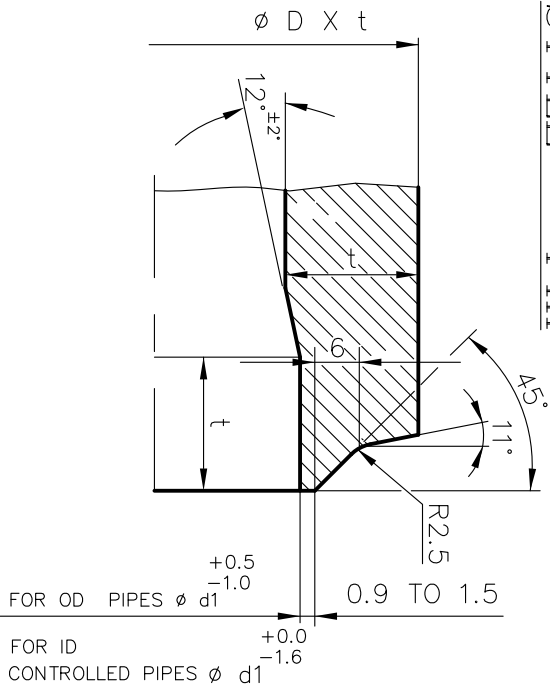


52861-003-08-C

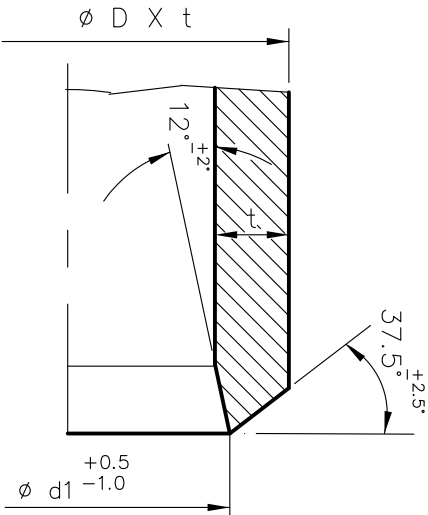
DRAWING No.

STYLE – Pm



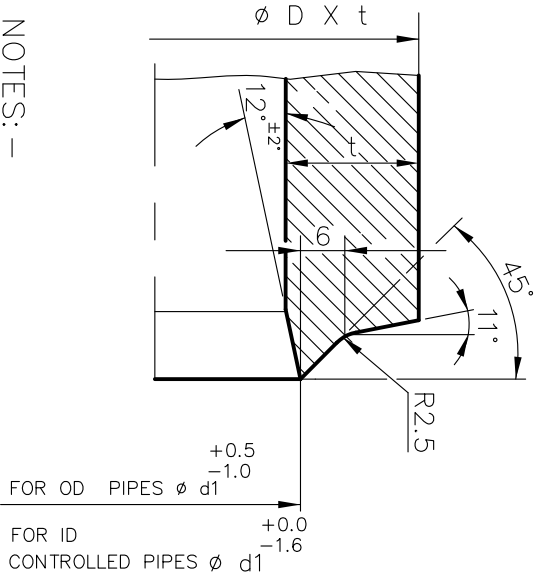
- NOTES: –
- 01. USE FOR SA106GRC PIPES WHEN $t \geq 70.0$ mm.
 - 02. FOR OD MISMATCHING REF. FIGURE-Po
 - 03. FOR FITTINGS USE STYLE-P.

STYLE – DL



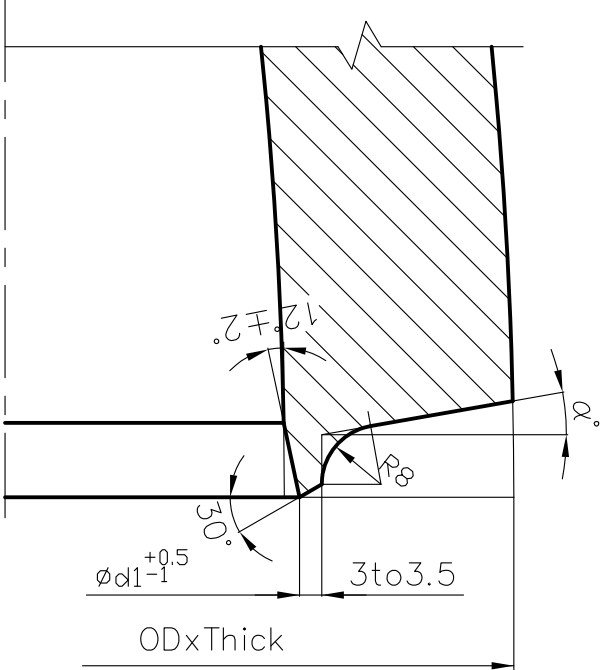
- NOTES: –
- 01. USE FOR P91 / P92 PIPES AND FITTINGS WHEN $t < 14.2$ mm (ALL OD/ID).

STYLE – PL



- NOTES: –
- 01. USE FOR P91 / P92 PIPES AND FITTINGS
 - i) WHEN THICKNESS IS ≥ 14.2 mm AND < 20 mm FOR ALL OD/ID.
 - ii) WHEN THICKNESS ≥ 20 mm AND OD < 219.1 mm.
 - 02. FOR OD MISMATCHING REF. FIGURE-Po

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- 01. USE FOR P91 / P92 FITTINGS
- 02. REFER STYLE-DL FOR THICKNESS < 14.2 mm FOR ALL OD/ID.
- 03. REFER STYLE-PL
- i) WHEN THICKNESS IS ≥ 14.2 mm AND < 20 mm FOR ALL OD/ID.
- ii) WHEN THICKNESS ≥ 20 mm AND OD < 219.1 mm.
- 04. $\alpha = 6^\circ$ FOR WALL THICKNESS ≥ 20 MM AND ≤ 30 mm
- 05. $\alpha = 10^\circ$ FOR WALL THICKNESS > 30 mm.
- 06. FIGURE-Xf IS APPLICABLE FOR ALL BUTT WELDED FITTINGS NOT COVERED IN NOTES 02 & 03

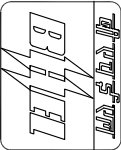
FIGURE-Xf

NOTE :

01. FOR GENERAL NOTES AND NOTES FOR WELDING REFER SHEET 1 OF 2.

TYPE OF PRODUCT
OR NAME OF
CUSTOMER/PROJECT

STANDARD



BHARAT HEAVY ELECTRICALS LTD.,
PIPING CENTRE, MADRAS

DRN	NAME	SIGN	DATE	NO OF ITEMS
CHE	P SURESH		07.12.16	
APPD	R SESHAGIRI		07.12.16	
C	KARUNAKARAN		07.12.16	

WEIGHT (kg).

NAME OF ORIGINAL
ORGANISATION

ITEM
No.

DEPT.	GRADE OF UN TOL. DIM	SCALE	WEIGHT (kg).	NAME OF ORIGINAL ORGANISATION
	C/M/F			

TITLE

EDGE PREPARATION
DETAILS

CARD
CODE
U 01

DRAWING No.

3-80-300-19825

REV

04

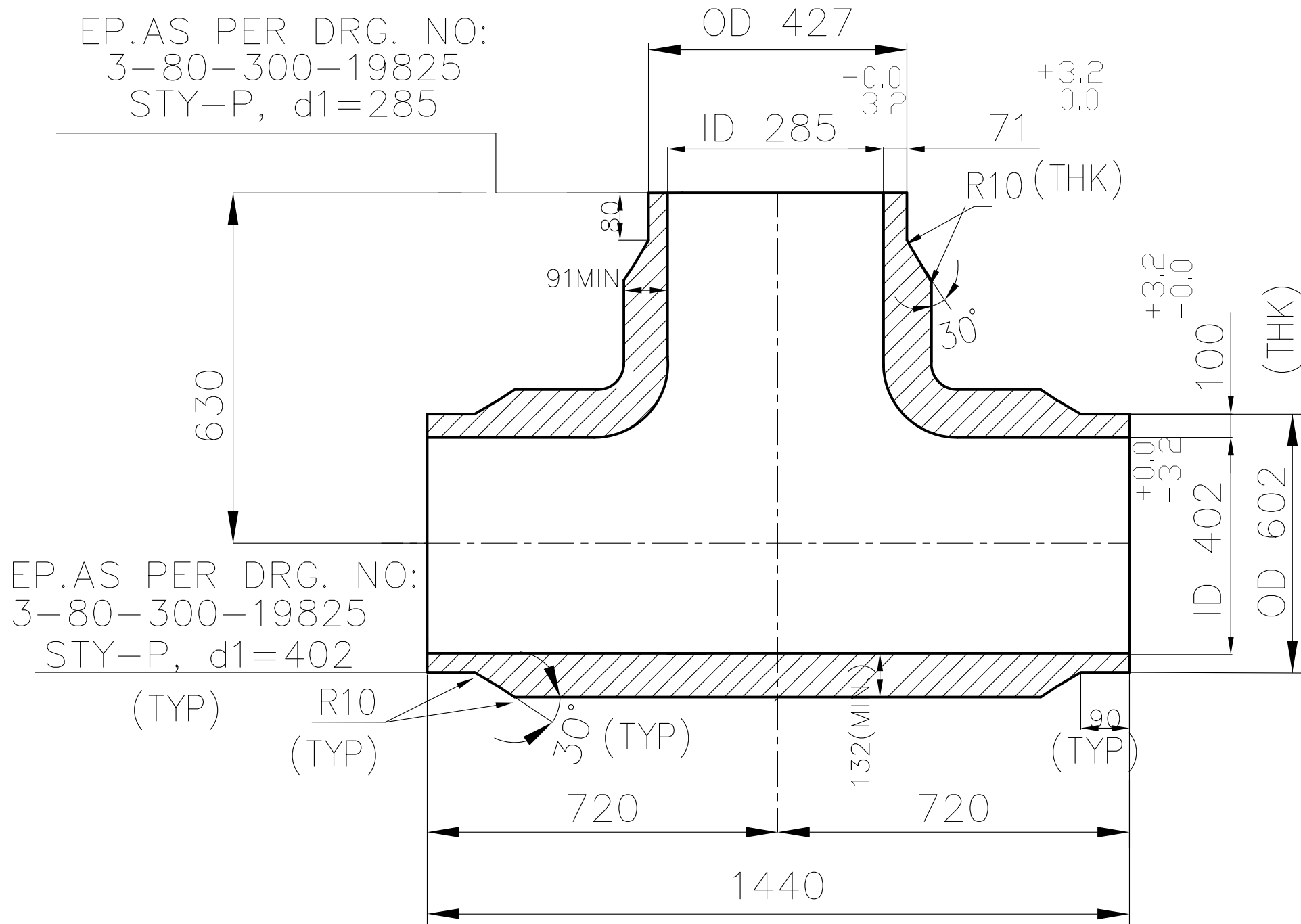
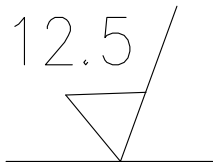
SHEET 2 OF 2

SIZE A3

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

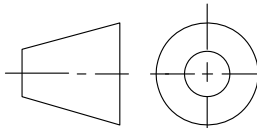
3-80-423-33538

DRAWING No



NOTES :-

01. DESIGN PRESSURE : 525.0 kg/sq.cm.(g)
02. DESIGN TEMPERATURE : 200° C
03. ALL DIMENSIONS ARE FINISHED DIMENSIONS.
04. MANUFACTURING, INSPECTION AND TESTING SHALL BE AS PER IBR, ASME B16.9 AND SA234.
05. FITTING TO COMPLY WITH ASME B16.9 AND DIMENSIONS AND TOLERANCES ARE AS PER THIS DRAWING.
06. MATERIAL SPECIFICATION SHALL BE SA234WPC(A)
07. FOLLOW TDG:102 (LATEST REVISION)
08. WEIGHT GIVEN IN BOM IS INDICATIVE ONLY.
ACTUAL WEIGHT TO BE FURNISHED BY FITTING SUPPLIER.
09. CONSTRUCTION SHALL BE SEAMLESS
10. CONNECTING PIPE SIZE – ID402x100/ID285x71

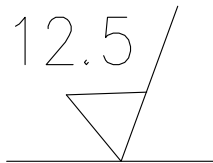
	BW UNEQUAL TEE ID402x100/ID285x71	3-80-423-33538		92 525 015 0000 SA 234 WPC	A	2890,000 1
ITEM NO.	DESCRIPTION	DRAWING NO.	ITEM NO. VAR NO.	MATERIAL CODE MATERIAL SPEC.	A C	UNIT WT. QTY.
TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT						
BHARAT HEAVY ELECTRICALS LTD., PIPING CENTRE, CHENNAI 600 017			DRN CHD APPD	NAME P SURESH R SESAHGIRI R SESHAGIRI	SIGN	DATE 15.04.17 15.04.17 15.04.17
DEPT.	GRADE OF UN TOL. DIM		SCALE	WEIGHT (Kg).	BHEL PO REF.NO:	
CODE	C/M/F		N.T.S.	2890.000		
TITLE			CARD CODE	DRAWING No.		REV
BW UNEQUAL TEE (ID402x100/ID285x71)			U 01	3-80-423-33538		00

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

3-80-423-33546

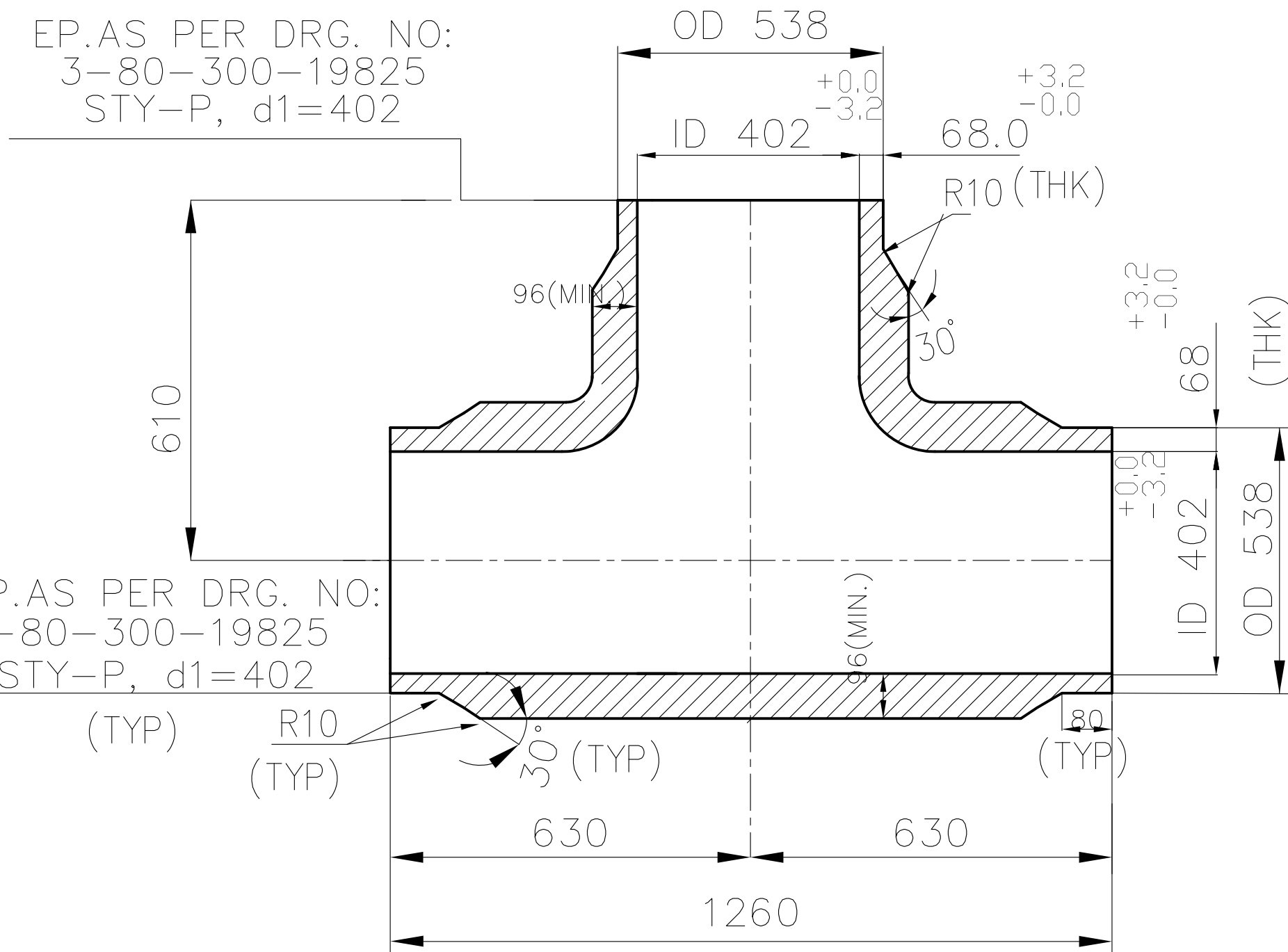
DRAWING No

12.5



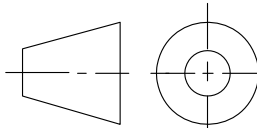
EP.AS PER DRG. NO:
3-80-300-19825
STY-P, d1=402

EP.AS PER DRG. NO:
3-80-300-19825
STY-P, d1=402

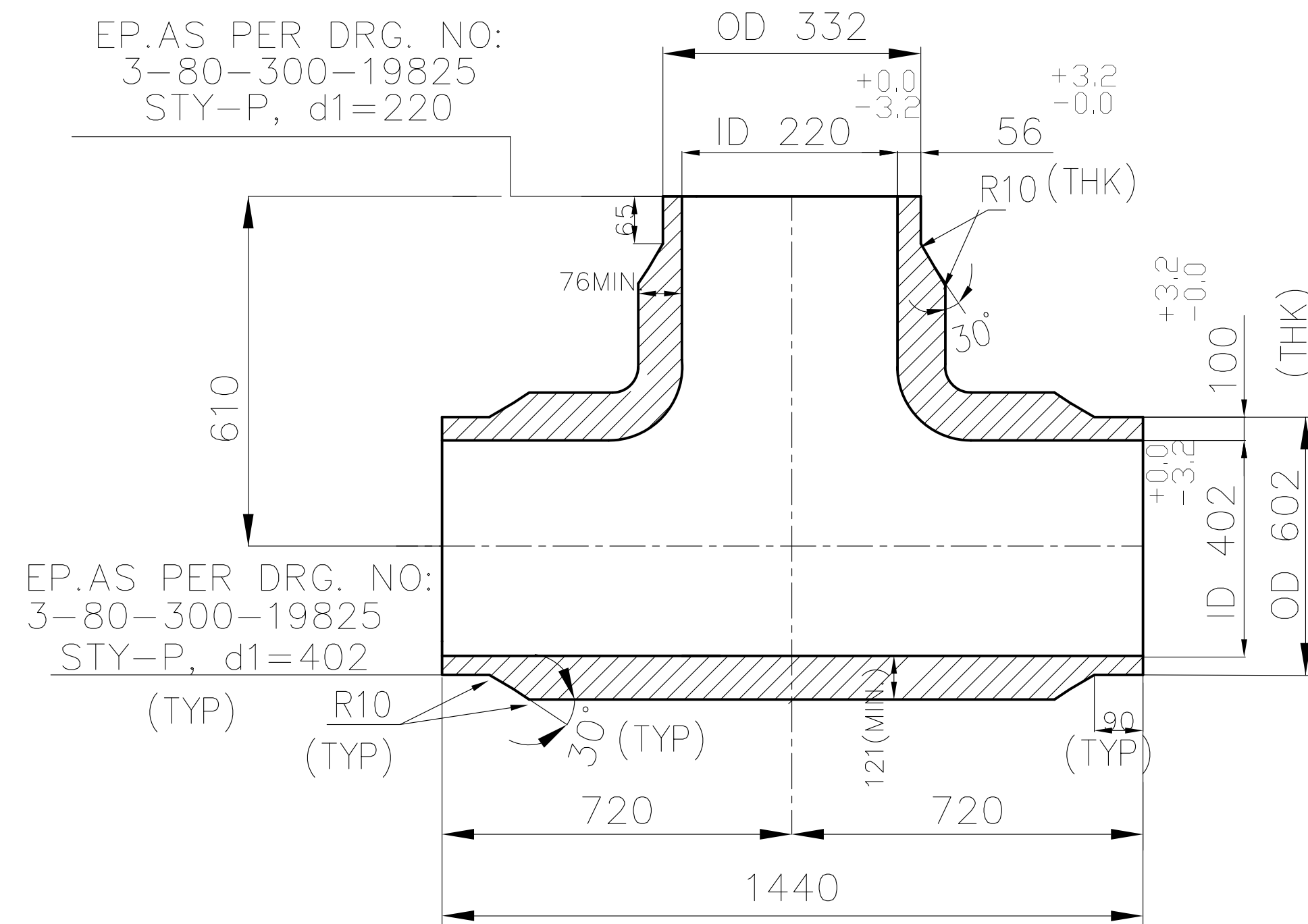


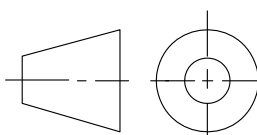
NOTES :-

01. DESIGN PRESSURE : 385 kg/sq.cm.(g)
02. DESIGN TEMPERATURE : 200° C
03. ALL DIMENSIONS ARE FINISHED DIMENSIONS.
04. MANUFACTURING, INSPECTION AND TESTING SHALL BE AS PER IBR, ASME B16.9 AND SA234.
05. FITTING TO COMPLY WITH ASME B16.9 AND DIMENSIONS AND TOLERANCES ARE AS PER THIS DRAWING.
06. FOLLOW TDG:102 (LATEST REVISION)
07. WEIGHT GIVEN IN TITLE BLOCK IS INDICATIVE ONLY. ACTUAL WEIGHT TO BE FURNISHED BY FITTING SUPPLIER.
08. CONSTRUCTION SHALL BE SEAMLESS
09. CONNECTING PIPE SIZE – ID402x68
10. MATERIAL SPECIFICATION SHALL BE SA234WPC(A)

