

FIRST ANGLE PROJECTION (ALL DIMENSIONS IN MILLIMETRES)

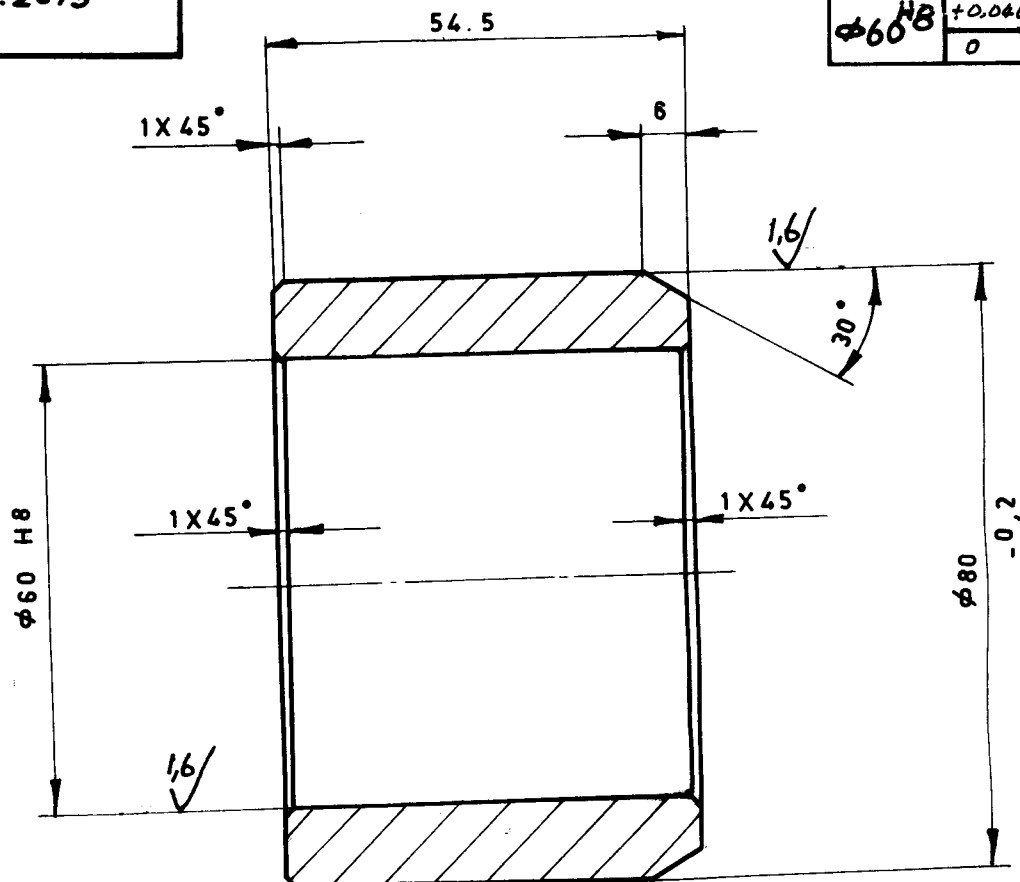
05-249 / B

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REV 01	DATE 6-4-95	ALTD: S. Mohan Ray CHD: A. J. J. J. APPD: J. J. J. J.
ZONE	MATERIAL 45C8 IS:1875 WAS C45 IS:2073	

32/16/1
✓/✓/✓

Φ60 H8	+0.046
	0



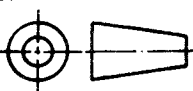
ITEM NO.	DESCRIPTION	45C8 IS:1875	
		MATL CODE	UNIT WT
		MATL SPEC	QTY

EQPT:- TRANSPORT FACILITY FROM SHEAR TO RHF.



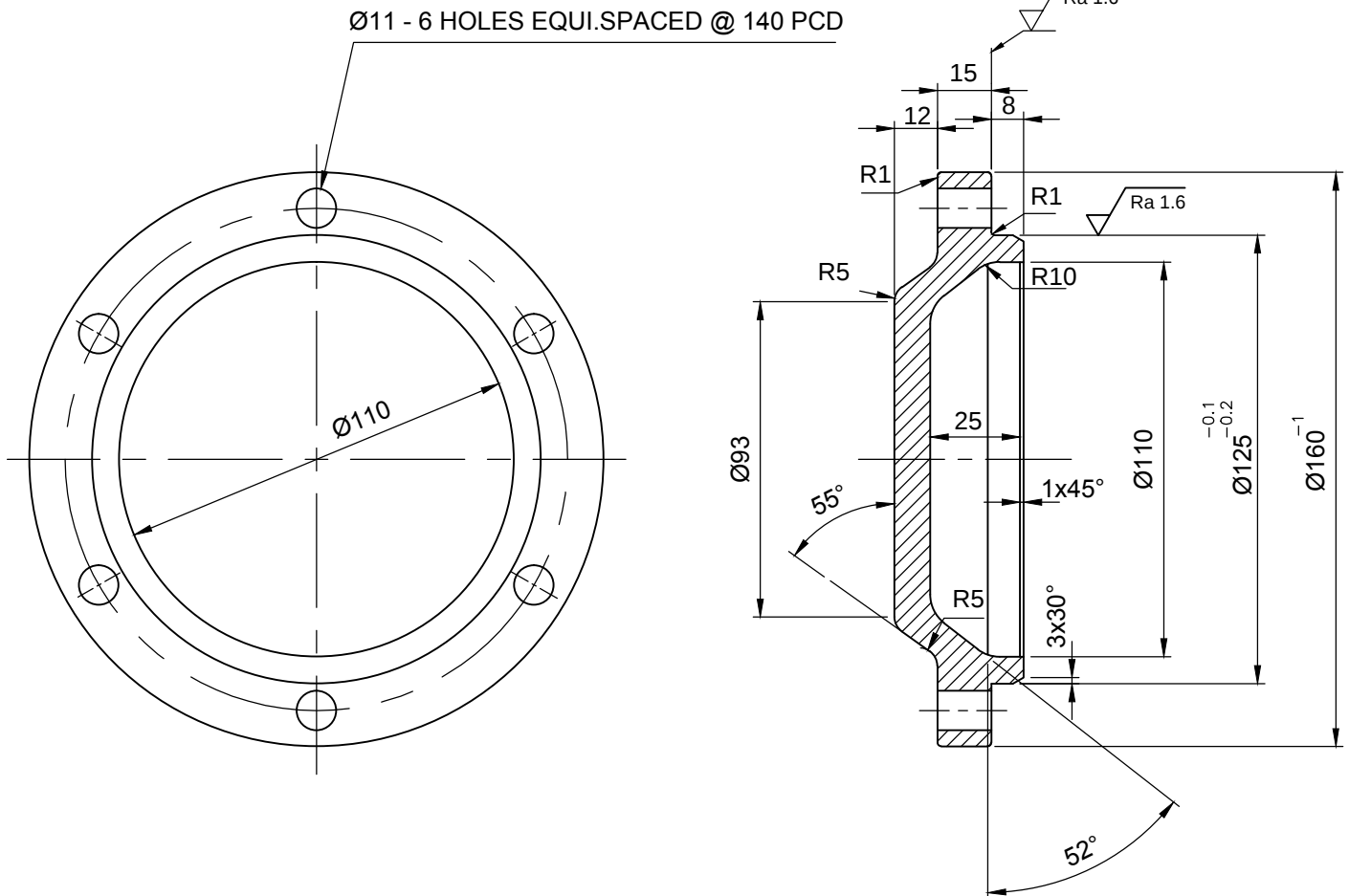
Bharat Heavy Electricals Ltd.,
SEAMLESS STEEL TUBE PLANT
TIRUCHIRAPALLI-620 014

DRN	NAME	SIGN	DATE
CHD	A. BROCKMAN	A. J. J. J.	14.05.85
APPD		S. J. J. J.	24.06.85

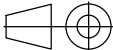
DEPT CODE	GRADE OF UNTOL. DIM C/M/F		SCALE 1:1	WEIGHT (kg) 1	REF TO ASSY/OLD DRG 2-7-1022-80-02164 0301168-14.018	ITEM NO. 8
TITLE SPACER (ROLLER ASSY.)				CARD CODE U 01	DRAWING NO. 4-7-1022-80-00134	REV. 01

REV 01	DATE 17.05.16	ALTERED CHECKED APPROVED	<i>P.S.N.Kumar/k.g</i> <i>R.K.Singh</i> <i>R.K.Singh</i>
MISSING DIMENSIONS Ø93, 52° & 55° ADDED.			

$\sqrt{Ra\ 3.2}$ ($\sqrt{Ra\ 1.6}$)



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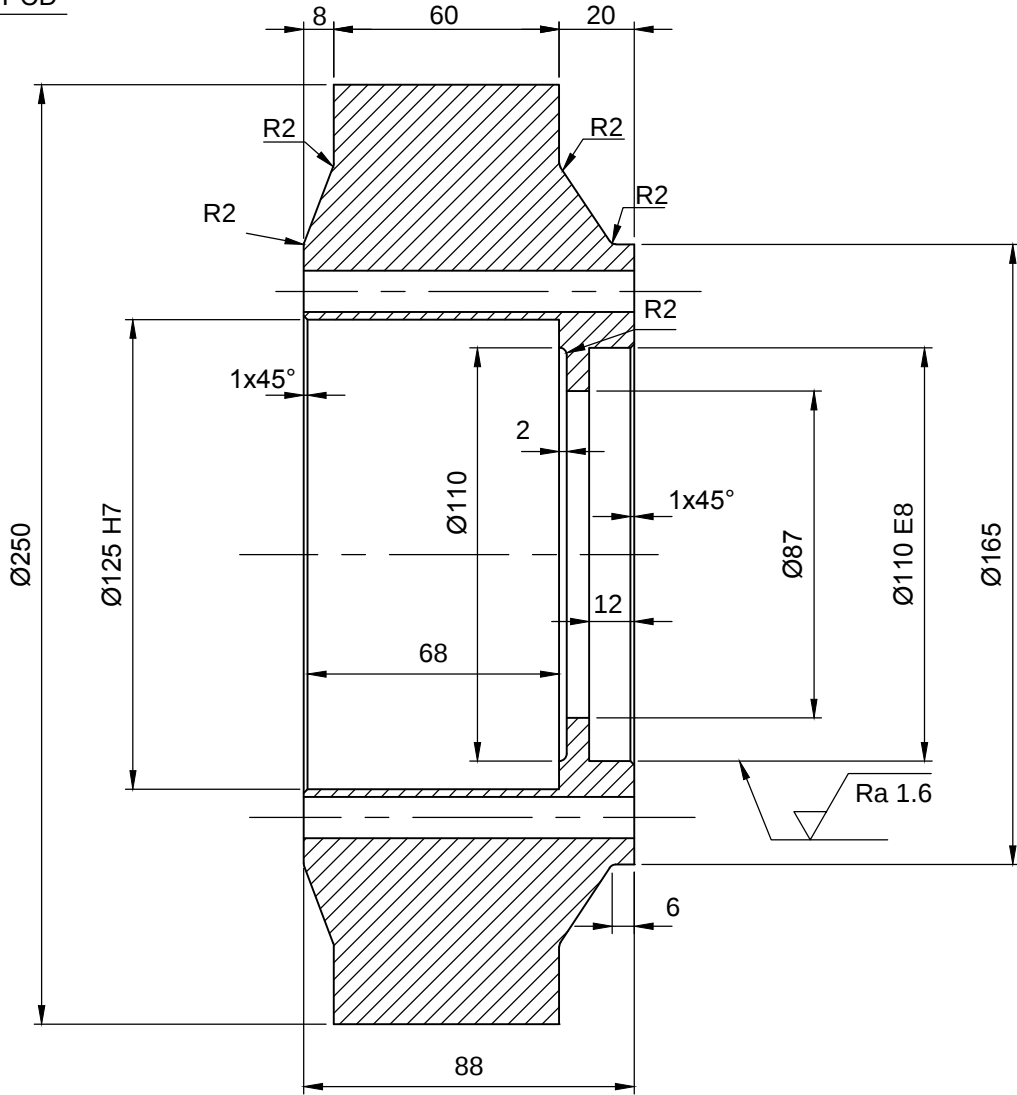
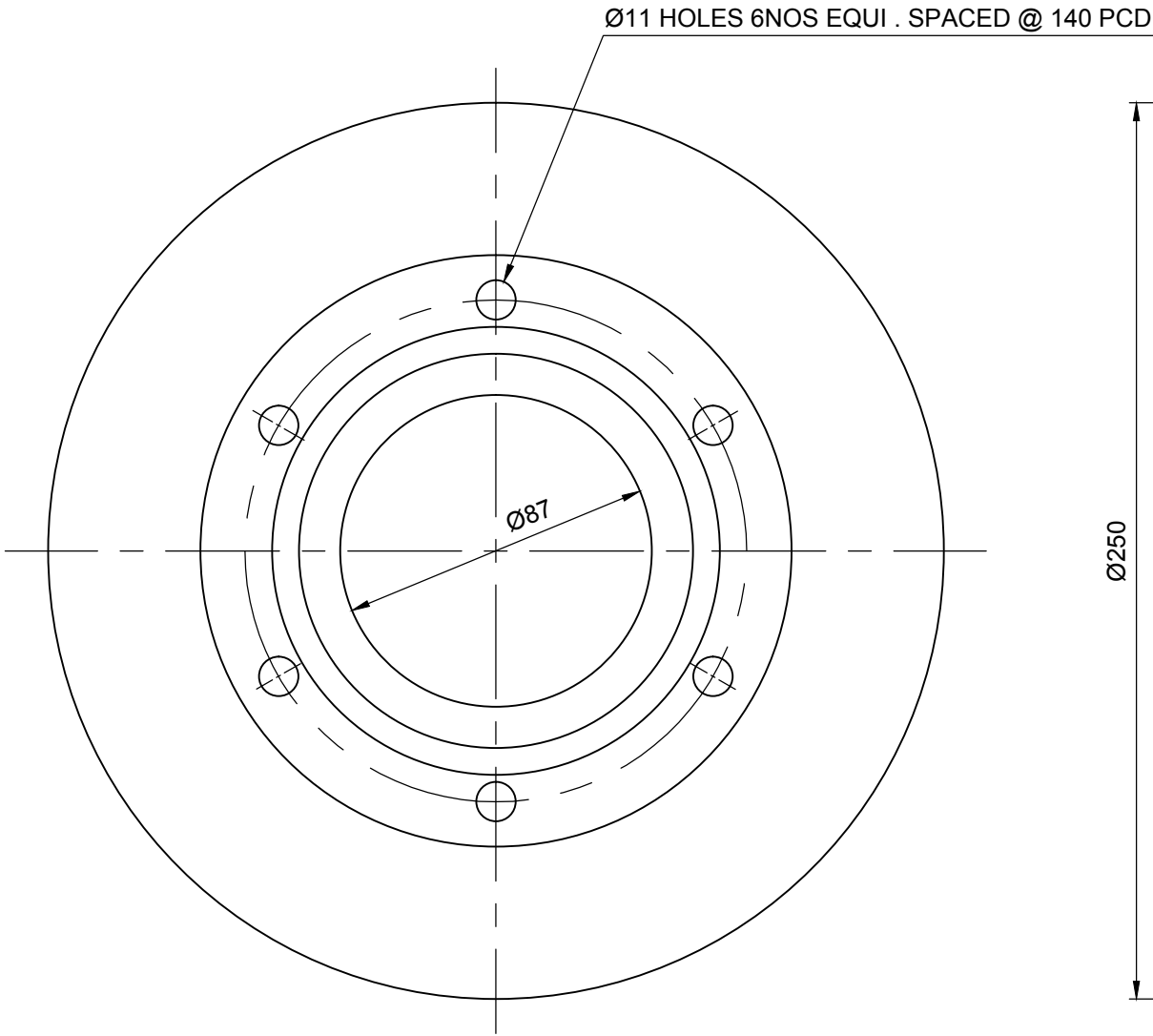
						C 35 IS2073	4	
ITEM NO	DESCRIPTION	DRAWING NO				MATL CODE	UNIT WT	
						MATL SPEC	QTY	
EQPT: CROSS PIERCING AND ELONGATION								
		Bharat Heavy Electricals Ltd		DRN	NAME	SIGNATURE	DATE	
		SEAMLESS STEEL TUBE PLANT			CHD	S.S.N.KUMAR/M.K	<i>P.S.N.Kumar/m.k</i>	24.03.14
		TIRUCHIRAPALLI – 620014			APPD	G.LOGANATHAN	<i>G.Loganathan</i>	24.03.14
					M.CHANDRAKUMAR	<i>M.Chandrakumar</i>	24.03.14	
DEPT SSTP	GRADE OF UNTOL. DIM		SCALE	WEIGHT (Kg)	REF TO ASSY DWG NO		ITEM	
CODE	$\phi/M/\#$ IS: 2102		1:2	2.3	0101056–56.000		39	
456					REF TO OLD DWG NO			
					0101056–56.018			
TITLE				CARD CODE	DRAWING NO :		REV	
CPE - COVER FOR MANDREL THRUST BLOCK ASSY					4-7-1123-56-10263		01	
				U 01				

