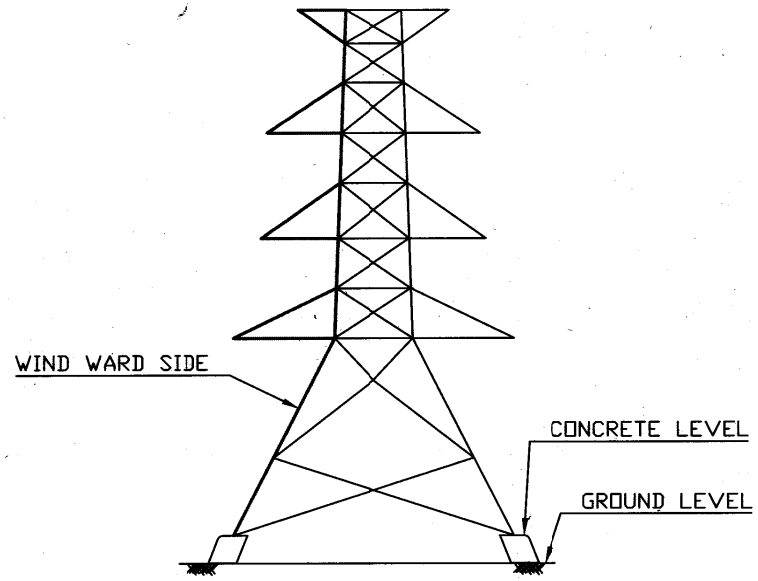
SECTION-IX

DRAWINGS

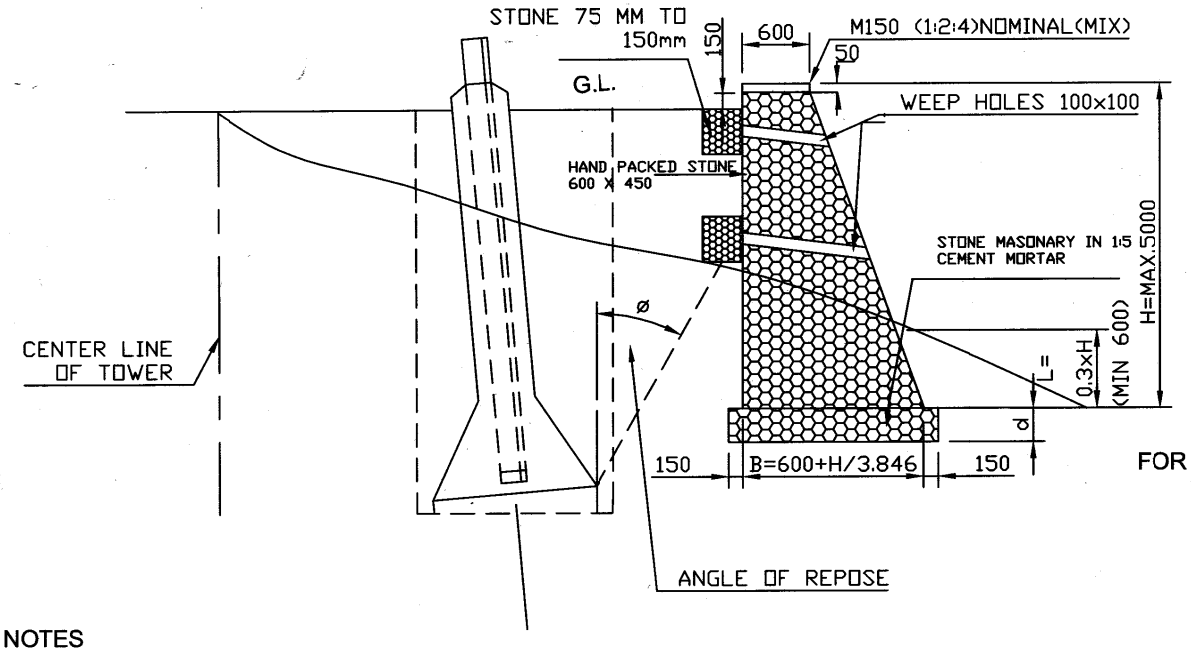
CONTENTS



TYPICAL. D/C TOWER

FOR BID PURPOSE ONLY

PROJECT	400 KV TRANSMISSION SYSTEM
TITLE	TYPICAL 400 KV D/C TRANSMISSION LINE TOWER
DRG. NO.	TL/400KV/001-DC
REV.	0



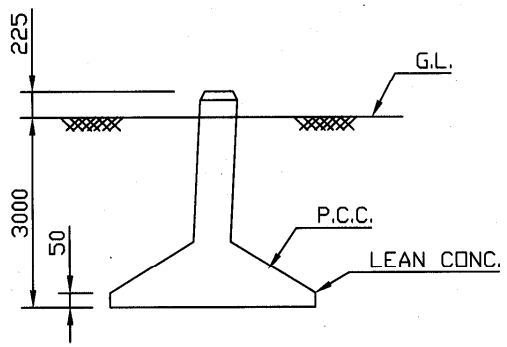
FOR H ⩾ 1000, d = 230
H < 1000, d = 150

NOTES

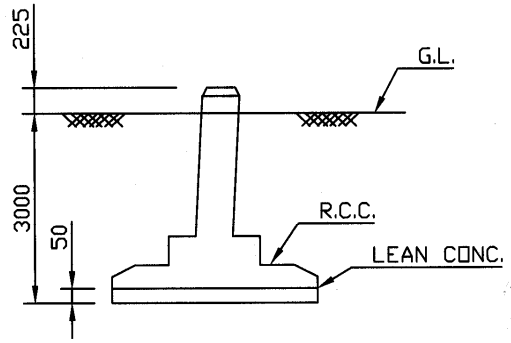
1 : ALL DIM. ARE IN MM UNLESS OTHERWISE SPECIFIED.
2 : WEEP HOLES SHOULD BE OF SIZE 100mm x 100mm OR 150mm x 150mm INCASE OF LARGE SIZE REVETMENT.
