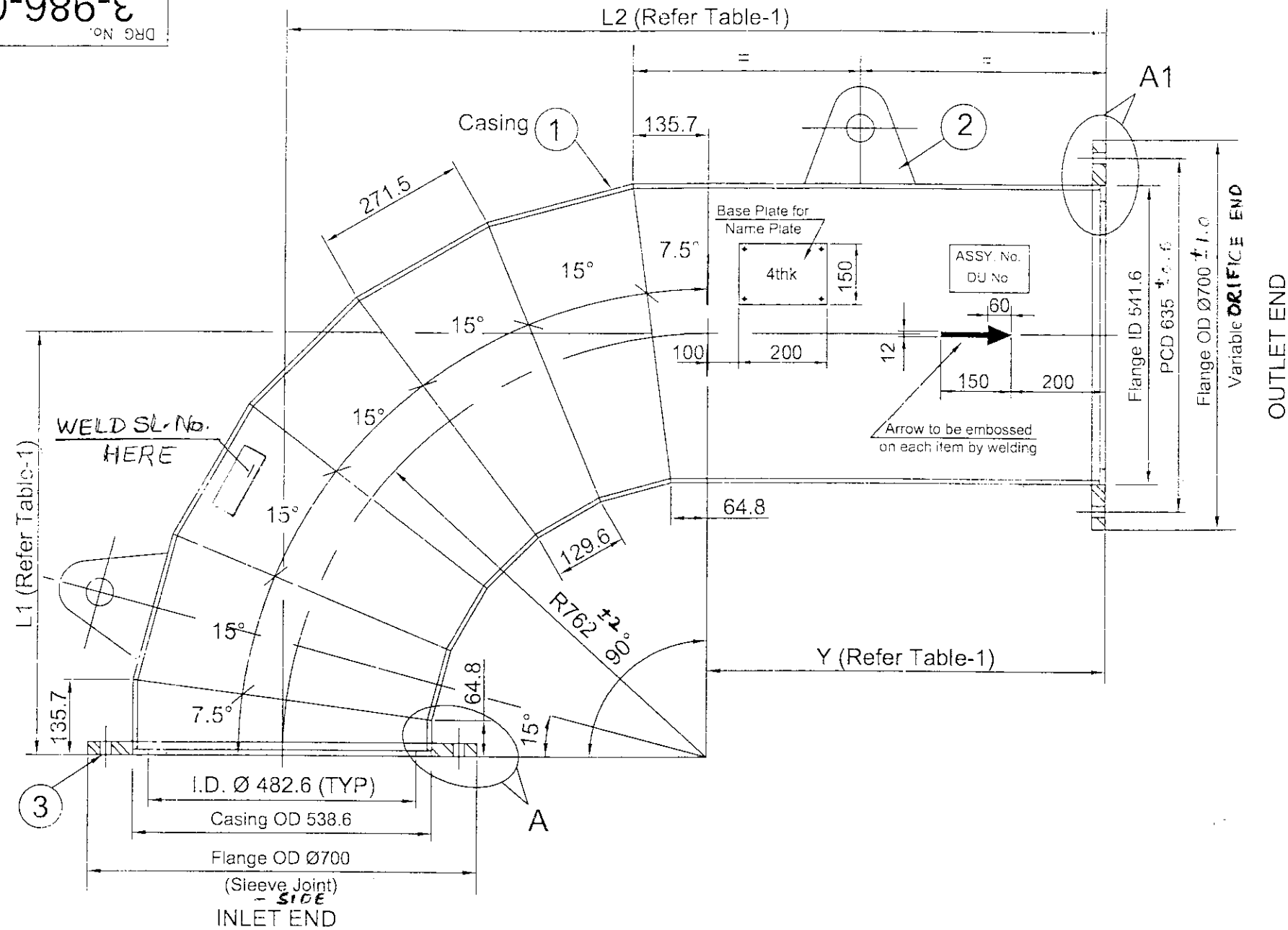


FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN mm.

11660-10-986-3
REV 01

L2 (Refer Table-1)



1	CLCP-131	A1-4, A4-4, A5-4 A6-4, A7-4 & A8-4	762	1280	518	FL(SJ)	FL(VO)	6	178.4
Var.No.	DU No.	Assembly No.	L1	L2	Y	End connection inlet side	End connection outlet side	Qty. Nos	Approx Weight kg/Bend

TABLE - 1

NAME OF CUSTOMER/PROJECT

BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

NAME	SIGN	DATE
DRN Kaushik.K		11-07-2016
CHD M.Vinod		17/09/16
APPD Felix.J		30.9.16

DEPT	GRADE OF TOL DIM	SCALE	WEIGHT (kg)	REF TO ASSY.DRG	ITEM	No.OF ITEMS
CODE	C.M.F	N.T.S.	APPX 15 (Approx)	EL-DG-3-986-01-09910 (550A-3)	No.	
TITLE	CASING FOR BENDS 500NB DETAIL (F-F)			DRAWING No.	REV	
				3-986-01-09911	01	
				SHEET No. 1	No.OF SHEETS 3	

SUPERSEDES DRG. No.

SHT.24 SIZE A3 420 x 297

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

REF. DRG. No.

SIGN AND DATE

INVENTORY No.

5	Stopper Ring	10mm thk.	KILLED STEEL IS:2062 - 2011 E250 BR	2 No.s	3.5	—
4	FL (VO)	24 mm Thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.s	26.0	—
3	FL (SJ)	24 mm Thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.s	26.0	—
2	Lifting Lug	8 mm Thk.	KILLED STEEL IS:2062 - 2011 E250 BR	2 No.s	1.3	—
1	Casing	8 mm Thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.s	Refer Table-1	—
SL No.	Description	Size	Material	Qty. per Bend	Wt. / Piece (Kgs.)	Remarks

TABLE - 2

REV	DATE	ALTERED	REV	DATE	ALTERED	REV	DATE	ALTERED	S.M.	REMARKS
		CHECKED			CHECKED	01	28.02.17	CHECKED	M.V.	HOLE ϕ 33 was ϕ 32 in Detail A&A1 Refer RR-2377.

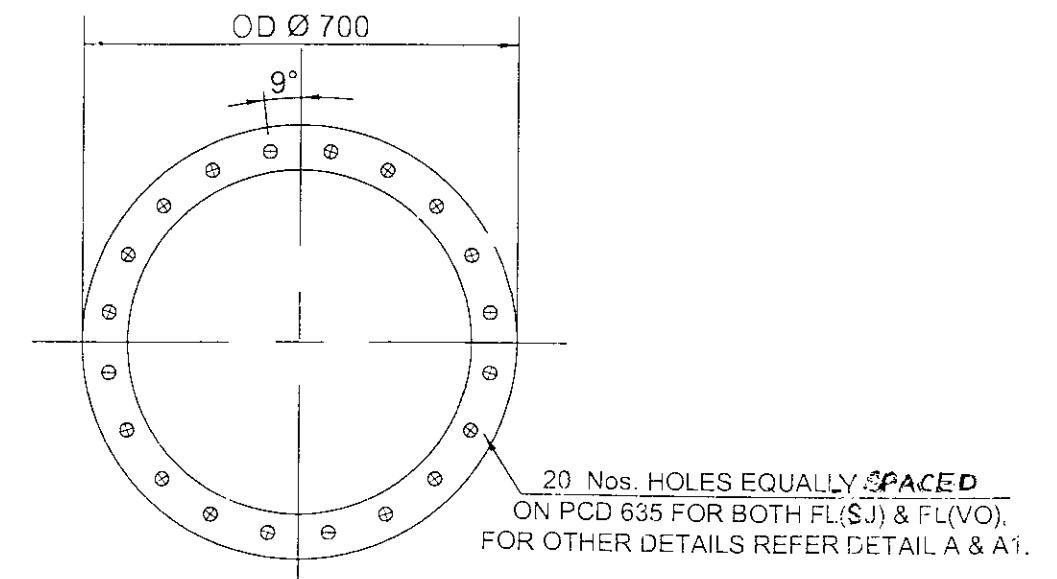
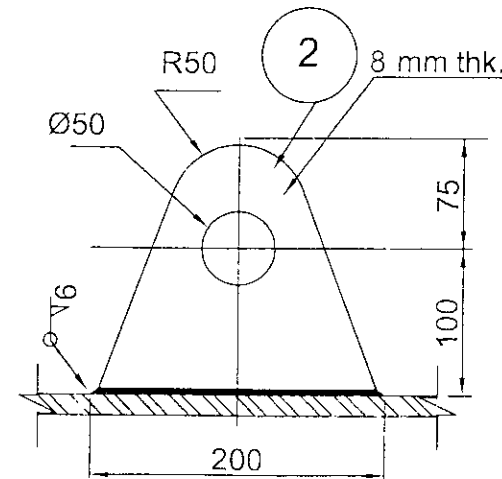
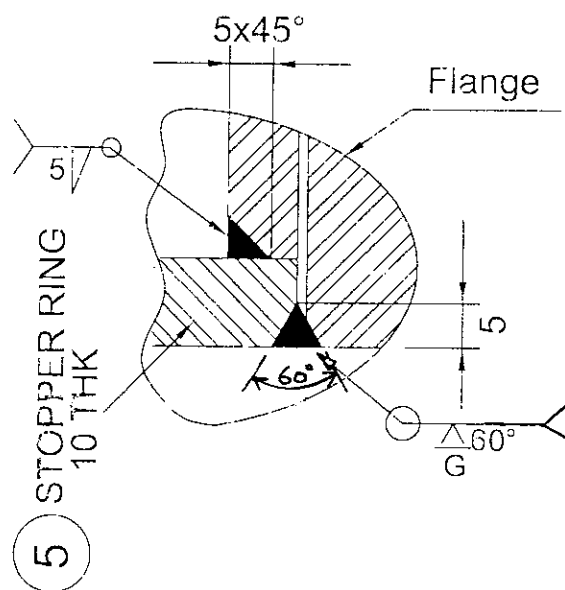
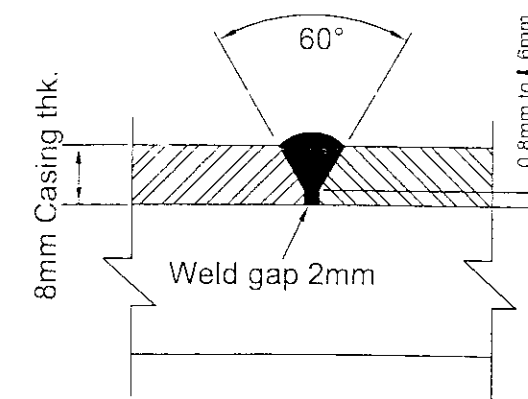
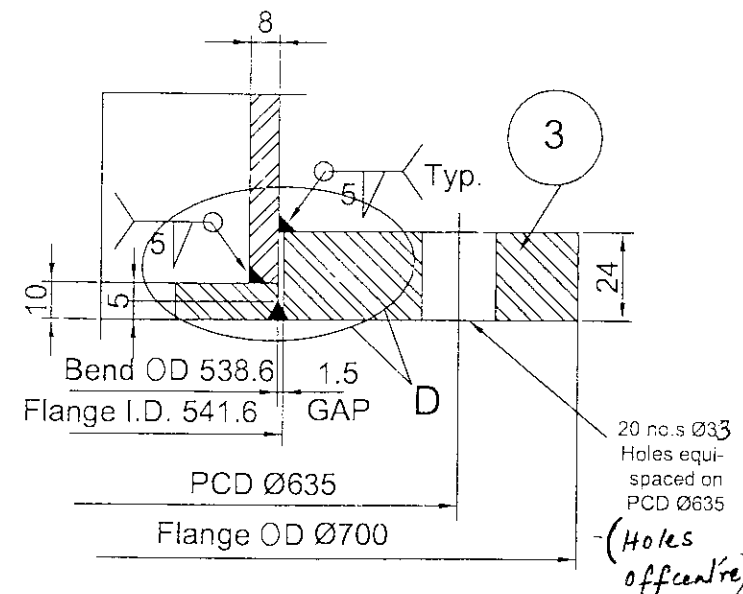
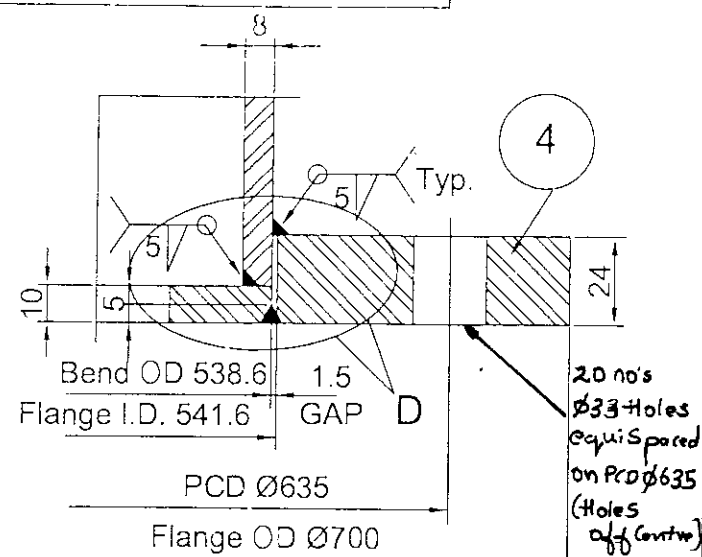
FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN mm.

REV

11660-10-986-3

DRG No.



NAME OF CUSTOMER/PROJECT



BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

NAME	SIGN	DATE
DRN Kausnik.K		11-07-2016
CHD M.Vinod		17-09-16
APPD Felix.J		30-9-16

DEPT	GRADE OF TOL DIM C/M/F	SCALE	WEIGHT (kg)	REF TO ASSY.DRG	ITEM No.	No. OF ITEMS
CODE		N.T.S.	REF. NOTE (Approx)	EL-DG-3-986-01-09910 (550A-3)		
TITLE	CASING FOR BENDS 500NB DETAIL (F-F)			CARD CODE	DRAWING No.	REV.
					3-986-01-09911	01
					SHEET No. 2	No. OF SHEETS 3

SUPERSEDES DRG. No.

SHT.24 SIZE A3 420 x 297

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SIGN AND DATE

INVENTORY No.

REV	DATE	ALTERED	REV	DATE	ALTERED	REV	DATE	ALTERED
		CHECKED			CHECKED			CHECKED

10

3-986-01-09911

DRG No.

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

REV. DRG. No.

SIGN AND DATE

INVENTORY No.	REV	DATE	ALTERED	REV	DATE	ALTERED	REV	DATE	ALTERED
			CHECKED			CHECKED			CHECKED

- NOTE:-
1. FOR CONSTRUCTION MATERIAL REFER TABLE-2
2. DURING ASSY. LONGITUDINAL WELDING BETWEEN SEGMENTS TO BE STAGGERED.
3. ALL SUPPLIES TO CONFORM CLN:QP:01/00. WELDING AS PER WP:CL001A & AWS:D 1.1.
4. DIMENSIONS INDICATED ARE FINISHED SIZE ONLY.
5. ASSEMBLY No., DU No., AND ARROW HEAD TO BE WELD DEPOSITED OVER CASING AS SHOWN , AS PER CE:1501:21
6. BASE PLATE FOR NAME PLATE TO BE WELDED ON TO CASING, AT LOCATION SHOWN,
FOR BASE PLATE & WELDING DETAILS REF DRG : 4 986 99 07720
7. FACE ANGLES TO BE MATCHED DURING ASSY.
8. ALL OVER MACHINING 6.3/ FOR STOPPER RINGS.
9. F(SJ)- FLANGE SLEEVE JOINT,FL(VO) - VARIABLE ORIFICE FLANGE.
10. FOR CASING Wt. REFER TABLE -1
FOR Wt. OF LIFTING LUG, STOPPER RINGS AND FLANGES REFER TABLE - 2
11. WHERE "Y" IS GREATER THAN 1000, ONE CIRCUMFERENTIAL JOINT IS ALLOWED ON "Y", OUTSIDE SEGMENT TOWARDS OUTLET END.
THIS JOINT SHOULD NOT FOUL WITH LUG
12. SURFACE PREPARATION AND PAINTING: REF PAINTING SCHEME DOC. No. : PS- L&T - TANDA. BENDS.
13. OVERALL BEND TOLERANCE:-

a]. AXIAL SHIFT: ± 3 MM

b]. RADIAL SHIFT: ± 3 MM

c]. OUT OF SQUARENESS: ± 3 MM.
14. ALL PARTS HAVE TO BE 6mm FILLET WELDED, IF NOT SPECIFIED .
15. PROVIDE STIFFENERS TO ELIMINATE DISTORTION OF FLANGES , WHEN WELDING.

COPY

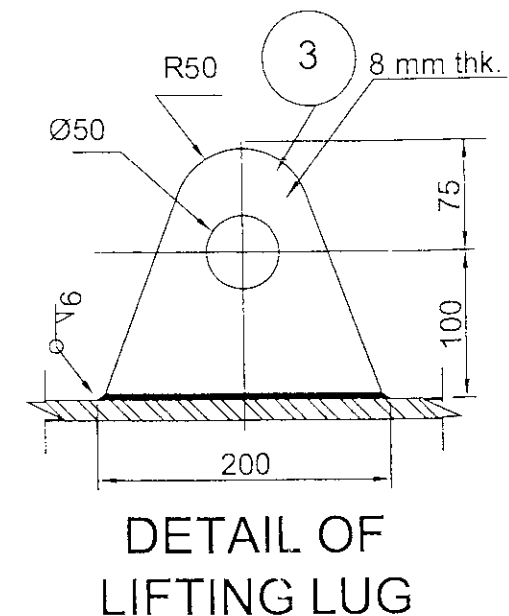
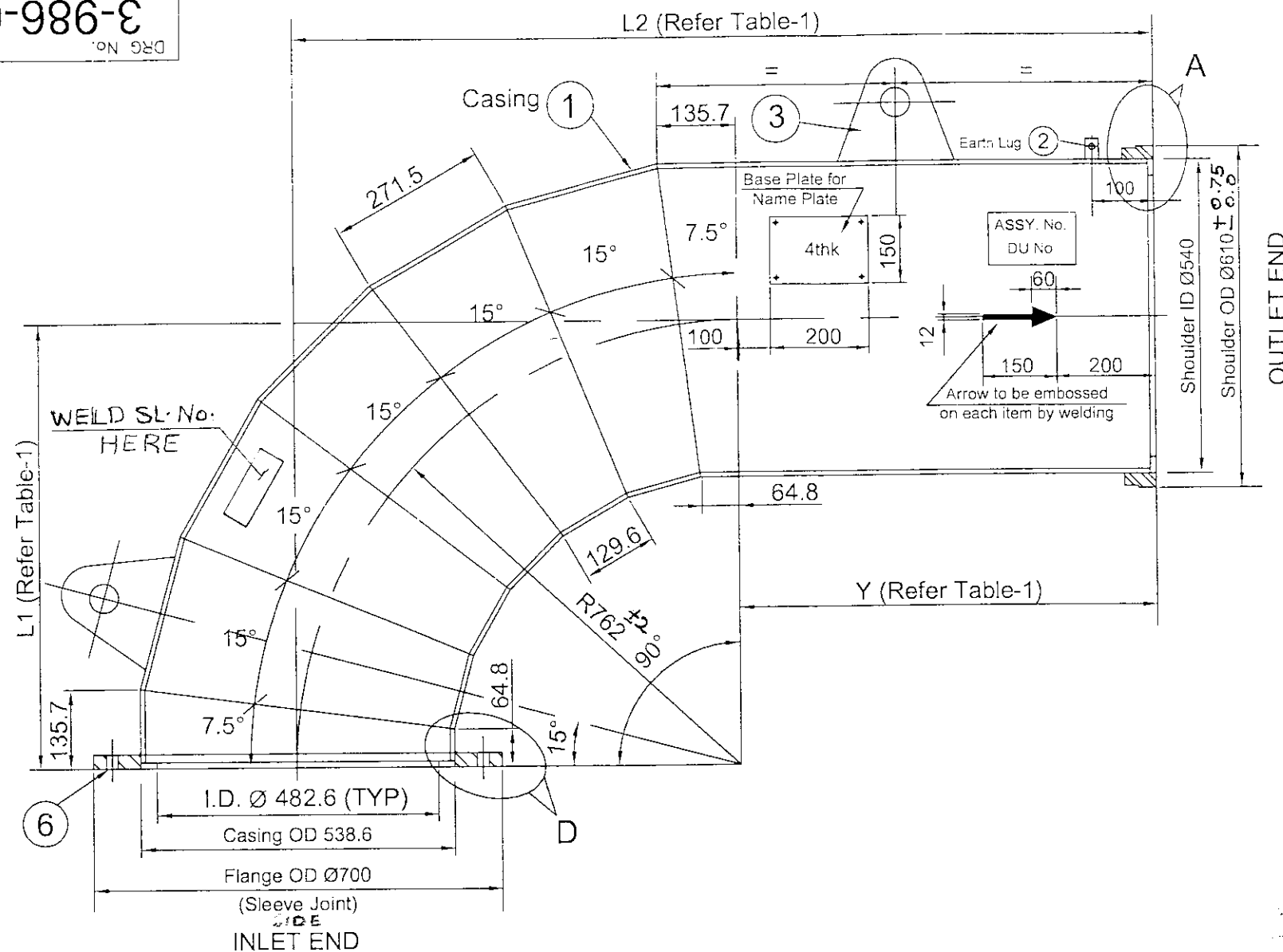
NAME OF CUSTOMER/PROJECT									
BHARAT HEAVY ELECTRICALS LTD., ELECTROPORCELAINS DIVISION BANGALORE - 560 012 DEPT GRADE OF TOL DIM C/M/F SCALE N.T.S. WEIGHT (kg) REF NOTE 10 (Approx)				NAME	SIGN	DATE			
				DRN	Kaushik.K	11-07-2016			
				CHD	M.Vinod	17/09/16			
APPD	Felix.J	30.9.16							
REF TO ASSY.DRG				ITEM No.	No.OF ITEMS				
EL-DG-3-986-01-09910 (550A-3)									
TITLE				CARD CODE	REV.				
CASING FOR BENDS 500NB DETAIL (F-F)				DRAWING No.					
				3-986-01-09911	01				
				SHEET No. 3	No.OF SHEETS 3				

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN mm.