	BW EQUAL TEE ID402X68	3-80-423-33546		925250220000 SA 234 WPC	A	2186.400 1														
ITEM NO.	DESCRIPTION	DRAWING NO.	ITEM NO. VAR NO.	MATERIAL CODE MATERIAL SPEC.	A C	UNIT WT. QTY.														
TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT																				
 BHARAT HEAVY ELECTRICALS LTD., PIPING CENTRE, CHENNAI 600 017 <table><tr><td>DRN</td><td>NAME P SURESH</td><td>SIGN</td><td>DATE 18.04.17</td><td rowspan="3">NO OF ITEMS</td></tr><tr><td>CHD</td><td>R SESHAGIRI</td><td></td><td>18.04.17</td></tr><tr><td>APPD</td><td>R SESHAGIRI</td><td></td><td>18.04.17</td></tr></table>								DRN	NAME P SURESH	SIGN	DATE 18.04.17	NO OF ITEMS	CHD	R SESHAGIRI		18.04.17	APPD	R SESHAGIRI		18.04.17
DRN	NAME P SURESH	SIGN	DATE 18.04.17	NO OF ITEMS																
CHD	R SESHAGIRI		18.04.17																	
APPD	R SESHAGIRI		18.04.17																	
DEPT.	GRADE OF UN TOL. DIM		SCALE	WEIGHT (Kg).	BHEL PO REF.NO:		ITEM No.													
CODE	C/M/F		N.T.S.	2186.400																
TITLE				CARD CODE	DRAWING No.		REV													
BW EQUAL TEE (ID402x68-SA234WPC)				U 01	3-80-423-33546		00													

01. DESIGN PRESSURE : 525.0 kg/sq.cm.(g)
02. DESIGN TEMPERATURE : 200° C
03. ALL DIMENSIONS ARE FINISHED DIMENSIONS.
04. MANUFACTURING, INSPECTION AND TESTING SHALL BE AS PER IBR, ASME B16.9 AND SA234.
05. FITTING TO COMPLY WITH ASME B16.9 AND DIMENSIONS AND TOLERANCES ARE AS PER THIS DRAWING.
06. MATERIAL SPECIFICATION SHALL BE SA234WPC(A)
07. FOLLOW TDG:102 (LATEST REVISION)
08. WEIGHT GIVEN IN BOM IS INDICATIVE ONLY.
ACTUAL WEIGHT TO BE FURNISHED BY FITTING SUPPLIER.
09. CONSTRUCTION SHALL BE SEAMLESS
10. CONNECTING PIPE SIZE –ID402X100/220X56

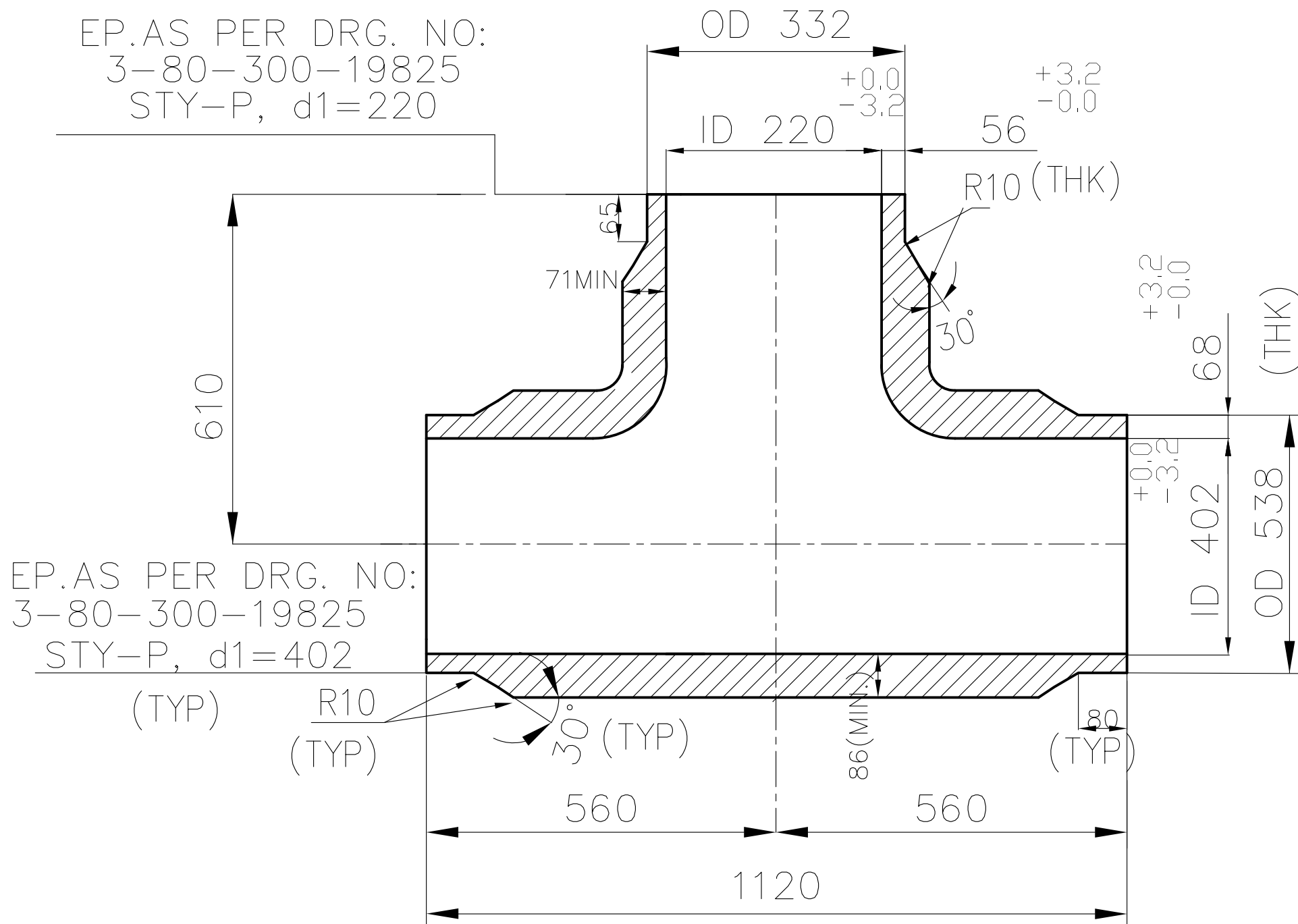
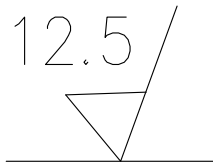


	BW UNEQUAL TEE ID402X100/220X56	3-80-423-33548		92 525 017 0000 SA 234 WPC	A	2478,872 1	
ITEM NO.	DESCRIPTION	DRAWING NO.	ITEM NO.	MATERIAL CODE	A	UNIT WT.	
			VAR NO.	MATERIAL SPEC.	C	QTY.	
TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT							
 BHARAT HEAVY ELECTRICALS LTD., PIPING CENTRE, CHENNAI 600 017			DRN	NAME P SURESH	SIGN	DATE 15.04.17	NO OF ITEMS
			CHD	R SESAHGIRI		15.04.17	
			APPD	R SESHAGIRI		15.04.17	
DEPT.	GRADE OF UN TOL. DIM		SCALE N.T.S.	WEIGHT (Kg). 2478.872	BHEL PO REF.NO:		ITEM No.
CODE	C/M/F						
TITLE BW UNEQUAL TEE (ID402X100/ID220X56)				CARD CODE U 01	DRAWING No. 3-80-423-33548		REV 00

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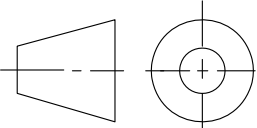
3-80-423-33549

DRAWING No



NOTES :-

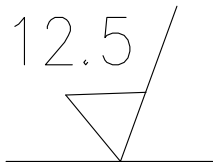
01. DESIGN PRESSURE : 385 kg/sq.cm.(g)
02. DESIGN TEMPERATURE : 200° C
03. ALL DIMENSIONS ARE FINISHED DIMENSIONS.
04. MANUFACTURING, INSPECTION AND TESTING SHALL BE AS PER IBR, ASME B16.9 AND SA234.
05. FITTING TO COMPLY WITH ASME B16.9 AND DIMENSIONS AND TOLERANCES ARE AS PER THIS DRAWING.
06. MATERIAL SPECIFICATION SHALL BE SA234WPC(A)
07. FOLLOW TDG:102 (LATEST REVISION)
08. WEIGHT GIVEN IN BOM IS INDICATIVE ONLY.
ACTUAL WEIGHT TO BE FURNISHED BY FITTING SUPPLIER.
09. CONSTRUCTION SHALL BE SEAMLESS
10. CONNECTING PIPE SIZE -ID402X68/220X56

	BW UNEQUAL TEE ID402X68/220X56	3-80-423-33549		92 525 016 0000 SA 234 WPC	A	1430,698 1
ITEM NO.	DESCRIPTION	DRAWING NO.	ITEM NO. VAR NO.	MATERIAL CODE MATERIAL SPEC.	A C	UNIT WT. QTY.
TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT						
 BHARAT HEAVY ELECTRICALS LTD., PIPING CENTRE, CHENNAI 600 017			DRN CHD APPD	NAME P SURESH R SESAHGIRI R SESHAGIRI	SIGN	DATE 15.04.17 15.04.17 15.04.17
DEPT. CODE	GRADE OF UN TOL. DIM C/M/F		SCALE N.T.S.	WEIGHT (Kg). 1430.698	BHEL PO REF.NO:	
TITLE BW UNEQUAL TEE (ID402X68/ID220X56)				CARD CODE U 01	DRAWING No. 3-80-423-33549	ITEM No. REV 00

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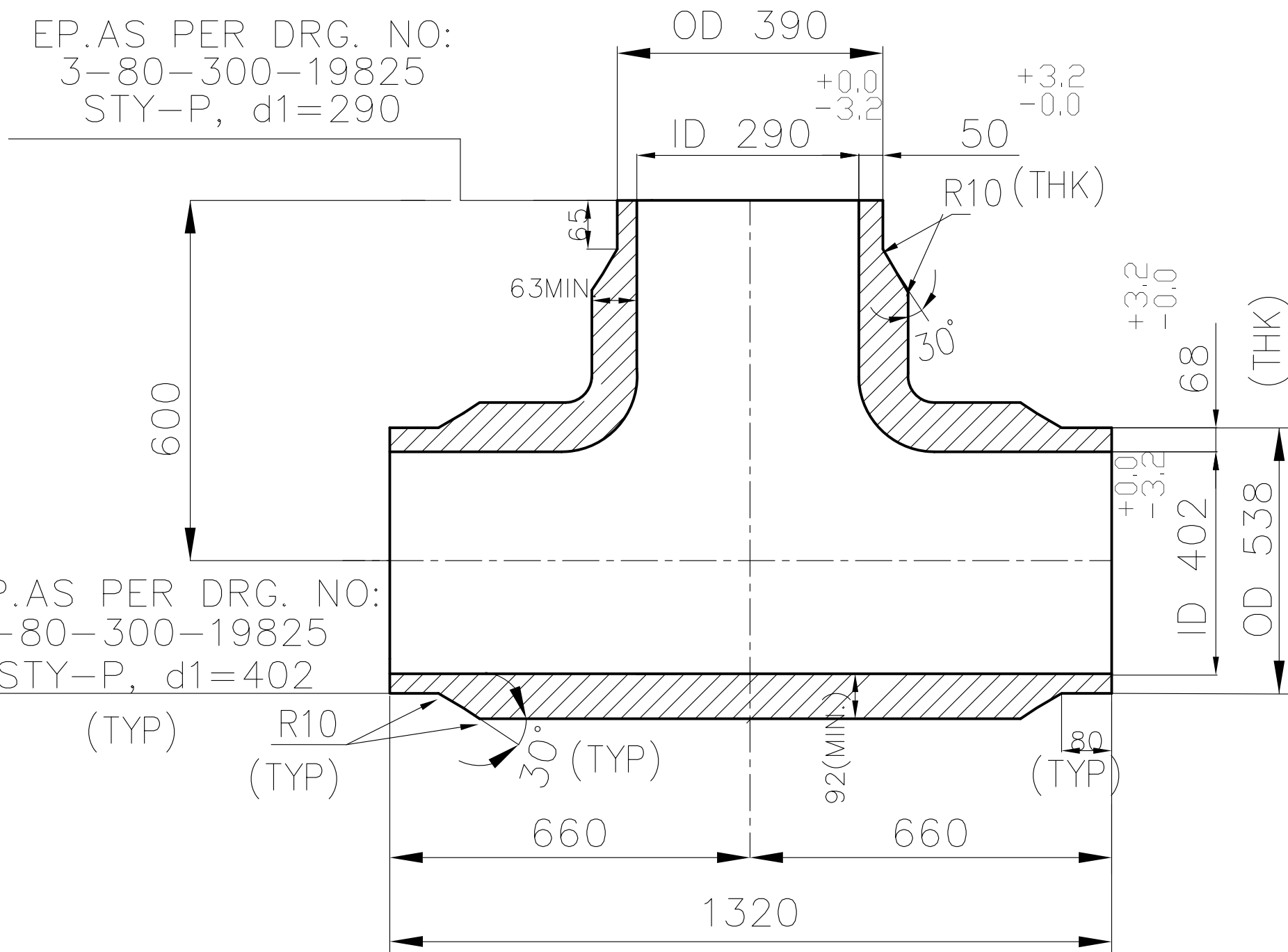
3-80-423-33550

DRAWING No



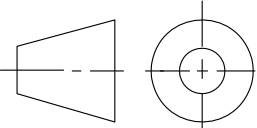
EP.AS PER DRG. NO:
3-80-300-19825
STY-P, d1=290

EP.AS PER DRG. NO:
3-80-300-19825
STY-P, d1=402

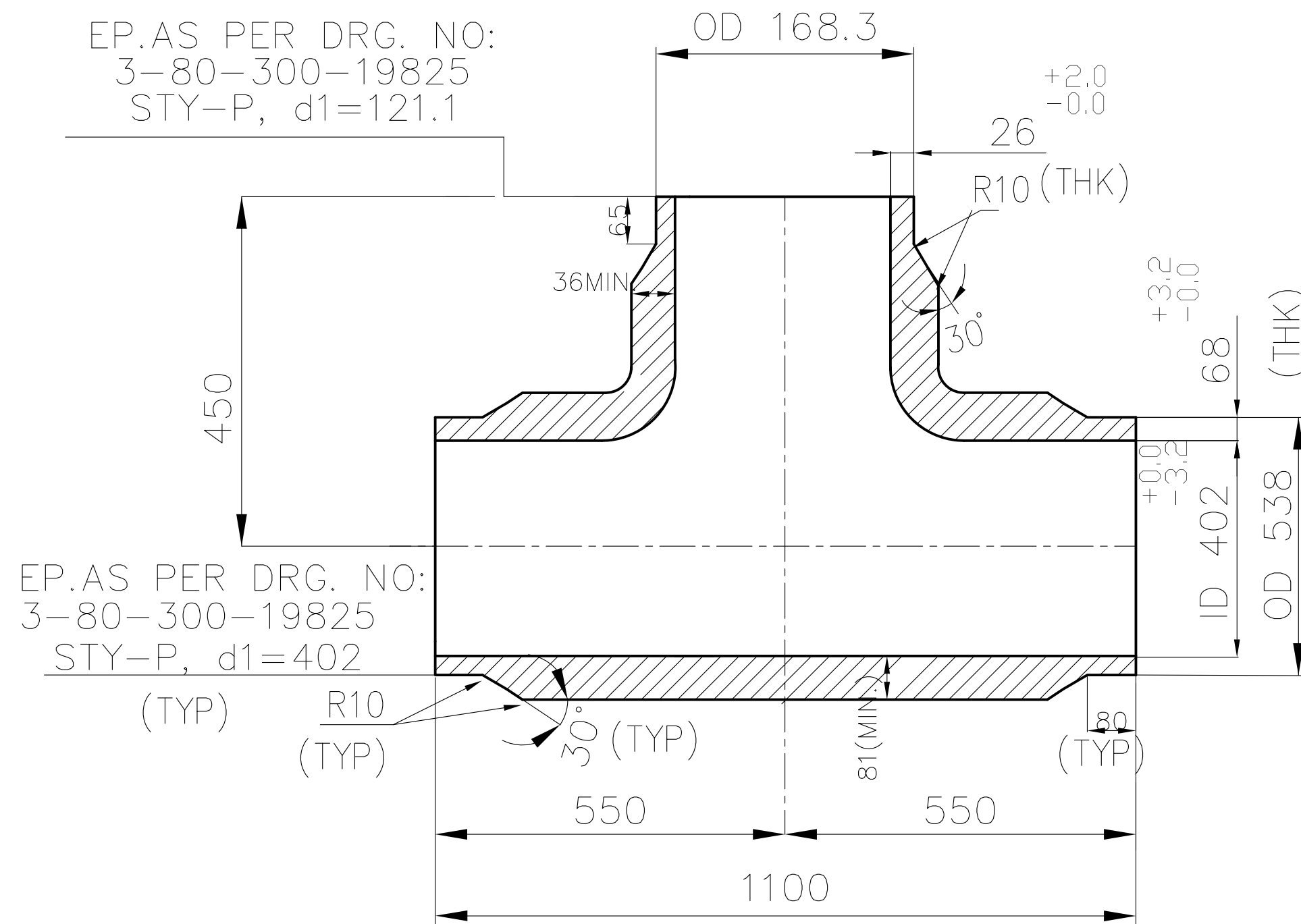


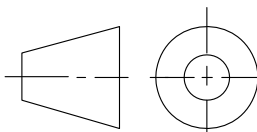
NOTES :-

01. DESIGN PRESSURE : 385 kg/sq.cm.(g)
02. DESIGN TEMPERATURE : 200° C
03. ALL DIMENSIONS ARE FINISHED DIMENSIONS.
04. MANUFACTURING, INSPECTION AND TESTING SHALL BE AS PER IBR, ASME B16.9 AND SA234.
05. FITTING TO COMPLY WITH ASME B16.9 AND DIMENSIONS AND TOLERANCES ARE AS PER THIS DRAWING.
06. MATERIAL SPECIFICATION SHALL BE SA234WPC(A)
07. FOLLOW TDG:102 (LATEST REVISION)
08. WEIGHT GIVEN IN BOM IS INDICATIVE ONLY.
ACTUAL WEIGHT TO BE FURNISHED BY FITTING SUPPLIER.
09. CONSTRUCTION SHALL BE SEAMLESS
10. CONNECTING PIPE SIZE -ID402X68/ID290X50

