



FOR TENDER PURPOSE ONLY

1. THE EARTHING GRID SHALL BE MADE WITH 32mm DIA MS ROD.

1. THE EARTHING GRID SHALL BE MADE WITH 32mm DIA MS ROD.
2. EARTHING CONDUCTORS IN OUTDOOR AREA SHALL BE BURIED 600mm BELOW FGL UNLESS OTHERWISE SPECIFIED.
3. WHEREVER EARTHING CONDUCTOR CROSS CABLE TRENCHES, UNDER GROUND SERVICES DUCTS PIPES, TUNNELS, RAILWAY TRACKS ETC. IT SHALL BE LAID ATLEAST 300mm BELOW THEM AND SHALL BE RE-ROUTED IN CASE IT FOULS WITH EQUIPMENT/STRUCTURE FOUNDATION.
4. EARTHING CONDUCTORS CROSSING THE ROAD SHALL BE LAID AT 300mm BELOW THE ROAD OR AT GREATER DEPTH TO SUIT SITE CONDITION.
5. EARTHING CONDUCTOR EMBEDDED IN THE CONCRETE SHALL HAVE APPROXIMATELY 50mm CONCRETE COVER.
6. ALL GROUND CONNECTIONS SHALL BE MADE BY ELECTRIC ARC WELDING. ALL WELDED JOINTS SHALL BE ALLOWED TO COOL DOWN GRADUALLY TO ATMOSPHERIC TEMPERATURE BEFORE PUTTING ANY LOAD ON IT. ARTIFICIAL COOLING SHALL NOT BE ALLOWED.
7. BENDING OF EARTHING ROD SHALL BE DONE PREFERABLY BY GAS HEATING.
8. ALL ARC WELDING WITH LARGE DIA CONDUCTOR SHALL BE DONE WITH LOW HYDROGEN CONTENT ELECTRODES.
9. ALL EQUIPMENT & STRUCTURES SHALL BE GROUNDED EARTHING PHILOSOPHY.
10. FOR RISER DETAILS OF EARTHING, WELDING AND JOINT DETAILS SHALL BE DONE AS PER EARTHING PHILOSOPHY.
11. THE LOCATION OF EARTHING CONDUCTOR, EARTHPIITS AND GROUND RODS ARE INDICATIVE AND CAN BE MODIFIED TO SUIT SITE CONDITION.
12. WHERE EARTHING CONDUCTOR FOUL WITH FOUNDATIONS SAME SHALL BE DIVERTED LOCALLY AS PER SITE CONDITION.
13. RAILWAY TRACKS WITHIN SWITCHYARD AREA SHALL BE EARTHED AT A SPACING OF 30M AND ALSO AT BOTH ENDS.
14. EARTHING CONDUCTOR SHALL BE BURIED 2000MM OUTSIDE THE SWITCHYARD FENCE. ALL THE GATES AND EVERY ALTERNATE POST OF FENCING SHALL BE CONNECTED TO MAIN EARTHING GRID.
15. 50x6MM THICK MS FLAT SHALL RUN ON THE TOP TIER AND ALL ALONG THE CABLE TRENCHES AND THE SAME SHALL BE WELDED TO EACH OF THE RACKS. FURTHER THIS FLAT SHALL BE EARTHED AT BOTH ENDS AND AT AN INTERVAL OF 30M. THE MS FLAT SHALL BE FINALLY PAINTED WITH 2 COATS OF REDOXIDE PRIMER AND 2 COATS OF ZINC RICHEDENAMEL PAINT.
16. A 32MM DIA 3000MM LONG MS EARTH ELECTROD WITH TEST LINK, CI FRAME AND COVER SHALL BE PROVIDED TO CONNECT DOWN CONDUCTOR OF LA, CVT AND TOWER WITH PEAK.
17. EARTHING CONDUCTORS OR LEADS ALONG THEIR RUN ON CABLE TRENCH, LADDER, WALLS ETC. SHALL BE SUPPORTED BY SUITABLE WELDING/CLEATING AT INTERVAL OF 750MM. WHEREVER IT PASSES THROUGH WALLS, FLOORS ETC. PVC SLEEVES SHALL BE SEALED TO PREVENT THE PASSAGE OF WATER THROUGH THE SLEEVES PROVIDED FOR THE PASSAGE OF THE CONDUCTOR & BOTH ENDS OF SLEEVES SHALL
18. EARTHING CONDUCTOR AROUND THE BUILDING SHALL BE BURIED IN EARTH AT A MINIMUM DISTANCE OF 1500MM FROM THE OUTER BOUNDARY OF THE BUILDING.
19. EARTHING TERMINAL OF EACH LA & CVT SHALL BE DIRECTLY CONNECTED TO ROD EARTH ELECTROD WHICH INTURN, SHALL BE CONNECTED TO STATION EARTHING GRID.
20. QUANTITY OF MAIN EARTH MAT GRID (32mm DIA MS ROD) IS 1800 METER. EXCLUDING ROD ELECTRODE, & RISER.

