

37

TRANSFORMER ENGINEERING DIVISION, COMPUTER CENTER

WO.NO.70851A17900 M/S BPLC KOCHI PAGE NO.- 1 Rev 01
50 MVA, 34.5/11 KV

DRG NO.-14997000016

INPUT DATA

CORE DIA= 515 CORE TYPE TCO
LEG LENGTH= 2160 LEG CC= 1045 DISTANCE OF OUTER LEGS 0
NO.OF BOLTS PER WINDOW= 2 YOKE BOLT PITCH= 380 NO OF DUCTS= 0
NO OF STEPS=15 EXPECTED AREA= 1858.16 SPACE FACTOR= .9
TOP CLEARANCE= 32.0 HOLE PUNCH DIA=38
% SCRAP FACTOR= 7.000
NO.OFOLL.-DUCTS= 0 GRADE OF STEEL=MOH/0.27
OUTPUT RESULTS

SN.	PKT-THK	LEG LAM	YOKLAM	PKT-HT	PKTCSA	TOL-REQD	TOL. AVBL
1	61	500	500	61.00	30500	.55	.69
2	17	490	490	78.00	8330	.70	1.25
3	14	480	480	92.00	6720	.83	1.31
4	12	470	470	104.00	5640	.93	1.27
5	10	460	460	114.00	4600	1.03	1.79
6	18	440	440	132.00	7920	1.19	1.91
7	15	420	420	147.00	6300	1.32	2.02
8	13	400	400	160.00	5200	1.44	2.19
9	12	380	380	172.00	4560	1.54	1.80
10	10	360	360	182.00	3600	1.63	2.14
11	9	340	340	191.00	3060	1.72	2.41
12	8	320	320	199.00	2560	1.79	2.76
13	8	300	300	207.00	2400	1.86	2.30
14	10	270	270	217.00	2700	1.94	2.27
15	5	240	240	222.00	1200	2.02	5.83

GROSS AREA, SQCM= 1905.80 NETT AREA, SQCM= 1858.16

CORE MAIN DIMENSIONS

H= 3160 W= 2620 YH= 500
LL= 2160 LC= 1045 CFB= 332 DFR=100
YBP= 380 YBC= 250
NO OF TAPE BANDS= 7 TAPE PITCH= 290

REF CORE STD DRG F6130087

FOR TOL REF STD DRG TR150035C

DATE OF RUN 19-5-2014

CHECKED BY

APPD. BY

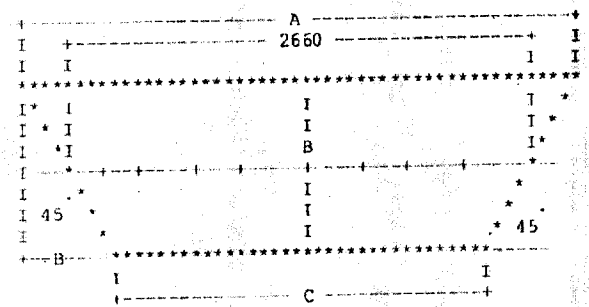
REVISION NO. & SIGN

36

TRE COMPUTER CENTRE

WO.NO.70851A17900 M/S BPCL KOCHI PAGE NO.- 2 OF 6 Rev 01
 50 MVA, 34.5/11 KV

LEG PUNCHING DRG NO.1

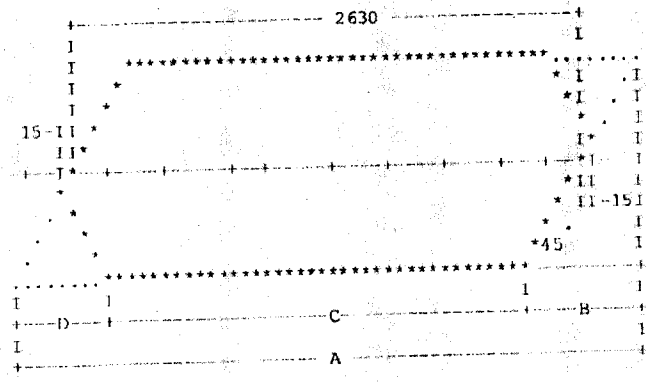


LEG PUNCHINGS DRG.NO.1 DIMENSIONS

LT	STKTHK	LAM-WIDTH	A	C	WTKG	No. OF LAM. (APPRX)
1	244	500	3160	2160	2420.51	896
2	68	490	3150	2170	661.08	256
3	56	480	3140	2180	533.31	208
4	48	470	3130	2190	447.60	176
5	40	460	3120	2200	365.06	144
6	72	440	3100	2220	628.54	272
7	60	420	3080	2240	499.97	224
8	52	400	3060	2260	412.68	192
9	48	380	3040	2280	361.89	176
10	40	360	3020	2300	285.70	144
11	36	340	3000	2320	242.84	128
12	32	320	2980	2340	203.16	128
13	32	300	2960	2360	190.47	128
14	40	270	2930	2390	214.27	144
15	20	240	2900	2420	95.23	80
TOTAL WT.KG					7562.32	

35

LEG PUNCHINGS DRG NO.2



LEG PUNCHINGS DRG. NO.2 DIMENSIONS
 IT STK. THK LAM-WIDTH A D C WT. KG WT. KG CUT NO. OF LAM. (APPROX)

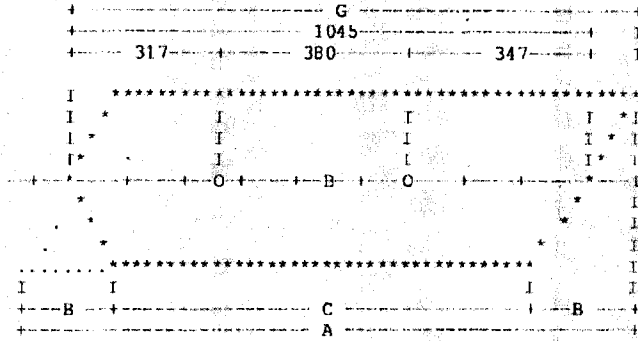
IT	STK. THK	LAM-WIDTH	A	D	C	WT. KG	WT. KG CUT	NO. OF LAM. (APPROX)
26	122	500	3130	470	2160	1096.10	1196.61	448
27	34	490	3120	460	2170	299.98	326.81	128
28	28	480	3110	450	2180	242.50	263.65	104
29	24	470	3100	440	2190	203.95	221.27	88
30	20	460	3090	430	2200	166.68	180.47	72
31	36	440	3070	410	2220	288.16	310.73	136
32	30	420	3050	390	2240	230.15	247.17	112
33	26	400	3030	370	2260	190.74	204.01	96
34	24	380	3010	350	2280	167.94	178.90	88
35	20	360	2990	330	2300	133.12	141.24	72
36	18	340	2970	310	2320	113.60	120.05	64
37	16	320	2950	290	2340	95.42	100.44	64
38	16	300	2930	270	2360	89.81	94.16	64
39	20	270	2900	240	2390	101.63	105.93	72
40	10	240	2870	210	2420	45.43	47.08	40
TOTAL WT. KG						3465.2	3738.5	