ALL DIMENSIONS ARE IN MILLIMETRES

DRAWING NO: 3-7-1123-56-10171

Ra 3.2 (Ra 1.6)

NOMINAL SIZE	DEVIATION
Ø125 H7	+ 0.040 0
Ø110 E8	+ 0.125 + 0.072

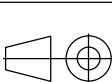


NOTE:-

TREATED FOR STRENGTH - BRINELL HARDNESS (HBW) 156 - 207

REV	DATE	ALTERED
01		CHECKED
		APPROVED

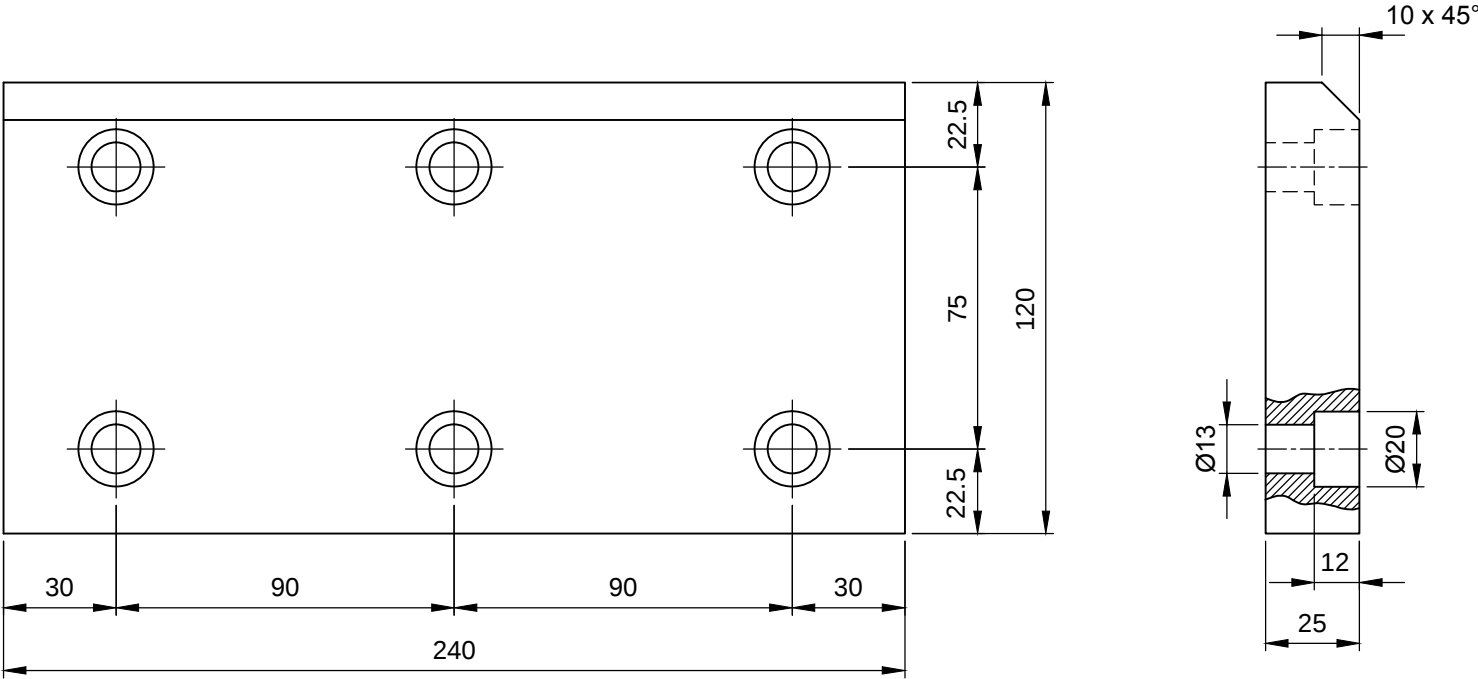
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					20		
					16MnCr5	4	
ITEM NO	DESCRIPTION	DRAWING NO	MATL CODE			UNIT WT	
			MATL SPEC			QTY	
EQPT: CROSS PIERCING AND ELONGATION							
 Bharat Heavy Electricals Ltd SEAMLESS STEEL TUBE PLANT TIRUCHIRAPALLI – 620014		DRN	NAME S.S.N.KUMAR/M.K	SIGNATURE S.P.N.Kumar/m.k	DATE 24.03.14		
		CHD	G.LOGANATHAN	S.Loganathan	24.03.14		
		APPD	M.CHANDRAKUMAR	M.Chandrakumar	24.03.14		
DEPT SSTP	GRADE OF UNTOL. DIM Ø/M/℄ IS: 2102		SCALE 1:2	WEIGHT (Kg) 20	REF TO ASSY DWG NO 0101056-56.000		ITEM 41
CODE 456					REF TO OLD DWG NO 0101056.56.041		
TITLE CPE - TRACK ROLLER FOR MANDREL THRUST BLOCK ASSY				CARD CODE U 01	DRAWING NO : 3-7-1123-56-10171		REV 00

ALL DIMENSIONS ARE IN MILLIMETRES

3-7-1123-56-10219
DRAWING NO:

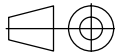
Ra 3.2



NOTE:-
1.All sharp corners are chamfered to 1 x 45°

REV	DATE	ALTERED
01		CHECKED
		APPROVED
ZONE		

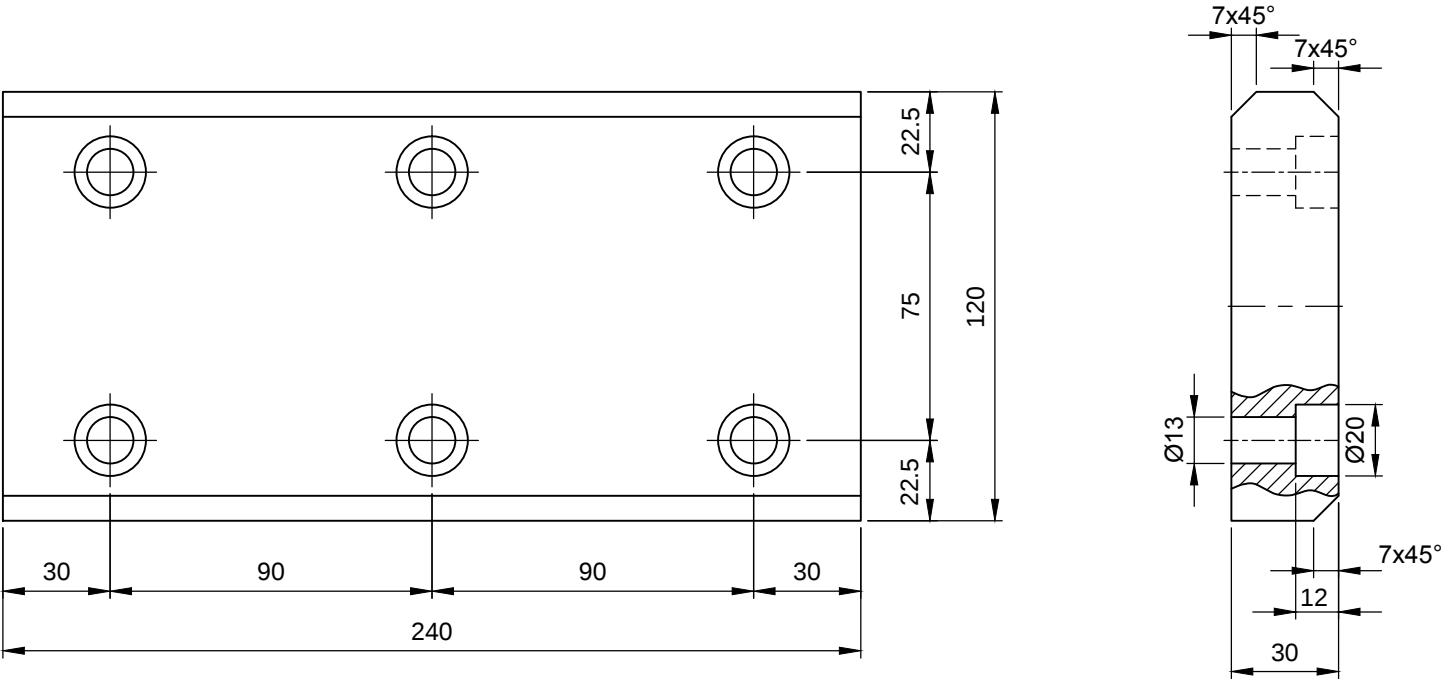
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			C45 IS:5517		1	5.5	
ITEM NO	DESCRIPTION	DRAWING NO	MATL CODE		UNIT WT		
			MATL SPEC		QTY		
EQPT: CROSS PIERCING & ELONGATION							
 Bharat Heavy Electricals Ltd SEAMLESS STEEL TUBE PLANT TIRUCHIRAPALLI – 620014		DRN	NAME V.KRISHNAKUMAR/S.RN	SIGNATURE <i>V. Krishnakumar/S.Rn</i>	DATE 18.07.14		
		CHD	R.K.SINGH	<i>R.K. Singh</i>	18.07.14		
		APPD	G.LOGANATHAN	<i>G. Loganathan</i>	18.07.14		
DEPT SSTP	GRADE OF UNTOL. DIM		SCALE	WEIGHT (Kg)	REF TO ASSY DWG NO —		ITEM
CODE 456	ϕ/M/℄ IS: 2102		1:2	5.5	REF TO OLD DWG NO 0101056–56.000_01		63
TITLE CPE - LEDGE FOR MANDREL THRUST BLOCK				CARD CODE U 01	DRAWING NO : 3-7-1123-56-10219		REV 00

ALL DIMENSIONS ARE IN MILLIMETRES

DRAWING NO: 3-7-1123-56-10220

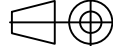
Ra 3.2



NOTE:-
1.All sharp corners are chamfered to 1 x 45°

REV 01	DATE 31.3.15	ALTERED	<i>P.N. Kumar / K.Nr</i>
		CHECKED	<i>R.K. Singh</i>
		APPROVED	<i>G. Loganathan</i>
LEDGE THICKNESS 25 REVISED TO 30 AS PER USER'S REQUEST			
7x45° CHAMFERS ARE ADDED			

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									5.5
						C45 IS:5517		1	
ITEM NO	DESCRIPTION	DRAWING NO				MATL CODE		UNIT WT	
						MATL SPEC		QTY	
EQPT: CROSS PIERCING & ELONGATION									
		Bharat Heavy Electricals Ltd SEAMLESS STEEL TUBE PLANT TIRUCHIRAPALLI – 620014		DRN	V.KRISHNAKUMAR/S.RN	SIGNATURE <i>V. Krishnakumar/S. Rn</i>		DATE 19.07.14	
				CHD	R.K.SINGH	<i>R.K. Singh</i>		19.07.14	
				APPD	G.LOGANATHAN	<i>G. Loganathan</i>		19.07.14	
DEPT SSTP	GRADE OF UNTOL. DIM		SCALE 1:2	WEIGHT (Kg) 5.5	REF TO ASSY DWG NO —				ITEM
CODE 456	$\phi / M / F$ IS: 2102				REF TO OLD DWG NO 0101056–56.000_01				64
TITLE CPE - LEDGE FOR MANDREL THRUST BLOCK				CARD CODE U 01	DRAWING NO : 3-7-1123-56-10220				REV 01

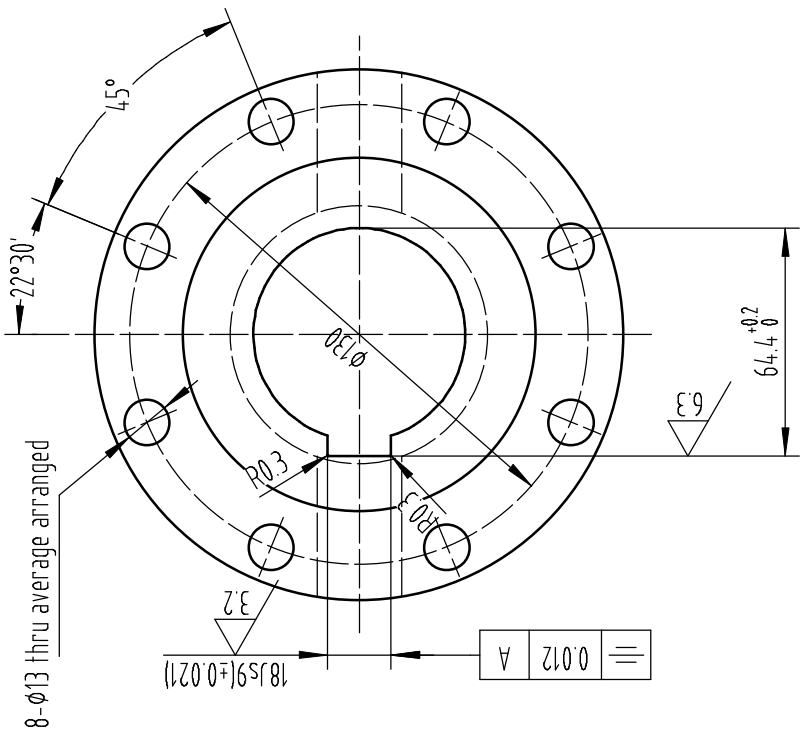
A3-SIZE

other
12.5



- | | | | | | | |
|--|------|------|-------------|---------------------------------------|---|--------------|
|  TZCE
TONGZE HEAVY INDUSTRY | | | DESIGNATION | | DRAWING NO. | |
| | | | flange(1) | | TA772.04.03.03.A | |
| | | | | | | |
| MATERIAL | | | 45 | | WEIGHT | 5.44 |
| | | | | | SHEETS | SCALE |
| | | | | | SHEET | |
| | | | | | ISO Method E | |
| | | | | |  | |
| DESIGNER | | | | | | |
| CHECKED | | | | | | |
| INSPECTER | | | | | | |
| | NAME | NAME | DATE | MARK | AMOUNT | DOCUMENT NO. |
| | | | | | | NAME |
| | | | | | | DATE |
| | | | | Universal Technical Standard JB/T5000 | | |