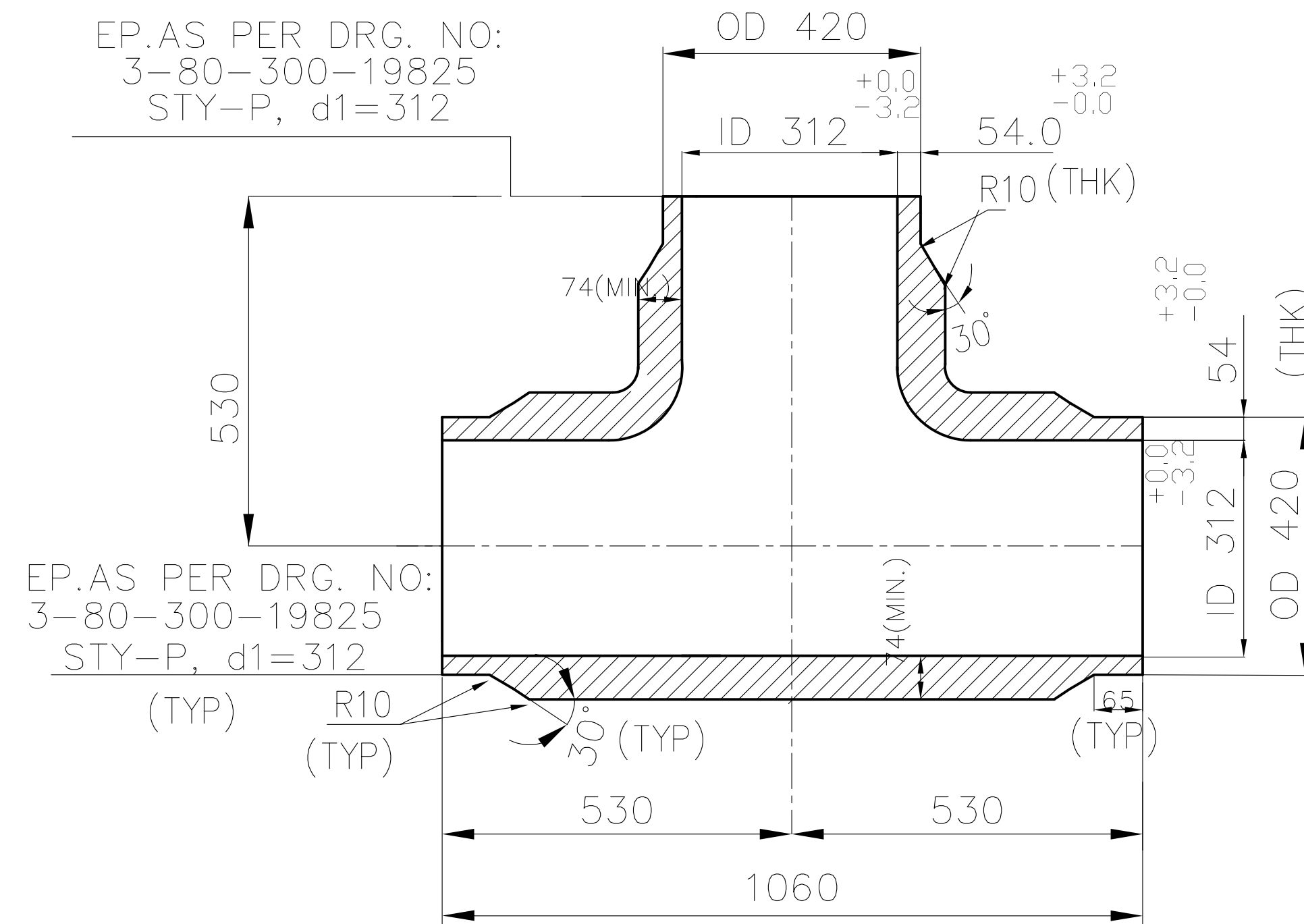
	BW UNEQUAL TEE ID402X68/ID290X50	3-80-423-33550		92 525 018 0000 SA 234 WPC	A	1791,452 1	
ITEM NO.	DESCRIPTION	DRAWING NO.	ITEM NO. VAR NO.	MATERIAL CODE MATERIAL SPEC.	A C	UNIT WT. QTY.	
TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT							
 BHARAT HEAVY ELECTRICALS LTD., PIPING CENTRE, CHENNAI 600 017			DRN CHD APPD	NAME P SURESH R SESAHGIRI R SESHAGIRI	SIGN	DATE 15.04.17 15.04.17 15.04.17	NO OF ITEMS
DEPT. CODE	GRADE OF UN TOL. DIM C/M/F		SCALE N.T.S.	WEIGHT (Kg). 1791.452	BHEL PO REF.NO:		ITEM No.
TITLE BW UNEQUAL TEE (ID402X68/ID290X50)				CARD CODE U 01	DRAWING No. 3-80-423-33550		REV 00

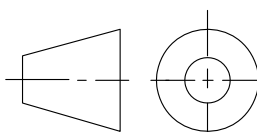
01. DESIGN PRESSURE : 385 kg/sq.cm.(g)
02. DESIGN TEMPERATURE : 200° C
03. ALL DIMENSIONS ARE FINISHED DIMENSIONS.
04. MANUFACTURING, INSPECTION AND TESTING SHALL BE AS PER IBR, ASME B16.9 AND SA234.
05. FITTING TO COMPLY WITH ASME B16.9 AND DIMENSIONS AND TOLERANCES ARE AS PER THIS DRAWING.
06. MATERIAL SPECIFICATION SHALL BE SA234WPC(A)
07. FOLLOW TDG:102 (LATEST REVISION)
08. WEIGHT GIVEN IN BOM IS INDICATIVE ONLY.
ACTUAL WEIGHT TO BE FURNISHED BY FITTING SUPPLIER.
09. CONSTRUCTION SHALL BE SEAMLESS
10. CONNECTING PIPE SIZE –ID402X68/OD168.3X26



	BW UNEQUAL TEE ID402X68/ID290X50	3-80-423-33671		925250230000 SA 234 WPC	A	1086_105 1	
ITEM NO.	DESCRIPTION	DRAWING NO.	ITEM NO.	MATERIAL CODE	A	UNIT WT.	
			VAR NO.	MATERIAL SPEC.	C	QTY.	
TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT							
 BHARAT HEAVY ELECTRICALS LTD., PIPING CENTRE, CHENNAI 600 017							DRN CHD APPD NAME P SURESH R SESAHGIRI R SESHAGIRI SIGN DATE 15.04.17 15.04.17 15.04.17 NO OF ITEMS
DEPT.	GRADE OF UN TOL. DIM		SCALE N.T.S.	WEIGHT (Kg). 1086.105	BHEL PO REF.NO:		ITEM No.
CODE	C/M/F						
TITLE BW UNEQUAL TEE (ID402X68/OD168.3X26)				CARD CODE U 01	DRAWING No. 3-80-423-33671		REV 00

01. DESIGN PRESSURE : 385 kg/sq.cm.(g)
02. DESIGN TEMPERATURE : 315° C
03. ALL DIMENSIONS ARE FINISHED DIMENSIONS.
04. MANUFACTURING, INSPECTION AND TESTING SHALL BE AS PER IBR, ASME B16.9 AND SA234.
05. FITTING TO COMPLY WITH ASME B16.9 AND DIMENSIONS AND TOLERANCES ARE AS PER THIS DRAWING.
06. FOLLOW TDG:102 (LATEST REVISION)
07. WEIGHT GIVEN IN TITLE BLOCK IS INDICATIVE ONLY.
ACTUAL WEIGHT TO BE FURNISHED BY FITTING SUPPLIER.
08. CONSTRUCTION SHALL BE SEAMLESS
09. MATERIAL SPECIFICATION SHALL BE SA234WPC(A)
10. CONNECTING PIPE SIZE – ID312X54



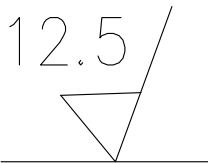
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ITEM NO.	DESCRIPTION	DRAWING NO.	ITEM NO.	MATERIAL CODE	A	UNIT WT.
			VAR NO.	MATERIAL SPEC.	C	QTY.
TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT						
 BHARAT HEAVY ELECTRICALS LTD., PIPING CENTRE, CHENNAI 600 017 DRN P SURESH CHD R SESHAGIRI APPD R SESHAGIRI SIGN DATE 18.04.17 18.04.17 18.04.17 NO OF ITEMS						
DEPT.	GRADE OF UN TOL. DIM		SCALE	WEIGHT (Kg).	BHCL PO REF.NO:	
CODE	C/M/F		N.T.S.	1106.453	ITEM No.	
TITLE			CARD CODE	DRAWING No.		REV
BW EQUAL TEE (ID312X54-SA234WPC)			U 01	3-80-424-33547		00

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3-80-424-33672

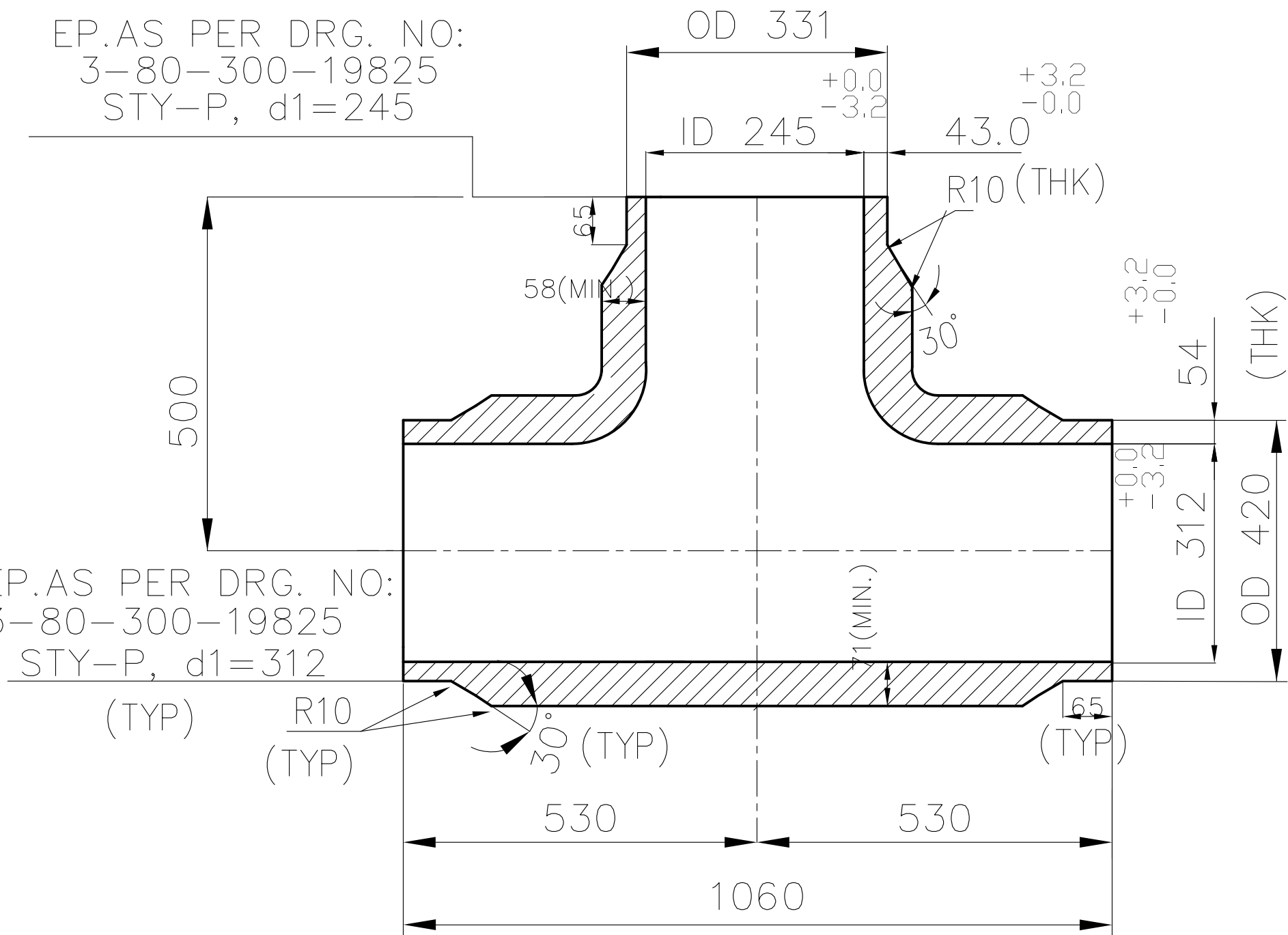
DRAWING No

12.5



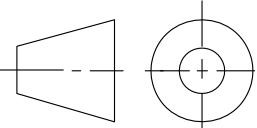
EP.AS PER DRG. NO:
3-80-300-19825
STY-P, d1=245

EP.AS PER DRG. NO:
3-80-300-19825
STY-P, d1=312



NOTES :-

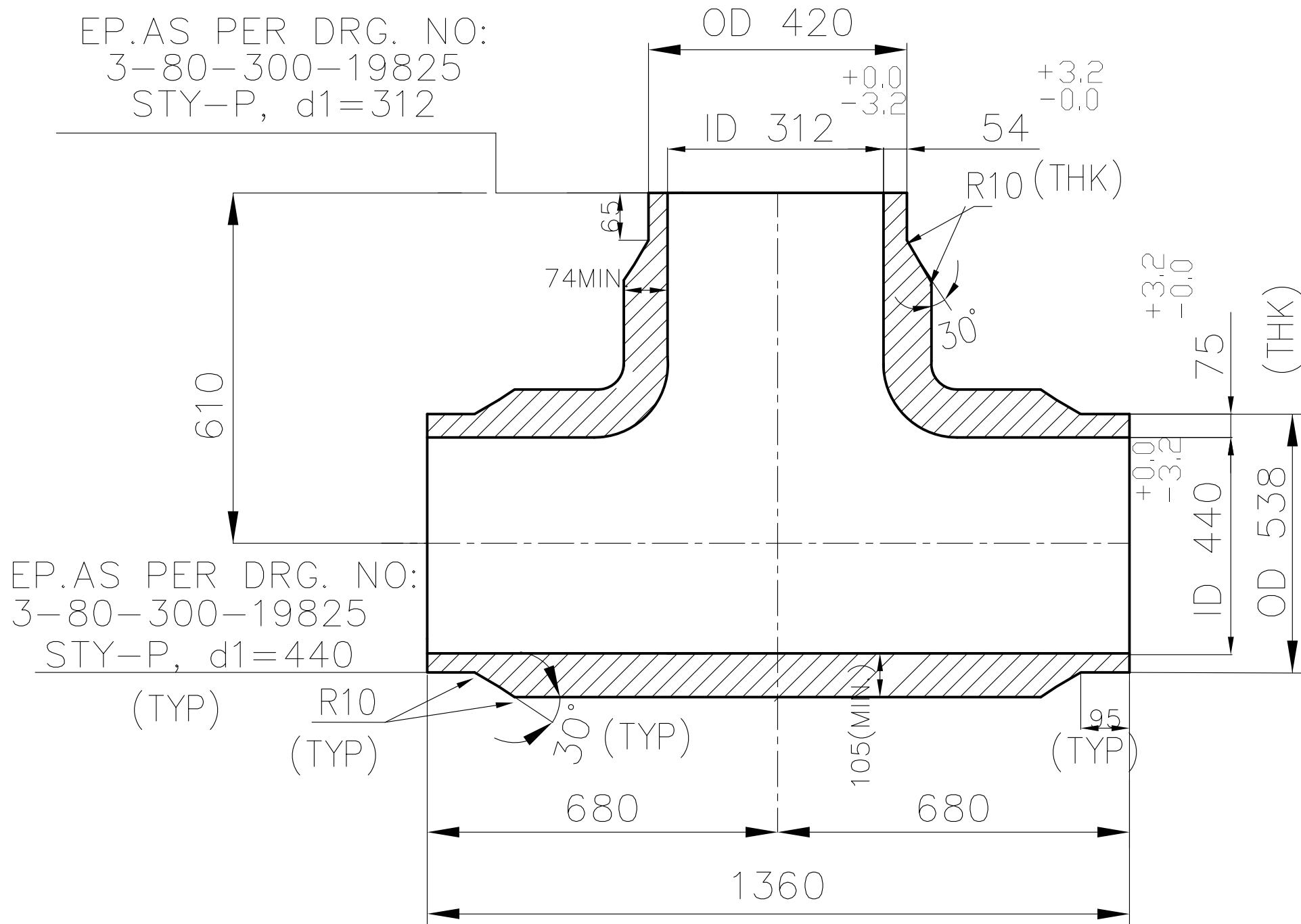
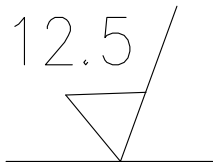
01. DESIGN PRESSURE : 385 kg/sq.cm.(g)
02. DESIGN TEMPERATURE : 315° C
03. ALL DIMENSIONS ARE FINISHED DIMENSIONS.
04. MANUFACTURING, INSPECTION AND TESTING SHALL BE AS PER IBR, ASME B16.9 AND SA234.
05. FITTING TO COMPLY WITH ASME B16.9 AND DIMENSIONS AND TOLERANCES ARE AS PER THIS DRAWING.
06. FOLLOW TDG:102 (LATEST REVISION)
07. WEIGHT GIVEN IN TITLE BLOCK IS INDICATIVE ONLY. ACTUAL WEIGHT TO BE FURNISHED BY FITTING SUPPLIER.
08. CONSTRUCTION SHALL BE SEAMLESS
09. MATERIAL SPECIFICATION SHALL BE SA234WPC(A)
10. CONNECTING PIPE SIZE – ID312X54/ID245X43

	BW EQUAL TEE ID312X54/ID245X43	3-80-424-33672		925250240000 SA 234 WPC	A	920,088 1	
ITEM NO.	DESCRIPTION	DRAWING NO.	ITEM NO. VAR NO.	MATERIAL CODE MATERIAL SPEC.	A C	UNIT WT. QTY.	
TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT							
 BHARAT HEAVY ELECTRICALS LTD., PIPING CENTRE, CHENNAI 600 017			DRN CHD APPD	NAME P SURESH R SESHAGIRI R SESHAGIRI	SIGN	DATE 18.04.17 18.04.17 18.04.17	NO OF ITEMS
DEPT. CODE	GRADE OF UN TOL. DIM C/M/F		SCALE N.T.S.	WEIGHT (Kg). 920.088	BHEL PO REF.NO:		ITEM No.
TITLE BW UN EQUAL TEE (ID312X54/ID245X43-SA234WPC)				CARD CODE U 01	DRAWING No. 3-80-424-33672		REV 00

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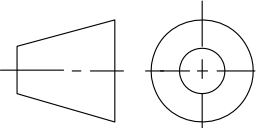
3-80-425-33552

DRAWING No



NOTES :-

01. DESIGN PRESSURE : 385 kg/sq.cm.(g)
02. DESIGN TEMPERATURE : 315° C
03. ALL DIMENSIONS ARE FINISHED DIMENSIONS.
04. MANUFACTURING, INSPECTION AND TESTING SHALL BE AS PER IBR, ASME B16.9 AND SA234.
05. FITTING TO COMPLY WITH ASME B16.9 AND DIMENSIONS AND TOLERANCES ARE AS PER THIS DRAWING.
06. FOLLOW TDG:102 (LATEST REVISION)
07. WEIGHT GIVEN IN BOM IS INDICATIVE ONLY.
ACTUAL WEIGHT TO BE FURNISHED BY FITTING SUPPLIER.
08. CONSTRUCTION SHALL BE SEAMLESS
09. MATERIAL SPECIFICATION SHALL BE SA234WPC(A)
10. CONNECTING PIPE SIZE -ID440X75/ID312X54

	BW UNEQUAL TEE ID440X75/ID312X54	3-80-425-33552		925250200000 SA 234 WPC	A	2309.069 1	
ITEM NO.	DESCRIPTION	DRAWING NO.	ITEM NO. VAR NO.	MATERIAL CODE MATERIAL SPEC.	A C	UNIT WT. QTY.	
TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT							
 BHARAT HEAVY ELECTRICALS LTD., PIPING CENTRE, CHENNAI 600 017			DRN CHD APPD	NAME P SURESH R SESAHGIRI R SESHAGIRI	SIGN	DATE 15.04.17 15.04.17 15.04.17	NO OF ITEMS
DEPT. CODE	GRADE OF UN TOL. DIM C/M/F		SCALE N.T.S.	WEIGHT (Kg). 2309.069	BHEL PO REF.NO:		ITEM No.
TITLE BW UNEQUAL TEE (ID440X75/ID312X54)				CARD CODE U 01	DRAWING No. 3-80-425-33552		REV 00

DRAFTING NO

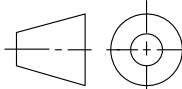
(TYP)

R10
(TYP)

30° (TYP)

640

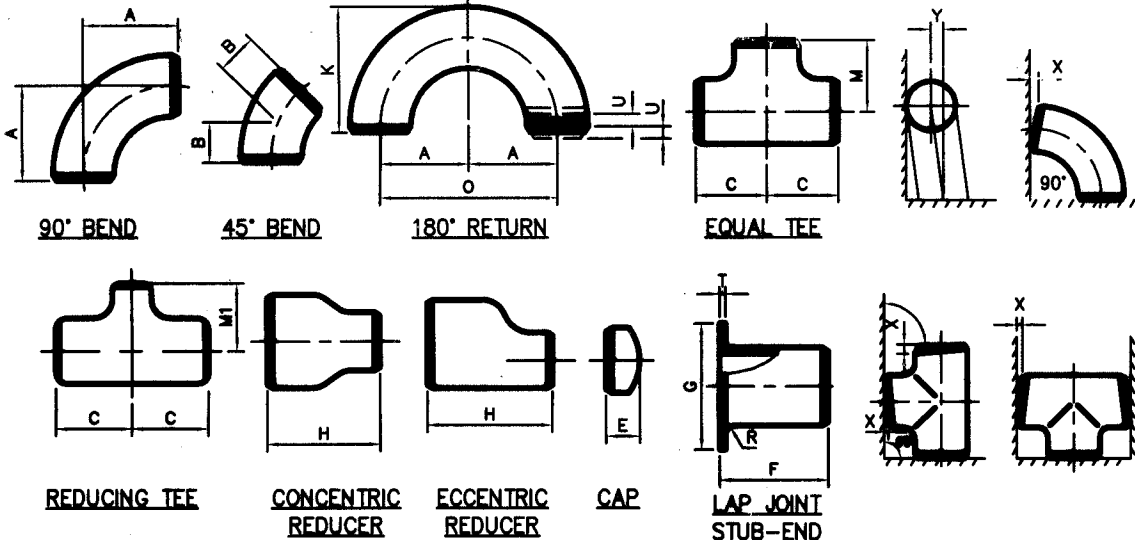
75
(TYP)

	BW UNEQUAL TEE ID440X75/ID290X50	3-80-425-33579		925250210000 SA 234 WPC	A	2067,862 1					
ITEM NO.	DESCRIPTION	DRAWING NO.	ITEM NO. VAR NO.	MATERIAL CODE MATERIAL SPEC.	A C	UNIT WT. QTY.					
TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT											
			BHARAT HEAVY ELECTRICALS LTD., PIPING CENTRE, CHENNAI 600 017	DRN CHD APPD	NAME P SURESH R SESAHGIRI R SESHAGIRI	SIGN 	DATE 15.04.17 15.04.17 15.04.17	NO OF ITEMS 			
DEPT. CODE	GRADE OF UN TOL DIM C/M/F		SCALE N.T.S.	WEIGHT (Kg). 2067.862	BHEL PO REF.NO:			ITEM No.			
TITLE	BW UNEQUAL TEE (ID440X75/ID290X50)			CARD CODE U 01	DRAWING No. 3-80-425-33579			REV 00			

CAUTION: The information on this document is the property of BHARAT HEAVY ELECTRICALS LTD. It must not be used directly or indirectly in any way detrimental to the interest of the company.