34

TRE COMPUTER CENTRE

WO.NO.70851A17900 M/S BPCL KOCHI PAGE NO. - 4 OF 6 Rev01
 50 MVA, 34.5/11 KV

YOKE PUNCHINGS DRG NO.3



HOLE'S PUNCH DIA=38

YOKE PUNCHINGS DRG.NO.3 DIMENSIONS

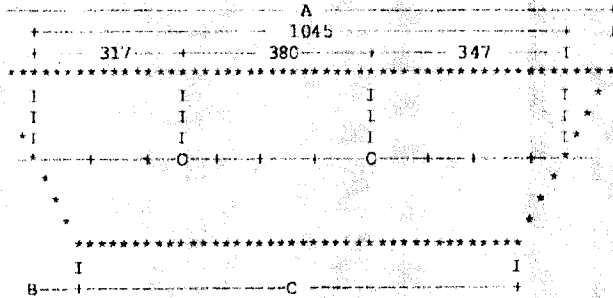
IT	STK. THK	LAM-WIDTH	A	C	B	WT. KG	WT. KG CUT	No. OF LAM. (APPROX)
51	244	500	1545	545	1295	837.17	950.92	896
52	68	490	1535	555	1290	229.26	259.71	256
53	56	480	1525	565	1285	185.45	209.51	208
54	48	470	1515	575	1280	156.07	175.84	176
55	40	460	1505	585	1275	127.63	143.42	144
56	72	440	1485	605	1265	220.93	246.93	272
57	60	420	1465	625	1255	176.68	196.42	224
58	52	400	1445	645	1245	146.61	162.12	192
59	48	380	1425	665	1235	129.25	142.17	176
60	40	360	1405	685	1225	102.57	112.24	144
61	36	340	1385	705	1215	87.64	95.40	128
62	32	320	1365	725	1205	73.70	79.81	128
63	32	300	1345	745	1195	69.46	74.83	128
64	40	270	1315	775	1180	78.74	84.18	144
65	20	240	1285	805	1165	35.26	37.41	80
TOTAL WT. KG-						2656.4	2970.9	

33

TRE COMPUTER CENTRE

851A17900 M/S BPCL KOCHI PAGE NO.- 5 OF 6 Rev 01
0 MVA, 34.5/11 KV

YOKE PUNCHINGS DRG NO.4



HOLES PUNCH DIA 38

PUNCHINGS DRG.NO.4 DIMENSIONS

TK. THK	LAM-WIDTH	A	C	WT. KG	No. OF LAM. (APPROX)
244	500	1545	545	950.92	896
68	490	1535	555	259.71	256
56	480	1525	565	209.51	208
48	470	1515	575	175.84	176
40	460	1505	585	143.42	144
72	440	1485	605	246.93	242
60	420	1465	625	196.42	224
52	400	1445	645	162.12	192
48	380	1425	665	142.17	176
40	360	1405	685	112.24	144
36	340	1385	705	95.40	128
32	320	1365	725	79.81	128
32	300	1345	745	74.83	128
40	270	1315	775	84.18	144
40	240	1285	805	37.41	80

TOTAL WT. KG- 2970.9

GM WISE MISCC LIST

1. BASED ON MISCC CODE:
ENTER CODE

Submit Reset

2. BASED ON DESC
Enter few characters of description

32

TRE COMPUTER CENTRE

WO. NO. 70851A17900A
50 MVA, 34.5/11 KV

M/S BPCL KOCHI PAGE NO. - 6 OF 6 Rev 01

SN	LAM-WIDTH	SLIT-WT	SLIT-LENGTH(MTRS) (APPROX)
1	500	5633.93	5455.272
2	490	1538.71	1520.323
3	480	1241.31	1252.030
4	470	1041.82	1073.169
5	460	849.71	894.308
6	440	1462.97	1609.753
7	420	1163.73	1341.461
8	400	960.54	1162.600
9	380	842.32	1073.169
10	360	664.99	894.308
11	340	565.24	804.877
12	320	472.88	715.446
13	300	443.33	715.446
14	270	498.74	894.308
15	240	221.66	447.154

TOTAL SLIT WT, KG= 17601.9

NETT WT., KG OF STEEL (AT SF=0.96) IS= 16654.88

CORE STEEL TO BE DRAWN FROM STORE, SHOP WASTAGE OF
7.0 %, WT. IN KG.= 17820.0

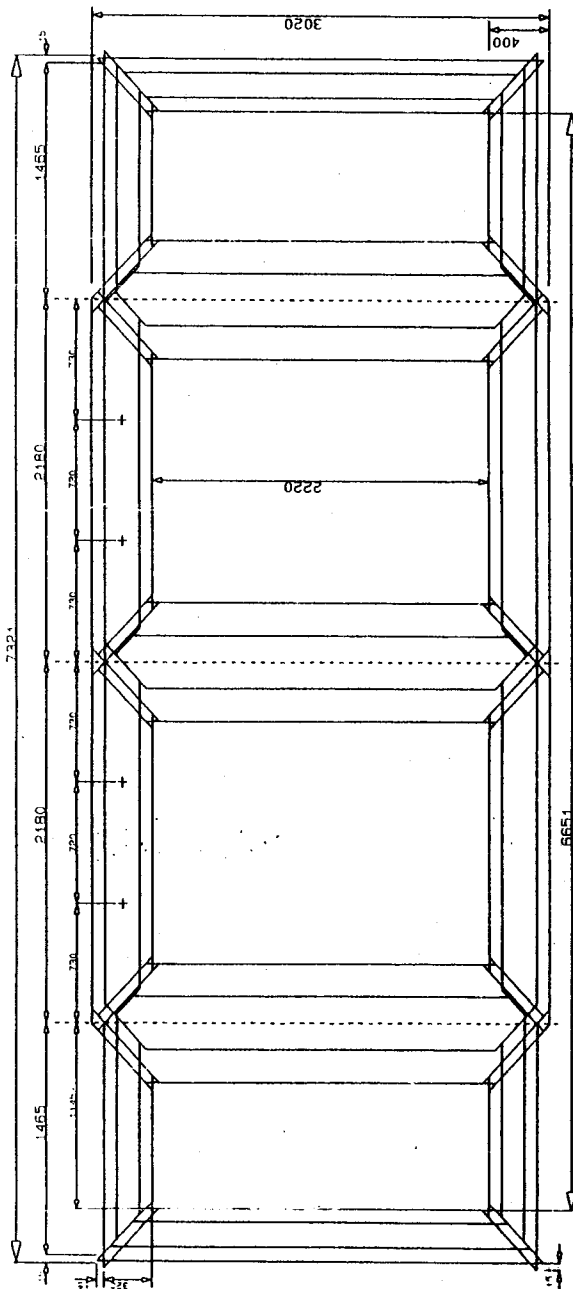
With stacking factor 0.97 Net wt. is
16740 kg.