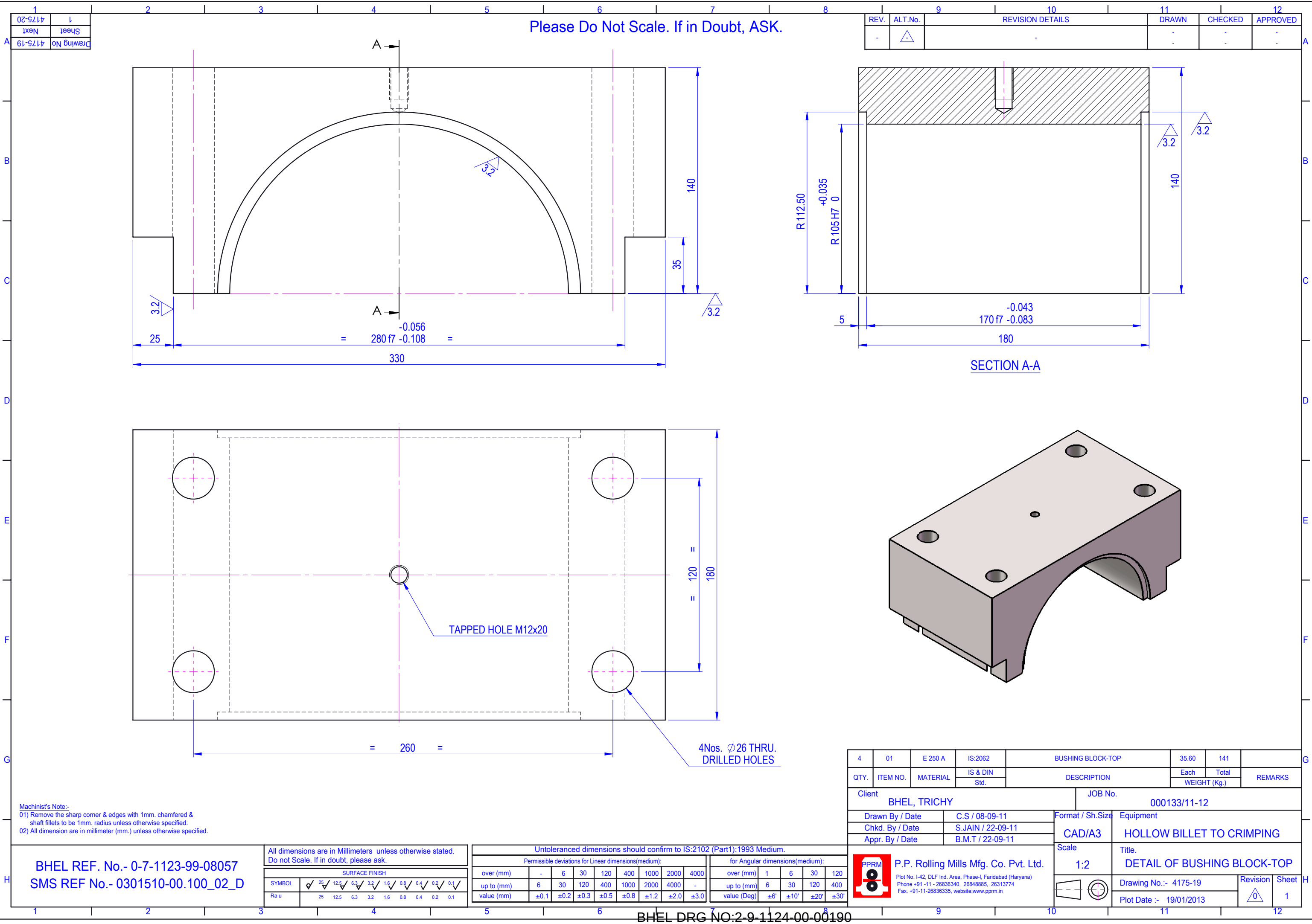
TA772.04.03.04.A



technical requirement

1. quenching and tempering 241-269HBW;
2. no indicated edges break
3. ensuring axial keyway and end face keyway position in drawing.

 TZCE TONGZE HEAVY INDUSTRY	DESIGNATION		DRAWING NO.	
	flange(2)		TA772.04.03.04.A	
	MATERIAL	45	WEIGHT	7.5
			SHEETS	SHEET
DESIGNER			ISO Method E 	
CHECKED				
INSPECTOR				
	NAME	NAME	DATE	Universal Technical Standard JB/T5000



Engineering drawing of a BUSHING SUPPORT-BOTTOM, showing front, top, and section views, along with a 3D isometric view.

Front View: Shows a U-shaped component with a central semi-circular cutout. Dimensions include a total width of 330 mm, a central width of 100 mm, and a height of 180 mm. A semi-circular cutout has a radius of R12.50. A tapped hole for lubrication is specified as 1/4" BSP x 100. Surface finish requirements are indicated by 3.2 and 12.5 symbols.

Top View: Shows a rectangular base with a central circular hole of diameter 210 H7 0. Four smaller holes of diameter 26 are located at the corners. The overall dimensions are 280 mm by 120 mm. A central hole of diameter 8 x 30 is also shown.

Section C-C: A cross-sectional view showing the internal structure and dimensions. It includes a central hole of diameter 8 x 30 and a semi-circular cutout with a radius of R12.50. Dimensions include a total width of 180 mm and a height of 25 mm.

3D Isometric View: A perspective view of the component, showing its U-shaped profile and the central semi-circular cutout.

Technical Specifications and Notes:

- Material:** E 250 A
- Standard:** IS:2062
- Surface Finish:** 3.2, 12.5, 6.3, 3.2, 1.6, 0.8, 0.4, 0.2, 0.1
- Dimensional Tolerances:** Permissible deviations for Linear dimensions (medium): over (mm) 6, 30, 120, 400, 1000, 2000, 4000; up to (mm) 6, 30, 120, 400, 1000, 2000, 4000; value (mm) ±0.1, ±0.2, ±0.3, ±0.5, ±0.8, ±1.2, ±2.0, ±3.0.
- Angular dimensions (medium):** over (mm) 1, 6, 30, 120; up to (mm) 6, 30, 120, 400; value (Deg) ±6', ±10', ±20', ±30'.
- Notes:** 01) Remove the sharp corner & edges with 1mm. chamfered & shaft fillets to be 1mm. radius unless otherwise specified. 02) All dimension are in millimeter (mm.) unless otherwise specified.

Revision History:

REV.	ALT.No.	REVISION DETAILS	DRAWN	CHECKED	APPROVED
-	△	-	-	-	-

Client: BHEL, TRICHY
JOB No.: 000133/11-12

Drawn By / Date: C.S / 08-09-11
Chkd. By / Date: S.JAIN / 22-09-11
Appr. By / Date: B.M.T / 22-09-11

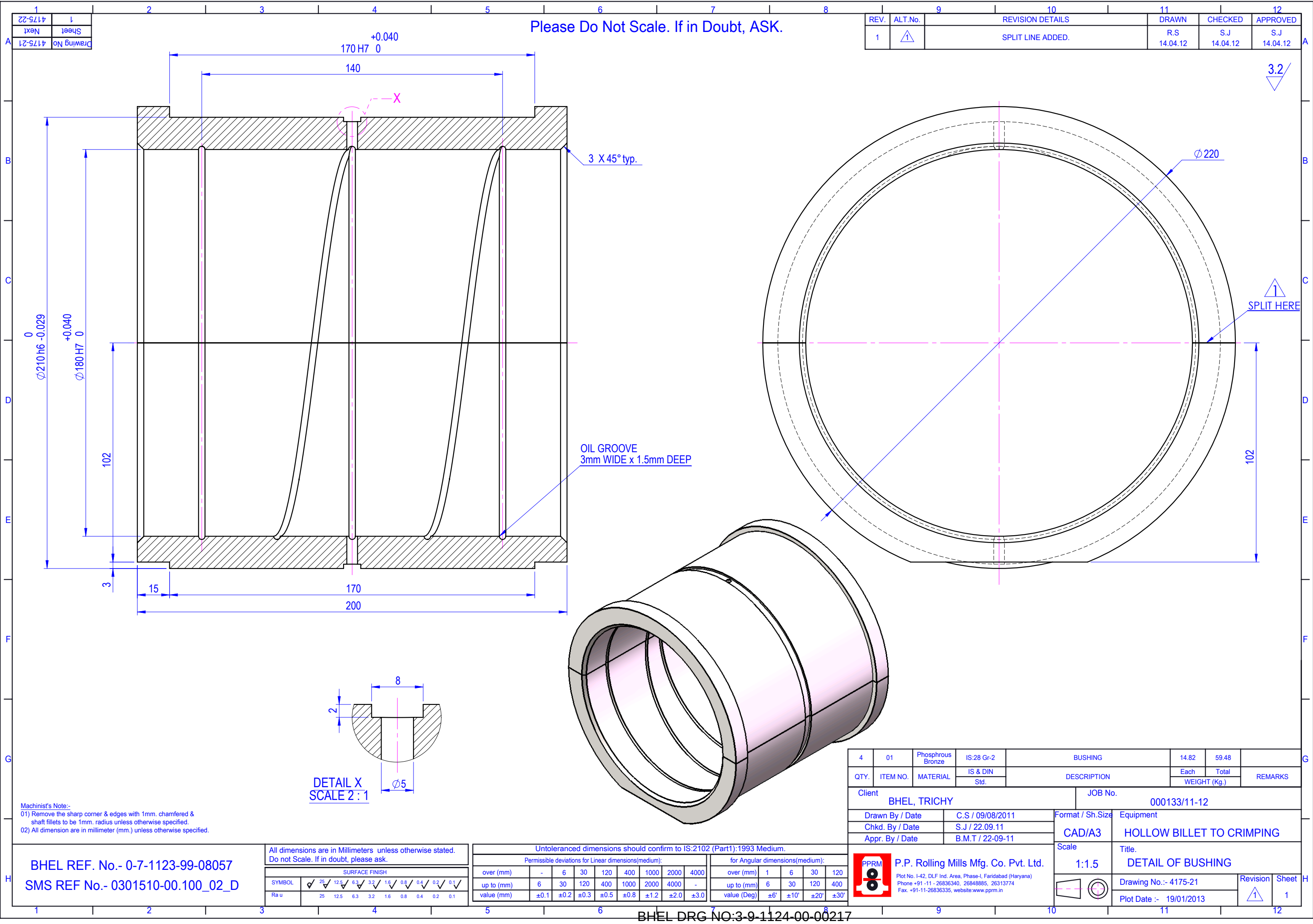
Format / Sh.Size: CAD/A3
Scale: 1:2

Equipment: HOLLOW BILLET TO CRIMPING

Title: DETAIL OF BUSHING SUPPORT-BOTTOM

Drawing No.:- 4175-20
Plot Date :- 19/01/2013

Revision: 1
Sheet: 1



Please Do Not Scale. If in Doubt, ASK.

3.2

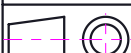
1
SPLIT HERE

DETAIL X
SCALE 2:1

BHEL REF. No.- 0-7-1123-99-08057
SMS REF No.- 0301510-00.100_02_D

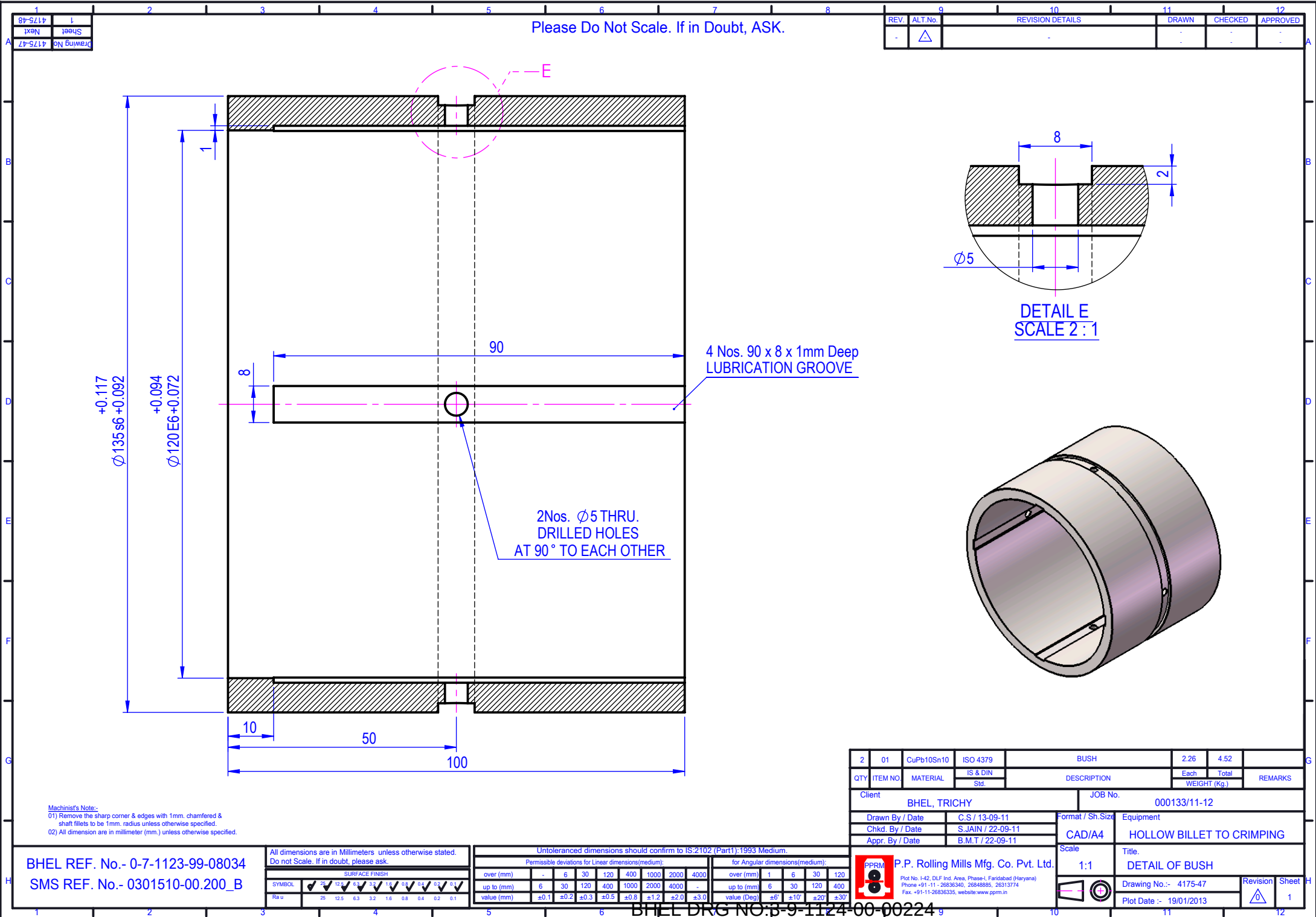
All dimensions are in Millimeters unless otherwise stated. Do not Scale. If in doubt, please ask.	
SURFACE FINISH	
SYMBOL	$\sqrt{25}$ $\sqrt{12.5}$ $\sqrt{6.3}$ $\sqrt{3.2}$ $\sqrt{1.6}$ $\sqrt{0.8}$ $\sqrt{0.4}$ $\sqrt{0.2}$ $\sqrt{0.1}$
Re u	25 12.5 6.3 3.2 1.6 0.8 0.4 0.2 0.1

Untoleranced dimensions should confirm to IS:2102 (Part1):1993 Medium.																	
Permissible deviations for Linear dimensions (medium):									for Angular dimensions (medium):								
over (mm)	-	6	30	120	400	1000	2000	4000	over (mm)	1	6	30	120				
up to (mm)	6	30	120	400	1000	2000	4000	-	up to (mm)	6	30	120	400				
value (mm)	± 0.1	± 0.2	± 0.3	± 0.5	± 0.8	± 1.2	± 2.0	± 3.0	value (Deg)	$\pm 6'$	$\pm 10'$	$\pm 20'$	$\pm 30'$				

4	01	Phosphrous Bronze	IS:28 Gr-2	BUSHING		14.82	59.48			
QTY.	ITEM NO.	MATERIAL	IS & DIN Std.	DESCRIPTION		Each	Total	REMARKS		
						WEIGHT (Kg.)				
Client				JOB No.						
BHEL, TRICHY				000133/11-12						
Drawn By / Date		C.S / 09/08/2011		Format / Sh.Size		Equipment				
Chkd. By / Date		S.J / 22.09.11		CAD/A3		HOLLOW BILLET TO CRIMPING				
Appr. By / Date		B.M.T / 22-09-11		Scale		Title.				
				1:1.5		DETAIL OF BUSHING				
		P.P. Rolling Mills Mfg. Co. Pvt. Ltd. Plot No. I-42, DLF Ind. Area, Phase-I, Faridabad (Haryana) Phone +91 -11 - 26836340, 26848885, 26313774 Fax. +91-11-26836335, website:www.pprm.in				Drawing No.:- 4175-21			Revision	Sheet
						Plot Date :- 19/01/2013				1

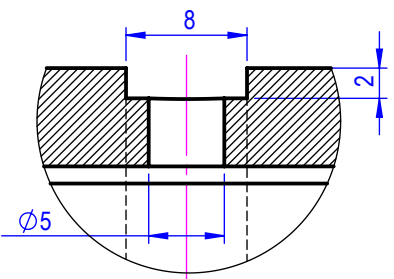


P.P. Rolling Mills Mfg. Co. Pvt. Ltd.
Plot No. I-42, DLF Ind. Area, Phase-I, Faridabad (Haryana)
Phone +91-11- 26836340, 26848885, 26313774
Fax. +91-11-26836335, website:www.pprm.in

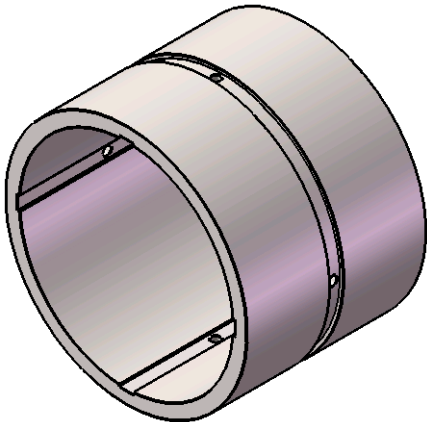


Please Do Not Scale. If in Doubt, ASK.

