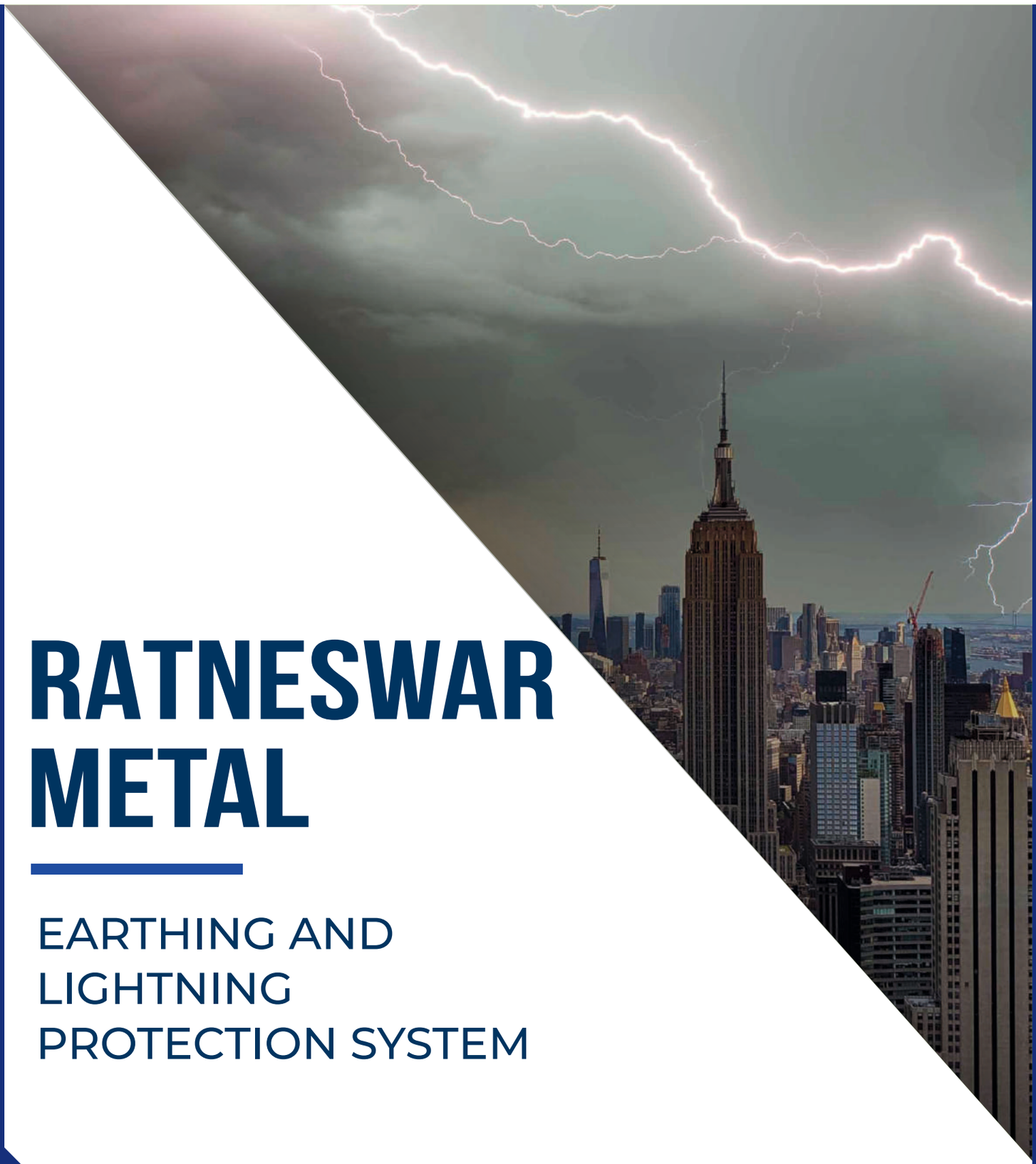


RATNESWAR METAL

EARTHING AND LIGHTNING PROTECTION SYSTEM

Your satisfaction is a trait that we navigate

RATNESWAR METAL

EARTHING AND LIGHTNING PROTECTION SYSTEM

CONTENTS

01 COMPANY PROFILE

02 EARTHING

03 LIGHTNING PROTECTION

04 INDUSTRIAL CABLE GLAND

RATNESWAR METAL

Company Profile

Welcome to the latest Edition of the Ratneswar Metal product catalogue which features our complete range of Industry Earthing & Lightning Protection system and Industry glands.

In year 2010, Ratneswar Metal Started as one of the exporters of electrical accessories from India. Ratneswar Metal started manufacturing a broad spectrum of components such as Earthing & lightning protection, Industrial Glands assemblies made from ferrous, non-ferrous & engineering plastic materials that comply with all relevant regulatory bodies as well as the contractual obligations of our clients. We offer a one stop solutions for all electrical, building & construction oil & gas, power plant, railway, etc. We have already Increased comprehensive range with the addition of number of new products, all of which have been specifically developed for the ever changing needs and requirement of our customers.

EARTHING

01 GENERAL INTRODUCTION

02 EARTH RODS & ACCESSORIES

03 PLATES & MATES

04 EARTH PITS

05 BENTONITE

06 EARTHING ACCESSORIES

07 EARTH BARS

08 COMPRESSION CONNECTIONS

EARTHING

General Introduction

An Earthing system is the arrangement by which an electrical installation is connected to a means of Earthing. This is usually for safety purpose Earthing is to avoid or minimize the danger of electrocution, fire due to earth leakage
of current through undesired path and to ensure that the potential of a current carrying conductor does not rise with respect to earth than its designed insulation.

EARTHING

Earth Rods & Accessories

Copper Bonded Earth Rod

Ratneswar Metal earth rods offers molecular bonding, which is a 99.9% pure electrolytic.

Copper onto a low carbon, high tensile core with thickness of over 0.254 mm (254 microns).

L mm	Rod Size	Shank D mm	L1 mm	Thread Size
1200	1/2"	12.7	30	9/16"
1500	1/2"	12.7	30	9/16"
1800	1/2"	12.7	30	9/16"
2400	1/2"	12.7	30	9/16"
1200	5/8"	14.2	40	5/8"
1500	5/8"	14.2	40	5/8"
1800	5/8"	14.2	40	5/8"
2400	5/8"	14.2	40	5/8"
3000	5/8"	14.2	40	5/8"
1200	3/4"	17.2	35	3/4"
1500	3/4"	17.2	35	3/4"
1800	3/4"	17.2	35	3/4"
2400	3/4"	17.2	35	3/4"
3000	3/4"	17.2	35	3/4"
2400	1"	23.0	50	1"
3000	1"	23.0	50	1"

Material: Pure copper molecularly bonded on to a steel core

Driving Studs (Copperbond Earth Rods)

High strength Driving Studs for repeated use with power hammers.

Description	L mm	Head Dia. (mm)
16mm Driving Stud 5/8"	50	20
20mm Driving Stud 3/4"	50	22

Material: High Tensile Steel with a socket-head cap screw

Couplings (Copperbond Earth Rods)

Earth Rod Couplings are counter-bored and of sufficient length to ensure that Earth Rod threads are completely enclosed within the coupling.

Description	L mm	Body Dia. Across Flats (mm)
Rod Coupling 5/8" UNC	70	20
Rod Coupling 3/4" UNC	70	22

Description	L mm	Across Flats (mm)
16mm Rod Coupling 5/8" UNC (HEX)	70	18
20mm Rod Coupling 3/4" UNC (HEX)	70	23

Description	L mm	Body Dia. (mm)
5/8" Rod Coupling	70	24

Material: High Copper Content Alloy & Silicon Aluminium Bronze

Driving Spikes (Copperbond Earth Rods)

Driving Spikes for use with our copperbond Earth Rods. They enable rods to be driven into hard/compacted ground with ease and are internally threaded for screwing directly onto the Earth Rod.

Description	L mm	Head Dia. (mm)
Driving Spike for 16mm (5/8")	40	20
Driving Spike for 20mm (3/4")	40	22

Material: Case Hardened Steel

EARTHING

Earth Rods & Accessories

Solid Copper Earth Rod

These earth rods are designed for use where extremely high corrosion resistance and exceptionally long life are required.
They are ideally used in conditions where soils are with high salt and moisture content.

L mm	Shank D mm	L1 mm	Thread Size
1200	12	15	M8
1200	15	20	M10
1200	15	20	M10
1500	15	20	M10
1800	15	20	M10
2400	15	20	M10
3000	15	20	M10
1200	20	20	M10
1500	20	20	M10
1800	20	20	M10
2400	20	20	M10
3000	20	20	M10
1200	25	25	M 12
1500	25	25	M12
1800	25	25	M12
2400	25	25	M12
3000	25	25	M12
3600	25	25	M12

Material: 99.9% Hard Drawn Copper

Driving Heads (Solid Copper Earth Rods)

Driving Heads protect both the internal thread and the top of the Solid Copper Earth Rod While the rods are being driven into the ground.

Description	L mm	Head Dia. (mm)
16mm Rod Driving Head	40	10
20mm Rod Driving Head	40	10
25mm Rod Driving Head	40	12

Material: Steel

Coupling Dowel (Solid Copper Earth Rods)

Coupling Dowels are used to join solid copper Earth Rods.

Description	L mm	Head Dia. (mm)
M10 Coupling Dowel	40	10

Material: Phosphor Bronze

Driving Spikes (Solid Copper Earth Rods)

Driving Spikes enable the Solid Copper Earth Rod to be driven into the ground easily while protecting the end of the rod from damage.

Description	L mm	Head Dia. (mm)
16mm Rod Driving Spike	40	10
20mm Rod Driving Spike	40	10
25mm Rod Driving Spike	50	12

Material: Case Hardened Steel

EARTHING

Earth Rods & Accessories

Stainless Steel Earth Rod

Stainless steel rods are used to overcome galvanic corrosion which can be caused by dissimilar metals or components having different electronegativity buried on adjacent sides.

L mm	Shank D mm	L1 mm	Thread Size
1200	15	20	M10
1200	16	20	M10
1500	16	20	M10
1800	16	20	M10
2400	16	20	M10
3000	16	20	M10
1200	20	20	M10
1500	20	20	M10
1800	20	20	M10
2400	20	20	M10
3000	20	20	M10
1200	25	25	M12
1500	25	25	M12
1800	25	25	M12
2400	25	25	M12
3000	25	25	M12
3600	25	25	M12

Material: Stainless steel

Driving Heads (Stainless Steel Earth Rods)

Driving Heads are designed to protect both the internal thread and the top of the Stainless Steel Earth Rod While the rods are being driven into the ground.

Description	L mm	Head Dia. (mm)
16MM ROD DRIVING HEAD	40	10
20MM ROD DRIVING HEAD	40	10
25MM ROD DRIVING HEAD	40	12

Material: Steel

Coupling Dowel (Stainless Steel Earth Rods)

Coupling Dowels are used to join stainless steel earth rods.

L mm	Head Dia. (mm)
40	10

Material: Stainless Steel

Driving Spikes (Stainless Steel Earth Rods)

Driving Spikes enable the Solid Copper Earth Rod to be driven into the ground easily while protecting the end of the rod from damage.

Description	L mm	Head Dia. (mm)
16MM ROD DRIVING SPIKE	40	10
20MM ROD DRIVING SPIKE	40	10
25MM ROD DRIVING SPIKE	50	12

Material: Case Hardened Steel

EARTHING

Plates & Mats

Solid Copper Plates

Solid copper plates provide a long lasting earthing solution in places where driving earth rods might be impractical. They are often installed in conjunction with Low-Resistance Earthing Compound or Bentonite.

L x W mm	H mm	Surface Area m2
600 x 600	1.5	0.73
600 x 600	3.0	0.73
900 x 900	1.5	1.63
900 x 900	3.0	1.63
1000 x 500	5.0	1.02

Material: Copper

Stainless Solid Plates

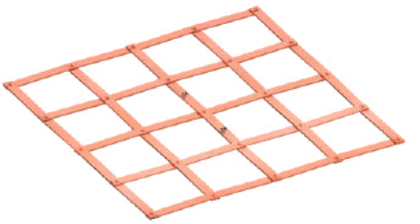
L x W mm	H mm	Surface Area m2
600 x 600	1.5	0.73
600 x 600	3.0	0.73
900 x 900	1.5	1.63
900 x 900	3.0	1.63

Material: Stainless Steel

Solid Copper Lattice Mats

Solid copper lattice mats offer a more economical cost option to installing solid copper plates.

L x W mm	H mm	Surface Area m2	Grid
600 x 600	3.0	0.31	5 Bar
600 x 600	3.0	0.65	6 Bar
900 x 900	3.0	0.46	6 Bar



Material: Copper

Stainless Steel Lattice Mats

Stainless Steel Lattice Mats, manufactured from Stainless Steel 316 Grade, are used in areas where a high corrosive environment is present

L x W mm	H mm	Surface Area m2	Grid
600 x 600	3.0	0.31	5 Bar
600 x 600	3.0	0.55	10 Bar
900 x 900	3.0	0.65	6 Bar
900 x 900	3.0	0.89	10 Bar
900 x 900	5.0	0.56	6 Bar

Material: Stainless Steel

EARTHING

Bentontie

Bentontie

Bentonite is used as a backfill to reduce soil resistivity. When mixed with water, it swells to several times its dry volume. This moisture content can be retained for a considerable time and further moisture can be absorbed during rainfall etc. Bentonite can be supplied in either powder or granular form. Approximately 18 x 25kg bags create a volume of 10hm (depending on soil and excavation conditions).

MATERIAL	Weight (kg)
GRANULATED MOISTURE RETAINING CLAY	25
POWDERED MOISTURE RETAINING CLAY	25

Earthing Compound

Granular: Granular is the preferred option for filling trenches. The conductor is surrounded with Bentonite and then water poured over and mixed in the trench.

Powder: Powder is the preferred product for pouring into bore holes, ensuring the mixture is of a thin enough consistency to reach the bottom of the bore hole.

Material: Sodium carbonate activated calcium montmorillonite clay. The product is a naturally occurring substance with no known ecological hazards, and can be disposed of as nonhazardous waste.