MARK NO.	DESCRIPTION OF ITEM & ITS PURPOSE	CONDUCTOR SIZE/ MATERIAL AS PER CS
01	MAIN EARTH MAT CONDUCTOR	32mm ϕ MS ROD (AS PER IS 2062/SAE 1018)
02	RISER CONDUCTOR (BELOW GROUND) A-HORIZONTAL RISER B-VERTICAL RISER	32mm ϕ MS ROD (AS PER IS 2062/SAE 1018)
03	EARTHING CONDUCTOR FOR MAIN EQUIPMENTS, COLUMN & AUX. STRUCTURE (ABOVE GROUND)	75x12mm GS FLAT
04	EARTHING CONDUCTOR FOR LT PANELS, LIGHTING PANELS CONTROL PANELS, MECHANISM BOXES, GATE FENCE ETC.	50x6mm GS FLAT
05	EARTHING CONDUCTOR FOR TRENCH	50x6mm MS FLAT (PAINTED) (AS PER IS 2062/SAE 1018)
06	EARTHING BRAID FOR GATE EARTHING	50X6mm 600MM LONG CU BRAID
07	DIRECTLY DRIVEN ROD ELECTRODE ALONG WITH PIT AND CI COVER WITH TEST LINK FOR TOWERS WITH PEAK, PT, CVT, LA AND HIGH MAST (EE)	32mm ϕ MS ROD 3M LONG (AS PER IS 2062/SAE 1018)
08	PIPE ELECTRODE IN (TREATED EARTH PIT) FOR TRANSFORMER NEUTRAL AS PER IS 3043	40mm ϕ GS PIPE
09	EARTHING FOR LIGHTING POLE	20mm ϕ MS ROD 3M LONG (AS PER IS 2062/SAE 1018)
10	DIRECTLY DRIVEN ROD ELECTRODE ALONG WITH PIT AND CI COVER WITHOUT TEST LINK FOR BUILDING. (E1)	32mm ϕ MS ROD 3M LONG (AS PER IS 2062/SAE 1018)

MARK NO.	DESCRIPTION OF ITEM & ITS PURPOSE	CONDUCTOR SIZE/ MATERIAL AS PER CS
01	MAIN EARTH/MAT CONDUCTOR	32mm ϕ MS ROD (AS PER IS 2662/SAE 1018)
02	RISER CONDUCTOR (BELOW GROUND) A-HORIZONTAL RISER B-VERTICAL RISER	32mm ϕ MS ROD (AS PER IS 2662/SAE 1018)
03	EARTHING CONDUCTOR FOR MAIN EQUIPMENTS, COLUMN & AUX. STRUCTURE (ABOVE GROUND)	75x12mm GS FLAT
04	EARTHING CONDUCTOR FOR LT PANELS, LIGHTING PANELS CONTROL PANELS, MECHANISM BOXES, GATE FENCE ETC.	50x6mm GS FLAT
05	EARTHING CONDUCTOR FOR TRENCH	50x6mm MS FLAT (PAINTED) (AS PER IS 2662/SAE 1018)
06	EARTHING BRAID FOR GATE EARTHING	50X6mm 600MM LONG CU BRAID
07	DIRECTLY DRIVEN ROD ELECTRODE ALONG WITH PIT AND CI COVER WITH TEST LINK FOR TOWERS WITH PEAK, PT, CVT, LA AND HIGH MAST (EE)	32mm ϕ MS ROD 3M LONG (AS PER IS 2662/SAE 1018)
08	PIPE ELECTRODE IN (TREATED EARTH PIT.) FOR TRANSFORMER NEUTRAL AS PER IS-3043	40mm ϕ GS PIPE
09	EARTHING FOR LIGHTING POLE	20mm ϕ MS ROD 3M LONG (AS PER IS 2662/SAE 1018)
10	DIRECTLY DRIVEN ROD ELECTRODE ALONG WITH PIT AND CI COVER WITHOUT TEST LINK FOR BUILDING. (E1)	32mm ϕ MS ROD 3M LONG (AS PER IS 2662/SAE 1018)

 CVT JUNCTION BOX[illegible]

OWNER:

LOA No.:

	PROJECT
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OWNER'S CONSULTANT:	
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NAME OF SUBSTATION:	400/220kV GIS SUBSTATION AT PRITHALA
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TITLE:

AL	TITLE:	OUTDOOR EARTHMAT LAYOUT FOR 400/220kV GIS SUBSTATION AT PRITHALA
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A1	<p>GE T&D INDIA LTD</p> <p>A-7, SECTOR-65,</p> <p>NOIDA - 201301</p> <p>UTTAR PRADESH (INDIA).</p>
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A1	GE T&D INDIA LTD. A-7, SECTOR-65, NOIDA - 201301 UTTAR PRADESH (INDIA).		DRAWING No.		TOTAL SHEETS	SH.No.	REV.
			5427PN071-PRT-E-SYD-SYS-0013-EW		01 / 01		
10		11		12		01 / 01	R1