REV 01 3-986-01-09921

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REF. ORG. No.	SIGN AND DATE	SL No.	Description	Size	Material	Qty. per Bend	Wt. / Piece (Kgs.)	Remarks
7		7	Support Pad	8 mm Thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.s	7.3	
6		6	Flange - FL(SJ)	24 mm Thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.s	26.0	
5		5	Stopper Ring	10mm thk.	KILLED STEEL IS:2062 - 2011 E250 BR	2 No.s	3.5	
4		4	Shoulder	ID 540, OD 610	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.s	-	FREE Issue By BHEL To Vendor
3		3	Lifting Lug	8 mm Thk.	KILLED STEEL IS:2062 - 2011 E250 BR	2 No.s	1.3	
2		2	Earth Lug	3 mm Thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.s	0.02	
1		1	Casing	8 mm Thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.s	Refer Table-1	

TABLE - 2

Var. No.	DU No.	Assembly No.	L1	L2	Y	End connection inlet side	End connection outlet side	Qty. Nos	Approx Weight kg/Bend
1	CLCP-132	E1-9,E2-8,E3-8,E4-9,E5-8,E6-8,E7-8&E8-8	762	1949	1187	FL(SJ)	V	8	248.4

TABLE - 1

NAME OF CUSTOMER/PROJECT

BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

NAME	SIGN	DATE
DRN Kaushik K		11-07-2016
CHD M.Vinod		17/09/16
APPD Felix.J		30.9.16

DEPT	GRADE OF TOL DIM C/M/F	SCALE	WEIGHT (kg)	REF TO ASSY.DRG	ITEM No.	No.OF ITEMS
		N.T.S.	REMARKS 10 (Approx)	EL-DG-3-986-01-09920 (550A-4)		
TITLE				CARD CODE	DRAWING No.	REV.
CASING FOR BENDS 500NB DETAIL (F-V)					3-986-01-09921	01
					SHEET No. 1	No.OF SHEETS 3

SUPERSEDES DRG No.

SHT.24 SIZE A3 420 x 297

FIRST ANGLE PROJECTION

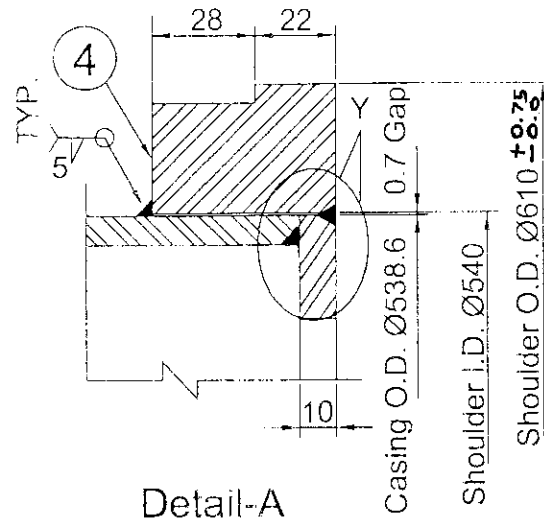
ALL DIMENSIONS ARE IN mm.

REV
0117660-10-986-3
DRG No.

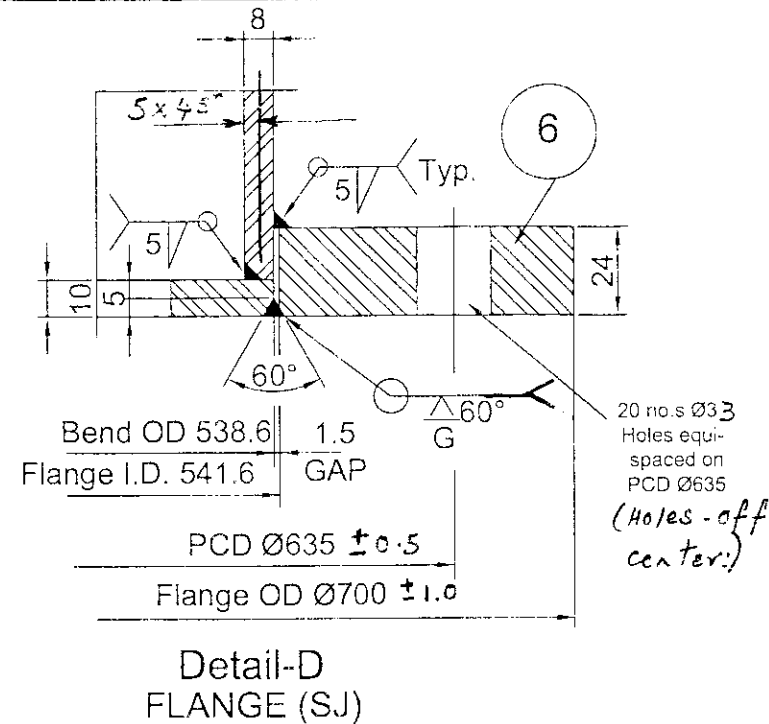
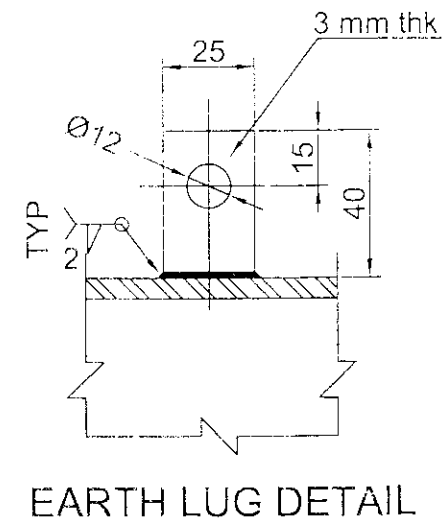
THE INFORMATION ON THIS DOCUMENT IS THE PROPERTY OF BHARAT HEAVY ELECTRICALS LIMITED. IT MUST NOT BE USED DIRECTLY OR INDIRECTLY IN ANY WAY DETRIMENTAL TO THE INTEREST OF THE COMPANY

SIGN AND DATE REF. DRG. No.

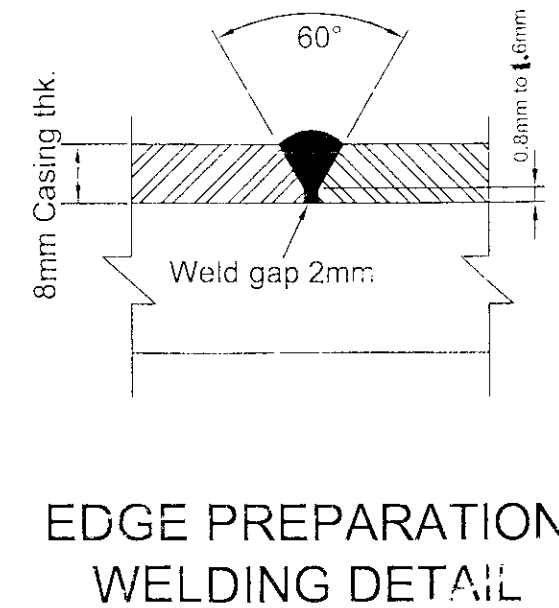
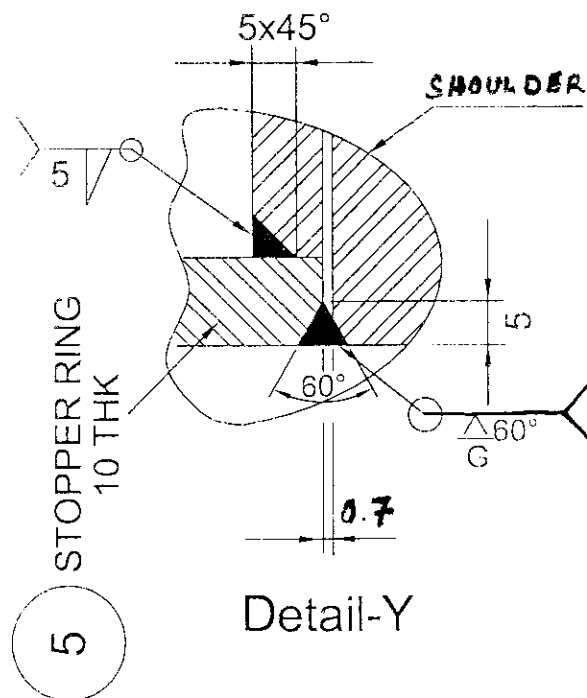
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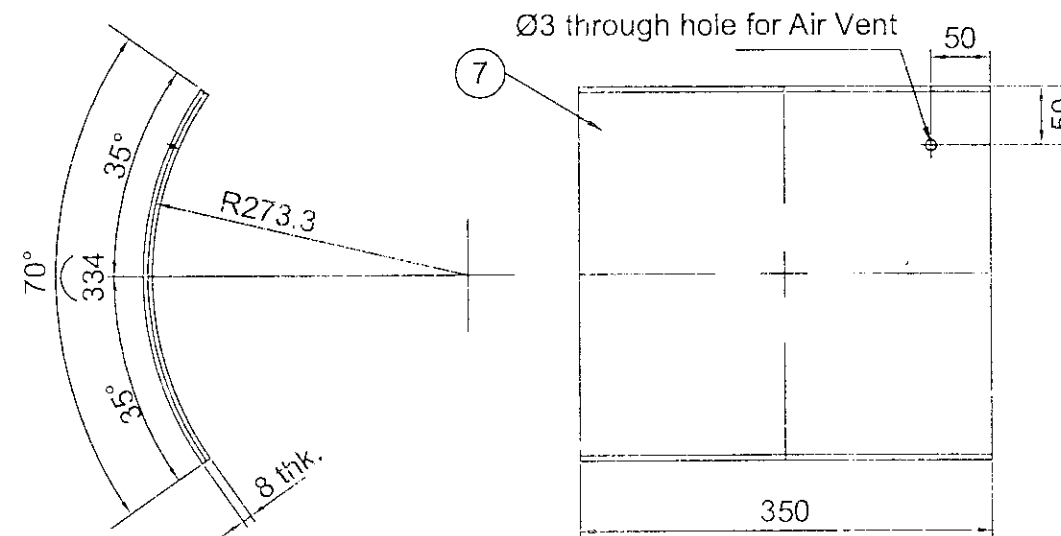
Detail-A

Detail-D
FLANGE (SJ)

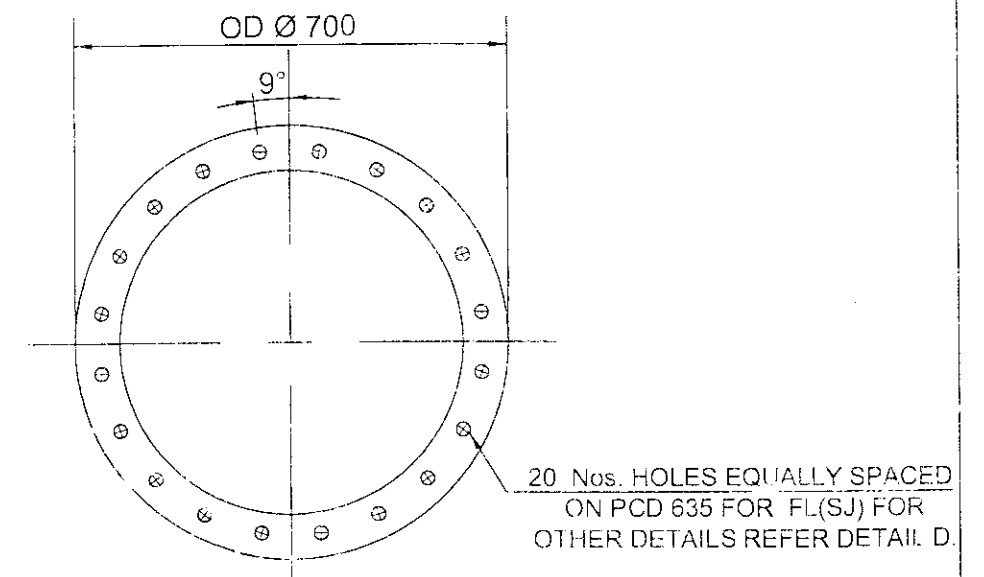
EARTH LUG DETAIL

EDGE PREPARATION
WELDING DETAIL

Detail-Y



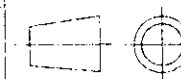
TYPICAL SUPPORT PAD DETAIL



FLANGE HOLE ORIENTATION

SUPPORT PAD LOCATION,
ORIENTATION, QUANTITY
REF DRG. 3-986-99-07790 &
3-986-99-07800

NAME OF CUSTOMER/PROJECT

BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012DEPT
CODEGRADE OF
TOL DIM
C/M/FSCALE
N.T.S.WEIGHT (kg)
REF NOTE 10
(Approx)REF TO ASSY.DRG
EL-DG-3-986-01-09920
(550A-4)ITEM No.
No. OF
ITEMS

TITLE

CASING FOR BENDS 500NB
DETAIL (F-V)CARD
CODE

DRAWING No.

3-986-01-09921 01

SHEET No. 2

No. OF SHEETS 3

SUPERSEDES DRG. No.

SHT.24 SIZE A3 420 x 297

01

3-986-01-09921

REV

DRG No.

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NOTE:-

1. FOR CONSTRUCTION MATERIAL REFER TABLE-2
2. DURING ASSY. LONGITUDINAL WELDING BETWEEN SEGMENTS TO BE STAGGERED.
3. ALL SUPPLIES TO CONFORM CLN:QP:01/00. WELDING AS PER WP:CL001A & AWS:D 1.1.
4. DIMENSIONS INDICATED ARE FINISHED SIZE ONLY.
5. ASSEMBLY No., DU No., AND ARROW HEAD TO BE WELD DEPOSITED OVER CASING AS SHOWN , AS PER CE:1501:21
6. BASE PLATE FOR NAME PLATE TO BE WELDED ON TO CASING, AT LOCATION SHOWN,
FOR BASE PLATE & WELDING DETAILS REF DRG : 4 986 99 07720
7. FACE ANGLES TO BE MATCHED DURING ASSY.
8. ALL OVER MACHINING 6.3/ FOR STOPPER RINGS.
9. FL(SJ) = FLANGE **SLEEVE JOINT** & V = SHOULDER FOR VICTAULIC COUPLING .
10. FOR CASING Wt. REFER TABLE -1
FOR Wt. OF LIFTING LUG, EARTH LUG, STOPPER RINGS, SUPPORT PAD AND FLANGE, REFER TABLE - 2
11. WHERE "Y" IS GREATER THAN 1000, ONE CIRCUMFERENTIAL JOINT IS ALLOWED ON "Y", OUTSIDE SEGMENT TOWARDS OUTLET END.
THIS JOINT SHOULD NOT FOUL WITH LUG
12. CONTROL DURING WELDING OF SHOULDER TO CASING :-
 - a) OVALITY OF CASING ON OUTER DIAMETER TO BE MAINTAINED WITHIN 1.0 mm
 - b) WELDING OF SHOULDER TO CASING AS PER DETAIL-A, TO BE DONE IN SUCH A WAY AS TO ENSURE THAT DISTORTION OF COLLAR IS LIMITED SUCH THAT DIM. Ø610 mm IS STRICTLY WITHIN THE RANGE SPECIFIED IN SHEET 2 OF 3.
VENDOR TO DO THE NEEDFUL TO ACHIEVE 12(a) AND 12(b).
13. SURFACE PREPARATION AND PAINTING: REF PAINTING SCHEME DOC. No. : PS- L&T - TANDA. BENDS.
14. OVERALL BEND TOLERANCE:-
 - a). AXIAL SHIFT: ± 3 MM
 - b). RADIAL SHIFT: ± 3 MM
 - c). OUT OF SQUARENESS: ± 3 MM.
15. ALL PARTS HAVE TO BE 6mm FILLET WELDED, IF NOT SPECIFIED.
16. PROVIDE STIFFENERS TO ELIMINATE DISTORTION OF FLANGES, WHEN WELDING.

NAME OF CUSTOMER/PROJECT

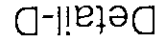
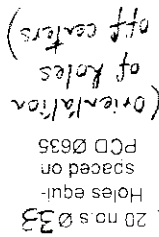
BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

	NAME	SIGN	DATE
DRN	Kaushik.K		11-07-2016
CHD	M.Vinod		17-09-16
APPD	Felix.J		30-9-16

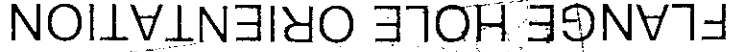
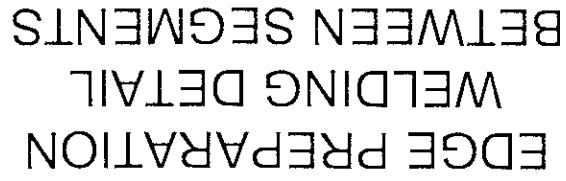
DEPT	GRADE OF TOL DIM	SCALE	WEIGHT (kg)	REF TO ASSY.DRG	ITEM No.	No.OF ITEMS
CODE	C/M/F	N.T.S.	REFNOTE 10 (Approx)	EL-DG-3-986-01-09920 (550A-4)		
TITLE				CARD CODE	DRAWING No.	REV.
CASING FOR BENDS 500NB DETAIL (F-V)					3-986-01-09921	01
				SHEET No.	No.OF SHEETS	
				3	3	

SUPERSEDES DRG. No.

SHT.24 SIZE A3 420 x 297



Detail-E



SH-T.24 SIZE A3 420 x 297

1. FOR CONSTRUCTION MATERIAL REFER TABLE-2

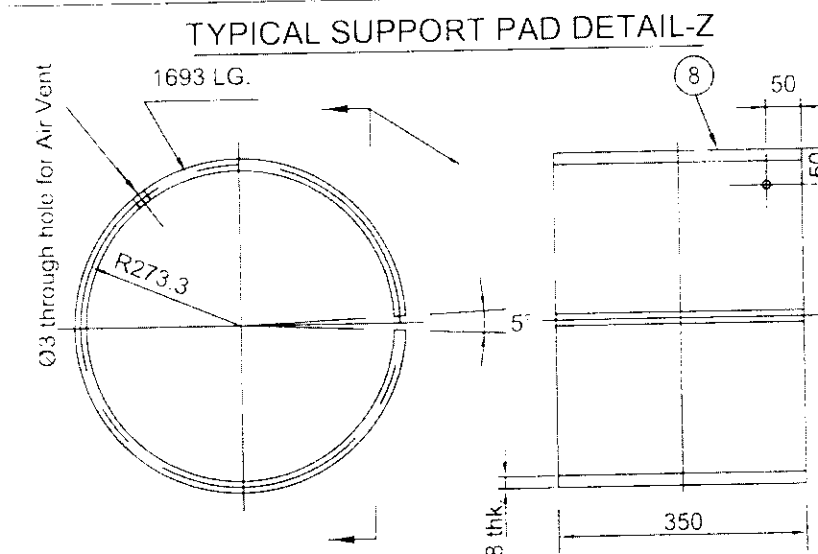
16. TOLERANCES ON SPOOL PIPE: AS PER API-5L STANDARD.

2400 9 100000

[illegible]

ALL DIMENSIONS ARE IN mm.

3-986-01-09941

[illegible]

THIS SUPPORT PAD FOR ASSY No.s-
B1-4, B2-4, B3-4, B4-4, B5-4,
B6-3, B7-3, B8-4, D1-5, D2-5,
D3-5, D4-5, D5-5, D6-5, D7-5,
D8-5, C1-6, C2-6, C3-6, C4-6
C5-6, C6-6, C7-6, C8-6.
TOTAL QTY: 24 no's

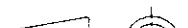
SUPPORT PAD LOCATION.
ORIENTATION, QUANTITY
REF DRG. 3-986-99-07790 &
3-986-99-07800.