REV.	ALT.No.	REVISION DETAILS	DRAWN	CHECKED	APPROVED
1					



DETAIL E
SCALE 2 : 1



Machinist's Note:-
01) Remove the sharp corner & edges with 1mm. chamfered & shaft fillets to be 1mm. radius unless otherwise specified.
02) All dimension are in millimeter (mm.) unless otherwise specified.

BHEL REF. No.- 0-7-1123-99-08034
SMS REF. No.- 0301510-00.200_B

SURFACE FINISH									
SYMBOL	7.5	12.5	17.5	25	32	40	50	63	80
Rau	✓	✓	✓	✓	✓	✓	✓	✓	✓

Permissible deviations for Linear dimensions (medium):									
over (mm)	-	6	30	120	400	1000	2000	4000	-
up to (mm)	6	30	120	400	1000	2000	4000	-	-
value (mm)	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2.0	±3.0	-

for Angular dimensions (medium):									
over (mm)	1	6	30	120	-	-	-	-	-
up to (mm)	6	30	120	400	-	-	-	-	-
value (Deg)	±6'	±10'	±20'	±30'	-	-	-	-	-

2		01		CuPb10Sn10		ISO 4379		BUSH		2.26		4.52		G													
QTY		ITEM NO		MATERIAL		IS & DIN		DESCRIPTION		Each		Total		REMARKS													
						Std.				WEIGHT (Kg.)																	
Client								JOB No.																			
BHEL, TRICHY								000133/11-12																			
Drawn By / Date				C.S / 13-09-11				Format / Sh.Size		Equipment																	
Chkd. By / Date				S.JAIN / 22-09-11				CAD/A4		HOLLOW BILLET TO CRIMPING																	
Appr. By / Date				B.M.T / 22-09-11				Scale		Title.																	
				P.P. Rolling Mills Mfg. Co. Pvt. Ltd.										1:1		DETAIL OF BUSH											
				Plot No. 1-42, DLF Ind. Area, Phase-I, Faridabad (Haryana) Phone +91-11-26836340, 26848885, 26313774 Fax. +91-11-26836335, website www.pprm.in												Drawing No.-: 4175-47						Revision		Sheet		H	
																Plot Date :- 19/01/2013								1			
00-00224				9				10				11				12											

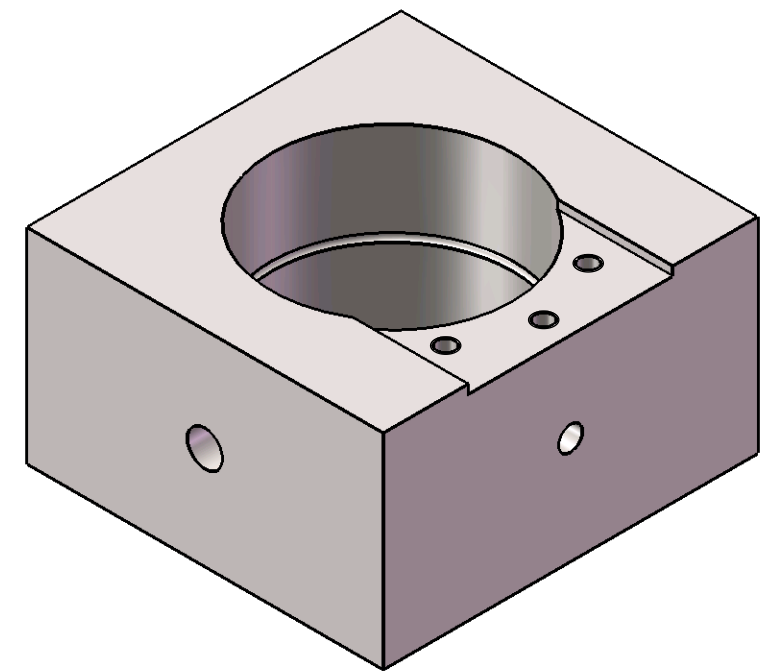
BHEL DRG NO: 0-7-1123-99-08034

G

H

G

H



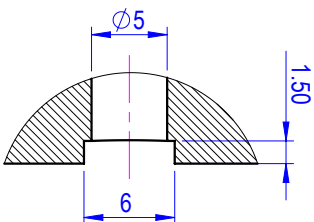
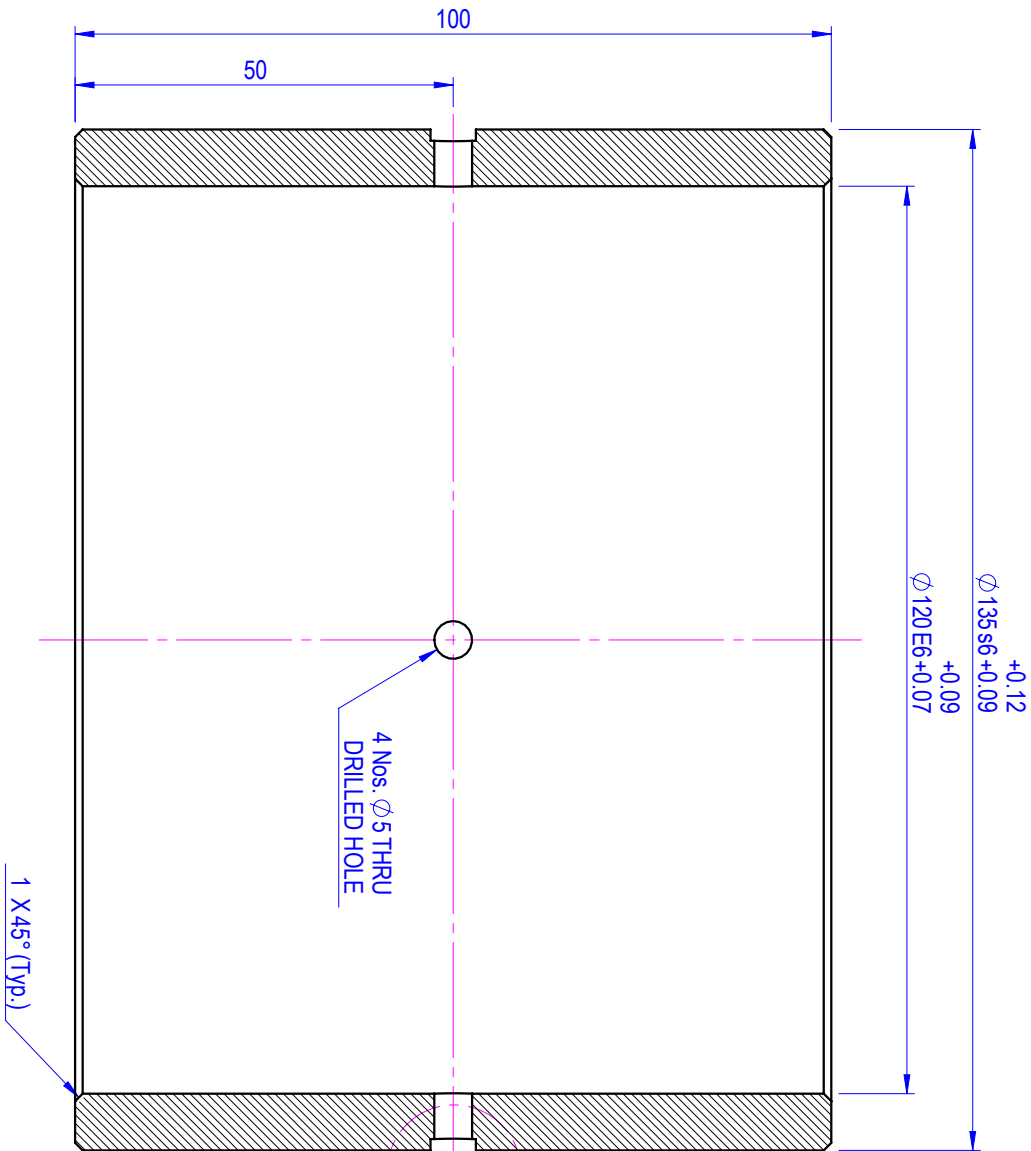
P.P. Rolling Mills Mfg. Co. Pvt. Ltd.
Plot No. I-42, DLF Ind. Area, Phase-I, Faridabad (Haryana)
Phone +91-11-26836340, 26848885, 26313774
Fax. +91-11-26836335, website:www.pprm.in

1	1
pen	sheet
A	125/114
on	Bureau

Please Do Not Scale. If in Doubt, ASK.

REV	ALT No.	REVISION DETAILS	DRAWN	CHECKED	APPROVED
-	△				

3.2



DETAIL A
SCALE 2:1

Manufacturer's Note:
01) All dimensions are in millimeters (mm) unless otherwise specified.
02) All dimensions are in millimeter (mm) unless otherwise specified.

BHEL REF. No.- 0-7-1123-99-08057
SMS REF No.- 0301510-00.100_02_D

All dimensions are in Millimeters unless otherwise stated. Do not Scale. If in doubt, please ask.											
SYMBOL	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Re u	20	12.5	6.3	3.2	1.6	0.8	0.4	0.2	0.1		

Unilateral dimensions should confirm to IS:2102 (Part1):1993 Medium.											
Permissible deviation for linear dimension(mm)											
over (mm)	-	6	30	120	400	1000	2000	4000			
up to (mm)	6	30	120	400	1000	2000	4000	-			
value (mm)	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2.0	±3.0			
for Angular dimension(deg)											
over (mm)	1	6	30	120							
up to (mm)	6	30	120	400							
value (deg)	±6'	±10'	±20'	±30'							



P.P. Rolling Mills Mfg. Co. Pvt. Ltd.
Plot No. 142, DLF Ind Area Phase-I, Gurgaon (Haryana)
Phone: 49111-2683050, 2683885, 2683774
Fax: 49111-2683050, website: www.pprml.com



Scale 1:1

Detailing No.: 4175-24

Revision Sheet 1

Plot Date :- 19/01/2013

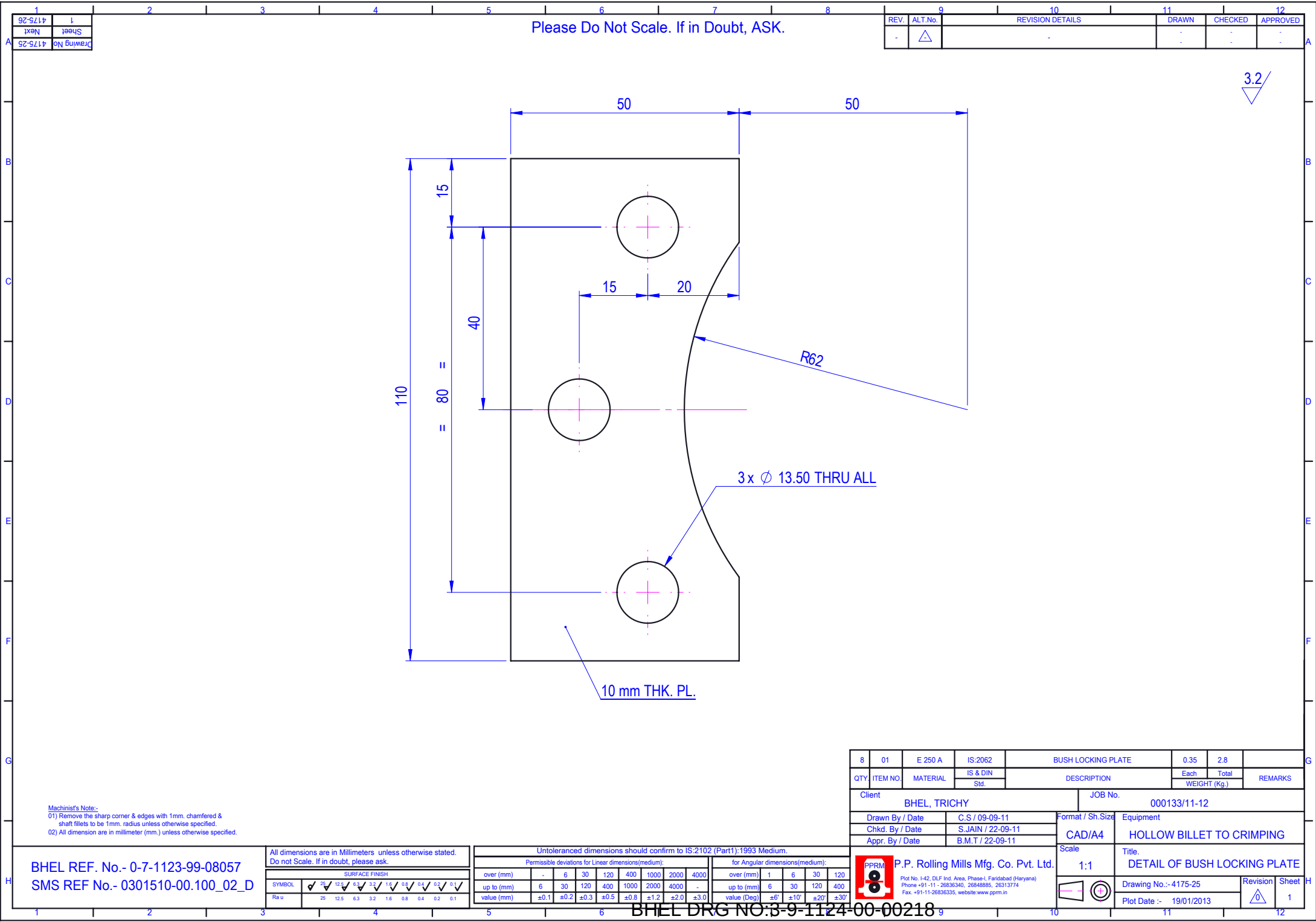
Revision 1

Revision 1

Revision 1

Revision 1

Revision 1



Please Do Not Scale. If in Doubt, ASK.

3.2

Machinist's Note:-
01) Remove the sharp corner & edges with 1mm. chamfered &
shaft fillets to be 1mm. radius unless otherwise specified.
02) All dimension are in millimeter (mm.) unless otherwise specified.

