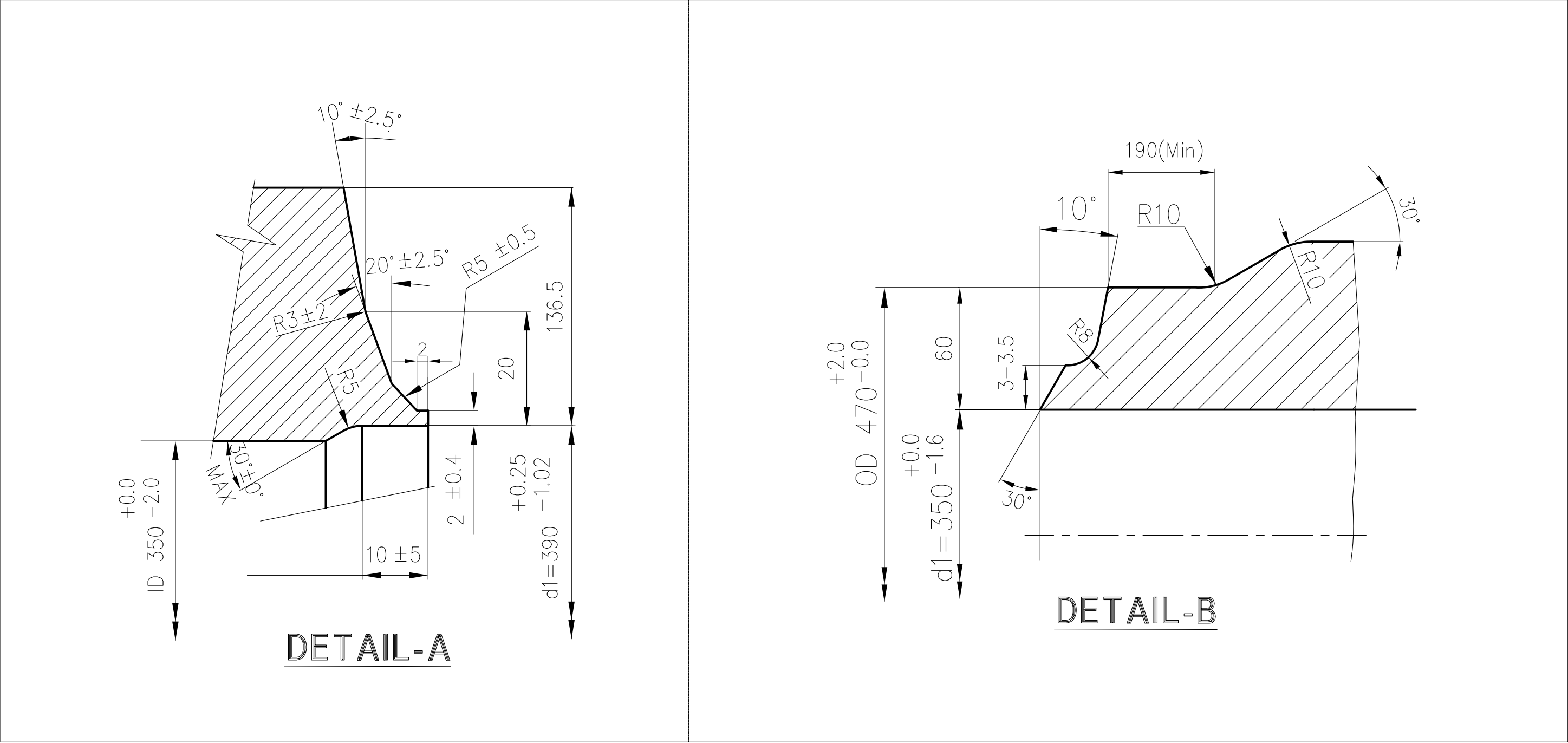
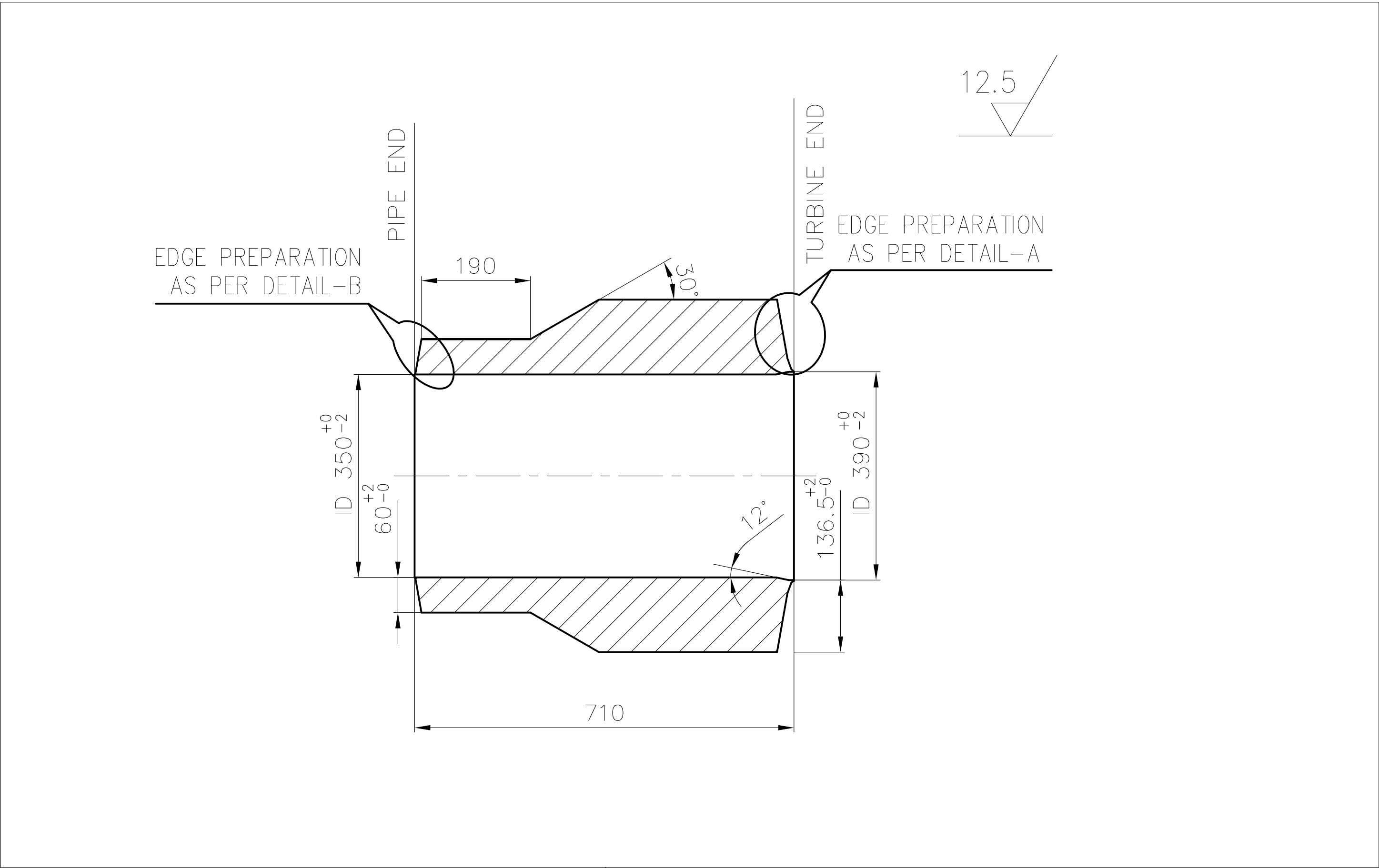