3	CLCP-135	D2-3, D3-3	762	1778	1016	FL(SJ)	W	2	230.0
2	CLCP-135	F6-8, F7-8	762	1778	1016	FL(SJ)	W	2	230.0
1	CLCP-135	B1-4, B2-4, B3-4, B4-4, B5-4, B6-3, B7-3, B8-4, D1-5, D2-5, D3-5, D4-5, D5-5, D6-5, D7-5, D8-5, C1-6, C2-6, C3-6, C4-6, C5-6, C6-6, C7-6, C8-6	762	1778	1016	FL(SJ)	W	24	230.0
Var. No	DU No.	Assembly No	L1	L2	Y	End connection inlet side	End connection outlet side	Qty. Nos	Weight kg/Bend

TABLE - 1

NAME OF CUSTOMER/PROJECT	
--------------------------	--

BH&EL	BHARAT HEAVY ELECTRICALS LTD., ELECTROPORCELAINS DIVISION BANGALORE - 560 012	NAME	SIGN	DATE
		DRN Kalshik K	<i>K</i>	11/9/16
		CHD M.Vinod	<i>Vinod</i>	18/10/16
		APPD Felix J	<i>Felix</i>	18/10/16

DEPT	GRADE OF		SCALE	WEIGHT (kg)	REF TO ASSY.DRG	ITEM No.	No. OF ITEM
CODE	TOL DIM		NTS.	Refer Note -10 (Approx)	EL-DG- 3-986-01-09940 (500A-06)		
TITLE				CARD CODE	DRAWING No.	REV	
CASING FOR BENDS 500NB DETAIL (F-W)					3-986-01-09941	01	
					SHEET No. 1	No. OF SHEETS 3	

SUPERSEDES DRG. No.

SHT.24 SIZE A3 420 x 297

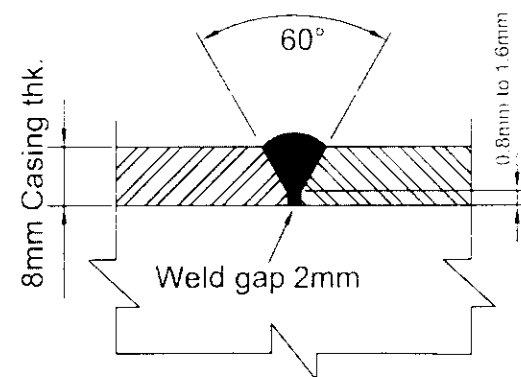
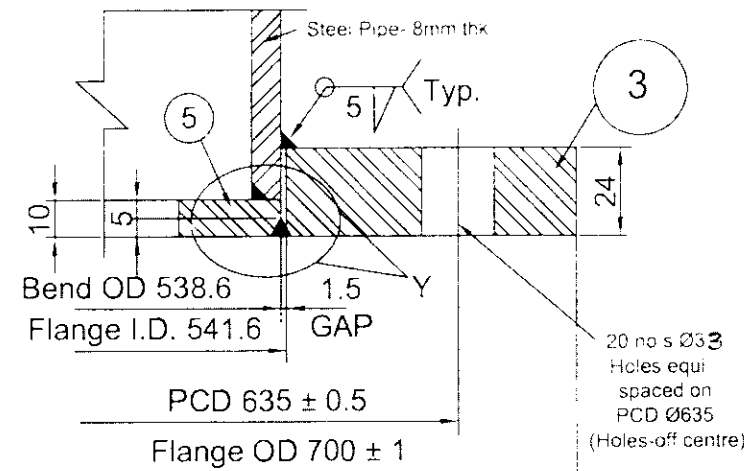
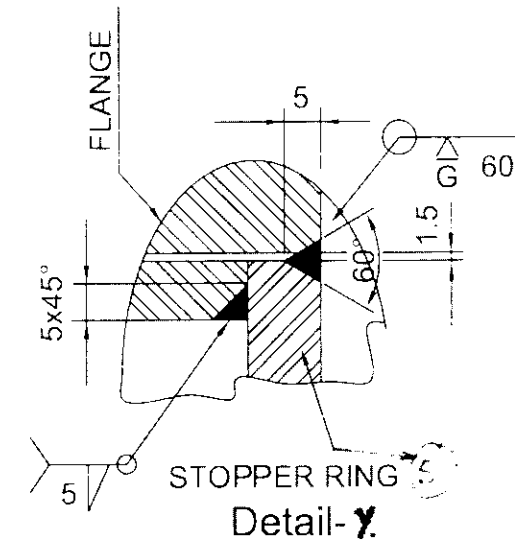
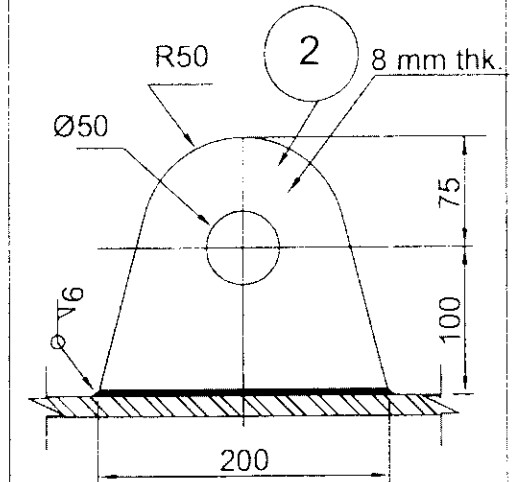
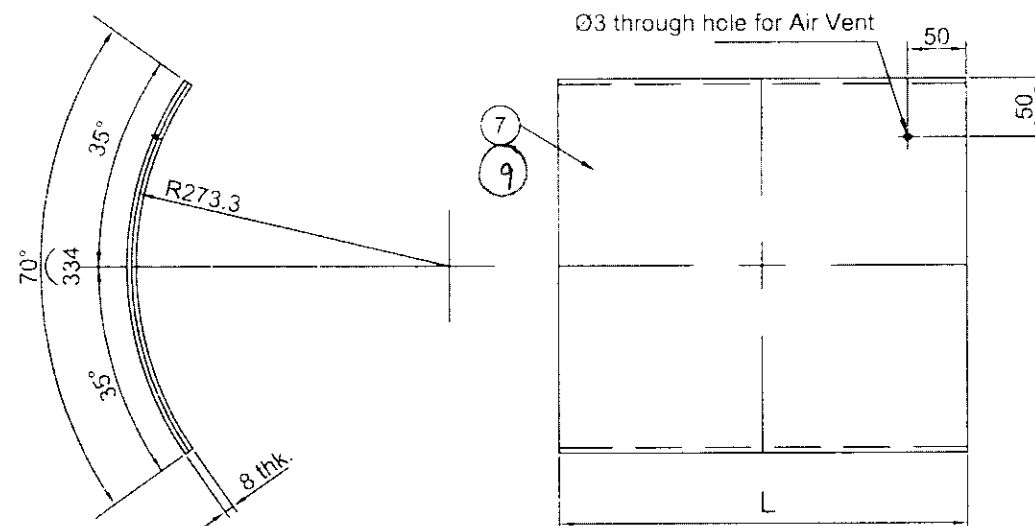
FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN mm.

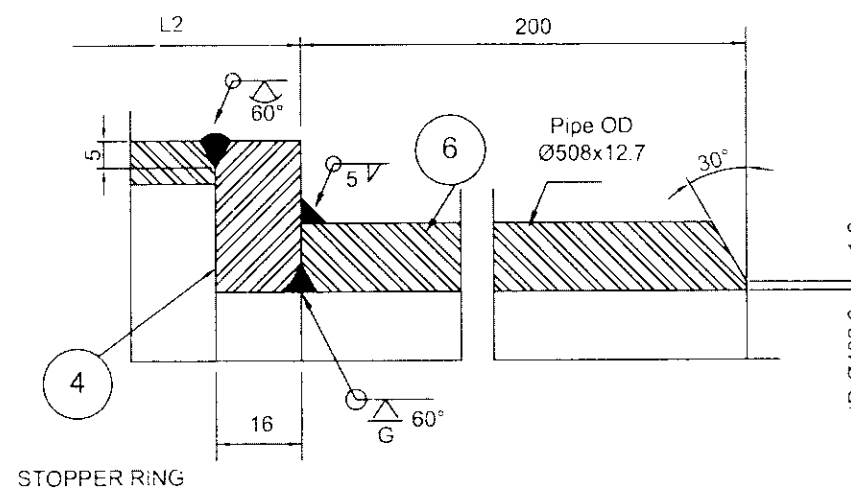
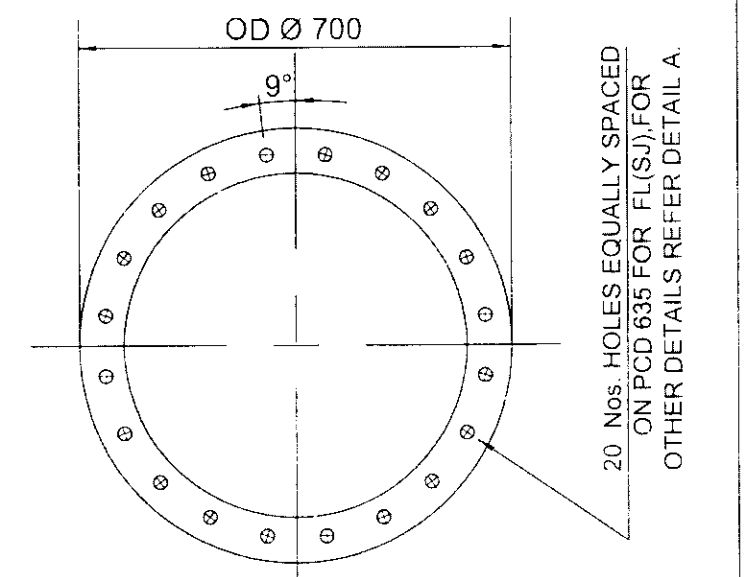
REV 01

3-986-01-09941

DRG No.

EDGE PREPARATION
WELDING DETAILDetail-A
FLANGE (SJ)Detail-Y
STOPPER RINGDETAIL OF
LIFTING LUGTYPICAL SUPPORT PAD DETAIL -Z1 - FOR ASSEMBLY
IN TABLE-3.

9	D2-3, D3-3	250	2
7	F6-8, F7-8	350	2
Sl.No.	Assembly No.	'L'	Total Qty
Table - 3			

Detail-D
Butt Weld End Detail

FLANGE HOLE ORIENTATION

FOR SUPPORT PAD LOCATION,
ORIENTATION, QUANTITY
REF DRG. 3-986-99-07790 &
3-986-99-07800.

NAME OF CUSTOMER/PROJECT



BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

DRN	NAME	SIGN	DATE
CHD	Kaushik K		11/9/16
APPD	M Vinod		18/10/16
	Felix J		18/10/16

DEPT	GRADE OF	SCALE	WEIGHT (kg)	REF TO ASSY.DRG	ITEM	No. OF
CODE	TOL DIM	N.T.S.	Refer Note -10	EL-DG- 3-986-01-09940	No.	ITEMS
	C/M/F		(Approx)	(500A-06)		
TITLE				CARD	DRAWING No.	REV.
CASING FOR BENDS 500NB				CODE	3-986-01-09941	01
DETAIL (F-W)					SHEET No. 2	No. OF SHEETS 3

SUPERSEDES DRG. No.

SHT 24 SIZE A3 420 x 297

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

SIGN AND DATE REF. DRG. No.

INVENTORY No.

REV	DATE	ALTERED	REV	DATE	ALTERED	REV	DATE	ALTERED
		CHECKED			CHECKED			CHECKED

REV 01

3-986-01-09941

DRG No.

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SIGN AND DATE

INVENTORY No.

REV	DATE	ALTERED	REV	DATE	ALTERED	REV	DATE	ALTERED
		CHECKED			CHECKED			CHECKED

NOTE:-

1. FOR CONSTRUCTION MATERIAL REFER TABLE-2
2. DURING ASSY. LONGITUDINAL WELDING BETWEEN SEGMENTS TO BE STAGGERED.
3. ALL SUPPLIES TO CONFORM CLN:QP:01/00. WELDING AS PER WP:CL001A & AWS:D 1.1.
4. DIMENSIONS INDICATED ARE FINISHED SIZE ONLY.
5. ASSEMBLY No., DU No., AND ARROW HEAD TO BE WELD DEPOSITED OVER CASING AS SHOWN, AS PER CE:1501:21
6. BASE PLATE FOR NAME PLATE TO BE WELDED ON TO CASING, AT LOCATION SHOWN FOR VAR:1-B1 To B8 (8 Nos), VAR:2 (2 Nos), VAR:3 (2 Nos). FOR VAR:1-D1 To D8 AND C1 To C8 - (16 Nos), LOCATE ON SEGMENT 6 - OUTER ARC.
FOR BASE PLATE & WELDING DETAILS REF DRG : 4 986 99 07720
7. FACE ANGLES TO BE MATCHED DURING ASSY.
8. ALL OVER MACHINING 6.3/ FOR STOPPER RINGS.
9. FL(SJ)-FLANGE FOR SLEEVE JOINT, W/BW- SPOOL PIPE.
10. TOTAL Wt. OF VARIANT 1 - 335.9 Kgs.
TOTAL Wt. OF VARIANT 2 - 306.0 Kgs.
TOTAL Wt. OF VARIANT 3 - 303.9 Kgs., FOR BREAK UP REFER TABLE 1 & 2.
11. WHERE "Y" IS GREATER THAN 1000, ONE CIRCUMFERENTIAL JOINT IS ALLOWED ON "Y", OUTSIDE SEGMENT TOWARDS OUTLET END.
THIS JOINT SHOULD NOT FOUL WITH LUG
12. SURFACE PREPARATION AND PAINTING: REF PAINTING SCHEME DOC. No. : PS- L&T - TANDA. BENDS.
13. OVERALL BEND TOLERANCE:-
 - a]. AXIAL SHIFT: ± 3 MM
 - b]. RADIAL SHIFT: ± 3 MM
 - c]. OUT OF SQUARENESS: ± 3 MM.
14. TOLERANCES ON SPOOL PIPE: AS PER API-5L STANDARD.
15. ALL PARTS HAVE TO BE 6MM FILLET WELDED, IF NOT SPECIFIED.
16. PROVIDE STIFFENERS TO ELIMINATE DISTORTION OF FLANGES, WHEN WELDING.
17. EACH BEND COMPRISES OF ONLY ONE TYPE OF SUPPORT PAD.

NAME OF CUSTOMER/PROJECT

BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

	NAME	SIGN	DATE
DRN	Kaushik K		11/9/16
CHD	M Vinod		18/10/16
APPD	Felix J		18/10/16

DEPT	GRADE OF TOL DIM	SCALE	WEIGHT (kg)	REF TO ASSY.DRG	ITEM No.	No. OF ITEMS
CODE	C/M/F	NTS	Refer Note -10 (Approx)	EL-DG- 3-986-01-09940 (500A-06)		
TITLE				CARD CODE	DRAWING No.	REV
CASING FOR BENDS 500NB DETAIL (F-W)					3-986-01-09941	01
					SHEET No. 3	No. OF SHEETS 3

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN mm.

00
REV

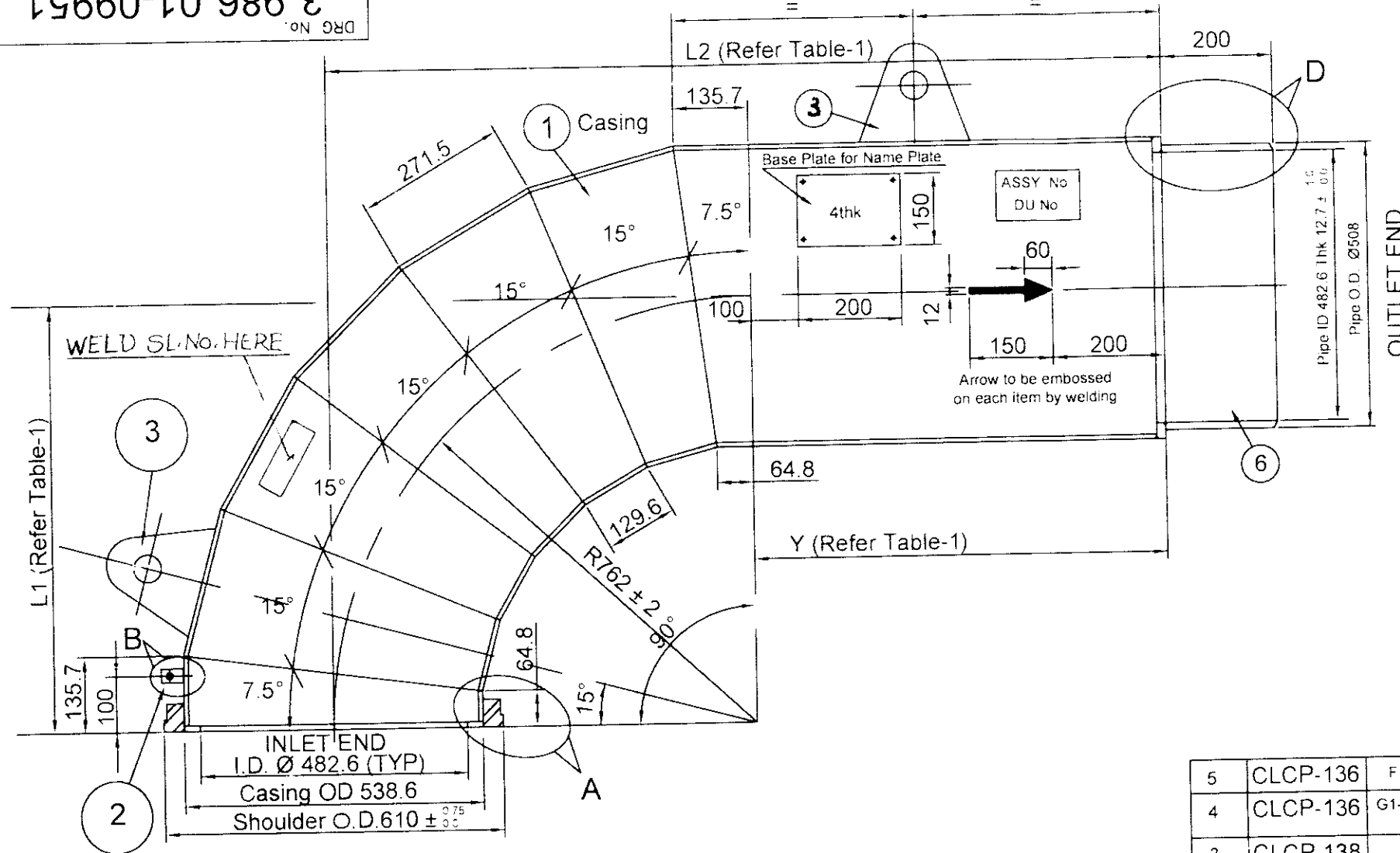
19660-10-986-3

DRG No.

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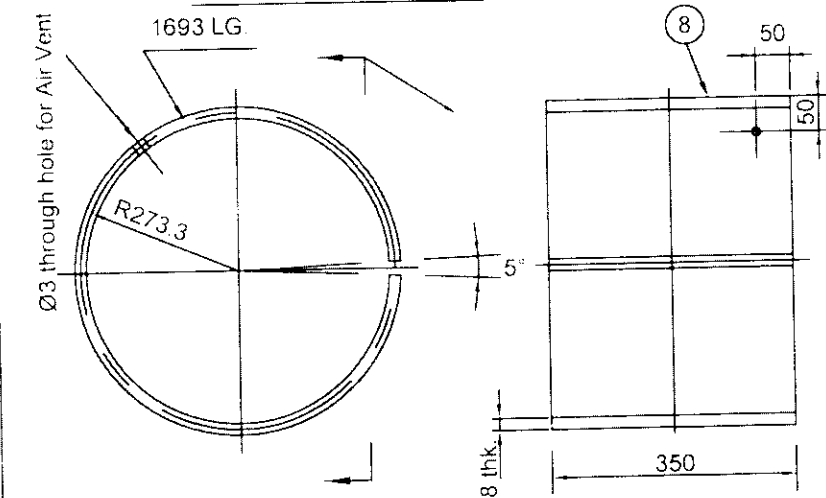
SIGN AND DATE
REF. DRG. No.

INVENTORY No.



OUTLET END

TYPICAL SUPPORT PAD DETAIL-Z



THIS SUPPORT PAD FOR ASSY No s:
G1-6, G2-6, G3-6, G4-6, G5-6, G6-6,
G7-6, G8-6, H1-5, H4-5, G1-2, G4-2
Total Qty: 12 No's

SUPPORT PAD LOCATION,
ORIENTATION, QUANTITY
REF DRG 3-986-99-07790 &
3-986-99-07800.