3 : WEEP HOLES SHOULD BE 2.5Mt C-C APART HORIZONTAL
4 : CENTER OF TOP MOST WEEP HOLES TO BE NOT LESS THAN 300 mm BELOW TOP
5 : THE MIN. DEPTH OF REVETMENT WALL BELOW G.L. WILL BE 600mm
6 : DIM. 'B' ARE VALID ONLY FOR 'H' NOT EXCEEDING 5.00 METER
7 : SIZE OF STONE FOR MASONARY WORK. 300 x 150 x 150 & BELOW
8 : THE MASONRY WORK SHOULD BE CARRIED OUT IN 1:5 CEMENT MORTAR
9 : SIZE OF STONE PACKING AT WEEP HOLE 75 mm TO 150mm

FOR BID PURPOSE ONLY

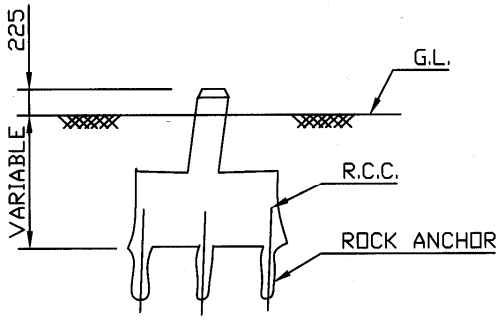
PROJECT	400 KV TRANSMISSION SYSTEM
TITLE	PROTECTION OF TOWER FOOTING (DOWN/UP HILL)
DRG. NO.	TL/400KV/008
REV.	0