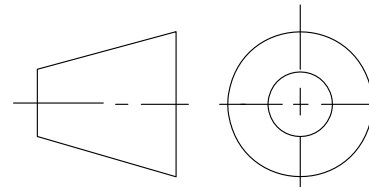
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3-80-301-31143
DRAWING No



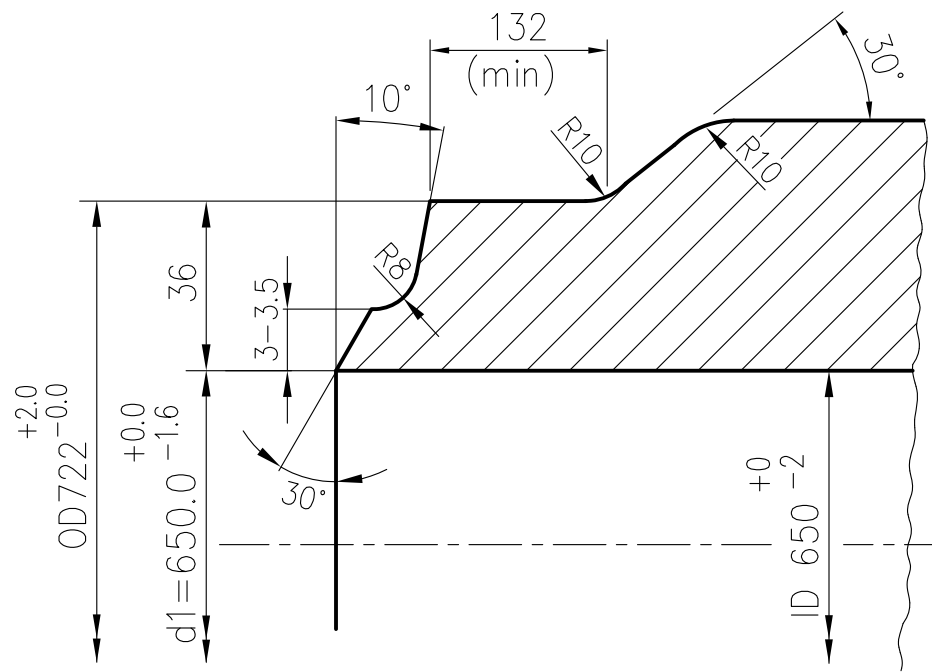
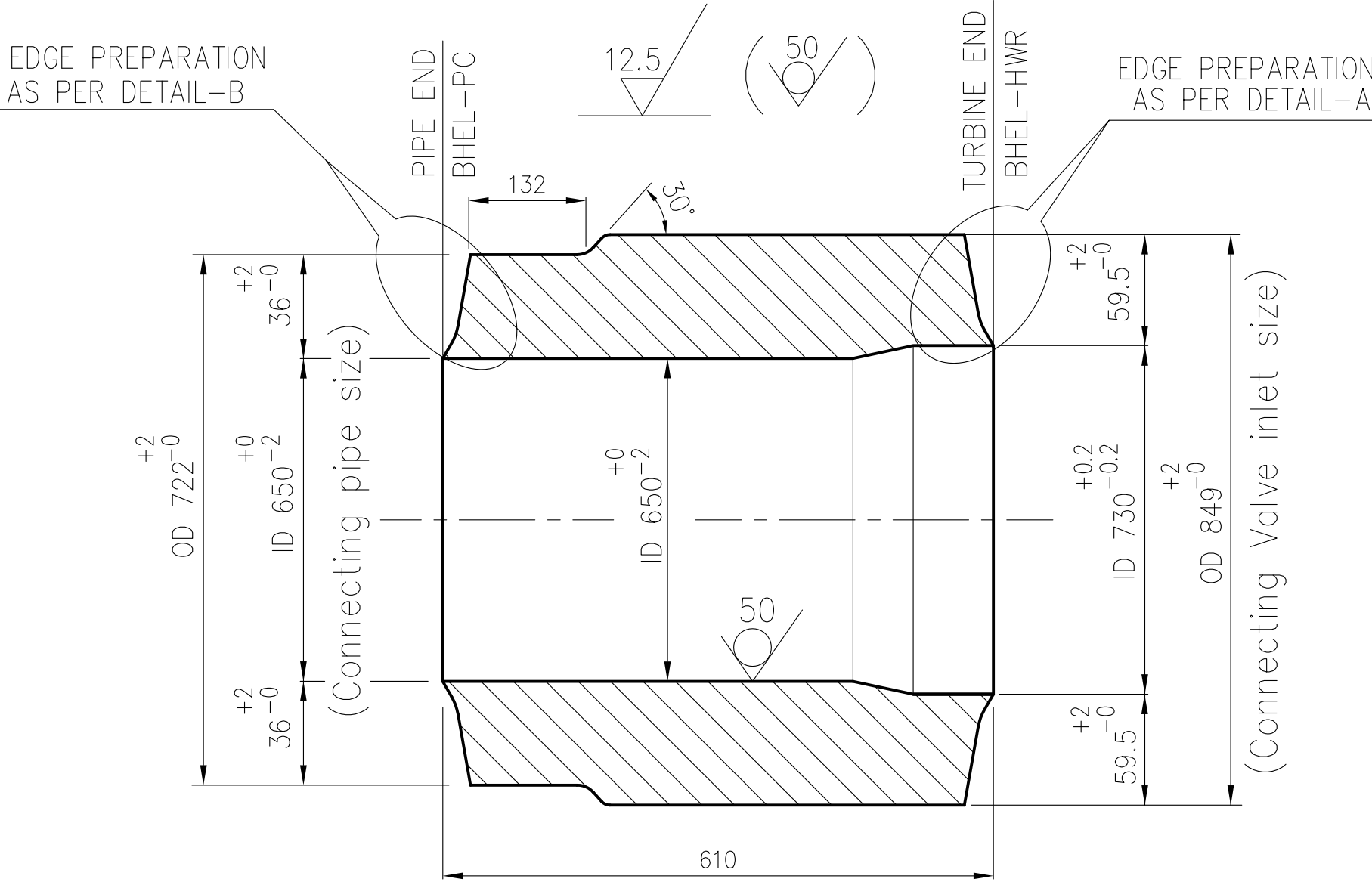
NOTES