REV	DATE	ALTERED
01	05.02.05	APPROVED <i>[Signature]</i> APMK
TITLE BLOCK AND DRAWING ALTERED		

(REFERENCE : IBR ,REG.NO 361(A) INCLUDED IN AMENDMENT)



ALL FITTINGS				90°&45° ELBOWS AND TEES	REDUCER	180° RETURNS			CAPS	LAP-JOINT		STUB END	
DN.	O.D AT BEVEL	I.D AT END	WALL THICKNESS	CENTER TO END A,B,C,M,M1	OVERALL LENGTH H	CENTER TO CENTER O	BACK TO FACE K	ALIGNMENT OF END U	OVER ALL LENGTH E	END TO END F	RADIUS R	DIA OF LAP G	THICKNESS OF LAP
15 TO 65	+1.6 -0.8	±0.8	NOT LESS THAN 87 1/2% OF NOMINAL THICKNESS	±1.6	±1.6	±6.4	±6.4	±0.8	±3.2	±1.6	+ 0 -0.8	+ 0 -0.8	+1.6 - 0
80 TO 90	±1.6	±1.6		±1.6	±1.6	±6.4	±6.4	±0.8	±3.2	±1.6	+ 0 -0.8	+ 0 -0.8	+1.6 - 0
100	±1.6	±1.6		±1.6	±1.6	±6.4	±6.4	±0.8	±3.2	±1.6	+ 0 -0.8	+ 0 -0.8	+1.6 - 0
125 TO 200	+2.4 -1.6	±1.6		±1.6	±1.6	±6.4	±6.4	±0.8	±6.4	±1.6	+ 0 -0.8	+ 0 -0.8	+1.6 - 0
250 TO 400	+4.0 -3.2	±3.2		±2.4	±2.4	±9.5	±6.4	±1.6	±6.4	±2.4	+ 0 -1.6	+ 0 -1.6	+1.6 - 0
500 & ABOVE	+6.4 -4.8	±4.8		±2.4	±2.4	±9.5	±6.4	±1.6	±6.4	±2.4	+ 0 -1.6	+ 0 -1.6	+1.6 - 0

OFF-SQUARE TOLERANCES		
NOMINAL SIZE OF FITTING	OFF SQUARE TOLERANCE, X	OFF SQUARE TOLERANCE, Y
UP TO AND INCLUDING 100	0.8	1.6
125 TO 150	1.2	2.4
200 TO 550	1.6	3.2
600 & ABOVE	3.2	6.4

NOTES : 1. ALL DIMENSIONS ARE IN MILLIMETRES

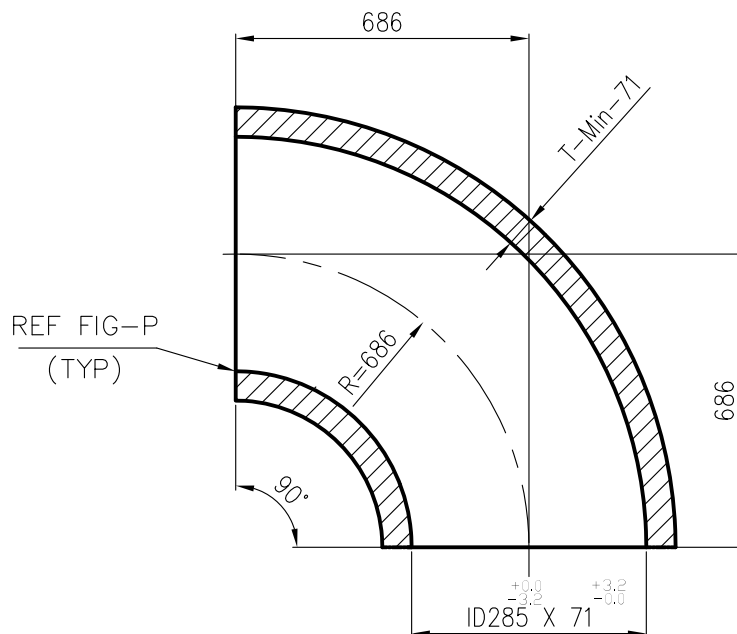
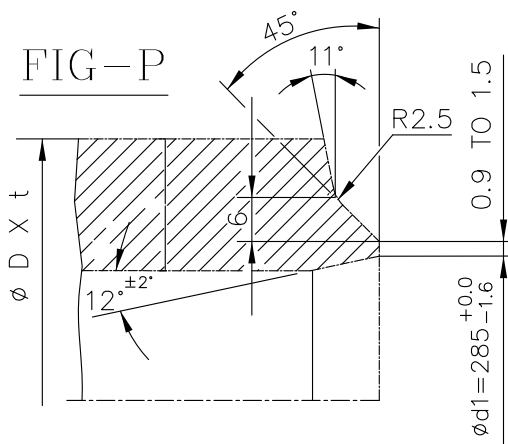
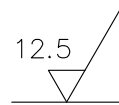
STANDARD

		BHARAT HEAVY ELECTRICALS LIMITED PIPING CENTRE CHENNAI 600 017		DRN	NAME	SIGN	DATE	NO.OF VAR
				CHD	ENG.G.ENTERPRISES	Sd	15.10.1986	
				APPD	R.ANANTH	Sd	15.10.1986	
DEPT	GRADE OF UNTOLEDIM		SCALE	WEIGHT (KG).	REF. TO ASSY./OLD DRG.		ITEM NO.	NO. OF ITEMS
CODE	C / M / F		N.T.S	-	-		-	
TITLE				CARD CODE	DRAWING NO.			REV
TOLERANCES ON FITTINGS				U 01	4-80-301-26192			01

REV 01	DATE	ALTERED :
		CHD & APPD :

NOTES:

- 1) DESIGN PRESSURE : 525 Kg/Cm² (g)
- 2) DESIGN TEMPERATURE : 200 °C
- 3) WORKING MEDIUM : WATER
- 4) FOLLOW TDC No. : AS APPLICABLE
- 5) ALL DIMENSIONS ARE FINISHED DIMENSIONS
- 6) DESIGN, MANUFACTURING, INSPECTION, TOLERANCES AND TESTING SHALL BE AS PER IBR, ASME B16.9 & SA234
- 7) CONNECTING PIPE SIZE IS PIPE ID285X71
- 8) MATERIAL SPECIFICATION SHALL BE SA234WPC
- 9) CONSTRUCTION SHALL BE SEAMLESS
- 10) WEIGHT GIVEN IN BOM IS INDICATIVE ONLY.



—	BW LR 90DEG ELBOW Ø ID285 X 71	92 504 166 0000	A	671	310
		SA 234 WPC			1
VAR No.	DESCRIPTION	STD	MATERIAL CODE	A/C/P	UNIT
			MATERIAL SPECN		UNIT WT. (KG)
					QUANTITY



BHARAT HEAVY ELECTRICALS LIMITED
PIPING CENTRE
CHENNAI 600 017

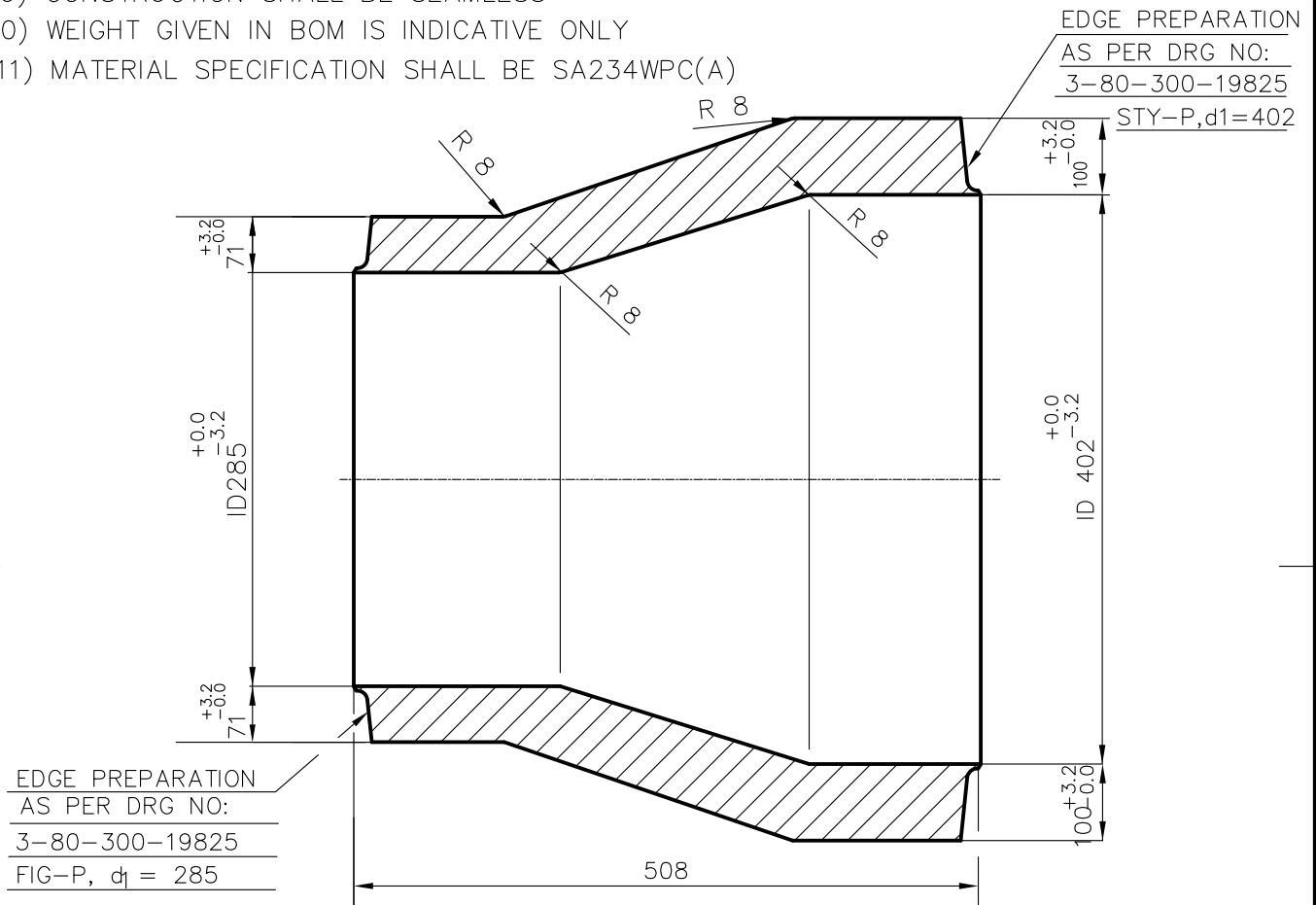
	NAME	SIGNATURE	DATE
DRN	P SURESH	—sd—	15.04.2017
CHD	R SESHAGIRI	—sd—	15.04.2017
APPD	R SESHAGIRI	—sd—	15.04.2017

DEPT	ALL DIMENSIONS ARE IN MM	PROJECTION	SCALE	WEIGHT (Kg)	REF TO ASSY / OLD DWG
CODE			N.T.S	671.310	—
TITLE	BW LR 90DEG ELBOW ID285 X 71				DRAWING NO : 4-80-423-80905
					REV 00

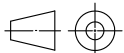
NOTES :-

ALL DIMENSIONS ARE IN MILLIMETRES

- 1) DESIGN PRESSURE : 525 Kg/Cm²(g)
- 2) DESIGN TEMPERATURE : 200 °C
- 3) WORKING MEDIUM : WATER
- 4) FOLLOW TDC No. : AS APPLICABLE
- 5) ALL DIMENSIONS ARE FINISHED DIMENSIONS
- 6) DESIGN,MANUFACTURING,INSPECTION & TESTING SHALL BE AS PER IBR ANSI B16.9 & SA234
- 7) DIMENSIONS & TOLERANCES ARE AS PER THE DRAWING
- 8) CONNECTING PIPE SIZE -ID402X100/ID285X71
- 9) CONSTRUCTION SHALL BE SEAMLESS
- 10) WEIGHT GIVEN IN BOM IS INDICATIVE ONLY
- 11) MATERIAL SPECIFICATION SHALL BE SA234WPC(A)



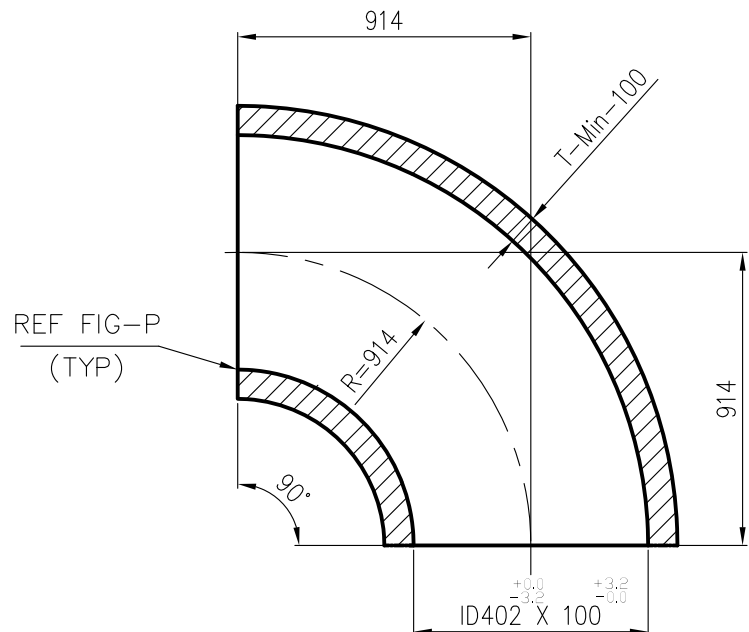
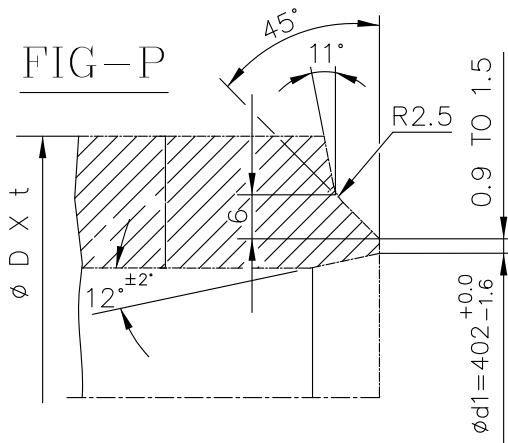
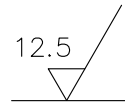
	BW CONCENTRIC REDUCER ID402X100/ID285X71		92 117 239 0000	A		526	475
			SA 234 WPC				
VAR NO.	DESCRIPTION	STD	MATL. CODE	A C	UNIT DI	UNIT.WT.(Kg)	
			MATL. SPECN.			QTY.	

बी एच ई एल 		BHARAT HEAVY ELECTRICALS LIMITED		DRN	NAME P SURESH	SIGN	DATE 15.04.17	NO.OF VAR	
		PIPING CENTRE		CHD	R SESHAGIRI		15.04.17		
		CHENNAI 600 017		APPD	R SESHAGIRI		15.04.17		
DEPT	GRADE OF UNTOL.DIM		SCALE	WEIGHT (KG).	BHEL PO REF.NO:			ITEM NO.	NO. OF ITEMS
CODE	C / M / F		N.T.S	526.475					
TITLE				CARD CODE	DRAWING NO.			REV	
BW CONCENTRIC REDUCER				U 01	4-80-423-80906			00	
ID402X100/ID285X71 (SA234WPC)									

REV 01	DATE	ALTERED :
		CHD & APPD :

NOTES:

- 1) DESIGN PRESSURE : 525 Kg/Cm² (g)
- 2) DESIGN TEMPERATURE : 200 °C
- 3) WORKING MEDIUM : WATER
- 4) FOLLOW TDC No. : AS APPLICABLE
- 5) ALL DIMENSIONS ARE FINISHED DIMENSIONS
- 6) DESIGN, MANUFACTURING, INSPECTION, TOLERANCES AND TESTING SHALL BE AS PER IBR, ASME B16.9 & SA234
- 7) CONNECTING PIPE SIZE IS PIPE ID402X100
- 8) MATERIAL SPECIFICATION SHALL BE SA234WPC(A)
- 9) CONSTRUCTION SHALL BE SEAMLESS
- 10) WEIGHT GIVEN IN BOM IS INDICATIVE ONLY.



—	BW LR 90DEG ELBOW Ø ID402 X 100	92 504 169 0000	A	1703	000
		SA 234 WPC			1
VAR No.	DESCRIPTION	STD	MATERIAL CODE	A/C/P	UNIT
			MATERIAL SPECN		QUANTITY



BHARAT HEAVY ELECTRICALS LIMITED
PIPING CENTRE
CHENNAI 600 017

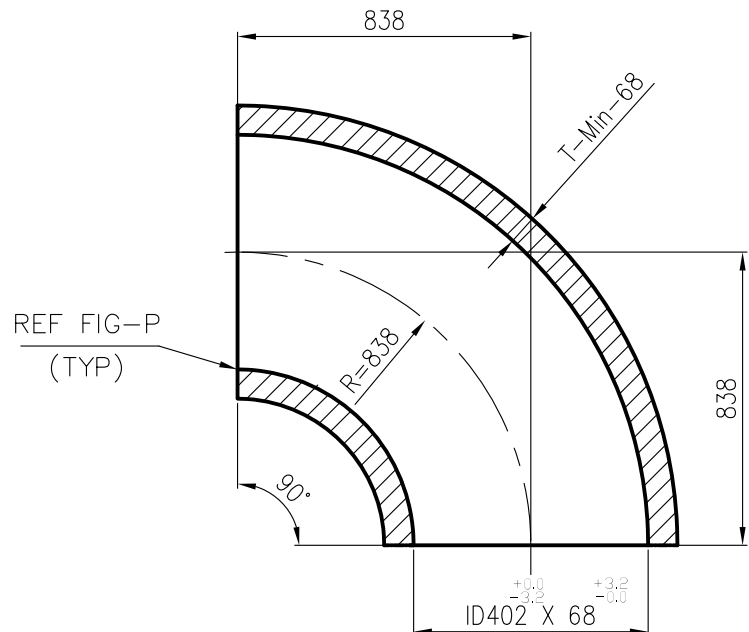
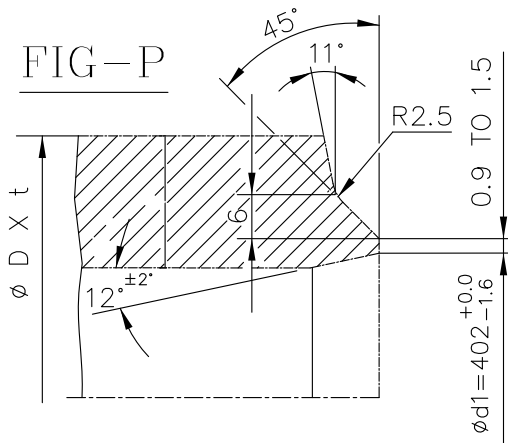
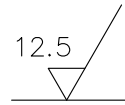
	NAME	SIGNATURE	DATE
DRN	P SURESH	—sd—	15.04.2017
CHD	R SESHAGIRI	—sd—	15.04.2017
APPD	R SESHAGIRI	—sd—	15.04.2017

DEPT	ALL DIMENSIONS ARE IN MM	PROJECTION	SCALE	WEIGHT (Kg)	REF TO ASSY / OLD DWG
CODE			N.T.S	1703.000	—
TITLE	BW LR 90DEG ELBOW ID402 X 100				DRAWING NO : 4-80-423-80907
					REV 00

REV 01	DATE	ALTERED :
		CHD & APPD :

NOTES:

- 1) DESIGN PRESSURE : 385 Kg/Cm² (g)
- 2) DESIGN TEMPERATURE : 200 °C
- 3) WORKING MEDIUM : WATER
- 4) FOLLOW TDC No. : AS APPLICABLE
- 5) ALL DIMENSIONS ARE FINISHED DIMENSIONS
- 6) DESIGN, MANUFACTURING, INSPECTION, TOLERANCES AND TESTING SHALL BE AS PER IBR, ASME B16.9 & SA234
- 7) CONNECTING PIPE SIZE IS PIPE ID402X68
- 8) MATERIAL SPECIFICATION SHALL BE SA234WPC(A)
- 9) CONSTRUCTION SHALL BE SEAMLESS
- 10) WEIGHT GIVEN IN BOM IS INDICATIVE ONLY.