TYP. FOUNDATION SHAPE FOR P.C.C. TYPE



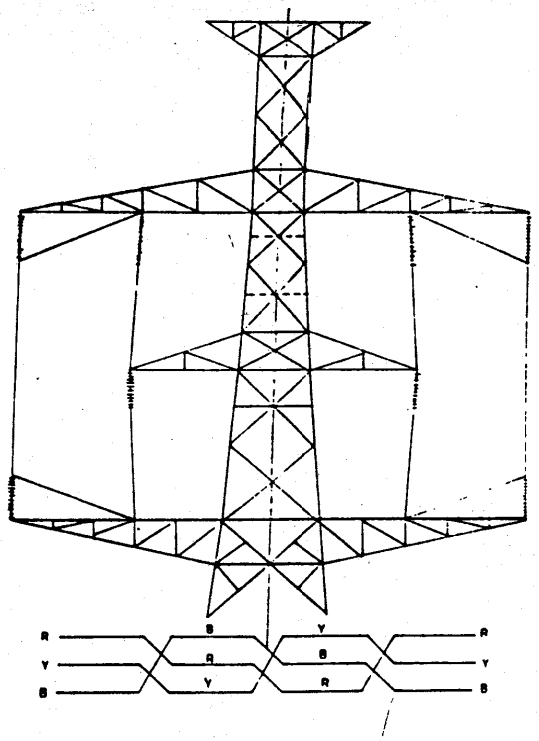
TYP. FOUNDATION SHAPE FOR R.C.C. TYPE

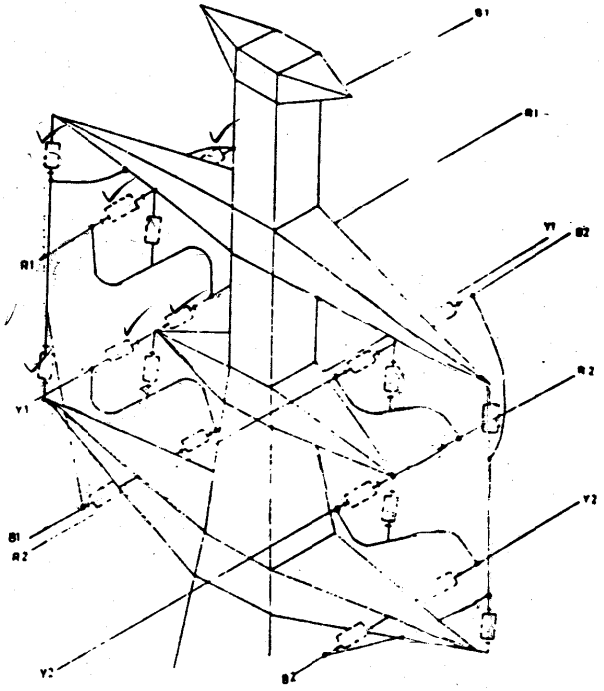


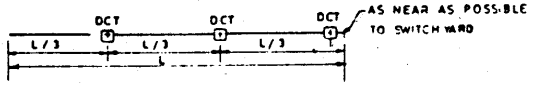
TYP. FOUNDATION SHAPE FOR HARD ROCK

FOR BID PURPOSE ONLY

PROJECT	400 KV TRANSMISSION SYSTEM
TITLE	TENTATIVE SHAPE OF TOWER FOOTINGS
DRG. NO.	TL/400KV/010
REV.	0





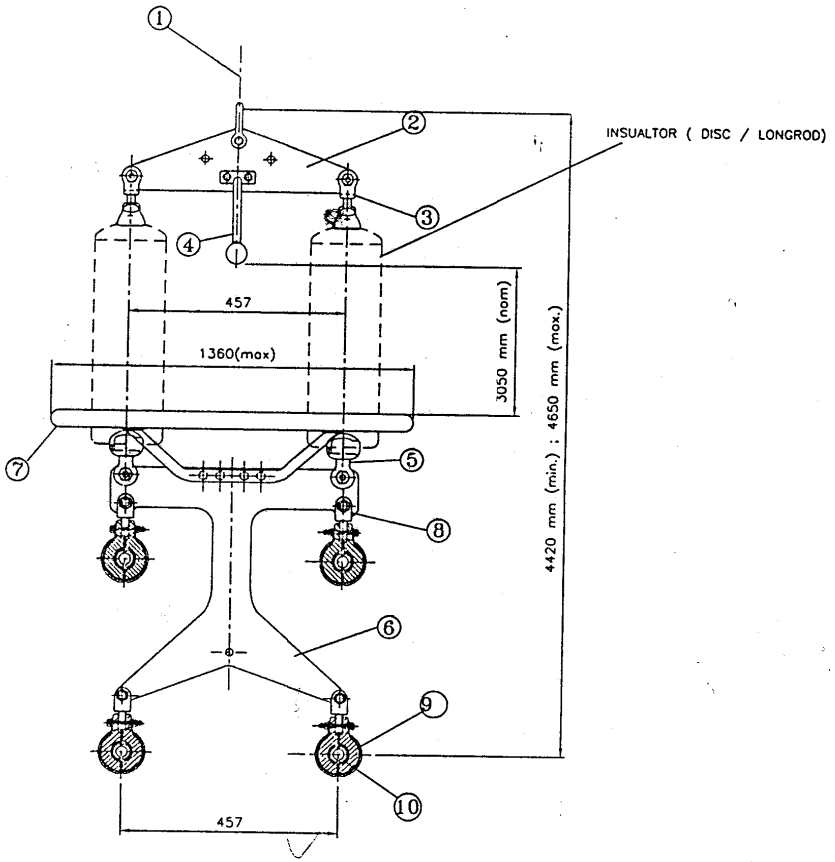


FOR BID PURPOSE ONLY

400KV T[illegible]SMISSION LINE

TITLE: DETAIL OF [illegible]RANSPOSITION ARRANGEME[illegible]ON DC TYPE TOWER

DATE	DRN	CHKD	APPD	SCALE	DRG NO	REV
25-11-94	[illegible]	[illegible]	[illegible]	[illegible]	0-0000-68- T-E-A-009	0



