

LIGHTNING EARTHING
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MAKING MANUFACTURING HISTORY – FROM INDIA TO THE WORLD

In early 1986, a small trading house decided to set up a winding wire manufacturing facility in Silvassa, India. This humble beginning led to the making of a brand, RR Global - an internationally acclaimed name, with a presence in more than 80 countries.

Today, RR Global is a 650 million USD conglomerate that has built its success on innovation, trust and transparency. From inception, our founders decided that innovation in every product was key to growth and success. This was a bold decision, one that was much ahead of its time because until then a category like wire manufacturing was considered highly commoditized.

Thanks to this decision, we have been successful in the establishment of 9 manufacturing facilities and offices across the globe, most notably in the UAE and Bangladesh. Our growth can be seen in the expansion of our current production set up of 1 million sq.ft to an additional 1 million sq.ft in the near future.

With over 12 brands and 28 marketing offices employing over 3500+ employees, RR Global relentlessly continues to invent and adhere to modern technologies to fulfill the demand of domestic and global clients.

In less than four decades, our continuous drive for hardwork & innovation has led to resounding success with RR Global becoming the preferred choice in India and across the world.

The RR Global Group comprises of the following companies:

1. **RR Kabel – Wires & Cables**
2. **RR Parkon – Electromechanical car parking systems**
3. **RR Shramik – Winding wires**
4. **Colorants & Specialty Chemicals**
5. **RR Electric**
6. **RR Electrical Accessories**
7. **RR Bus Bars and Tapes**
8. **RR Busduct**
9. **RR Lighting**
10. **RR Fans**
11. **RR Switches**
12. **RR Switchgears**

EARTHING AND GROUNDING

Earthing System is an integral part of Lightning Protection System which has been designed around the structure to protect it from the dangers of lightning strikes by allowing the current to flow to the earth. For an efficient earthing system, it is essential that a low electrical resistance to the earth is achieved by the use of good quality conductors having sufficient cross sectional area to carry the expected current flow.

Several factors are needed to be considered while designing an earthing system. To have an efficient earthing system it is necessary to determine the ground resistivity which is dependent on factors such as chemical composition of the soil and presence of certain salts and moisture content in it. Excess of moisture or presence of certain chemicals can reduce the resistivity of the soil. The survey is incomplete without details regarding the metallic framework like tanks, pipes, rails, etc. which may need to be bonded into the earthing system to prevent danger of side flashing.

An earth electrode should be connected to each down conductor which constitutes to the Lightning Protection System. An Earth Inspection Pit is required for earth electrode to enable periodic inspection, testing and maintenance of earth resistance.

The maximum resistance value for an earthing system is specific to area and application. In case a single earth rod is not sufficient to achieve the required resistance, multiple earth rods may be used. In such case the combined resistance of the rods is proportional to reciprocal of individual rod resistance. Normally, the minimum spacing between the rods should not be less than their driven length. In geographical locations where it is impossible to use earth rods with longer lengths it is advisable to use rods with larger diameter, earth plates or earth mats. A lower resistance value can be obtained by maximizing the utilization of the rods, increasing the length of the rods to drive them deeper or by using rods of larger diameter.

It is very necessary to keep periodic check on Earthing System to ensure that it retains its ability to conduct the same current carrying capacity as it did when it was installed. Any exposed or underground earth system is subject to corrosion due to environmental conditions. A properly installed and maintained earth system can last for several years.



COPPER BONDED THREADED EARTH RODS

- RR Copper Bonded Threaded Earth Rods are manufactured by electrolytically bonding the steel core with 99.95% pure copper.
- Rods are roll threaded to get higher strength and maintain copper coating at the threaded area.
- Rods are made from low carbon steel core to ensure higher tensile strength.
- The standard copper coating thickness is 254 microns.
- Custom copper coating thickness is also available starting from min 20 microns.



Shank Ø mm	Thread Size	Length in mm	Part Number
12.7	1/2"	1200	RR - ERT - CB - 1212
		1500	RR - ERT - CB - 1215
		1800	RR - ERT - CB - 1218
		2400	RR - ERT - CB - 1224
14.2	5/8"	1200	RR - ERT - CB - 5812
		1500	RR - ERT - CB - 5815
		1800	RR - ERT - CB - 5818
		2400	RR - ERT - CB - 5824
		3000	RR - ERT - CB - 5830
16.0	5/8"	1200	RR - ERT - CB - 5812A
		1500	RR - ERT - CB - 5815A
		1800	RR - ERT - CB - 5818A
		2400	RR - ERT - CB - 5824A
		3000	RR - ERT - CB - 5830A
17.2	3/4"	1200	RR - ERT - CB - 3412
		1500	RR - ERT - CB - 3415
		1800	RR - ERT - CB - 3418
		2400	RR - ERT - CB - 3424
		3000	RR - ERT - CB - 3430

Material : MS Bright Bar with Copper Plating

EARTHING AND GROUNDING

EARTH ROD COPPER BOND DRIVING HEAD

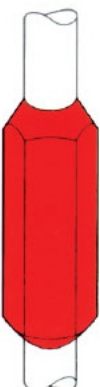


- RR Driving Heads facilitate driving of Earth Rods in the ground and at the same time avoid damage to the threading of the rods
- They are zinc plated to avoid atmospheric corrosion

Thread Size	Part Number
1/2"	RR - ERDH - MS - 0012
5/8"	RR - ERDH - MS - 0058
3/4"	RR - ERDH - MS - 0034

Material: Mild Steel

EARTH ROD THREADED COUPLING



- RR Threaded Coupler is designed to form a perfect contact between earth rods when two earth rods are required to be joined together for getting the required resistance during grounding.
- The centre hex design allows proper grip while tightening the rods.
- Couplers are manufactured from high copper content alloy ensuring excellent conductivity and are corrosion resistance.

Thread Size	Length in mm	Part Number
1/2"	50	RR - ERTC - C - 1250
5/8"	60	RR - ERTC - C - 5860
5/8"	70	RR - ERTC - C - 5870
3/4"	60	RR - ERTC - C - 3460
3/4"	70	RR - ERTC - C - 3470

Material: Copper Alloy

COPPER BONDED UNTHREADED EARTH RODS



- ✦ RR Copper Bonded Unthreaded Earth Rods are manufactured by electrolytically bonding the steel core with 99.95% pure copper.
- ✦ Rods are made from low carbon steel core to ensure higher tensile strength.
- ✦ The standard copper coating thickness is 254 microns.
- ✦ Custom copper thickness is also available starting from min 20 microns.

Shank Ø mm	Length in mm	Part Number
12.7	1200	RR - ERUT - CB - 1212
	1500	RR - ERUT - CB - 1215
	1800	RR - ERUT - CB - 1218
	2400	RR - ERUT - CB - 1224
14.2	1200	RR - ERUT - CB - 1412
	1500	RR - ERUT - CB - 1415
	1800	RR - ERUT - CB - 1418
	2400	RR - ERUT - CB - 1424
	3000	RR - ERUT - CB - 1430
17.2	1200	RR - ERUT - CB - 1712
	1500	RR - ERUT - CB - 1715
	1800	RR - ERUT - CB - 1718
	2400	RR - ERUT - CB - 1724
	3000	RR - ERUT - CB - 1730

Material : MS Bright Bar with Copper Plating