- DESIGN PRESSURE : 275 Kg/Cm²(g)
- DESIGN TEMPERATURE : 568 °C
- PIPE 'SA 335 P91'(A) CAN ALSO BE USED IN PLACE OF 'SA 182 F91'(A)
- THE FINISHED MATERIAL SPECIFICATION IS 'SA 182 F91'(A)
- FOLLOW TDC No. : TDG-104 (LATEST REVISION)

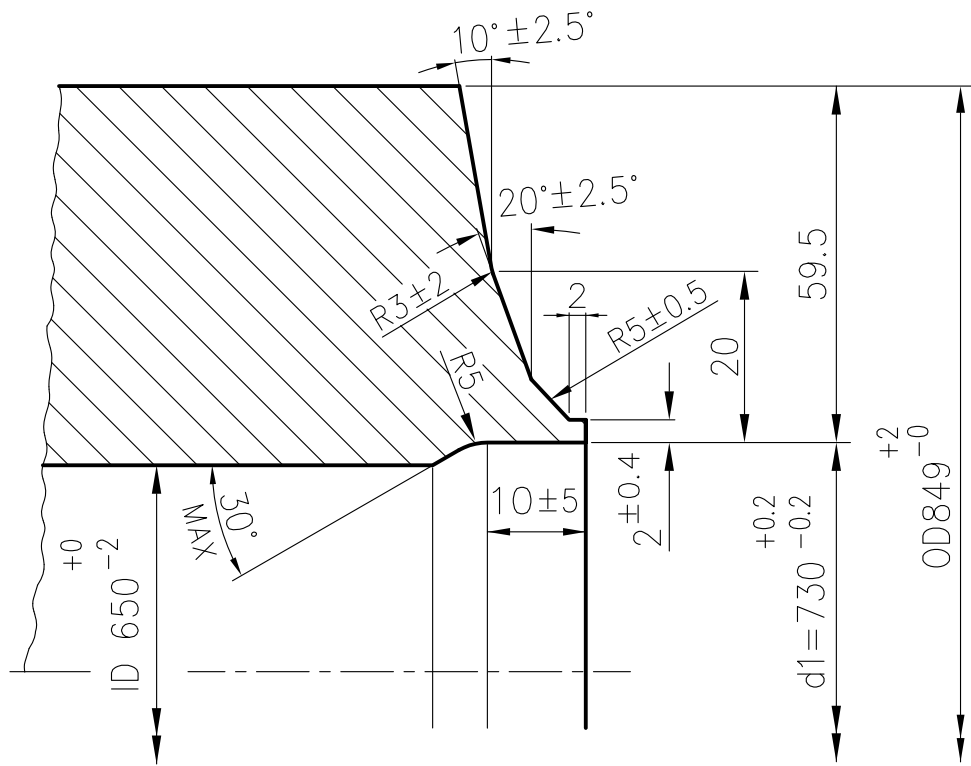
01	FORGING OD663 / ID350 L=710	3-80-301-31143		—	A	1012,000	
				SA 182 F91		1	
ITEM NO.	DESCRIPTION	DRAWING NO.	ITEM NO.	MATERIAL CODE	A	UNIT WT.	
			VAR NO.	MATERIAL SPEC.	C	QTY.	
SPACE FOR IBR APPL.							
BHARAT HEAVY ELECTRICALS LTD., PIPING CENTRE, CHENNAI 600 017				NAME	SIGN	DATE	NO OF
			DRN	KONDAPA		03.12.13	ITEMS
			CHD	KONDAPA		03.12.13	—
			APPD	R.SESHAGIRI		03.12.13	
DEPT.	GRADE OF UN TOL. DIM		SCALE	WEIGHT (Kg).	BHEL PO REF.NO:		ITEM
CODE	C/M/F		N.T.S.	1012.00	—		No.
TITLE				CARD CODE	DRAWING No.		REV
MATCHING PIECE (OD663X136.5/ID350X60)				U 01	3-80-301-31143		00

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3-80-310-32222
DRAWING No



DETAIL-B



DETAIL-A

NOTES

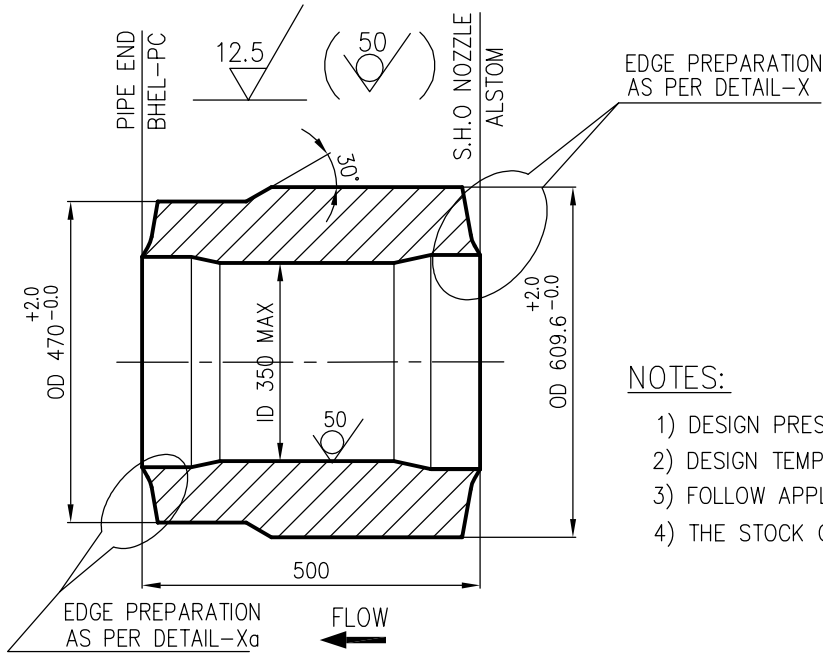
- DESIGN PRESSURE : 68 Kg/Cm2(g)
- DESIGN TEMPERATURE : 601 °C
- PIPE 'SA 335 P91'(A) CAN ALSO BE USED IN PLACE OF 'SA 182 F91'(A)
- THE FINISHED MATERIAL SPECIFICATION IS 'SA 182 F91'(A)
- THE FINISHED MATERIAL CODE IS '92 117 078 0000'
- FOLLOW TDC No. : TDG-104 (LATEST REVISION)
- WEIGHT INDICATED IS FOR APPROXIMATE FINISHED MATCHING PIECE WEIGHT.

