

3-80-300-19825

DRAWING No.

NOTES: -

- 01. APPLICABLE FOR P91/P92**
i) STRAIGHT WITH STRAIGHT/FITTING
ii) BEND WITH BEND/FITTING
 02. FOR OD MISMATCHING REF. FIGURE-Xa.
 03. $\alpha = 6^\circ$ FOR WALL THICKNESS ≤ 30 mm
 04. $\alpha = 10^\circ$ FOR WALL THICKNESS > 30 mm

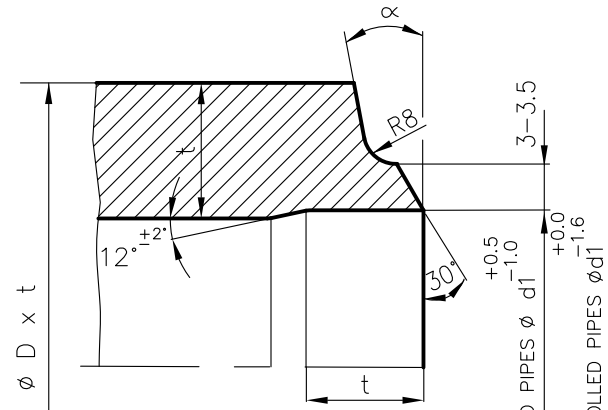


FIGURE - X

FOR OD PIPES ϕ d1
 FOR ID CONTROLLED PIPES ϕ d1

MATCHING EDGE PREPARATION FOR MISMATCH OD APPLICABLE FOR BENDS/FITTINGS OF P91/P92 MATERIALS

NOTES: -

01. OD OF STRAIGHT TO BE PHYSICALLY MEASURED/VERIFIED.
 02. $\alpha = 6^\circ$ FOR WALL THICKNESS ≤ 30 mm
 03. $\alpha = 10^\circ$ FOR WALL THICKNESS > 30 mm
 04. t = THK OF CONNECTING PIPE (STRAIGHT)

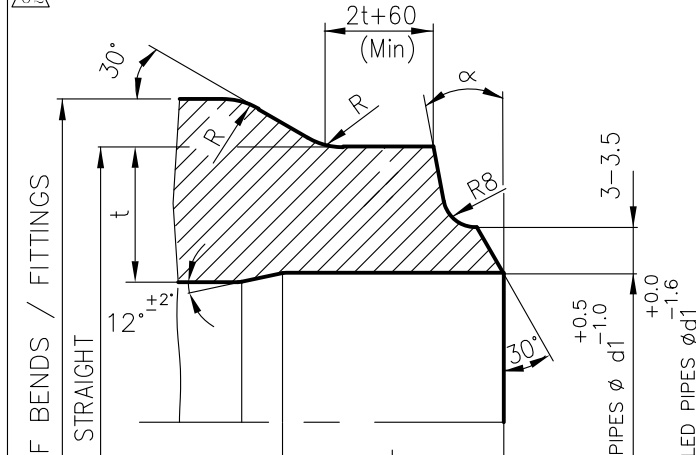


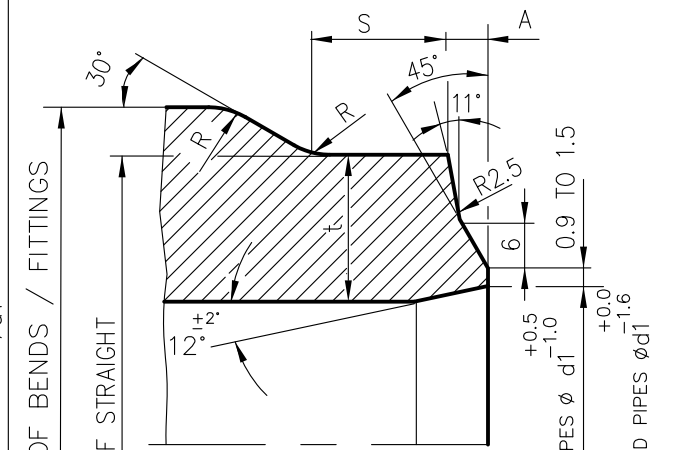
FIGURE - Xa

OD OF BENDS / FITTINGS
 OD OF STRAIGHT
 FOR OD PIPES ϕ d1
 FOR ID CONTROLLED PIPES ϕ d1

MATCHING EDGE PREPARATION FOR MISMATCH OD DIAMETRICALLY GREATER THAN 8 mm (ie OD1 - OD2 > 8mm) APPLICABLE FOR BENDS/FITTINGS OTHER THAN P91/P92 MATERIALS