10	Support Pad	8 mm Thk	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.s	5.2	For Var.No. 1 - Detail Z1- L 250
9	Support Pad	8 mm Thk	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.s	7.3	For Var.No. 5 - Detail Z1- L 350
8	Support Pad	8 mm Thk	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.s	37.2	For Var.No. 2, 3 & 4 - Detail Z
7	Stopper Ring	16mm thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.s	5.6	
6	St Pipe Ø508x200Lg.	12.7 mm Thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.s	31.0	
5	Stopper Ring	10 mm Thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.s	3.5	
4	Shoulder	ID 540, OD 610	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.s	-	FREE Issue By BHEL To Vendor
3	Lifting Lug	8mm thk.	KILLED STEEL IS:2062 - 2011 E250 BR	2 No.s	1.3	
2	Earth Lug	3mm thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.s	0.02	
1	Casing	8mm thk	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.s	Refer Table-1	
SL No		Size	Material	Qty per Bend	Wt. / Piece (Kgs.)	Remarks

TABLE - 2

5	CLCP-136	F1-8, F2-9, F3-9, F4-8, F5-9, F8-9	762	1778	1016	V	W	6	230.0
4	CLCP-136	G1-6, G2-6, G3-6, G4-6, G5-6, G6-6, G7-6, G8-6	762	1778	1016	V	W	8	230.0
3	CLCP-138	G1-2, G4-2	762	2152	1390	V	W	2	269.0
2	CLCP-137	H1-5, H4-5	762	1968	1206	V	W	2	250.0
1	CLCP-136	A6-2, A7-2, D5-3, D8-3, E4-7, E1-7, E2-6, E3-6, E5-6, E6-6, E7-6, E8-6, F2-6, F3-6, F5-6, F6-6, F7-6, F8-6, G2-4, G3-4, G5-4, G6-4, G7-4, G8-4, H2-2, H3-2, H5-3, H6-3, H7-3, H8-3	762	1778	1016	V	W	30	230.0
Var. No.	DU No.	Assembly No.	L1	L2	Y	End connection inlet side	End connection outlet side	Qty. Nos.	Weight kg/Bend

TABLE - 1

NAME OF CUSTOMER/PROJECT



BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

NAME	SIGN	DATE
DRN Kaushik K		11-07-2016
CHD M.Vinod		17/09/16
APPD Felix J		30/09/16

DEPT	GRADE OF TOL DIM	SCALE	WEIGHT (kg)	REF TO ASSY.DRG	ITEM No.	No. OF ITEMS
CODE	C/M/F	N.T.S	Refer Note -10 (Approx)	EL-DG- 3-986-01-09950 (500A-07)		
TITLE				CARD CODE	REV.	
CASING FOR BENDS 500NB DETAIL (V-W)					3-986-01-09951 00	
				SHEET No. 1	No. OF SHEETS 3	

SUPERSEDES DRG. No.

SHT.24 SIZE A3 420 x 297

FIRST ANGLE PROJECTION

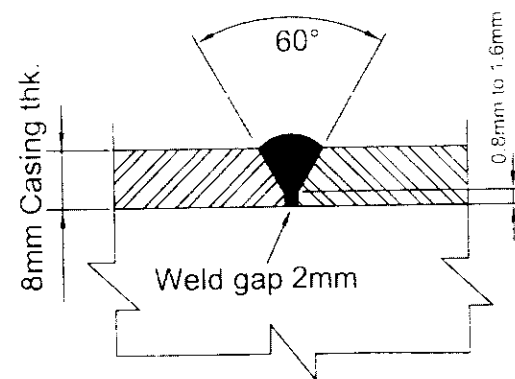
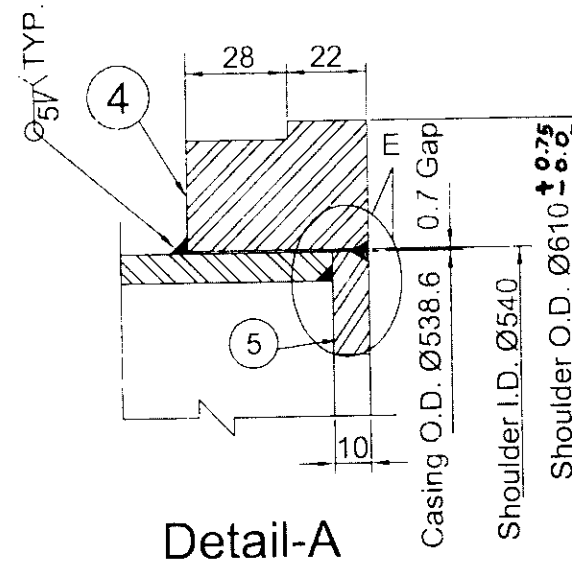
ALL DIMENSIONS ARE IN mm.

REV 00

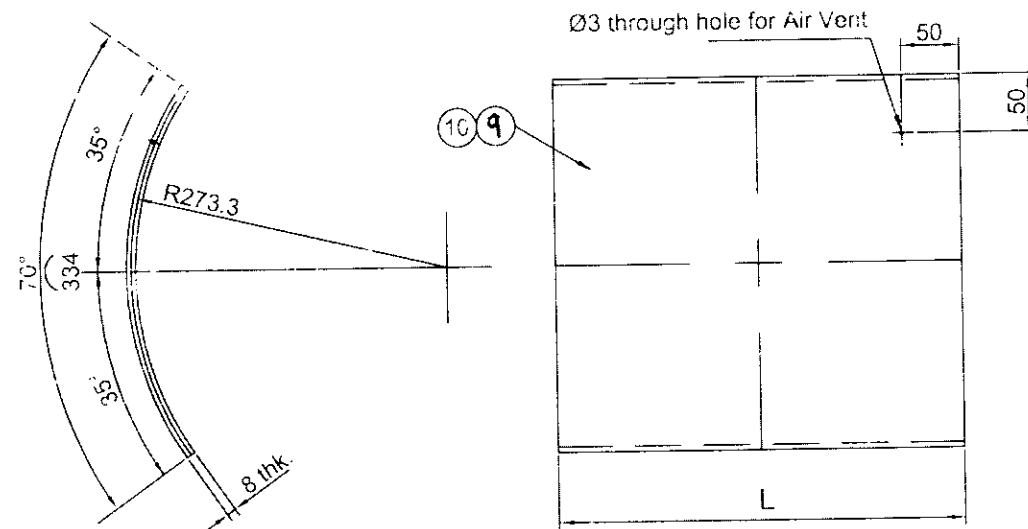
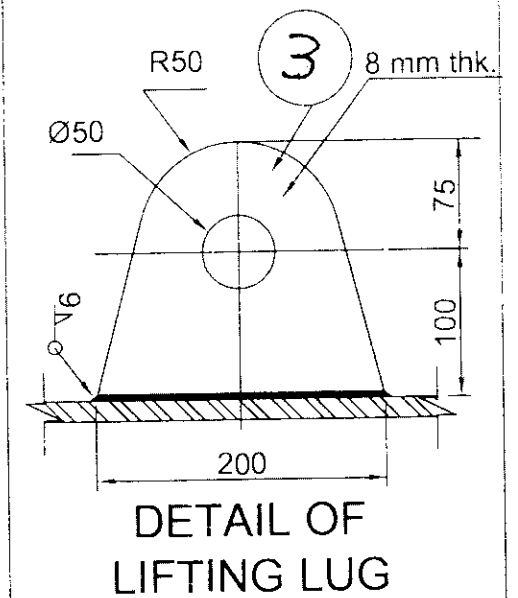
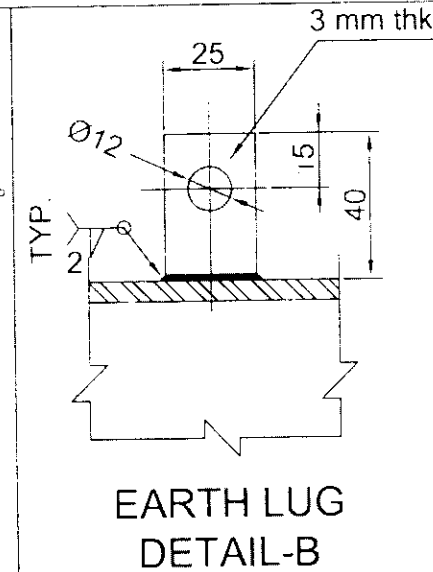
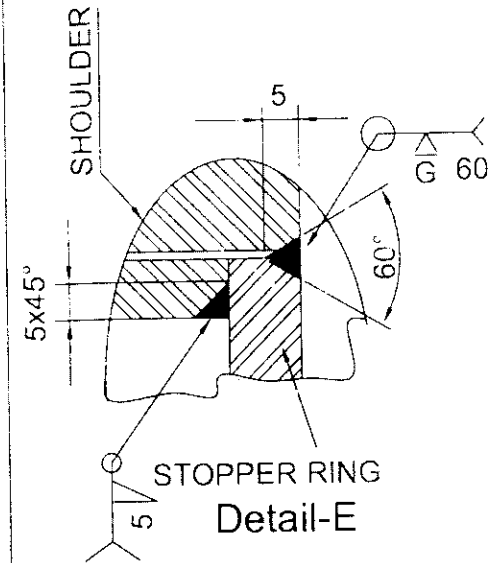
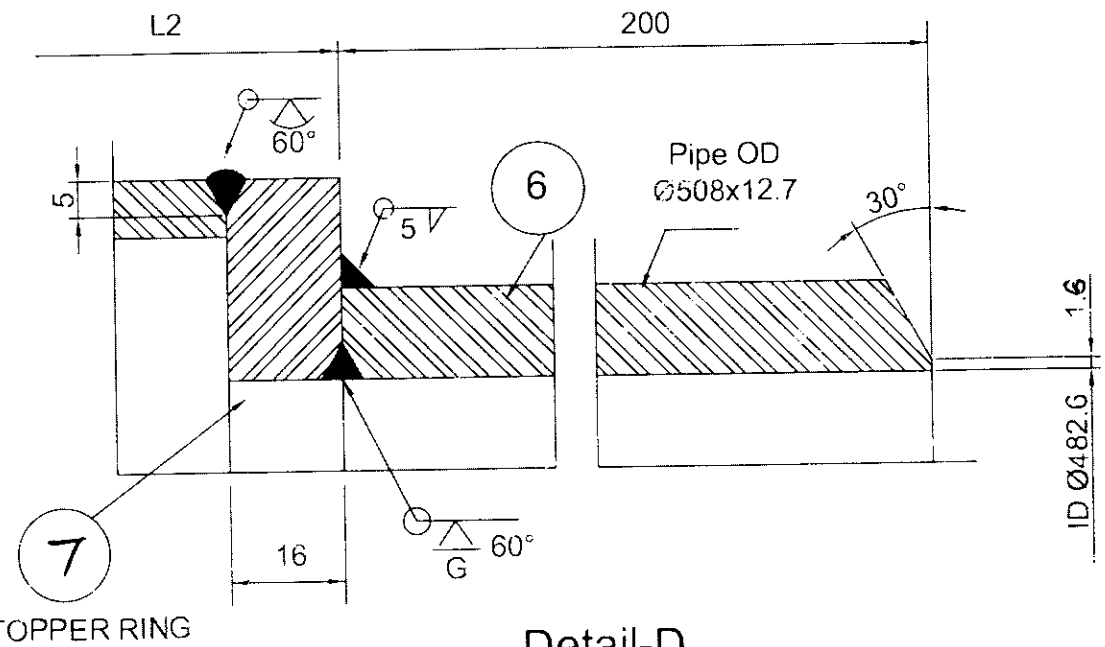
19660-10-986-3

DRG No.

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EDGE PREPARATION
WELDING DETAIL

Detail-A

TYPICAL SUPPORT PAD DETAIL - Z1 - FOR ASSLY Nos
IN TABLE - 3.FOR SUPPORT PAD LOCATION,
ORIENTATION, QUANTITY
REF DRG. 3-986-99-07790 &
3-986-99-07800.

STOPPER RING

Detail-D
Butt Weld End Detail

NAME OF CUSTOMER/PROJECT

BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

DRN	NAME	SIGN	DATE
CHD	Kaushik K		11-07-2016
APPD	M. Vinod		17/09/16
	Felix J		30-9-16

DEPT	GRADE OF TOL DIM	SCALE	WEIGHT (kg)	REF TO ASSY.DRG	ITEM No.	No. OF ITEMS
CODE	C/M/F	NTS	Refer NOTE 10 (Approx)	EL-DG- 3-986-01-09950 (500A-07)		
TITLE	CARD CODE	DRAWING No.	REV.			
CASING FOR BENDS 500NB DETAIL (V-W)		3-986-01-09951	00			
		SHEET No. 2	No. OF SHEETS 3			

SUPERSEDES DRG. No.

SHT.24 SIZE A3 420 x 297

REF. DRG. No.

SIGN AND DATE

INVENTORY No.

SL No.	Assembly No.	Total Qty (No's)	L (mm)
10	A6-2, A7-2, D5-3, D8-3, E4-7, E1-7, E2-6, E3-6, E5-6, E6-6, E7-6, E8-6, F2-6, F3-6, F5-6, F6-6, F7-6, F8-6, G2-4, G3-4, G5-4, G6-4, G7-4, G8-4, H2-2, H3-2, H5-3, H6-3, H7-3, H8-3	30	250
9	F1-8, F2-9, F3-9, F4-8, F5-9, F8-9	6	350

TABLE - 3

REV	DATE	ALTERED	REV	DATE	ALTERED	REV	DATE	ALTERED
		CHECKED			CHECKED			CHECKED

FIRST ANGLE PROJECTION

00
REV

19660-10-986-3

DRG No.

NOTE:-

1. FOR CONSTRUCTION MATERIAL REFER TABLE-2
2. DURING ASSY. LONGITUDINAL WELDING BETWEEN SEGMENTS TO BE STAGGERED.
3. ALL SUPPLIES TO CONFORM CLN:QP:01/00. WELDING AS PER WP:CL001A & AWS:D 1.1.
4. DIMENSIONS INDICATED ARE FINISHED SIZE ONLY.
5. ASSEMBLY No., DU No., AND ARROW HEAD TO BE WELD DEPOSITED OVER CASING AS SHOWN , AS PER CE:1501:21
6. BASE PLATE FOR NAME PLATE TO BE WELDED ON TO CASING, AT LOCATION SHOWN,
FOR BASE PLATE & WELDING DETAILS REF DRG : 4 986 99 07720
7. FACE ANGLES TO BE MATCHED DURING ASSY.
8. ALL OVER MACHINING 6.3/ FOR STOPPER RINGS.
9. V-SHOULDER FOR VICTAULIC COUPLING & W/BW- BUTT WELD SPOOL PIPE.
10. TOTAL Wt. OF VARIANT 1 - **277.92 Kgs.**
TOTAL Wt. OF VARIANT 2 - **329.92 Kgs.**
TOTAL Wt. OF VARIANT 3 - **348.92 Kgs.**
TOTAL Wt. OF VARIANT 4 - **309.92 Kgs.**
TOTAL Wt. OF VARIANT 5 - **280.02 Kgs.** FOR BREAK UP REFER TABLE 1 & 2.
11. WHERE "Y" IS GREATER THAN 1000, ONE CIRCUMFERENTIAL JOINT IS ALLOWED ON "Y", OUTSIDE SEGMENT TOWARDS OUTLET END.
THIS JOINT SHOULD NOT FOUL WITH LUG
12. SURFACE PREPARATION AND PAINTING: REF PAINTING SCHEME DOC. No. : PS- L&T - TANDA. BENDS.
13. OVERALL BEND TOLERANCE:-
a). AXIAL SHIFT: ± 3 MM
b). RADIAL SHIFT: ± 3 MM
c). OUT OF SQUARENESS: ± 3 MM.
14. CONTROL DURING WELDING OF SHOULDER TO CASING :-
a) OVALITY OF CASING ON OUTER DIAMETER TO BE MAINTAINED WITHIN 1.0 mm
b) WELDING OF SHOULDER TO CASING AS PER DETAIL-A, TO BE DONE IN SUCH A WAY AS TO ENSURE THAT DISTORTION OF COLLAR IS LIMITED SUCH THAT DIM. $\varnothing 610$ mm
IS STRICTLY WITHIN THE RANGE SPECIFIED IN SHEET 2 OF 3.
VENDCR TO DO THE NEEDFUL TO ACHIEVE 14(a) AND 14(b).
15. ALL PARTS HAVE TO BE 6mm FILLET WELDED, IF NOT SPECIFIED.
16. TOLERANCES ON SPOOL PIPE : AS PER API- 5L STANDARD.
17. EACH BEND COMPRISES OF ONLY ONE TYPE OF SUPPORT PAD.

NAME OF CUSTOMER/PROJECT



BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

	NAME	SIGN	DATE
DRN	Kaushik.K	<i>[Signature]</i>	11-07-2016
CHD	M Vinod	<i>[Signature]</i>	17/09/16
APPD	Felix.J	<i>[Signature]</i>	30/9/16

DEPT	GRADE OF TOL DIM	SCALE	WEIGHT (kg)	REF TO ASSY.DRG	ITEM No.	No.OF ITEMS
CODE	C/M/F	NTS	Refer Note -10 (Approx)	EL-DG- 3-986-01-09950 (500A-07)		
TITLE				CARD CODE	DRAWING No.	REV.
CASING FOR BENDS 500NB DETAIL (V-W)					3-986-01-09951	00
					SHEET No. 3	No.OF SHEETS 3

SUPERSEDES DRG. No.

SHT 24 SIZE A3 420 x 297

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SIGN AND DATE

REF. DRG. No.

INVENTORY No.

REV	DATE	ALTERED	REV	DATE	ALTERED	REV	DATE	ALTERED
		CHECKED			CHECKED			CHECKED

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN mm.

REV

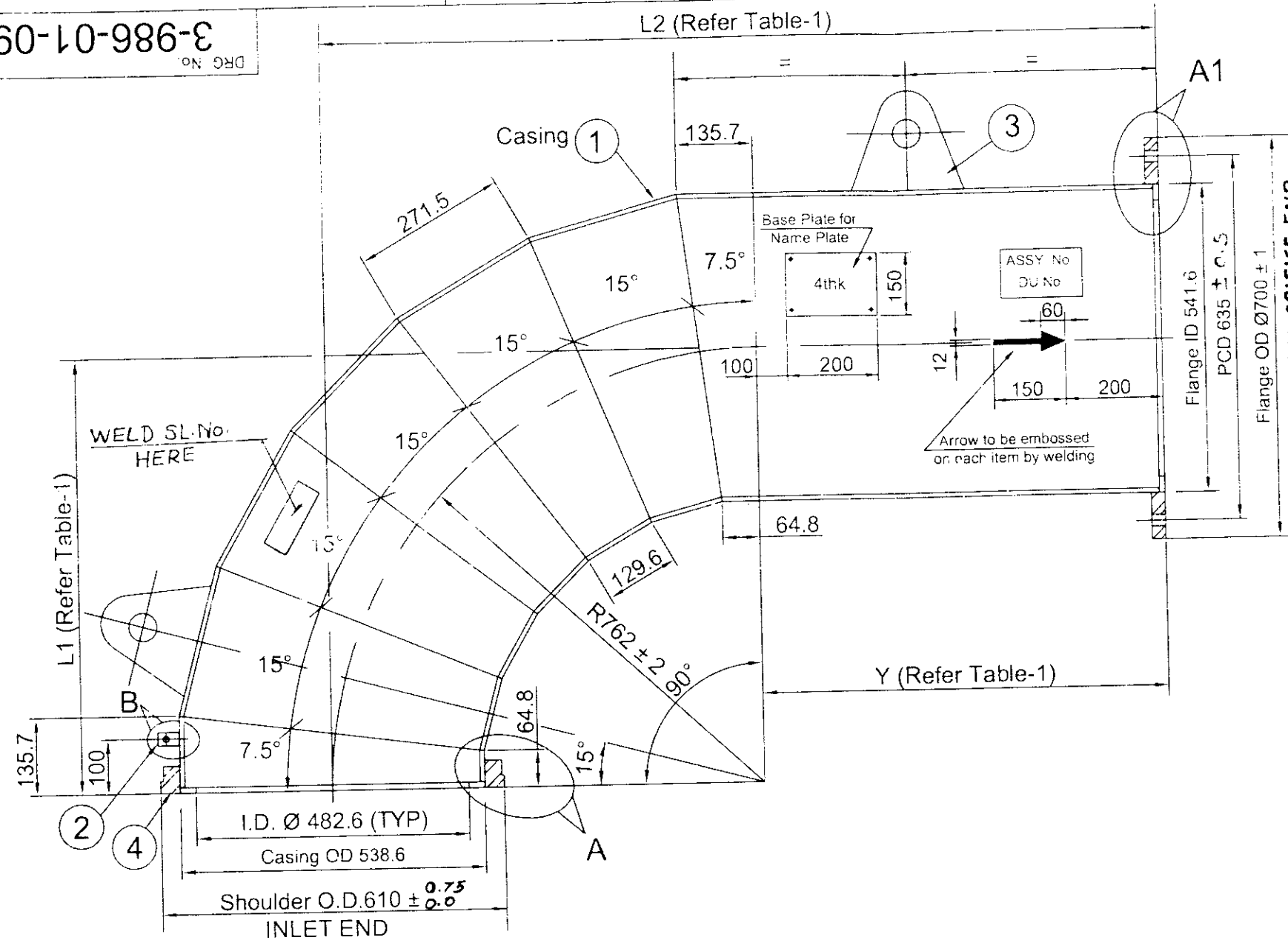
19660-10-986-3

DRG No.

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SIGN AND DATE REF. DRG. No.

INVENTORY No.



OUTLET END

FOR SUPPORT PAD LOCATION, ORIENTATION, QUANTITY REF DRG. 3-986-99-07790 & 3-986-99-07800.