01	FORGING OD849 / ID650 L=610	3-80-310-32222		—	A	890,000
ITEM NO.	DESCRIPTION	DRAWING NO.	ITEM NO. VAR NO.	MATERIAL CODE MATERIAL SPEC.	A C	UNIT WT. QTY.
SPACE FOR IBR APPL.						
 BHARAT HEAVY ELECTRICALS LTD., PIPING CENTRE, CHENNAI 600 017			DRN	NAME I.BISWAS	SIGN Sd/-	DATE 05.06.2015
			CHD	I.BISWAS	Sd/-	05.06.2015
			APPD	S.RAMAMURTHY	Sd/-	05.06.2015
DEPT.	GRADE OF UN TOL. DIM	SCALE	WEIGHT (Kg).	BHEL PO REF.NO:		ITEM No.
CODE	C/M/F	N.T.S.	890.000	—		—
TITLE			CARD CODE	DRAWING No.		REV
MATCHING PIECE (OD849x59.5/ID650x36)			U 01	3-80-310-32222		00

ALL DIMENSIONS ARE IN MILLIMETRES

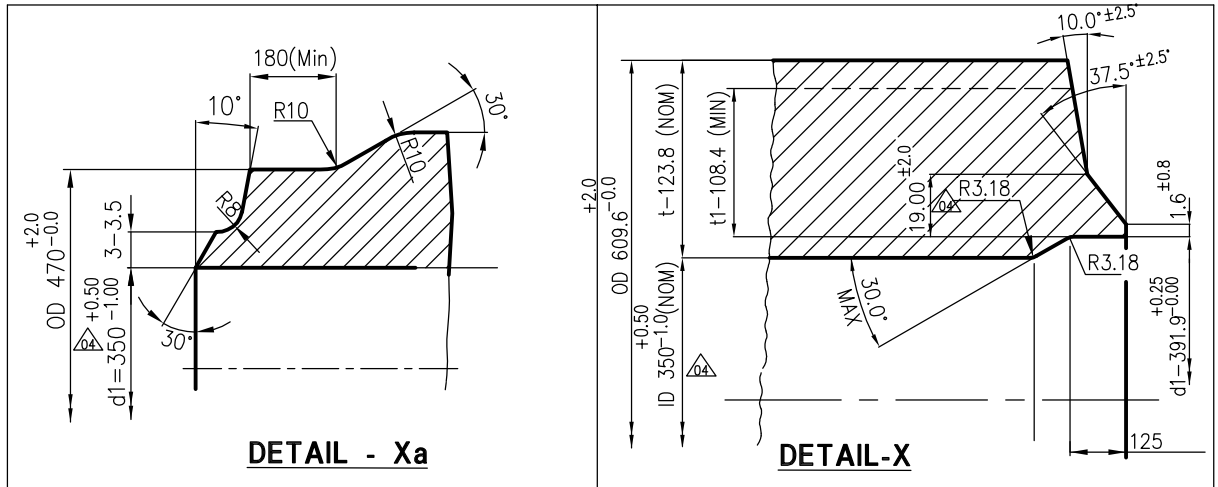
REV	DATE	ALTERED :	MC. Sd.....	REV	DATE	ALTERED :	MC. Sd.....	REV	DATE	ALTERED :	LALIT
01	18-01-10	CHD & APPD :	CS. Sd.....	02	16-04-10	CHD & APPD :	CS. Sd.....	03	03-06-10	CHD & APPD :	C.S
DRAWING PROFILE COMPLETELY REVISED AS PER ALSTOM's REQUIREMENT. DETAIL ALSO MODIFIED.				E.P PROFILE COMPLETELY REVISED AT HEADER END AS PER ALSTOM's REQUIREMENT.				DESIGN TEMPERATURE REVISED REVISION MARKED AS $\Delta 03$			

REV	DATE	ALTERED :	LALIT
04	18-08-10	CHD & APPD :	C.S
REVISION MARKED AS $\Delta 04$			



NOTES:

- 1) DESIGN PRESSURE : 269 Kg/sq.cm(g)
- 2) DESIGN TEMPERATURE : 568 °C $\Delta 03$
- 3) FOLLOW APPLICABLE QP
- 4) THE STOCK CODE FOR THE MATCHING PIECE: 921175670000



	MATCHING PIECE OD609.6x123.8/ID350x60 L=500			A		580	000
VARIANT NUMBER	DESCRIPTION	STD	SA 182 F91	A/C/P	UNIT		
			MATERIAL CODE			UNIT WEIGHT(KG)	
			MATERIAL SPECN			QUANTITY	

		BHARAT HEAVY ELECTRICALS LIMITED PIPING CENTRE CHENNAI 600 017		DRN	NAME M.C.SEKARAN	SIGNATURE Sd.....	DATE 04.01.10
				CHD	M.C.SEKARAN	Sd.....	04.01.10
				APPD	C.SARAVANAN	Sd.....	04.01.10
				REF TO ASSY / OLD DWG			
DEPT	ALL DIMENSIONS ARE IN MM	PROJECTION	SCALE N.T.S	WEIGHT (Kg) 580.0	DRAWING NO : 4-80-300-70214		
CODE							
TITLE MATCHING PIECE OD609.6x123.8/ID350x60							REV 04

