EMCO PROJECT DIV	ENGINEERING DEPARTMENT MANUFACTURING CLEARANCE	DOC. PD/ENG/06 Rev.: - R0 Sheet: 1/1

Ref. No. : **PDJ 133/ENGG/E-498/08** **Date: 13.11.08**

Job. No. : **PDJ 133/136/140**

Project. : **400kV Chakan, Bhusawal (Package-I) & Khaparekheda S/S**

Customer. : **MSETCL**

Cust. LOA no. : **1. MSETCL/CO/TKP-II/EMCO/Chakan/T-0721/2378 DT:22.02.08**
2. MSETCL/CO/TKP-II/EMCO/Khaperkheda/T-0723/2375 DT:22.02.08
3. MSETCL/CO/TKP-II/EMCO/Bhusawal (Pkg-1)/T-0722/2365 DT:29.02.08

DOCUMENT TRANSMITTAL

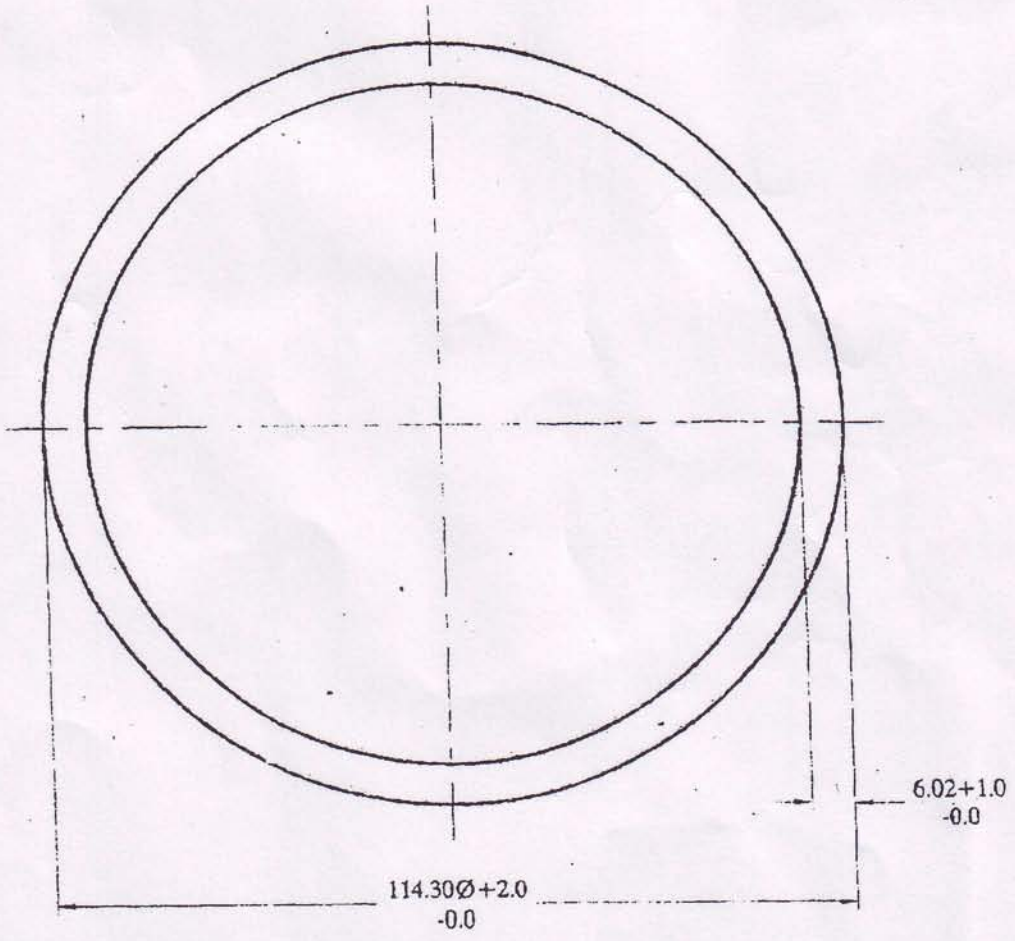
SL. No.	Item Description	Qty.	Drawing No.	Vendor
1	4" IPS Aluminium Tube	AS PER L.O.I.	-	Hindalco

The Manufacturing clearance for the items mentioned above is here by given and the manufacturer be informed accordingly.