—	BW LR 90DEG ELBOW ø ID402 X 68	92 504 170 0000	A	1037	000
		SA 234 WPC			1
VAR No.	DESCRIPTION	STD	MATERIAL CODE	A/C/P	UNIT
			MATERIAL SPECN		QUANTITY



BHARAT HEAVY ELECTRICALS LIMITED
PIPING CENTRE
CHENNAI 600 017

	NAME	SIGNATURE	DATE
DRN	P SURESH	—sd—	15.04.2017
CHD	R SESHAGIRI	—sd—	15.04.2017
APPD	R SESHAGIRI	—sd—	15.04.2017

DEPT	ALL DIMENSIONS ARE IN MM	PROJECTION	SCALE	WEIGHT (Kg)	REF TO ASSY / OLD DWG
CODE			N.T.S	1037.000	—
TITLE	BW LR 90DEG ELBOW ID402 X 68				DRAWING NO : 4-80-423-80908
					REV 00

REV 01	DATE	ALTERED :
		CHD & APPD :

NOTES:

- 1) DESIGN PRESSURE : 525 Kg/Cm²(g)
- 2) DESIGN TEMPERATURE : 200 °C
- 3) WORKING MEDIUM : WATER
- 4) FOLLOW TDC No. :AS APPLICABLE
- 5) ALL DIMENSIONS ARE FINISHED DIMENSIONS
- 6) DESIGN, MANUFACTURING, INSPECTION, TOLERANCES AND TESTING SHALL BE AS PER IBR, ASME B16.9 & SA234
- 7) CONNECTING PIPE SIZE IS PIPE ID220 X 56
- 8) MATERIAL SPECIFICATION SHALL BE SA234WPC(A)
- 9) CONSTRUCTION SHALL BE SEAMLESS
- 10) WEIGHT GIVEN IN BOM IS INDICATIVE ONLY.

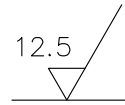
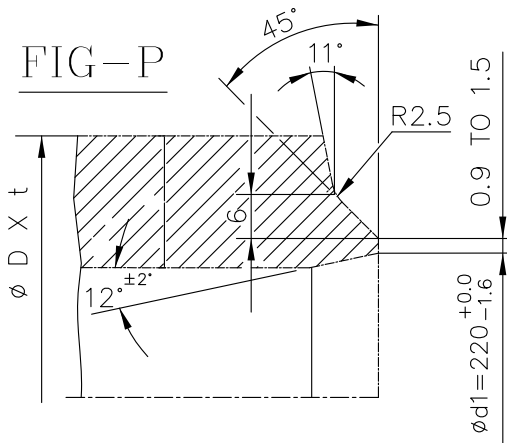
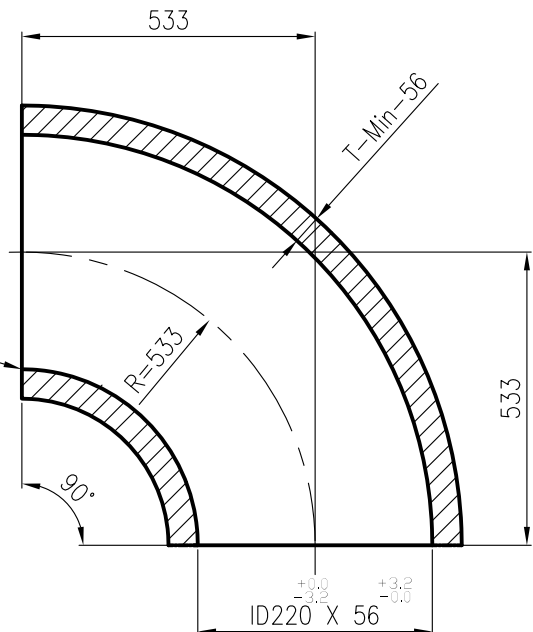


FIG-P



REF FIG-P
(TYP)



—	BW LR 90DEG ELBOW Ø ID220 X 56	92 504 171 0000	A	318	940
		SA 234 WPC			1
VAR No.	DESCRIPTION	STD	MATERIAL CODE	A/C/P	UNIT
			MATERIAL SPECN		UNIT WT. (KG)
					QUANTITY



BHARAT HEAVY ELECTRICALS LIMITED
PIPING CENTRE
CHENNAI 600 017

	NAME	SIGNATURE	DATE
DRN	P SURESH	—sd—	15.04.2017
CHD	R SESHAGIRI	—sd—	15.04.2017
APPD	R SESHAGIRI	—sd—	15.04.2017

DEPT	ALL DIMENSIONS ARE IN MM	PROJECTION	SCALE	WEIGHT (Kg)	REF TO ASSY / OLD DWG
CODE			N.T.S	318.940	—
TITLE	BW LR 90DEG ELBOW ID220 X 56				DRAWING NO : 4-80-423-80909
					REV 00

REV 01	DATE	ALTERED :
		CHD & APPD :

NOTES:

- 1) DESIGN PRESSURE : 385 Kg/Cm²(g)
- 2) DESIGN TEMPERATURE : 200 °C
- 3) WORKING MEDIUM : WATER
- 4) FOLLOW TDC No. : AS APPLICABLE
- 5) ALL DIMENSIONS ARE FINISHED DIMENSIONS
- 6) DESIGN, MANUFACTURING, INSPECTION, TOLERANCES AND TESTING SHALL BE AS PER IBR, ASME B16.9 & SA234
- 7) CONNECTING PIPE SIZE IS PIPE ID290 X 50
- 8) MATERIAL SPECIFICATION SHALL BE SA234WPC(A)
- 9) CONSTRUCTION SHALL BE SEAMLESS
- 10) WEIGHT GIVEN IN BOM IS INDICATIVE ONLY.

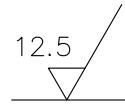
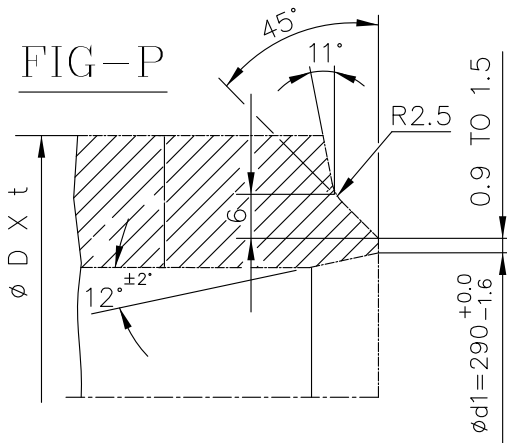
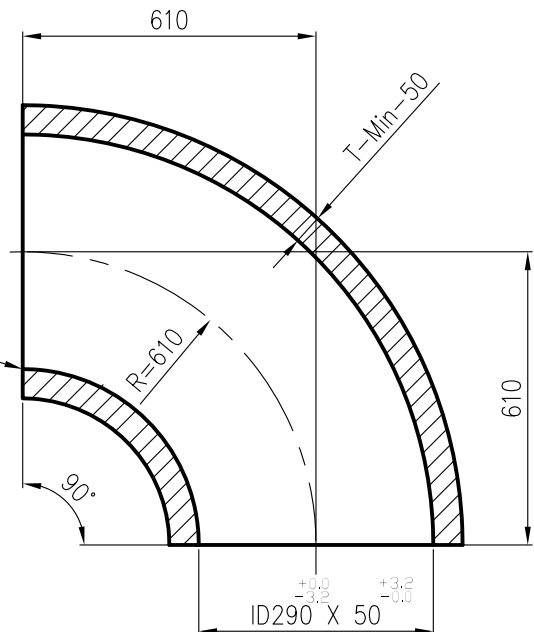


FIG-P



REF FIG-P
(TYP)



—	BW LR 90DEG ELBOW Ø ID290 X 50	92 504 172 0000	A	401 480
		SA 234 WPC		1
VAR No.	DESCRIPTION	STD	MATERIAL CODE MATERIAL SPECN	UNIT UNIT WT. (KG) QUANTITY



BHARAT HEAVY ELECTRICALS LIMITED
PIPING CENTRE
CHENNAI 600 017

	NAME	SIGNATURE	DATE
DRN	P SURESH	—sd—	15.04.2017
CHD	R SESHAGIRI	—sd—	15.04.2017
APPD	R SESHAGIRI	—sd—	15.04.2017

DEPT	ALL DIMENSIONS ARE IN MM	PROJECTION	SCALE N.T.S	WEIGHT (Kg) 401.480	REF TO ASSY / OLD DWG —
CODE					
TITLE BW LR 90DEG ELBOW ID290 X 50				DRAWING NO : 4-80-423-80910	REV 00

REV 01	DATE	ALTERED :
		CHD & APPD :

NOTES:

- 1) DESIGN PRESSURE : 385 Kg/Cm²(g)
- 2) DESIGN TEMPERATURE : 315 °C
- 3) WORKING MEDIUM : WATER
- 4) FOLLOW TDC No. : AS APPLICABLE
- 5) ALL DIMENSIONS ARE FINISHED DIMENSIONS
- 6) DESIGN, MANUFACTURING, INSPECTION, TOLERANCES AND TESTING SHALL BE AS PER IBR, ASME B16.9 & SA234
- 7) CONNECTING PIPE SIZE IS PIPE ID305 X 53
- 8) MATERIAL SPECIFICATION SHALL BE SA234WPC(A)
- 9) CONSTRUCTION SHALL BE SEAMLESS
- 10) WEIGHT GIVEN IN BOM IS INDICATIVE ONLY.

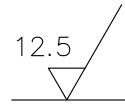
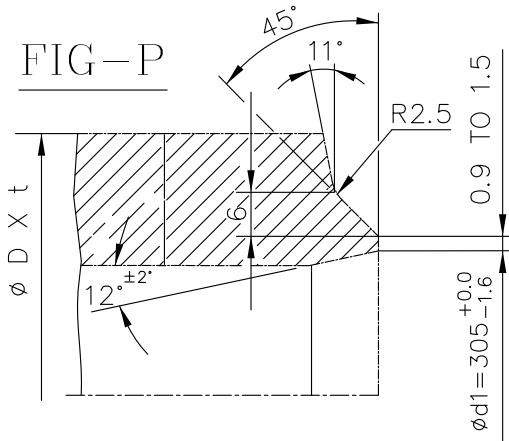
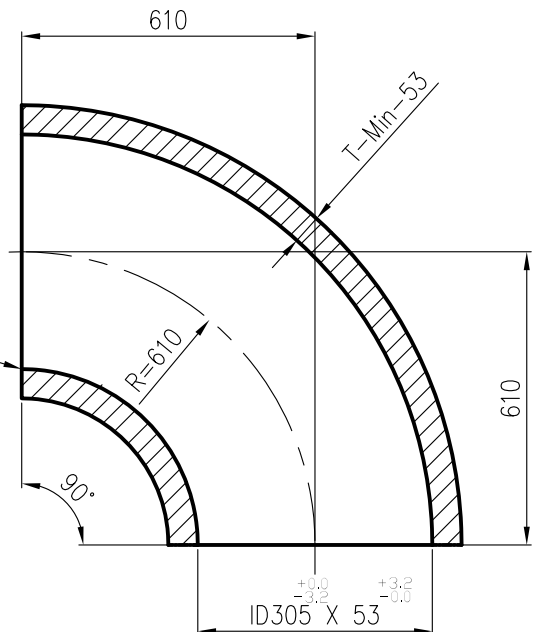


FIG-P



REF FIG-P
(TYP)



—	BW LR 90DEG ELBOW Ø ID305 X 53	92 504 176 0000	A	448	100
		SA 234 WPC			1
VAR No.	DESCRIPTION	STD	MATERIAL CODE	A/C/P	UNIT
			MATERIAL SPECN		UNIT WT. (KG)
					QUANTITY



BHARAT HEAVY ELECTRICALS LIMITED
PIPING CENTRE
CHENNAI 600 017

	NAME	SIGNATURE	DATE
DRN	P SURESH	—sd—	15.04.2017
CHD	R SESHAGIRI	—sd—	15.04.2017
APPD	R SESHAGIRI	—sd—	15.04.2017

DEPT	ALL DIMENSIONS ARE IN MM	PROJECTION	SCALE	WEIGHT (Kg)	REF TO ASSY / OLD DWG
CODE			N.T.S	448.100	—
TITLE	BW LR 90DEG ELBOW ID305 X 53				DRAWING NO : 4-80-423-80911
					REV 00

REV 01	DATE	ALTERED :
		CHD & APPD :

NOTES:

- 1) DESIGN PRESSURE : 385 Kg/Cm²(g)
- 2) DESIGN TEMPERATURE : 200 °C
- 3) WORKING MEDIUM : WATER
- 4) FOLLOW TDC No. : AS APPLICABLE
- 5) ALL DIMENSIONS ARE FINISHED DIMENSIONS
- 6) DESIGN, MANUFACTURING, INSPECTION, TOLERANCES AND TESTING SHALL BE AS PER IBR, ASME B16.9 & SA234
- 7) CONNECTING PIPE SIZE IS PIPE ID290 X 50
- 8) MATERIAL SPECIFICATION SHALL BE SA234WPC(A)
- 9) CONSTRUCTION SHALL BE SEAMLESS
- 10) WEIGHT GIVEN IN BOM IS INDICATIVE ONLY.

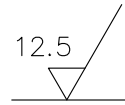
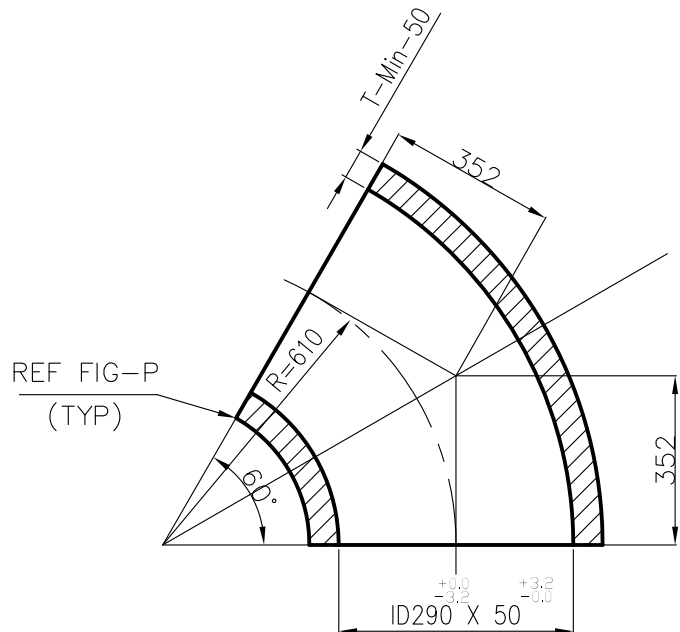
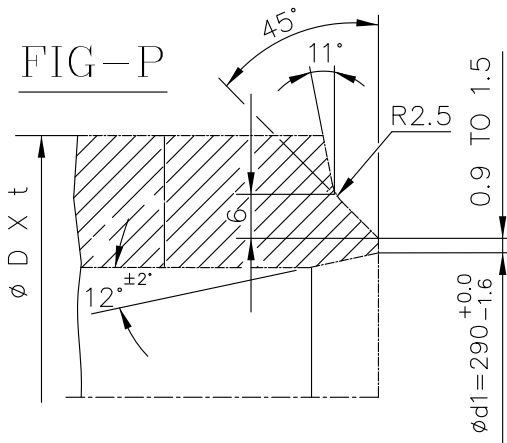


FIG-P



—	BW LR 60DEG ELBOW ϕ ID290 X 50	92 504 175 0000	A	267	660
		SA 234 WPC			1
VAR No.	DESCRIPTION	STD	MATERIAL CODE	A/C/P	UNIT
			MATERIAL SPECN		QUANTITY



BHARAT HEAVY ELECTRICALS LIMITED
PIPING CENTRE
CHENNAI 600 017

	NAME	SIGNATURE	DATE
DRN	P SURESH	—sd—	15.04.2017
CHD	R SESHAGIRI	—sd—	15.04.2017
APPD	R SESHAGIRI	—sd—	15.04.2017

DEPT	ALL DIMENSIONS ARE IN MM	PROJECTION	SCALE	WEIGHT (Kg)	REF TO ASSY / OLD DWG
CODE			N.T.S	267.660	—
TITLE	BW LR 60DEG ELBOW ID290 X 50				DRAWING NO : 4-80-423-80915
					REV 00

REV 01	DATE	ALTERED :
		CHD & APPD :

NOTES:

- 1) DESIGN PRESSURE : 385 Kg/Cm² (g)
- 2) DESIGN TEMPERATURE : 315 °C
- 3) WORKING MEDIUM : WATER
- 4) FOLLOW TDC No. : AS APPLICABLE
- 5) ALL DIMENSIONS ARE FINISHED DIMENSIONS
- 6) DESIGN, MANUFACTURING, INSPECTION, TOLERANCES AND TESTING SHALL BE AS PER IBR, ASME B16.9 & SA234
- 7) CONNECTING PIPE SIZE IS PIPE ID305 X 53
- 8) MATERIAL SPECIFICATION SHALL BE SA234WPC(A)
- 9) CONSTRUCTION SHALL BE SEAMLESS
- 10) WEIGHT GIVEN IN BOM IS INDICATIVE ONLY.

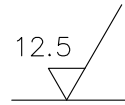
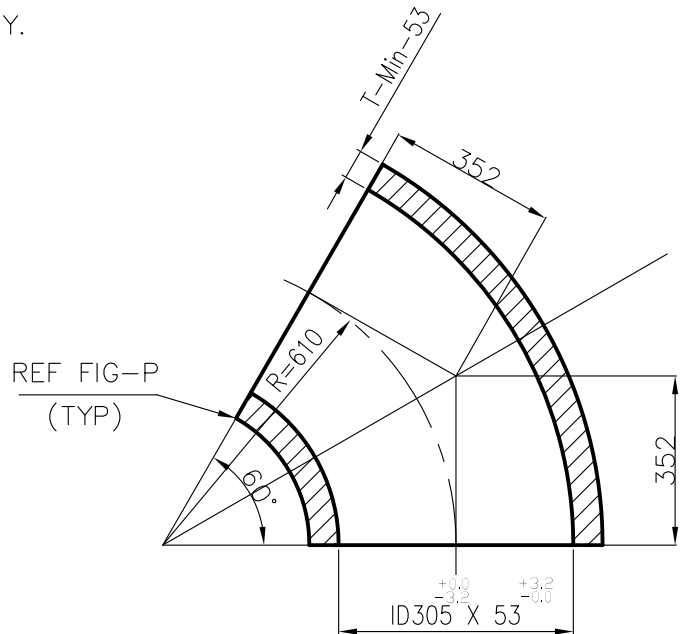
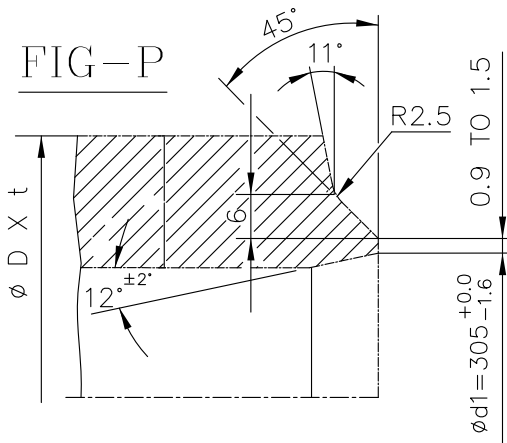


FIG-P



—	BW LR 60DEG ELBOW Ø ID305 X 53	92 504 178 0000	A	298	733
		SA 234 WPC			1
VAR No.	DESCRIPTION	STD	MATERIAL CODE	A/C/P	UNIT
			MATERIAL SPECN		QUANTITY



BHARAT HEAVY ELECTRICALS LIMITED
PIPING CENTRE
CHENNAI 600 017

	NAME	SIGNATURE	DATE
DRN	P SURESH	—sd—	15.04.2017
CHD	R SESHAGIRI	—sd—	15.04.2017
APPD	R SESHAGIRI	—sd—	15.04.2017

DEPT	ALL DIMENSIONS ARE IN MM	PROJECTION	SCALE	WEIGHT (Kg)	REF TO ASSY / OLD DWG
CODE			N.T.S	298.733	—
TITLE	BW LR 60 DEG ELBOW ID305 X 53				DRAWING NO : 4-80-423-80916
					REV 00

REV 01	DATE	ALTERED : CHD & APPD :
-----------	------	---------------------------

NOTES:

- 1) DESIGN PRESSURE : 525 Kg/Cm² (g)
- 2) DESIGN TEMPERATURE : 200 °C
- 3) WORKING MEDIUM : WATER
- 4) FOLLOW TDC No. : AS APPLICABLE
- 5) ALL DIMENSIONS ARE FINISHED DIMENSIONS
- 6) DESIGN, MANUFACTURING, INSPECTION, TOLERANCES AND TESTING SHALL BE AS PER IBR, ASME B16.9 & SA234
- 7) CONNECTING PIPE SIZE IS PIPE ID285X71
- 8) MATERIAL SPECIFICATION SHALL BE SA234WPC
- 9) CONSTRUCTION SHALL BE SEAMLESS
- 10) WEIGHT GIVEN IN BOM IS INDICATIVE ONLY.