Sr.No.	DESCRIPTION	MATERIAL	U.T.S.	QTY.
10	ARMOUR ROD	HIGH TENSILE ALUMINIUM ROD 65032/6061, IS:739	35 kg/mm2	4 Sets
9	SUSPENSION CLAMP	ALUMINIUM ALLOY 4600, IS:617	70 KN	4
8	CLEVIS EYE	FORGED STEEL CL-IV, IS:2004	70 KN	4
7	GRADING RING	ALUMINIUM ALLOY 63400/6063, IS:733	1.5 KN	1
6	YOKE PLATE (LINE SIDE)	MILD STEEL Fe-410, IS:2062	240 KN	1
5	SOCKET CLEVIS	FORGED STEEL CL-IV, IS:2004	120 KN	2
4	ARCING HORN (TOWER SIDE)	MILD STEEL Fe-410, IS:2062	1.5 KN	2
3	BALL CLEVIS	FORGED STEEL CL-IV, IS:2004	120 KN	2
2	YOKE PLATE (TOWER SIDE)	MILD STEEL Fe-410, IS:2062	240 KN	1
1	ANCHOR SHACKLE	FORGED STEEL CL-IV, IS:2004	240 KN	1

TECHNICAL DETAILS:

1) ALL DIMENSIONS ARE IN mm.
2) SPRING WASHER ELECTRO GALVANIZED.
3) SLIPPING STRENGTH OF CLAMP BETWEEN 20 TO 29 KN.
4) BALL & SOCKET SIZE 20 mm AS PER IS:2486 (PART-II).
5) ALL FERROUS PARTS ARE HOT DIP GALVANIZED AS PER POWERGRID SPECIFICATION.
6) MIN.CORONA EXTINCTION VOLTAGE (DRY) 320 KV (RMS).
7) RIV AT 305 KV R.M.S. (DRY) BELOW 1000 MICROVOLTS.
8) HARDWARE TOLERANCES ON LENGTH ±2%.
9) INSULATOR DISC TOLERANCES : ±4 mm PER DISC.
10) GENERAL TOLERANCE ±3% APPLICABLE FOR INDIVIDUAL COMPONENTS.

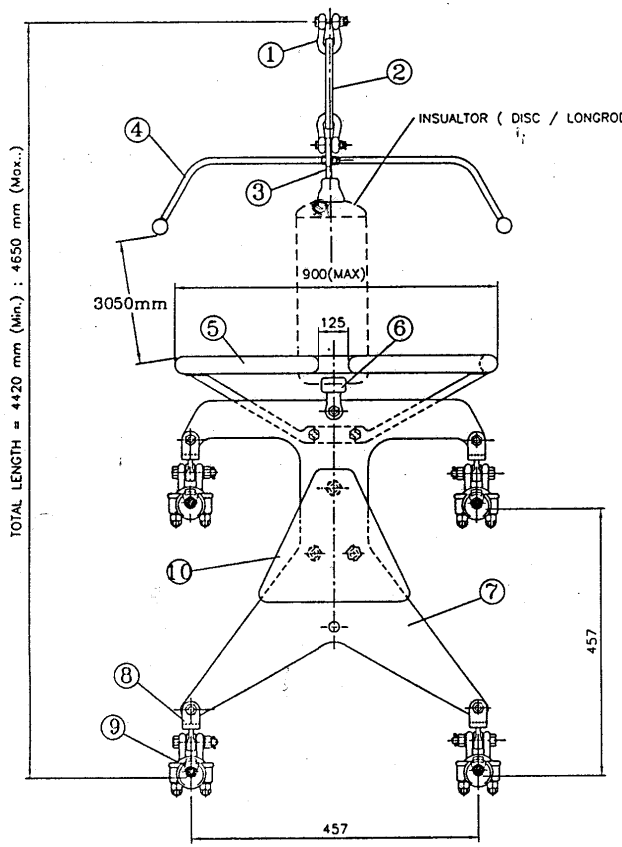
FOR BID PURPOSE ONLY

SCALE : NOT TO SCALE

Title :
400 KV. DOUBLE 'I' INSULATOR STRING FOR QUADRUPLE 'MOOSE' ACSR CONDUCTOR. UTS : 240 KN.