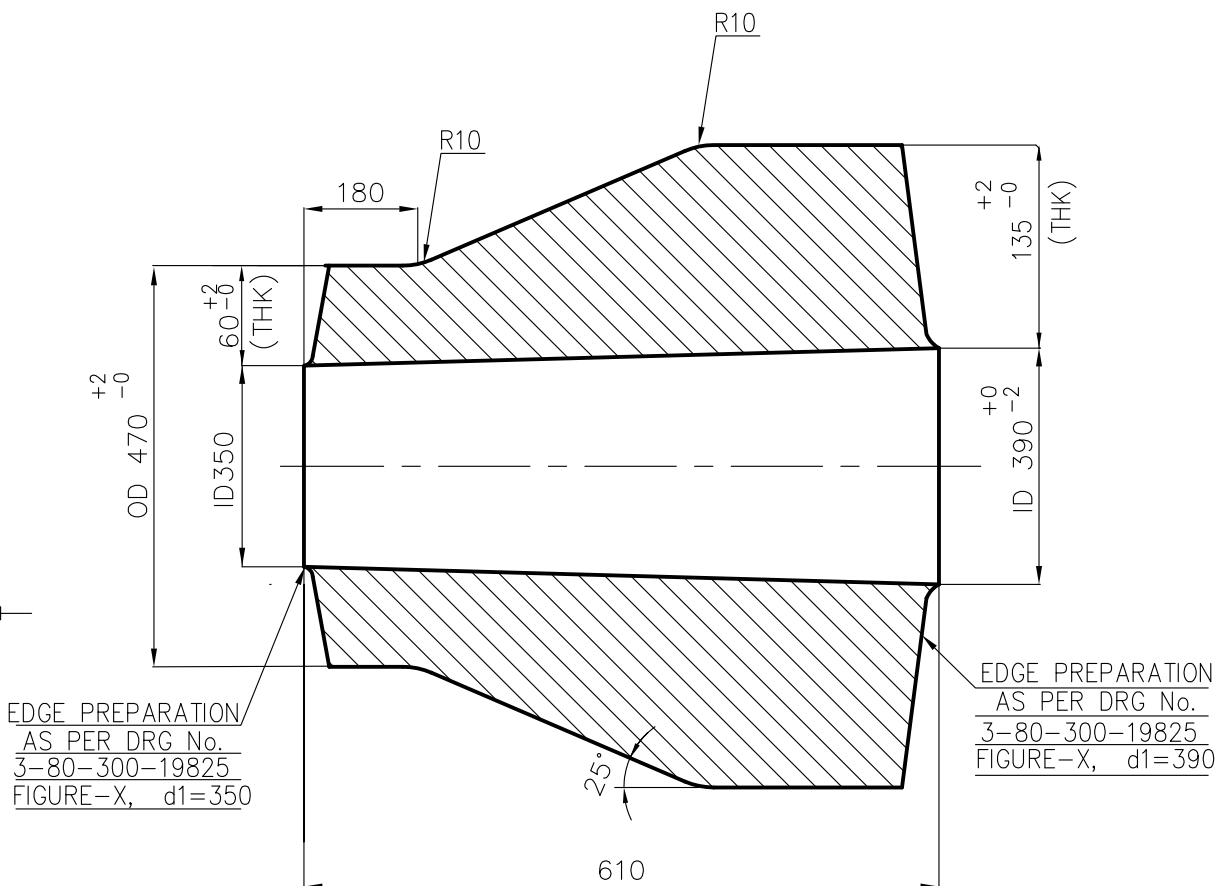
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REV	DATE	ALTD : K.BOOPALAN -SD.-
01	14.08.2012	APPD : S.PANDA -SD.-
DESIGN PRESSURE ALTERED REVISION INDICATED AS 		

ALL DIMENSIONS ARE IN MILLIMETRES

NOTES:-

-  01. DESIGN PRESSURE : 272 Kg/Cm²(g)
02. DESIGN TEMPERATURE : 568° C
03. FITTING SHALL CONFORM TO ALL THE REQUIREMENTS OF ASME B16.9 & A 234(LATEST).
04. THIS DRAWING IS FOR INDICATING THE OVER ALL DIMENSIONS, CONNECTING PIPE SIZE AND MATERIAL SPECIFICATION.



	MATCHING PIECE ID 390 Max x Thk 135 min ID350 x 60 L=610		92 117 569 0000	A		1010	000
			SA 182 F91				
VAR NO.	DESCRIPTION	STD	MATL. CODE	A	UNIT	UNIT.WT.(Kg)	
			MATL. SPECN.	C	DI	QTY.	

बी एच ई एल BHEL BHARAT HEAVY ELECTRICALS LIMITED PIPING CENTRE CHENNAI 600 017					NAME		SIGN		DATE		NO.OF VAR										
			DRN		LALIT				16.05.10												
			CHD		C.SARAVANAN				16.05.10												
			APPD		C.SARAVANAN				16.05.10												
DEPT		GRADE OF UNTOL.DIM				SCALE		WEIGHT (KG).		BHEL PO REF.NO:				ITEM NO.		NO. OF ITEMS					
CODE		C / M / F				N.T.S		1010.000													
TITLE						MATCHING PIECE						CARD CODE		DRAWING NO.						REV	
(ID390 x Thk 135 min/ID350x60)SA182F91						U 01		4-80-301-70711						01							