BHEL REF. No.- 0-7-1123-99-08057
SMS REF No.- 0301510-00.100_02_D

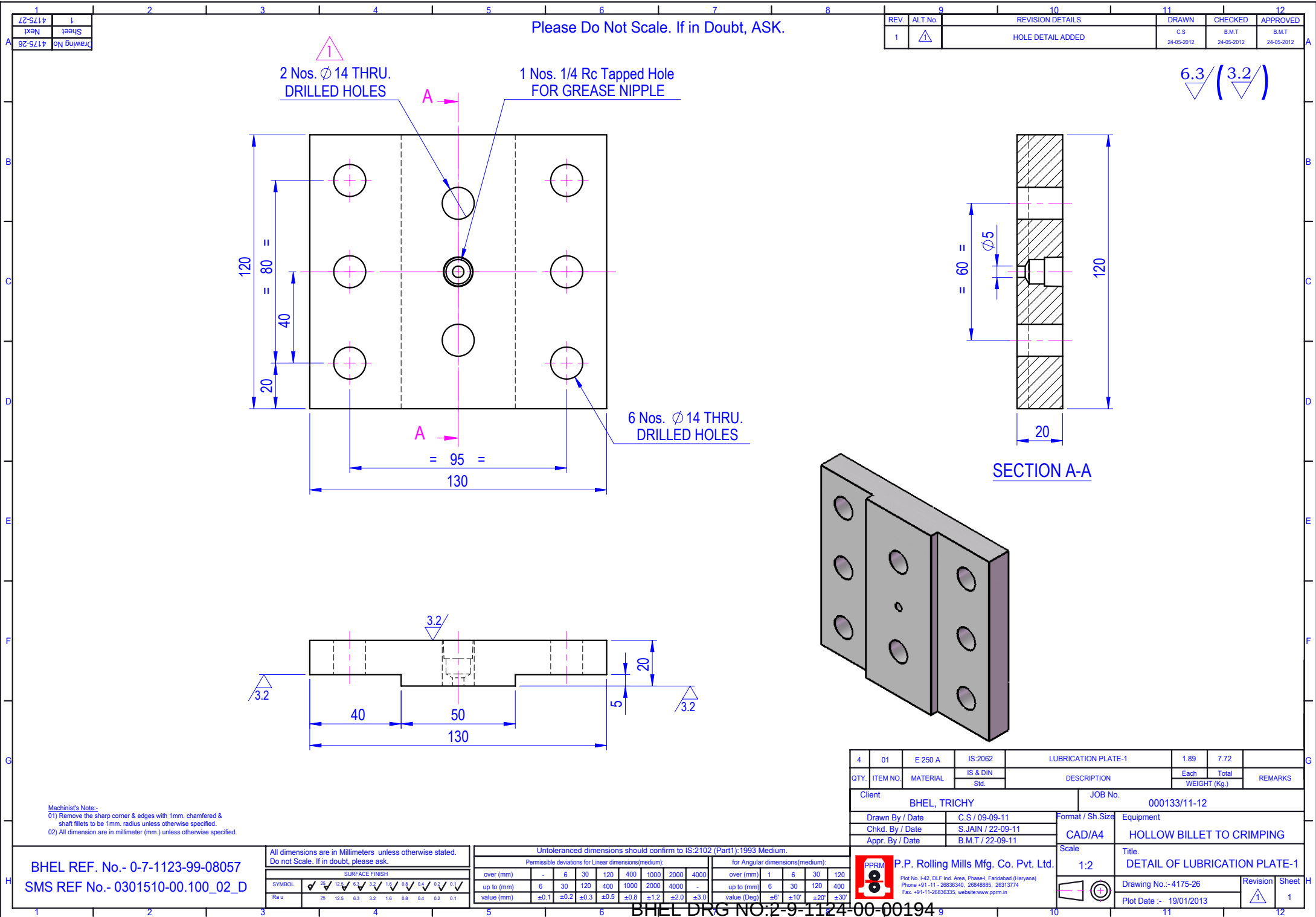
SURFACE FINISH									
SYMBOL	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ra u	25	12.5	6.3	3.2	1.6	0.8	0.4	0.2	0.1

Permissible deviations for Linear dimensions (medium):									
over (mm)	-	6	30	120	400	1000	2000	4000	-
up to (mm)	6	30	120	400	1000	2000	4000	-	-
value (mm)	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2.0	±3.0	-

for Angular dimensions (medium):									
over (mm)	1	6	30	120	400	1000	2000	4000	-
up to (mm)	6	30	120	400	1000	2000	4000	-	-
value (Deg)	±6'	±10'	±20'	±30'	±45'	±60'	±90'	±120'	±180'

8	01	E 250 A	IS:2062	BUSH LOCKING PLATE		0.35	2.8		
QTY	ITEM NO.	MATERIAL	IS & DIN	DESCRIPTION	Each	Total	REMARKS		
			Std.		WEIGHT (Kg.)				
Client				JOB No.					
BHEL, TRICHY				000133/11-12					
Drawn By / Date		C.S / 09-09-11		Format / Sh.Size		Equipment			
Chkd. By / Date		S.JAIN / 22-09-11		CAD/A4		HOLLOW BILLET TO CRIMPING			
Appr. By / Date		B.M.T / 29-09-11		Scale		Title.			
				1:1		DETAIL OF BUSH LOCKING PLATE			
		P.P. Rolling Mills Mfg. Co. Pvt. Ltd.				Drawing No.:- 4175-25		Revision	Sheet
		Plot No. I-42, DLF Ind. Area, Phase-I, Faridabad (Haryana) Phone +91-11-26836340, 26848885, 26313774 Fax. +91-11-26836335, website www.pprm.in				Plot Date :- 19/01/2013			1

BHEL DRG NO:3-9-1124-00-00218

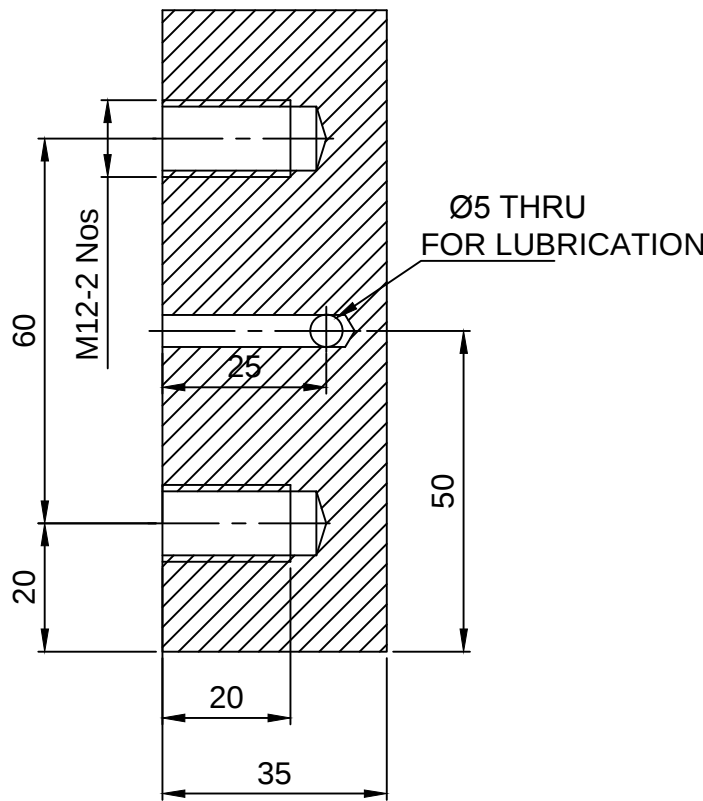
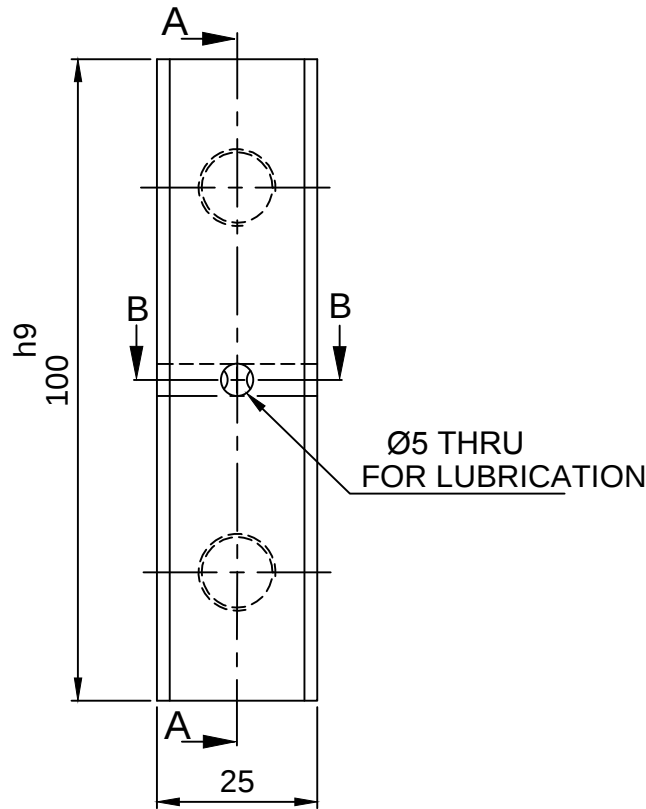


4	01	E 250 A	IS:2062	LUBRICATION PLATE-1		1.89	7.72	G		
QTY.	ITEM NO	MATERIAL	IS & DIN Std.	DESCRIPTION		Each	Total	REMARKS		
Client				JOB No.		WEIGHT (Kg.)				
BHEL, TRICHY				000133/11-12						
Drawn By / Date			C.S / 09-09-11		Format / Sh.Size		Equipment			
Chkd. By / Date			S.JAIN / 22-09-11		CAD/A4		HOLLOW BILLET TO CRIMPING			
Appr. By / Date			B.M.T / 22-09-11		Scale		Title.			
			P.P. Rolling Mills Mfg. Co. Pvt. Ltd.		1:2		DETAIL OF LUBRICATION PLATE-1			
			Plot No. I-42, DLF Ind. Area, Phase-I, Faridabad (Haryana) Phone +91-11- 26836340, 26848885, 26313774 Fax. +91-11-26836335, website www.pprm.in				Drawing No.:- 4175-26		Revision	Sheet
					Plot Date :- 19/01/2013				1	H

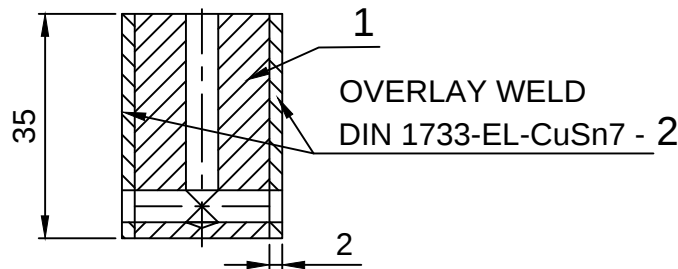
ALL DIMENSIONS ARE IN MILLIMETRES

3-7-1124-00-10357

DRAWING NO:



SECTION A-A



SECTION B-B

Ra 3.2	
100 ^{h9}	0 -0.019

OLD DRG NO : 3-9-1124-00-00374
BHEL REF NO. 0-7-1123-99-08057
SMS REF NO. 0301510-00.100_02_D

DRAWING DEPOSIT IN SYSTEM AS PER
USER'S REQUEST

2	OVERLAY WELD		DIN 1733 EL-CuSn7			
1	PLATE		EN9 BS : 970			
ITEM NO	DESCRIPTION	DRAWING NO	MATL CODE		UNIT WT	
			MATL SPEC		QTY	
EQPT: AL-CON,EMERGENCY CON. MANIPULATOR,EQPT AFTER CPE OUTLET						
 Bharat Heavy Electricals Ltd SEAMLESS STEEL TUBE PLANT TIRUCHIRAPALLI – 620014		DRN	NAME SSN.KUMAR/B.N	SIGNATURE <i>SSN.Kumar/B.N</i>	DATE 26.05.18	
		CHD	D.CHANDRASEKAR	<i>D.Chandrasekar</i>	26.05.18	
		APPD	D.CHANDRASEKAR	<i>D.Chandrasekar</i>	26.05.18	
DEPT SSTP	GRADE OF UNTOL. DIM		SCALE	WEIGHT (Kg)	REF TO ASSY DWG NO	ITEM
CODE 456	Ø/M/F IS: 2102		1:1	1.9	REF TO OLD DWG NO	
TITLE				CARD CODE U 01	DRAWING NO : 3-7-1124-00-10357	REV 00
MPL - LUBRICATION PLATE-2 HOLLOW BILLET TO CRIMPING						

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MUST NOT BE USED DIRECTLY OR INDIRECTLY IN ANY
WAY DETRIMENTAL TO THE INTEREST OF THE COMPANY.

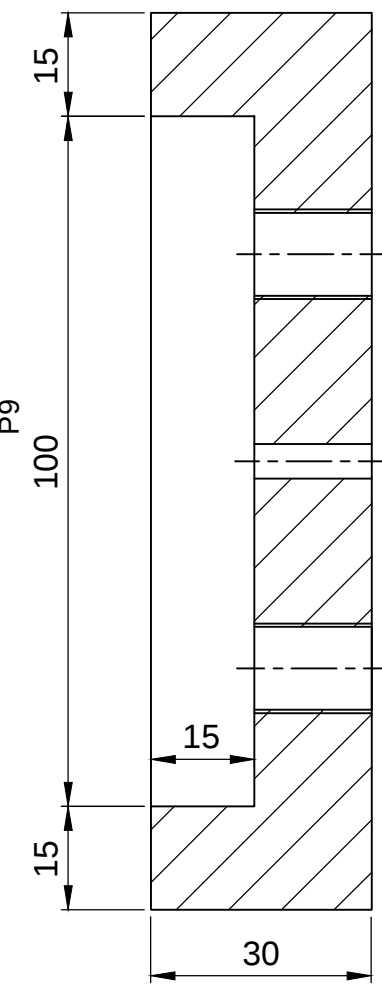
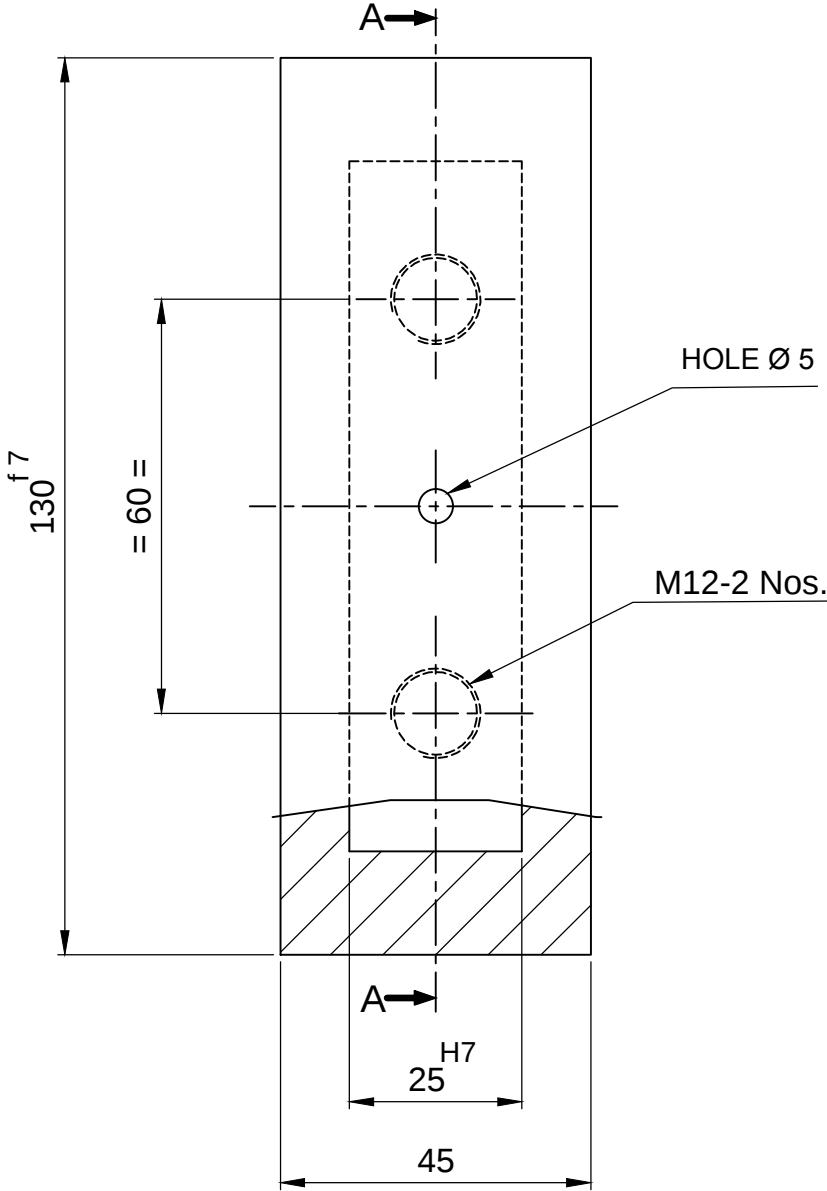
REV	DATE	ALTERED
01		CHECKED
		APPROVED