DRG. NO : TDTL/400 KV/QUAD/002

REVISION



Sr.No.	DESCRIPTION	MATERIAL	U.T.S.	QTY.
10	COUNTER WEIGHT ASSEMBLY (200 KGS)	CAST IRON IS : 210	----	1,SET
9	SUSPENSION CLAMP	ALUMINIUM ALLOY A-6, IS:617	70 KN	4
8	CLEVIS EYE	FORGED STEEL CL-IV, IS:2004	70 KN	4
7	YOKE PLATE	MILD STEEL Fe-410 IS:2062	120 KN	1
6	SOCKET CLEVIS	FORGED STEEL CL-IV, IS:2004	120 KN	1
5	GRADING RING	ALUMINIUM ALLOY 63400/6063 ,IS:733	1.5 KN	1
4	ARCING HORN (TOWER SIDE)	MILD STEEL Fe-410 IS:2062	1.5 KN	2
3	HORN HOLDER BALL EYE	FORGED STEEL CL-IV, IS:2004	120 KN	1
2	EXTENSION LINK	MILD STEEL Fe-410 IS:2062	120 KN	1
1	ANCHOR SHACKLE	FORGED STEEL CL-IV, IS:2004	120 KN	2

TECHNICAL DETAILS:

1) ALL DIMENSIONS ARE IN mm.
2) SPRING WASHER ELECTRO GALVANIZED.
3) SLIPPING STRENGTH OF CLAMP BETWEEN 20 TO 29 KN.
4) BALL & SOCKET SIZE 20 mm AS PER IS:2486, (PART-II).
5) ALL FERROUS PARTS ARE HOT DIP GALVANIZED AS PER POWERGRID SPECIFICATION.
6) MIN.CORONA EXTINCTION VOLTAGE (DRY) 320 KV (RMS).
7) RIV AT 305 KV (DRY) BELOW 1000 MICROVOLTS.
8) HARDWARE TOLERANCES ON LENGTH ±2%.
9) INSULATOR DISC TOLERANCES : ±4 mm.PER DISC.
10) GENERAL TOLERANCE ±3% APPLICABLE FOR INDIVIDUAL COMPONENTS.
11) BALANCING WEIGHTS FOR TRANSPOSITION TOWERS ONLY.

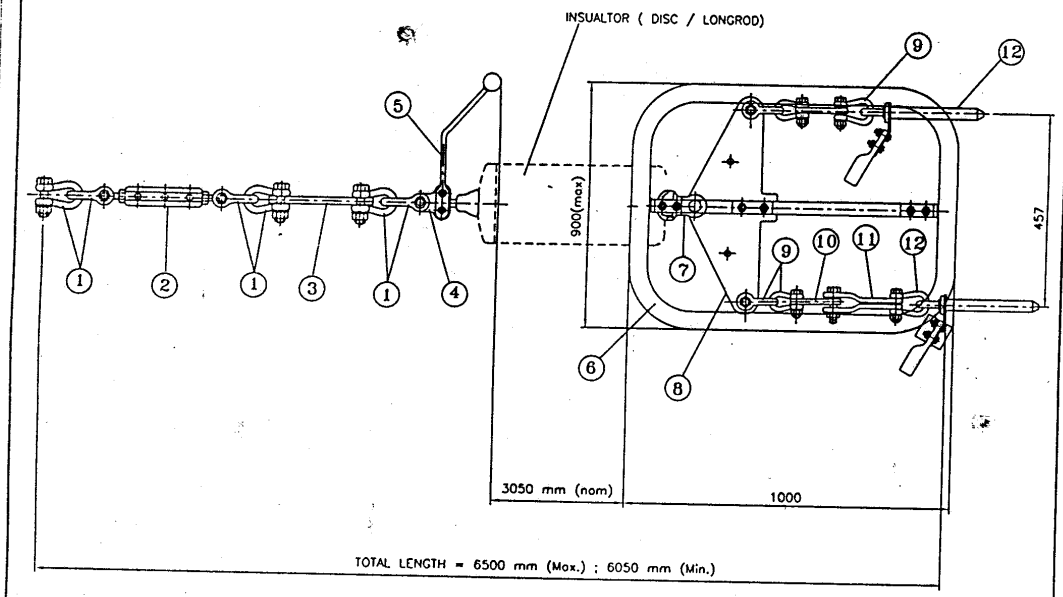
FOR BID PURPOSE ONLY

SCALE : NOT TO SCALE

Title :
400 KV. SINGLE 'I' SUSPENSION PILOT INSULATOR STRING FOR QUADRUPLE "MOOSE' ACSR CONDUCTOR. UTS : 120 KN.