Concrete Inspection Pit

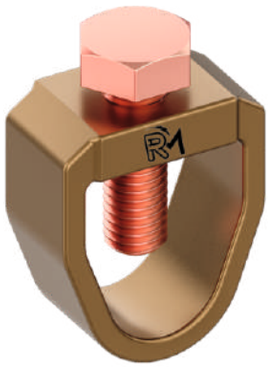
Concrete Inspection Pits are suitable for load rating to 4,500kg and are suitable for most types of Earthing and Lightning Protection installations. The Concrete Inspection Pit protects the Earth Rod connection and makes it available for inspection. The Concrete Inspection Pit can have an Earth Bar fitted diagonally in slots provided for multiple conductor connections.

Description	Dimensions(mm)
Concrete Inspection Pit	315 x 315 x 165
Concrete Inspection Pit	450 x 450 x 450
Concrete Inspection Pit	500 x 500 x 500

Material: Concrete

Earth Rod to Tape 'A' Clamps

These clamps are used to Joining earth rods to different sizes of copper tape.



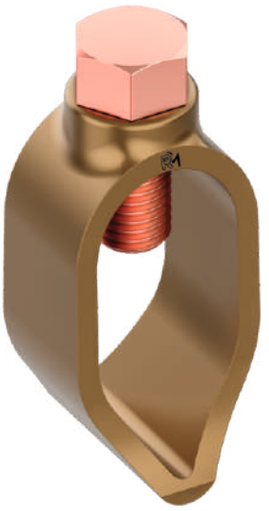
Earth Rod Shank Ø mm	Maximum Tape Size mm	L mm	W mm	H mm
14.2	20 x 3	43	36	19
16.0	25 x 3	42	44	18
16.0	25 x 6	46	52	23
17.2	30 x 4	43	36	19
17.2	40 x 6	42	44	18
20.0	50 x 3	46	52	23
22.0	50 x 6	48	63	20

Material: High Copper Alloy with M10 x 25mm Phosphor Bronze Set Screw

Earth Rod to Cable 'G' Clamps

These clamps are used for joining earth rods to different sizes of Standard copper conductor. The clamps have a high resistance to corrosion and are mechanically strong to ensure a lasting connection.

Earth Rod Shank Ø mm	Maximum Conductor mm	L mm	W mm	H mm
14.2	16 - 70	30	20	15
14.2	16 - 95	36	28	18
16.0	16 - 150	41	26	20
17.2	25 - 150	36	28	18
17.2	30 - 70	41	26	20
20.0	35 - 150	48	30	18



Material: High Copper Alloy with M10 x 25mm Phosphor Bronze Set Screw

EARTHING

Earthing Accessories

‘O’ Clamps

These clamps are used for joining earth rods to different sizes of Standard copper conductor. The clamps have a high resistance to corrosion and are mechanically strong to ensure a lasting connection.

Earth Rod Shank Ø mm	Maximum Cable Size mm	L mm	W mm	H mm
14.2	16 - 70	30	20	15
14.2	16 - 95	36	28	18
16.0	16 - 150	41	26	20
17.2	25 - 150	36	28	18
17.2	30 - 70	41	26	20
20.0	35 - 150	48	30	18

Material: Brass with M10 x 25mm Phosphor Bronze Set Screw

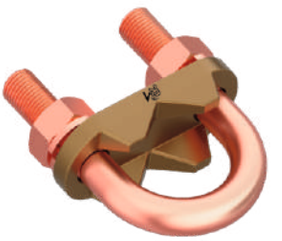
‘U’ Bolt Clamps

This versatile range of ‘U’ bolt clamps can be used to connect flat tapes and standard cables to earth rods, reinforcing bars (rebar), hand rails etc.

Single Plate Type for Horizontal Flat Tapes

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

Maximum Rod Ø mm	Hole Centres mm	L mm	W mm	H mm
16	30	58	62	33
25	37	72	62	33
31	41	82	68	33
38	46	90	75	33
50	63	95	90	33

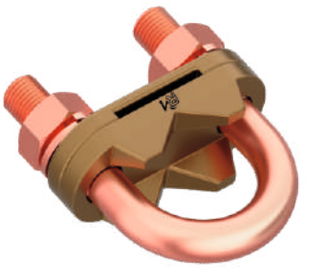


Material: High Copper Alloy plate with M10 threaded Copper ‘U’ Bolt.

Double Plate Type for Vertical Flat Tapes

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

Maximum Rod Ø mm	Tape Width mm	L mm	W mm	H mm
16	25	58	62	33
25	25	73	62	33
31	25	85	68	33
38	25	80	75	33
50	25	103	90	33



Material: High Copper Alloy plates with M10 threaded Copper ‘U’ Bolt.

EARTHING

Earthing Accessories

‘U’ Bolt Clamps

This versatile range of ‘U’ bolt clamps can be used to connect flat tapes and standard cables to earth rods, reinforcing bars (rebar), hand rails etc.

Double Plate Type for Vertical Stranded Cables

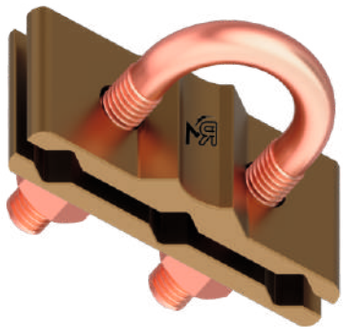
Used to connect standard cables in a vertical and horizontal position on the rod.

Maximum Rod Ø mm	Conductor Range mm2	L mm	W mm	H mm
16	16 - 150	57	52	40
16	150 - 300	69	70	40
20	16 - 70	57	52	40
20	70 - 300	69	70	40
25	16 - 70	75	87	55
25	185 - 300	89	70	55

Material: High Copper Alloy plates with M10 threaded Copper ‘U’ Bolt.

'U' Bolt Rod to 3 parallel cable clamp

These clamps are to ensure the connection between rebar or earth rod with cables



Rod/Rebar diameter mm	Conductor Range mm2
14 - 25	16 - 70
14 - 25	50 - 150
14 - 25	150 - 500

Material: High Copper Alloy.

Rod to Cable Lug Clamp

These clamps are used to connect cable lugs onto earth rods. The clamps are designed to suit our full range of earth rods.

For use with Copperbond Earth Rods (on rod thread)

Nominal Rod Size	Thread Size (UNC-2A)	L mm	W mm	H mm
5/8 "	5/8 "	42	24	26
3/4 "	3/4 "	51	31	30

Material: High Copper Alloy

For use with Copperbond Earth Rods (on rod shank)

Shank Rod Ø mm	L mm	W mm	H mm
9.5	26	16	20
14.2	42	25	25

Material: High Copper Alloy

For use with Solid Copper & Stainless Steel Earth Rods (on rod shank)

Shank Rod Ø mm	L mm	W mm	H mm
15	42	26	25
16	42	25	26
20	54	29	29

Material: High Copper Alloy

EARTHING

Earthing Accessories

Universal Beam Clamp

This Universal Beam Clamp is a unique product as it is designed to bond 25x3mm copper tape, 50sqmm and 70sqmm stranded cable as well as 8mm solid circular conductor to steel beams and RSJ's of up to15mm thick.

Conductor Range mm2	Conductor Size mm	L mm	W mm	H mm	H1 mm
50 - 70	25 x 3	80	43	35	18

Material: High Copper Alloy with Stainless Steel Bolts.

Multi-Purpose Rod to Cable & Tape Clamp

These has been specifically designed to accommodate copper tape, stranded copper and copperbonded earth rods and is primarily used on High Voltage applications.

Maximum Rod Ø mm	Conductor Range mm2	Conductor Size mm	L mm	W mm	H mm
5/8 "	6 - 185	25 x 4	72	83	66

Material: High Copper Alloy plates with M10 threaded Copper 'U' Bolt.

Rebar Clamps

Rebar clamps are used to connect rebar to rebar or rebar to standard cable.They provide a strong mechanical connection along with excellent resistance to corrosion

Maximum Rebar Ø mm	Rebar Range Ø mm	L mm	W mm
10	6 - 10	59	60
20	12 - 20	83	62
25	20 - 25	100	67
32	25 - 32	101	80
40	32 - 40	118	95

Material: High Copper Alloy

Rebar X Clamp

A heavy duty rebar clamp designed specifically to connect a vertical rebar to a horizontal rebar in a cross configuration.

Maximum Rebar Ø mm	Rebar Range Ø mm	L mm	W mm
25	12 - 25	91	75

Material: High Copper Alloy Plates with Stainless Steel 'C' Bolt

EARTHING

Earthing Accessories

Stainless Steel Rebar Clamps

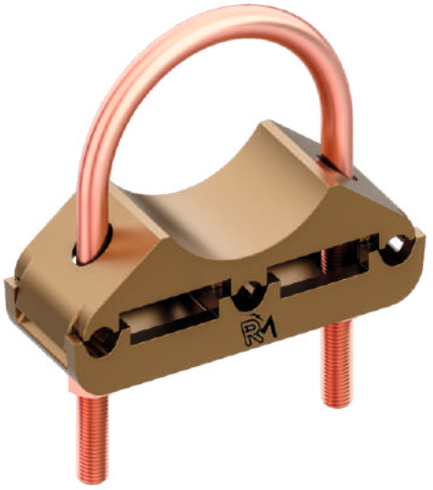
Rebar clamps are used to connect rebar to rebar or rebar to conductor.

Maximum Rebar Ø mm	Rebar Range Ø mm	L mm	W mm
12	8 - 12	50	22
16	16 - 16	59	22
20	20 - 20	68	26
25	25 - 25	81	31
32	32 - 32	98	39
40	40 - 40	120	48

Material: Stainless Steel

Pipe Clamps

These heavy duty pipe clamps are ideal for bonding and connecting cable conductor to large diameter pipework's. They are suitable for use with copper, steel or stainless steel pipes.



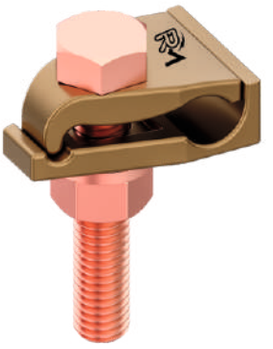
Pipe Diameter	Conductor Range mm2
½" - 1" (13 - 25MM)	25 - 95
1 ¼" - 2" (32 - 50MM)	25 - 95
2 ½" - 3 ½" (65 - 90MM)	25 - 95
4" - 5" (100 - 125MM)	25 - 95
6" (150MM)	25 - 95
8" (200MM)	25 - 95
10" (250MM)	25 - 95
12" (300MM)	25 - 95

Material: Tinned Bronze

Tower Earth Clamps

Tower earth clamps are used for bonding copper conductors onto steel surfaces.

Conductor Range mm2	L mm	W mm	H mm
16 - 70	45	30	17
70 - 120	48	35	22
120 - 185	55	40	28
185 - 240	63	45	35
240 - 300	70	53	42

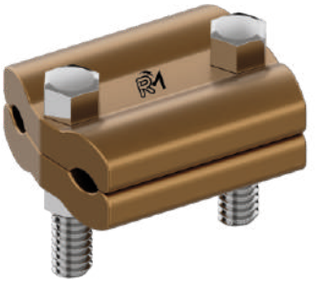


Material: High Copper Alloy

Parallel Groove Clamps

Parallel Groove Clamps, for standard copper cable connections, are manufactured from high-strength, corrosion-resistant copper alloy and assembled with two stainless steel set screws.

Conductor Range mm2	L mm	W mm	H mm	Set Screw
25 - 70	50	40	7	M8 X 35MM
70 - 95	54	45	8.5	M10 X 45MM
95 - 185	65	57	12.5	M10 X 55MM
185 - 240	78	71	14	M10 X 55MM
240 - 300	94	85	16	M10 X 60MM



Material: High Copper Alloy

EARTHING

Earthing Accessories

Earth Bonding Points

earth bonding points are installed to provide a convenient earth system connection point in concrete structures. When cast into concrete they connect the re-bar to the earthing or lightning protection system.

Earth Bonding Points only

No. Holes	Hole Size mm	Plate Size mm	Stem Ø mm	L mm
1	M10 x 18	38 x 38	10.7 (70MM2)	75
2	M10 x 18	70 x 35	10.7 (70MM2)	75
4	M10 x 18	63 x 63	10.7 (70MM2)	75
4	M8 x 1.25	100 x 100	10.7 (70MM2)	73

Material: High Copper Alloy

Earth Bonding Points with Pre-welded Tails

No. Holes	Type
1	EGP 01 WITH PRE-WELDED 500MM LONG TAIL OF 70MM2 PVC INSULATED CABLE
2	EGP 02 WITH PRE-WELDED 500MM LONG TAIL OF 70MM2 PVC INSULATED CABLE
2	EGP 02 WITH PRE-WELDED 1000MM LONG TAIL OF 70MM2 PVC INSULATED CABLE
2	EGP 02 WITH PRE-WELDED 1500MM LONG TAIL OF 70MM2 PVC INSULATED CABLE
4	EGP 04 WITH PRE-WELDED 500MM LONG TAIL OF 70MM2 PVC INSULATED CABLE
4	EGP 04 WITH PRE-WELDED 1000MM LONG TAIL OF 70MM2 PVC INSULATED CABLE
4	EGP 04 WITH PRE-WELDED 1500MM LONG TAIL OF 70MM2 PVC INSULATED CABLE

Material: High Copper Alloy body with PVC insulated copper cable tail.