7	Support Pad	8 mm Thk.	KILLED STEEL IS 2062 - 2011 E250 BR	1 No.s	37.2	
6	Flange-FL(VO)	24 mm Thk	KILLED STEEL IS 2062 - 2011 E250 BR	1 No.s	26.0	
5	Stopper Ring	10 mm Thk	KILLED STEEL IS 2062 - 2011 E250 BR	2 No.s	3.5	
4	Shoulder	ID:540, OD:610	KILLED STEEL IS 2062 - 2011 E250 BR	1 No.s	-	FREE Issue By BHEL To Vendor
3	Lifting Lug	8mm thk.	KILLED STEEL IS 2062 - 2011 E250 BR	2 No.s	1.3	
2	Earth Lug	3mm thk	KILLED STEEL IS 2062 - 2011 E250 BR	1 No.s	0.02	
1	Casing	8mm thk.	KILLED STEEL IS 2062 - 2011 E250 BR	1 No.s	Refer Table-1	
SL No	Description	Size	Material	Qty. per Bend	Wt. / Piece (Kgs.)	Remarks

TABLE-2

2	CLCP-140	H2-4, H3-4, H5-5, H6-5, H7-5, H8-5	762	1978	1216	V	FL(VO)	6	251.4
1	CLCP-139	G2-2, G3-2, G5-2, G6-2, G7-2, G8-2	762	2162	1400	V	FL(VO)	6	270.7
Var. No.	DU No	Assembly No	L1	L2	Y	End connection inlet side	End connection outlet side	Qty Nos	Approx Weight kg/Bend

TABLE-1

NAME OF CUSTOMER/PROJECT

BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

NAME	SIGN	DATE
DRN Kaushik K		11-07-2016
CHD M.Vinod		19/09/16
APPD Felix J		30.9.16

DEPT	GRADE OF TCL DIM C/M/F	SCALE N.T.S	WEIGHT (kg) Refer NOTE 10 (Approx)	REF TO ASSY.DRG EL-DG-3-986-01-09960 (550A-8)	ITEM No.	No. OF ITEMS
CODE	TITLE CASING FOR BENDS 500NB DETAIL (V-F)	CARD CODE	DRAWING No. 3-986-01-09961	REV. 01	SHEET No. 1	No. OF SHEETS 3

SUPERSEDES DRG. No.

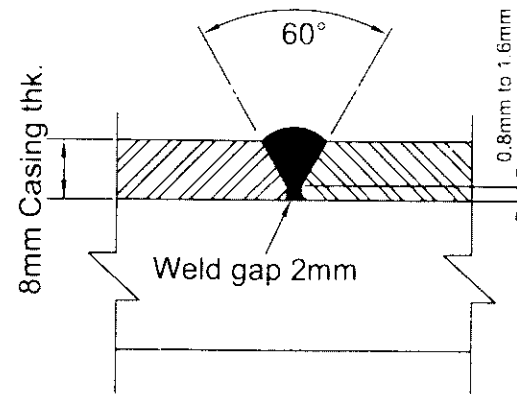
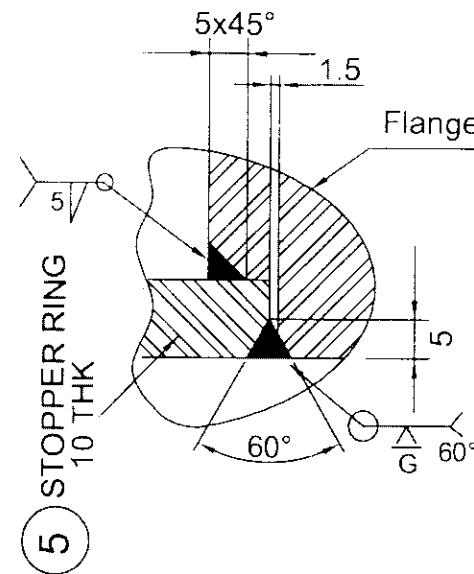
SHT 24 SIZE A3 420 x 297

FIRST ANGLE PROJECTION

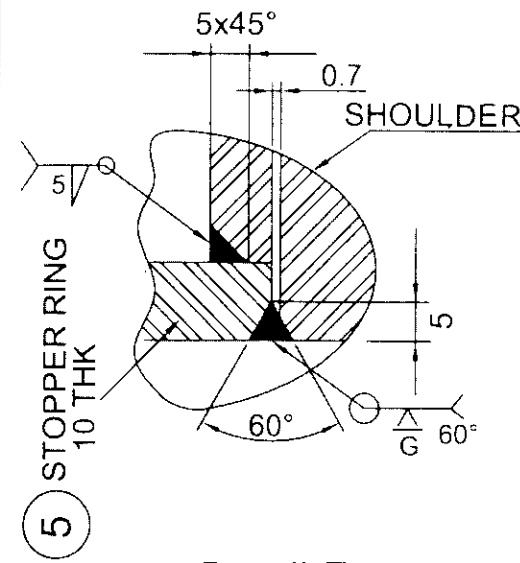
ALL DIMENSIONS ARE IN mm.

10
REV19660-10-986-3
DRG No.

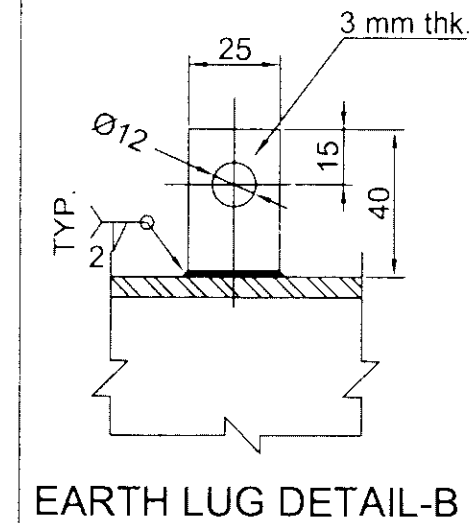
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EDGE PREPARATION
WELDING DETAIL

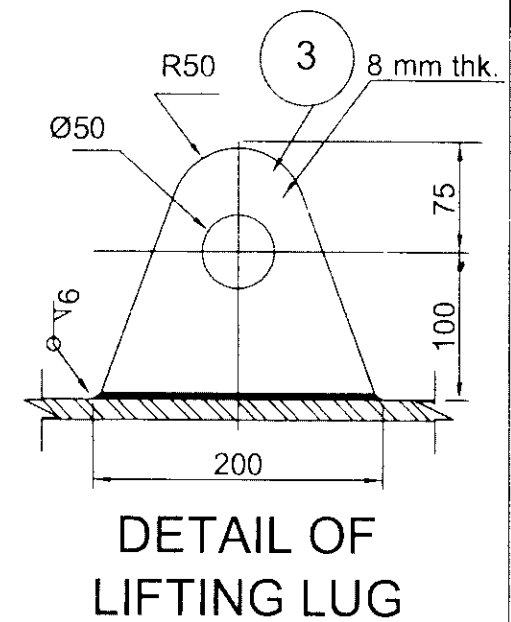
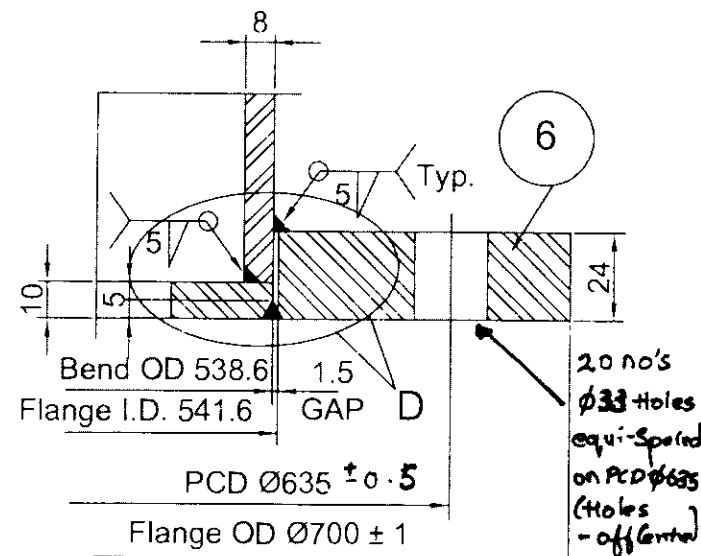
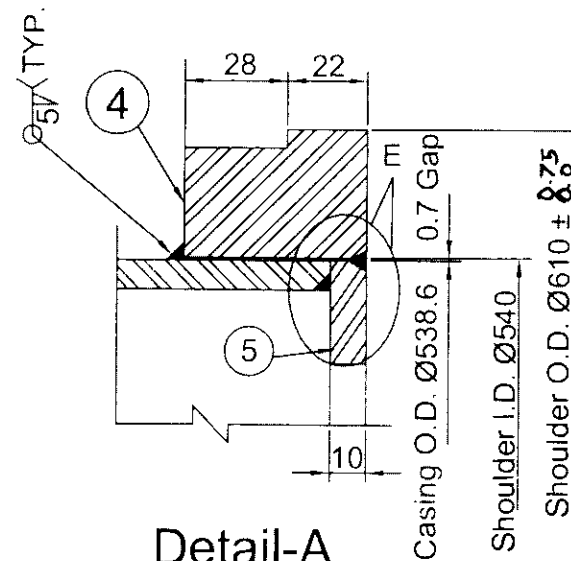
Detail-D



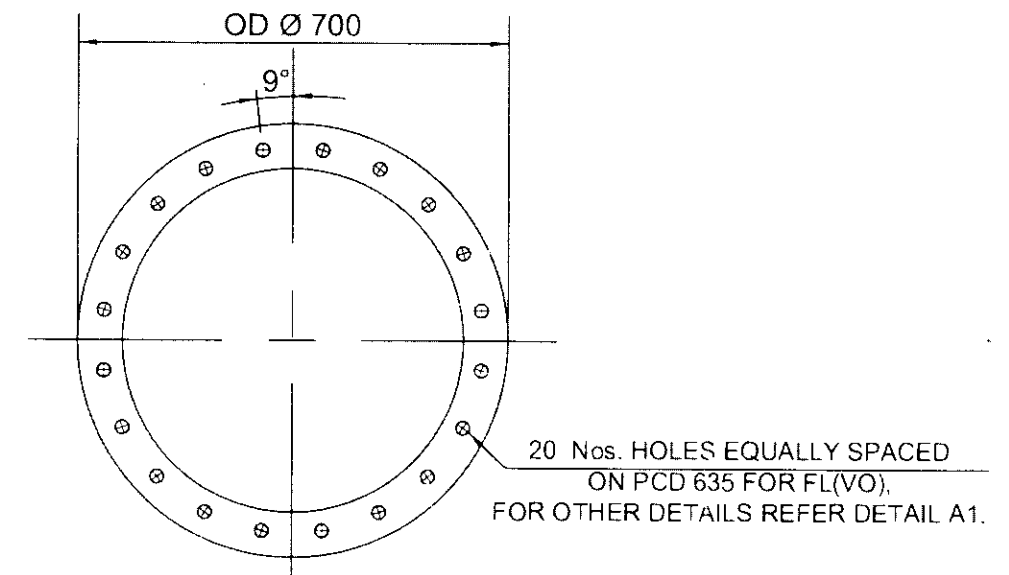
Detail-E



EARTH LUG DETAIL-B

DETAIL OF
LIFTING LUGDetail-A1
FLANGE (VO)

Detail-A



FLANGE HOLE ORIENTATION

NAME OF CUSTOMER/PROJECT

BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

NAME	SIGN	DATE
DRN Kaushik.K	<i>[Signature]</i>	11-07-2016
CHD M.Vinod	<i>[Signature]</i>	19/02/16
APPD Felix J	<i>[Signature]</i>	30.9.16

DEPT	GRADE OF TOL DIM	SCALE	WEIGHT (kg)	REF TO ASSY.DRG	ITEM No.	No.OF ITEMS
CODE	C/M/F	N.T.S.	Refer NOTE 10 (Approx)	EL-DG-3-986-01-09960 (550A-8)		
TITLE				CARD CODE	REV.	
CASING FOR BENDS 500NB DETAIL (V-F)					01	
				SHEET No. 2	No.OF SHEETS 3	

DRAWING No.
3-986-01-09961

01

SHEET No. 2 No.OF SHEETS 3

REV	DATE	ALTERED	REV	DATE	ALTERED	REV	DATE	ALTERED
01	08-3-17	CHECKED						
IN SHIT 2 OF 3 - DETAIL A1, HOLE DIA 33 WAS 32 mm. REF: RR 2388.								

10
REV
19660-10-986-3
DRG No.

NOTE:-

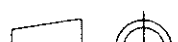
1. FOR CONSTRUCTION MATERIAL REFER TABLE-2
2. DURING ASSY. LONGITUDINAL WELDING BETWEEN SEGMENTS TO BE STAGGERED.
3. ALL SUPPLIES TO CONFORM CLN:QP:01/00. WELDING AS PER WP:CL001A & AWS:D 1.1.
4. DIMENSIONS INDICATED ARE FINISHED SIZE ONLY.
5. ASSEMBLY No., DU No., AND ARROW HEAD TO BE WELD DEPOSITED OVER CASING AS SHOWN , AS PER CE:1501:21
6. BASE PLATE FOR NAME PLATE TO BE WELDED ON TO CASING, AT LOCATION SHOWN,
FOR BASE PLATE & WELDING DETAILS REF DRG : 4 986 99 07720
7. FACE ANGLES TO BE MATCHED DURING ASSY.
8. ALL OVER MACHINING 6.3/ FOR STOPPER RINGS.
9. V- VICTAULIC COUPLING SHOULDER, FL(VO) - VARIABLE ORIFICE FLANGE.
10. FOR CASING Wt. REFER TABLE -1
FOR Wt. OF LIFTING LUG, STOPPER RINGS (~~DET-D&E~~), EARTH LUG, SUPPORT PAD AND FLANGE, REFER TABLE - 2
11. WHERE "Y" IS GREATER THAN 1000, ONE CIRCUMFERENTIAL JOINT IS ALLOWED ON "Y", OUTSIDE SEGMENT TOWARDS OUTLET END.
THIS JOINT SHOULD NOT FOUL WITH LUG
12. SURFACE PREPARATION AND PAINTING: REF PAINTING SCHEME DOC. No. : PS- L&T - TANDA. BENDS.
13. OVERALL BEND TOLERANCE:-
a). AXIAL SHIFT: ± 3 MM
b). RADIAL SHIFT: ± 3 MM
c). OUT OF SQUARENESS: ± 3 MM.
14. CONTROL DURING WELDING OF SHOULDER TO CASING :-
a) OVALITY OF CASING ON OUTER DIAMETER TO BE MAINTAINED WITHIN 1.0 mm
b) WELDING OF SHOULDER TO CASING AS PER DETAIL-A, TO BE DONE IN SUCH A WAY AS TO ENSURE THAT DISTORTION OF COLLAR IS LIMITED SUCH THAT DIM. $\varnothing 610$ mm;
IS STRICTLY WITHIN THE RANGE SPECIFIED IN SHEET 2 OF 3.
VENDOR TO DO THE NEEDFUL TO ACHIEVE 14(a) AND 14(b).
15. ALL PARTS HAVE TO BE 6mm FILLET WELDED, IF NOT SPECIFIED.

NAME OF CUSTOMER/PROJECT



BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

	NAME	SIGN	DATE
DRN	Kaushik K		11-07-2016
CHD	M.Vinod		19/09/16
APPD	Felix.J		30.9.16.

DEPT	GRADE OF TOL DIM		SCALE	WEIGHT (kg)	REF TO ASSY.DRG	ITEM No.	No.OF ITEMS
CODE	C/M/F		N.T.S.	Refer NOTE 10 (Approx)	EL-DG-3-986-01-09960 (550A-8)		
TITLE CASING FOR BENDS 500NB DETAIL (V-F)				CARD CODE	DRAWING No.		REV.
					3-986-01-09961		01.
					SHEET No. 3	No.OF SHEETS	3

SUPERSEDES DRG. No.

SHT.24 SIZE A3 420 x 297

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SIGN AND DATE

INVENTORY No.

REV	DATE	ALTERED	REV	DATE	ALTERED	REV	DATE	ALTERED
		CHECKED			CHECKED			CHECKED

70

12660-10-986-3

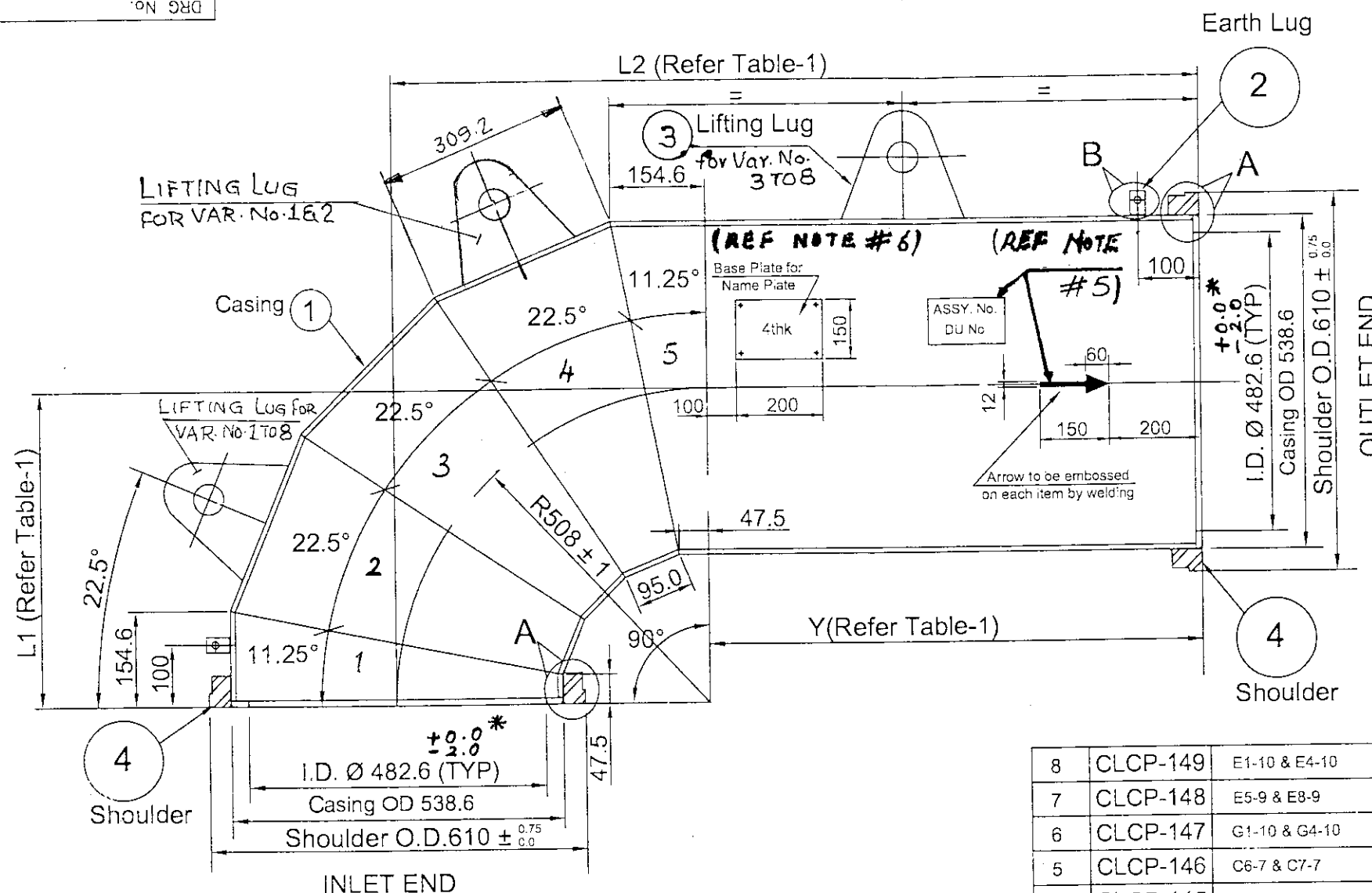
DRG No.

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REF. DRG. No.

SIGN AND DATE

INVENTORY No.



* STOPPER RING ID 482.6 PREFERABLY TO BE MAINTAINED ON MINUS SIDE WITHIN TOLERANCE.