Sanjay Pankaj
22/1/2014
(SANJAY PANKAJ)
SR MGR (TRE)

ALL DIMENSIONS IN MM

34647000240

- NOTES :
- Laminations to be cut with max dimensions along the grain
 - For tolerances and burr level or laminations, refer Std Sht TR10141C
 - All cores are to be built up with mitre joints and mitring to be at 45 degrees
 - Each packet to be built with 4 laminations per layer alternately as per P and O sheets.
 - Bind the core with polyester resin impreg. wetless glass tape (to AA25716) after putting core to coil packing in position. Each band shall consist of 3 turns of 0.4 tk or 4 turns of 0.3 tk polyester impreg. wetless glass tape. For detailed instructions regarding core leg clamping/taping/banding refer Std Sht TR10142C
 - No of Tape bands = 13. Tape Pitch = 164 mm
Distance of first band from bottom = 100 mm
 - Refer drg no. 34997000065 for sheet of ceramic spacers on core and yoke
 - Assembled core to provide oil duct laminations to be tested between core and clamping structure, core & bolts, bolts and clamping structure at 2 kv for one minute unless otherwise specified



- 8 - Type Of Core - 5 Limbed Elliptical Yoke Core
- Only Top Yoke Bolted
- Core Dia = 735.0 Leg Length = 2220.0
 - Leg Centre = 2180.0 Dist. bet Outer Legs = 6651.0
 - No of Oil ducts = 1 No of steps = 12
 - Yoke Bolts/Window = 2 Yoke Bolt Pitch = 720.0
 - Space Factor = 0.985 Top Clearance = 38.0
 - Hole Punch Dia = 52.0 Scrap Factor = 2.5%
 - Bleeding = 4/4 Grade of Core Steel = M4/0.27

R/C

DISTRIBUTION OF PRINTS		BHARAT HEAVY ELEC. LTD		SIGN		DATE		NO OF VAR	
W. D. 60030A51201		BHPAL		NAME		15/8/10		10	
REV. DATE		SCALE N.T.S		DIV		15/10		10	
ALTERED		BHPAL		CHK		15/10		10	
CHECKED		N.T.S		APPD		15/10		10	
APPROVED		N.T.S		REF. TO ASSY. DRG.		IT NO.		NO.	
ZONE		TITLE		DRAWING NO		REV		REV	
		Core Dimensions		34647000240		REV		REV	
		100MVA, 400/132/33: UPRVUNL		SHT NO. 1		NO. OF SHTS. 13		REV	
								SIZE A3	

First Angle Projection

34647000240

NO PKT-IHK DUCT PKT-HT LEGLAM MYOKLAM AYOKLAM

NO	PKT-IHK	DUCT	PKT-HT	LEGLAM	MYOKLAM	AYOKLAM
1	71	2	73.0	720.0	400.0	320.0
2	38		111.0	700.0	400.0	320.0
3	27		138.0	680.0	400.0	320.0
4	32		170.0	650.0	370.0	290.0
5	26		196.0	620.0	370.0	290.0
6	21		217.0	590.0	370.0	290.0
7	25		242.0	550.0	325.0	245.0
8	21		263.0	510.0	325.0	245.0
9	17		280.0	470.0	325.0	245.0
10	19		299.0	420.0	230.0	150.0
11	16		315.0	370.0	230.0	150.0
12	12		327.0	320.0	230.0	150.0

Gross section Area- Gross, sq.cm Net, sq.cm

Main Leg	3911.6	3852.9
Main Yoke	2298.3	2263.8
Aux Yoke	1778.3	1751.6
Aux Leg	1778.3	1751.6

All dimensions in mm

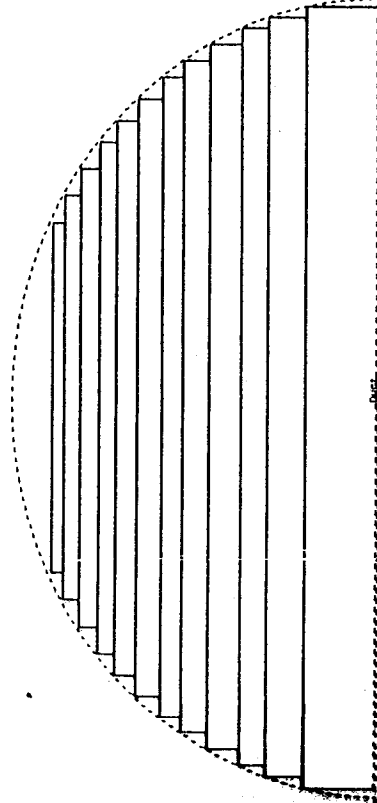
DISTRIBUTION OF PRINTS		BHARAT HEAVY ELEC. LTD		NAME		SIGN		DATE		NO. OF VAR	
M.O. 50030A51201		BHPAL		D.V.		D.V.		15/5/72		15/5/72	
REV. DATE		SCALE		D.V.		M.K.		M.K.		M.K.	
ALTERED		N.T.S.		C.D.		C.D.		C.D.		C.D.	
CHECKED		BHPAL		A.P.P.		A.P.P.		A.P.P.		A.P.P.	
APPROVED		BHPAL		REF. TO ASSY. DRG.		REF. TO ASSY. DRG.		REF. TO ASSY. DRG.		REF. TO ASSY. DRG.	
ZONE		TITLE		D.V.		D.V.		D.V.		D.V.	
		Core Laminations		D.V.		D.V.		D.V.		D.V.	
		100MVA, 400/132/33: UPRVUNL		DRAWING NO		DRAWING NO		DRAWING NO		DRAWING NO	
				34647000240		34647000240		34647000240		34647000240	
				SHT NO. 2		SHT NO. 2		SHT NO. 2		SHT NO. 2	
				NO OF SHTS. 13		NO OF SHTS. 13		NO OF SHTS. 13		NO OF SHTS. 13	