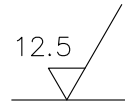
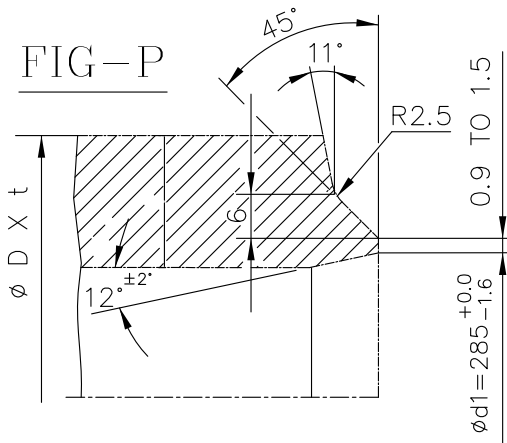
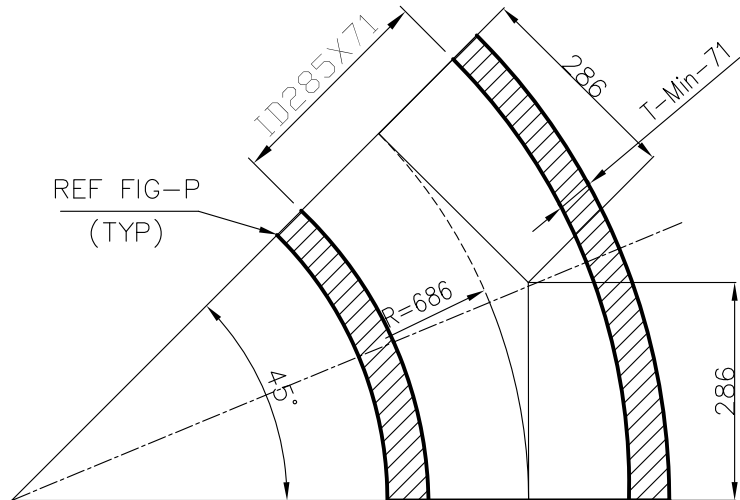


FIG-P



REF FIG-P
(TYP)



—	BW LR 45DEG ELBOW ø ID285 X 71	92 504 167 0000	A	335	655
		SA 234 WPC			1
VAR No.	DESCRIPTION	STD	MATERIAL CODE	A/C/P	UNIT
			MATERIAL SPECN		QUANTITY



BHARAT HEAVY ELECTRICALS LIMITED
PIPING CENTRE
CHENNAI 600 017

	NAME	SIGNATURE	DATE
DRN	P SURESH	—sd—	15.04.2017
CHD	R SESHAGIRI	—sd—	15.04.2017
APPD	R SESHAGIRI	—sd—	15.04.2017

DEPT	ALL DIMENSIONS ARE IN MM	PROJECTION	SCALE	WEIGHT (Kg)	REF TO ASSY / OLD DWG
CODE			N.T.S	335.655	—
TITLE	BW LR 45DEG ELBOW ID285 X 71				DRAWING NO : 4-80-423-80917
					REV 00

REV 01	DATE	ALTERED :
		CHD & APPD :

NOTES:

- 1) DESIGN PRESSURE : 525 Kg/Cm²(g)
- 2) DESIGN TEMPERATURE : 200 °C
- 3) WORKING MEDIUM : WATER
- 4) FOLLOW TDC No. :AS APPLICABLE
- 5) ALL DIMENSIONS ARE FINISHED DIMENSIONS
- 6) DESIGN, MANUFACTURING, INSPECTION, TOLERANCES AND TESTING SHALL BE AS PER IBR, ASME B16.9 & SA234
- 7) CONNECTING PIPE SIZE IS PIPE ID402X100
- 8) MATERIAL SPECIFICATION SHALL BE SA234WPC(A)
- 9) CONSTRUCTION SHALL BE SEAMLESS
- 10) WEIGHT GIVEN IN BOM IS INDICATIVE ONLY.

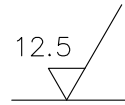
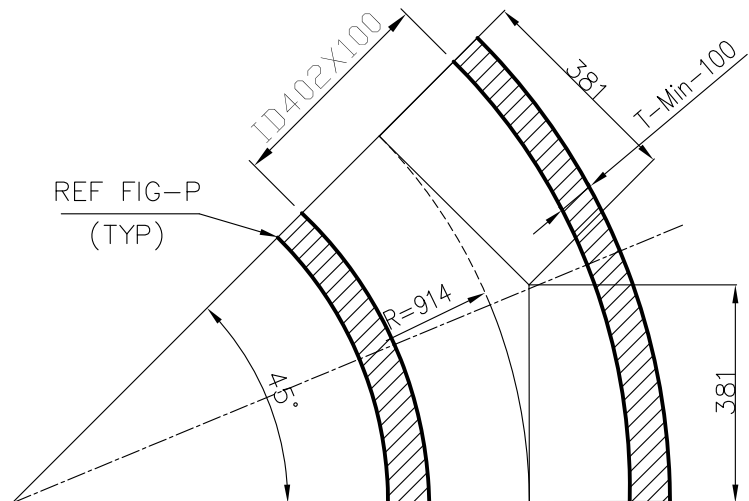
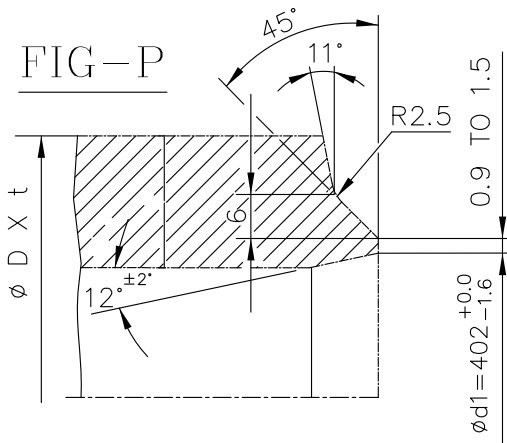


FIG-P



—	BW LR 45DEG ELBOW Ø ID402 X 100	92 504 168 0000	A	851	500
		SA 234 WPC			1
VAR No.	DESCRIPTION	STD	MATERIAL CODE	A/C/P	UNIT
			MATERIAL SPECN		UNIT WT. (KG)
					QUANTITY



BHARAT HEAVY ELECTRICALS LIMITED
PIPING CENTRE
CHENNAI 600 017

	NAME	SIGNATURE	DATE
DRN	P SURESH	—sd—	15.04.2017
CHD	R SESHAGIRI	—sd—	15.04.2017
APPD	R SESHAGIRI	—sd—	15.04.2017

DEPT	ALL DIMENSIONS ARE IN MM	PROJECTION	SCALE	WEIGHT (Kg)	REF TO ASSY / OLD DWG
CODE			N.T.S	851.500	—
TITLE	BW LR 45DEG ELBOW ID402 X 100				DRAWING NO : 4-80-423-80918
					REV 00

REV 01	DATE	ALTERED :
		CHD & APPD :

NOTES:

- 1) DESIGN PRESSURE : 385 Kg/Cm²(g)
- 2) DESIGN TEMPERATURE : 200 °C
- 3) WORKING MEDIUM : WATER
- 4) FOLLOW TDC No. : AS APPLICABLE
- 5) ALL DIMENSIONS ARE FINISHED DIMENSIONS
- 6) DESIGN, MANUFACTURING, INSPECTION, TOLERANCES AND TESTING SHALL BE AS PER IBR, ASME B16.9 & SA234
- 7) CONNECTING PIPE SIZE IS PIPE ID290 X 50
- 8) MATERIAL SPECIFICATION SHALL BE SA234WPC(A)
- 9) CONSTRUCTION SHALL BE SEAMLESS
- 10) WEIGHT GIVEN IN BOM IS INDICATIVE ONLY.

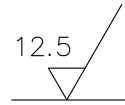
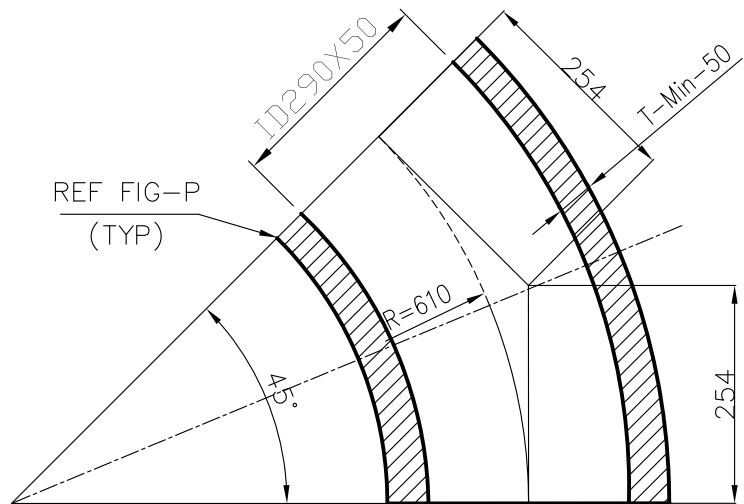
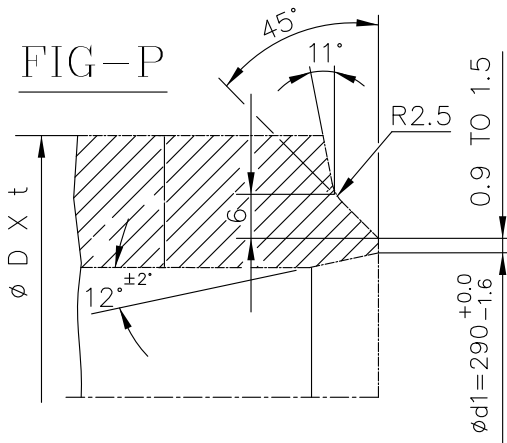


FIG-P



—	BW LR 45DEG ELBOW Ø ID290 X 50	92 504 173 0000	A	200	740
		SA 234 WPC			1
VAR No.	DESCRIPTION	STD	MATERIAL CODE	A/C/P	UNIT
			MATERIAL SPECN		UNIT WT. (KG)
					QUANTITY



BHARAT HEAVY ELECTRICALS LIMITED
PIPING CENTRE
CHENNAI 600 017

	NAME	SIGNATURE	DATE
DRN	P SURESH	—sd—	15.04.2017
CHD	R SESHAGIRI	—sd—	15.04.2017
APPD	R SESHAGIRI	—sd—	15.04.2017

DEPT	ALL DIMENSIONS ARE IN MM	PROJECTION	SCALE	WEIGHT (Kg)	REF TO ASSY / OLD DWG
CODE			N.T.S	200.740	—
TITLE	BW LR 45DEG ELBOW ID290 X 50				DRAWING NO : 4-80-423-80919
					REV 00

REV 01	DATE	ALTERED : CHD & APPD :
-----------	------	---------------------------

NOTES:

- 1) DESIGN PRESSURE : 385 Kg/Cm²(g)
- 2) DESIGN TEMPERATURE : 200 °C
- 3) WORKING MEDIUM : WATER
- 4) FOLLOW TDC No. : AS APPLICABLE
- 5) ALL DIMENSIONS ARE FINISHED DIMENSIONS
- 6) DESIGN, MANUFACTURING, INSPECTION, TOLERANCES AND TESTING SHALL BE AS PER IBR, ASME B16.9 & SA234
- 7) CONNECTING PIPE SIZE IS PIPE ID290 X 50
- 8) MATERIAL SPECIFICATION SHALL BE SA234WPC(A)
- 9) CONSTRUCTION SHALL BE SEAMLESS
- 10) WEIGHT GIVEN IN BOM IS INDICATIVE ONLY.

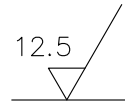
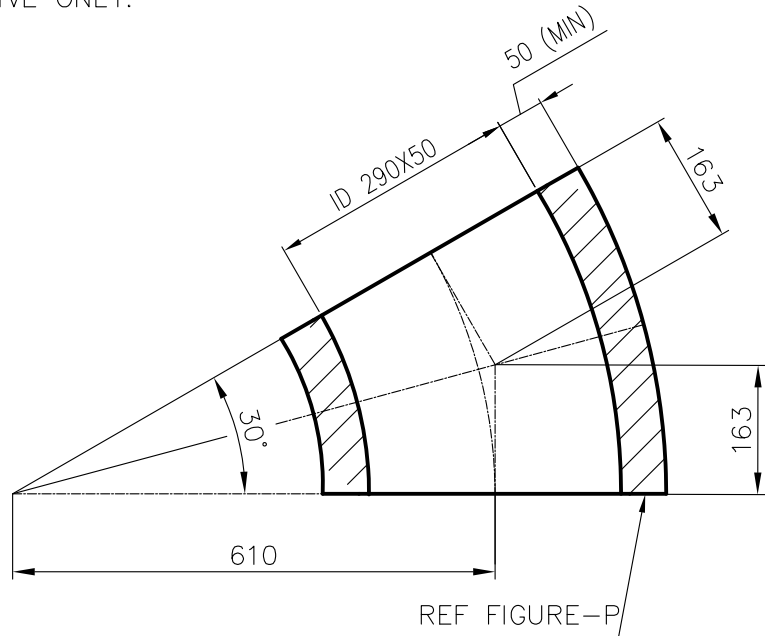
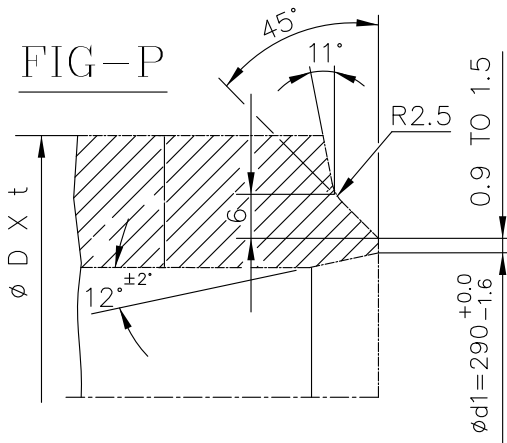


FIG-P



—	BW LR 30DEG ELBOW Ø ID290 X 50	92 504 174 0000 SA 234 WPC	A	133	826
VAR No.	DESCRIPTION	STD	A/C/P UNIT	UNIT WT. (KG)	QUANTITY



BHARAT HEAVY ELECTRICALS LIMITED
PIPING CENTRE
CHENNAI 600 017

	NAME	SIGNATURE	DATE
DRN	P SURESH	—sd—	15.04.2017
CHD	R SESHAGIRI	—sd—	15.04.2017
APPD	R SESHAGIRI	—sd—	15.04.2017

DEPT	ALL DIMENSIONS ARE IN MM	PROJECTION 	SCALE N.T.S	WEIGHT (Kg) 133.826	REF TO ASSY / OLD DWG —
CODE					
TITLE	BW LR 30DEG ELBOW ID290 X 50				DRAWING NO : 4-80-423-80920 REV 00

REV 01	DATE	ALTERED : CHD & APPD :
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NOTES:

- 1) DESIGN PRESSURE : 385 Kg/Cm²(g)
- 2) DESIGN TEMPERATURE : 315 °C
- 3) WORKING MEDIUM : WATER
- 4) FOLLOW TDC No. : AS APPLICABLE
- 5) ALL DIMENSIONS ARE FINISHED DIMENSIONS
- 6) DESIGN, MANUFACTURING, INSPECTION, TOLERANCES AND TESTING SHALL BE AS PER IBR, ASME B16.9 & SA234
- 7) CONNECTING PIPE SIZE IS PIPE ID305 X 53
- 8) MATERIAL SPECIFICATION SHALL BE SA234WPC(A)
- 9) CONSTRUCTION SHALL BE SEAMLESS
- 10) WEIGHT GIVEN IN BOM IS INDICATIVE ONLY.

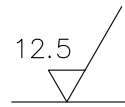
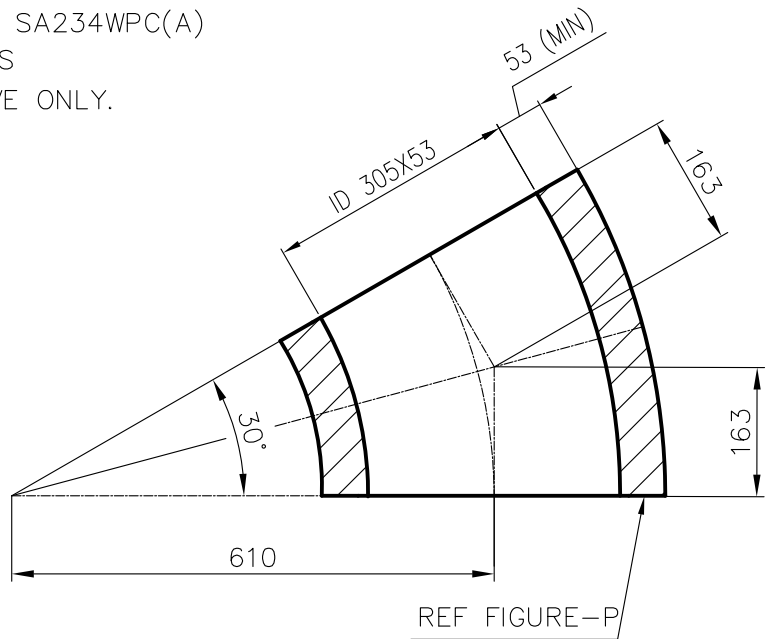
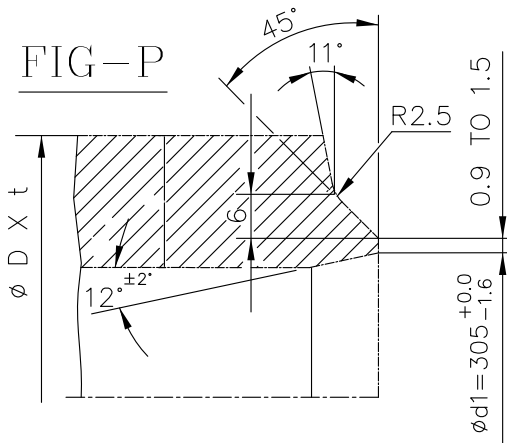


FIG-P



—	BW LR 30DEG ELBOW Ø ID305 X 53	92 504 177 0000 SA 234 WPC	A	149	366
VAR No.	DESCRIPTION	STD	A/C/P UNIT	UNIT WT. (KG)	QUANTITY



