FIRST ANGLE PROJECTION (ALL DIMENSIONS ARE IN mm)

01350701035

ANNEXURE-1 (SHEET 1/2)

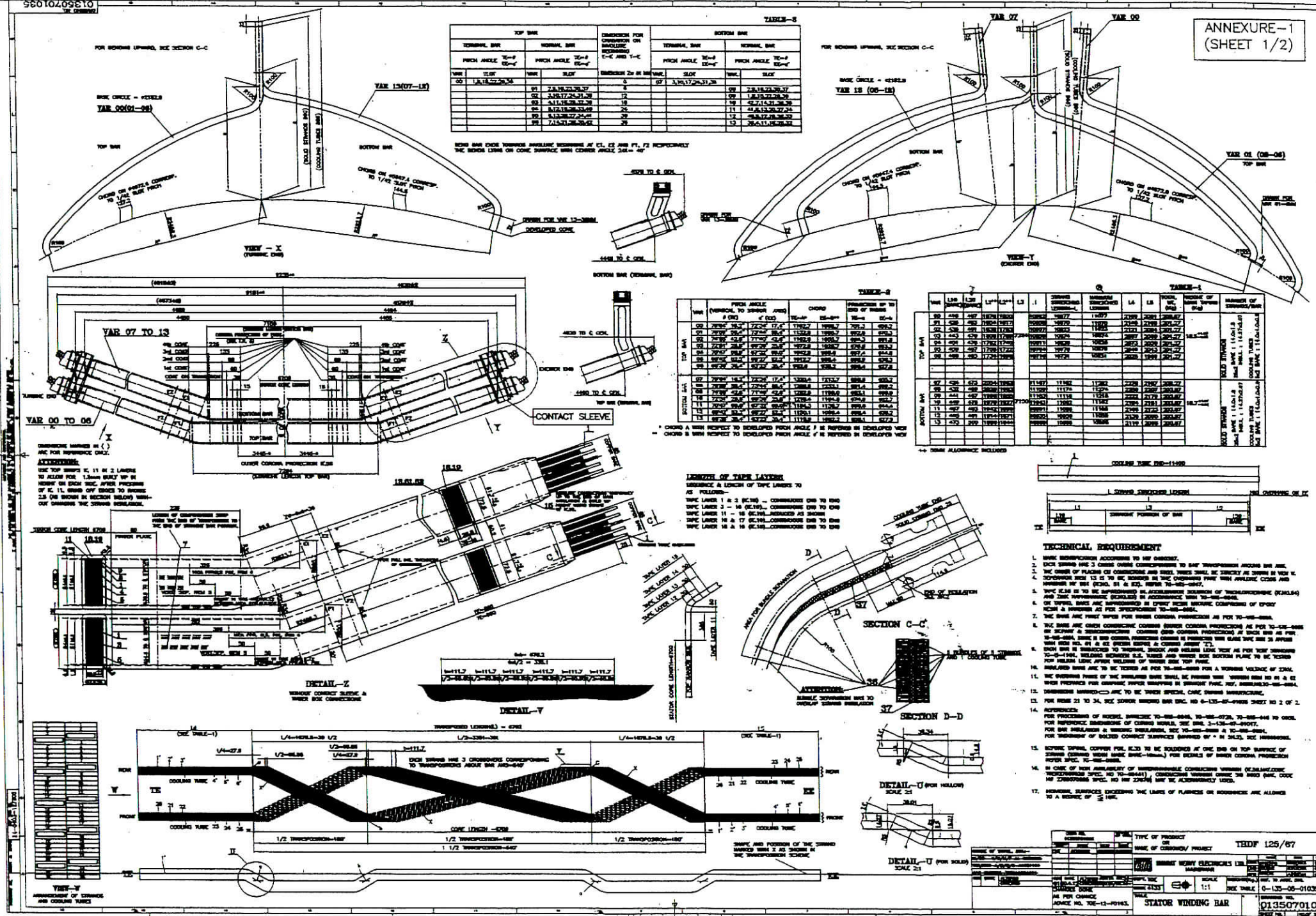


TABLE-5

TOP BAR				DIMENSION FOR CONNECTION ON INVOLUTE BEARING E-E AND T-E	BOTTOM BAR			
TERMINAL BAR		NORMAL BAR			TERMINAL BAR		NORMAL BAR	
PITCH ANGLE		PITCH ANGLE			PITCH ANGLE		PITCH ANGLE	
VAR	SLOT	VAR	SLOT	DIMENSION 2n IN MM	VAR.	SLOT	VAR.	SLOT
00	1,8,15,22,29,36			6	07	3,10,17,24,31,38		
		01	2,9,16,23,30,37	6			08	2,9,16,23,30,37
		02	3,10,17,24,31,38	12			09	1,8,15,22,29,36
		03	4,11,18,25,32,39	18			10	42,7,14,21,28,35
		04	5,12,19,26,33,40	24			11	41,6,13,20,27,34
		05	6,13,20,27,34,41	30			12	40,5,12,19,26,33
		06	7,14,21,28,35,42	36			13	39,4,11,18,25,32

NOTE: BAR CHOICE TRANSPOSE INVOLUTE BEARING AT C1, C2 AND F1, F2 RESPECTIVELY THE BENDING LINE OR CONE SURFACE WITH CENTER ANGLE 2d = 40°

TABLE-2

	VAR	PITCH ANGLE (VERTICAL TO STRAND AXIS) β (DEG)	α (DEG)	CHORD		PROJECTION OF TO END OF BARS	
				TO-**	EE-**	TO-**	EE-**
TOP BAR	00	76°54' 16.2"	72°24' 17.4"	1192.7	1999.7	701.3	699.2
	01	74°39' 26.4"	72°44' 35.4"	1132.8	1999.7	692.8	696.3
	02	74°00' 43.8"	71°40' 43.4"	1142.8	1999.7	691.3	691.8
	03	72°21' 24.6"	69°27' 24.6"	1072.8	1999.7	676.8	693.3
	04	70°47' 55.8"	67°32' 55.8"	1042.8	1999.8	667.4	694.8
	05	69°16' 52.2"	65°37' 52.2"	1012.7	1999.4	659.2	696.3
	06	67°39' 36.4"	63°42' 36.4"	982.8	1999.2	659.4	697.8
BOTTOM BAR	07	76°54' 16.2"	72°24' 17.4"	1208.4	1313.7	699.8	699.2
	08	74°39' 26.4"	72°44' 35.4"	1188.8	1313.1	691.4	698.2
	09	74°00' 43.8"	71°40' 43.4"	1188.8	1199.8	693.1	696.8
	10	72°21' 24.6"	69°27' 24.6"	1128.4	1199.8	679.8	695.2