SIZE A3

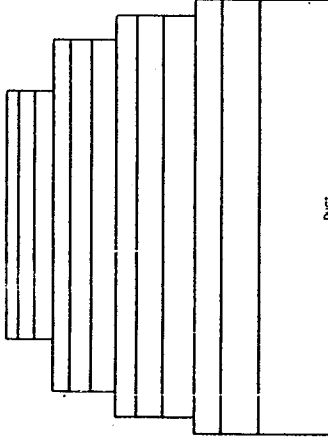
All dimensions in mm

DRW NO: 34647000240

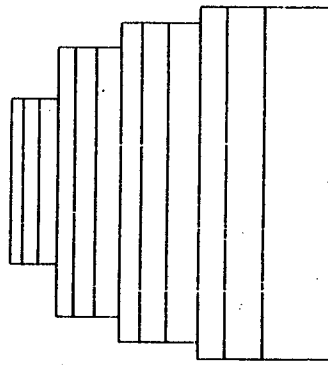
First Angle Projection




Main Leg cross section



Main Yoke cross sect



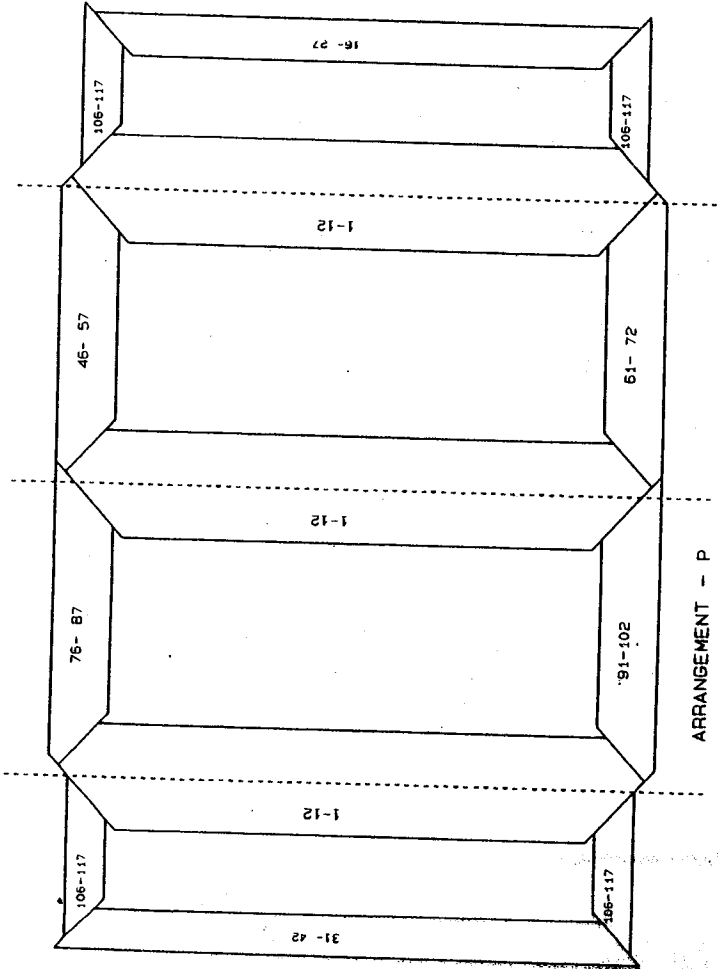
AUX Yoke cross sect

DISTRIBUTION OF PRINTS				BHARAT HEAVY ELEC. LTD BHOPAL		DRN DRD APPD	NAME DIV. WK WK	SIGN DATE	NO. OF VAR
REV. DATE ZONE	DEPT. THE CODE CODE	INTOL. DIMS. GR. ADE	SCALE N.T.S.	WEIGHT	REF. TO ASSY. DRG. IT NO.	NO.	NO. OF SHTS	DRAWING NO 34647000240	REV 00
I.P.O. 60030A51201		TITLE Cross Sections 100HVA, 400/132/33: UPRVUNL		SHT NO. 3		NO. OF SHTS 3		SIZE A3	

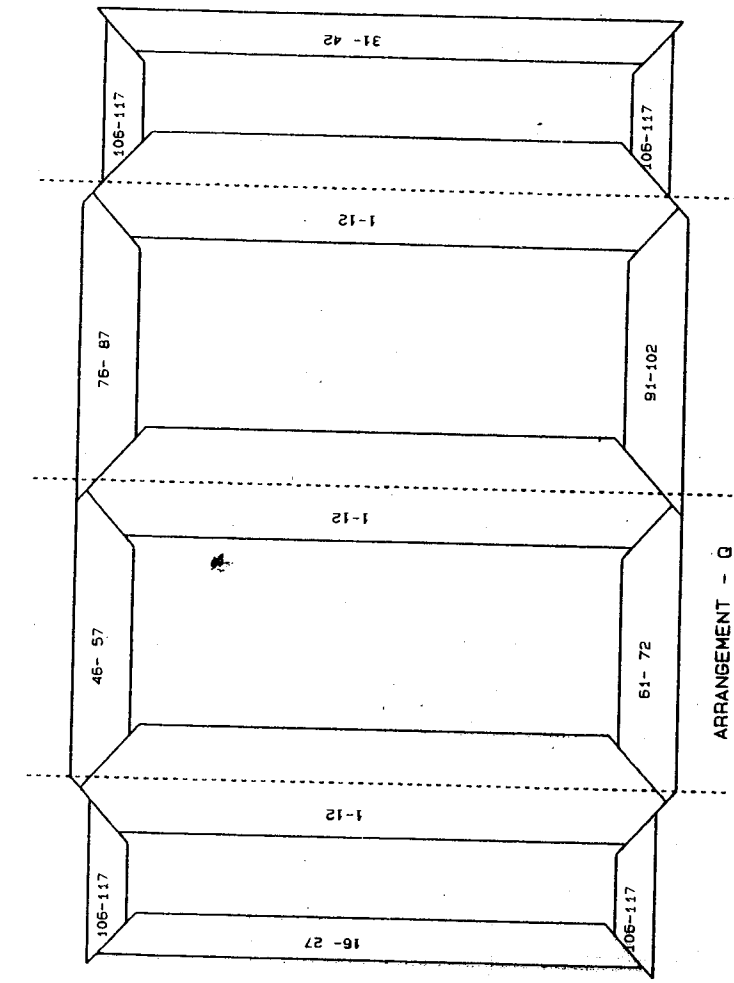
First Angle Projection

DRG NO: 34647000240

All dimensions in mm



ARRANGEMENT - P



ARRANGEMENT - Q

NOTE : -

For items 1 to 12, each of the items with lamination width greater than 750 mm appears in two split parts. Part A and Part B and item nos. are suffixed by A and B respectively. However for lamination width less than 750 mm the items appear as single parts only and so item nos. do not have suffixes

DISTRIBUTION OF PRINTS		REV. DATE		N.O. 60030A51201	
ALTERED	CHECKED	APPROVED	ZONE		
DEPT. TIT. CODE		SCALE N.T.S.		WEIGHT	
BHARAT HEAVY ELEC. LTD		BHOPAL		REF. TO ASSY. DRG.	
SIGNATURE		DATE		NO. OF VAR	
NAME		DATE		NO.	
DRG. NO.		DATE		NO.	
DW.		DATE		NO.	
HK		DATE		NO.	
HK		DATE		NO.	
HK		DATE		NO.	
DRAWING NO		REV		REV	
34647000240		00		00	
SHT NO. 4		NC OF SHTS. 13			
TITLE		100MVA, 400/132/33, UPRVJNL			
Core Laying arrngt.					

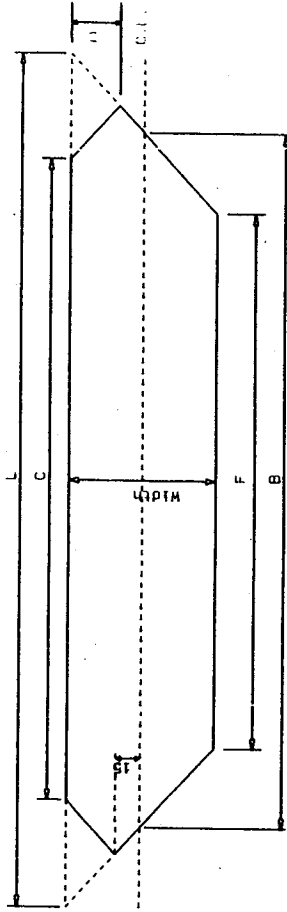
SIZE A3

First Angle Projection

042000749E

DRG. NO.

All dimensions in mm



Item	Width	Thick	B	C	L	D	F	Wt-Punch	Wt-Cut	
1	720.0	426	2910.0	2250.0	3630.0	345.0	2190.0	5961.5	6725.6	
2	700.0	228	2910.0	2270.0	3610.0	335.0	2210.0	3114.0	3499.6	
3	680.0	162	2910.0	2290.0	3590.0	325.0	2230.0	2157.7	2415.5	
4	650.0	192	2870.0	2280.0	3520.0	310.0	2220.0	2420.9	2698.9	
5	620.0	156	2870.0	2310.0	3490.0	295.0	2250.0	1887.1	2091.7	
6	590.0	126	2870.0	2340.0	3460.0	280.0	2280.0	1458.8	1607.7	
7	550.0	150	2815.0	2325.0	3365.0	260.0	2265.0	1597.2	1750.0	
8	510.0	126	2805.0	2355.0	3315.0	240.0	2295.0	1248.8	1358.2	
9	470.0	102	2805.0	2395.0	3275.0	220.0	2335.0	938.9	1013.3	
10	420.0	114	2780.0	2420.0	3200.0	195.0	2360.0	937.7	1003.0	
11	370.0	96	2730.0	2420.0	3100.0	170.0	2360.0	688.9	730.7	
12	320.0	72	2680.0	2420.0	3000.0	145.0	2360.0	442.5	465.3	
Total									22853.8	25359.6