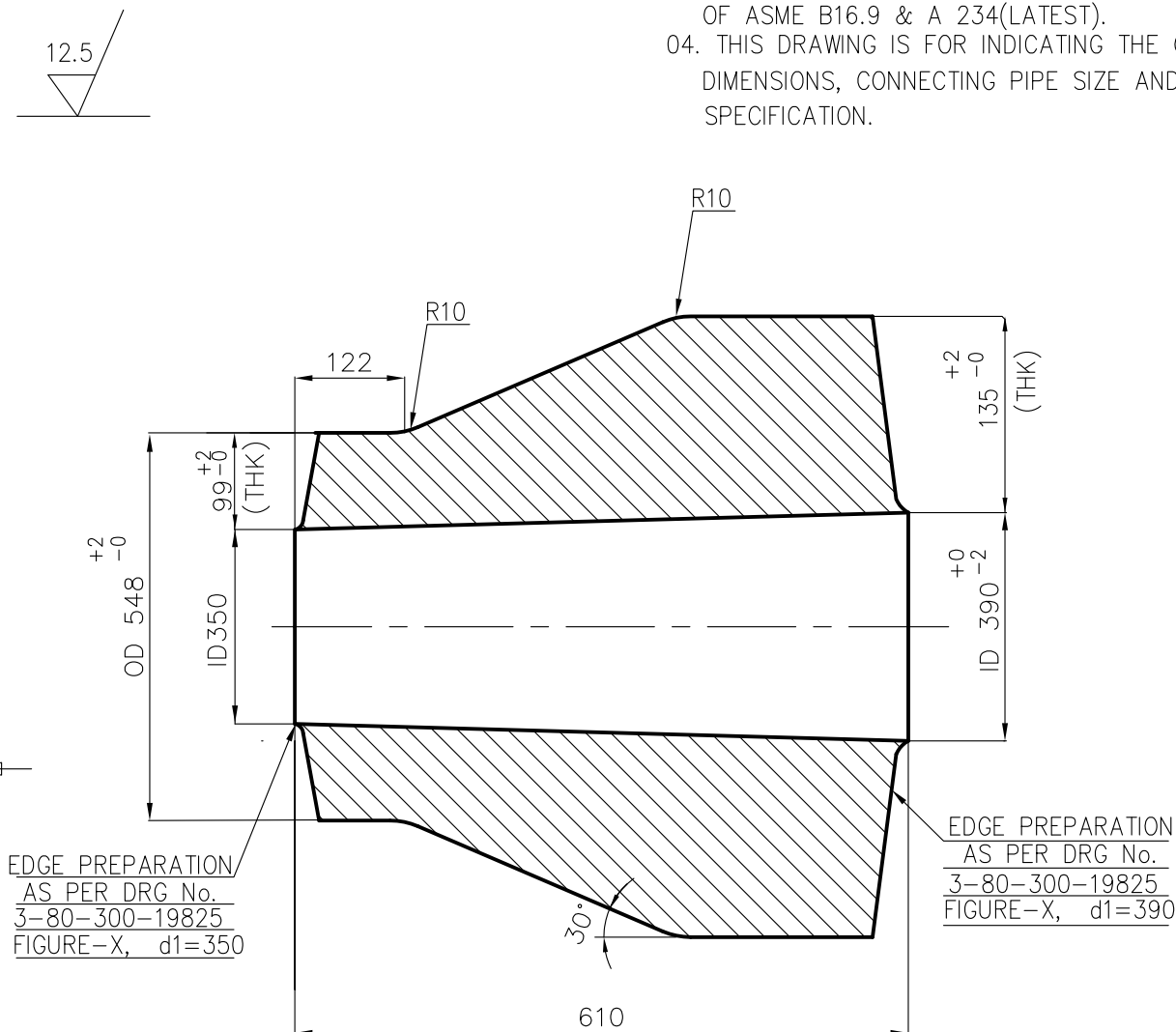
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REV	DATE	ALTD : I.D.B
01	25.07.16	APPD : S.R.M
WEIGHT CORRECTED		

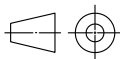
ALL DIMENSIONS ARE IN MILLIMETRES

NOTES:-

01. DESIGN PRESSURE : 285.8 Kg/Cm²(g)
02. DESIGN TEMPERATURE : 601° C
03. FITTING SHALL CONFORM TO ALL THE REQUIREMENTS OF ASME B16.9 & A 234(LATEST).
04. THIS DRAWING IS FOR INDICATING THE OVER ALL DIMENSIONS, CONNECTING PIPE SIZE AND MATERIAL SPECIFICATION.

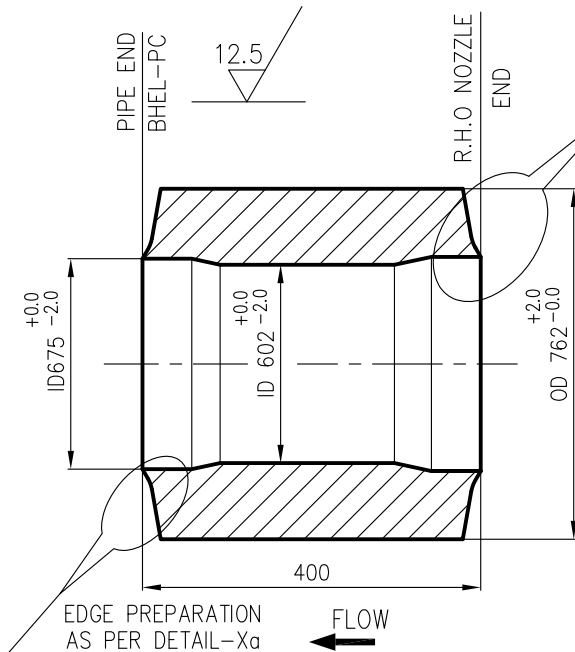


	MATCHING PIECE ID 390 Max x Thk 135 min ID350 x 99 L=610		92 117 166 0000	A			962	121
			SA 182 F91					
VAR NO.	DESCRIPTION	STD	MATL. CODE	A	UNIT		UNIT.WT.(Kg)	
			MATL. SPECN.	C	DI		QTY.	

		BHARAT HEAVY ELECTRICALS LIMITED PIPING CENTRE CHENNAI 600 017				NAME	SIGN	DATE	NO.OF VAR
					DRN	M.R.K		20.12.15	
					CHD	I.D.B		20.12.15	
					APPD	S.R.M		20.12.15	
DEPT	GRADE OF UNTOL DIM		SCALE	WEIGHT (KG).	BHEL PO REF.NO:			ITEM NO.	NO. OF ITEMS
CODE	C / M / F		N.T.S	962.121					
TITLE				CARD CODE	DRAWING NO.				REV
MATCHING PIECE (ID390x135/ID350x99) SA182F91				U 01	4-80-301-79685				01

Size A4

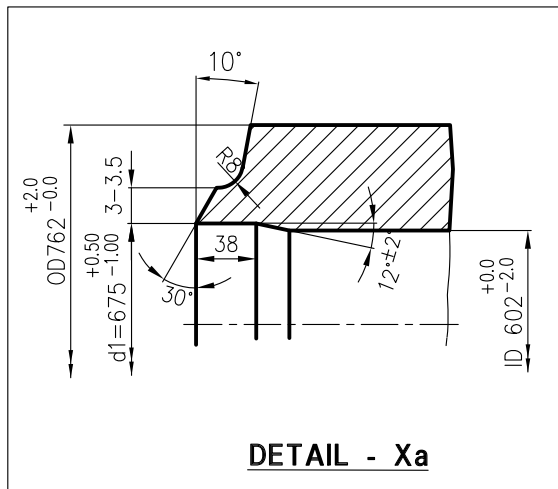
REV	DATE	ALTERED :
01		CHD & APPD :