	11	70°47' 55.8"	67°32' 55.8"	1104.3	1126.7	669.8	694.4
	12	69°16' 52.2"	65°37' 52.2"	1120.1	1099.4	669.4	693.2
	13	67°39' 36.4"	63°42' 36.4"	1118.8	1099.2	669.1	692.3

* CHORD A WITH RESPECT TO DEVELOPED PITCH ANGLE β IS REFERED IN DEVELOPED VIEW
** CHORD B WITH RESPECT TO DEVELOPED PITCH ANGLE α IS REFERED IN DEVELOPED VIEW

TABLE-1

	VAR	L30 (BARE)	L30 (SERVICE)	L1**	L2**	L3	.1	STRAND SHRINKAGE LENGTH-L	MAXIMUM SHRINKAGE LENGTH	L4	L5	TOTAL WT. (Kg)	WEIGHT OF BARE TAPERS (Kg)	NUMBER OF STRANDS/BAR
TOP BAR	00	449	447	1878	1800		0.0012	18877	11487	2199	2201	200.67	18.5	SOLID STRANDS: 2mm BARE : 11.0±1.8 MASS. : 14.57±0.07; COOLING TUBES: ACE BARE : 11.0±1.0±0.5
	01	428	452	1824	1817		0.0008	18870	11489	2149	2199	201.77		
	02	438	441	1838	1783		0.0007	18863	11491	2101	2203	201.77		
	03	442	439	1800	1749	7200	0.0006	18855	18874	2057	2099	201.77		
	04	436	436	1782	1749		0.0011	18828	18828	2013	2029	201.77		
	05	428	447	1728	1722		0.0014	18879	18879	2049	2013	201.77		
	06	448	443	1724	1688		0.0018	18828	18851	2025	1999	201.77		
BOTTOM BAR	07	528	572	2024	1993		0.0012	11982	11982	2229	2207	208.77	18.5	SOLID STRANDS: 2mm BARE : 11.0±1.8 MASS. : 14.57±0.07; COOLING TUBES: ACE BARE : 11.0±1.0±0.5
	08	528	568	2000	1993		0.0012	11979	11979	2209	2207	208.67		
	09	544	567	1988	1993		0.0012	11976	11976	2222	2179	203.67		
	10	568	578	1970	1993	7200	0.0012	11982	11982	2205	2181	203.67		
	11	567	572	1954	1993		0.0012	11988	11988	2209	2183	203.67		
	12	568	568	1914	1993		0.0012	11988	11988	2139	2209	203.67		
	13	572	572	1899	1994		0.0012	10988	10988	2179	2209	203.67		