5	Stopper Ring	10 mm Thk.	KILLED STEEL IS:2062 - 2011 E250 BR	2 No.s	3.5	
4	Shoulder	ID:540, OD:610	KILLED STEEL IS:2062 - 2011 E250 BR	2 No.s	-	FREE Issue By BHEL To Vendor
3	Lifting Lug	8mm thk.	KILLED STEEL IS:2062 - 2011 E250 BR	2 No.s	1.3	
2	Earth Lug	3mm thk.	KILLED STEEL IS:2062 - 2011 E250 BR	2 No.s	0.02	
1	Casing	8mm thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.s	Refer Table-1	
Sl. No.	Description	Size	Material	Qty. per Bend	Wt. / Piece (Kgs.)	Remarks

TABLE - 2

8	CLCP-149	E1-10 & E4-10	508	1081.8	573.8	V	V	2	142.5
7	CLCP-148	E5-9 & E8-9	508	799.1	291.1	V	V	2	112.9
6	CLCP-147	G1-10 & G4-10	508	783.7	275.7	V	V	2	111.3
5	CLCP-146	C6-7 & C7-7	508	658.1	150.1	V	V	2	98.1
4	CLCP-145	A2-6 & A3-6	508	644.2	136.2	V	V	2	96.7
3	CLCP-144	C2-7 & C3-7	508	643.9	135.9	V	V	2	96.7
2	CLCP-143	E6-9 & E7-9	508	595	87	V	V	2	91.5
1	CLCP-142	C1-7, C4-7, C5-7, C8-7, E2-9, E3-9	508	542	34	V	V	6	86.0
Var.No.	DU No.	Assembly No.	L1	L2	Y	End connection inlet side	End connection outlet side	Qty. No's	Weight kg/Bend

TABLE - 1

NAME OF CUSTOMER/PROJECT



BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

DRN	NAME	SIGN	DATE
CHD	Kaushik.K		11-09-2016
APPD	M Vinod		04/11/16
	Felix J		04/11/16

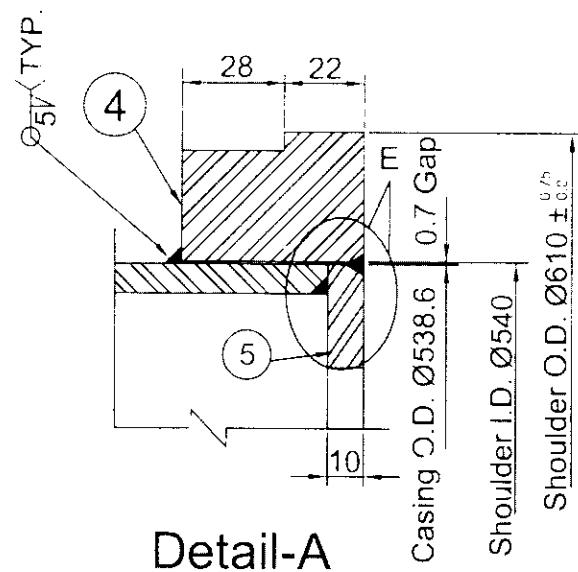
DEPT	GRADE OF TOL DIM	SCALE	WEIGHT (kg)	REF TO ASSY.DRG	ITEM No.	No. OF ITEMS
CODE	C/M/F	N.T.S	Refer Note-10 (Approx)	EL-DG-3-986-01-09970 (550A-9)		
TITLE			CARD CODE	DRAWING No.		REV.
CAISING FOR BENDS 500NB DETAIL (V-V)				3-986-01-09971		02
				SHEET No. 1	No. OF SHEETS 3	

SUPERSEDES DRG. No.

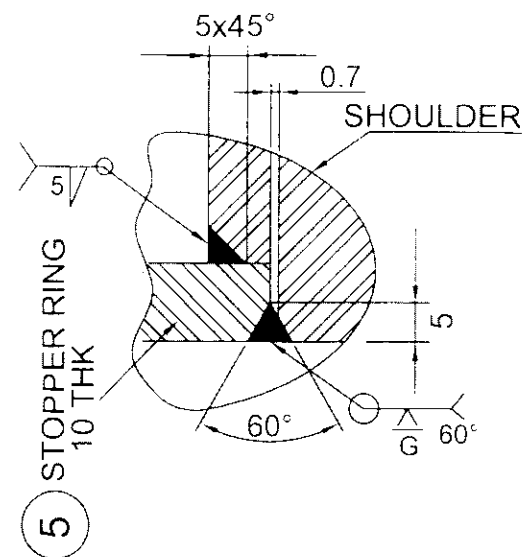
SHT.24 SIZE A3 420 x 297

FIRST ANGLE PROJECTION

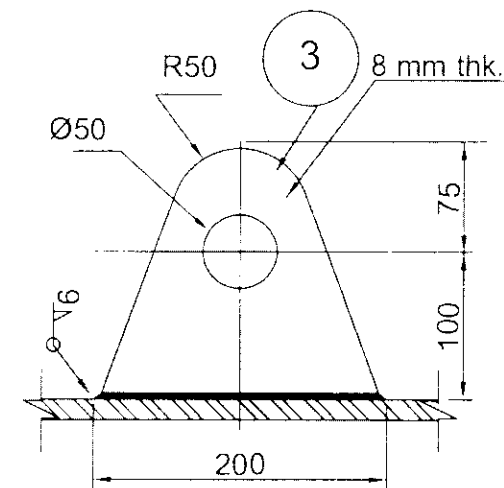
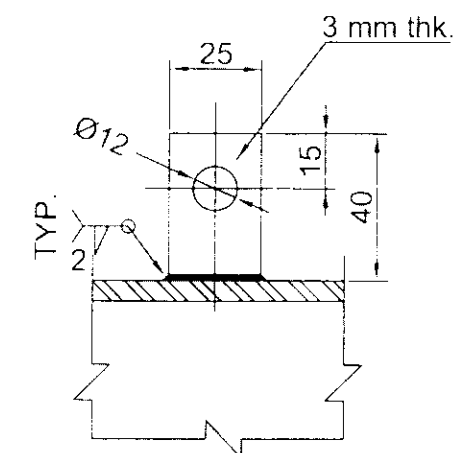
ALL DIMENSIONS ARE IN mm.

REV 02 12660-10-986-3
DRG No.

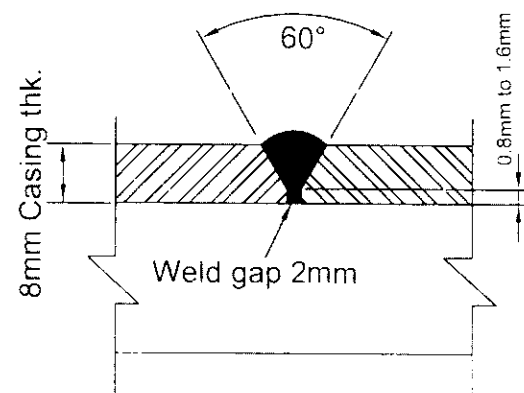
Detail-A



Detail-E

DETAIL OF
LIFTING LUG

EARTH LUG DETAIL-B

EDGE PREPARATION
WELDING DETAIL

NAME OF CUSTOMER/PROJECT

BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

NAME	SIGN	DATE
DRN Kaushik K		11-09-2016
CHD M Vinod		04.10.16
APPD Felix J		04.10.16

DEPT	GRADE OF TOL DIM	SCALE	WEIGHT (kg)	REF TO ASSY.DRG	ITEM No.	No. OF ITEMS
CODE	C/M/F	NTS	Refer Note-10 (Approx)	EL-DG-3-986-01-09970 (550A-9)		
TITLE				CARD CODE	DRAWING No.	REV.
CASING FOR BENDS 500NB DETAIL (V-V)					3-986-01-09971	02
SHEET No. 2				No. OF SHEETS 3		

SUPERSEDES DRG. No.

SHT.24 SIZE A3 420 x 297

20
REV
17660-10-986-C
DRG No.

NOTE:-

1. FOR CONSTRUCTION MATERIAL REFER TABLE-2
2. DURING ASSY. LONGITUDINAL WELDING BETWEEN SEGMENTS TO BE STAGGERED.
3. ALL SUPPLIES TO CONFORM CLN:QP:01/00. WELDING AS PER WP:CL001A & AWS:D 1.1.
4. DIMENSIONS INDICATED ARE FINISHED SIZE ONLY.
5. ASSEMBLY No., DU No., AND ARROW HEAD TO BE WELD DEPOSITED ON SEGMENT #3 OVER CASING FOR VAR-01 TO VAR-07 AND AT LOCATION SHOWN FOR VAR-08, AS PER CE:1501:21
6. BASE PLATE FOR NAME PLATE TO BE WELDED ON SEGMENT #4 OVER CASING, FOR VAR-01 TO VAR-07 AND AT LOCATION SHOWN FOR VAR-08.
FOR BASE PLATE & WELDING DETAILS REF DRG : 4 986 99 07720
7. FACE ANGLES TO BE MATCHED DURING ASSY.
8. ALL OVER MACHINING 6.3/ FOR STOPPER RINGS.
9. V- VICTAULIC COUPLING SHOULDER.
10. FOR CASING Wt. REFER TABLE -1
FOR Wt. OF LIFTING LUG, STOPPER RINGS, **AND** EARTH LUG, REFER TABLE - 2.
11. WHERE "Y" IS GREATER THAN 1000, ONE CIRCUMFERENTIAL JOINT IS ALLOWED ON "Y", OUTSIDE SEGMENT TOWARDS OUTLET END.
THIS JOINT SHOULD NOT FOUL WITH LUG
12. SURFACE PREPARATION AND PAINTING: REF PAINTING SCHEME DOC. No. : PS- L&T - TANDA. BENDS.
13. OVERALL BEND TOLERANCE:-
 - a). AXIAL SHIFT: ± 3 MM
 - b). RADIAL SHIFT: ± 3 MM
 - c). OUT OF SQUARENESS: ± 3 MM.
14. CONTROL DURING WELDING OF SHOULDER TO CASING :-
 - a) OVALITY OF CASING ON OUTER DIAMETER TO BE MAINTAINED WITHIN 1.0 mm
 - b) WELDING OF SHOULDER TO CASING AS PER DETAIL-A, TO BE DONE IN SUCH A WAY AS TO ENSURE THAT DISTORTION OF COLLAR IS LIMITED SUCH THAT DIM. $\varnothing 610$ mm IS STRICTLY WITHIN THE RANGE SPECIFIED IN SHEET 2 OF 3.
VENDOR TO DO THE NEEDFUL TO ACHIEVE 14(a) AND 14(b).
15. ALL PARTS TO BE 6mm FILLET WELDED, IF NOT SPECIFIED.
16. FOR VAR: 3, 4 & 5, AT OUTLET END, LOCATE EARTH LUG AT 100 mm FROM COLLAR END AS SHOWN. BUT MOVE CIRCUMFERENTIALLY FORWARD BY 25mm, TOWARD ARROW HEAD.

CONTROL

SIGN AND DATE
REF. DRG. No.

SIGN AND DATE

INVENTORY No.

REV	DATE	ALTERED	REV	DATE	ALTERED	REV	DATE	ALTERED
		CHECKED			CHECKED			CHECKED

DEPT	GRADE OF TOL DIM C/M/F		SCALE	WEIGHT (kg) Refer Note-10 (Approx)	REF TO ASSY.DRG EL-DG-3-986-01-09970 (550A-9)	ITEM No.	No. OF ITEMS
CODE			N.T.S.				
TITLE				CARD CODE	DRAWING No.		REV.
CASING FOR BENDS 500NB DETAIL (V-V)					3-986-01-09971		02
					SHEET No. 3		No. OF SHEETS 3

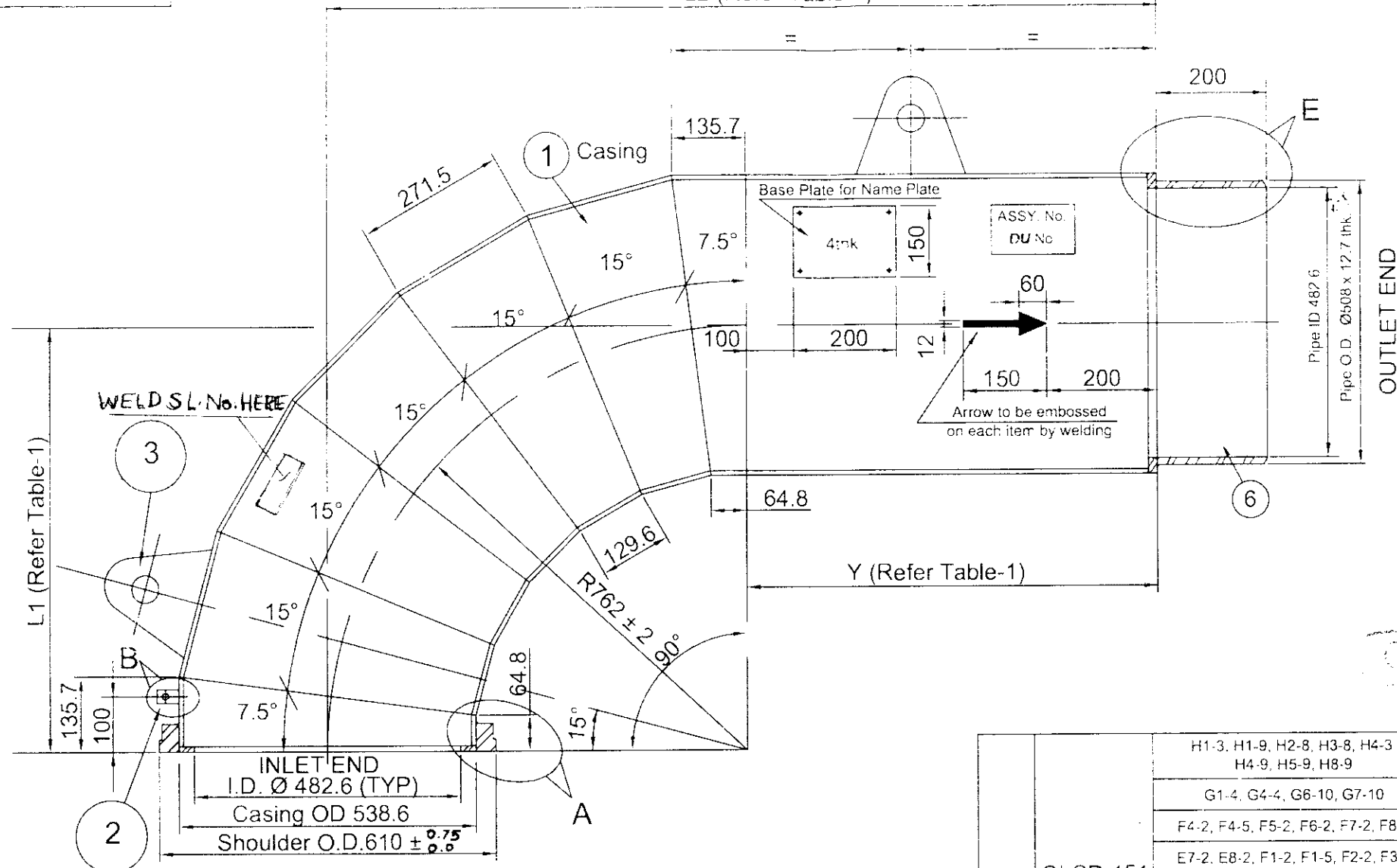
NAME OF CUSTOMER/PROJECT			
	BHARAT HEAVY ELECTRICALS LTD., ELECTROPORCELAINS DIVISION BANGALORE - 560 012		
DRN	NAME	SIGN	DATE
CHD	Kaushik K		11-09-2016
APPD	M.Vinod		04/11/16
APPD Felix.J			

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18660-10-986-E

DRG No.

L2 (Refer Table-1)



7	Stopper Ring- St pipe end	16 mm Thk.	KILLED STEEL IS 2062 - 2011 E250 BR	1 No.s	5.6	
6	St. Pipe Ø508x200lg	12.7 mm Thk	KILLED STEEL IS 2062 - 2011 E250 BR	1 No.s	31.0	
5	Stopper Ring	10 mm Thk.	KILLED STEEL IS 2062 - 2011 E250 BR	1 No.s	3.5	
4	Shoulder	ID 540, OD 610	KILLED STEEL IS 2062 - 2011 E250 BR	1 No.s	-	FREE Issue By BHEL To Vendor
3	Lifting Lug	8mm thk	KILLED STEEL IS 2062 - 2011 E250 BR	2 No.s	1.3	
2	Earth Lug	3mm thk	KILLED STEEL IS 2062 - 2011 E250 BR	1 No.s	0.02	
1	Casing	8mm thk	KILLED STEEL IS 2062 - 2011 E250 BR	1 No.s	Refer Table-1	
Sl No	Description	Size	Material	Qty per Bend	Wt / Piece (Kgs.)	Remarks

TABLE - 2

1	CLCP-151	H1-3, H1-9, H2-8, H3-8, H4-3 H4-9, H5-9, H8-9 G1-4, G4-4, G6-10, G7-10 F4-2, F4-5, F5-2, F6-2, F7-2, F8-2 E7-2, E8-2, F1-2, F1-5, F2-2, F3-2 E2-2, E3-2, E4-4, E5-2, E6-2 B3-2, B4-2, B5-2, B8-2, C2-2, C3-2, E1-4 A1-2, A2-2, A3-2, A4-2, A5-2, A8-2, B1-2, B2-2	762	1778	1016	V	W	44	229.8
Var. No.	DU No	Assembly No.	L1	L2	Y	End connection inlet side	End connection outlet side	Qty. No's	Weight kg/Bend

TABLE - 1

NAME OF CUSTOMER/PROJECT



BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

NAME	SIGN	DATE
DRN Kaushik K		28-07-2016
CHD V. Vinod		21-09-16
APPD Felix J		21-09-16

DEPT	GRADE OF TOL DIM C/M/F	SCALE N.T.S.	WEIGHT (kg) Ref'r NOTE 10 (Approx)	REF TO ASSY.DRG EL-DG- 3-986-01-09980 (500A-10)	ITEM No.	No. OF ITEMS
CODE						
TITLE	CASING FOR BENDS 500NB DETAIL (V-W)			CARD CODE	DRAWING No. 3-986-01-09981	REV. 00
			SHEET No. 1		No. OF SHEETS 3	

SUPERSEDES DRG. No.

SHT 24 SIZE A3 420 x 297

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REF. DRG. No.

SIGN AND DATE

INVENTORY No.

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN mm.