A3-SIZE

ALL DIMENSIONS ARE IN MILLIMETRES

3-7-1124-00-10358
DRAWING NO:

Ra 3.2



SECTION A-A

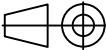
f 7	-0.043
130	-0.083
P9	-0.040
100	-0.120
H7	+0.020
25	0

OLD DRG NO : 3-7-1124-00-00375
BHEL REF NO. 0-7-1123-99-08057
SMS REF NO. 0301510-00.100_02_D

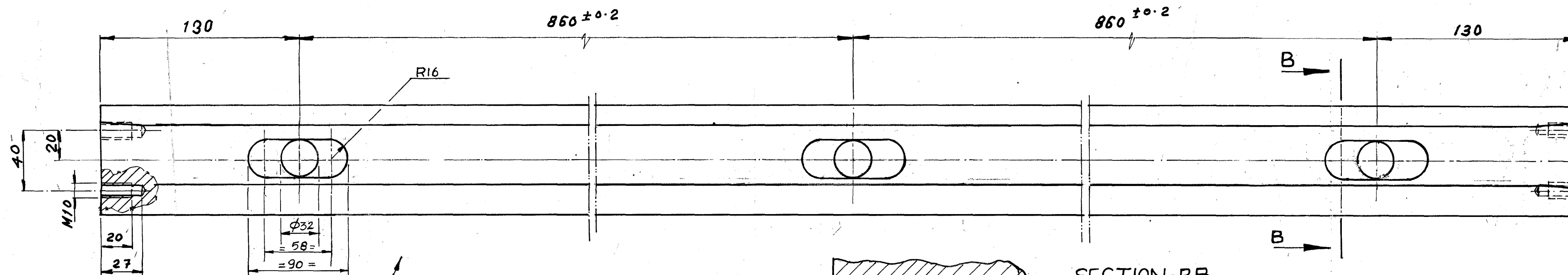
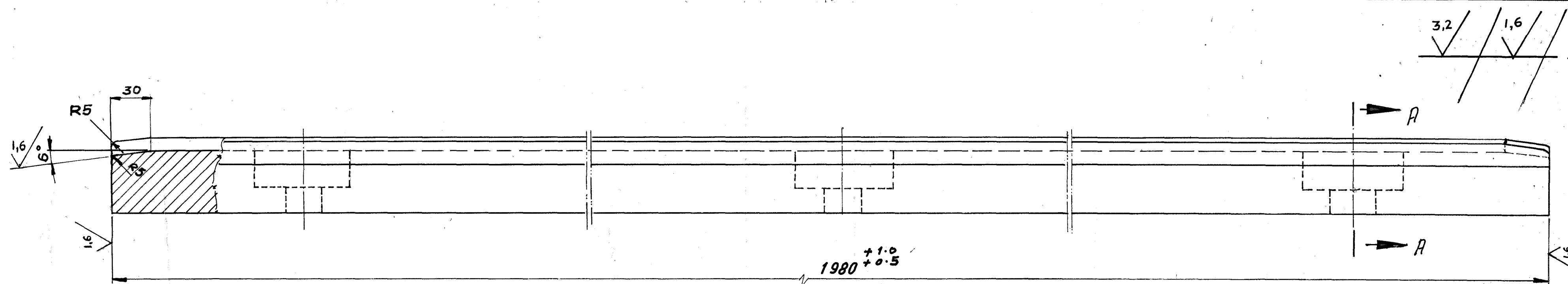
DRAWING DEPOSIT IN SYSTEM
AS PER USER'S REQUEST

REV	DATE	ALTERED
01		CHECKED
		APPROVED

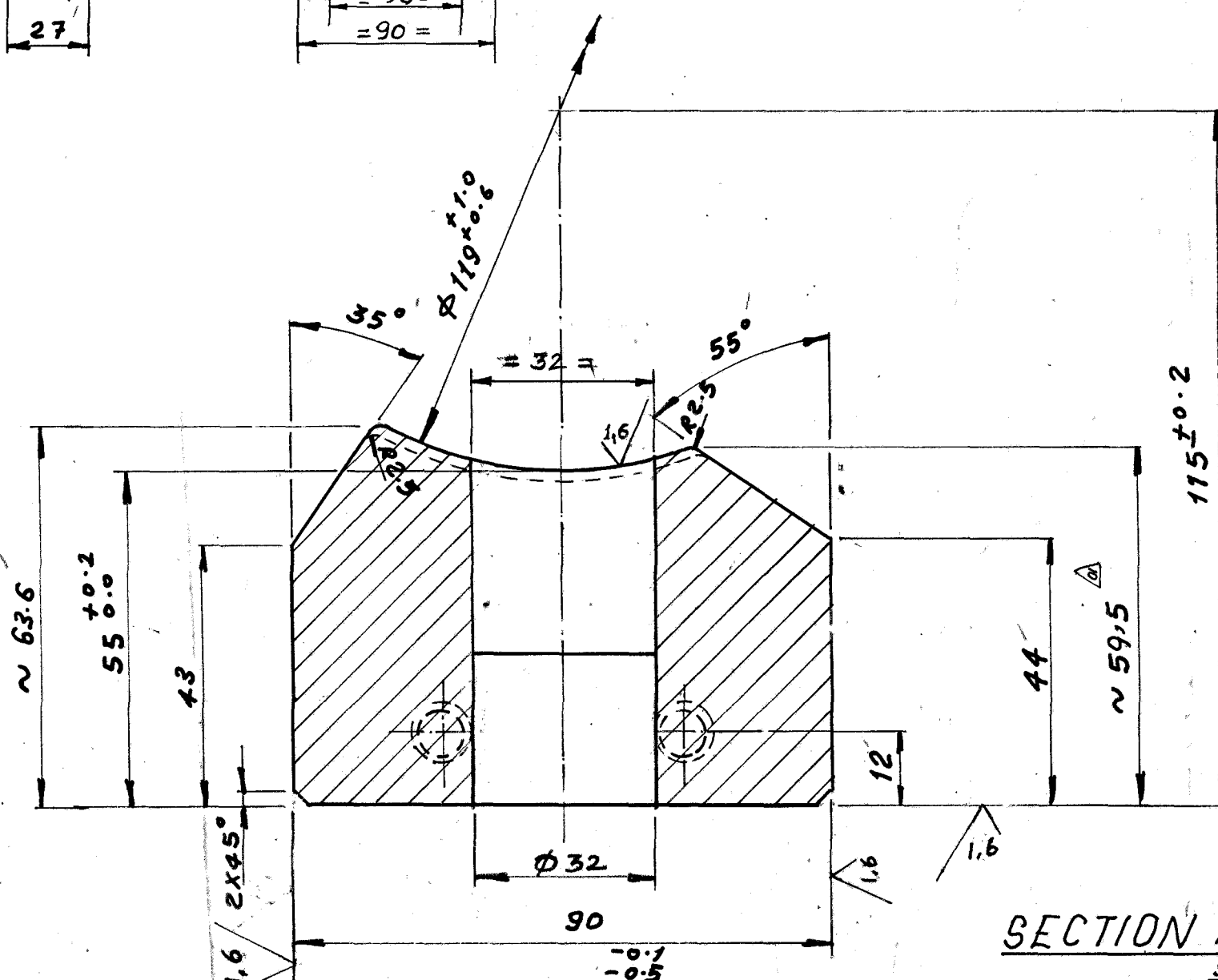
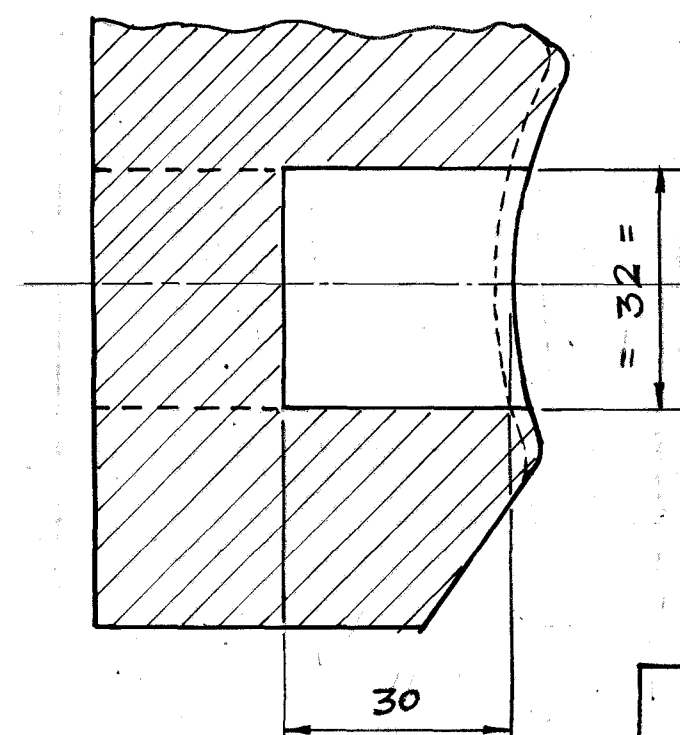
CAUTION: THE INFORMATION ON THIS DOCUMENT IS THE PROPERTY OF BHARAT HEAVY ELECTRICALS LIMITED. IT MUST NOT BE USED DIRECTLY OR INDIRECTLY IN ANY WAY DETRIMENTAL TO THE INTEREST OF THE COMPANY.

			E 250 A IS : 2062			
ITEM NO	DESCRIPTION	DRAWING NO	MATL CODE		UNIT WT	
			MATL SPEC		QTY	
EQPT: AL-CON,EMERGENCY CON. MANIPULATOR,EQPT AFTER CPE OUTLET						
 Bharat Heavy Electricals Ltd SEAMLESS STEEL TUBE PLANT TIRUCHIRAPALLI – 620014		DRN	NAME SSN.KUMAR/B.N	SIGNATURE <i>SSN.Kumar/B.N</i>	DATE 26.05.18	
		CHD	D.CHANDRASEKAR	<i>D.Chandrasekar</i>	26.05.18	
		APPD	D.CHANDRASEKAR	<i>D.Chandrasekar</i>	26.05.18	
DEPT SSTP	GRADE OF UNTOL. DIM		SCALE 1:1	WEIGHT (Kg) 3.4	REF TO ASSY DWG NO	ITEM
CODE 456	ϕ / $\sqrt$ / f IS: 2102				REF TO OLD DWG NO	
TITLE MPL - LUBRICATION PLATE-3 HOLLOW BILLET TO CRIMPING				CARD CODE U 01	DRAWING NO : 3-7-1124-00-10358	REV 00

FIRST ANGLE PROJECTION (ALL DIMENSIONS IN MILLIMETRES)

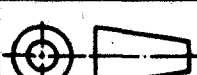


SECTION-BB

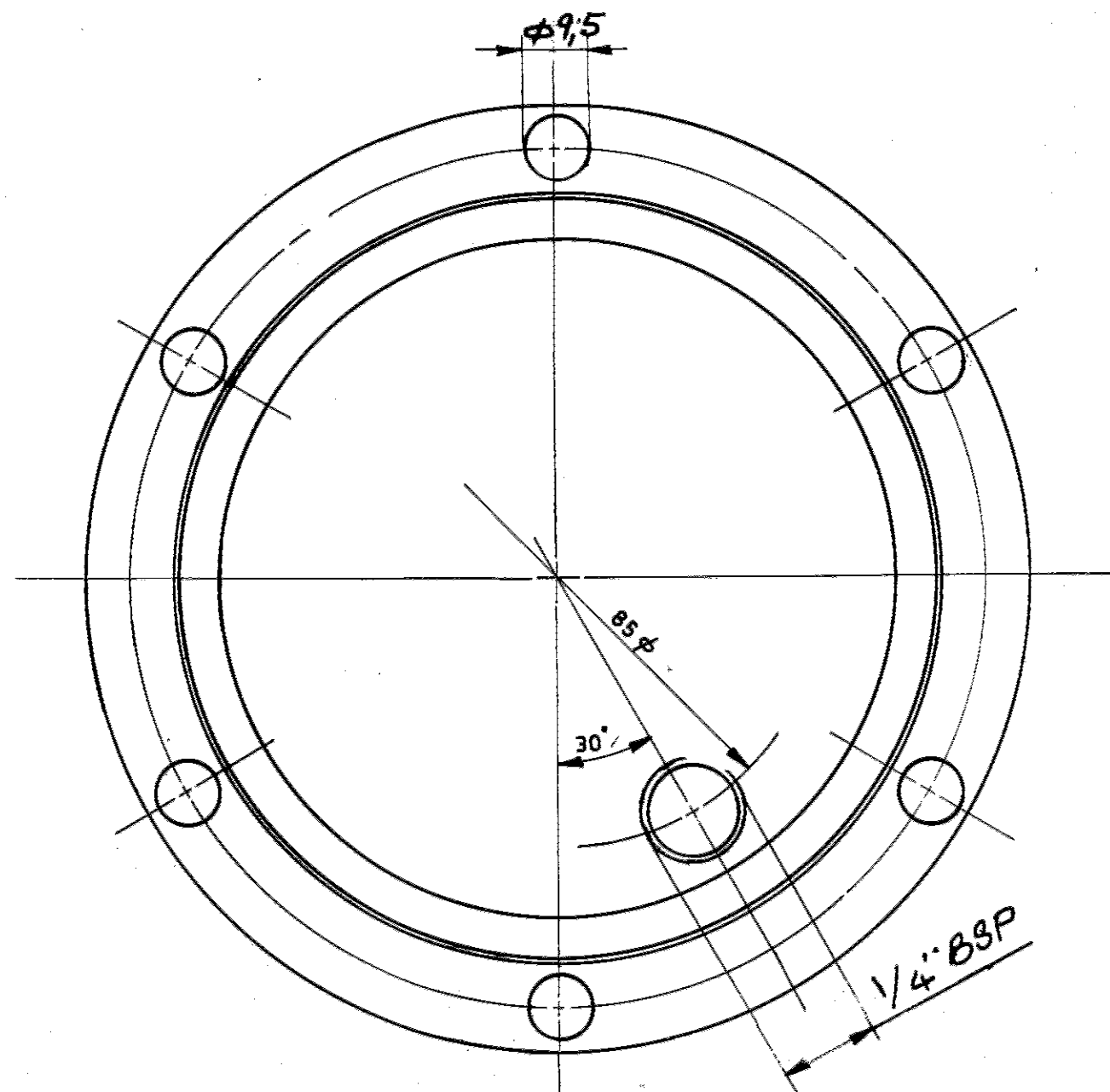
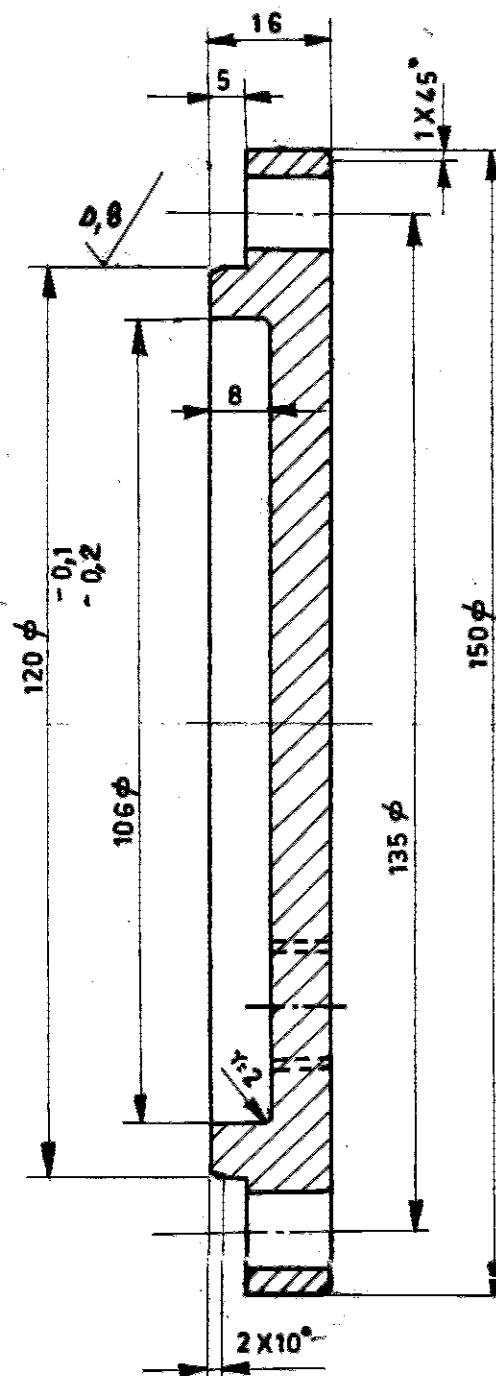