** 20MM ALLOWANCE INCLUDED

LENGTH OF TAPE LAYERS

REFERENCE & LENGTH OF TAPE LAYERS TO AS FOLLOWED:-

TAPE LAYER 1 & 2 (EC.18) — COMMENCE END TO END
TAPE LAYER 3 – 10 (EC.19)— COMMENCE END TO END
TAPE LAYER 11 – 16 (EC.20)—REDUCED AS SHOWN
TAPE LAYER 18 & 17 (EC.21)—COMMENCE END TO END
TAPE LAYER 18 & 19 (EC.22)—COMMENCE END TO END

ATTENTION:
USE TOP SHIMS IC, I1 AT 2 LAYERS TO ALLOW FOR 1.5mm BULK UP IN HEIGHT ON EACH SIDE, AFTER PROCESSING OF IC, I1, BEND OFF EDGES TO BRING 2.5 (AS SHOWN IN SECTION BELOW) WITHOUT DAMAGING THE STRAND INSULATION.

DIMENSIONS MARKED IN ( ) ARE FOR REFERENCE ONLY.

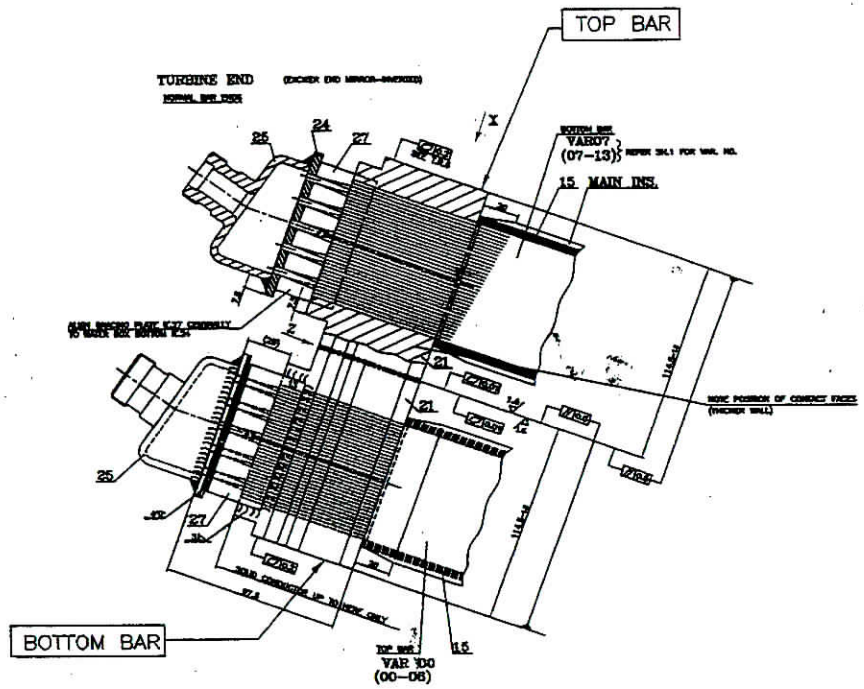
TECHNICAL REQUIREMENT

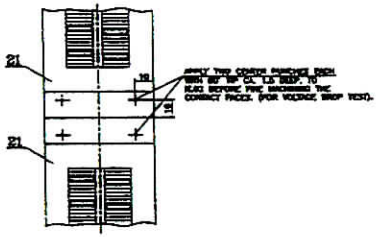
1. MARK IDENTIFICATION ACCORDING TO MW DRAWING.
2. EACH STRAND HAS 3 CROSS OVERS CORRESPONDING TO 240° TRANSPOSITION AROUND BAR AXIS.
3. THE ORDER OF PLACING OF CONDUCTORS AND SHIMS, THREE SHIMS, BE STRICTLY AS SHOWN IN VIEW W.
4. TRANSPOSITION PIECE I3 IS TO BE BONDED ON THE OVERHANGS PART WITH ANALOGUE CODES AND MARKINGS MF 884 (EC.30, 31 & 32). REFER TO-HS-0847.
5. TAPE EC.30 IS TO BE REPRESENTED BY ALUMINIUM SOLDERED OF TRIGLYCIDYLISOCYANURATE (EC.30.84) AND ZINC REPRESENTED BY (EC.30.85) IN ACCORDANCE WITH TO-HS-0848.
6. ON TAPERED BARS ARE REPRESENTED IN EPOXY RESIN WITHOUT CONNECTION OF EPOXY RESIN & HARDENER AS PER SPECIFICATION TO-HS-0854.
7. THE BARS ARE FIRST TAPED FOR INNER CORONA PROTECTION AS PER TO-HS-0855.
8. THE BARS ARE GIVEN CONDUCTIVE COATING (OUTER CORONA PROTECTION) AS PER TO-HS-0856 OR SCHEME & DEVELOPED CORONA PROTECTION) AT EACH END AS PER TO-HS-0854. SINCE A END CORONA PROTECTION COATING IS PROVIDED WITH GLASS TAPE BAR IS APPLIED WITH SIDE NO. 01 & 02 (FROM REPRE & COMMON ABSENT 2).