DRG. NO : TDTL/400 KV/QUAD/004

REVISION



Sr.No.	DESCRIPTION	MATERIAL	U.T.S.	QTY.	
13	SPACER (250 mm)	ALUMINIUM ALLOY 4600,IS:617	----	1	
12	COMPRESSION DEADEND	ALUMINIUM ALLOY & FORGED STEEL	154 KN(min)	4	
11	STRAP	MILD STEEL Fe-410, IS:2062	70 KN.	2	
10	YOKE PLATE	MILD STEEL Fe-410, IS:2062	70 KN.	2	
9	ANCHOR SHACKLE	FORGED STEEL CL-IV, IS:2004	70 KN	8	
8	YOKE PLATE	MILD STEEL Fe-410, IS:2062	120 KN	1	
7	SOCKET CLEVIS	FORGED STEEL CL-IV, IS:2004	120 KN	1	
6	CORONA CONTROL RING	ALUMINIUM ALLOY 63400/6063, IS:733	1.5 KN	2,SETS	
5	ARCING HORN	MILD STEEL Fe-410, IS:2062	1.5 KN	1	
4	HORN HOLDER BALL EYE	FORGED STEEL CL-IV, IS:2004	120 KN	1	
3	EXTENSION LINK	MILD STEEL Fe-410, IS:2062	120 KN	1	
2	TURN BUCKLE	FORGED STEEL CL-IV, IS:2004	120 KN	1	
1	ANCHOR SHACKLE	FORGED STEEL CL-IV, IS:2004	120 KN	6	

TECHNICAL DETAILS:

1) ALL DIMENSIONS ARE IN mm.
2) SPRING WASHERS ARE ELECTRO GALVANIZED.
3) SLIPPING STRENGTH OF CLAMP : 154 KN (Min.).
4) BALL & SOCKET SIZE 20 mm AS PER IS:2486, (PART-II).
5) ALL FERROUS PARTS HOT DIP GALVANIZED AS PER POWERLINKS SPECIFICATION.
6) MIN.CORONA EXTINCTION VOLTAGE (DRY) 320 KV (RMS).
7) RIV AT 305 KV (DRY) BELOW 1000 MICROVOLTS.
8) HARDWARE TOLERANCES ON LENGTH ±2%.
9) INSULATOR DISC TOLERANCES : ±5 mm PER DISC.
10) GENERAL TOLERANCE ±3% APPLICABLE FOR INDIVIDUAL COMPONENTS.
11) CORONA SHIELD FITTED ON TWO OUTER DEADEND CLAMPS.