BHARAT HEAVY ELECTRICALS LIMITED
PIPING CENTRE
CHENNAI 600 017

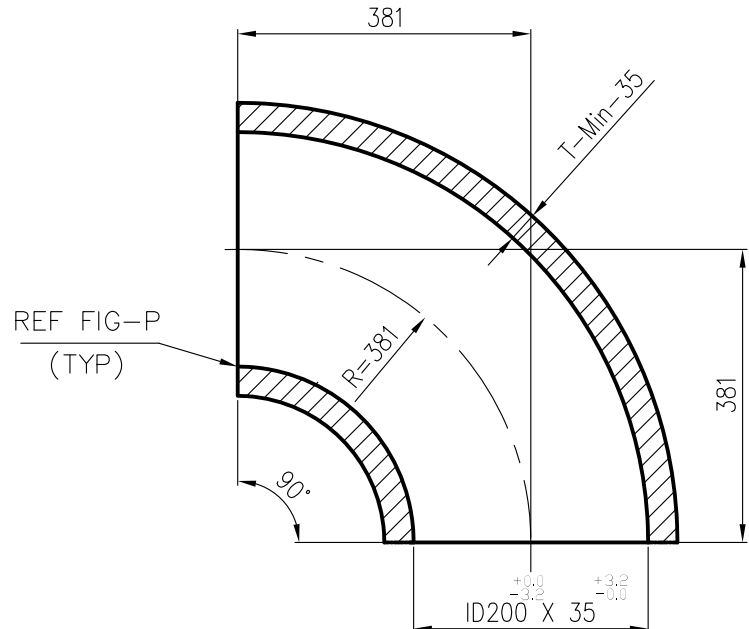
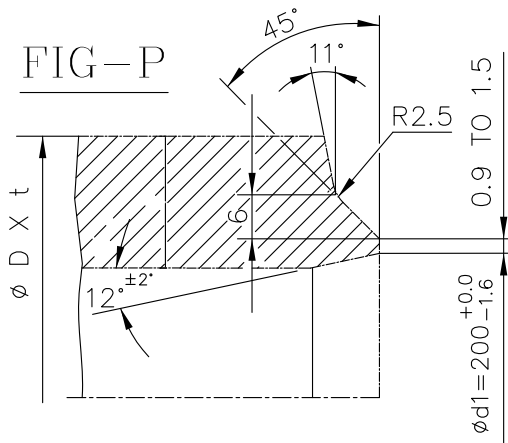
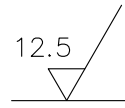
	NAME	SIGNATURE	DATE
DRN	P SURESH	—sd—	15.04.2017
CHD	R SESHAGIRI	—sd—	15.04.2017
APPD	R SESHAGIRI	—sd—	15.04.2017

DEPT	ALL DIMENSIONS ARE IN MM	PROJECTION	SCALE N.T.S	WEIGHT (Kg) 149.366	REF TO ASSY / OLD DWG —
CODE					
TITLE	BW LR 30DEG ELBOW ID305 X 53				DRAWING NO : 4-80-423-80921 REV 00

REV	DATE	ALTERED :
01		CHD & APPD :

NOTES:

- 1) DESIGN PRESSURE : 385 Kg/Cm² (g)
- 2) DESIGN TEMPERATURE : 315 °C
- 3) WORKING MEDIUM : WATER
- 4) FOLLOW TDC No. : AS APPLICABLE
- 5) ALL DIMENSIONS ARE FINISHED DIMENSIONS
- 6) DESIGN, MANUFACTURING, INSPECTION, TOLERANCES AND TESTING SHALL BE AS PER IBR, ASME B16.9 & SA234
- 7) CONNECTING PIPE SIZE IS PIPE ID200 X 35
- 8) MATERIAL SPECIFICATION SHALL BE SA234WPC
- 9) CONSTRUCTION SHALL BE SEAMLESS
- 10) WEIGHT GIVEN IN BOM IS INDICATIVE ONLY.



—	BW LR 90DEG ELBOW Ø ID200 X 35	92 504 181 0000 SA 234 WPC	A	UNIT	121	310
					1	
VAR No.	DESCRIPTION	STD	MATERIAL CODE	A/C/P	UNIT WT. (KG)	
					QUANTITY	



BHARAT HEAVY ELECTRICALS LIMITED
PIPING CENTRE
CHENNAI 600 017

	NAME	SIGNATURE	DATE
DRN	P SURESH	—sd—	15.04.2017
CHD	R SESHAGIRI	—sd—	15.04.2017
APPD	R SESHAGIRI	—sd—	15.04.2017

DEPT	ALL DIMENSIONS ARE IN MM	PROJECTION	SCALE	WEIGHT (Kg)	REF TO ASSY / OLD DWG
CODE			N.T.S	121.310	—
TITLE					DRAWING NO : 4-80-424-80912
BW LR 90DEG ELBOW ID200 X 35					REV 00

REV 01	DATE	ALTERED :
		CHD & APPD :

NOTES:

- 1) DESIGN PRESSURE : 385 Kg/Cm² (g)
- 2) DESIGN TEMPERATURE : 315 °C
- 3) WORKING MEDIUM : WATER
- 4) FOLLOW TDC No. : AS APPLICABLE
- 5) ALL DIMENSIONS ARE FINISHED DIMENSIONS
- 6) DESIGN, MANUFACTURING, INSPECTION, TOLERANCES AND TESTING SHALL BE AS PER IBR, ASME B16.9 & SA234
- 7) CONNECTING PIPE SIZE IS PIPE ID312 X 54
- 8) MATERIAL SPECIFICATION SHALL BE SA234WPC(A)
- 9) CONSTRUCTION SHALL BE SEAMLESS
- 10) WEIGHT GIVEN IN BOM IS INDICATIVE ONLY.

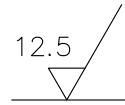
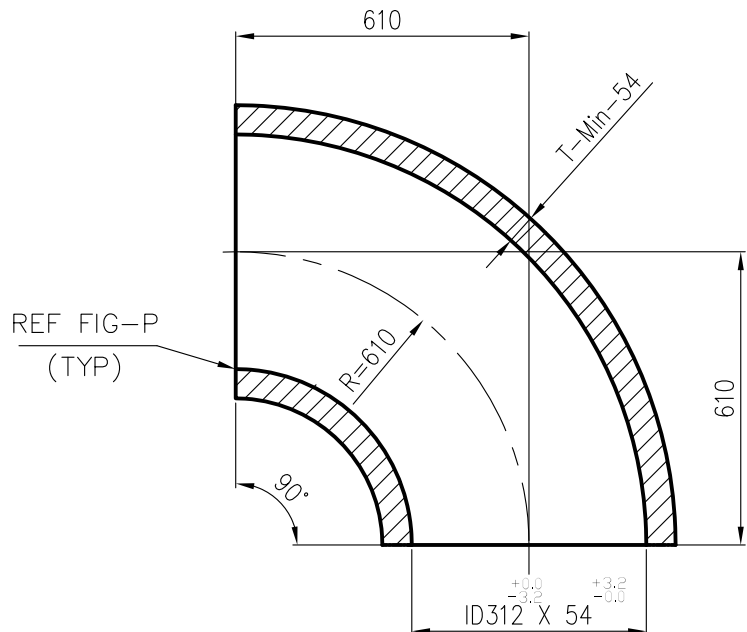
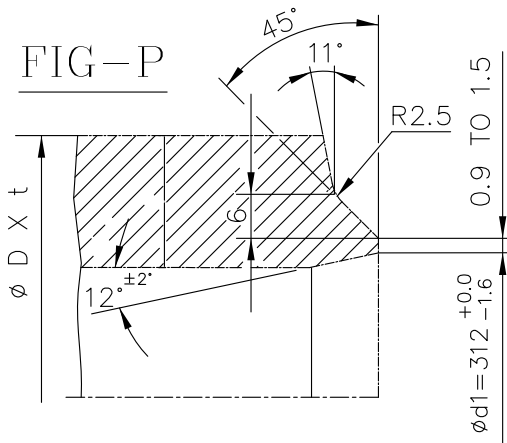


FIG-P



—	BW LR 90DEG ELBOW ø ID312 X 54	92 504 182 0000	A	121	310
		SA 234 WPC			1
VAR No.	DESCRIPTION	STD	MATERIAL CODE	A/C/P	UNIT
			MATERIAL SPECN		UNIT WT. (KG)
					QUANTITY



BHARAT HEAVY ELECTRICALS LIMITED
PIPING CENTRE
CHENNAI 600 017

	NAME	SIGNATURE	DATE
DRN	P SURESH	—sd—	15.04.2017
CHD	R SESHAGIRI	—sd—	15.04.2017
APPD	R SESHAGIRI	—sd—	15.04.2017

DEPT	ALL DIMENSIONS ARE IN MM	PROJECTION	SCALE	WEIGHT (Kg)	REF TO ASSY / OLD DWG
CODE			N.T.S	121.310	—
TITLE	BW LR 90DEG ELBOW ID312 X 54				DRAWING NO : 4-80-424-80913
					REV 00

REV 01	DATE	ALTERED : CHD & APPD :
-----------	------	---------------------------

NOTES:

- 1) DESIGN PRESSURE : 385 Kg/Cm² (g)
- 2) DESIGN TEMPERATURE : 315 °C
- 3) WORKING MEDIUM : WATER
- 4) FOLLOW TDC No. : AS APPLICABLE
- 5) ALL DIMENSIONS ARE FINISHED DIMENSIONS
- 6) DESIGN, MANUFACTURING, INSPECTION, TOLERANCES AND TESTING SHALL BE AS PER IBR, ASME B16.9 & SA234
- 7) CONNECTING PIPE SIZE IS PIPE ID312 X 54
- 8) MATERIAL SPECIFICATION SHALL BE SA234WPC(A)
- 9) CONSTRUCTION SHALL BE SEAMLESS
- 10) WEIGHT GIVEN IN BOM IS INDICATIVE ONLY.

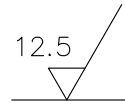
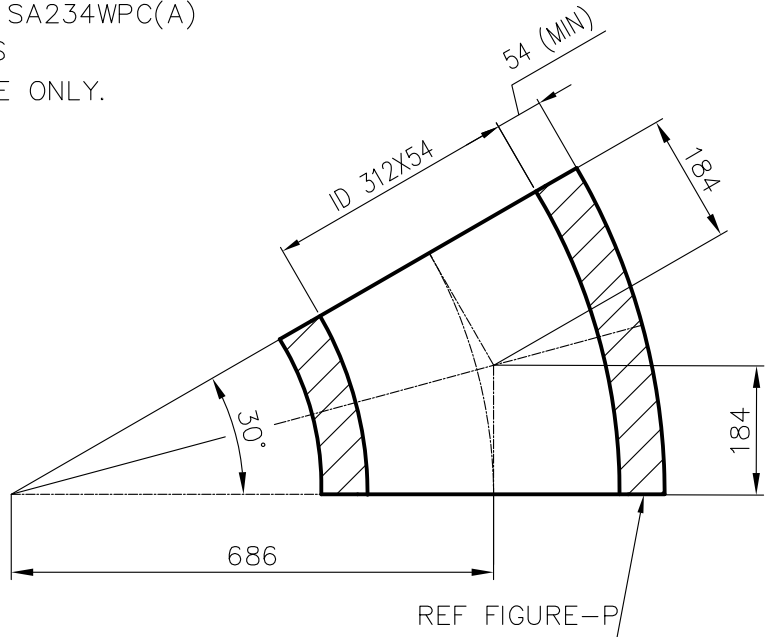
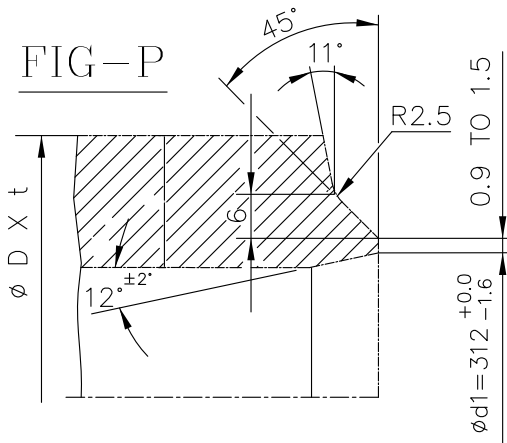


FIG-P



—	BW LR 30DEG ELBOW Ø ID312 X 54	92 504 179 0000 SA 234 WPC	A	174	970
VAR No.	DESCRIPTION	STD	MATERIAL CODE MATERIAL SPECN	UNIT	UNIT WT. (KG) QUANTITY



BHARAT HEAVY ELECTRICALS LIMITED
PIPING CENTRE
CHENNAI 600 017

	NAME	SIGNATURE	DATE
DRN	P SURESH	—sd—	15.04.2017
CHD	R SESHAGIRI	—sd—	15.04.2017
APPD	R SESHAGIRI	—sd—	15.04.2017

DEPT	ALL DIMENSIONS ARE IN MM	PROJECTION 	SCALE N.T.S	WEIGHT (Kg) 174.970	REF TO ASSY / OLD DWG —
CODE					
TITLE BW LR 30DEG ELBOW ID312 X 54				DRAWING NO : 4-80-424-80922	REV 00

REV 01	DATE	ALTERED :
		CHD & APPD :

NOTES:

- 1) DESIGN PRESSURE : 385 Kg/Cm² (g)
- 2) DESIGN TEMPERATURE : 315 °C
- 3) WORKING MEDIUM : WATER
- 4) FOLLOW TDC No. : AS APPLICABLE
- 5) ALL DIMENSIONS ARE FINISHED DIMENSIONS
- 6) DESIGN, MANUFACTURING, INSPECTION, TOLERANCES AND TESTING SHALL BE AS PER IBR, ASME B16.9 & SA234
- 7) CONNECTING PIPE SIZE IS PIPE ID200 X 35
- 8) MATERIAL SPECIFICATION SHALL BE SA234WPC(A)
- 9) CONSTRUCTION SHALL BE SEAMLESS
- 10) WEIGHT GIVEN IN BOM IS INDICATIVE ONLY.

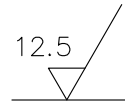
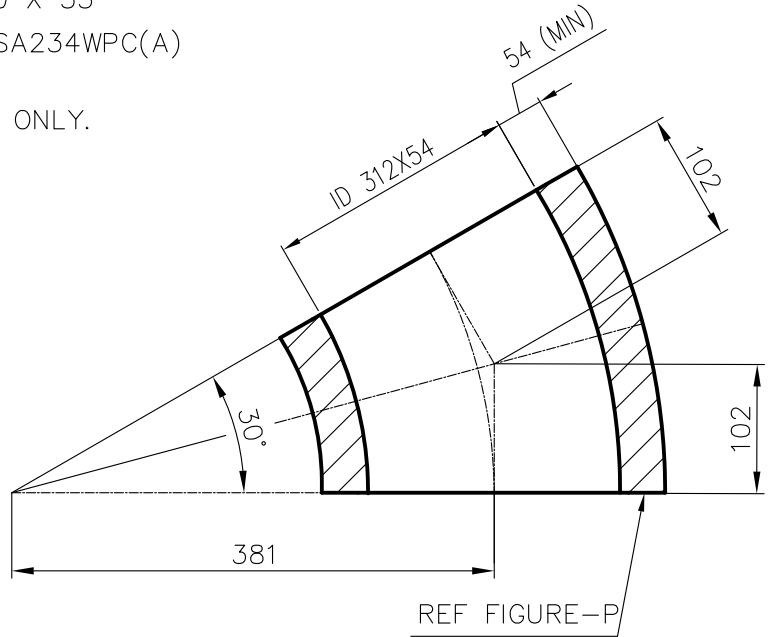
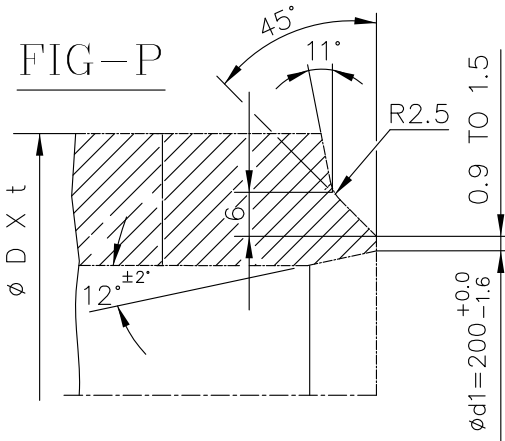


FIG-P



—	BW LR 30DEG ELBOW ø ID200 X 35	92 504 180 0000	A	40	436
		SA 234 WPC			1
VAR No.	DESCRIPTION	STD	MATERIAL CODE	A/C/P	UNIT
			MATERIAL SPECN		QUANTITY



BHARAT HEAVY ELECTRICALS LIMITED
PIPING CENTRE
CHENNAI 600 017

	NAME	SIGNATURE	DATE
DRN	P SURESH	—sd—	15.04.2017
CHD	R SESHAGIRI	—sd—	15.04.2017
APPD	R SESHAGIRI	—sd—	15.04.2017

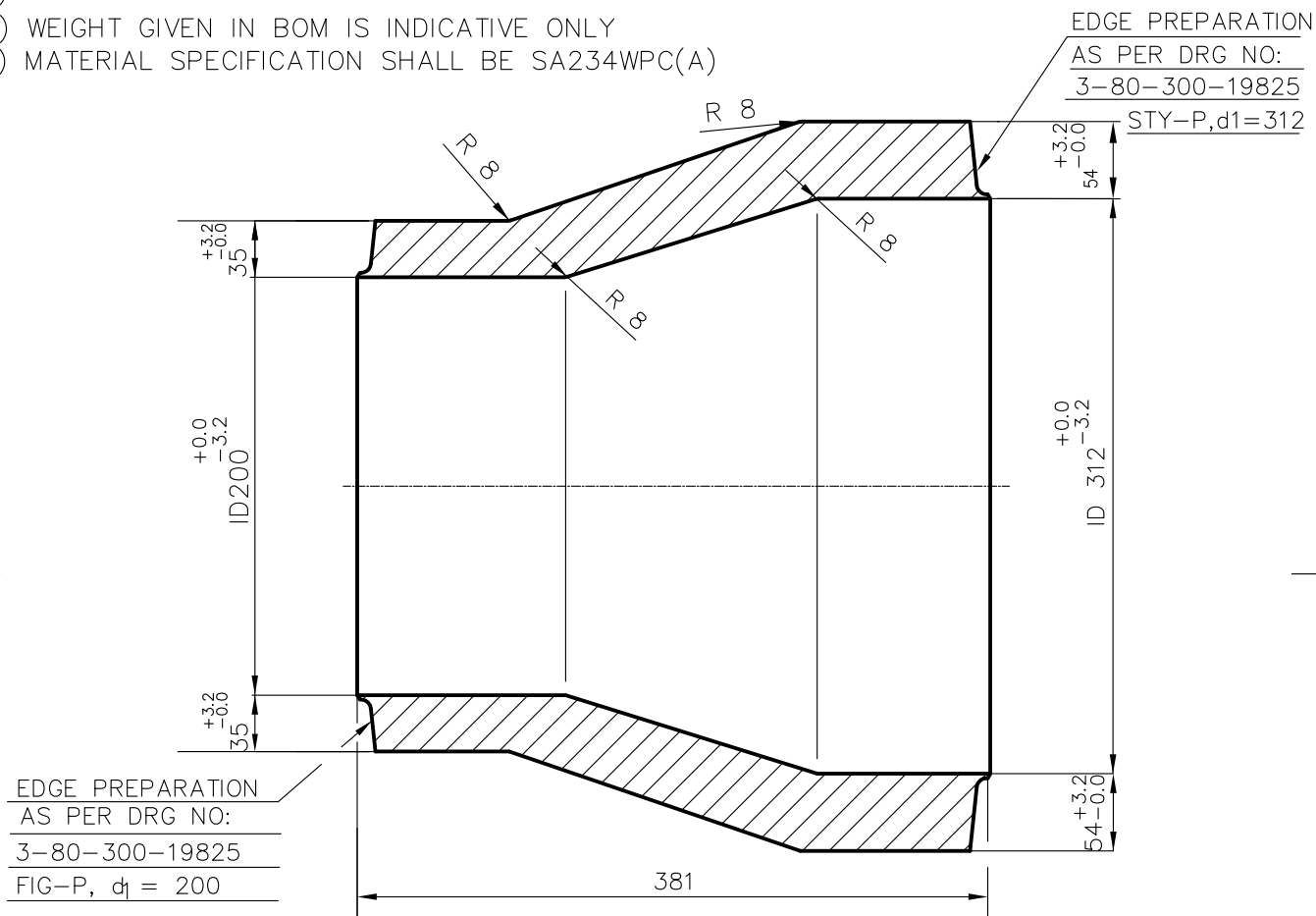
DEPT	ALL DIMENSIONS ARE IN MM	PROJECTION	SCALE	WEIGHT (Kg)	REF TO ASSY / OLD DWG
CODE			N.T.S	40.436	—
TITLE	BW LR 30DEG ELBOW ID200 X 35				DRAWING NO : 4-80-424-80923
					REV 00

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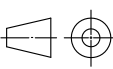
NOTES :-

ALL DIMENSIONS ARE IN MILLIMETRES

- 1) DESIGN PRESSURE : 385 Kg/Cm²(g)
- 2) DESIGN TEMPERATURE : 315 °C
- 3) WORKING MEDIUM : WATER
- 4) FOLLOW TDC No. : AS APPLICABLE
- 5) ALL DIMENSIONS ARE FINISHED DIMENSIONS
- 6) DESIGN,MANUFACTURING,INSPECTION & TESTING SHALL BE AS PER IBR ANSI B16.9 & SA234
- 7) DIMENSIONS & TOLERANCES ARE AS PER THE DRAWING
- 8) CONNECTING PIPE SIZE -ID312X54/ID200X35
- 9) CONSTRUCTION SHALL BE SEAMLESS
- 10) WEIGHT GIVEN IN BOM IS INDICATIVE ONLY
- 11) MATERIAL SPECIFICATION SHALL BE SA234WPC(A)



	BW CONCENTRIC REDUCER ID312X54/ID200X35	921172410000 SA 234 WPC	A	150	352
VAR NO.	DESCRIPTION	MATL. CODE	A	UNIT	UNIT.WT.(Kg)
		MATL. SPECN.	C	DI	QTY.