9. EACH END IS SHRINKED TO TERMINAL BOXES AND WELDING LONG TOOT AS PER TOOT DRAWING TO-G-1101. WELDING BETWEEN S.S. TUBES AND TERMINAL BOX BOTTOM PLATE TO BE TCIGG FOR HELIUM LEAK, AFTER WELDING OF TERMINAL BOX TOP PLATE.
10. INSULATED SHIMS ARE TO BE TCIGG AS PER TO-HS-0858 FOR A WORKING VOLTAGE OF 22KV.
11. THE ENDERING PARTS OF THE INSULATED SHIMS SHALL BE FINISHED WITH "ENDERIN BIND NO 01 & 02 WHICH PROVIDES FOR GRAPHITE PAPER WRAPPING IN STRAIGHT PARTS. REF. BHEL/HS-HS-0854.
12. DIMENSIONS MARKED <> ARE TO BE TAKEN SPECIAL, CARE DURING MANUFACTURE.
13. FOR NOSE 21 TO 34, SEE STATOR WINDING BAR ENG. NO 0-135-07-01035 SHEET NO 2 OF 2.
14. REFERENCE:
FOR PROCESSING OF NOSES, SPECIFIC TO-HS-0845, TO-HS-0729, TO-HS-846 TO 0850.
FOR REFERENCE DIMENSIONS OF CURING MOULD, SEE DWG. 3-135-07-01017.
FOR BAR INSULATION & WRAPPING INSULATION, SEE TO-HS-0844 & TO-HS-0854.
FOR TREATMENT OF SOLIDED CONTACT SURFACES (MARKED 07 * IN 34.3), SEE HS0844.
15. ROTATE TAPING, COPPER FOIL, EC.33 TO BE SOLDERED AT ONE END ON TOP SURFACE OF STRAND (BRAND WIDTH BARE SHIM-10mm.) FOR DETAILS OF INNER CORONA PROTECTION REFER SPEC. TO-HS-0855.
16. IN CASE OF NON AVAILABILITY OF INTERCHANGEABLE CONNECTIONS VARIANTS (EC.38.MAT.CODE TRIGLYCIDYL ISOCYANURATE) CONNECTIONS (EC.38 MAT.CODE 38 BRAZE (BARE CODE MF 2780070088 SPEC. NO MF 2780070) MAY BE ALTERNATIVELY USED.
17. MOUNTING SURFACES EXCEEDING THE LIMITS OF FLATNESS OR ROUGHNESS ARE ALLOWED TO A DEGREE OF 1/2 MM.

