are secured to Glazing Bar, Steel Frame, Girdles etc.

This item is designed for use with appropriate size of metallic on non-metallic conductor fixing.

Max. Glazing Bar Width mm	Application with	Product Code
12	Copper Tape	HGBH - 12C
12	Aluminum Tape	HGBH - 12A



Back Plate Holdfast Stem

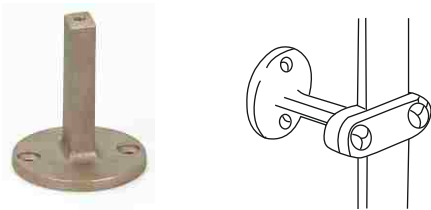
Mtl : Gunmetal

For use with appropriate DC Tape Clip.

It is used when the installation requires the tape to be secured 75 mm away from the face of the building.

Prod. Code : HBPH - 12

Also available for Aluminium conductor, please specify your requirement.

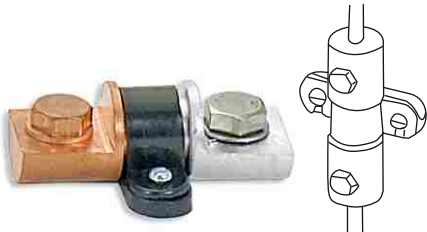


Bi-Metallic Connector

Mtl : Copper & Aluminium

These are used for joining Aluminium & Copper round or flat conductors together.

Application	Product Code
8 mm Dia. Al to 8 mm Dia. Cu	HBI - 8
8 mm Dia. Al to 25 x 3 Cu Tape	HBI - 825
20 x 3 Al Tape to 20 x 3 Cu Tape	HBI - 203
25 x 3 Al Tape to 25 x 3 Cu Tape	HBI - 253



IMPORTANT NOTE

HEX takes every precaution to ensure the performance of its products and recommendations given are in good faith. However, HEX cannot control the installation of our products and therefore cannot give any warranty or result obtained. It is the responsibility of the customer to assume all risks and liabilities incurred in the use of HEX products, whether used alone or in conjunction with other products.



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Tel. : 022-40060261

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