NOTES: -

01. OD OF STRAIGHT TO BE PHYSICALLY MEASURED/VERIFIED.
 02. WHEN $t < 65$, $S+A = 65$ Min. & $t > 65$, $S=65$ Min. WHERE t=THK OF CONN.PIPE(STRAIGHT).



STYLE - Pa

OD OF BENDS / FITTINGS
 OD OF STRAIGHT
 FOR OD PIPES ϕ d1
 FOR ID CONTROLLED PIPES ϕ d1

MATCHING EDGE PREPARATION FOR MISMATCH OD DIAMETRICALLY GREATER THAN 8 mm (ie OD1 - OD2 > 8mm) APPLICABLE FOR ELBOWS OTHER THAN P91/P92 MATERIALS

NOTES: -

01. OD = OUTSIDE DIA OF CONN. PIPE (STRAIGHT) TO BE PHYSICALLY MEASURED/VERIFIED.
 02. t = THK OF CONN.PIPE (STRAIGHT)

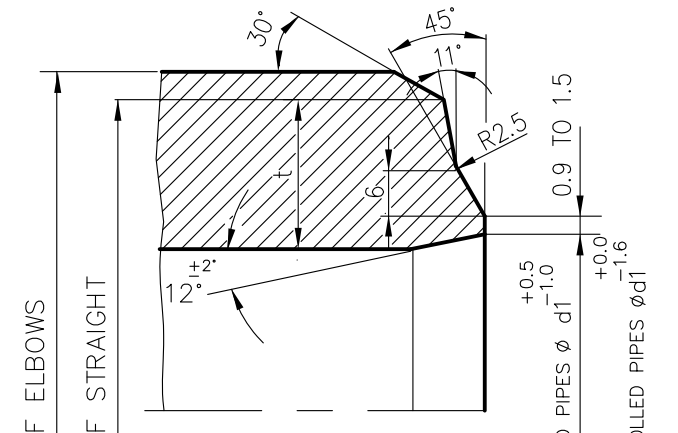


FIGURE - Z

OD OF ELBOWS
 OD OF STRAIGHT
 FOR OD PIPES ϕ d1
 FOR ID CONTROLLED PIPES ϕ d1

NOTES: -

01. APPLICABLE FOR P91 PIPE BEND WELDED WITH P91 STRAIGHT PIPE FOR THICKNESS ≤ 30 mm AND OD ≥ 558 mm.

02. $\alpha = 6^\circ$ FOR WALL THICKNESS ≤ 30 mm
 03. FOR OD MISMATCH, REFER THE OD MACHINING ONLY SHOWN IN FIGURE-Xa
 04. FIGURE-Xb AND FIGURE-Xc ARE NOT APPLICABLE FOR P92 MATERIALS.

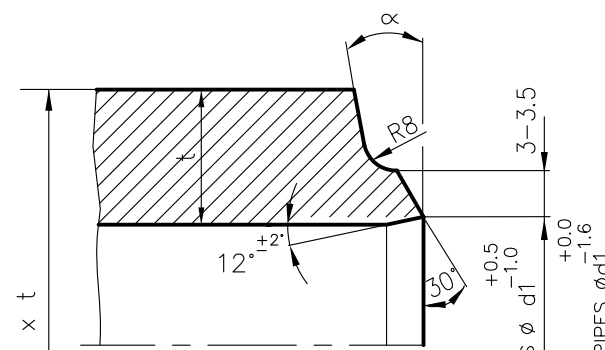


FIGURE - Xb
(BEND END)