TYPE OF PRODUCT OR NAME OF CONDUCTOR/ PROJECT	THDF 125/67		
BHARAT HEAVY ELECTRICALS LTD. HARDWAR	SCALE 1:1	SKC TABLE	0-135-06-01035
TITLE STATOR WINDING BAR			DRAWING NO. 01350701035

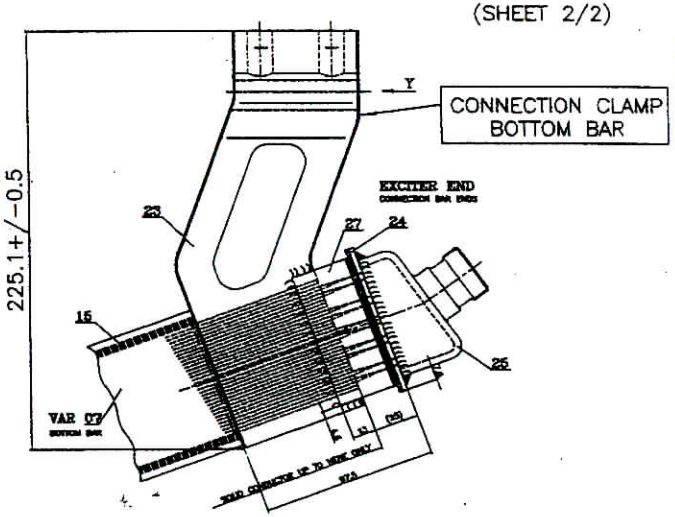
FIRST ANGLE PROJECTION | (ALL DIMENSIONS ARE IN mm)

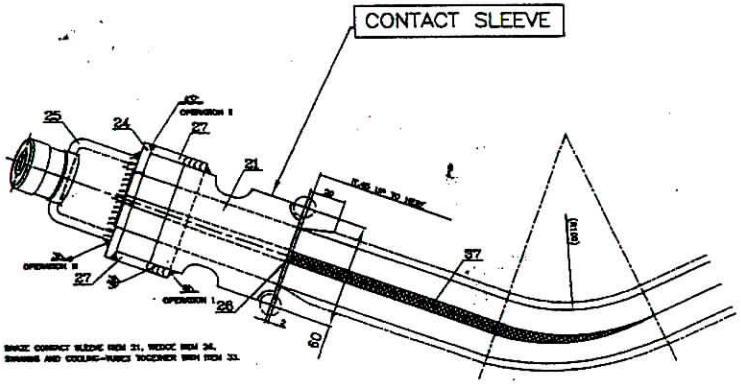
ANNEXURE-1
(SHEET 2/2)



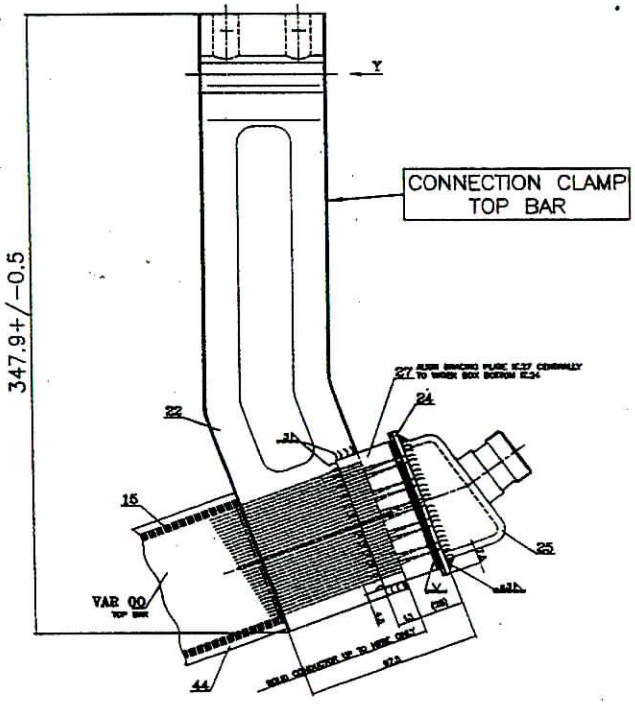


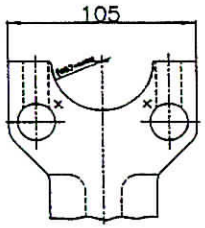
VIEW-Z





VIEW-X





VIEW-Y

OPENINGS	I	II	III
SYMBOL AND SIZE OF SEAM	3b	4F	3b
SEAM LENGTH IN METRES	0.48	0.32	0.88
WEIGHT OF DEPOSITED METAL,KG	0.06	0.01	0.02
TYPE OF ELECTRODE	E-34	34GR	34G