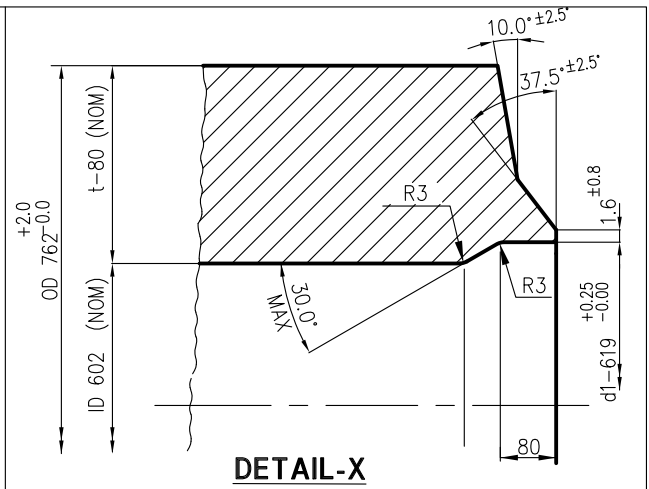
EDGE PREPARATION
AS PER DETAIL-X

NOTES:

- 1) DESIGN PRESSURE : 70 Kg/sq.cm(g)
- 2) DESIGN TEMPERATURE : 601 °C
- 3) FOLLOW TDG: 104
- 4) THE FINISHED MATERIAL CODE IS 92 117 828 0000

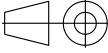


DETAIL - Xa



DETAIL-X

	MATCHING PIECE OD 762x80/ ID 675X38 L=400			A		470	000
VARIANT NUMBER	DESCRIPTION	STD	SA 182 F91	A/C/P	UNIT		
			MATERIAL CODE			UNIT WEIGHT(KG)	
			MATERIAL SPECN			QUANTITY	

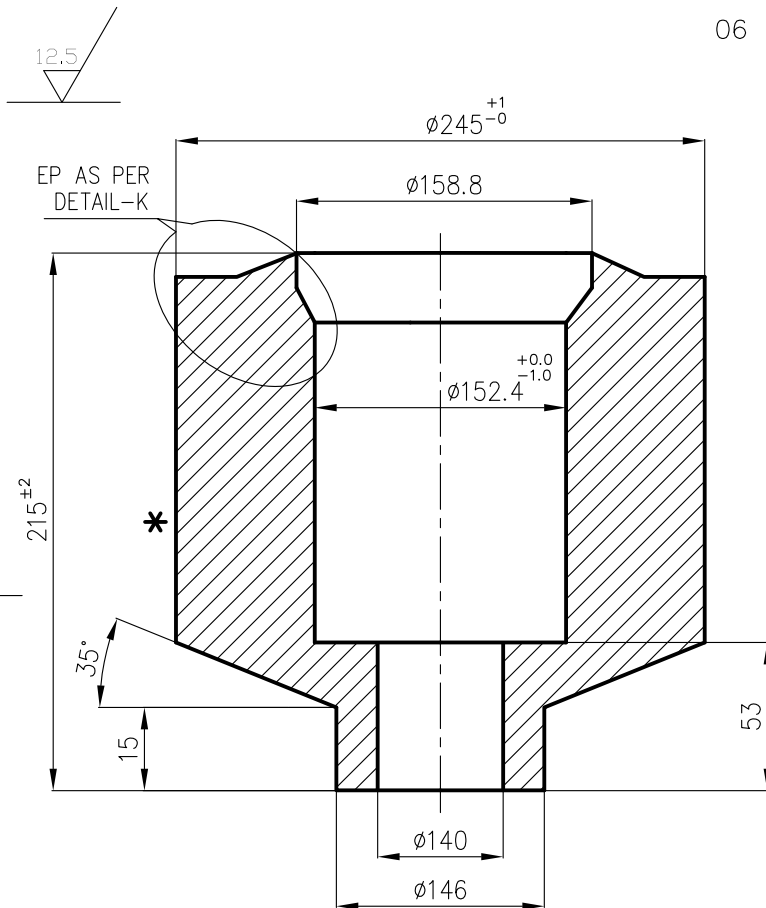
		BHARAT HEAVY ELECTRICALS LIMITED PIPING CENTRE CHENNAI 600 017		DRN	NAME KONDAPA	SIGNATURE	DATE 10.06.13
				CHD	KONDAPA		10.06.13
				APPD	R.SESAHGIRI		10.06.13
DEPT	ALL DIMENSIONS ARE IN MM	PROJECTION 	SCALE N.T.S	WEIGHT (Kg) 470.0	REF TO ASSY / OLD DWG		
CODE	TITLE MATCHING PIECE OD 762x80/ ID 675X38 (SA182F91)				DRAWING NO : 4-80-310-77031		REV 00

REV	DATE	ALTERED
01		APPROVED

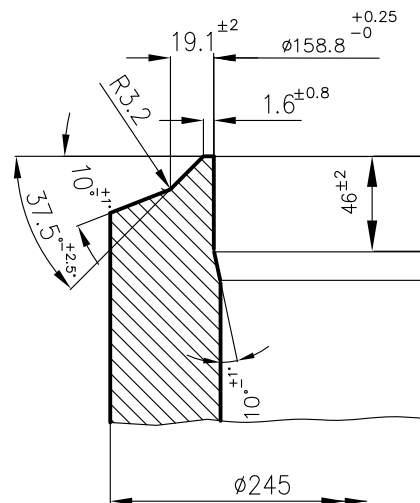
ALL DIMENSIONS ARE IN MILLIMETRES

NOTES:

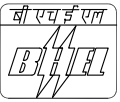
- 01 DESIGN PRESSURE : 68kg/sq.cm(g)
- 02 DESIGN TEMPERATURE : 601°C
- 03 HARD PUNCH "F91" AT PLACE MARKED WITH *
- 04 ALTERNATE/SUITABLE SIZE OF SA182 F91 FORGING CAN ALSO BE USED.
- 05 FOLLOW TDC: TDG:104, REV.04
- 06 THIS STUB IS REQUIRED FOR HRH SYSTEM OF OTSC BOILERS



DETAIL-K



SV STUB L=215 OD245		92 516 777 0000	A	38 000	
		SA182F91			
VAR NO.	DESCRIPTION	STD	MATL. CODE	A/C	UNIT.WT.(Kg)
			MATL. SPECN.	DI	QTY.