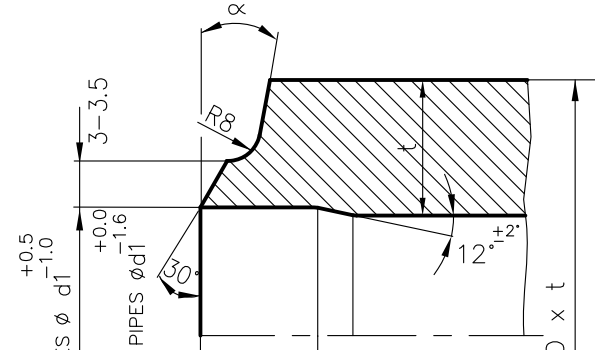
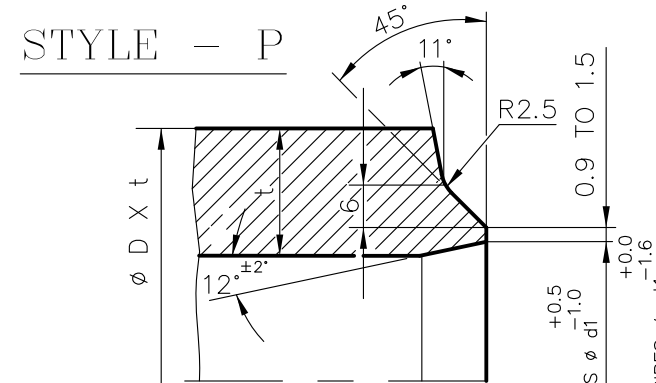


FIGURE - Xc
(STRAIGHT END)

FOR OD PIPES ϕ d1
 FOR ID CONTROLLED PIPES ϕ d1

FOR OD PIPES ϕ d1
 FOR ID CONTROLLED PIPES ϕ d1

STYLE - P



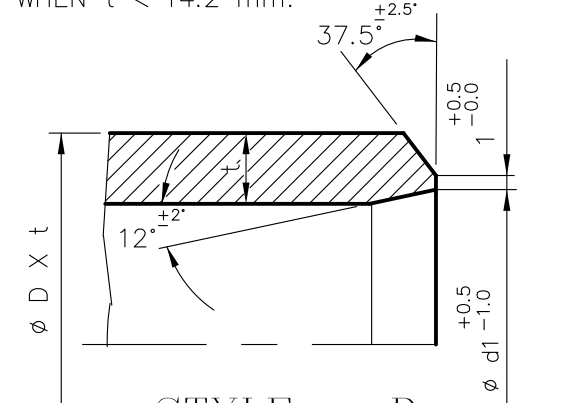
NOTES: -

01. USE WHEN $t \geq 14.2$ mm.
 02. FOR OD MISMATCHING REF. FIGURE-PA

FOR OD PIPES ϕ d1
 FOR ID CONTROLLED PIPES ϕ d1

NOTES: -

01. USE WHEN $t < 14.2$ mm.



STYLE - D

FOR OD PIPES ϕ d1
 FOR ID CONTROLLED PIPES ϕ d1

TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT

STANDARD

	BHARAT HEAVY ELECTRICALS LTD.		DRN	NAME	SIGN	DATE	NO OF ITEMS
	PIPING CENTRE, MADRAS		CHD	M.C.SEKARAN		11.10.01	
			APPD	A.VELAYUTHAM		11.10.01	

DEPT.	GRADE OF UN TOL DIM	SCALE	WEIGHT (Kg)	NAME OF ORIGINAL ORGANISATION	ITEM No.
CODE	C/M/F				

TITLE	CARD CODE	DRAWING No.	REV
EDGE PREPARATION DETAILS	U 01	3-80-300-19825	03

GENERAL NOTES :

01. THE MINIMUM THICKNESS AT WELD END SHALL NOT BE LESS THAN
 a) 0.875 TIMES t NOM. FOR OD PIPES.
 b) t MIN. FOR ID CONTROLLED PIPES.
 02. t NOM & t MIN SHALL BE AS PER SPECIFIED PIPE SIZE.
 03. SHARP CORNERS SHALL BE ROUNDED OFF WHEREEVER 'R' IS INDICATED.