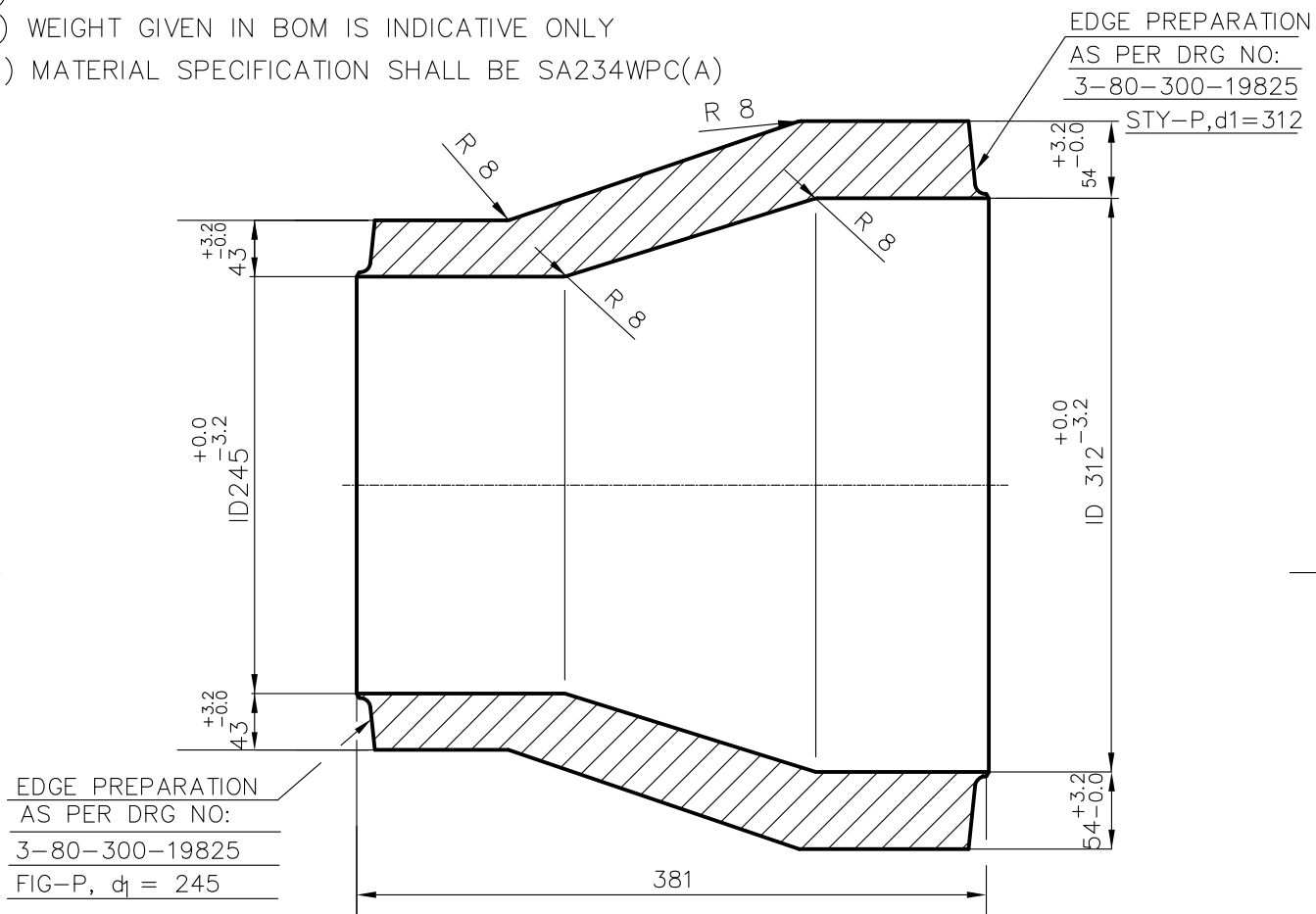
		BHARAT HEAVY ELECTRICALS LIMITED		DRN	NAME	SIGN	DATE	NO.OF
		PIPING CENTRE		CHD	P SURESH		15.04.17	VAR
		CHENNAI 600 017		APPD	R SESHAGIRI		15.04.17	
DEPT	GRADE OF	SCALE	WEIGHT (KG).	BHEL PO REF.NO:			ITEM NO.	NO. OF
CODE	UNTOL.DIM	N.T.S	150.352					ITEMS
C / M / F								
TITLE				CARD	DRAWING NO.			REV
BW CONCENTRIC REDUCER				CODE	4-80-424-80926			00
ID312X54/ID200X35 (SA234WPC)				U 01				

CAUTION: The information on this document is the property of BHARAT HEAVY ELECTRICALS LTD. It must not be used directly or indirectly in any way detrimental to the interest of the company.

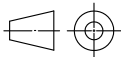
NOTES :-

ALL DIMENSIONS ARE IN MILLIMETRES

- 1) DESIGN PRESSURE : 385 Kg/Cm²(g)
- 2) DESIGN TEMPERATURE : 315 °C
- 3) WORKING MEDIUM : WATER
- 4) FOLLOW TDC No. : AS APPLICABLE
- 5) ALL DIMENSIONS ARE FINISHED DIMENSIONS
- 6) DESIGN,MANUFACTURING,INSPECTION & TESTING SHALL BE AS PER IBR ANSI B16.9 & SA234
- 7) DIMENSIONS & TOLERANCES ARE AS PER THE DRAWING
- 8) CONNECTING PIPE SIZE -ID312X54/ID245X43
- 9) CONSTRUCTION SHALL BE SEAMLESS
- 10) WEIGHT GIVEN IN BOM IS INDICATIVE ONLY
- 11) MATERIAL SPECIFICATION SHALL BE SA234WPC(A)



	BW CONCENTRIC REDUCER ID312X54/ID245X43		921172430000	A		164	090
			SA 234 WPC				
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 P SURESH	SIGN	DATE 15.04.17	NO.OF VAR
					CHD	R SESHAGIRI		15.04.17	
					APPD	R SESHAGIRI		15.04.17	
DEPT	GRADE OF UNTOL.DIM		SCALE	WEIGHT (KG).	BHEL PO REF.NO:			ITEM NO.	NO. OF ITEMS
CODE	C / M / F		N.T.S	164.090					
TITLE BW CONCENTRIC REDUCER ID312X54/ID245X43 (SA234WPC)					CARD CODE U 01	DRAWING NO. 4-80-424-81022			REV 00

REV	DATE	ALTERED :
01		CHD & APPD :

NOTES:

- 1) DESIGN PRESSURE : 380.1 Kg/Cm²(g)
- 2) DESIGN TEMPERATURE : 335 °C
- 3) WORKING MEDIUM : WATER
- 4) FOLLOW TDC No. : AS APPLICABLE
- 5) ALL DIMENSIONS ARE FINISHED DIMENSIONS
- 6) MANUFACTURING, INSPECTION, TOLERANCES AND TESTING SHALL BE AS PER IBR, ASME B16.9 & SA234
- 7) CONNECTING PIPE SIZE IS PIPE ID460x77
- 8) MATERIAL SPECIFICATION SHALL BE SA234WPC
- 9) CONSTRUCTION SHALL BE SEAMLESS

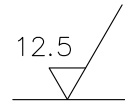
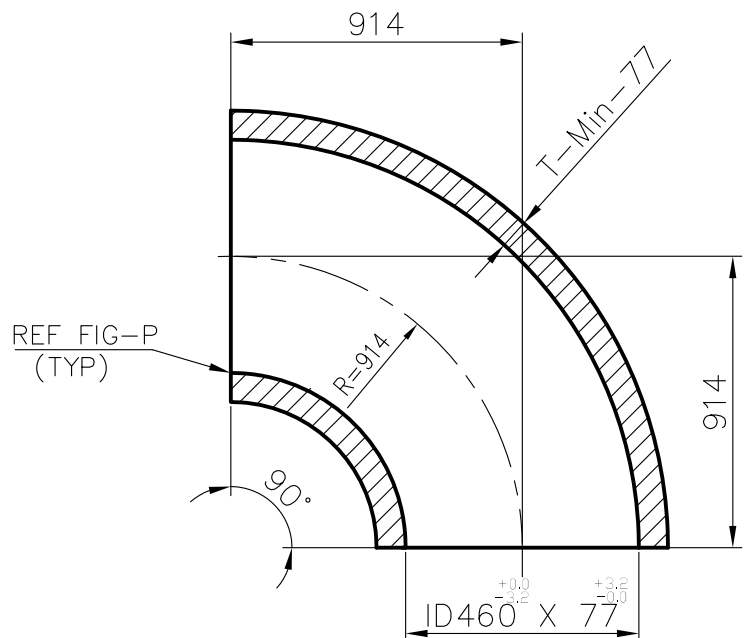
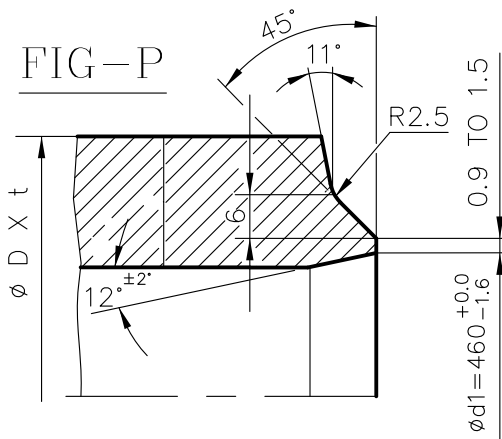


FIG-P



—	BW LR 90DEG ELBOW ID460x77	92 504 148 0000 SA 234 WPC	A	1463	193
				1	
VAR No.	DESCRIPTION	STD	MATERIAL CODE MATERIAL SPECN	A/C/P UNIT	UNIT WT. (KG)
					QUANTITY



BHARAT HEAVY ELECTRICALS LIMITED
PIPING CENTRE
CHENNAI 600 017

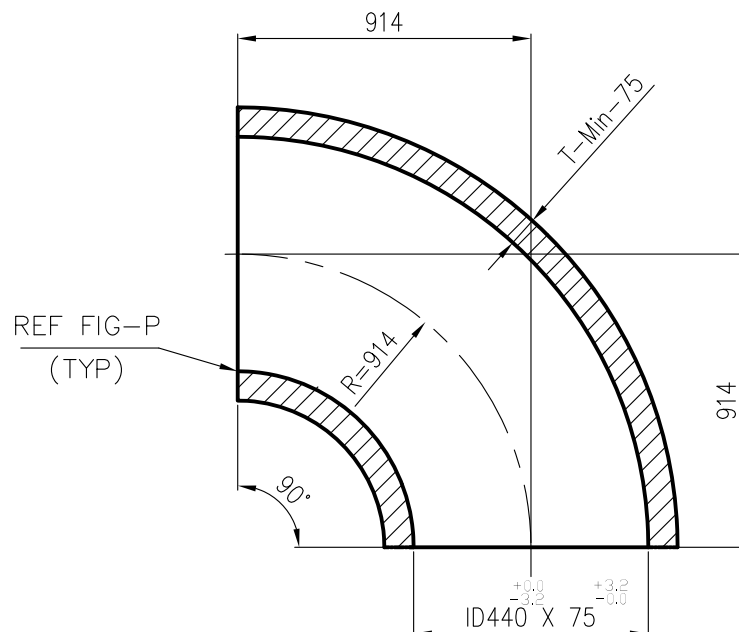
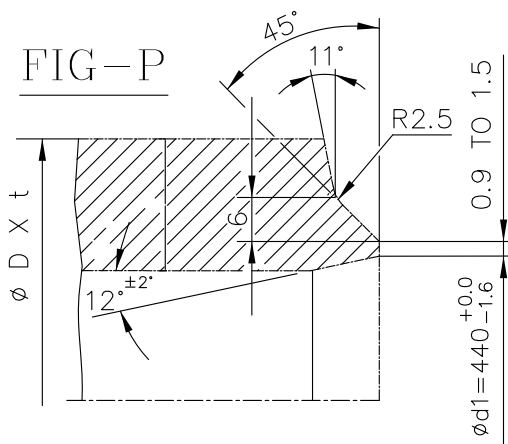
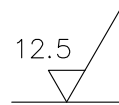
	NAME	SIGNATURE	DATE
DRN	ARUN SHARMA		21.03.2017
CHD	KONDAPA NAIDU		21.03.2017
APPD	R.SESHAGIRI		21.03.2017

DEPT	ALL DIMENSIONS ARE IN MM	PROJECTION 	SCALE N.T.S	WEIGHT (Kg) 1463.193	REF TO ASSY / OLD DWG —
CODE					
TITLE BW LR 90DEG ELBOW ID460x77					DRAWING NO : 4-80-425-80829 REV 00

REV 01	DATE	ALTERED :
		CHD & APPD :

NOTES:

- 1) DESIGN PRESSURE : 385 Kg/Cm²(g)
- 2) DESIGN TEMPERATURE : 315 °C
- 3) WORKING MEDIUM : WATER
- 4) FOLLOW TDC No. :AS APPLICABLE
- 5) ALL DIMENSIONS ARE FINISHED DIMENSIONS
- 6) DESIGN, MANUFACTURING, INSPECTION, TOLERANCES AND TESTING SHALL BE AS PER IBR, ASME B16.9 & SA234
- 7) CONNECTING PIPE SIZE IS PIPE ID440 X 75
- 8) MATERIAL SPECIFICATION SHALL BE SA234WPC(A)
- 9) CONSTRUCTION SHALL BE SEAMLESS
- 10) WEIGHT GIVEN IN BOM IS INDICATIVE ONLY.



—	BW LR 90DEG ELBOW ø ID440 X 75	92 504 183 0000	A	1366	880
		SA 234 WPC			1
VAR No.	DESCRIPTION	STD	MATERIAL CODE	A/C/P	UNIT
			MATERIAL SPECN		QUANTITY



BHARAT HEAVY ELECTRICALS LIMITED
PIPING CENTRE
CHENNAI 600 017

	NAME	SIGNATURE	DATE
DRN	P SURESH	—sd—	15.04.2017
CHD	R SESHAGIRI	—sd—	15.04.2017
APPD	R SESHAGIRI	—sd—	15.04.2017

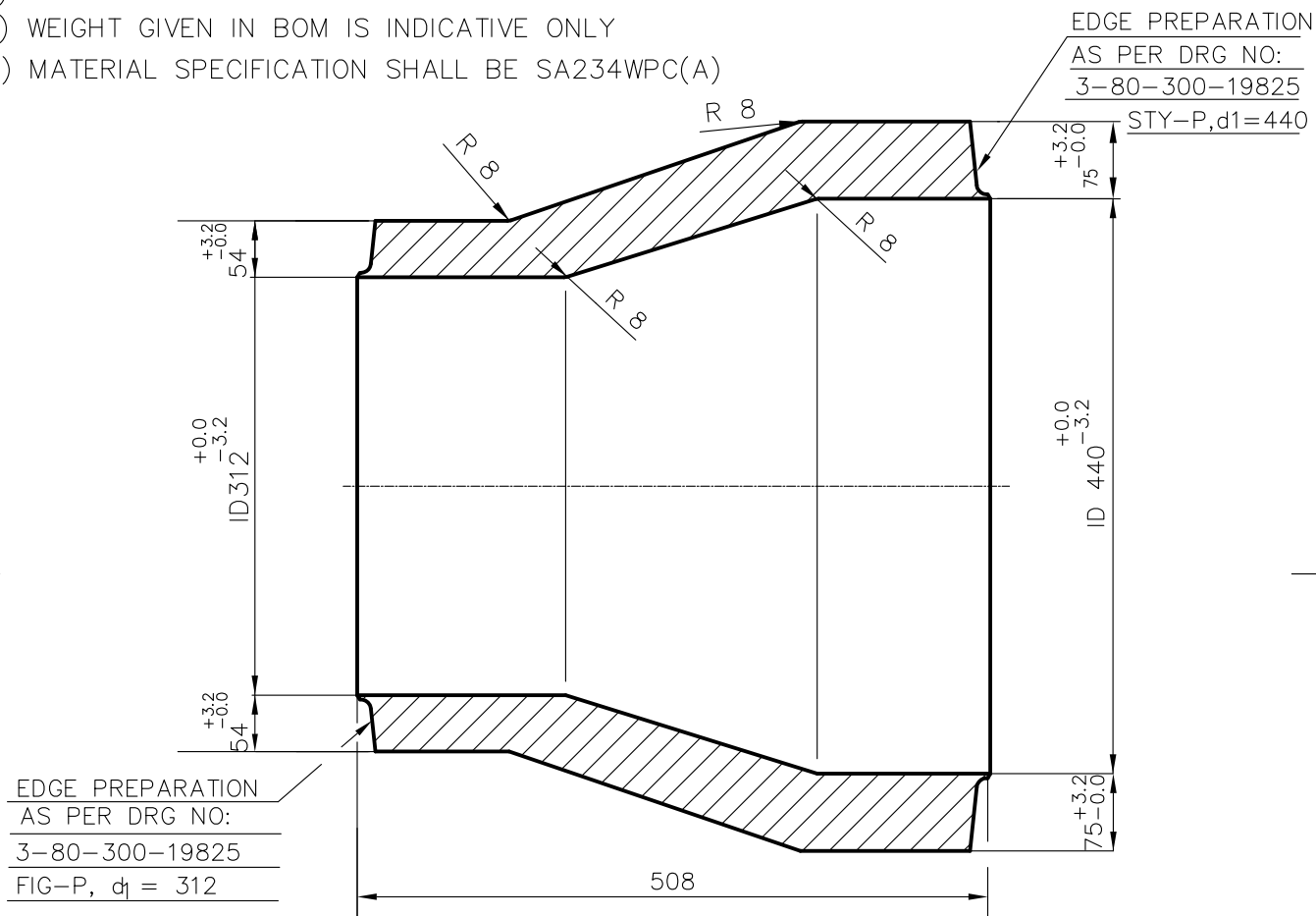
DEPT	ALL DIMENSIONS ARE IN MM	PROJECTION	SCALE	WEIGHT (Kg)	REF TO ASSY / OLD DWG
CODE			N.T.S	1366.880	—
TITLE	BW LR 90DEG ELBOW ID440 X 75				DRAWING NO : 4-80-425-80914
					REV 00

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NOTES :-

ALL DIMENSIONS ARE IN MILLIMETRES

- 1) DESIGN PRESSURE : 385 Kg/Cm²(g)
- 2) DESIGN TEMPERATURE : 315 °C
- 3) WORKING MEDIUM : WATER
- 4) FOLLOW TDC No. : AS APPLICABLE
- 5) ALL DIMENSIONS ARE FINISHED DIMENSIONS
- 6) DESIGN,MANUFACTURING,INSPECTION & TESTING SHALL BE AS PER IBR ANSI B16.9 & SA234
- 7) DIMENSIONS & TOLERANCES ARE AS PER THE DRAWING
- 8) CONNECTING PIPE SIZE -ID440X75/ID312X54
- 9) CONSTRUCTION SHALL BE SEAMLESS
- 10) WEIGHT GIVEN IN BOM IS INDICATIVE ONLY
- 11) MATERIAL SPECIFICATION SHALL BE SA234WPC(A)



	BW CONCENTRIC REDUCER ID440X75/ID312X54	921172420000 SA 234 WPC	A		409	289
VAR NO.	DESCRIPTION	STD	MATL. CODE	A	UNIT	UNIT.WT.(Kg)
			MATL. SPECN.	C	DI	QTY.

		BHARAT HEAVY ELECTRICALS LIMITED		DRN	NAME	SIGN	DATE	NO.OF VAR	
PIPING CENTRE		CHENNAI 600 017		CHD	R SESHAGIRI		15.04.17		
				APPD	R SESHAGIRI		15.04.17		
DEPT	GRADE OF UNTOL.DIM		SCALE	WEIGHT (KG).	BHEL PO REF.NO:		ITEM NO.	NO. OF ITEMS	
CODE	C / M / F		N.T.S	409.289					
TITLE		CARD CODE	DRAWING NO.				REV		
BW CONCENTRIC REDUCER		U 01	4-80-425-80927				00		
ID440X75/ID312X54 (SA234WPC)									