SECTION AT "AA"
SCALE = 1:1

REV.	DATE 3.11.95	ALTERED <i>by [signature]</i> CHECKED: J. CHAN
02	APPD. <i>[signature]</i> MTL SPN 35 C 815:551 WAS C 35 Mn 75 IS: 5517, Ø 32 CLEARANCE HOLE WAS M30. SLOT 32 x 90 x 3 AT THREE PLACES ADDED.	
REV 01	DATE 18-8-84	ALTERED <i>for [signature]</i> CHECKED <i>[signature]</i>
ZONE	DIMN: 59,5 WAS 56,5	

				35 CB		IS: 5317			
ITEM NO.		DESCRIPTION		DRAWING NO.		MATL CODE		UNIT WT	
						MATL SPEC		QTY	
EQPT: PUSH BENCH									
 Bharat Heavy Electricals Ltd., SEAMLESS STEEL TUBE PLANT TIRUCHIRAPALLI-620 014				DRN	NAME	SIGN	DATE	NO. OF ITEMS	
				CHD			29/8/82		
				APFD			30/8/82		
DEPT		GRADE OF UNTOOL DIM C/M/F		SCALE		WEIGHT (kg)		REF TO ASSY / OLD DRG	
CODE				1:2.5 (1:1)		76		0115005-60002	
TITLE				CARD CODE		DRAWING NO.		REV	
(BOTTOM) GUIDE STRIP FOR Φ 118 MANDREL & SHAFT GUIDE				U 01		2-7-1127-06-01548.		02	

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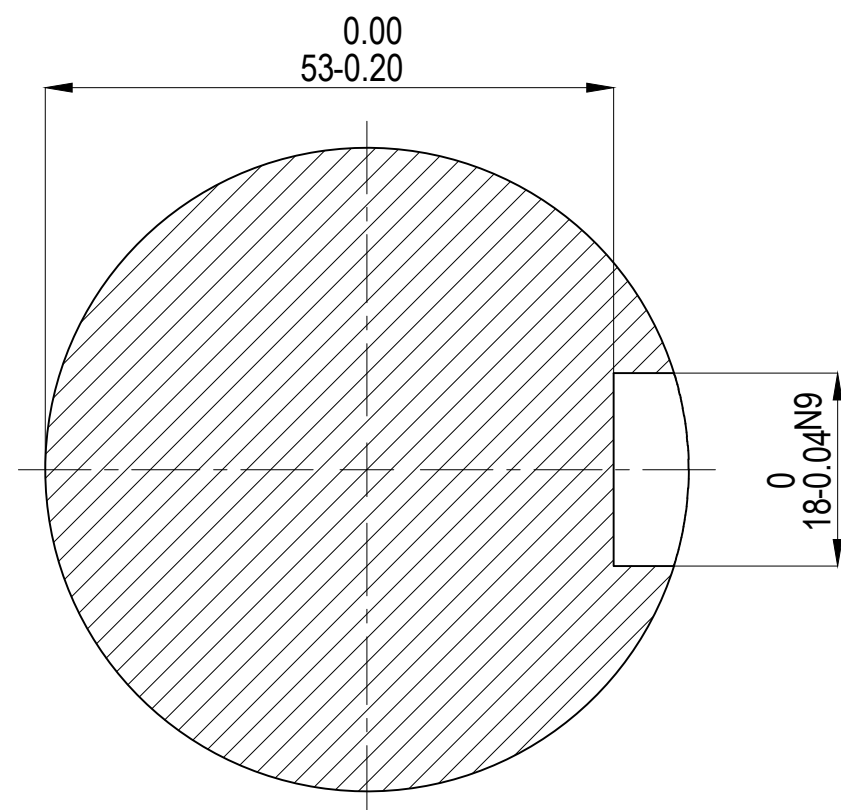
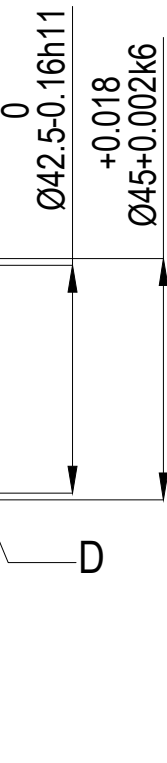


32/0,8

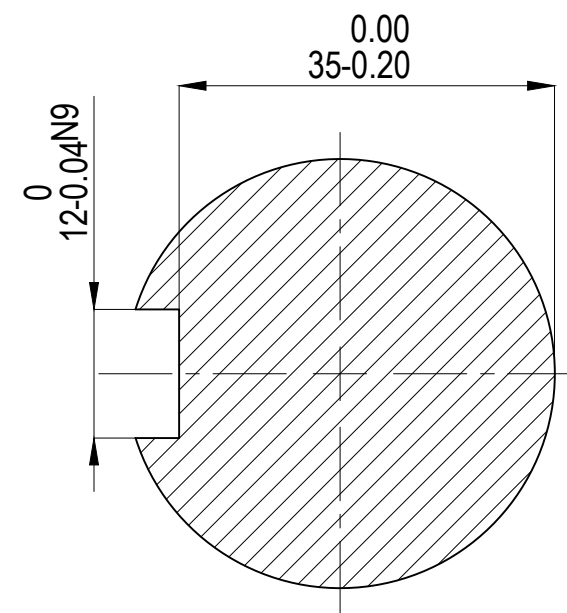
		IS : 2062			
		Fe 410 WA			
ITEM NO.	DESCRIPTION	DRAWING NO.	MATL. CODE	UNIT WT.	
			MATL. SPEC.	QTY.	
EQPT: FACILITIES BETWEEN SHEAR AND RHF					
Bharat Heavy Electricals Ltd., SEAMLESS STEEL TUBE PLANT TIRUCHIRAPALLI-620 014		DRN.	NAME	SIGN	DATE
		CHD	J. J. J.		16.11.88
		APPD.	S. S. S.		16.11.88
DEPT.	GRADE OF UNTOLODIM. C/M/F	SCALE	WEIGHT (Kg)	REF. TO ASSY/OLD DRG.	
CODE		1:1	1,35	2-7-1022-80-02164 RW 37663 T.10	
TITLE			CARD CODE	DRAWING NO.	ITEM NO.
END COVER (ROLLER ASSY)			U 01	3-7-1022-80-00179	02

REV	DATE	ALD:- S. S. S.	REV	DATE	ALTERED:- S. S. S.
02	14.5.97	CHD:- J. J. J.	01	22.11.98	CHECKED:- J. J. J.
		APPD:- S. S. S.	APPD:- S. S. S.		
1/4" BSP WAS 3/8" BSP			MTL SPEN FE 410 WA IS: 2062 WAS C-20 IS: 226		

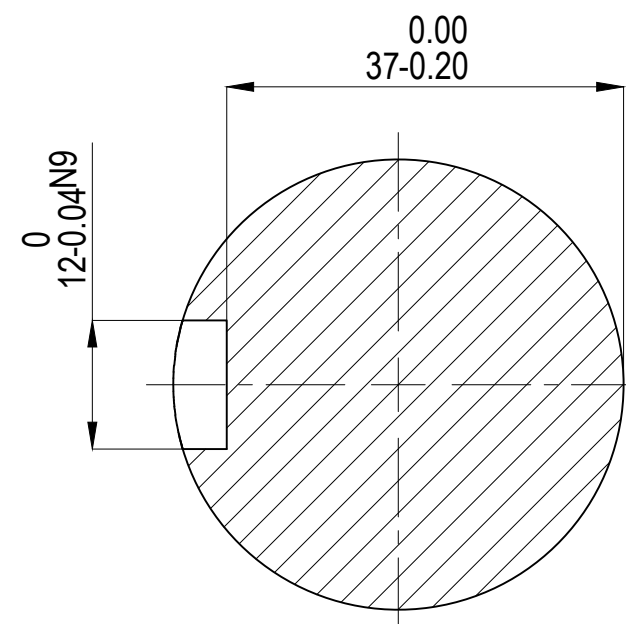
1

H
$$\frac{3.2}{\nabla} \left(\frac{1.6}{\nabla} \right)$$


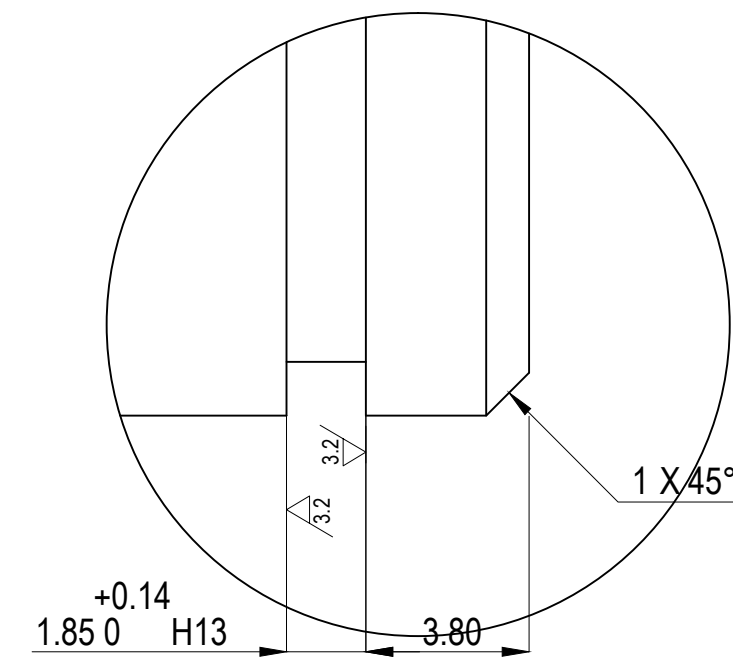
SECTION A-A
SCALE 1 : 1



SECTION B-B
SCALE 1 : 1

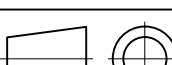


SECTION C-C
SCALE 1 : 1



DETAIL D
SCALE 4 : 1

1	04	40C8	IS:1570-II	KEY 18x11x125 L.G	0.2	0.2	
1	03	40C8	IS:1570-II	KEY 12x8x50 L.G	0.04	0.04	
1	02	40C8	IS:1570-II	KEY 12x8x40 L.G	0.03	0.03	
1	01	45 C8	IS:1875	DRIVE SHAFT	10.45	10.49	
QTY.	ITEM NO.	MATERIAL	IS & DIN Std.	DESCRIPTION	Each	Total	REMARKS
					WEIGHT (Kg.)		

Client BHEL		JOB No. 000135/11-12				
Drawn By / Date	C.S / 1/10/2012	Format / Sh.Size CAD/A3	Equipment ROLLER TABLE-1			
Chkd. By / Date	RAJESH / 2/17/2012		Scale 1:2	Title. DETAIL OF DRIVE SHAFT		
Appr. By / Date	B.M.T / 2/17/2012					
	P.P. Rolling Mills Mfg. Co. Pvt. Ltd. Plot No. I-42, DLF Ind. Area, Phase-I, Faridabad (Haryana) Phone +91 -11 - 26836340, 26848885, 26313774 Fax. +91-11-26836335, website-www.pprm.in		Drawing No.:- 4174-43		Revision  1	Sheet 1
			Plot Date :- 9/29/2012			

Machinist's Note:-

01) Remove the sharp corner & edges with 1mm. chamfered & shaft fillets to be 1mm. radius unless otherwise specified.

02) All dimension are in millimeter (mm.) unless otherwise specified.

SMS DRG. No.- 0301512-00.101_07

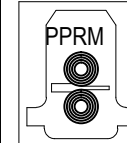
BHEL REF. No.- 1-7-0123.99-08015

All dimensions are in Millimeters unless otherwise stated.
Do not Scale. If in doubt, please ask.

SURFACE FINISH										
SYMBOL										
Ra u	25	12.5	6.3	3.2	1.6	0.8	0.4	0.2	0.1	

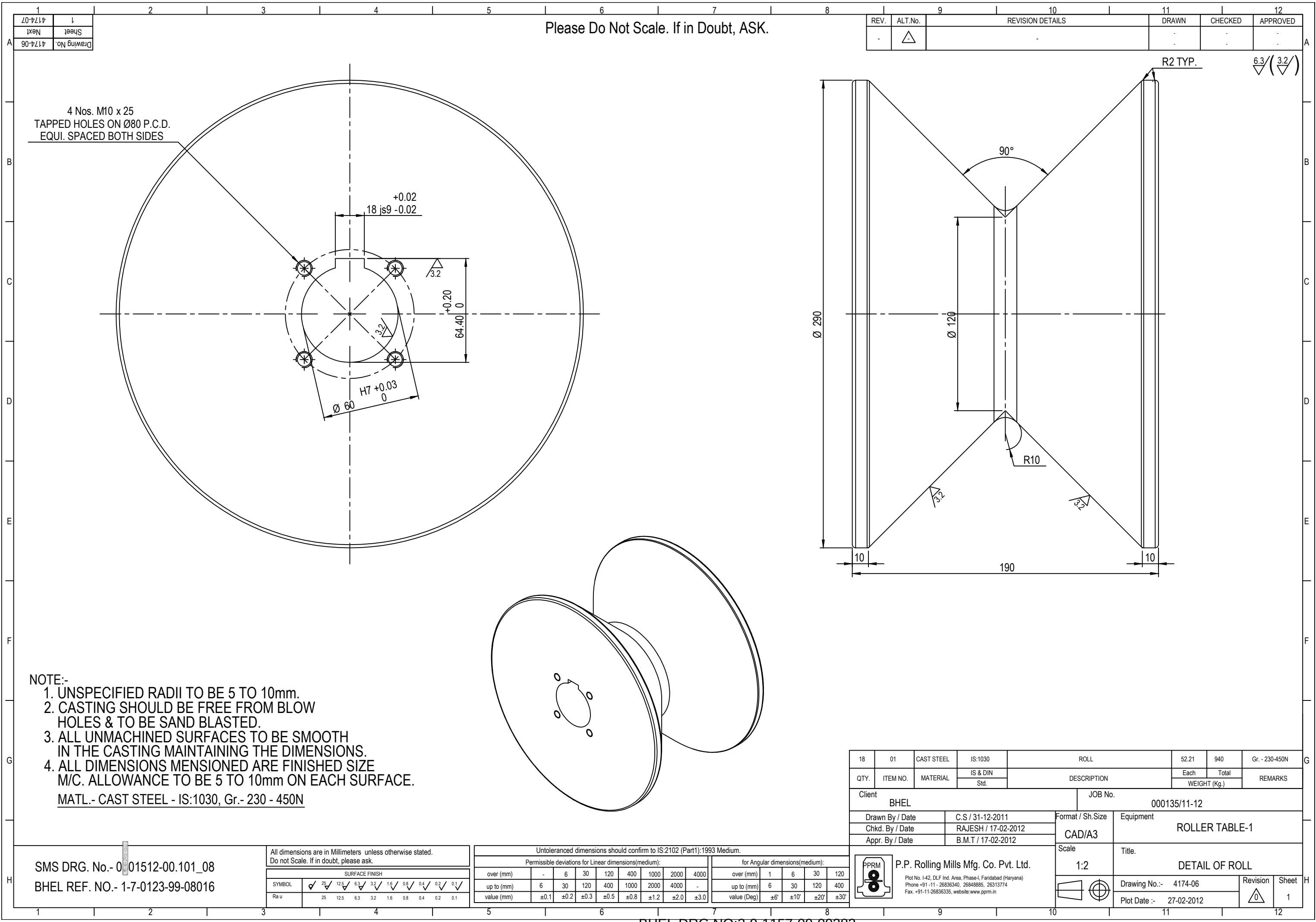
Untoleranced dimensions should confirm to IS:2102 (Part1):1993 Medium.