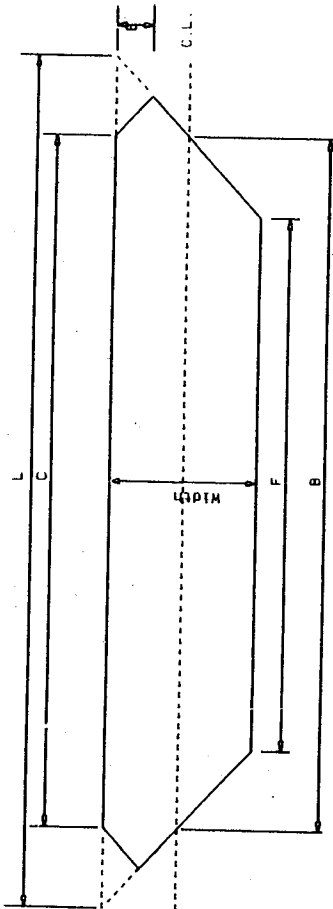
		BHARAT HEAVY ELEC. LTD. BHOPAL		DRN DHD APPD	NAME OV MK MK	SIGN DATE NO. OF VAR
UNTO. DING. OR DEPT CODE		SCALE N.T.S.	REF. TO ASSY. DRG. NO.	WEIGHT IT. NO.	DRAWING NO 34647000240	
TITLE Main Leg Laminations 100MVA, 400/132/33; UPRVUNL		SHT NO. 5		NO. OF SHTS. 13		REV 00
DISTRIBUTION OF PRINTS W.O. 60030A51201		ALTERED CHECKED APPROVED		REV. DATE		ZONE

SIZE A3

First Angle Projection

DRG NO: 34647000240

All dimensions in mm



Item	Width	Thick	B	C	L	E	F	Mt-Pnch	Wt-Cut
61	400.0	142	1850.0	2100.0	2260.0	40.0	1460.0	792.7	796.1
62	400.0	76	1850.0	2100.0	2260.0	40.0	1460.0	424.2	426.1
63	400.0	54	1850.0	2100.0	2260.0	40.0	1460.0	301.4	302.7
64	370.0	64	1900.0	2090.0	2270.0	45.0	1530.0	337.1	339.0
65	370.0	52	1900.0	2090.0	2270.0	45.0	1530.0	273.9	275.5
66	370.0	42	1900.0	2090.0	2270.0	45.0	1530.0	221.2	222.5
67	325.0	50	1955.0	2080.0	2280.0	50.0	1630.0	237.5	239.4
68	325.0	42	1955.0	2070.0	2290.0	55.0	1640.0	200.2	202.1
69	325.0	34	1955.0	2070.0	2290.0	55.0	1640.0	162.1	163.6
70	230.0	38	1990.0	2140.0	2220.0	20.0	1760.0	130.8	131.1
71	230.0	32	2040.0	2090.0	2270.0	45.0	1810.0	112.2	113.1
72	230.0	24	2090.0	2040.0	2320.0	70.0	1860.0	85.2	86.9
Total									3278.4 3298.1

DISTRIBUTION OF PRINTS		M.O: 60030A51201		REV. DATE		ALTERED		NO. OF VAR	
DEPT		UNCL. DRG. GR.		THE		DECIDED		DATE	
CODE		SCALE		N.T.S.		APPROVED		SIGN	
BHPAL		BHPAL		N.T.S.		APPD		DATE	
BHARAT HEAVY ELEC. LTD		REF. TO ASSY. DRG.		N.T.S.		HK		DATE	
TITLE		DRAWING NO		REV		HK		DATE	
Main Yoke Laminations		34647000240		REV		HK		DATE	
100MVA, 400/132/33; UPRVUNL		SMT NO: 7		NO OF SHYS: 13		HK		DATE	
100MVA, 400/132/33; UPRVUNL		DRAWING NO		REV		HK		DATE	
100MVA, 400/132/33; UPRVUNL		34647000240		REV		HK		DATE	
100MVA, 400/132/33; UPRVUNL		SMT NO: 7		NO OF SHYS: 13		HK		DATE	

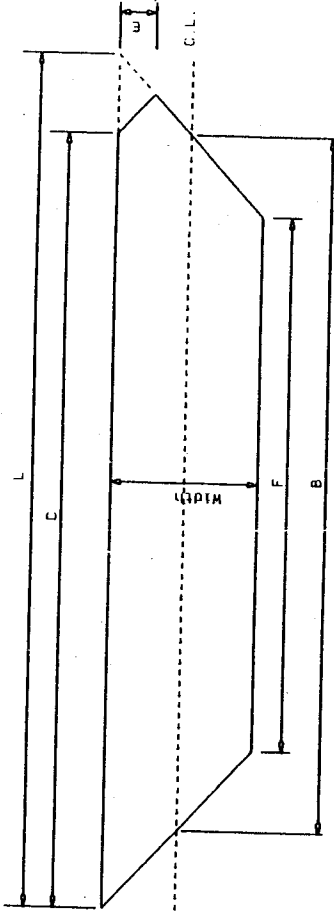
SIZE A3

First Angle Projection

042000749PE

042000749PE

All dimensions in mm



Item	Width	Thick	B	C	L	E	F	Wt-Pnch	Mt-But
91	400.0	142	1860.0	2180.0	2260.0	40.0	1460.0	794.4	796.1
92	400.0	76	1860.0	2180.0	2260.0	40.0	1460.0	425.2	426.1
93	400.0	54	1860.0	2190.0	2260.0	40.0	1460.0	302.1	302.7
94	370.0	64	1900.0	2180.0	2270.0	45.0	1530.0	338.0	339.0
95	370.0	52	1900.0	2180.0	2270.0	45.0	1530.0	274.7	275.5
96	370.0	42	1900.0	2180.0	2270.0	45.0	1530.0	221.8	222.5
97	325.0	50	1955.0	2180.0	2280.0	50.0	1630.0	238.4	239.4
98	325.0	42	1965.0	2180.0	2290.0	55.0	1640.0	201.2	202.1
99	325.0	34	1965.0	2180.0	2290.0	55.0	1640.0	162.8	163.6
100	230.0	38	1990.0	2180.0	2220.0	20.0	1760.0	130.9	131.1
101	230.0	32	2040.0	2180.0	2270.0	45.0	1810.0	112.6	113.1
102	230.0	24	2090.0	2180.0	2320.0	70.0	1860.0	86.0	86.9
Total								3288.3	3298.1

DISTRIBUTION OF PRINTS

W.D: 60030A51201

REV. DATE
ALTERED
CHECKED
APPROVED

ZONE

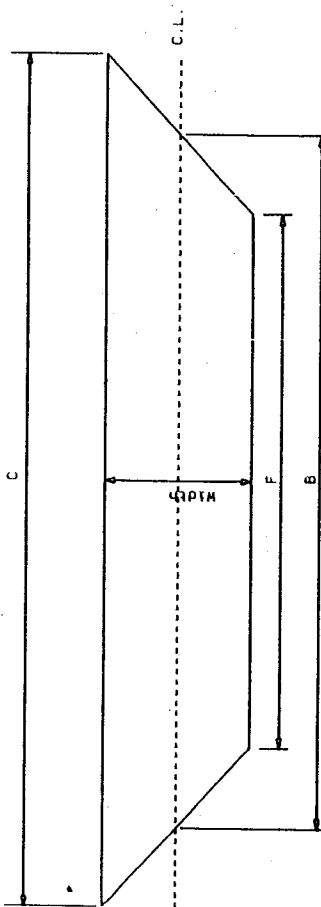
		BHARAT HEAVY ELECT. LTD. BHOPAL		NAME DV MK MK	SIGN [Signature] [Signature]	DATE 15/5/12 15/5/12	NO. OF VAR
DEPT WPTL DINS BR	SCALE N.T.S.	WGT REF. TO ASSY. DRS.	APPD MK	IT. NO 15/5/12	NO	REV 13	NO
TITLE Main Yoke Laminations 100MVA, 400/132/33 UPRVUNL		DRAWING NO 34647000240		SHT NO: 9		NO OF SHTS: 13	