Earth Bonding Points

Earth Bonding Points with Double Pre-welded Tails

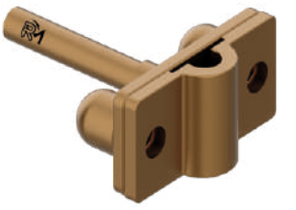
No. Holes	Type
1	EGP 01 WITH 2 X PRE-WELDED 500MM LONG TAILS OF 70MM2 PVC INSULATED CABLE
2	EGP 02 WITH 2 X PRE-WELDED 500MM LONG TAILS OF 70MM2 PVC INSULATED CABLE
2	EGP 02 WITH 2 X PRE-WELDED 1000MM LONG TAILS OF 70MM2 PVC INSULATED CABLE
2	EGP 02 WITH 2 X PRE-WELDED 1500MM LONG TAILS OF 70MM2 PVC INSULATED CABLE
4	EGP 04 WITH 2 X PRE-WELDED 500MM LONG TAILS OF 70MM2 PVC INSULATED CABLE
4	EGP 04 WITH 2 X PRE-WELDED 1000MM LONG TAILS OF 70MM2 PVC INSULATED CABLE
4	EGP 04 WITH 2 X PRE-WELDED 1500MM LONG TAILS OF 70MM2 PVC INSULATED CABLE

Material: High Copper Alloy

Earth Bonding Points with a Front Plate

Suitable for 25x3mm tape or 70mm2 cable

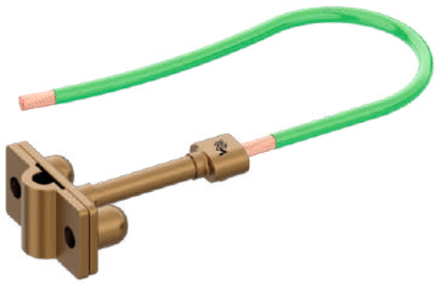
No. Holes	Type
2	EGP 02 WITH A FRONT PLATE



Material: High Copper Alloy

Earth Bonding Points

Earth Bonding Points with a Pre-welded Tail & Front Plate

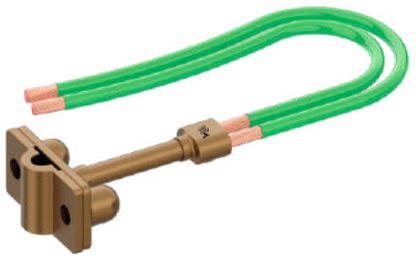


Suitable for 25x3mm tape or 70mm2 cable

No. Holes	Type
1	EGP 02 500 WITH A FRONT PLATE
2	EGP 02 1000 WITH A FRONT PLATE
2	EGP 02 1500 WITH A FRONT PLATE

Material: High Copper Alloy with PVC Insulated Copper Cable Tail.

Earth Bonding Points with 2 x Pre-welded Tails & Front Plate



Suitable for 25x3mm tape or 70mm2 cable.

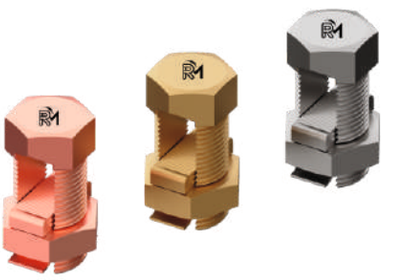
No. Holes	Type
	EGP 02 2 WITH A FRONT PLATE
2	EGP 021 2 WITH A FRONT PLATE
2	EGP 025 2 WITH A FRONT PLATE

Material: High Copper Alloy with 2 x PVC Insulated Copper Cable Tails.

Split Bolt Connectors

The high strength split bolt connectors will accept a wide range of standard copper conductors.

Main Conductor A mm2	Main Conductor B mm2	W mm	H mm
10	1.5 - 10	20	4
16	2.5 - 16	23	5
25	2.5 - 25	28	7
35	2.5 - 35	29	8
50	2.5 - 50	35	10
70	2.5 - 70	39	11
95	2.5 - 95	45	14
120	10 - 120	47	15
150	10 - 150	51	16
185	50 - 185	57	18
240	95 - 240	64	19



Material: Brass - Copper

Earth Blocks

These blocks allow earth conductor termination, or live conductor termination with a suitable, fully insulated housing.

Type	L mm	W mm	H mm
4-WAY SINGLE	54	9	12
4-WAY DOUBLE	51	18	12
8-WAY DOUBLE	88	18	12

Material: Tinned Brass.

EARTHING

Earthing Accessories

Standing Seam Clamps

Standing Seam Clamps are designed to allow the installer to secure Lightning Conductors to roofing sheets that use the Standing Seam construction

Fixing Type	Conductor Size mm	Material
SQUARE CLAMP	25 X 3	ALUMINIUM
SQUARE CLAMP HOT STAMPED DESIGN	25 X 3	ALUMINIUM
STANDING SEAM ONLY	NA	ALUMINIUM

Reinforcing Conductor Clamps

Reinforcing Conductor Clamps are used to connect flat and circular conductor to reinforcing bar

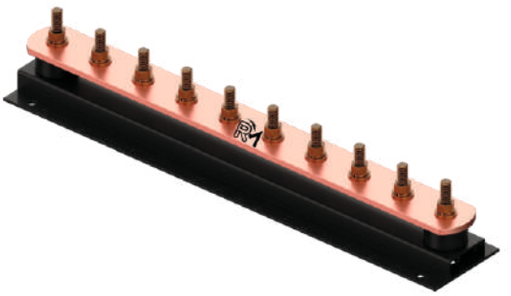
Rebar Size mm2	Circular Conductor	Flat Conductor mm
6 - 20	NA	25X3-30X3.5
6- -20	8TO10 MM DIA	25X3-30X3.5
25	8TO10 MM DIA	25X3-30X3.5
30	NA	25X3-30X3.5

Material: Tinned Bronze

Earth Bars

Earth bars provide a convenient common earthing point for electrical installations. Our standard earth bars are manufactured from 50mm x 6mm hard drawn copper bar and come complete with M10 fittings and insulators. The PVC base makes our earth bars lighter and easier to handle as well as being entirely corrosion proof.

No Terminations	L mm	W mm	H mm
2	200	90	60
3	250	90	60
4	300	90	60
6	400	90	60
8	500	90	60
9	600	90	60
10	650	90	60
12	750	90	60
14	850	90	60
16	950	90	60
18	1100	90	60
20	1250	90	60
22	1300	90	60
24	1400	90	60
26	1550	90	60
28	1650	90	60
30	1800	90	60



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

Base: Plastic.

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

EARTHING

Earth Bars

Tinned Earth Bars

Tinned earth bars have been used on a variety of high-profile projects, this is partly due to the fact that our tinned earth bars offer excellent resistance to water corrosion, and subsequently provide enhanced conductivity

No Terminations	L mm	W mm	H mm
2	200	90	60
3	250	90	60
4	300	90	60
6	400	90	60
8	500	90	60
9	600	90	60
10	650	90	60
12	750	90	60
14	850	90	60
16	950	90	60
18	1100	90	60
20	1250	90	60
22	1300	90	60
24	1400	90	60
26	1550	90	60
28	1650	90	60
30	1800	90	60

Material:

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

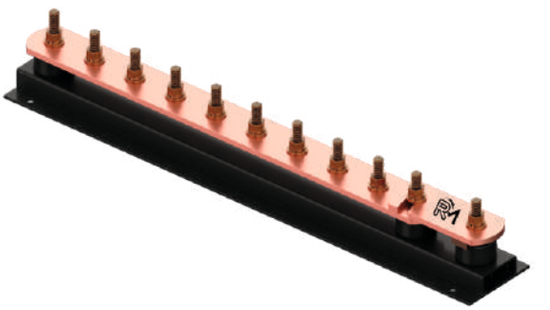
Base: Plastic.

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

Earth Bars with Single Disconnecting Link

Single disconnecting link earth bars are mainly used to offer a temporary break in the connection to the earth, allowing the inspection and testing of multiple earth rods / systems while disconnected from the lightning and earth system.

No Terminations	L mm	W mm	H mm
2	285	90	60
3	330	90	60
4	375	90	60
6	475	90	60
8	575	90	60
9	685	90	60
10	725	90	60
12	825	90	60
14	925	90	60
16	1025	90	60
18	1175	90	60
20	1325	90	60
22	1375	90	60
24	1475	90	60
26	1625	90	60
28	1725	90	60
30	1875	90	60



Material:

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

Base: Plastic.

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

EARTHING

Earth Bars

Tinned Earth Bars with Single Disconnecting Link

Single disconnecting link tinned earth bars are mainly used to offer a temporary break in the connection to the earth, allowing the inspection and testing of multiple earth rods / systems while disconnected from the lightning and earth system.

No Terminations	L mm	W mm	H mm
2	285	90	60
3	330	90	60
4	375	90	60
6	475	90	60
8	575	90	60
9	685	90	60
10	725	90	60
12	825	90	60
14	925	90	60
16	1025	90	60
18	1175	90	60
20	1325	90	60
22	1375	90	60
24	1475	90	60
26	1625	90	60
28	1725	90	60
30	1875	90	60

Material:

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

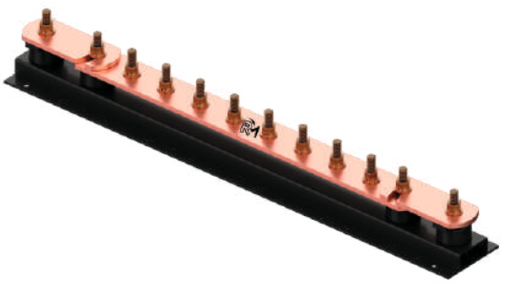
Base: Plastic.

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

Earth Bars with Double Disconnecting Links

Double disconnecting link earth bars are mainly used to offer a temporary break in the connection to the earth, allowing the inspection and testing of multiple earth rods / systems while disconnected from the lightning and earth system.

No Terminations	L mm	W mm	H mm
2	350	90	60
3	400	90	60
4	450	90	60
6	550	90	60
8	650	90	60
9	725	90	60
10	800	90	60
12	900	90	60
14	1000	90	60
16	1100	90	60
18	1250	90	60
20	1400	90	60
22	1450	90	60
24	1550	90	60
26	1700	90	60
28	1800	90	60
30	1950	90	60



Material:

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

Base: Plastic.

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

EARTHING

Earth Bars

Tinned Earth Bars with Double Disconnecting Links

Double disconnecting link tinned earth bars are mainly used to offer a temporary break in the connection to the earth, allowing the inspection and testing of multiple earth rods / systems while disconnected from the lightning and earth system.

No Terminations	L mm	W mm	H mm
2	350	90	60
3	400	90	60
4	450	90	60
6	550	90	60
8	650	90	60
9	725	90	60
10	800	90	60
12	900	90	60
14	1000	90	60
16	1100	90	60
18	1250	90	60
20	1400	90	60
22	1450	90	60
24	1550	90	60
26	1700	90	60
28	1800	90	60
30	1950	90	60

Material:

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

Base: Plastic.

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

Disconnecting Link

The disconnecting link provides a temporary break in the earth connection to allow inspection and testing of the earth electrode.

L mm	W mm	H mm
120	45	45

Material:

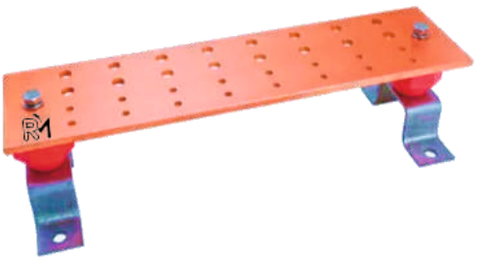
Bar: 50 x 6mm hard drawn copper bar to BS EN 13601.

Base: Plastic

Telecommunications Main Grounding Earth Bar

This item is used as a central consolidation point for telecommunications and other low voltage systems within the room. Typically located on walls or entry rooms where the exterior ground enters the building.

L mm	L1 mm	W mm
305	229	102
305	229	102
508	229	102
508	229	102



These includes:

1 - Grounding bar assembly.

6 - #6 compression lugs.

1 each - #2, 1/0, 2/0, 3/0 compression lugs.

12 each - 1/4”-20 x 3/4” (19.0mm) SS4 hex bolts, hex nuts & lock washers.

6 each - 3/8”-16 x 1” (25.4mm) SS4 hex bolts, hex nuts & lock washers

EARTHING

Earth Bars

Telecommunications Grounding Earth Bar

This item provides a common grounding point within the telecommunications room. Typically located on walls within a data room

L mm	L1 mm	W mm
305	229	51
305	229	51

These Includes:

1 - Grounding bar assembly

6 - #6 compression lugs

1 each - #2, 1/0, 2/0, 3/0 compression lugs

12 each - 1/4"-20 x 3/4" (19.0mm) SS4 hex bolts, hex nuts & lock washers

6 each - 3/8"-16 x 1" (25.4mm) SS4 hex bolts, hex nuts & lock washers

Insulators

Insulators are supplied with or without studs and locking nuts.

Type	Thread Size mm	W mm	H mm
INSULATOR	M10	40	40
INSULATOR	M10	40	40
INSULATOR	M6	18	20
INSULATOR	M6	32	30
INSULATOR	M8	38	40
INSULATOR	M10	46	50
INSULATOR	M10	50	60
INSULATOR	M12	55	70
INSULATOR WITH 2 STUDS & 3 NUTS	M10	40	40

Material: Reinforced Polyester

Earth Bosses

The earth boss is designed to provide an earth connection point on a steel structure. The boss is welded onto steel vessels, tanks and other structures. Wrap connections with Denso tape.

D mm	L mm	Thread Size
25	25	M8
30	30	M8
30	30	M10
30	40	M10
30	40	M12
30	50	M10
30	50	M12
40	30	M8
40	30	M10
40	40	M10
40	40	M12
40	50	M10
40	50	M12
50	30	M8
50	30	M10
50	40	M10
50	40	M12
50	50	M10
50	50	M12

Material: Mild Steel with Stainless Steel fittings.

EARTHING

Earth Bars

Stainless Steel Earth Bosses

The stainless steel earth boss is designed to provide an earth connection point on a stainless steel structure. The boss is welded onto stainless steel vessels, tanks and other stainless steel structures. Wrap connections with Denso tape.

D mm	L mm	Thread Size
25	25	M8
30	30	M8
30	30	M10
30	40	M10
30	40	M12
30	50	M10
30	50	M12
40	30	M8
40	30	M10
40	40	M10
40	40	M12
40	50	M10
40	50	M12
50	30	M8
50	30	M10
50	40	M10
50	40	M12
50	50	M10
50	50	M12

Material: Stainless Steel body & Stainless Steel fittings

Flexible Copper Braid Bonds

These flexible copper braid bonds are used for bonding metal gates, doors, fences etc. Other lengths and sizes are available on request.

