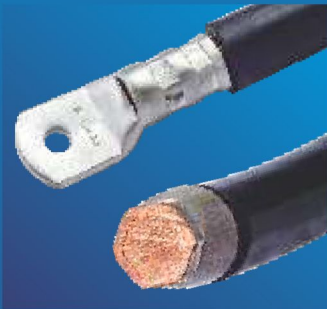




# UL Listed Product Catalog 2014



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ENTERPRISES

[www.groupcrystal.com](http://www.groupcrystal.com)

## COPPER BONDED EARTH RODS / GROUND RODS



File No. E339698



"Crystal" Copper Bonded Earth Rods / Ground Rods are manufactured in the companies Vasai plant dedicated to the manufacturing of earthing rods. The plant is equipped with facilities to produce in house up to 1800 metric tons annually all type of earthing rods. The steel core used for the manufacturing of the Copper Bonded Earth Rods is high tensile strength. The rods are electroplated with indigenously developed baths to produce a very strong bonding between the steel and copper. Also the innovative plating methods allow us to maintain copper plating of minimum 254 microns at any point of the rod. The extra edge of the quality of our Copper Bonded Earth Rods is also proved by the fact that all our threaded rods are threaded by thread rolling after the copper plating process hence providing the accurate threading size. All our rods are checked according to the stringent UL 467 norms. And majority of our Rods are UL Listed.

TRADE NAME	SIZE DETAILS				PART NO.	LISTING
	THREAD SIZE	SHANK DIA	LENGTH	Cu THICKNESS AT ANY POINT		
1/2" x 4 feet	9/16"	12.7mm	4 Feet	254µM Min.	C-1204BT	
1/2" x 4 feet	Unthreaded	12.7mm	4 Feet	254µM Min.	C-1204BU	
1/2" x 5 feet	9/16"	12.7mm	5 Feet	254µM Min.	C-1205BT	
1/2" x 5 feet	Unthreaded	12.7mm	5 Feet	254µM Min.	C-1205BU	
1/2" x 6 feet	9/16"	12.7mm	6 Feet	254µM Min.	C-1206BT	
1/2" x 6 feet	Unthreaded	12.7mm	6 Feet	254µM Min.	C-1206BU	
1/2" x 7 feet	9/16"	12.7mm	7 Feet	254µM Min.	C-1207BT	
1/2" x 7 feet	Unthreaded	12.7mm	7 Feet	254µM Min.	C-1207BU	
1/2" x 8 feet	9/16"	12.7mm	8 Feet	254µM Min.	C-1208BT	
1/2" x 8 feet	Unthreaded	12.7mm	8 Feet	254µM Min.	C-1208BU	
1/2" x 10 feet	9/16"	12.7mm	10 Feet	254µM Min.	C-1210BT	
1/2" x 10 feet	Unthreaded	12.7mm	10 Feet	254µM Min.	C-1210BU	
1/2" x 12 feet	9/16"	12.7mm	12 Feet	254µM Min.	C-1212BT	
1/2" x 12 feet	Unthreaded	12.7mm	12 Feet	254µM Min.	C-1212BU	
5/8" x 4 Feet	5/8"	14.2mm	4 Feet	254µM Min.	C-5804BT	
5/8" x 4 Feet	Unthreaded	14.2mm	4 Feet	254µM Min.	C-5804BU	
5/8" x 5 Feet	5/8"	14.2mm	5 Feet	254µM Min.	C-5805BT	
5/8" x 5 Feet	Unthreaded	14.2mm	5 Feet	254µM Min.	C-5805BU	
5/8" x 6 Feet	5/8"	14.2mm	6 Feet	254µM Min.	C-5806BT	
5/8" x 6 Feet	Unthreaded	14.2mm	6 Feet	254µM Min.	C-5806BU	
5/8" x 7 Feet	5/8"	14.2mm	7 Feet	254µM Min.	C-5807BT	
5/8" x 7 Feet	Unthreaded	14.2mm	7 Feet	254µM Min.	C-5807BU	
5/8" x 8 Feet	5/8"	14.2mm	8 Feet	254µM Min.	C-5808BT	
5/8" x 8 Feet	5/8"	14.2mm	8 Feet	330µM Min.	C-5808BTR	