SIZE A3

First Angle Projection

DN: 944 3467000240

All dimensions in mm

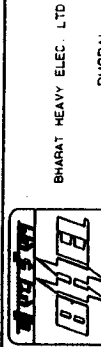


It	Width	Thick B	C	F	Mt-Cut
106	320.0	568	1105.5	1425.5	765.5 1514.1
107	320.0	304	1100.5	1420.5	760.5 806.7
108	320.0	216	1095.5	1415.5	775.5 570.6
109	290.0	256	1125.5	1415.5	835.5 629.6
110	290.0	208	1118.0	1408.0	828.0 508.2
111	290.0	168	1110.5	1400.5	820.5 407.7
112	245.0	200	1153.0	1396.0	908.0 425.7
113	245.0	168	1150.5	1395.5	905.5 356.8
114	245.0	136	1140.5	1385.5	895.5 286.4
115	150.0	152	1170.5	1320.5	1020.5 201.1
116	150.0	128	1195.5	1345.5	1045.5 173.0
117	150.0	96	1220.5	1370.5	1070.5 132.4
Total					6012.2

DISTRIBUTION OF PRINTS

W. D. 60030A51201

REV. DATE
 ALTERED
 CHECKED
 APPROVED



DEPT
 TIRE
 CODE
 INTOL.DIMS.PR
 N.T.S

TITLE
 AUX Yoke Laminations
 100MVA, 400/132/33, UPRVUNL

NAME	SIGN	DATE	NO. OF VAR
DN	[Signature]	15/5/17	
DKD	[Signature]	15/5/17	
APPD	[Signature]	15/5/17	

REF. TO ASSY. DRG. IT. NO. NO. 1

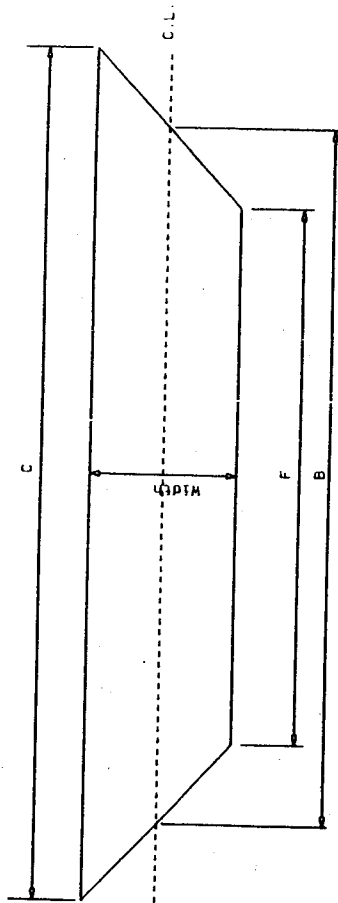
DRAWING NO
 3467000240
 SHT NO. 10 NO OF SHTS: 13

SIZE A3


First Angle Projection

DWG NO: 042000749E

All dimensions in mm



Item	Width	Thick	B	C	F	Weight
31	320.0	142	2570.0	2890.0	2250.0	880.0
32	320.0	76	2580.0	2900.0	2250.0	471.9
33	320.0	54	2590.0	2910.0	2250.0	335.9
34	290.0	64	2570.0	2860.0	2280.0	359.4
35	290.0	52	2585.0	2875.0	2280.0	292.9
36	290.0	42	2600.0	2890.0	2280.0	237.2
37	245.0	50	2570.0	2815.0	2325.0	237.2
38	245.0	42	2585.0	2830.0	2325.0	199.9
39	245.0	34	2605.0	2850.0	2325.0	162.4
40	150.0	38	2570.0	2720.0	2420.0	110.4
41	150.0	32	2570.0	2720.0	2420.0	99.0
42	150.0	24	2570.0	2720.0	2420.0	69.7
Total						3449.9

		BHARAT HEAVY ELEC. LTD BHOPAL		DRN DCC APPD	NAME DV MK MK	SIGN DV MK MK	DATE 15/11/11 15/11/11 15/11/11	NO. OF VAR
UNTO. DMS GR. DEPT CODE AGE		SCALE N.T.S	WEIGHT	REF. TO ASSY. DRG. IT. NO.		NO.		
TITLE AUX Leg Laminations 100MVA, 400/132/22: UPRVUNL		DRAWING NO 34547000240		REV 13		NO. OF SHTS.		
DISTRIBUTION OF PRINTS W.D: 60030A51201		REV. DATE ALTERED CHECKED APPROVED		SHT NO.		NO. OF SHTS.		

SIZE A3

WO. NO. 70960P10700
630KVA, 11/0.433 KV, DTT

NNTPB, NEYVELL

PAGE NO. - 1

TRFCCP

DRG NO. -

44737050048

Core sheet - Alle

INPUT DATA
 CORE DIA= 235 CORE TYPE TCC
 LEG LENGTH= 950 LEG CC= 530 DISTANCE OF OUTER LEGS= 0
 NO. OF BOLTS PER WINDOW= 1 YOKE BOLT PITCH= 0 NO OF DUCTS= 0
 NO OF STEPS= 7 EXPECTED AREA= 381.68 SPACE FACTOR= .970
 TOP CLEARANCE= 5.0 HOLE PUNCH DIA=22
 % SCRAP FACTOR= 3.000
 NO. OF OIL-DUCTS= 0 GRADE OF STEEL=27M4
 OUTPUT RESULTS

70960 P107
 71009 P107
 71383 P107
 7138r P107

SN.	PKT-THK	LEG LAM	YOKLAM	PKT-HT	PKTCSA	TOL-REQD	TOL-AVBL
1	40	220	220	40.00	8800	.55	1.31
2	20	200	200	60.00	4000	.82	1.69
3	14	180	180	74.00	2520	1.01	1.54
4	10	160	160	84.00	1600	1.15	2.06
5	12	130	130	96.00	1560	1.31	1.88
6	8	100	100	104.00	800	1.42	2.33
7	6	60	60	110.00	360	1.51	3.61

GROSS-AREA, SQCM= 392.80 NETT AREA, SQCM= 381.02

CORE MAIN DIMENSIONS
 H= 1330 W= 1310
 LL= 950 LC= 530 YH= 220
 YBP= 0 YBC= 110 CFB= 265 DFB=100
 NO OF TAPE BANDS= 4 TAPE PITCH=,192