Size W x H mm	Hole Centres L mm	Hole Size
10 x 2	100	6
10 x 2	200	6
10 x 2	300	6
12 x 2	100	6
12 x 2	200	6
12 x 2	300	6
19 x 2.5	100	10
19 x 2.5	200	10
19 x 2.5	300	10
25 x 3	100	10
25 x 3	200	10
25 x 3	400	10
25 x 3.5	200	11
25 x 3.5	300	11
25 x 3.5	400	11
30 x 4.5	200	10
30 x 4.5	400	10
32 x 5	200	10
32 x 5	400	10

Material: Copper & Tinned Copper.

EARTHING

Earth Bars

‘C’ Crimp Connectors

These range-taking ‘C’ Crimp Connectors are specifically designed for tap and parallel connections of standard copper cables in earthing applications

Main Conductor A mm2	Main Conductor B mm2	L mm	W mm	H mm
10	4 - 10	13	12	9
10 - 16	10 - 16	19	17	12
16	4	19	17	12
16 - 25	1.5 - 10	20	12	13
25	10 - 16	21	19	12
25	10 - 25	24	20	15
35	1.5 - 16	24	20	15
35	25 - 35	27	20	15
50	4 - 16	27	20	15
50	16 - 50	27	20	17
70	1.5 - 25	27	20	17
50 - 70	4 - 35	33	28	21
50 - 70	35 - 70	34	28	21
70 - 95	35 - 70	41	30	26
95	4 - 35	41	30	26
70 - 95	95	41	30	26
120	35 - 120	45	30	28
150	6 - 70	45	30	28
150	95 - 150	45	30	28
120 - 185	95 - 185	54	35	33
150 - 185	70 - 150	54	35	33
240	10 - 70	54	35	34
240	95 - 120	54	37	34
240	150 - 240	54	40	43

Material: Copper

Compression Terminals

Cable terminals are manufactured from high-conductivity seamless copper tube and feature bell mouth entry for cables up to 500mm2 and chamfered entry for cables 500mm2 to 1000mm2

Conductor Size mm2	Palm Hole Size mm	L mm	W mm
6	4	21	9
6	5	24	10
6	6	24	11
6	8	25	12
6	10	26	12
10	5	26	11
10	6	26	11
10	8	29	13
10	10	39	16
10	12	39	18
16	6	30	11
16	8	30	13
16	10	35	15
16	12	42	18
25	6	32	14
25	8	32	14
25	10	38	16
25	12	38	18
35	6	35	15
35	8	35	15
35	10	40	15
35	12	40	18
35	14	43	20
50	6	37	17
50	8	37	17
50	10	42	17
50	12	42	17
50	14	45	20

Compression Terminals (continued)

Conductor Size mm2	Palm Hole Size mm	L mm	W mm
70	6	40	21
70	8	40	21
70	10	46	21
70	12	46	21
70	14	50	21
70	16	50	21
95	6	47	25
95	8	49	25
95	10	49	25
95	12	49	25
95	14	56	25
95	16	56	25
120	8	50	27
120	10	56	27
120	12	56	27
120	14	56	27
120	16	60	27
120	20	66	27
150	8	66	30
150	10	68	30
150	12	68	30
150	14	68	30
150	16	70	30
150	20	75	30
185	10	67	33
185	12	68	33
185	14	68	33
185	16	70	33
185	20	75	33

Compression Terminals (continued)

Conductor Size mm2	Palm Hole Size mm	L mm	W mm
240	10	88	38
240	12	88	38
240	14	88	38
240	16	88	38
240	20	88	38
300	10	97	41
300	12	97	41
300	14	97	41
300	16	97	41
300	20	97	41
400	12	108	47
400	14	108	47
400	16	108	47
400	20	108	47
500	16	117	53
500	18	117	53
500	20	117	53
630	16	127	63
630	18	127	63
630	20	127	63
800	16	164	70
800	18	164	70
800	20	164	70
1000	18	164	77
1000	20	164	77

Material: Tin Plated Copper.

LIGHTNING PROTECTION SYSTEM

01 GENERAL INTRODUCTION

02 CONVENTIONAL AIR TERMINATION SYSTEM

03 AIR RODS – ACCESSORIES

LIGHTNING PROTECTION SYSTEM

General Introduction

Lightning Protection System is the system that provides a means by which a lightning discharge may enter or leave earth without passing through & damaging personal, electrical equipment & non conducting structures such as building. Copper & Aluminium plays a significant role in earthing and lightning protection as all the conductors and accessories are either made from Copper, Aluminium and its alloys

LIGHTNING PROTECTION SYSTEM

Conventional Air Termination System

Taper Pointed Air Rods

Air rods form an important part of the air termination network of a lightning protection system. All of our air rods are supplied with a locknut enabling the rod to be locked tight against the conductor.

Copper Air Rods

L mm	L1 mm	Thread Size
300	40	M16
500	40	M16
600	40	M16
1000	40	M16
1500	40	M16
2000	40	M16
3000	40	M16
300	40	M20
500	40	M20
1000	40	M20
1500	40	M20
2000	40	M20
3000	40	M20

Material: Copper.

Aluminium Air Rods

L mm	L1 mm	Thread Size
300	40	M16
500	40	M16
1000	40	M16
1500	40	M16
2000	40	M16

Material: Aluminium

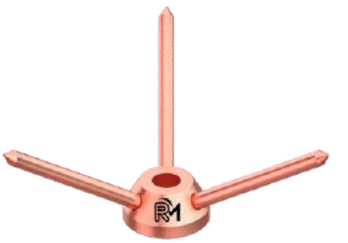
LIGHTNING PROTECTION SYSTEM

Conventional Air Termination System

Multi-Point

Used in conjunction with the taper pointed copper air rods.

Air Rod Ø mm	H mm	W mm
16 & 20	156	72



Material: High Copper Alloy base with Copper Spikes.

Light Duty Air Rod Saddles

Light duty saddles are used to support air rods on flat roof surfaces.

For use with Copper Air Rods

Thread Size	Conductor Size mm	L mm	H mm
M16	25 x 3	100	37
M20	25 x 3	100	37

Material: High Copper Alloy

For use with Aluminium Air Rods

Thread Size	Conductor Size mm	L mm	H mm
M16	25 x 3	100	37

Material: Aluminium

LIGHTNING PROTECTION SYSTEM

Air Rods - Accessories

Air Rod Ridge Saddles

Ridge saddles are used to support air rods on roof ridges.

For use with Copper Air Rods

Thread Size	L mm	H mm
M16	137	34

Material: High Copper Alloy

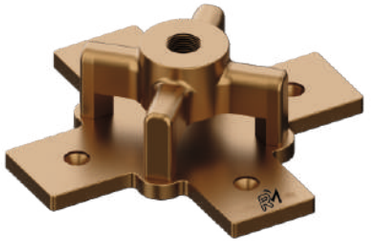
For use with Aluminium Air Rods

Thread Size	L mm	H mm
M16	137	34

Material: Aluminium

Flat Air Rod Saddles

Flat saddles are used to support air rods on flat roof surfaces



For use with Copper Air Rods

Thread Size	Conductor Size mm	L mm	H mm
M16	25 x 3	137	40
M16	32 x 6	120	37

Material: High Copper Alloy

For use with Aluminium Air Rods

Thread Size	Conductor Size mm	L mm	H mm
M16	25 x 3	137	40

Material: Aluminium

Side Mounting Air Rod Brackets

These brackets provide a 75mm projection from the building face and are used where it is not possible to fit a saddle onto the building roof.

For use with Copper Air Rods

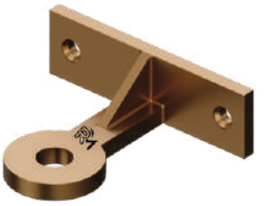
Air Rod Ø mm	L mm	W mm
16	97	120
20	97	120

Material: High Copper Alloy

For use with Aluminium Air Rods

Air Rod Ø mm	L mm	W mm
M16	97	120

Material: Aluminium



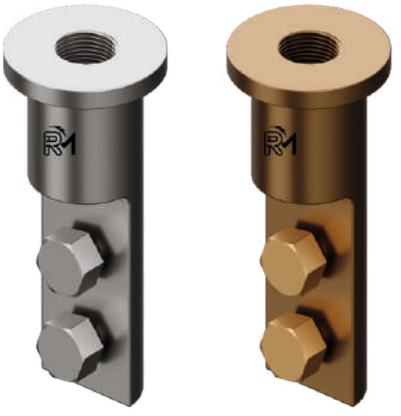
Rod to Tape Couplings

Enables the flat tape to be connected to the air rod. Used in conjunction with the side mounting air rod brackets.

For use with Copper Air Rods

Thread Size	L mm	D mm
M16	80	40
M20	80	40

Material: High Copper Alloy



For use with Aluminium Air Rods

Thread Size	L mm	D mm
M16	80	40

Material: Aluminium

LIGHTNING PROTECTION SYSTEM

Conventional Air Termination System

DC Clips

Metallic DC clips secure the flat tape conductor to the building surface. Fix using countersunk woodscrews 1 1 /2" x No. 10 and No. 10 wall plug.

Conductor Size mm	L mm	W mm	H mm
20 x 3	50	21	10
25 x 3	51	21	10
25 x 4	51	21	11
25 x 6	51	21	12
30 x 2	56	21	9
30 x 5	56	21	12
31 x 3	60	21	10
31 x 4	56	21	11
31.5 x 4	56	21	11
31 x 6	56	21	12
38 x 3	69	21	10
38 x 5	64	21	12
38 x 6	69	21	12
40 x 3	70	21	10
40 x 4	69	21	11
40 x 5	69	21	12
40 x 6	69	21	12
50 x 3	76	21	10
50 x 4	76	21	11
50 x 6	76	21	12
50 x 8	76	21	14
60 x 5	90	21	11
63 x 10	102	25	16
70 x 5	110	25	13
75 x 6	110	25	14
80 x 5	110	25	11
80 x 6	11	25	14

Material: High Copper Alloy

LIGHTNING PROTECTION SYSTEM

Air Rods - Accessories

Tape Clips

Tape clips hold the flat tape conductor flush to the building surface. Fix using countersunk woodscrew 1 1 /2" x No. 10 and No. 10 wall plug.

For use with Bare Copper Tapes

Conductor Size mm	L mm	W mm	H mm
20 x 3	68	20	7
25 x 3	70	20	7
50 x 6	73	20	8

Material: Copper

For use with Aluminium Air Rods

Conductor Size mm	L mm	W mm	H mm
20 x 3	68	20	7
25 x 3	70	20	7
50 x 6	73	20	8

Material: Aluminium

Cable Saddle

Conductor
8 MM DIA
10 MM DIA
50 MM2
70 MM2
95 MM2
120 MM2
150 MM2

Material: High Copper Alloy

LIGHTNING PROTECTION SYSTEM

Conventional Air Termination System

Square Tape Clamps

These four-way connectors are suitable for making cross, straight through or tee joints in flat tape. The base has a countersunk hole in the middle for securing the clamp to the building surface and the lid is fixed by means of four screws

Conductor Size mm	L mm	W mm	H mm
25 x 3	50	50	13
25 x 4	50	50	15
25 x 6	50	50	20
30 x 2	56	56	12
30 x 5	56	56	17
31 x 3	60	60	14
31 x 6	56	56	19
38 x 3			
38 x 6	71	71	22
40 x 3	66	66	13
40 x 4	66	66	15
40 x 5	66	66	18
50 x 3	80	80	16
50 x 4			
50 x 6	80	80	22
50 x 8	80	80	27

Material: High Copper Alloy

Oblong Junction Clamps

Designed to join a range of tape sizes in a straight through position. In many applications the clamp enables tapes to be overlapped and secured by the two set screws.

For use with Bare Copper Tapes

Maximum Conductor Size mm	L mm	W mm	H mm
25 x 3	60	51	24
25 x 6	70	45	30
50 x 3	90	63	26

Material: High Copper Alloy

For use with Bare Aluminium Tape

Maximum Conductor Size mm	L mm	W mm	H mm
25 x 3	68	40	23

Material: Aluminium

Screw Down Test Clamp

The screw down test clamp allows easy access to copper conductors where frequent inspection and testing may be necessary.

Maximum Conductor Size mm	D mm
25 x 3	61

Material: High Copper Alloy.

LIGHTNING PROTECTION SYSTEM

Air Rods - Accessories

Plate Type Test Clamps

This clamp is used to form a disconnecting joint between the down conductor and earthing system.

For use with Copper Tapes

Maximum Conductor Size mm	D mm	H mm
25 x 6	70	38

Material: High Copper Alloy

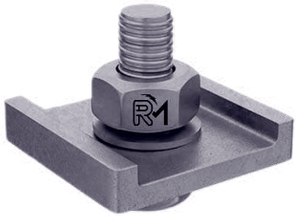
For use with Aluminium Tapes

Maximum Conductor Size mm	D mm	H mm
25 x 6	70	38

Material: Aluminium

'B' Bonds

These 'B' bonds are used for bonding aluminium and copper tapes to flat metal surfaces.



For use with Copper Tapes

Conductor Size mm	L mm	W mm	H mm
25 x 3	35	35	10

Material: High Copper Alloy

For use with Aluminium Tapes

Conductor Size mm	L mm	W mm	H mm
25 x 3	35	35	10

Material: Aluminium

Bimetallic Connectors

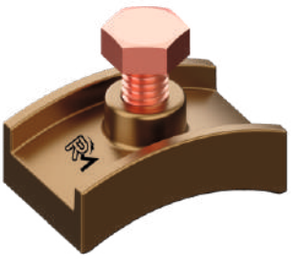
These connectors are used to join aluminium and copper tapes together. They are a neat and practical jointing method without the need for tinning, riveting or wrapping the joint.

Conductor Size mm	Material Type	L mm	W mm	H mm
25 x 3	Aluminium & Copper	85	28	27
25 x 3	Aluminium & Copper	80	37	17
25 x 3	Stainless Steel	75	32	11
50 x 6	Aluminium & Copper	143	50	20

Watermain Pipe Bond

Designed to bond large diameter metallic pipes into the earthing and lightning protection systems.