		BHARAT HEAVY ELECTRICALS LIMITED		DRN	NAME	SIGN	DATE	NO.OF VAR
		PIPING CENTRE		CHD	M.MANO		14.05.14	
		CHENNAI 600 017		APPD	CKN		14.05.14	
DEPT	GRADE OF UNTOL.DIM	SCALE	WEIGHT (KG).	REF. TO ASSY./OLD DRG.			ITEM NO.	NO. OF ITEMS
CODE	C / M / F	N.T.S	38.000					
TITLE				CARD CODE	DRAWING NO.			REV
SAFETY VALVE STUB OD 245				U 01	4-80-310-77988			00
SA182F91								

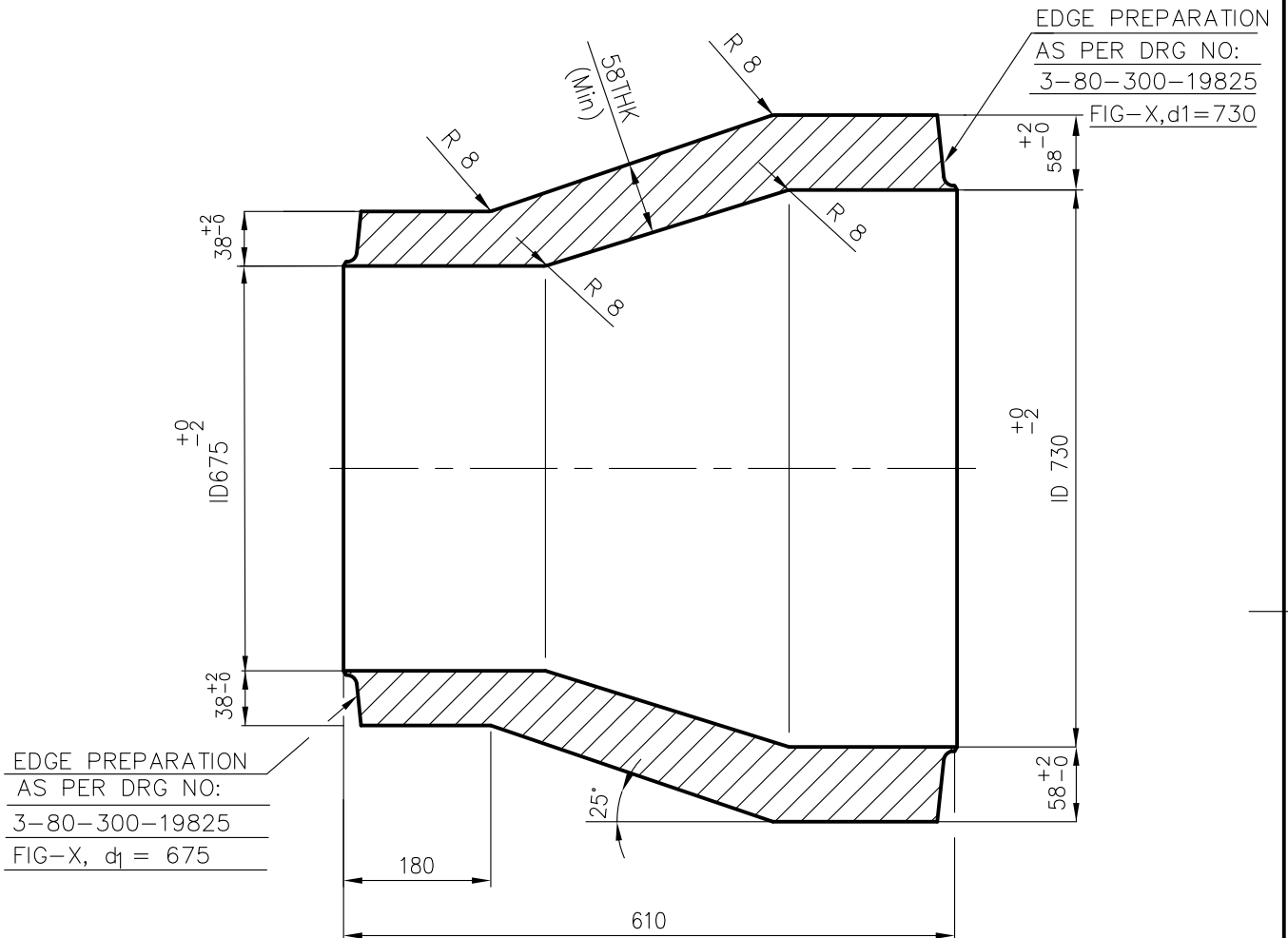
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REV	DATE	ALTERED
01		APPROVED

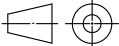
ALL DIMENSIONS ARE IN MILLIMETRES

NOTES :-

01. DESIGN PRESSURE : 70 Kg/Cm²(g)
02. DESIGN TEMPERATURE : 596° C
03. FITTING SHALL CONFORM TO ALL THE REQUIREMENTS OF ASME B16.9 & A 234(LATEST).
- 04.THIS DRAWING IS FOR INDICATING THE OVER ALL DIMENSIONS, CONNECTING PIPE SIZE AND MATERIAL SPECIFICATION.
- 05 FOLLOW APPLICABLE TDC



	MATCHING PIECE L=610 ID730max x thk58min/ ID675X38		92 504 026 0000	A		598	000
			SA 182 F91				
VAR NO.	DESCRIPTION	STD	MATL. CODE	A	UNIT	UNIT.WT.(Kg)	
			MATL. SPECN.	C	DI	QTY.	

		BHARAT HEAVY ELECTRICALS LIMITED PIPING CENTRE CHENNAI 600 017		DRN	NAME	SIGN	DATE	NO.OF VAR	
				CHD	SRM	—sd—	02.06.14		
				APPD	KVR	—sd—	02.06.14		
DEPT	GRADE OF UNTOL.DIM		SCALE	WEIGHT (KG).		BHEL PO REF.NO:		ITEM NO.	NO. OF ITEMS
CODE	C / M / F		N.T.S						
TITLE				CARD CODE	DRAWING NO.			REV	
MATCHING PIECE (ID730 X 58/ID675X38) SA182F91				U 01	4-80-310-78055			00	

Size A4