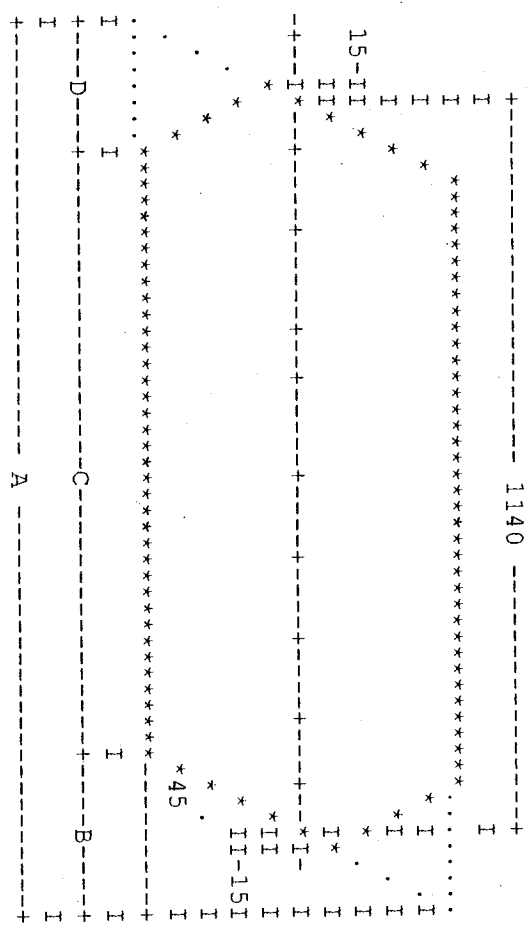
REF CORE STD DRG 14737050017 REV02
 FOR TOL REF STD DRG TR1500330C

[Handwritten signature]

DATE OF ERM--17/07/2015 CHECKED BY APID:BY
 REVISION ()

630KVA, 11/0.433KV DTE

LEG PUNCHINGS DRG NO.2



LEG PUNCHINGS DRG.NO.2 DIMENSIONS

IT	STRK	THK	LAM-WIDTH	A	D	C	WT.KG	WT.KG CUT	NO.OF LAM. (APPROX)
26	80	220	1360	190	950	138.17	148.88	296	
27	40	200	1340	170	970	63.39	67.67	152	
28	28	180	1320	150	990	40.30	42.64	104	
29	20	160	1300	130	1010	25.82	27.07	72	
30	24	130	1270	100	1040	25.50	26.39	88	
31	16	100	1240	70	1070	13.24	13.53	64	
32	12	60	1200	30	1110	6.05	6.09	48	
TOTAL WT.KG-							312.5	332.3	

Jpn atal

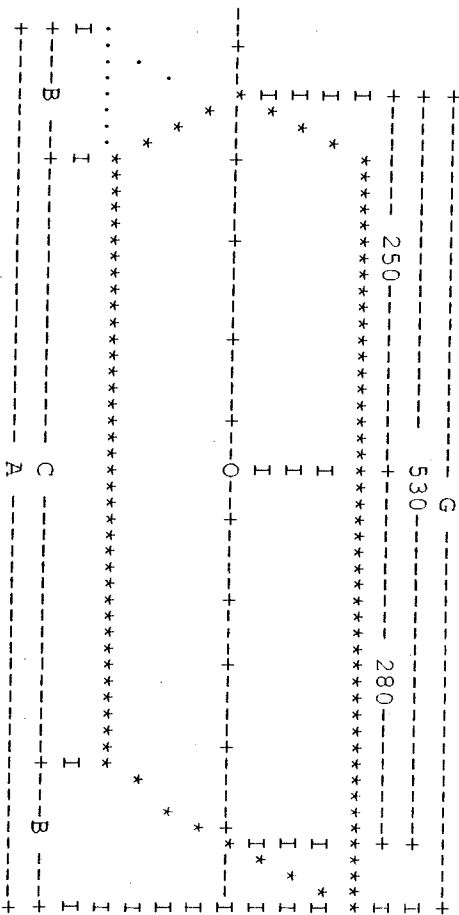
WO. NO. 70960P10700
630KVA, 11/0.433KV DTM

NNTPP, NEVELLI

PAGE NO. - 4 OF 6

TRECP

YOKE PUNCHINGS DRG NO. 3



HOLES PUNCH DIA=22

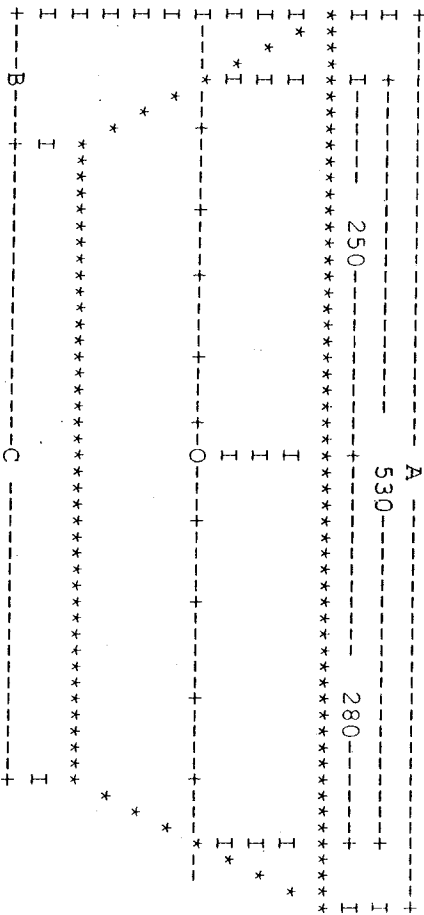
YOKE PUNCHINGS DRG. NO. 3 DIMENSIONS

IT	STR. THK	LAM-WIDTH	A	C	G	WT. KG	WT. KG CUT	No. OF LAM. (APPROX)
51	160	220	750	310	640	124.07	138.44	592
52	80	200	730	330	630	56.99	62.93	304
53	56	180	710	350	620	36.28	39.64	208
54	40	160	690	370	610	23.27	25.17	144
55	48	130	660	400	595	23.04	24.54	176
56	32	100	630	430	580	11.99	12.59	128
57	24	60	590	470	560	5.50	5.66	96
TOTAL WT. KG-						281.1	309.0	

MO. NO. 70960P10700
630KVA, 11/0.433KV DTT

NNTPP, NEYVELLI

YOKE PUNCHINGS DRG NO. 4



HOLES PUNCH DIA=22

YOKE PUNCHINGS DRG. NO. 4 DIMENSIONS

IT	STK. THK	LAM-WIDTH	A	C	WT. KG	NO. OF LAM. (APPROX)
76	160	220	750	310	138.44	592
77	80	200	730	330	62.93	304
78	56	180	710	350	39.64	208
79	40	160	690	370	25.17	144
80	48	130	660	400	24.54	176
81	32	100	630	430	12.59	128
82	24	60	590	470	5.66	96

TOTAL WT. KG- 309.0

T R E C O M P U T E R C E N T R E

WO.NO.70960P10700
630KVA , 11/0.433KV DTT

NNTPP, NEVELLI

PAGE NO. - 6 OF 6

TRECE

SN	LAM-WDTH	SLIT-WT	SLIT-LNGTH(MTRS) (APPROX)
1	220	746.60	1643.013
2	200	339.36	821.507
3	180	213.80	575.055
4	160	135.75	410.754
5	130	132.35	492.905
6	100	67.87	328.603
7	60	30.54	246.453
TOTAL SLIT WT,KG=		1666.3	

NETT WT.,KG OF STEEL(AT SF=0.97) IS= 1584.63

CORE STEEL TO BE DRAWN FROM STORE, SHOP WASTAGE OF
3.0 %, WT. IN KG.= 1715.0

NOTE: THICKNESS VARIATION/ RUSTING/ CARBON SPOTS ARE NOT ACCEPTABLE ON FINISHED LAMINATIONS.