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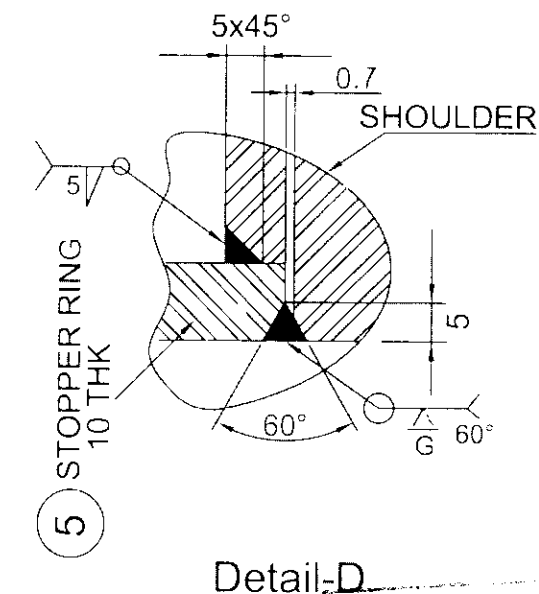
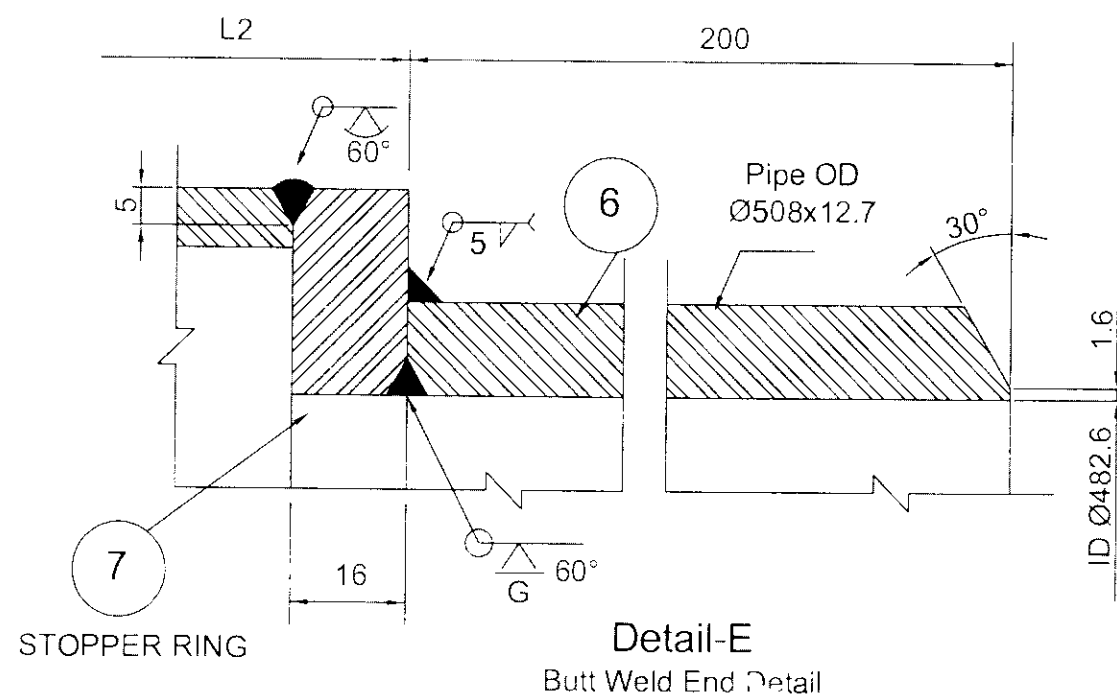
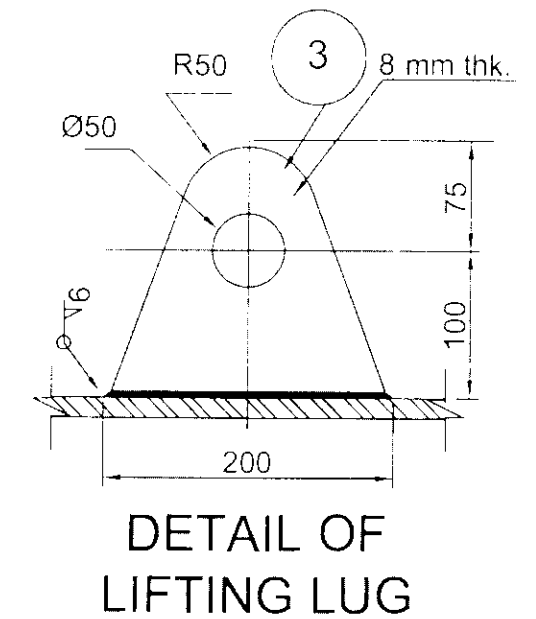
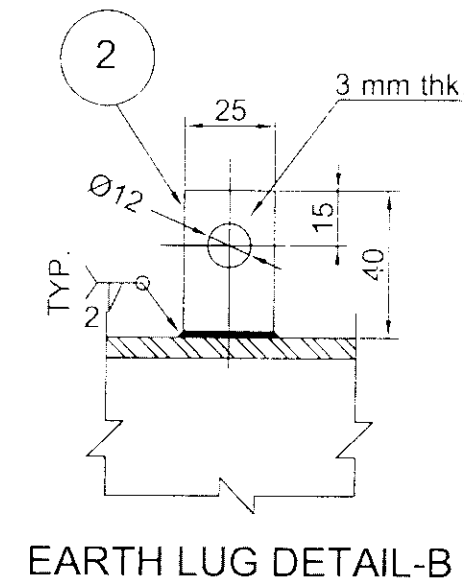
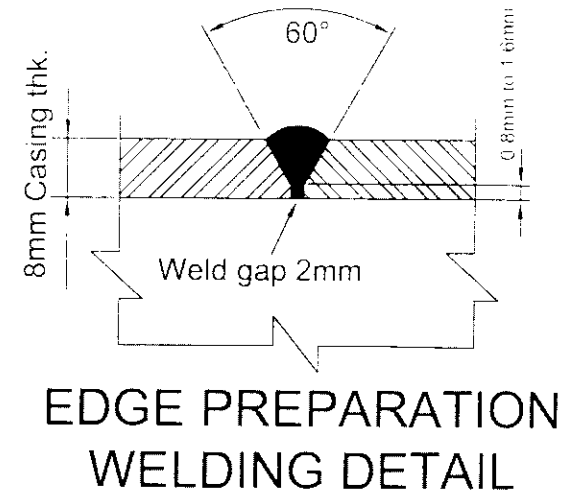
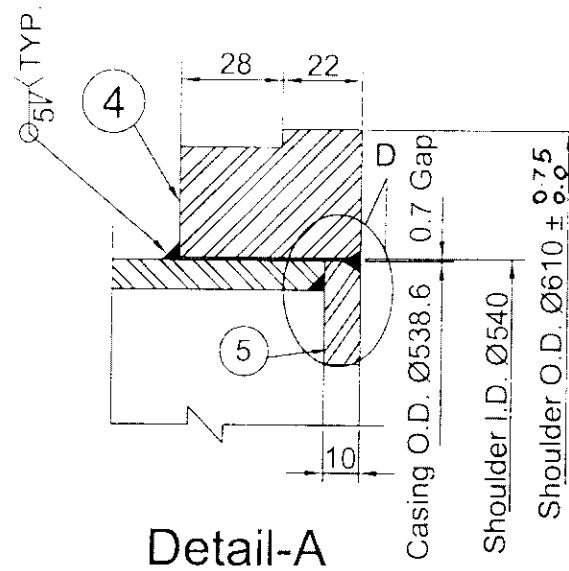
18660-10-986-E

DRG No.

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SIGN AND DATE REF. DRG. No.

INVENTORY No.



NAME OF CUSTOMER/PROJECT



BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

NAME	SIGN	DATE
DRN Kaushik.K		28-07-2016
CHD M.Vinod		21/09/16
APPD Felix.J		20-9-16

DEPT	GRADE OF	SCALE	WEIGHT (kg)	REF TO ASSY.DRG	ITEM	No. OF
CODE	TOL LIM	NTS	Refer NOTE 10	EL-DG- 3-986-01-09980	No.	ITEMS
	C/M/F		(Approx)	(500A-10)		
TITLE			CARD	DRAWING No.	REV.	
CASING FOR BENDS 500NB			CODE	3-986-01-09981	00	
DETAIL (V-W)						
				SHEET No. 2	No. OF SHEETS 3	

SUPERSEDES DRG. No.

SHT.24 SIZE A3 420 x 297

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REV18660-10-986-3
DRG No.

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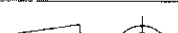
NOTE:-

1. FOR CONSTRUCTION MATERIAL REFER TABLE-2
2. DURING ASSY. LONGITUDINAL WELDING BETWEEN SEGMENTS TO BE STAGGERED.
3. ALL SUPPLIES TO CONFORM CLN:QP:01/00. WELDING AS PER WP:CL001A & AWS:D 1.1.
4. DIMENSIONS INDICATED ARE FINISHED SIZE ONLY.
5. ASSEMBLY No., DU No., AND ARROW HEAD TO BE WELD DEPOSITED OVER CASING AS SHOWN , AS PER CE:1501:21
6. BASE PLATE FOR NAME PLATE TO BE WELDED ON TO CASING, AT LOCATION SHOWN.
FOR BASE PLATE & WELDING DETAILS REF DRG : 4 986 99 07720
7. FACE ANGLES TO BE MATCHED DURING ASSY.
8. ALL OVER MACHINING 6.3/ FOR STOPPER RINGS.
9. V-SHOULDER FOR VICTAULIC COUPLING & W/BW- BUTT WELD SPOOL PIPE.
10. FOR CASING Wt. REFER TABLE -1
FOR Wt. OF LIFTING LUG, EARTH LUG, STOPPER RINGS AND SPOOL PIPE.
REFER TABLE - 2
11. WHERE "Y" IS GREATER THAN 1000, ONE CIRCUMFERENTIAL JOINT IS ALLOWED ON "Y", OUTSIDE SEGMENT TOWARDS OUTLET END.
THIS JOINT SHOULD NOT FOUL WITH LUG
12. SURFACE PREPARATION AND PAINTING: REF PAINTING SCHEME DOC. No. : PS- L&T - TANDA. BENDS.
13. OVERALL BEND TOLERANCE:-
 - a). AXIAL SHIFT: ± 3 MM
 - b). RADIAL SHIFT: ± 3 MM
 - c). OUT OF SQUARENESS: ± 3 MM.
14. CONTROL DURING WELDING OF SHOULDER TO CASING :-
 - a) OVALITY OF CASING ON OUTER DIAMETER TO BE MAINTAINED WITHIN 1.0 mm
 - b) WELDING OF SHOULDER TO CASING AS PER DETAIL-A, TO BE DONE IN SUCH A WAY AS TO ENSURE THAT DISTORTION OF COLLAR IS LIMITED SUCH THAT DIM. $\phi 610$ mm IS STRICTLY WITHIN THE RANGE SPECIFIED IN SHEET 2 OF 3.
VENDOR TO DO THE NEEDFUL TO ACHIEVE 14(a) AND 14(b).
15. **ALL PARTS HAVE TO BE 6mm FILLET WELDED, IF NOT SPECIFIED .**
16. TOLERANCES ON SPOOL PIPE: AS PER API-5L STANDARD.

NAME OF CUSTOMER/PROJECT

BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

	NAME	SIGN	DATE
DRN	Kaushik K		28-07-2016
CHD	M. Vinod		21/09/16
APPD	Felix J		30.9.16

DEPT	GRADE OF TOL DIM		SCALE	WEIGHT (kg)	REF TO ASSY.DRG	ITEM	No.OF
COOE	C/M/F		N.T.S	Refer NOTE 10 (Approx)	EL-DG- 3-986-01-09980 (500A-10)	No.	ITEMS
TITLE				CARD CODE	DRAWING No.		REV.
CASING FOR BENDS 500NB DETAIL (V-W)					3-986-01-09981		00
					SHEET No. 3	No.OF SHEETS 3	

Q0
A3216660-10-986-E
DRG No. 0986

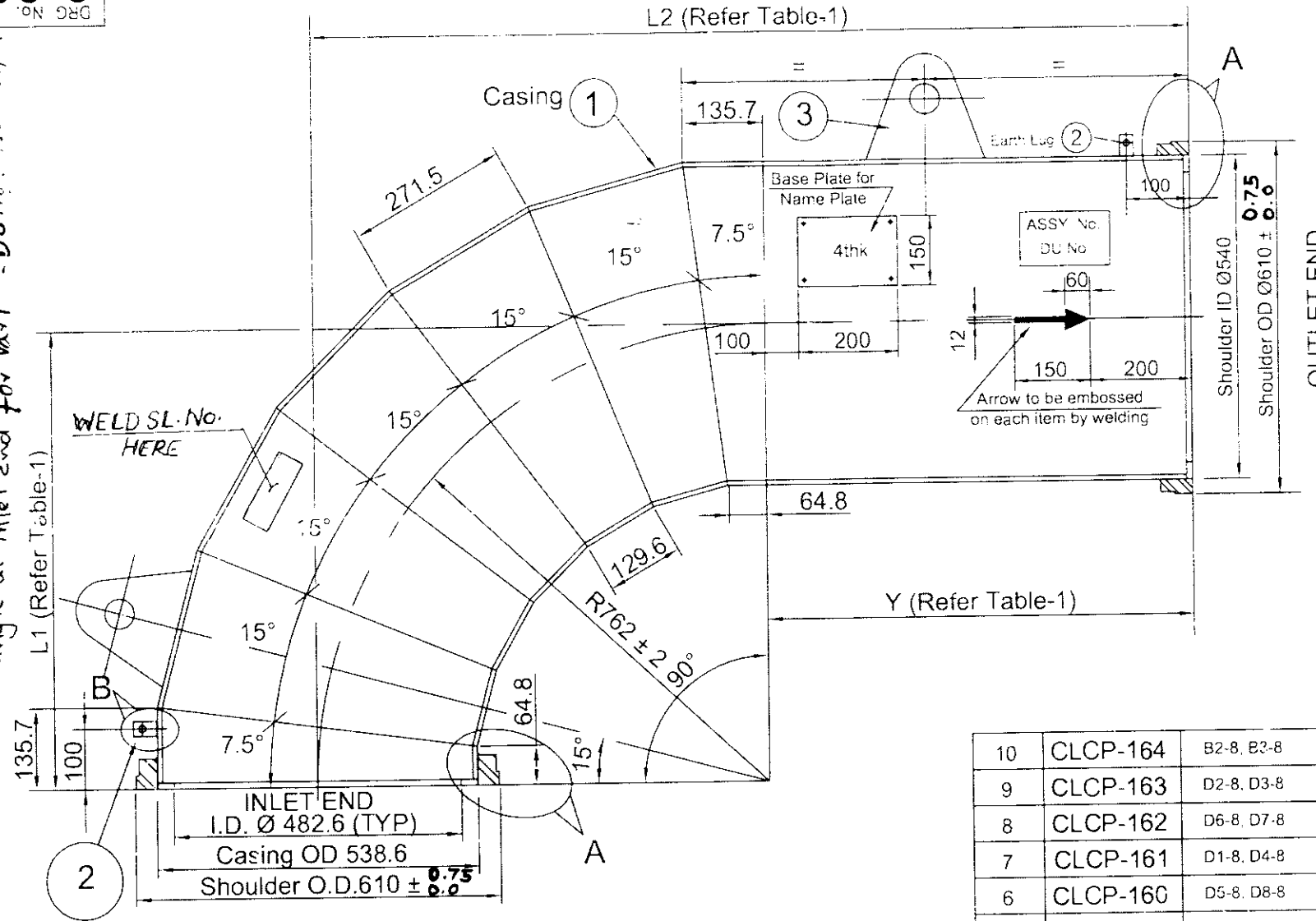
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REF. DRG. No.

SIGN AND DATE

INVENTORY No.

(L1 includes 110 mm extension beyond bend angle at Inlet End for Var1 - DUNO: 16660-10-986-E)



Sl. No.	Description	Size	Material	Qty. per Bend	Wt. / Piece (Kgs)	Remarks
5	Stopper Ring	10mm thk.	KILLED STEEL IS:2062 - 2011 E250 BR	2 No.s	3.5	
4	Shoulder	ID.540. OD.610	KILLED STEEL IS:2062 - 2011 E250 BR	2 No.s	-	FREE Issue By BHEL To Vendor
3	Lifting Lug	8 mm Thk	KILLED STEEL IS:2062 - 2011 E250 BR	2 No.s	1.3	
2	Earth Lug	3 mm Thk	KILLED STEEL IS:2062 - 2011 E250 BR	2 No.s	0.02	
1	Casing	8 mm Thk	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.s	Refer Table-1	
TABLE - 2						

10	CLCP-164	B2-8, B3-8	762	1695.1	933.1	V	V	2	221.8
9	CLCP-163	D2-8, D3-8	762	1557.8	795.8	V	V	2	207.4
8	CLCP-162	D6-8, D7-8	762	1456.4	694.4	V	V	2	196.8
7	CLCP-161	D1-8, D4-8	762	1362.9	600.9	V	V	2	187.0
6	CLCP-160	D5-8, D8-8	762	1289.6	527.6	V	V	2	179.4
5	CLCP-159	F5-11, F8-11	762	1255.5	493.5	V	V	2	175.8
4	CLCP-158	B6-6, B7-6	762	1163.2	401.2	V	V	2	166.1
3	CLCP-157	F6-10, F7-10	762	1140.8	378.8	V	V	2	163.8
2	CLCP-156	F2-11, F3-11	762	1075.4	313.4	V	V	2	157.0
1	CLCP-154	H2-1, H3-1	872	1928.0	1166.0	V	V	2	257.8
Var. No.	DU No.	Assembly No	L1	L2	Y	End connection inlet side	End connection outlet side	Qty No's	Weight kg/Bend

TABLE - 1

NAME OF CUSTOMER/PROJECT

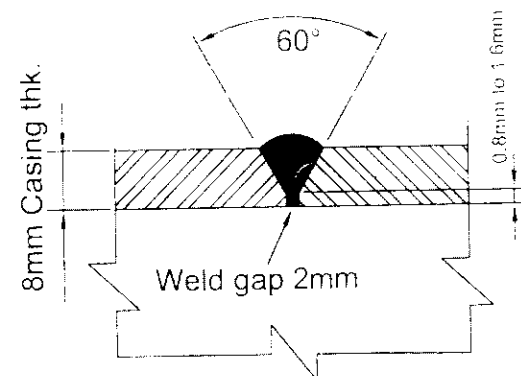
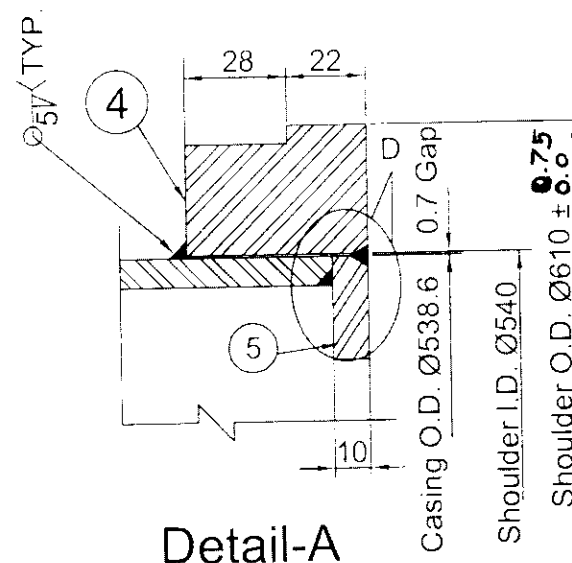
BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

DRN	NAME	SIGN	DATE
CHD	Kaushik K		28-07-2016
APPD	M. Vinod		21/09/16
	Felix J		21/10/16

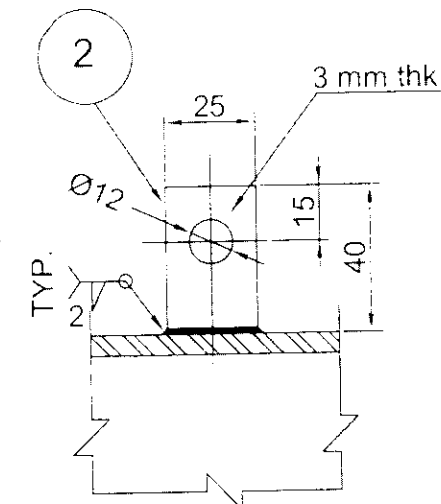
DEPT	GRADE OF TOL DIM		SCALE	WEIGHT (kg)	REF TO ASSY.DRG	ITEM No.	No. OF ITEMS
CODE	C/M/F		N.T.S	Refer Table-1 (Approx)	EL-DG- 3-986-01-09990 (500A-11)		
TITLE				CARD CODE	DRAWING No.		REV.
CASING FOR BENDS 500NB DETAIL (V-V)					3-986-01-09991		06
					SHEET No. 1	No. OF SHEETS	3

ALL DIMENSIONS ARE IN mm.

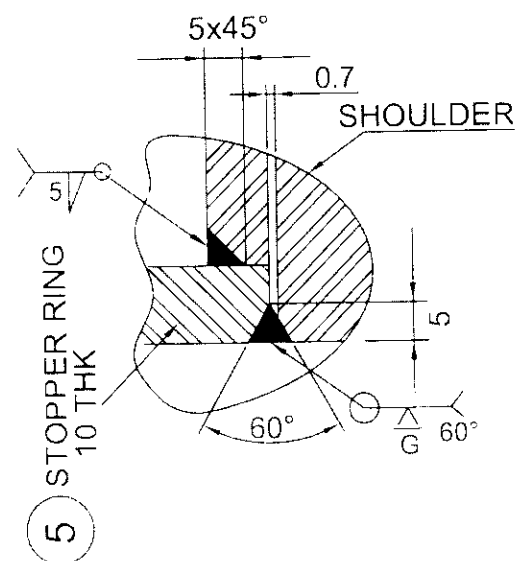
FIRST ANGLE PROJECTION

00
REV
16660-10-986-E
DRG No.EDGE PREPARATION
WELDING DETAIL

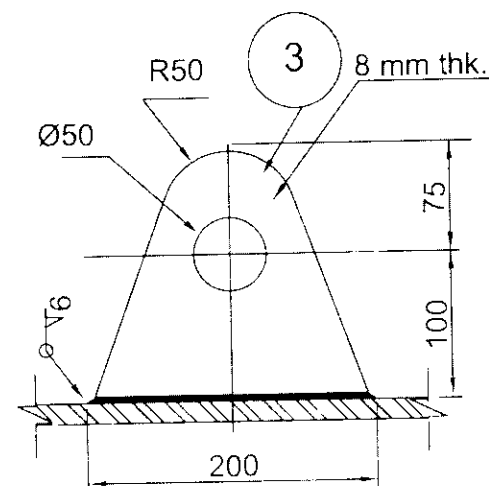
Detail-A



EARTH LUG DETAIL-B



Detail-D

DETAIL OF
LIFTING LUG

NAME OF CUSTOMER/PROJECT

BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

DRN	NAME	SIGN	DATE
CHD	Kaushik K		28-07-2016
APPD	M. Vinod		21/09/16
	Felix J		30-9-16

DEPT	GRADE OF		SCALE	WEIGHT (kg)	REF TO ASSY.DRG	ITEM	No. OF
	TOL DIM		NTS	Refer Table-1	EL-DG- 3-986-01-09990	No.	ITEMS
CODE	C/M/F			(Approx)	(500A-11)		

CASING FOR BENDS 500NB
DETAIL (V-V)

CARD	DRAWING No.	REV.
CODE	3-986-01-09991	00
	SHEET No. 2	No. OF SHEETS 3

SUPERSEDES DRG. No.

SHT.24 SIZE A3 420 x 297

00
REV

16660-10-986-3

DRG No.