NOTES FOR WELDING:

01. WELD REINFORCEMENT TO BE FLUSH GROUND AND MERGED WITH PARENT METAL WITHOUT ANY UNEVENNESS.

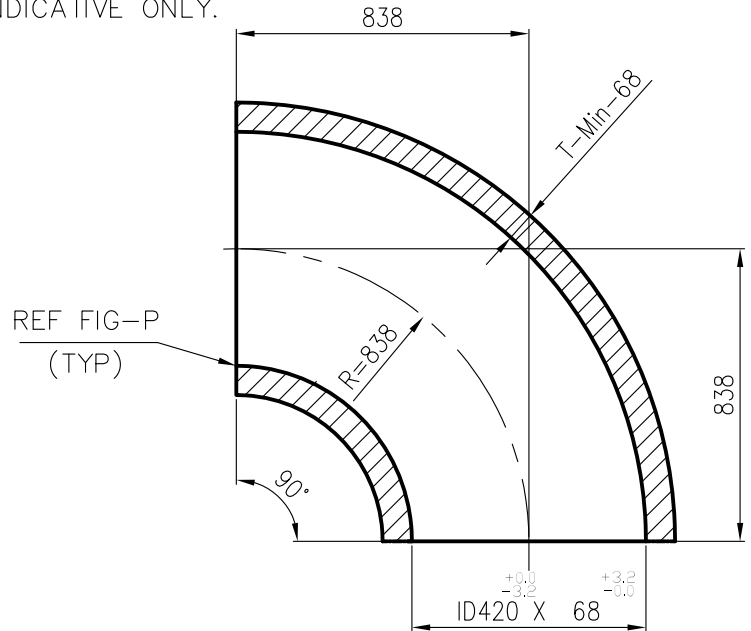
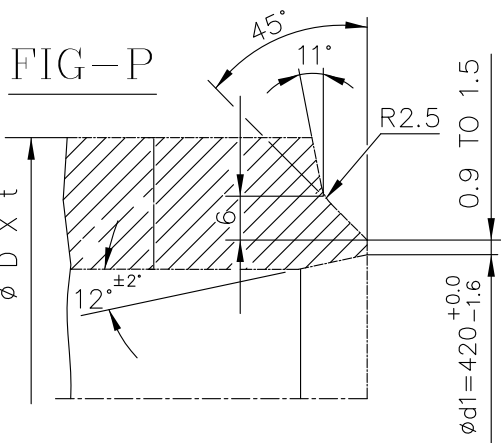
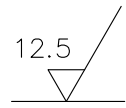
REV 03	DATE 10.04.13	ALTERED: M.R.K	APPROVED: C.K.N
ZONE	FIG.Xb AND FIG.Xc ADDED. IN FIG.X. NOTE 01 MODIFIED. IN FIG.Xa,STY-PA,FIG.Z. P92 MATERIAL ADDED		
REV 02	DATE 10.01.13	ALTERED: M.R.K	APPROVED: C.K.N
ZONE	IN FIG.Xa, NOTE 04 ADDED. GENERAL NOTES 03 ADDED. IN FIG.Xa, 8MM OD MISMATCH IS REMOVED		
REV 01	DATE 11.05.04	ALTERED: R.SENDHIL	APPROVED: A.VELAYUTHAM
ZONE	PROJECT NAME REMOVED AND STANDARD INCORPORATED IN TITLE BLOCK		

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REV	DATE	ALTERED : M.R.K
01	16.07.15	CHD & APPD : S.R.M
DIMENSION INDICATION CHANGED		

NOTES:

- 1) DESIGN PRESSURE : 366 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 ID420X68
- 8) MATERIAL SPECIFICATION SHALL BE SA234WPC
- 9) CONSTRUCTION SHALL BE SEAMLESS
- 10) AVERAGE INSIDE DIAMETER ON FITTING BODY TO GUARANTEE FLOW AREA MIN 90% OF THE CIRCULATION AREA OF THE CONNECTING PIPE
- 11) WEIGHT GIVEN IN TITLE BLOCK IS INDICATIVE ONLY.