TYPE OF PRODUCT OR NAME OF DESIGNER/ PROJECT: THDF 125/67

BHARAT HEAVY ELECTRICALS LTD. HARDWAR

SCALE 1:1

SEC 24.1

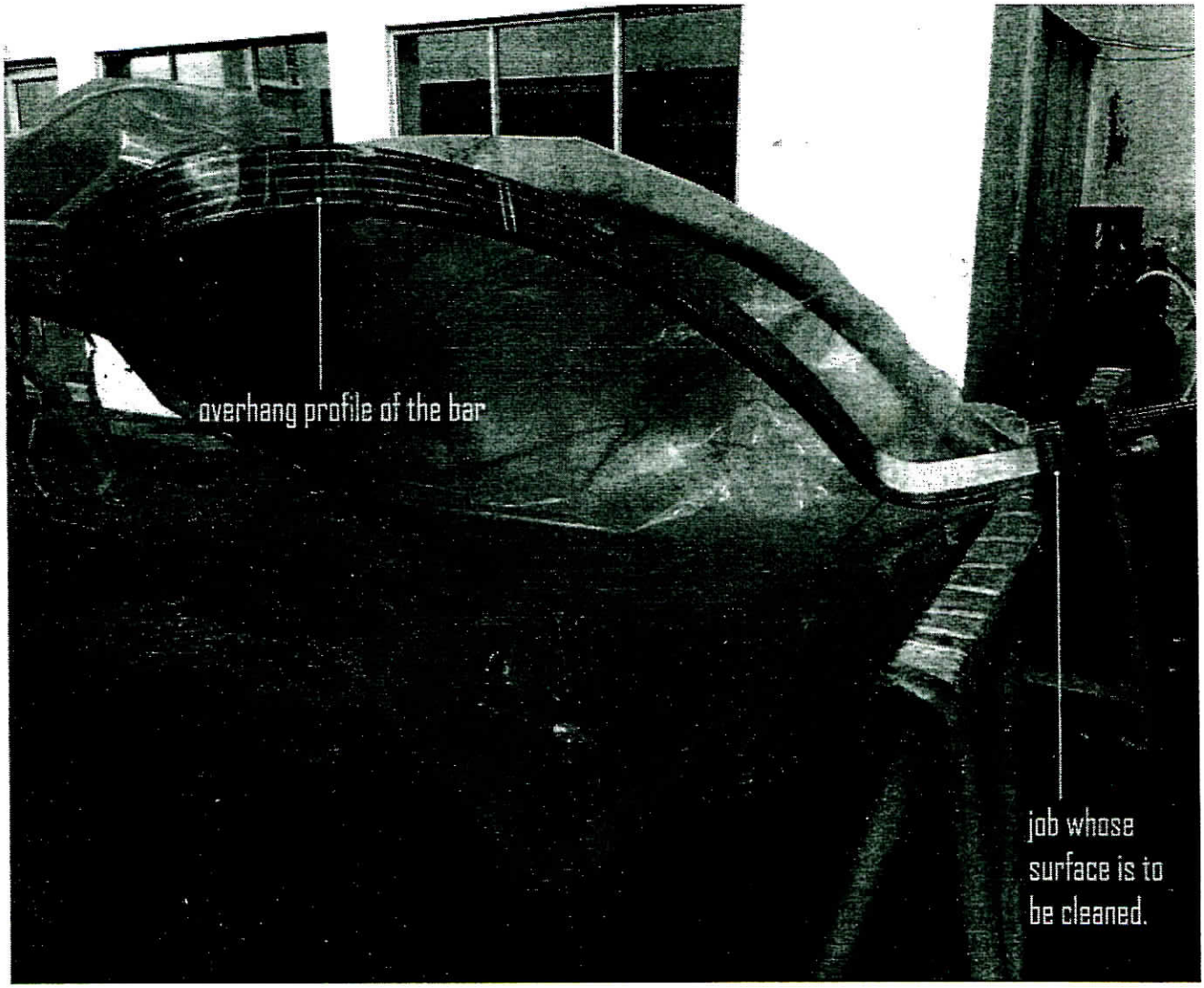
0-135-06-01036

TITLE: STATOR WINDING BAR

DRAWING NO. 01350701035

CHANGES DONE AS PER CHANGE ADVICE NO. TGE-12-F0463.

ANNEXURE-2


overhang profile of the bar
job whose surface is to be cleaned.