Maximum Conductor Size mm	L mm	W mm
25	45	36



Material: High Copper Alloy with M10 x 35mm Phosphor Bronze Set Screw.

LIGHTNING PROTECTION SYSTEM

Air Rods - Accessories

(RWP) Rainwater Pipe Bond

This pipe bond can be used on any application where tape can be wrapped around circular objects such as pipes or rails.

For use with Bare Copper Tapes

Maximum Conductor Size mm	L mm	W mm	H mm
25	32	32	16

Material: High Copper Alloy with M10 x 40mm Stainless Steel Set Screw

For use with Bare Aluminium Tapes

Maximum Conductor Size mm	L mm	W mm	H mm
25	32	32	16

Material: Aluminium with M10 x 40mm Stainless Steel Set Screw

Multi-Purpose Air Rod Saddles

These saddles can be installed horizontally on roofs or vertically on walls or parapets and are used in conjunction with the air rods shown above.
The saddles are suitable for use with 8mm diameter solid circular conductor as well as 25 x 3mm flat tape.

For use with Copper Tapes

Thread Size	L mm	W mm	H mm
M10	50	50	38

Material: High Copper Alloy.

For use with Aluminium Tapes

Thread Size	L mm	W mm	H mm
M10	50	50	38

Material: Aluminium.

One Hole Conductor Clips

One hole conductor clips provide an easy method of fixing copper and aluminium conductors to surfaces.

Conductor
8 MM DIA
10 MM DIA
50 MM2
70 MM2
95 MM2
120 MM2
150 MM2

'MV' Clamps

These four-way connectors are suitable for crossing over, making straight joints and tee connections with solid circular conductor.

Conductor Size mm	L mm	W mm	H mm
8	40	40	18

Material: Copper & Aluminium

LIGHTNING PROTECTION SYSTEM

Air Rods - Accessories

'T' Connector Clamps

This purpose-designed 'T' connector clamp is ideal for connecting the roof network to the down conductors of an 8mm solid circular lightning protection system.

For use with Bare Solid Circular Copper Conductor

Conductor Size mm	L mm	W mm	H mm
8	45	45	19

Material: High Copper Alloy.

For use with Bare Solid Circular Aluminium Conductor

Conductor Size mm	L mm	W mm	H mm
8	45	45	19

Material: Stainless Steel.

Solid Circular to Tape Connectors

four-way connector is suitable for crossing over flat tape and solid circular conductor. It will also serve for making straight through joints and tee connections.

For use with Bare Copper Conductors

Conductor Size mm	L mm	W mm	H mm
50, 8 & 25 x 3	51	51	25
50, 8 & 25 x 3	51	51	31
50, 8 & 25 x 3	51	51	34
50, 8 & 25 x 3	51	51	37

Material: High Copper Alloy.

LIGHTNING PROTECTION SYSTEM

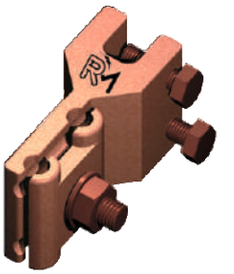
Air Rods - Accessories

Metalwork Bonding Clamps

These clamps are designed for bonding 8mm solid circular conductors onto metal surfaces.

For use with Bare Solid Circular Copper Conductor

Conductor Size mm	L mm	W mm	H mm
8	82	40	25



Material: Copper.

For use with Bare Solid Circular Aluminium Conductor

Conductor Size mm	L mm	W mm	H mm
8	82	40	25

Material: Aluminium

Multi-Purpose 'B' Bonds

These Multi-Purpose 'B' Bonds can be used for bonding both 25 x 3mm flat tape and 8mm diameter solid circular conductor to flat metal surfaces.

For use with Bare Copper Conductors

Conductor Size mm	L mm	W mm	H mm	Set Screw
8 & 25 x 3	34	34	13	M8 x 25mm

Material: High Copper Alloy

For use with Bare Aluminium Conductors

Conductor Size mm	L mm	W mm	H mm	Set Screw
8 & 25 x 3	34	34	13	M8 x 25mm

Material: Aluminium

LIGHTNING PROTECTION SYSTEM

Air Rods - Accessories

Circular Conductor Shoes

Used to bond 8mm bare solid circular conductors to metal surfaces

For use with Bare Solid Circular Copper Conductor

Conductor Size mm	Palm Hole Ø mm	L mm	W mm	H mm	Set Screw
8	12	61	23	25	M6 x 12MM

Material: High Copper Alloy.

For use with Bare Solid Circular Aluminium Conductor

Conductor Size mm	Palm Hole Ø mm	L mm	W mm	H mm	Set Screw
8	12	61	23	25	M6 x 12MM

Material: Stainless Steel.

Rod to Cable Couplings

Enables the Standard cable to be connected to the air rod. Used in conjunction with the side mounting air rod brackets.

Conductor Size mm2	Thread Size	L mm	D mm
50	M16	80	40
70	M16	80	40

Material: High Copper Alloy.

Test Joint (Disconnecting Clamp)

Type	Suitable Conductor	Dimension LxWxB	Rod/Rod Size (mm)
Type-1 With Intermediate Plate	Connect Rod To Rod	30x58x2.5	8-10/8-10
Type-2 Without Intermediate Plate	Connect Rod To Rod	30x58x2.5	8-10/8-10
Type-3 With Intermediate Plate	Connect Rod To Flat	30x58x2.5	8-10/8-10
Type-4 Without Intermediate Plate	Connect Rod To Flat	30x58x2.5	8-10/8-10

Material: Stainless Steel, Carbon Steel, Brass & Copper

Square Clamps (Circular conductor)

Square Clamps provide four way connection and are suitable for crossing over cable, straight through joints or 'T' connections to form a continuous network of cables.

Conductor Size (mm/mm sq.)
8 Dia
50
70
95

Material: High Copper Alloy

LIGHTNING PROTECTION SYSTEM

Air Rods - Accessories

Rod To Conductor Clamps

Suitable to make cross & parallel connection of solid, Standard & flat Conductors with earth rods, tape or Standard conductors earth rods.

Type-1

Dimension LxWxB	Rod/Rod Size (mm)
75X75X5	8-12.5/40

Material: Stainless Steel, Carbon Steel, Brass & Copper

Type-2

Dimension LxWxB	Rod/Rod Size (mm)
70X70X3	8-12.5/40

Material: Stainless Steel, Carbon Steel, Brass & Copper

Cross Clamp For Above

Type-1 Without Intermediate Plate

Suitable Connect Rod To Rod Conductor

Dimension LxWxB	Rod/Rod Size (mm)
50X50X2.5	8TO10
70	M16

Material: Stainless Steel, Carbon Steel, Brass & Copper

Type-1 Without Intermediate Plate

Suitable Connect Rod To Rod Conductor

Dimension LxWxB	Rod/Rod Size (mm)
50X50X2.5	8TO10
70	M16

Material: Stainless Steel, Carbon Steel, Brass & Copper

Cross Clamp For Above & underground Connection

Type-1 With Intermediate Plate

Suitable Connect Rod To Rod Conductor

Dimension LxWxB	Rod Size (mm)	Tape Size(mm)
50 x 50 x 3	8TO10	30X3
50 x 50 x 4	8TO10	40X3

Material: Stainless Steel, Carbon Steel, Brass & Copper

Type-2 Without Intermediate Plate

Suitable Connect Rod To Flat Conductor

Dimension LxWxB	Rod Size (mm)	Tape Size(mm)
50 x 50 x 3	8TO10	30X3
50 x 50 x 4	8TO10	40X3

Material: Stainless Steel, Carbon Steel, Brass & Copper

Type-3 With Intermediate Plate

Suitable Connect Rod To Flat Conductor Upto 40mm

Dimension LxWxB	Rod Size (mm)	Tape Size(mm)
50 x 50 x 3	8TO10	30X3
50 x 50 x 4	8TO10	40X3
50 x 50 x 3	8TO10	30X6
50 x 50 x 4	8TO10	40X6

Material: Stainless Steel, Carbon Steel, Brass & Copper

Type-4 Without Intermediate Plate

Suitable Connect Flat To Flat Conductor Upto 40mm

Dimension LxWxB	Rod Size (mm)	Tape Size(mm)
50 x 50 x 3	8TO10	30X3
50 x 50 x 4	8TO10	40X3
50 x 50 x 3	8TO10	30X6
50 x 50 x 4	8TO10	40X6

Material: Stainless Steel, Carbon Steel, Brass & Copper

LIGHTNING PROTECTION SYSTEM

Air Rods - Accessories

Wall & Roof Conductor Holders NIRO-Clip Snap-On-Holder

Wall & Roof Conductor Holders NIRO-Clip Shap-On-Holder is used for attaching wires to walls.

Conductor Size (mm sq.)
8TO10

Material: Stainless Steel & Carbon Steel

Wall & Roof Conductor Holders

Wall & Roof Conductor Holders are used for attaching wires to walls.

Conductor Size (mm sq.)
8TO10

Material: Stainless Steel & Carbon Steel

Roof Conductor Holder For Flat Roofs

Conductor holder with weather-resistant plastic support plate, UV-stabilized and halogen-free

Conductor Size (mm sq.)
8TO10

Material: PVC

LIGHTNING PROTECTION SYSTEM

Air Rods - Accessories

Copper Tapes

High conductivity bare copper tape is used on both lightning protection and earthing applications. It is annealed for ease of use and has radiused edges.

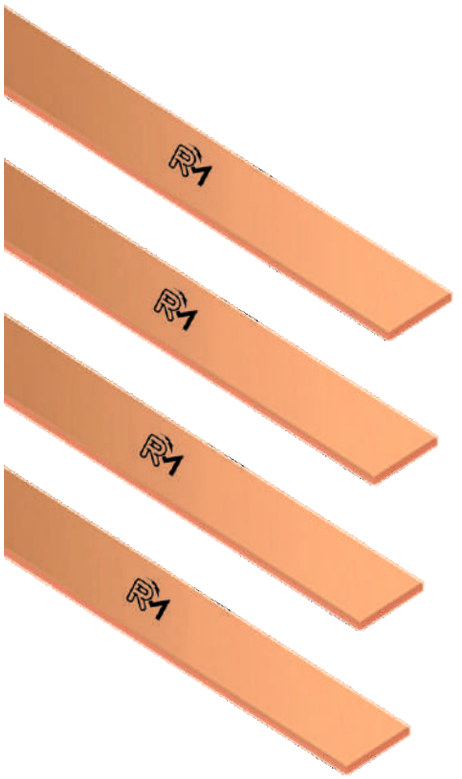
Size W x H mm	C.S.A. mm2	Standard Coil Size m
12.5 x 1.5	18.75	100
12.5 x 3	37.5	100
20 x 1.5	30	100
20 x 3	60	100
20 x 4	80	70
20 x 5	100	60
25 x 1.5	37.5	100
25 x 2	50	50
25 x 2.5	62.5	90
25 x 3	75	25 & 50
25 x 4	100	50
25 x 5	125	40
25 x 6	150	40
30 x 2	60	50
30 x 3	90	50
30 x 3.5	105	50
30 x 4	120	40
30 x 5	150	40
30 x 10	300	20
31 x 3	93	50
31.5 x 1.8	56.7	100
31.5 x 4	126	40
31 x 6	186	30
32 x 6	192	30
35 x 6	210	25
38 x 3	114	50
38 x 5	190	30
38 x 6	228	25

Material: Copper to BS EN 13601 (formerly BS 1432)

LIGHTNING PROTECTION SYSTEM

Air Rods - Accessories

Copper Tapes (continued)



Size W x H mm	C.S.A. mm2	Standard Coil Size m
40 x 3	120	40
40 x 4	160	30
40 x 5	200	25
40 x 6	240	25
40 x 6.3	252	25
40 x 8	320	20
50 x 3	150	40
50 x 4	200	30
50 x 5	250	20
50 x 6	300	10 & 20
50 x 6.3	315	20
50 x 7	350	20
50 x 8	400	20
50 x 10	500	10
50 x 12	600	10
60 x 5	300	20
60 x 6	360	15
60 x 8	480	12
63 x 10	630	10
65 x 6	390	15
70 x 6	420	15
75 x 6	450	7
75 x 12	900	8
80 x 6	480	12

Material: Copper to BS EN 13601 (formerly BS 1432).

INDUSTRIAL CABLE GLAND

01 GENERAL INTRODUCTION

02 BW CABLE GLAND

03 A2 CABLE GLAND

04 CW CABLE GLAND

05 CX CABLE GLAND

06 E1W CABLE GLAND

07 E1X CABLE GLAND

08 WIPPING GLAND

09 CABLE GLAND ACCESSORIES

INDUSTRIAL CABLE GLAND

General Introduction

Cable glands are defined as "mechanical cable entry devices" which are used in conjunction with cable and wiring for electrical, instrumentation and control, and automation systems, including lighting, power, data and telecoms.
The cable glands in the following section are shown in nickel plated brass. Alternative materials are available.

INDUSTRIAL CABLE GLAND

BWL Cable Gland

BWL Cable Gland

BWL type Industrial Cable Gland for Indoor use with all types of Single Wire Armour (SWA) & Aluminium Wire Armour (AWA) cable, providing Mechanical retention & Electrical continuity via armour wire termination.