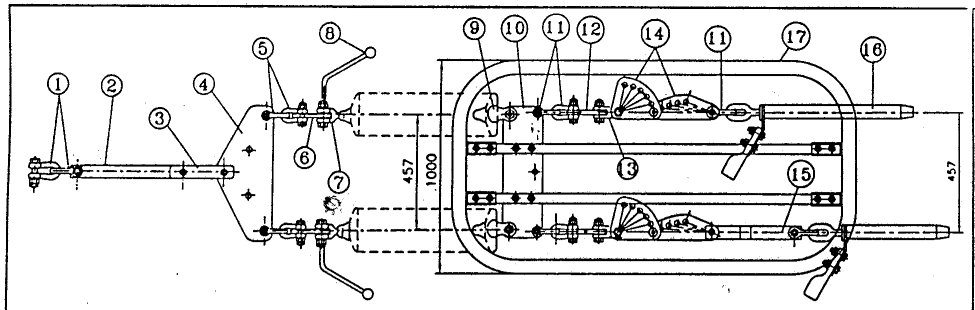
FOR BID PURPOSE ONLY

SCALE : NOT TO SCALE

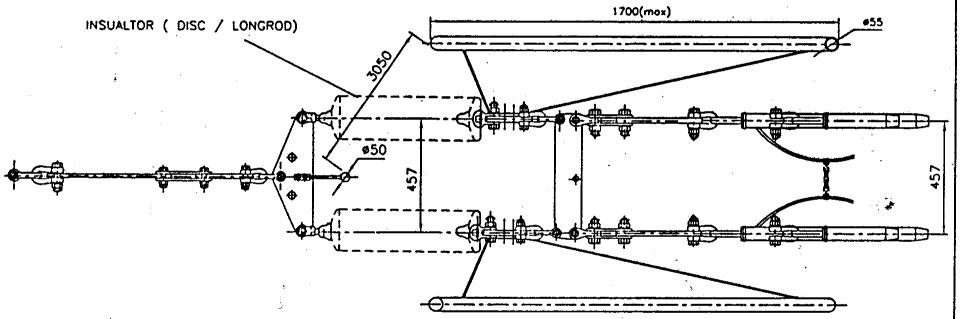
Title :
400 KV. SINGLE TENSION INSULATOR STRING FOR QUADRUPLE 'MOOSE' ACSR CONDUCTOR. UTS : 120 KN.

DRG. NO : TDTL/400 KV/QUAD/003

REVISION



TOTAL LENGTH = 6710 mm (Max.) ; 6225 mm (Min.)



Sr.No.	DESCRIPTION	MATERIAL	U.T.S.	QTY.	
17	CORONA CONTROL RING	ALUMINIUM ALLOY 63400/6063 IS:733	1.5 KN	2,SET	
16	COMPRESSION DEADEND	ALUMINIUM ALLOY & FORGED STEEL	154 KN(min)	4	
15	Y-TYPE STRAP	MILD STEEL Fe-410 IS:2062	160 KN	2	
14	SAG ADJUSTING PLATE	MILD STEEL Fe-410 IS:2062	160 KN	4	
13	CLEVIS EYE	FORGED STEEL CL-IV, IS:2004	160 KN	4	
12	YOKE PLATE	MILD STEEL Fe-410 IS:2062	320 KN.	2	
11	ANCHOR SHACKLE	FORGED STEEL CL-IV, IS:2004	160 KN.	12	
10	YOKE PLATE	MILD STEEL Fe-410 IS:2062	320 KN.	2	
9	SOCKET CLEVIS	FORGED STEEL CL-IV, IS:2004	160 KN	4	
8	ARCING HORN	MILD STEEL Fe-410 IS:2062	1.5 KN	2	
7	BALL CLEVIS	FORGED STEEL CL-IV, IS:2004	160 KN	4	
6	YOKE PLATE	MILD STEEL Fe-410 IS:2062	320 KN.	2	
5	ANCHOR SHACKLE	FORGED STEEL CL-IV, IS:2004	320 KN.	4	
4	YOKE PLATE	MILD STEEL Fe-410 IS:2062	640 KN.	1	
3	STRAP	MILD STEEL Fe-410 IS:2062	640 KN.	1,SET	
2	EXTENSION LINK	MILD STEEL Fe-410 IS:2062	640 KN.	1	
1	ANCHOR SHACKLE	FORGED STEEL CL-IV, IS:2004	640 KN.	2	

TECHNICAL DETAILS:

1) ALL DIMENSIONS ARE IN mm.
2) SPRING WASHER ELECTRO GALVANIZED.
3) SLIPPING STRENGTH OF CLAMP : 154 KN (Min.).
4) BALL & SOCKET SIZE : 20 mm AS PER IS : 2486 (PART-II).
5) ALL FERROUS PARTS HOT DIP GALVANIZED AS PER POWERGRID SPECIFICATION
6) MIN.CORONA EXTINCTION VOLTAGE (DRY) 320 KV (RMS).
7) RIV AT 305 KV (DRY) BELOW 1000 MICROVOLTS.
8) HARDWARE TOLERANCES ON LENGTH ±2%.
9) INSULATOR DISC TOLERANCES : ±5 mm PER DISC.
10) GENERAL TOLERANCE ±3% APPLICABLE FOR INDIVIDUAL COMPONENTS.