## COPPER BONDED EARTH RODS / GROUND RODS



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TRADE NAME	SIZE DETAILS				PART NO.	LISTING
	THREAD SIZE (A)	SHANK DIA (B)	LENGTH (C)	Cu THICKNESS AT ANY POINT		
5/8" x 8 Feet	Unthreaded	14.2mm	8 Feet	254µM Min.	C-5808BU	
5/8" x 8 Feet	Unthreaded	14.2mm	8 Feet	330µM Min.	C-5808BUR	
5/8" x 10 Feet	5/8"	14.2mm	10 Feet	254µM Min.	C-5810BT	
5/8" x 10 Feet	5/8"	14.2mm	10 Feet	330µM Min.	C-5810BTR	
5/8" x 10 Feet	Unthreaded	14.2mm	10 Feet	254µM Min.	C-5810BU	
5/8" x 10 Feet	Unthreaded	14.2mm	10 Feet	330µM Min.	C-5810BUR	
5/8" x 12 Feet	5/8"	14.2mm	12 Feet	254µM Min.	C-5812BT	
5/8" x 12 Feet	Unthreaded	14.2mm	12 Feet	254µM Min.	C-5812BU	
3/4" x 4 Feet	3/4"	17.2mm	4 Feet	254µM Min.	C-3404BT	
3/4" x 4 Feet	Unthreaded	17.2mm	4 Feet	254µM Min.	C-3404BU	
3/4" x 5 Feet	3/4"	17.2mm	5 Feet	254µM Min.	C-3405BT	
3/4" x 5 Feet	Unthreaded	17.2mm	5 Feet	254µM Min.	C-3405BU	
3/4" x 6 Feet	3/4"	17.2mm	6 Feet	254µM Min.	C-3406BT	
3/4" x 6 Feet	Unthreaded	17.2mm	6 Feet	254µM Min.	C-3406BU	
3/4" x 8 Feet	3/4"	17.2mm	8 Feet	254µM Min.	C-3408BT	
3/4" x 8 Feet	Unthreaded	17.2mm	8 Feet	254µM Min.	C-3408BU	
3/4" x 10 Feet	3/4"	17.2mm	10 Feet	254µM Min.	C-3410BT	
3/4" x 10 Feet	Unthreaded	17.2mm	10 Feet	254µM Min.	C-3410BU	
3/4" x 12 Feet	3/4"	17.2mm	12 Feet	254µM Min.	C-3412BT	
3/4" x 12 Feet	Unthreaded	17.2mm	12 Feet	254µM Min.	C-3412BU	
1" x 8 Feet	1"	23mm	8 Feet	254µM Min.	C-0108BT	
1" x 8 Feet	Unthreaded	23mm	8 Feet	254µM Min.	C-0108BU	
1" x 10 Feet	1"	23mm	10 Feet	254µM Min.	C-0110BT	
1" x 10 Feet	Unthreaded	23mm	10 Feet	254µM Min.	C-0110BU	

\* Rods with special diameters, different lengths are available on request.

\* Threading mentioned above are UNC Threads. BSW or Metric Threads are also available on request.

\* Copper Plating Thickness for the above or special sizes can be maintained in the range of 50µM and up to 500µM for special applications on request.

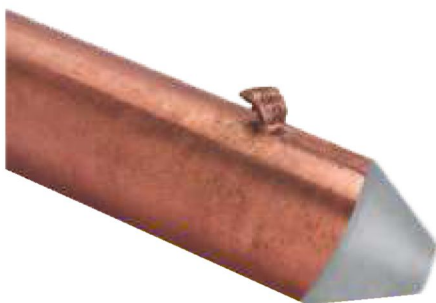
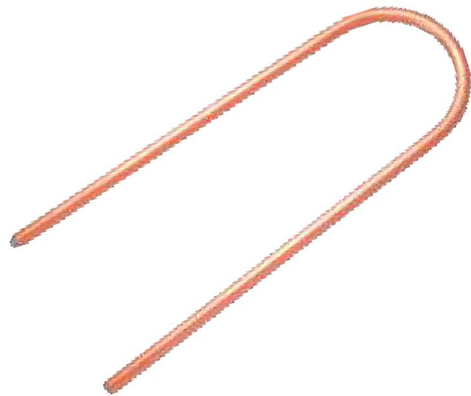


## COPPER BONDED EARTH ROD / GROUND ROD QUALITY CHECKS IN-HOUSE



**Copper Coating Thickness:** All 100% rods (full production) are subjected to the coating thickness test. Every rod at several points is checked by an electronic thickness tester to measure the copper thickness on the steel core. The reading in case of UL listed rods is not less than 254 $\mu$ m and for other rods as specified by the end user.

**Bend Test:** The bend test is carried out by a rod bending machine to provide an equal force at all points. The rod is subjected to bent up to 180 Degrees. The copper sheath should not crack or tear at any point of the rod.



**Adhesion Test:** An 18-inch length of the rod with one end cut to a 45 degree point shall be driven between two steel clamping plates or the jaws of a vise, set 0.04 inch less than the diameter of the rod, so as to shear off sufficient metal to expose the bond between the jacket and rod. Peeling of the jacket by the steel plates or the jaws of the vise is acceptable, but there shall be no other evidence of separation of the jacket from the steel core.

## SOLID COPPER EARTH RODS



"Crystal" Solid Copper Earth Rods are manufactured from EC Grade Copper. The rods are manufactured with internal threading or external threading as per the end users requirement. The internally threaded rods are provided with the driving head, driving tip and internal coupling dowel.