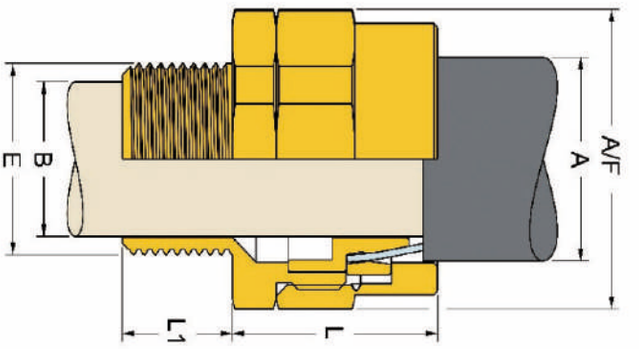
TECHNICAL CLASSIFICATION	
Type	BWL (Industrial)
Design Specification	BS 6121: Part 1:1989, IEC 62444 : 2010 & EN 62444 : 2013
Mechanical Classification**	Retention = Class D, Impact = Level 8
Electrical Classification**	Category B
Enclosure Protection	IK10 to IEC 62262 (20 Joule) Brass
Certificate	WIP
Operating Temperature	-60° C to +200° C
Ingress Protection Rating	IP 2X
Standard Gland Material	Brass (BS EN 12164 / Grade CuZn39Pb3)
Standard Thread	ISO Metric
Cable Type	Single Wire Armour (SWA) & Aluminium Wire Armour (AWA)
Armour Clamping	Detachable Armour Cone & Clamping Ring
Optional Gland Materials	Nickel Plated Brass, Aluminium
Optional Accessories	Adaptor, Reducer, Earth Tag, Lock Nut, Serrated Washer, Shroud
Gland Kits Available	1 Cable Gland, 1 Lock Nut, 1 Earth Tag, 1 Nylon IP Washer, 1 PVC Shroud

**** Mechanical & Electrical Classification applied as per IEC / EN 62444**

INDUSTRIAL CABLE GLAND

BWL Cable Gland

BWL Cable Gland



Gland Dimension						Cable Dimension			
Cable Gland Size	Entry Thread E	Minimum Thread Length	Maximum Length	Across Flats	Across Corners	Cable Bedding Diameter	Overall Cable Diameter	Armour Range	
	Standard	L1	L	AF	AC	B	A		
	Metric	Metric	Max	Max	Max	Max	Max	Min	Max
20S/16	M20	12.00	22.00	24.00	26.40	9.00	14.00	0.80	1.25
20S	M20	12.00	22.00	24.00	26.40	12.00	16.00	0.80	1.25
20	M20	12.00	28.00	30.50	33.50	14.00	21.00	0.80	1.25
25	M25	12.00	32.00	37.50	41.20	20.00	26.40	1.25	1.60
32	M32	12.00	34.00	46.00	50.60	26.20	34.00	1.60	2.00
40	M40	15.00	36.00	55.00	60.50	32.20	40.50	1.60	2.50
50S	M50	15.00	36.00	60.00	66.00	38.00	46.80	2.00	2.50
50	M50	15.00	38.00	70.00	77.00	44.00	53.20	2.00	2.50
63S	M63	15.00	44.00	75.00	82.50	50.00	59.50	2.00	2.50
63	M63	15.00	44.00	80.00	88.00	56.00	66.00	2.00	2.50
75S	M75	15.00	50.00	89.00	98.00	62.20	72.20	2.00	2.50
75	M75	15.00	50.00	99.00	109.00	68.50	78.60	2.50	3.15
90	M90	17.00	56.00	108.00	119.00	80.00	90.50	3.15	4.00

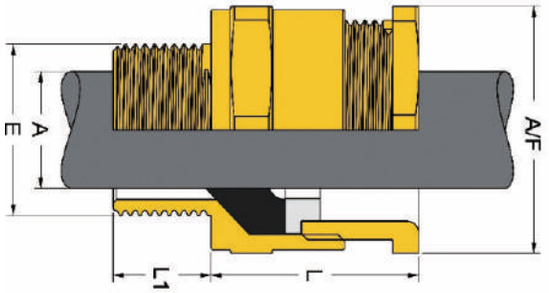
A2 Cable Gland

A2 type Industrial Cable Gland for Indoor & Outdoor use with all types of Unarmoured & may be for Braided cable (where termination facility is available inside the enclosure), providing Mechanical Cable Retention & an Environmental Seal on the cable Outer Sheath.

TECHNICAL CLASSIFICATION	
Type	A2 (Industrial)
Design Specification	BS 6121: Part 1:1989, IEC 62444 : 2010 & EN 62444 : 2013
Mechanical Classification**	Retention = Class B, Impact = Level 8
Electrical Classification**	Category A
Enclosure Protection	IK10 to IEC 62262 (20 Joule) Brass & Stainless Steel Only
Certificate	WIP
Operating Temperature	-40° C to + 110° C / Optional -60° C to + 180° C
Ingress Protection Rating	IP 66, IP 67, IP 68***
Standard Gland Material	Brass (BS EN 12164 / Grade CuZn39Pb3)
Seal Material	Thermoset Elastomer
Standard Thread	ISO Metric / NPT
Cable Type	Unarmoured & Braided
Sealing Technique	Inner Displacement Seal
Sealing Area	Cable Outer Sheath
Optional Thread	BSP, BSPT, PG, Imperial
Optional Gland Material	Nickel Plated Brass, Electroless Nickel Plated Brass, Stainess Steel, Aluminium
Optional Accessories	Adaptor, Reducer, Earth Tag, Lock Nut, Entry Thread Nylon & Fiber Washer, Serrated Washer, Shroud
Gland Kits Available	1 Cable Gland, 1 Lock Nut, 1 Earth Tag, 1 Nylon IP Washer 1 PVC Shroud.

**** Mechanical & Electrical Classification applied as per IEC / EN 62444**
***** IP 68 : Tested at 30m depth for 7 days (Alternate depth & duration can be provided upon request)**

A2 Cable Gland



Gland Dimension								Cable Dimension	
Cable Gland Size	Entry Thread E			Minimum Thread Length	Maximum Length	Across Flats	Across Corners	Overall Cable Diameter	
	Standard		Option	L1	L	AF	AC	A/B	
	Metric	NPT*	NPT*	Metric	Max	Max	Max	Min	Max
20S/16	M20	1/2"	3/4"	12.0	25.5	24.0	26.4	3.1	8.8
20S	M20	1/2"	3/4"	12.0	25.5	24.0	26.4	6.1	11.8
20	M20	1/2"	3/4"	12.0	27.3	27.0	29.7	8.5	14.0
25S	M25	3/4"	1"	12.0	29.0	31.0	34.1	10.0	16.0
25	M25	3/4"	1"	12.0	35.7	36.0	39.5	14.0	20.0
32	M32	1"	1-1/4"	12.0	35.0	41.0	45.0	17.0	26.4
40	M40	1-1/4"	1-1/2"	15.0	34.8	50.0	50.0	23.5	32.3
50S	M50	1-1/2"	2"	15.0	33.0	55.0	55.0	31.0	38.5
50	M50	2"	2-1/2"	15.0	36.0	60.0	60.0	35.5	44.0
63S	M63	2"	2-1/2"	15.0	34.0	70.0	77.0	41.4	50.0
63	M63	2-1/2"	3"	15.0	36.0	75.0	82.5	47.0	56.2
75S	M75	2-1/2"	3"	15.0	33.5	80.0	88.8	54.0	62.1
75	M75	3"	3-1/2"	15.0	39.0	85.0	93.5	60.0	68.3
90	M90	3-1/2"	4"	20.0	58.5	108.0	118.0	66.6	80.0

INDUSTRIAL CABLE GLAND

CW Cable Gland

CW Cable Gland

CW type Industrial Cable Gland for Indoor & Outdoor use with all types of Single Wire Armour (SWA) & Aluminium Wire Armour (AWA) cable, providing Mechanical Cable Retention & an Environmental Seal on the cable Outer Sheath & also providing an Electrical Continuity via armour wire termination.

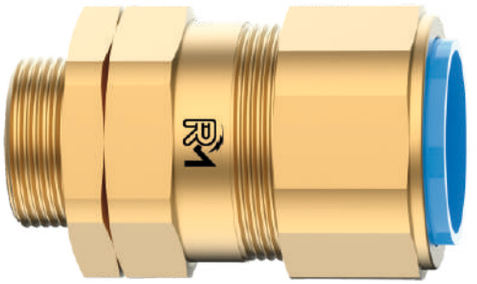
TECHNICAL CLASSIFICATION	
Type	A2 (Industrial)
Design Specification	BS 6121: Part 1:1989, IEC 62444 : 2010 & EN 62444 : 2013
Mechanical Classification**	Retention = Class D, Impact = Level 8
Electrical Classification**	Category B
Enclosure Protection	IK10 to IEC 62262 (20 Joule) Brass & Stainless Steel Only
Certificate	WIP
Operating Temperature	-40° C to + 110° C / Optional -60° C to + 180° C
Ingress Protection Rating	IP 66
Standard Gland Material	Brass (BS EN 12164 / Grade CuZn39Pb3)
Seal Material	Thermoset Elastomer
Standard Thread	ISO Metric / NPT
Cable Type	Single Wire Armour (SWA) & Aluminium Wire Armour (AWA)
Armour Clamping	Detachable Armour Cone & Clamping Ring
Sealing Technique	Load Retention Outer Seal
Sealing Area	Cable Outer Sheath
Optional Thread	BSP, BSPT, PG, Imperial
Optional Gland Material	Nickel Plated Brass, Electroless Nickel Plated Brass, Stainess Steel, Aluminium
Optional Accessories	Adaptor, Reducer, Earth Tag, Lock Nut, Entry Thread Nylon & Fiber Washer, Serrated Washer, Shroud
Gland Kits Available	1 Cable Gland, 1 Lock Nut, 1 Earth Tag, 1 Nylon IP Washer, 1 PVC Shroud.

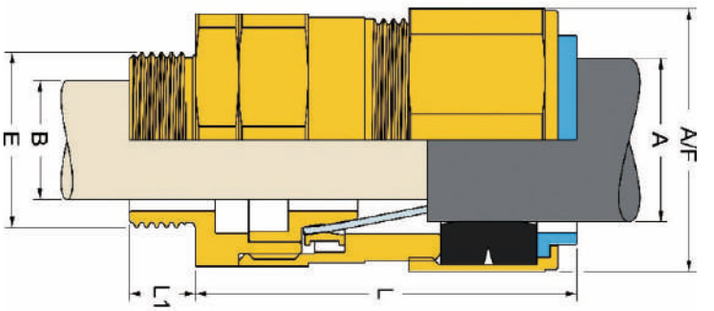
**** Mechanical & Electrical Classification applied as per IEC / EN 62444**

INDUSTRIAL CABLE GLAND

CW Cable Gland

CW Cable Gland





Gland Dimension								Cable Dimension				
Cable Gland Size	Entry Thread E			Minimum Thread Length	Maximum Length	Across Flats	Across Corners	Cable Bedding Diameter	Overall Cable Diameter		Armour Range	
	Standard		Option	L1	L	AF	AC	B	A			
	Metric	NPT*	NPT*	Metric	Max	Max	Max	Max	Min	Max	Min	Max
20S/16	M20	1/2"	3/4"	12.0	44.00	24.00	26.40	8.80	6.10	13.00	0.80	1.25
20S	M20	1/2"	3/4"	12.0	44.00	24.00	26.40	11.80	9.50	16.00	0.80	1.25
20	M20	1/2"	3/4"	12.0	45.00	30.50	33.50	14.20	13.00	20.90	0.80	1.25
25S	M25	3/4"	1"	12.0	53.50	37.50	41.25	20.00	14.00	22.00	1.25	1.60
25	M25	3/4"	1"	12.0	53.50	37.50	41.25	20.00	18.20	26.20	1.25	1.60
32	M32	1"	1-1/4"	12.0	52.00	46.00	50.60	26.30	23.70	33.90	1.60	2.00
40	M40	1-1/4"	1-1/2"	15.0	56.00	55.00	60.50	32.20	27.90	40.40	1.60	2.00
50S	M50	1-1/2"	2"	15.0	57.00	60.00	66.00	38.20	35.20	46.70	2.00	2.50
50	M50	2"	2-1/2"	15.0	58.50	70.00	77.00	44.00	40.40	53.00	2.00	2.50
63S	M63	2"	2-1/2"	15.0	69.00	75.00	82.50	50.00	45.60	59.00	2.00	2.50
63	M63	2-1/2"	3"	15.0	70.00	80.00	88.00	56.00	54.60	65.50	2.00	2.50
75S	M75	2-1/2"	3"	15.0	80.00	90.00	99.00	62.00	59.00	72.40	2.00	2.50
75	M75	3"	3-1/2"	15.0	80.00	100.00	110.00	68.00	66.70	78.50	2.50	3.15
90	M90	3-1/2"	4"	20.0	93.00	114.00	125.40	80.00	76.20	90.20	3.15	4.00

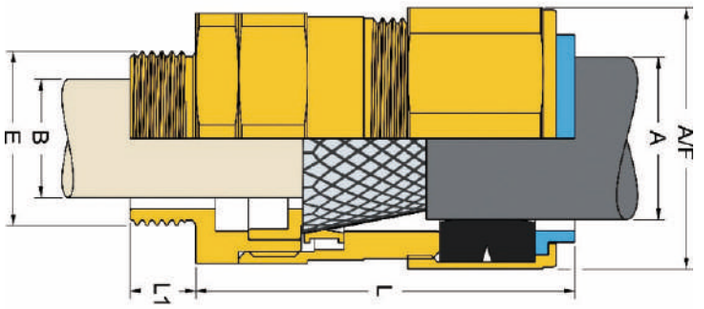
CX Cable Gland

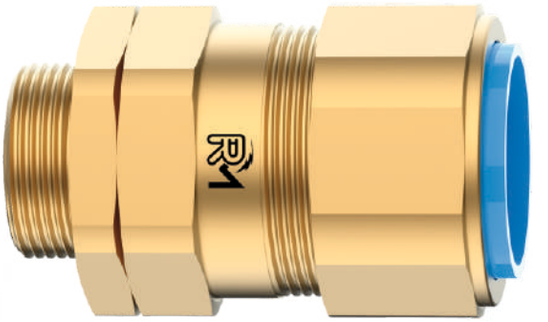
CX type Industrial Cable Gland for Indoor & Outdoor use with all types of Wire Braid Armour, Strip Armour, Piliable Wire Armour & Steel Tape Armour cable, providing Mechanical Cable Retention & an Environmental Seal on the cable Outer Sheath and also providing an Electrical continuity via armour wire termination.