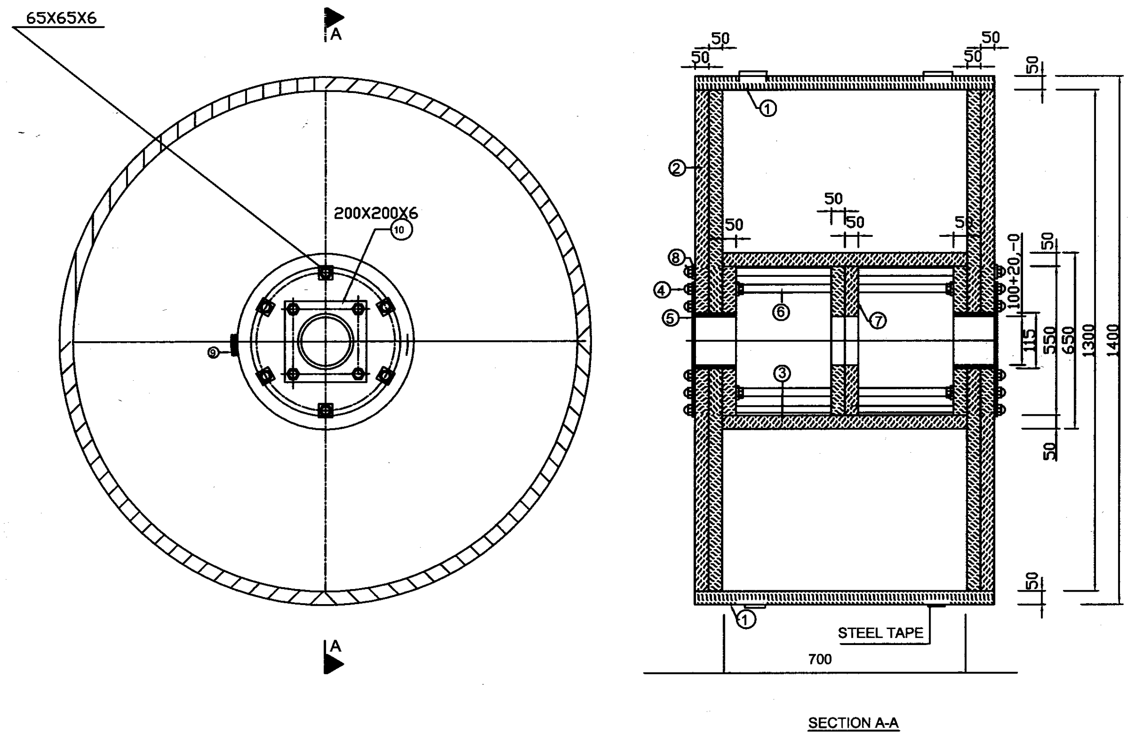
FOR BID PURPOSE ONLY

SCALE : NOT TO SCALE

Title :
400 KV. QUADRUPLE TENSION INSULATOR STRING FOR QUADRUPLE 'MOOSE' ACSR CONDUCTOR. UTS : 640 KN.

DRG. NO : TDTL/400 KV/QUAD/001

REVISION



NOTES

1 : ALL DIM. ARE IN MM

2 : CLEARANCE FROM OUTER SURFACE OF OUTER LAYER OF EARTH WIRE TO INNER SURFACE OF PROTECTIVE LEGGING IS AT LEAST 50mm

3: TWO LENGTHS OF EARTHWIRE ARE WOUND ON EVERY DRUM THE LENGTHS ARE WELDED AND ENDS OF WELD ARE MARKED BY RED TAPE

4 : THICKNESS OF PROTECTIVE LAGEING SHOULD BE 50 mm.

5 : STANDARD LENGTH OF EARTHWIRE 2000m +/-5%

6 : TOLERANCE ON WOOD DIMENSION = +3MM

S.NO.	DESCRIPTION	Qty	Material	
10	BUSH PLATE	2	MS	
9	SLOT FOR INNER END OF EARTHWIRE	-	-	
8	WASHER	24	MS	
7	BARREL SUPPORT	3	WOOD	
6	TIE RODS	6	MS	
5	MILD STEEL BUSH	2	MS	
4	BARREL STUD	8	MS	
3	BARREL	1	WOOD	
2	FLANGE	2	WOOD	
1	PROTECTIVE EXETRNAL LAGAING	1	WOOD	

FOR BID PURPOSE ONLY

POWER GRID CORP. OF INDIA LTD.	
PROJECT: 400 KV TRANSMISSION SYSTEM	
TITLE: DRUM FOR 7/3.66mm G.S EARTHWIRE	
DRG. NO. TL/400KV/012	REV. 0