### INTERNALLY THREADED RODS

TRADE NAME	SIZE DETAILS			PART NO.	LISTING
	INTERNAL THREAD	DIAMETER	LENGTH		
1/2" x 4 feet	M8	12.7mm	4 Feet	C-1204C	
1/2" x 8 Feet	M8	12.7mm	8 Feet	C-1208C	
1/2" x 10 Feet	M8	12.7mm	10 Feet	C-1210C	
14 x 4 feet	M10	14mm	4 Feet	C-1404C	
14 x 8 Feet	M10	14mm	8 Feet	C-1408C	
14 x 10 Feet	M10	14mm	10 Feet	C-1410C	
15 x 4 feet	M10	15mm	4 Feet	C-1504C	
15 x 8 Feet	M10	15mm	8 Feet	C-1508C	
15 x 10 Feet	M10	15mm	10 Feet	C-1510C	
16 x 4 feet	M10	16mm	4 Feet	C-1604C	
16 x 8 Feet	M10	16mm	8 Feet	C-1608C	
16 x 10 Feet	M10	16mm	10 Feet	C-1610C	
19 x 4 feet	M10	19mm	4 Feet	C-1904C	
19 x 8 Feet	M10	19mm	8 Feet	C-1908C	
19 x 10 Feet	M10	19mm	10 Feet	C-1910C	
20 x 4 feet	M10	20mm	4 Feet	C-2004C	
20 x 8 Feet	M10	20mm	8 Feet	C-2008C	
20 x 10 Feet	M10	20mm	10 Feet	C-2010C	

\* Rods with special diameters, different lengths are available on request.

## EXTERNALLY THREADED RODS

TRADE NAME	SIZE DETAILS			PART NO.
	OUTSIDE THREAD	SHANK DIA (B)	LENGTH (C)	
5/8" x 4 Feet	5/8"	14.2	4 Feet	C-5804CT
3/4" x 4 Feet	3/4"	17.2	4 Feet	C-3404CT

\* Rods with special diameters, different lengths are available on request.

## STAINLESS STEEL EARTH RODS / GROUND RODS



File No.: E339698

"Crystal" Stainless Steel Earth Rods are manufactured from SS304 grade material and for special applications are also manufactured from SS316 grade material. We are manufacturing these rods with and without threading. These rods come with the natural finish.

TRADE NAME	SIZE DETAILS			PART NO.	LISTING
	THREAD SIZE	SHANK DIA	LENGTH		
1/2" x 8 feet	9/16"	12.7mm	8 Feet	C-1208ST	
1/2" x 8 feet	Unthreaded	12.7mm	8 Feet	C-1208SU	
1/2" x 10 feet	9/16"	12.7mm	10 Feet	C-1210ST	
1/2" x 10 feet	Unthreaded	12.7mm	10 Feet	C-1210SU	
5/8" x 8 Feet	5/8"	14.2mm	8 Feet	C-5808ST	
5/8" x 8 Feet	Unthreaded	14.2mm	8 Feet	C-5808SU	
5/8" x 10 Feet	5/8"	14.2mm	10 Feet	C-5810ST	
5/8" x 10 Feet	Unthreaded	14.2mm	10 Feet	C-5810SU	
3/4" x 8 Feet	3/4"	17.2mm	8 Feet	C-3408ST	
3/4" x 8 Feet	Unthreaded	17.2mm	8 Feet	C-3408SU	
3/4" x 10 Feet	3/4"	17.2mm	10 Feet	C-3410ST	
3/4" x 10 Feet	Unthreaded	17.2mm	10 Feet	C-3410SU	

\* Rods with special diameters, different lengths are available on request.

## COPPER BONDED EARTH RODS - COMMERCIAL GRADE

The commercial grade Copper bonded earth rods are manufactured from high tensile steel. The copper thickness is approximately 25µm hence making them economically priced. The rods are threaded or un-threaded as per the end users requirement.

TRADE NAME	SIZE DETAILS		PART NO.
	THREAD SIZE	LENGTH	
3/8" x 4 Feet	Unthreaded	4 Feet	C-3804E
3/8" x 6 Feet	Unthreaded	6 Feet	C-3806E
14 x 4 Feet	M14	4 Feet	C-1404E
14 x 6 Feet	M14	6 Feet	C-1406E
5/8" x 4 Feet	5/8"	4 Feet	C-5804E
5/8" x 5 Feet	5/8"	5 Feet	C-5805E
5/8" x 6 Feet	5/8"	6 Feet	C-5806E
5/8" x 8 Feet	5/8"	8 Feet	C-5808E
5/8" x 10 Feet	5/8"	10 Feet	C-5810E
3/4"x 4 Feet	3/4"	4 Feet	C-3404E
3/4"x 5 Feet	3/4"	5 Feet	C-3405E
3/4"x 6 Feet	3/4"	6 Feet	C-3406E
3/4"x 8 Feet	3/4"	8 Feet	C-3408E
3/4"x 10 Feet	3/4"	10 Feet	C-3410E
1"x 10 Feet	1"	10 Feet	C-0110E



\* Rods with special diameters, different lengths are available on request.



**The Trustworthy  Products**



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