Permissible deviations for Linear dimensions(medium):									for Angular dimensions(medium):				
over (mm)	-	6	30	120	400	1000	2000	4000	over (mm)	1	6	30	120
up to (mm)	6	30	120	400	1000	2000	4000	-	up to (mm)	6	30	120	400
value (mm)	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2.0	±3.0	value (Deg)	±6'	±10'	±20'	±30'



P.P. Rolling Mills Mfg. Co. Pvt. Ltd.
Plot No. I-42, DLF Ind. Area, Phase-I, Faridabad (Haryana)
Phone +91 -11 - 26836340, 26848885, 26313774
Fax. +91-11-26836335, website:www.pprm.in

BHEL DRG NO:2-9-1157-00-00231



Please Do Not Scale. If in Doubt, ASK.

REV.	ALT.No.	REVISION DETAILS	DRAWN	CHECKED	APPROVED
-		-	-	-	-

18	01	CAST STEEL	IS:1030	ROLL	52.21	940	Gr. - 230-450N	
QTY.	ITEM NO.	MATERIAL	IS & DIN Std.	DESCRIPTION	Each	Total	REMARKS	
Client				JOB No.	WEIGHT (Kg.)			
BHEL				000135/11-12				
Drawn By / Date		C.S / 31-12-2011		Format / Sh.Size	Equipment			
Chkd. By / Date		RAJESH / 17-02-2012		CAD/A3	ROLLER TABLE-1			
Appr. By / Date		B.M.T / 17-02-2012		Scale	Title.			
				1:2	DETAIL OF ROLL			
 P.P. Rolling Mills Mfg. Co. Pvt. Ltd. Plot No. I-42, DLF Ind. Area, Phase-I, Faridabad (Haryana) Phone +91-11-26836340, 26848885, 26313774 Fax. +91-11-26836335, website:www.pprm.in					Drawing No.:- 4174-06		Revision	Sheet
					Plot Date :- 27-02-2012			1

1

H
$$\frac{3.2}{\nabla} \left(\frac{1.6}{\nabla} \right)$$
GH

SMS DRG. No.- 0301512-00.101_07
BHEL REF. No.- 1-7-0123.99-08015

SURFACE FINISH										
SYMBOL	 25	 12.5	 6.3	 3.2	 1.6	 0.8	 0.4	 0.2	 0.1	
Ra u	25	12.5	6.3	3.2	1.6	0.8	0.4	0.2	0.1	

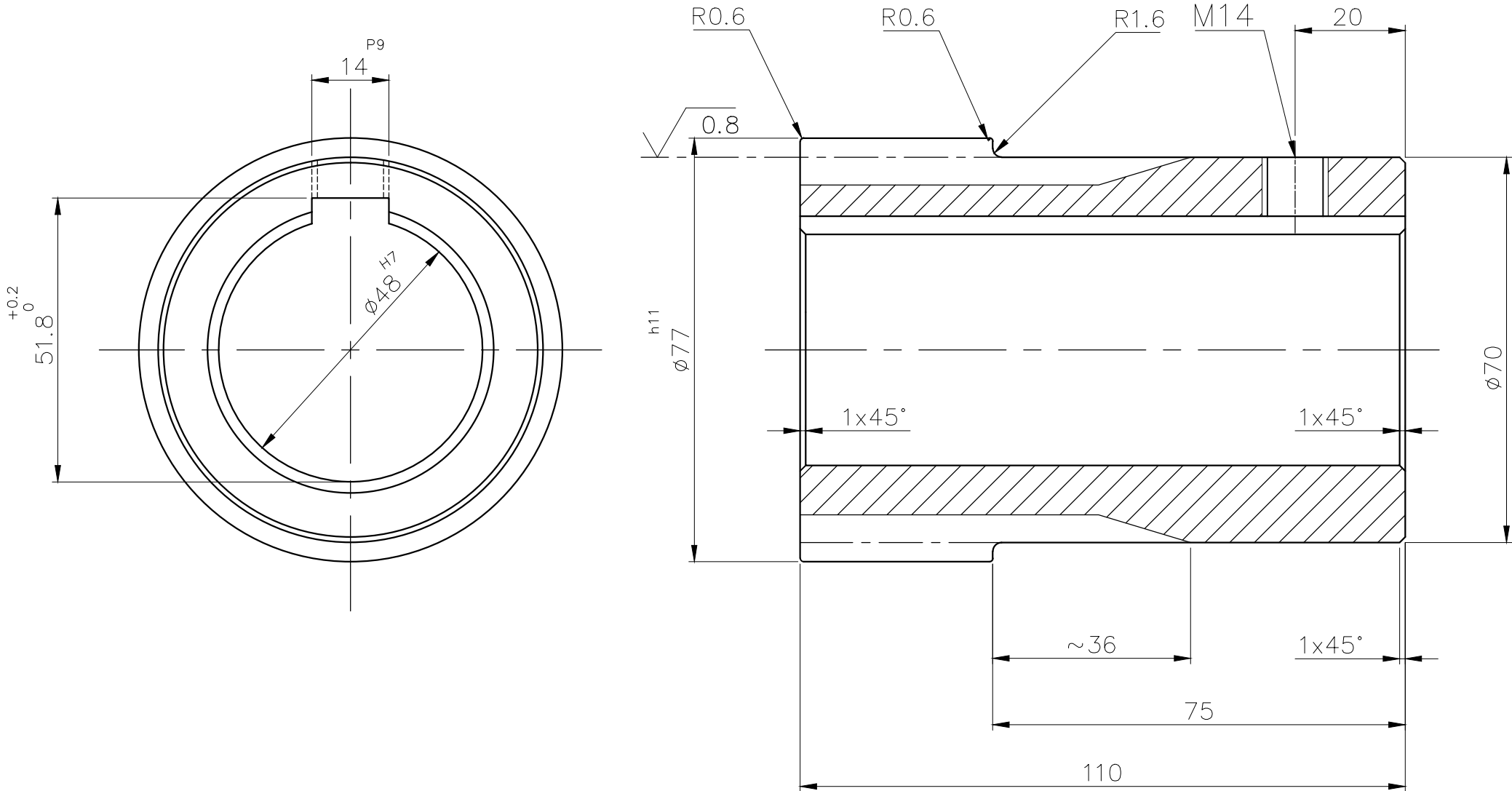
Untoleranced dimensions should confirm to IS:2102 (Part1):1993 Medium.													
Permissible deviations for Linear dimensions(medium):									for Angular dimensions(medium):				
over (mm)	-	6	30	120	400	1000	2000	4000	over (mm)	1	6	30	120
up to (mm)	6	30	120	400	1000	2000	4000	-	up to (mm)	6	30	120	400
value (mm)	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2.0	±3.0	value (Deg)	±6'	±10'	±20'	±30'



DRAWING NO: 3-7-1173-03-10339

$\sqrt{1.6}$ ($\sqrt{0.8}$)

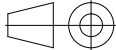
$\phi 77^{h11}$	0.000
	-0.190
$\phi 48^{H7}$	+0.025
	0.000
14^{P9}	-0.018
	-0.061



No of teeth	22
Module	3
Pressure angle	20°
Correction angle	1.00
Width across 4 teeth	$33.974^{+0.070}_{-0.094}$
Quality and tol. zone	7C DIN 3967
Mating gear no. of teeth	76
Mating gear drg. no.	3-7-1173-03-00819
Center distance	$148.5^{\pm 0.03}$

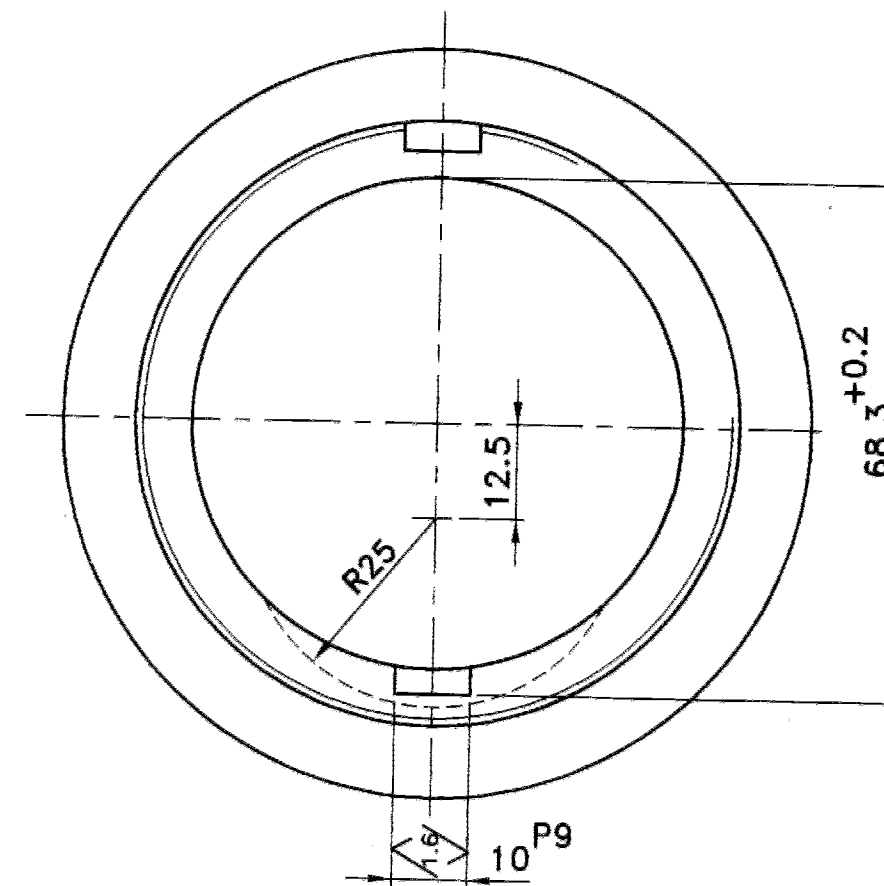
- 1) CASE HARDENED TO HRC 58^{+1.5}_{-1.0} CASE DEPTH 0.6 TO 0.8mm
- 2) TOPPING EFFECTED
- 3) FOR DESIGN-I REFER DRG-NO-3-7-1173-03-03293

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						16Mn5Cr4 IS: 4432	
ITEM NO	DESCRIPTION	DRAWING NO	MATL CODE		UNIT WT		
			MATL SPEC		QTY		
EQPT: COLD SAW II TYPE : WAGNER KV6R							
		Bharat Heavy Electricals Ltd SEAMLESS STEEL TUBE PLANT TIRUCHIRAPALLI – 620014		DRN	NAME SSN.KUMAR/K.Y	SIGNATURE SSN.KUMAR/K.Y	DATE 13.06.16
				CHD	RK.SINGH	RK.SINGH	13.06.16
				APPD	RK.SINGH	RK.SINGH	13.06.16
DEPT SSTEP	GRADE OF UNTOL. DIM $\phi/M/\#$ IS: 2102		SCALE 1:1	WEIGHT (Kg) 1.80	REF TO ASSY DWG NO 9–7–1173–03–00208		ITEM –
CODE 456					REF TO OLD DWG NO 212–2–24345		
TITLE CS2 - SPUR GEAR - DESIGN - II 15kW,1470rpm MOTOR - CARRIAGE ASSY				CARD CODE U 01	DRAWING NO : 3-7-1173-03-10339		REV 00

ALL DIMENSIONS ARE IN MILLIMETERS

3.2 / 1.6 / 0.8 /



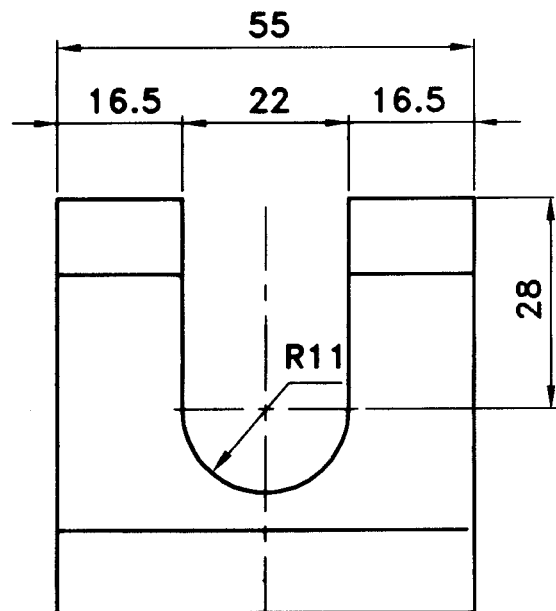
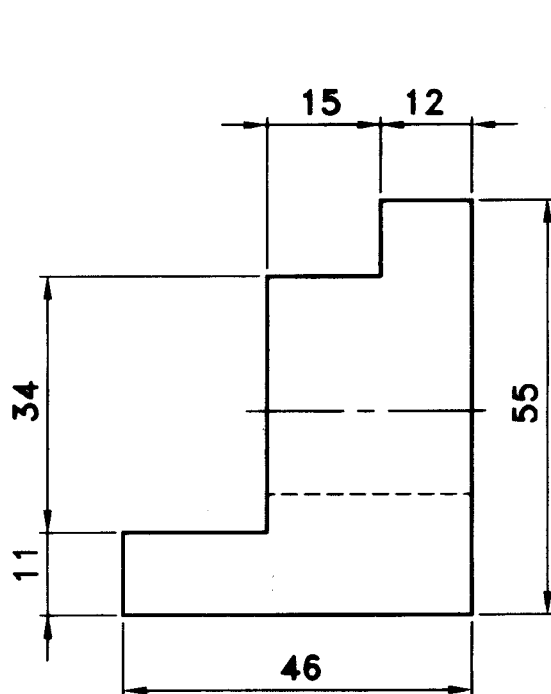
ø80 k5	+0.003
	-0.010
ø75 f7	-0.030
	-0.060
ø65 H7	+0.030
	0
10 P9	-0.015
	-0.051

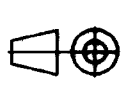
						45C8 IS:1875			
ITEM NO		DESCRIPTION		DRAWING NO		MATL CODE		UNIT WT	
						MATL SPEC		QTY	
EQPT: SCALE PIT & PUMP HOUSE									
		Bharat Heavy Electricals Ltd SEAMLESS STEEL TUBE PLANT TIRUCHIRAPALLI - 620014			DRN	NAME S.MOHAN RAJ		SIGNATURE <i>S. Mohan Raj</i>	DATE 12.11.97
					CHD	A.AROCKIAM		<i>A. Arockiam</i>	10.12.97
					APPD	S.SHANMUGASUNDARAM		<i>S. Shanmugasundaram</i>	10.12.97
DEPT	MPG	GRADE OF UNTOL DIM C/M/F		SCALE 1:1	WEIGHT(kg) 1.830	REF TO ASSY DWG NO			ITEM NO
CODE						REF TO OLD DWG NO 820-06/2667			05
TITLE BEARING COLLAR (SAM PUMP V0150/500+AR)					CARD CODE U 01	DRAWING NO : 3-7-3412-00-04117			REV 00

ALL DIMENSIONS ARE IN MM

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REV	DATE	ALTERED
01		CHECKED
		APPROVED

3.2/
✓

				Fe410WB IS:2062			
ITEM NO	DESCRIPTION	DRAWING NO		MATL CODE		UNIT WT	
				MATL SPEC		QTY	
EQPT: SCALE PIT & PUMP HOUSE							
 Bharat Heavy Electricals Ltd SEAMLESS STEEL TUBE PLANT TIRUCHIRAPALLI - 620014		DRN	NAME S.MOHAN RAJ	SIGNATURE <i>S. Mohan Raj</i>	DATE 04.11.97		
		CHD	A.AROCKIAM	<i>A. Arockiam</i>	10-12-97		
		APPD	S.SHANMUGASUNDARAM	<i>S. Shanmugasundaram</i>	10/12/97		
DEPT MPG	GRADE OF UNTOL DIM C/M/F	 SCALE 1:1	WEIGHT (Kg) 0.570		REF TO ASSY DRG		ITEM NO
CODE					REF TO OLD DRG 820-06/2667		
TITLE LOCKING BLOCK (SAM PUMP VO 150/500+AR)			CARD CODE U 01	DRAWING NO : 4-7-3412-00-05557			REV 00