TECHNICAL CLASSIFICATION	
Type	CX (Industrial)
Design Specification	BS 6121: Part 1:1989, IEC 62444 : 2010 & EN 62444 : 2013
Mechanical Classification**	Retention = Class D, Impact = Level 8
Electrical Classification**	Category A
Enclosure Protection	IK10 to IEC 62262 (20 Joule) Brass & Stainless Steel Only
Certificate	WIP
Operating Temperature	-40° C to + 110° C / Optional -60° C to + 180° C
Ingress Protection Rating	IP 66
Standard Gland Material	Brass (BS EN 12164 / Grade CuZn39Pb3)
Seal Material	Thermoset Elastomer
Standard Thread	ISO Metric / NPT
Cable Type	Wire Braid Armour, Strip Armour, Piliable Wire Armour, Steel Tape Armour
Armour Clamping	Detachable Armour Cone & Clamping Ring
Sealing Technique	Load Retention Outer Sea
Sealing Area	Cable Outer Sheath
Optional Thread	BSP, BSPT, PG, Imperial
Optional Gland Material	Nickel Plated Brass, Electroless Nickel Plated Brass, Stainess Steel, Aluminium
Optional Accessories	Adaptor, Reducer, Earth Tag, Lock Nut, Entry Thread Nylon & Fiber Washer, Serrated Washer, Shroud
Gland Kits Available	1 Cable Gland, 1 Lock Nut, 1 Earth Tag, 1 Nylon IP Washer, 1 PVC Shroud.

**** Mechanical & Electrical Classification applied as per IEC / EN 62444**

CX Cable Gland





Gland Dimension								Cable Dimension				
Cable Gland Size	Entry Thread E			Minimum Thread Length	Maximum Length	Across Flats	Across Corners	Cable Bedding Diameter	Overall Cable Diameter		Armour Range	
	Standard		Option	L1	L	AF	AC	B	A			
	Metric	NPT*	NPT*	Metric	Max	Max	Max	Max	Min	Max	Min	Max
20S/16	M20	1/2"	3/4"	12.0	44.00	24.00	26.40	8.80	6.10	13.00	0.30	1.00
20S	M20	1/2"	3/4"	12.0	44.00	24.00	26.40	11.80	9.50	16.00	0.30	1.00
20	M20	1/2"	3/4"	12.0	45.00	30.50	33.50	14.20	13.00	20.90	0.30	1.00
25S	M25	3/4"	1"	12.0	53.50	37.50	41.25	20.00	14.00	22.00	0.40	1.20
25	M25	3/4"	1"	12.0	53.50	37.50	41.25	20.00	18.20	26.20	0.40	1.20
32	M32	1"	1-1/4"	12.0	52.00	46.00	50.60	26.30	23.70	33.90	0.40	1.20
40	M40	1-1/4"	1-1/2"	15.0	56.00	55.00	60.50	32.20	27.90	40.40	0.40	1.60
50S	M50	1-1/2"	2"	15.0	57.00	60.00	66.00	38.20	35.20	46.70	0.40	1.60
50	M50	2"	2-1/2"	15.0	58.50	70.00	77.00	44.00	40.40	53.00	0.50	1.60
63S	M63	2"	2-1/2"	15.0	69.00	75.00	82.50	50.00	45.60	59.00	0.50	1.60
63	M63	2-1/2"	3"	15.0	70.00	80.00	88.00	56.00	54.60	65.50	0.50	1.60
75S	M75	2-1/2"	3"	15.0	80.00	90.00	99.00	62.00	59.00	72.40	0.50	1.60
75	M75	3"	3-1/2"	15.0	80.00	100.00	110.00	68.00	66.70	78.50	0.50	1.60
90	M90	3-1/2"	4"	20.0	93.00	114.00	125.40	80.00	76.20	90.20	0.80	1.60

INDUSTRIAL CABLE GLAND

E1W Cable Gland

E1W Cable Gland

E1W type Industrial Cable Gland for Indoor & Outdoor use with all types of Single Wire Armour (SWA) & Aluminium Wire Armour (AWA) cable, providing Mechanical Cable Retention & an Environmental Seal on cable Inner Bedding & Outer Sheath and also providing an Electrical Continuity via armour wire termination.

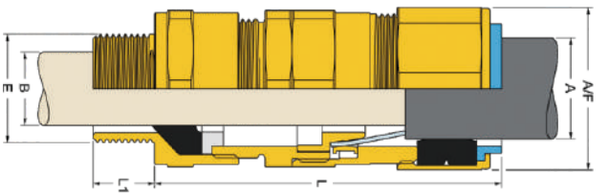
TECHNICAL CLASSIFICATION	
Type	E1W (Industrial)
Design Specification	BS 6121: Part 1:1989, IEC 62444 : 2010 & EN 62444 : 2013
Mechanical Classification**	Retention = Class D, Impact = Level 8
Electrical Classification**	Category B
Enclosure Protection	IK10 to IEC 62262 (20 Joule) Brass & Stainless Steel Only
Certificate	WIP
Operating Temperature	-40° C to + 110° C / Optional -60° C to + 180° C
Ingress Protection Rating	IP 66 (IP67 / IP68*** also available)
Standard Gland Material	Brass (BS EN 12164 / Grade CuZn39Pb3)
Seal Material	Thermoset Elastomer
Standard Thread	ISO Metric / NPT
Cable Type	Single Wire Armour (SWA) & Aluminium Wire Armour (AWA)
Armour Clamping	Detachable Armour Cone & Clamping Ring
Sealing Technique	Inner Displacement Seal & Load Retention Outer Seal
Sealing Area	Cable Inner Bedding & Outer Sheath
Optional Thread	BSP, BSPT, PG, Imperial
Optional Gland Material	Nickel Plated Brass, Electroless Nickel Plated Brass, Stainess Steel, Aluminium
Optional Accessories	Adaptor, Reducer, Earth Tag, Lock Nut, Entry Thread Nylon & Fiber Washer, Serrated Washer, Shroud
Gland Kits Available	1 Cable Gland, 1 Lock Nut, 1 Earth Tag, 1 Nylon IP Washer, 1 PVC Shroud.

**** Mechanical & Electrical Classification applied as per IEC / EN 62444**
**** IP 68 : Tested at 30m depth for 7 days (Alternate depth & duration can be provided upon request)**

INDUSTRIAL CABLE GLAND

E1W Cable Gland

E1W Cable Gland



Gland Dimension								Cable Dimension					
Cable Gland Size	Entry Thread E			Minimum Thread Length	Maximum Length	Across Flats	Across Corners	Cable Bedding Diameter		Overall Cable Diameter		Armour Range	
	Standard		Option	L1	L	AF	AC	B		A			
	Metric	NPT*	NPT*	Metric	Max	Max	Max	Min	Max	Min	Max	Min	Max
20S/16	M20	1/2"	3/4"	12.0	65.00	24.00	26.40	3.10	8.80	6.10	13.00	0.80	1.25
20S	M20	1/2"	3/4"	12.0	65.00	24.00	26.40	6.10	11.80	9.50	16.00	0.80	1.25
20	M20	1/2"	3/4"	12.0	69.00	30.50	33.50	8.50	14.00	13.00	20.90	0.80	1.25
25S	M25	3/4"	1"	12.0	84.00	37.50	41.25	10.00	16.00	14.00	22.00	1.25	1.60
25	M25	3/4"	1"	12.0	84.00	37.50	41.25	14.00	20.00	18.20	26.20	1.25	1.60
32	M32	1"	1-1/4"	12.0	80.00	46.00	50.60	17.00	26.40	23.70	33.90	1.60	2.00
40	M40	1-1/4"	1-1/2"	15.0	85.00	55.00	60.50	23.50	32.30	27.90	40.40	1.60	2.00
50S	M50	1-1/2"	2"	15.0	80.00	60.00	66.00	31.00	38.50	35.20	46.70	2.00	2.50
50	M50	2"	2-1/2"	15.0	88.00	70.00	77.00	35.50	44.00	40.40	53.00	2.00	2.50
63S	M63	2"	2-1/2"	15.0	94.00	75.00	82.50	41.40	50.00	45.60	59.00	2.00	2.50
63	M63	2-1/2"	3"	15.0	96.00	80.00	88.00	47.00	56.20	54.60	65.50	2.00	2.50
75S	M75	2-1/2"	3"	15.0	105.00	90.00	99.00	54.00	62.10	59.00	72.40	2.00	2.50
75	M75	3"	3-1/2"	15.0	108.00	100.00	110.00	60.00	68.30	66.70	78.50	2.50	3.15
90	M90	3-1/2"	4"	20.0	138.00	114.00	125.40	66.60	80.00	76.20	90.20	3.15	4.00

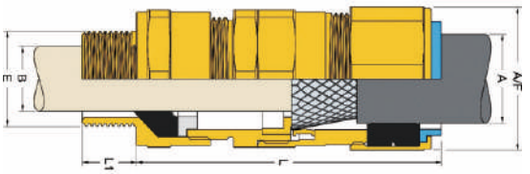
E1X Cable Gland

E1X type Industrial Cable Gland for Indoor & Outdoor use with all types of Wire Braid Armour, Strip Armour, Pilliable Wire Armour & Steel Tape Armour cable, providing Mechanical Cable Retention & an Environmental Seal on cable Inner Bedding & Outer Sheath & also providing an Electrical Continuity via armour wire termination.

TECHNICAL CLASSIFICATION	
Type	E1X (Industrial)
Design Specification	BS 6121: Part 1:1989, IEC 62444 : 2010 & EN 62444 : 2013
Mechanical Classification**	Retention = Class D, Impact = Level 8
Electrical Classification**	Category A
Enclosure Protection	IK10 to IEC 62262 (20 Joule) Brass & Stainless Steel Only
Certificate	WIP
Operating Temperature	-40° C to + 110° C / Optional -60° C to + 180° C
Ingress Protection Rating	IP 66 (IP67 / IP68*** also available)
Standard Gland Material	Brass (BS EN 12164 / Grade CuZn39Pb3)
Seal Material	Thermoset Elastomer
Standard Thread	ISO Metric / NPT
Cable Type	Wire Braid Armour, Strip Armour, Piliable Wire Armour, Steel Tape Armour
Armour Clamping	Detachable Armour Cone & Clamping Ring
Sealing Technique	Inner Displacement Seal & Load Retention Outer Seal
Sealing Area	Cable Inner Bedding & Outer Sheath
Optional Thread	BSP, BSPT, PG, Imperial
Optional Gland Material	Nickel Plated Brass, Electroless Nickel Plated Brass, Stainess Steel, Aluminium
Optional Accessories	Adaptor, Reducer, Earth Tag, Lock Nut, Entry Thread Nylon & Fiber Washer, Serrated Washer, Shroud
Gland Kits Available	1 Cable Gland, 1 Lock Nut, 1 Earth Tag, 1 Nylon IP Washer, 1 PVC Shroud.

**** Mechanical & Electrical Classification applied as per IEC / EN 62444**
***** IP 68 : Tested at 30m depth for 7 days (Alternate depth & duration can be provided upon request)**

E1X Cable Gland



Gland Dimension								Cable Dimension					
Cable Gland Size	Entry Thread E			Minimum Thread Length	Maximum Length	Across Flats	Across Corners	Cable Bedding Diameter		Overall Cable Diameter		Armour Range	
	Standard		Option	L1	L	AF	AC	B		A			
	Metric	NPT*	NPT*	Metric	Max	Max	Max	Min	Max	Min	Max	Min	Max
20S/16	M20	1/2"	3/4"	12.0	65.00	24.00	26.40	3.10	8.80	6.10	13.00	0.30	1.00
20S	M20	1/2"	3/4"	12.0	65.00	24.00	26.40	6.10	11.80	9.50	16.00	0.30	1.00
20	M20	1/2"	3/4"	12.0	69.00	30.50	33.50	8.50	14.00	13.00	20.90	0.30	1.00
25S	M25	3/4"	1"	12.0	84.00	37.50	41.25	10.00	16.00	14.00	22.00	0.40	1.20
25	M25	3/4"	1"	12.0	84.00	37.50	41.25	14.00	20.00	18.20	26.20	0.40	1.20
32	M32	1"	1-1/4"	12.0	80.00	46.00	50.60	17.00	26.40	23.70	33.90	0.40	1.20
40	M40	1-1/4"	1-1/2"	15.0	85.00	55.00	60.50	23.50	32.30	27.90	40.40	0.40	1.60
50S	M50	1-1/2"	2"	15.0	80.00	60.00	66.00	31.00	38.50	35.20	46.70	0.40	1.60
50	M50	2"	2-1/2"	15.0	88.00	70.00	77.00	35.50	44.00	40.40	53.00	0.50	1.60
63S	M63	2"	2-1/2"	15.0	94.00	75.00	82.50	41.40	50.00	45.60	59.00	0.50	1.60
63	M63	2-1/2"	3"	15.0	96.00	80.00	88.00	47.00	56.20	54.60	65.50	0.50	1.60
75S	M75	2-1/2"	3"	15.0	105.00	90.00	99.00	54.00	62.10	59.00	72.40	0.50	1.60
75	M75	3"	3-1/2"	15.0	108.00	100.00	110.00	60.00	68.30	66.70	78.50	0.50	1.60
90	M90	3-1/2"	4"	20.0	138.00	114.00	125.40	66.60	80.00	76.20	90.20	0.80	1.60

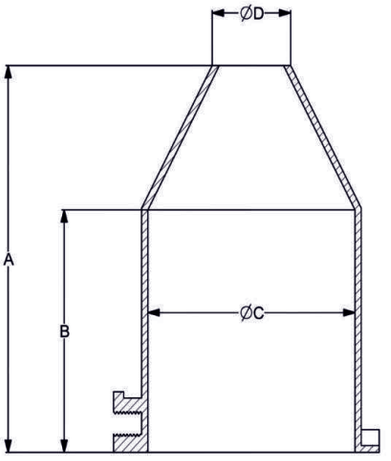
INDUSTRIAL CABLE GLAND

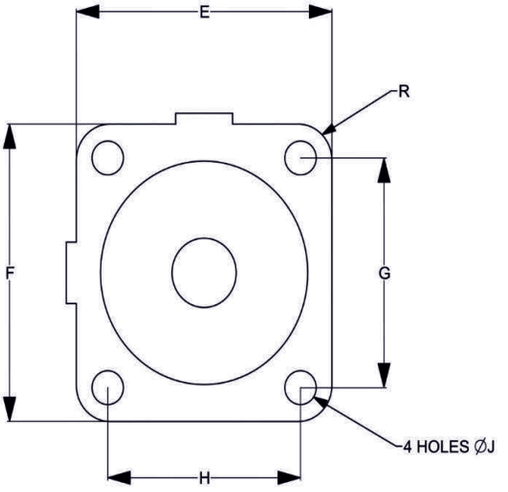
WIPPING GLAND

WIPPING GLAND

Used to facilitate the termination of high voltage power cables. Used in dry indoor and outdoor conditions.