Signature Of Originator

Date: 13.11.08	Prepared by:K.K.L.	Approved by:S.L.U.

PRESS NO.	DIE SIZE	NO. OF HOLES	MIN. CONT.	EXT. RATIO	ANGULARITY	CUSTOMER'S APPROVAL
I					FLATNESS	
II					TWIST	
III					STRAIGHTNESS	END USE :-
TYP. WALL THICKNESS UNLESS INDICATED OTHERWISE.					MATCHING NO.	BUS BAR
TYP. RADIUS AT ALL CORNERS UNLESS INDICATED OTHERWISE					o SOLID o SEMI-HOLLOW o HOLLOW	



REVSN	HINDALCO INDUSTRIES LIMITED FABRICATION - EXTRUSION & DIESHOP P.O RENUKOOT ,DIST SONEBHADRA,UP ,INDIA FAX NO. 0091-5446-252107, 252427

AREA	Wt. (Kg/m)	PERIMETER	FACTOR	SCALE	DATE	DRAWN	CHECKED
2047.83	5.549	680.33	123	1 : 1	25/11/04	M. Shaveer	Ramdhani

Approved

Executive Engineer (TKP-II)
MSETCL, 'Prakashganga', Mumbai - 400051

TU 5862

Sl No	Item	Status
1	Tubular Bus Conductor	
2	Manufacturers Name and address	HINDALCO NDUSTRIES LTD.
3	Applicable Standards	I S 5082-1998
4	Material	Aluminium Alloy 6101 T6 Confirms to 63401 WP of IS : 5082: 1998
5	Size of Tubular Bus Conductor (mm)	As per drawing enclosed
	(a) Standard pipe size (IPS) (mm) (b) Out side diameter (mm) (c) Tolerances on out side diameter (d) Thickness (e) Tolerance on thickness (f) Area (Sq.mm)	(a) 4" IPS Tube (b) 114.3 mm (c) +2.00 mm, -0.00 mm (d) 6.02 mm (e) +1.00 mm, -0.00mm (f) 2047.83 Sq mm
6	Moment of Inertia (mm^4)	3010390 mm^4
7	Section Modulus (mm^3)	52675 mm^3
8	Radius of gyration (mm)	38.35 mm
9	Natural frequency of vibration for the site condition (C/S)	N.A.
10	Reactance per phase for Configuration at site (ohms)	N.A
11	Conductivity of IACS (%)	55.0 % IACS (min.)
12	D.C. Resistance of 20°C	N.A
13	Constant mass temperature co-efficient of resistance	0.00364
14	Weight (Kg/m)	5.549 Kg/m
15	Current rating at site condition (Amp)	3050
16	Tubular bus conductor temperature due to short circuit (°C)	N.A.
17	Final allowable tubular bus conductor temperature due to short circuit (°C)	N.A.
18	Short circuit current rating for 1 sec. duration (kA)	N.A.
19	Critical disruptive (Corona) voltage (Line to Neutral (kV)	N.A.
20	Ratio Interference at rated voltage (micro volts m)	N.A.
21	Yield strength (0.2 % proof Stress)	Minimum 17.5 kg/mm^2
22	Ultimate Tensile Strength	Minimum 20.4175 kg/mm^2
23	Deflection of tubular bus conductor for 13 m span (mm)	1.7 mm/ Mtr.
24	Maximum ~~transport~~ length of tubular bus conductor (Meter)	7.0 Mtr.
25	Data Applicable to Bells (a) Material (b) Type of fitting (Internal/ External)	 N.A. N.A.

Approved

9/11/17

Executive Engineer (TKP-II)
MSETCL, 'Prakashganga', Mumbai - 400051