TRANSFORMER ENGINEERING DIVISION, COMPUTER CENTER

WO. NO. 71405T10700 M/S BHEL BHOPAL PAGE NO. - 1 OF 6 TRFCEP

1250 KVA, 11/0.415 KV DTR
 DRG NO. - E 30 M No. 44737050042

INPUT DATA

CORE DIA= 250 CORE TYPE TCO
 LEG LENGTH= 1390 LEG CC= 530 DISTANCE OF OUTER LEGS= 0
 NO. OF BOLTS PER WINDOW= 1 YOKE BOLT PITCH= 0 NO OF DUCTS= 0
 NO OF STEPS= 7 EXPECTED AREA= 429.52 SPACE FACTOR= .970
 TOP CLEARANCE= 5.0 HOLE PUNCH DIA=22
 % SCRAP FACTOR= 3.000
 NO. OF OIL-DUCTS= 0 GRADE OF STEEL=27MOH
 OUTPUT RESULTS

SN.	PKT-THK	LEG LAM	YOKLAM	PKT-HT	PKTCSA	TOL-REQD	TOL-AVBL
1	34	240	240	34.00	8160	.44	1.00
2	24	220	220	58.00	5280	.74	1.37
3	16	200	200	74.00	3200	.94	1.00
4	16	170	170	90.00	2720	1.15	1.65
5	12	140	140	102.00	1680	1.29	1.56
6	8	110	110	110.00	880	1.40	2.25
7	8	70	70	118.00	560	1.50	2.00

GROSS-AREA, SQCM= 449.60 NETT AREA, SQCM= 436.11

CORE MAIN DIMENSIONS

H= 1870 W= 1330
 LL= 1390 LC= 530 YH= 240
 YBP= 0 YBC= 120 CFB= 265 DFB=100
 NO OF TAPE BANDS= 6 TAPE PITCH= 208

REF CORE STD DRG 14737050017 REV 02

FOR TOL REF STD DRG TR150035C

DATE OF RUN--15-06-2015

CHECKED BY

APPD. BY

REVISION NO. & SIGN

#1

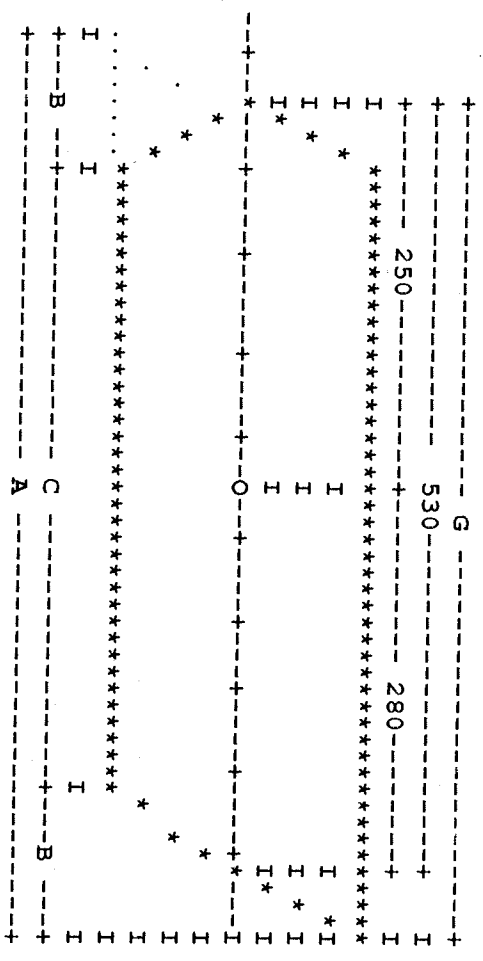
T R E C O M P U T E R C E N T R E

WO.NO.71405T10700 M/S BHEL BHOPAL
 1250 KVA, 11/0.415 KV DTF

PAGE NO. - 4 OF 6

TRECPC

YOKE PUNCHINGS DRG NO.3



HOLES PUNCH DIA=22

YOKE PUNCHINGS DRG.NO.3 DIMENSIONS

IT	STK. THK	LAM-WIDTH	A	C	G	WT.KG	WT.KG	CUT	No. OF LAM. (APPROX)
51	136	240	770	290	650	113.84	128.37	496	
52	96	220	750	310	640	74.44	83.06	352	
53	64	200	730	330	630	45.59	50.34	240	
54	64	170	700	360	615	39.36	42.79	240	
55	48	140	670	390	600	24.68	26.43	176	
56	32	110	640	420	585	13.13	13.84	128	
57	32	70	600	460	565	8.52	8.81	128	
TOTAL WT.KG-						319.6	353.6		

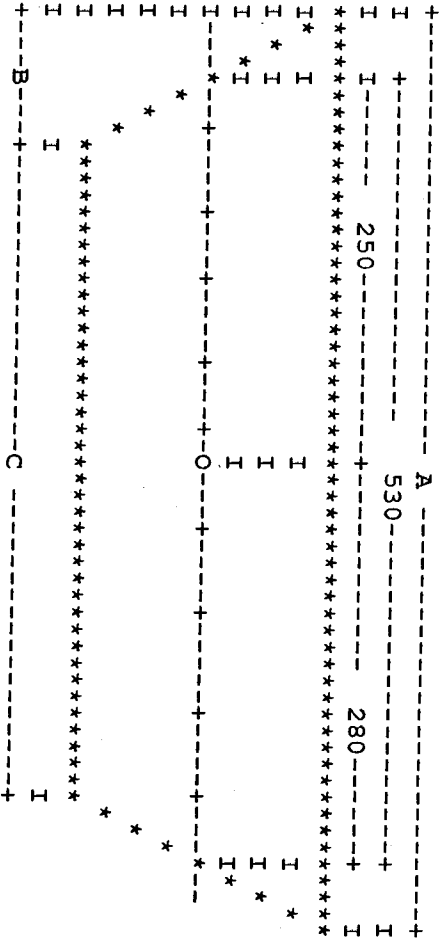
T R E C O M P U T E R C E N T R E

WO. NO. 71405T10700 M/s BHEL BHOPAL
 1250 KVA, 11/0.415 KV DTT

PAGE NO. - 5 OF 6

TRECPC

YOKE PUNCHINGS DRG NO. 4



HOLES PUNCH DIA=22

YOKE PUNCHINGS DRG. NO. 4 DIMENSIONS

IT	STK. THK	LAM-WIDTH	A	C	WT. KG	No. OF LAM. (APPROX)
76	136	240	770	290	128.37	496
77	96	220	750	310	83.06	352
78	64	200	730	330	50.34	240
79	64	170	700	360	42.79	240
80	48	140	670	390	26.43	176
81	32	110	640	420	13.84	128
82	32	70	600	460	8.81	128

TOTAL WT. KG- 353.6

T R E C O M P U T E R C E N T R E

WO. NO. 71405T10700 M/s BHEL BHOPAL
 1250 KVA, 11/0.415 KV DTT

PAGE NO. - 6 OF 6

TRECP

SN	LAM-WDTH	SLIT-WT	SLIT-LENGTH (MTRS) (APPROX)
1	240	862.91	1740.714
2	220	558.35	1228.740
3	200	338.39	819.160
4	170	287.64	819.160
5	140	177.66	614.370
6	110	93.06	409.580
7	70	59.22	409.581

TOTAL SLIT WT, KG= 2377.2

NETT WT. ,KG OF STEEL(AT SF=0.97) IS= 2269.75

CORE STEEL TO BE DRAWN FROM STORE, SHOP WASTAGE OF
 3.0 % , WT. IN KG. = 2449.0

NOTE: THICKNESS VARIATION, RUSTING/CARBON SPOTS ON FINISHED LAMINATIONS
 ARE NOT ACCEPTABLE.

2670.29

400.54