Wipping Gland Selection Table											
Gland Size	Dia over metal sheath of cable	Dimension in (mm)									
	(mm)	A	B	ØC	ØD	E	F	G	H	ØJ	R
X	12 TO 51	137	90	60	19	90	90	66	66	12	12
Y	25 TO 78	155	95	89	32	114	123	95	86	14	14
Z	25 TO 94	195	140	108	32	190	-	-	-	14	-





Material: Brass

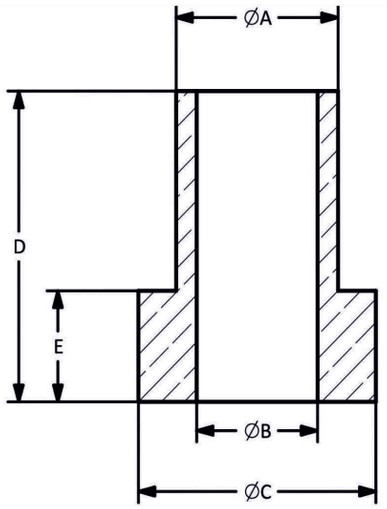
FITTINGS FOR WIPPING GLAND

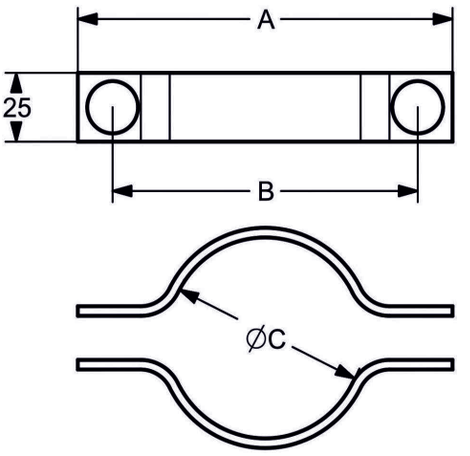
Insulating Plate Selection Table							
Insulating Plate	Dimension in (mm)						
	ØA	B	C	D	E	ØG	ØH
PX	-	90	66	19	90	14	60
PY	-	114	86	32	114	16	90
PZ	190			32	190	16	108

Material: Brass
Finish: Natural

Insulating Bush Selection Table					
Insulating Bush	Dimension in (mm)				
	ØA	ØB	ØC	D	E
A	-	90	66	19	90
B	-	114	86	32	114
C	190			32	190

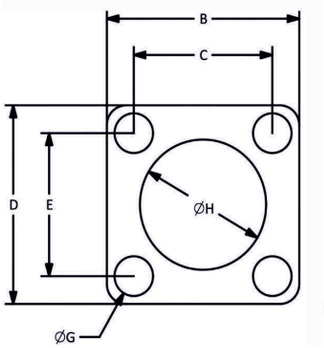
Material: Neoprene

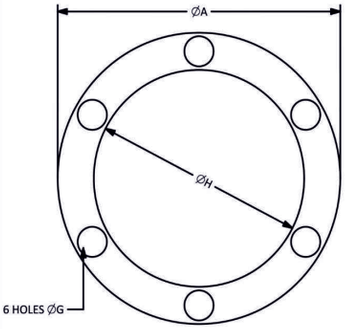




Armour Clamp Selection Table			
Gland Size	Dimension in (mm)		
	A	B	ØC
X	-	90	66
Y	-	114	86
Z	190		

Material: M.S. Strip
Finish: Electro Zinc Plated





Selection Of Gland With Fittings		
Gland Size	Insulating Plate	Insulating Bush
X	PX	A
Y	PY	B
Z	PZ	C

INDUSTRIAL CABLE GLAND

Cable Gland accessories

(1). ADAPTOR HEX HEAD

Change smaller thread to larger thread when there is a disconnect between the type or size of the Cable Gland thread and the cable entry hole in the equipment.

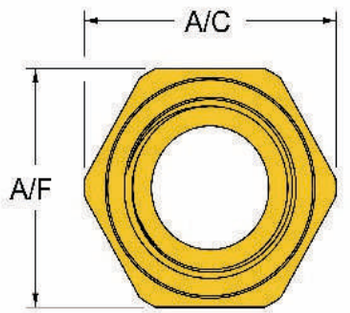
Technical Data	
Type	Adaptor-Hex Head (Industrial)
Design Specification	BS 6121: Part 1:1989, IEC 62444 : 2010 & EN 62444 : 2013
Certificate	WIP
Enclosure Protection	IK10 to IEC 62262 (20 Joule) Brass & Stainless Steel Only
Standard Size	M 16 to M 100 (3/8" NPT to 4" NPT)
Optional Size	Other sizes avilable on request
Operating Temprature	-60°C to + 200°C***
Ingress Protection Rating	IP 66 or IP 67 / IP 68 when fitted with 'O' Ring or Entry Thread sealing Washer
Standard Material	Brass (BS EN 12164/ Grade CuZn39Pb3)
Optional Material	Stainless Steel, Aluminium
Finish	Brass Nickel Plated, Zinc Plated & Other upon request.
Standard Thread	ISO Metric/NPT

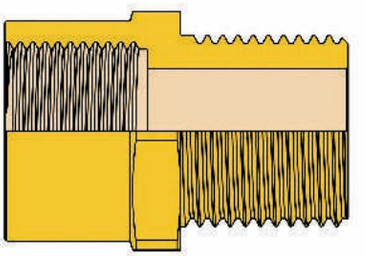
***When fitted without any IP washer or O Ring**

INDUSTRIAL CABLE GLAND

Cable Gland accessories

(1). ADAPTOR HEX HEAD



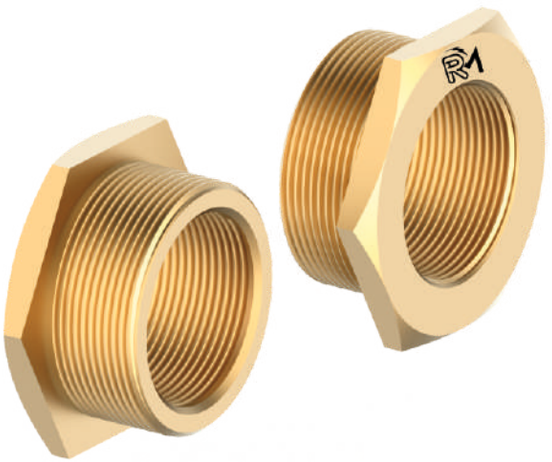


METRIC				NPT		
Thread Size	Across Flat	Across Corner		Thread Size*	Across Flat	Across Corner
	A/F	A/C			A/F	A/C
M16	19	21		3/8"	20	22
M20	23	25.4		1/2"	25	27.5
M25	28	31		3/4"	30	33
M32	36	39.5		1"	37.5	41.25
M40	44	48.5		1-1/4"	47	51.7
M50	55	60.5		1-1/2"	55	60.5
M63	68	74.5		2"	65	71.5
M75	80	88		2-1/2"	80	88
M80	86	90		3"	97	106.7
M85	92	101		3-1/2"	108	118.8
M90	97	106.5		4"	120	132
M100	108	118		-	-	-

All dimensions are in millimeters (Except * where dimensions are in inches)

(2). REDUCER HEX HEAD

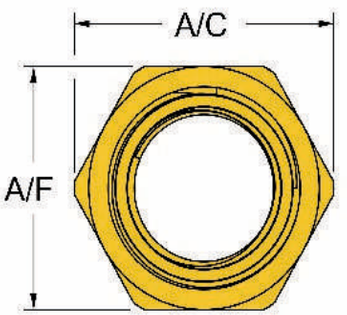
Change larger thread to smaller thread when there is a disconnect between the type or size of the Cable Gland thread and the cable entry hole in the equipment.

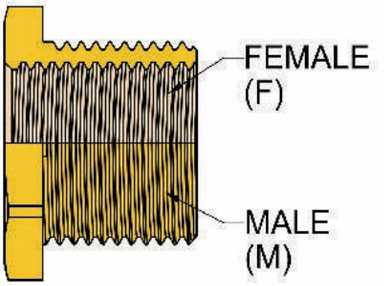


Technical Data	
Type	Reducer- Hex Head (Industrial)
Design Specification	BS 6121: Part 1:1989, IEC 62444 : 2010 & EN 62444 : 2013
Certificate	WIP
Enclosure Protection	IK10 to IEC 62262 (20 Joule) Brass & Stainless Steel Only
Standard Size	M 12 to M 100 (3/8" NPT to 4" NPT)
Optional Size	Other sizes avilable on request
Operating Temprature	-60°C to + 200°C***
Ingress Protection Rating	IP 66 or IP 67 / IP 68 when fitted with 'O' Ring or Entry Thread sealing Washer
Standard Material	Brass (BS EN 12164/ Grade CuZn39Pb3)
Optional Material	Stainless Steel, Aluminium
Finish	Brass Nickel Plated, Zinc Plated & Other upon request.
Standard Thread	ISO Metric/NPT

***When fitted without any IP washer or O Ring**

(2). REDUCER HEX HEAD





METRIC			NPT		
Thread Size	Across Flat A/F	Across Corner A/C	Thread Size*	Across Flat A/F	Across Corner A/C
M16	19	21	3/8"	20	22
M20	23	25.4	1/2"	25	27.5
M25	28	31	3/4"	30	33
M32	36	39.5	1"	37.5	41.25
M40	44	48.5	1-1/4"	47	51.7
M50	55	60.5	1-1/2"	55	60.5
M63	68	74.5	2"	65	71.5
M75	80	88	2-1/2"	80	88
M80	86	90	3"	97	106.7
M85	92	101	3-1/2"	108	118.8
M90	97	106.5	4"	120	132
M100	108	118			

All dimensions are in millimeters (Except * where dimensions are in inches)

INDUSTRIAL CABLE GLAND

Cable Gland accessories

(3). STOPPING PLUG HEX HEAD

To close unused Cable Gland entries temporary or permanently & maintain the integrity of the equipment's.

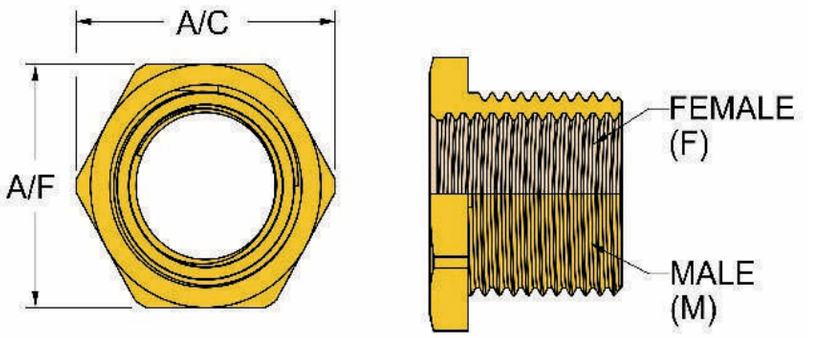
Technical Data	
Type	Stopping Plug - Hex Head (Industrial)
Design Specification	BS 6121: Part 1:1989, IEC 62444: 2010 & EN 62444 : 2013
Certificate	WIP
Enclosure Protection	IK10 to IEC 62262 (20 Joule) Brass & Stainless Steel Only
Standard Size	M12 to M100 (3/8" NPT to 4" NPT)
Optional Size	Other sizes avilable on request
Operating Temprature	-60°C to + 200°C***
Ingress Protection Rating	IP 66 or IP 67 / IP 68 when fitted with 'O' Ring or Entry Thread sealing Washer
Standard Material	Brass (BS EN 12164/ Grade CuZn39Pb3)
Optional Material	Stainless Steel, Aluminium
Finish	Brass Nickel Plated, Zinc Plated & Other upon request.
Standard Thread	ISO Metric/NPT

***When fitted without any IP washer or O Ring**

INDUSTRIAL CABLE GLAND

Cable Gland accessories

(3). STOPPING PLUG HEX HEAD



METRIC				NPT		
Thread Size	Across Flat	Across Corner		Thread Size*	Across Flat	Across Corner
	A/F	A/C			A/F	A/C
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M16	19	21		1/2"	25	27.5
M20	23	25.4		3/4"	30	33
M25	28	31		1"	37.5	41.25
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M63	68	74.5		2-1/2"	80	88
M75	80	88		3"	97	106.7
M80	86	90		3-1/2"	108	118.8
M85	92	101		4"	120	132
M90	97	106.5		-	-	-
M100	108	118		-	-	-

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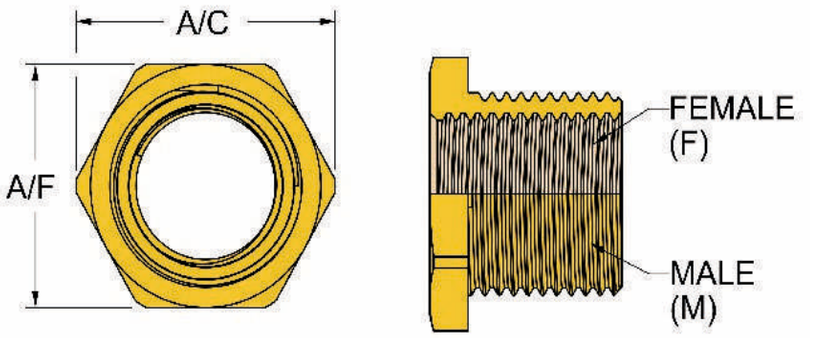
INDUSTRIAL CABLE GLAND

Cable Gland accessories

(3). STOPPING PLUG HEX HEAD



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M90	97	106.5		-	-	-
M100	108	118		-	-	-

All dimensions are in millimeters (Except * where dimensions are in inches)

Your satisfaction is a trait that we navigate

Shailesh Patel

RATNESWAR METAL

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