-	BW LR 90DEG ELBOW Ø ID420 X 68	92 504 065 0000	A	1111	190
				SA 234 WPC	
VAR No.	DESCRIPTION	STD	MATERIAL CODE	UNIT	UNIT WT. (KG)
			MATERIAL SPECN		QUANTITY



BHARAT HEAVY ELECTRICALS LIMITED
PIPING CENTRE
CHENNAI 600 017

	NAME	SIGNATURE	DATE
DRN	M.R.K	—sd—	13.04.2015
CHD	I.D.B	—sd—	13.04.2015
APPD	S.R.M	—sd—	13.04.2015

DEPT	ALL DIMENSIONS ARE IN MM	PROJECTION	SCALE	WEIGHT (Kg)	REF TO ASSY / OLD DWG
CODE			N.T.S	1111.190	—

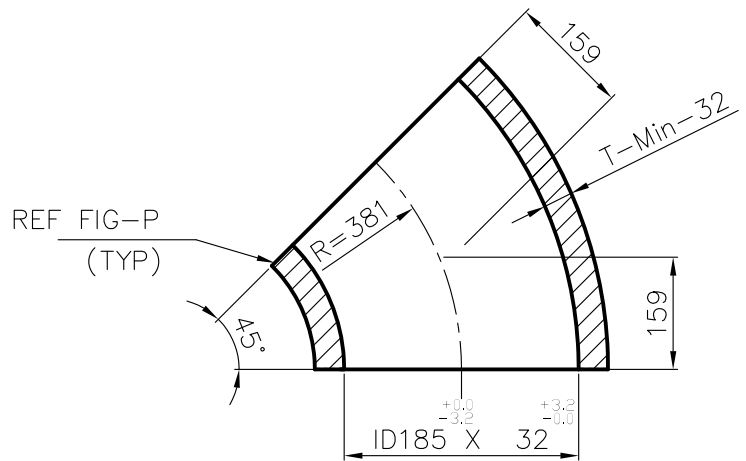
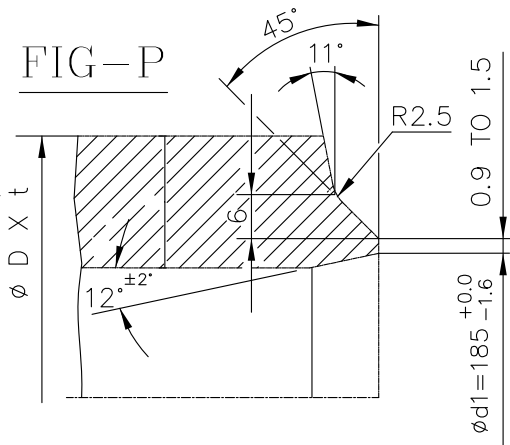
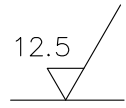
TITLE	DRAWING NO :	REV
BW LR 90DEG ELBOW ID420 X 68	4-80-425-78985	01

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REV	DATE	ALTERED : M.R.K
01	16.07.15	CHD & APPD : S.R.M
DIMENSION INDICATION CHANGED		

NOTES:

- 1) DESIGN PRESSURE : 366 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 ID185X32
- 8) MATERIAL SPECIFICATION SHALL BE SA234WPC
- 9) CONSTRUCTION SHALL BE SEAMLESS
- 10) AVERAGE INSIDE DIAMETER ON FITTING BODY TO GUARANTEE FLOW AREA MIN 90% OF THE CIRCULATION AREA OF THE CONNECTING PIPE
- 11) WEIGHT GIVEN IN TITLE BLOCK IS INDICATIVE ONLY.



-	BW LR 45DEG ELBOW Ø ID185 X 32	92 504 058 0000	A	56	820
				1	
VAR No.	DESCRIPTION	STD	MATERIAL CODE A/C/P	UNIT	UNIT WT. (KG)
					MATERIAL SPECN



BHARAT HEAVY ELECTRICALS LIMITED
PIPING CENTRE
CHENNAI 600 017

	NAME	SIGNATURE	DATE
DRN	M.R.K	—sd—	13.04.2015
CHD	I.D.B	—sd—	13.04.2015
APPD	S.R.M	—sd—	13.04.2015

DEPT	ALL DIMENSIONS ARE IN MM	PROJECTION	SCALE	WEIGHT (Kg)	REF TO ASSY / OLD DWG
CODE			N.T.S		—

TITLE	DRAWING NO :	REV
BW LR 45DEG ELBOW ID185 X 32	4-80-425-78990	02

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 CAUTION:

REV	DATE	ALTERED :
01		CHD & APPD :

NOTES:

- 1) FOLLOW TDC: AS APPLICABLE
- 2) ALL DIMENSIONS ARE FINISHED DIMENSIONS
- 3) DESIGN, MANUFACTURING, INSPECTION, TOLERANCES AND TESTING SHALL BE AS PER IBR, ASME B16.9 & SA234
- 4) CONSTRUCTION SHALL BE SEAMLESS
- 5) MATERIAL SPECIFICATION SHALL BE SA234WP22
- 6) CONNECTING PIPE SIZE ID245.0 X 40.0
- 7) AVERAGE INSIDE DIAMETER ON FITTING BODY TO GUARANTEE FLOW AREA MIN 90% OF THE CIRCULATION AREA OF THE CONNECTING PIPE

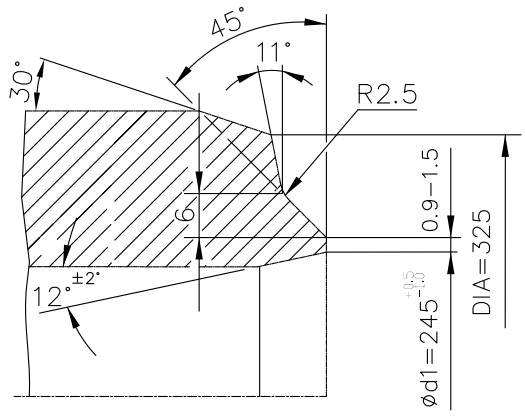
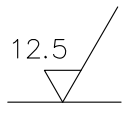
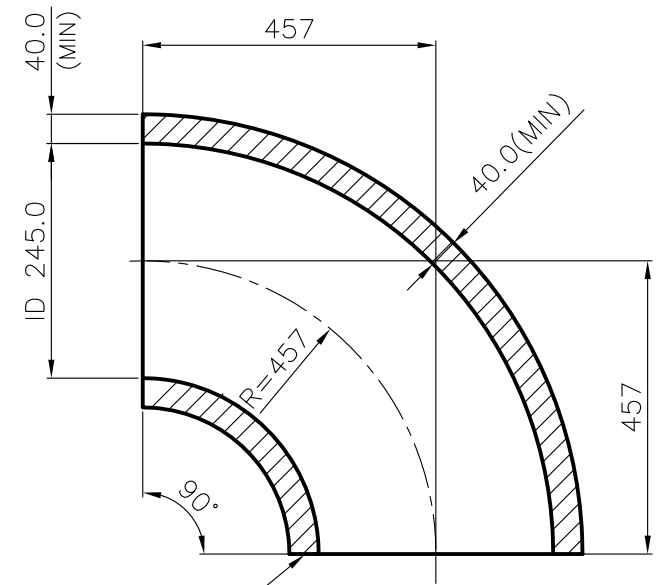


FIGURE-P



REF FIGURE-P
(TYP)

-	BW LR 90DEG ELBOW ID245.0 X 40.0	92 504 113 0000	A	201	700
				SA 234 WP22	
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	SOURAV	—sd—	03.09.2015
CHD	SOURAV	—sd—	03.09.2015
APPD	M MANO	—sd—	03.09.2015

DEPT	ALL DIMENSIONS ARE IN MM	PROJECTION	SCALE	WEIGHT (Kg)	REF TO ASSY / OLD DWG
CODE			N.T.S	201.700	—

TITLE	DRAWING NO :	REV
BW LR 90DEG ELBOW ID245.0 X 40.0	4-80-452-79411	00

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REV	DATE	ALTERED :
01		CHD & APPD :

NOTES:

- 1) FOLLOW TDC: AS APPLICABLE
- 2) ALL DIMENSIONS ARE FINISHED DIMENSIONS
- 3) DESIGN, MANUFACTURING, INSPECTION, TOLERANCES AND TESTING SHALL BE AS PER IBR, ASME B16.9 & SA234
- 4) CONSTRUCTION SHALL BE SEAMLESS
- 5) MATERIAL SPECIFICATION SHALL BE SA234WP22
- 6) CONNECTING PIPE SIZE ID245.0 X 40.0
- 7) AVERAGE INSIDE DIAMETER ON FITTING BODY TO GUARANTEE FLOW AREA MIN 90% OF THE CIRCULATION AREA OF THE CONNECTING PIPE

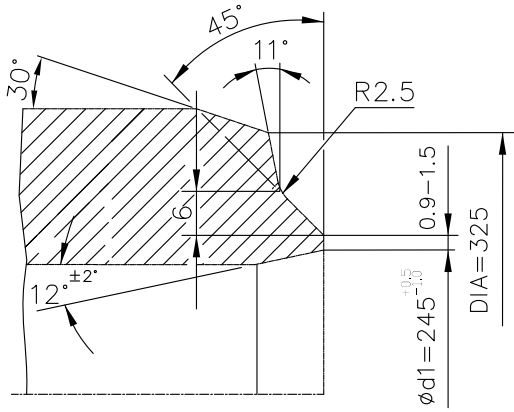
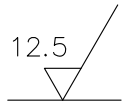
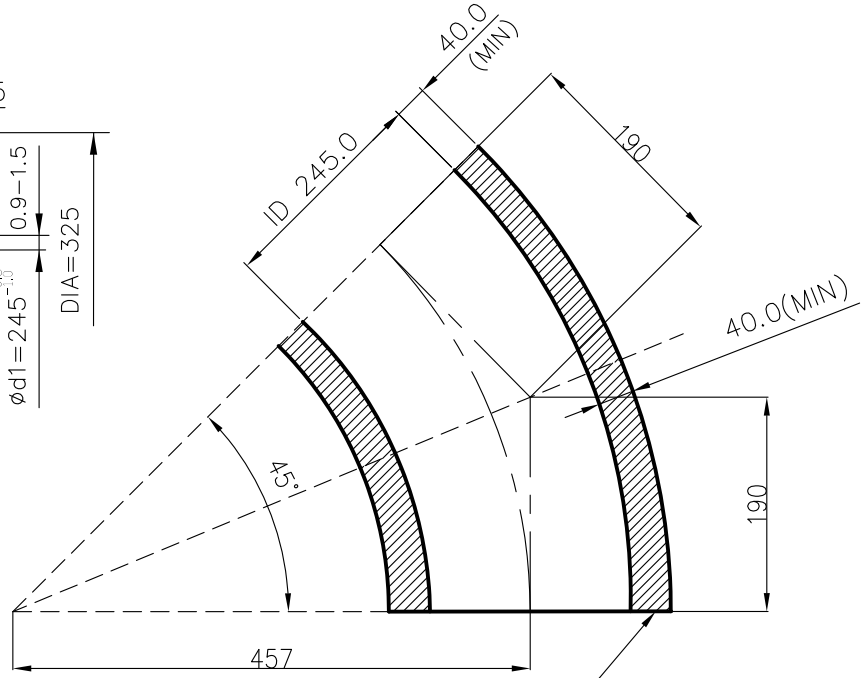


FIGURE-P



REF FIGURE-P
(TYP)

-	BW LR 45DEG ELBOW ID245.0 X 40.0	92 504 114 0000	A	100	900
				SA 234 WP22	
VAR No.	DESCRIPTION	STD	A/C/P	UNIT	UNIT WT. (KG)
			MATERIAL SPECN		QUANTITY



BHARAT HEAVY ELECTRICALS LIMITED
PIPING CENTRE
CHENNAI 600 017

	NAME	SIGNATURE	DATE
DRN	SOURAV	—sd—	03.09.2015
CHD	SOURAV	—sd—	03.09.2015
APPD	M MANO	—sd—	03.09.2015

DEPT	ALL DIMENSIONS ARE IN MM	PROJECTION	SCALE	WEIGHT (Kg)	REF TO ASSY / OLD DWG
CODE			N.T.S	100.900	—

TITLE	DRAWING NO :	REV
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