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NOTE:-

1. FOR CONSTRUCTION MATERIAL REFER TABLE-2
2. DURING ASSY. LONGITUDINAL WELDING BETWEEN SEGMENTS TO BE STAGGERED.
3. ALL SUPPLIES TO CONFORM CLN:QP:01/00. WELDING AS PER WP:CL001A & AWS:D 1.1.
4. DIMENSIONS INDICATED ARE FINISHED SIZE ONLY.
5. ASSEMBLY No., DU No., AND ARROW HEAD TO BE WELD DEPOSITED OVER CASING AS SHOWN , AS PER CE:1501:21
6. BASE PLATE FOR NAME PLATE TO BE WELDED ON TO CASING, AT LOCATION SHOWN,
FOR BASE PLATE & WELDING DETAILS REF DRG : 4 986 99 07720
7. FACE ANGLES TO BE MATCHED DURING ASSY.
8. ALL OVER MACHINING 6.3/ FOR STOPPER RINGS.
9. V-SHOULDER FOR VICTAULIC COUPLING.
10. FOR CASING Wt. REFER TABLE -1
FOR Wt. OF LIFTING LUG, EARTH LUG & STOPPER RINGS.
REFER TABLE - 2
11. WHERE "Y" IS GREATER THAN 1000, ONE CIRCUMFERENTIAL JOINT IS ALLOWED ON "Y", OUTSIDE SEGMENT TOWARDS OUTLET END.
THIS JOINT SHOULD NOT FOUL WITH LUG
12. SURFACE PREPARATION AND PAINTING: REF PAINTING SCHEME DOC. No. : PS- L&T - TANDA. BENDS.
13. OVERALL BEND TOLERANCE:-
 - a]. AXIAL SHIFT: ± 3 MM
 - b]. RADIAL SHIFT: ± 3 MM
 - c]. OUT OF SQUARENESS: ± 3 MM.
14. CONTROL DURING WELDING OF SHOULDER TO CASING :-
 - a] OVALITY OF CASING ON OUTER DIAMETER TO BE MAINTAINED WITHIN 1.0 mm
 - b] WELDING OF SHOULDER TO CASING AS PER DETAIL-A. TO BE DONE IN SUCH A WAY AS TO ENSURE THAT DISTORTION OF COLLAR IS LIMITED SUCH THAT DIM. $\varnothing 610$ mm IS STRICTLY WITHIN THE RANGE SPECIFIED IN SHEET 2 OF 3.
VENDOR TO DO THE NEEDFUL TO ACHIEVE 14(a) AND 14(b).
15. ALL PARTS HAVE TO BE 6mm FILLET WELDED, IF NOT SPECIFIED.

CONTROLLED COPY

NAME OF CUSTOMER/PROJECT

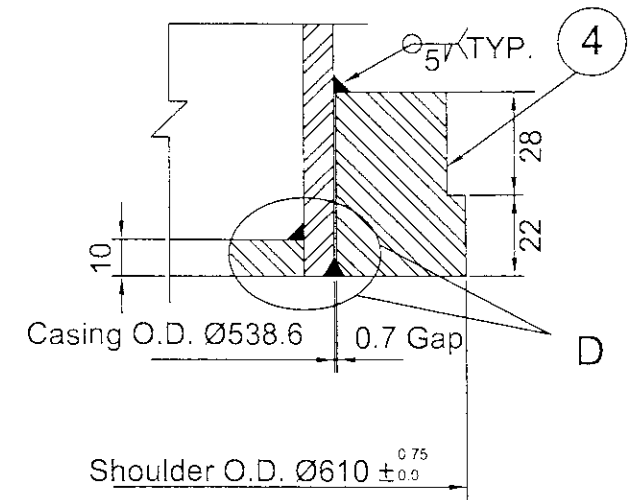
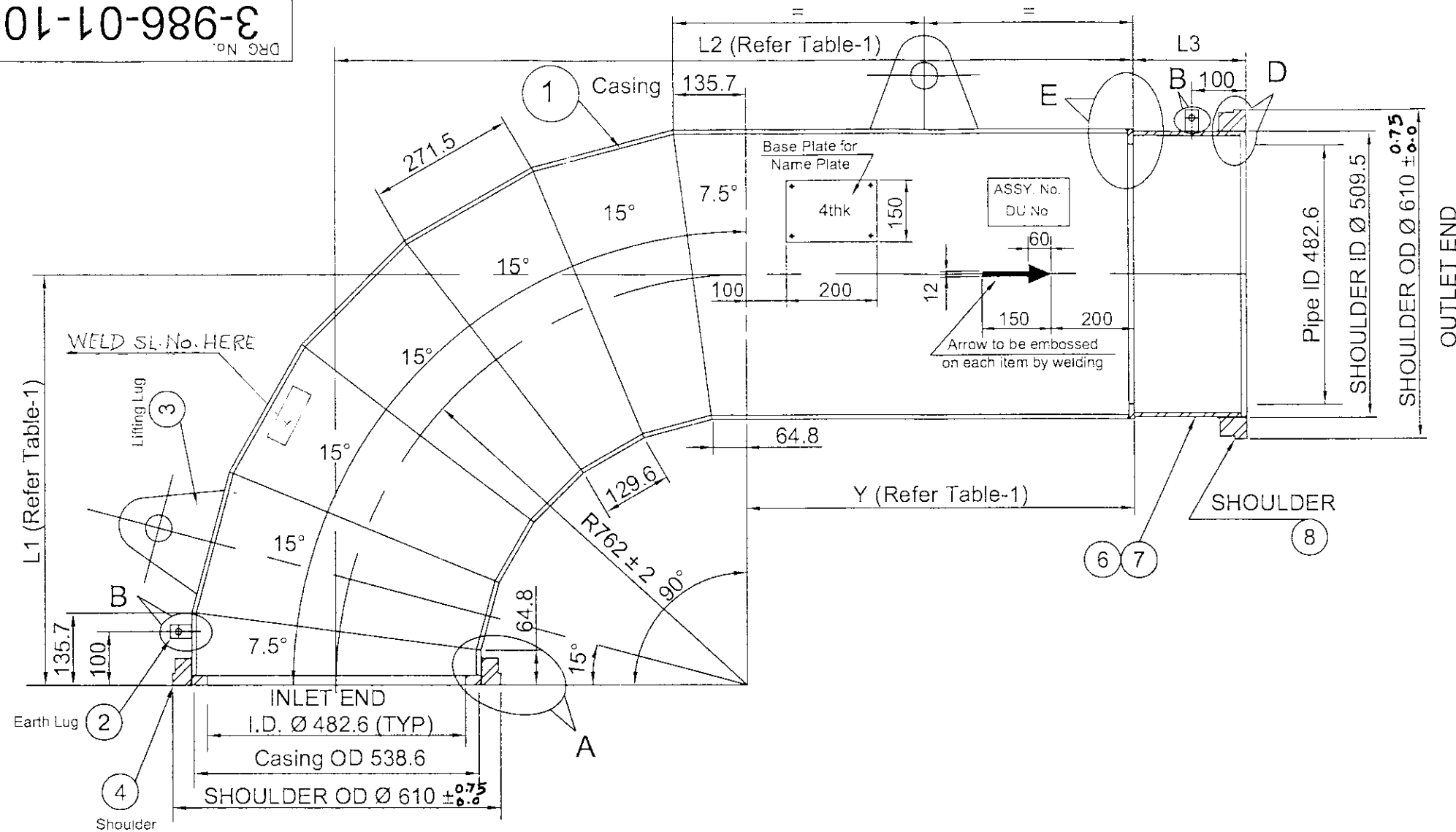
BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

	NAME	SIGN	DATE
DRN	Kaushik.K		28-07-2016
CHD	M.Vinod		21/09/16
APPD	Felix J		30-9-16

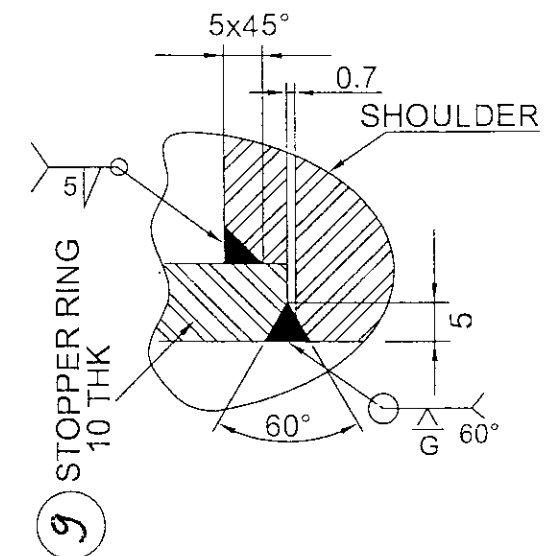
DEPT	GRADE OF TOL DIM C/M/F	SCALE	WEIGHT (kg)	REF TO ASSY.ORG	ITEM No.	No. OF ITEMS
CODE		NTS	Refer Table-1 (Approx)	EL-DG- 3-986-01-09990 (500A-11)		
TITLE				CARD CODE	DRAWING No.	REV.
CASING FOR BENDS 500NB DETAIL (V-V)					3-986-01-09991	00
					SHEET No. 3	No. OF SHEETS 3

00
REV10001-10-986-E
DRG No.

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Detail-A



Detail-D

10	Support Pad	8 mm Thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No's	5.2	Only For Var-2, Refer Detail-E
9	Stopper Ring	10mm thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No's	3.5	
8	Shoulder	ID:509.5, DD:610	KILLED STEEL IS:2062 - 2011 E250 BR	1 No's	-	FREE Issue By BHEL To Vendor
7	Straight Pipe	508x12.7x453Lg	KILLED STEEL IS:2062 - 2011 E250 BR	1 No's	70.2	Only For Var-02
6	Straight Pipe	508x12.7x440Lg	KILLED STEEL IS:2062 - 2011 E250 BR	1 No's	68.2	Only For Var-01
5	Stopper Ring	16mm thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No's	5.6	
4	Shoulder	ID:540, OD:610	KILLED STEEL IS:2062 - 2011 E250 BR	1 No's	-	FREE Issue By BHEL To Vendor
3	Lifting Lug	8 mm Thk.	KILLED STEEL IS:2062 - 2011 E250 BR	2 No's	1.3	
2	Earth Lug	3 mm Thk.	KILLED STEEL IS:2062 - 2011 E250 BR	2 No's	0.02	
1	Casing	8 mm Thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No's	Refer Table-1	
SL No.	Description	Size	Material	Qty per Bend	Wt. / Piece (Kgs.)	Remarks

TABLE - 2

2	CLCP-166	B6-2, B7-2	762	1778	463	1016	V	V	2	230.5
1	CLCP-165	D5-2, D8-2	762	1778	450	1016	V	V	2	230.5
Var. No.	DU No.	Assembly No.	L1	L2	L3	Y	End connection inlet side	End connection outlet side	Qty. Nos.	Weight kg/Bend

TABLE - 1

NAME OF CUSTOMER/PROJECT

BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

NAME	SIGN	DATE
DRN Kaushik.K		28-07-2016
CHD M.Vinod		18/10/16
APPD Felix.J		18/10/16

DEPT	GRADE OF TOL DIM C/M/F	SCALE	WEIGHT (kg)	REF TO ASSY.DRG	ITEM No.	No.OF ITEMS
CODE		N.T.S.	Refer Table-1 (Approx)	EL-DG- 3-986-01-10000 (500A-12)		
TITLE	CASING FOR BENDS 500NB DETAIL (V-V)			CARD CODE	DRAWING No.	REV.
					3-986-01-10001	00
					SHEET No. 1	No.OF SHEETS 3

SUPERSEDES DRG. No.

SHT.24 SIZE A3 420 x 297

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN mm.

00
REV

10001-10-986-3

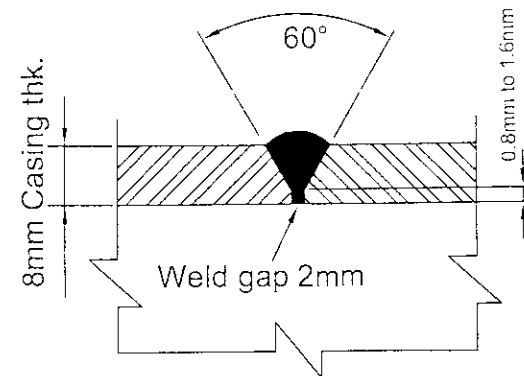
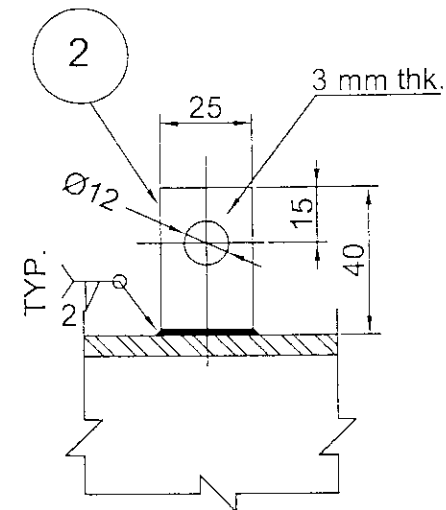
DRG No.

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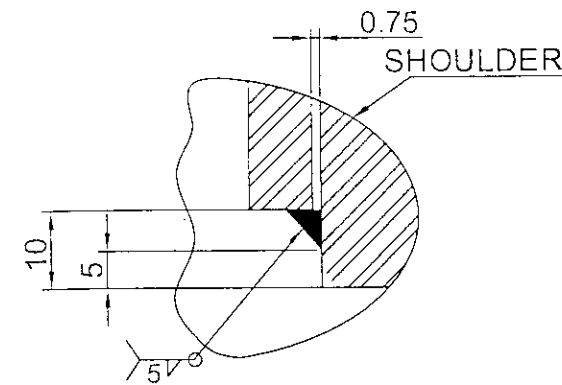
REF. DRG. No.

SIGN AND DATE

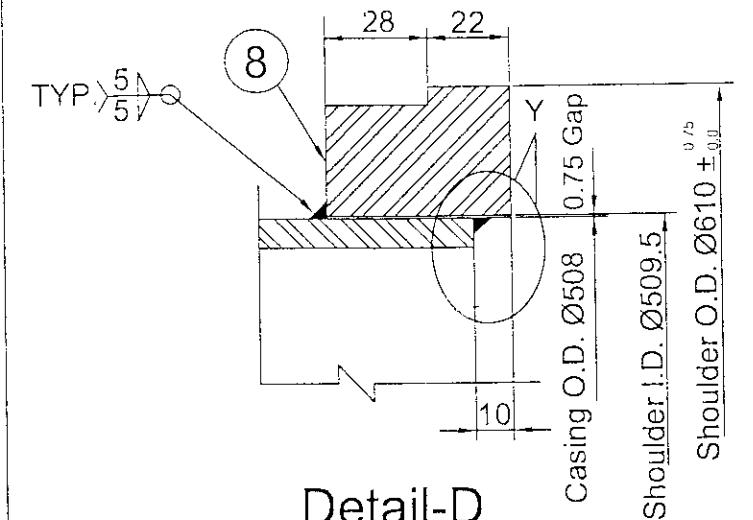
INVENTORY No.

EDGE PREPARATION
WELDING DETAIL

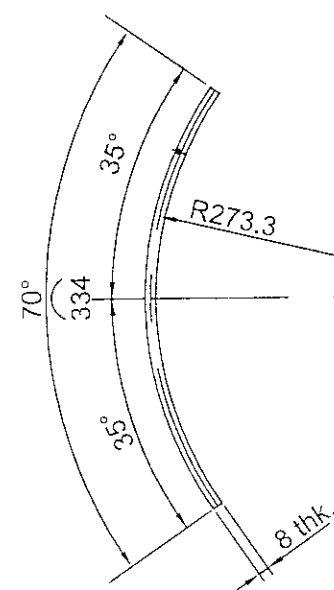
EARTH LUG DETAIL-B



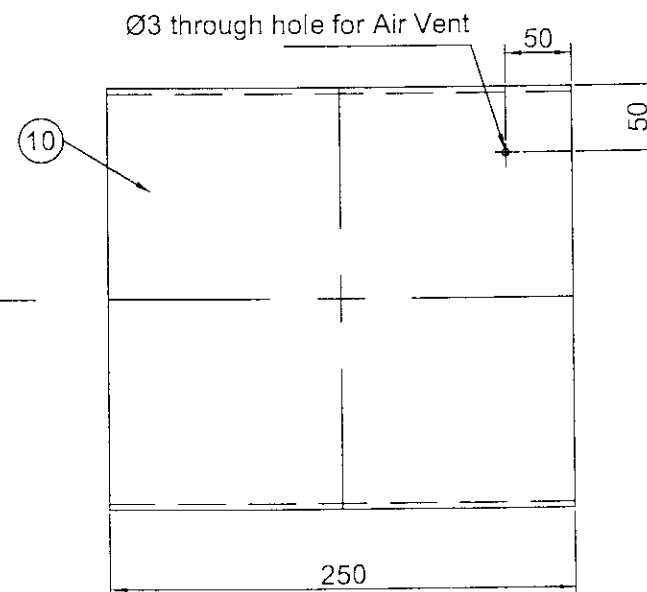
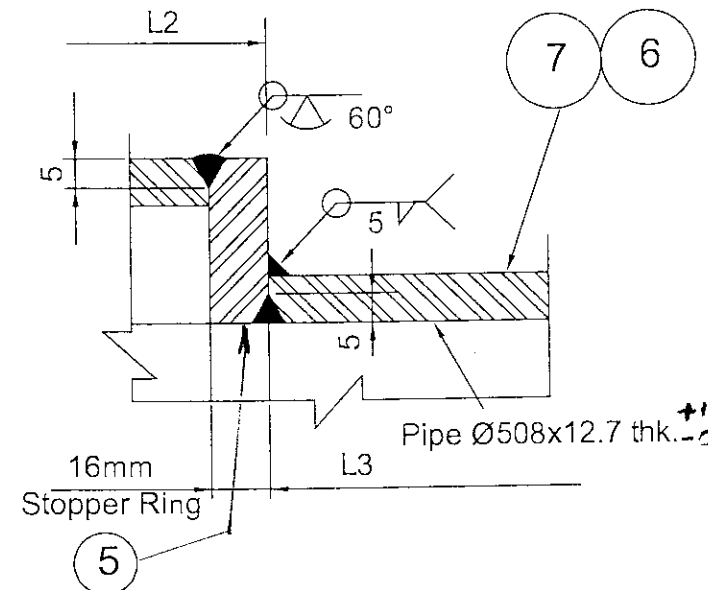
Detail-Y



Detail-D

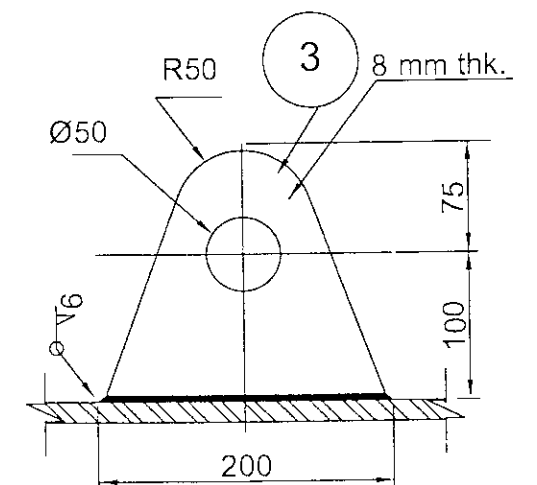


TYPICAL SUPPORT PAD DETAIL-Z

THIS SUPPORT PAD FOR DU No.s-
B6-2, B7-2 / Total Qty-2 no'sFOR SUPPORT PAD LOCATION,
ORIENTATION, QUANTITY
REF DRG. 3-986-99-07790 &
3-986-99-07800.

Detail-E

BUTT WELD END DETAIL

DETAIL OF
LIFTING LUG

NAME OF CUSTOMER/PROJECT

BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

	NAME	SIGN	DATE
DRN	Kaushik.K	<i>[Signature]</i>	28-07-2016
CHD	M.Vinod	<i>[Signature]</i>	18/10/16
APPD	Felix.J	<i>[Signature]</i>	18/10/16

DEPT	GRADE OF	SCALE	WEIGHT (kg)	REF TO ASSY.DRG	ITEM	No. OF
CODE	TOL DIM	N.T.S.	Refer Table-1	EL-DG- 3-986-01-10000	No.	ITEMS
	C/M/F		(Approx)	(500A-12)		
TITLE	CARTON FOR BENDS 500NB DETAIL (V-V)			CARD CODE	DRAWING No.	REV.
					3-986-01-10001	00
					SHEET No. 2	No. OF SHEETS 3

SUPERSEDES DRG. No.

SHT.24 SIZE A3 420 x 297

REV	DATE	ALTERED	REV	DATE	ALTERED	REV	DATE	ALTERED	DEPT	GRADE OF TOL DIM	SCALE	WEIGHT (<g)	REF TO ASSY.DRG	ITEM No.	No. OF ITEMS
00															
NOTE:-															
1. FOR CONSTRUCTION MATERIAL REFER TABLE-2															
2. DURING ASSY. LONGITUDINAL WELDING BETWEEN SEGMENTS TO BE STAGGERED.															
3. ALL SUPPLIES TO CONFORM CLN:QP:01/00. WELDING AS PER WP:CL001A & AWS:D 1.1.															
4. DIMENSIONS INDICATED ARE FINISHED SIZE ONLY.															
5. ASSEMBLY No., DU No., AND ARROW HEAD TO BE WELD DEPOSITED OVER CASING AS SHOWN , AS PER CE:1501:21															
6. BASE PLATE FOR NAME PLATE TO BE WELDED ON TO CASING, AT LOCATION SHOWN, FOR BASE PLATE & WELDING DETAILS REF DRG : 4 986 99 07720															
7. FACE ANGLES TO BE MATCHED DURING ASSY.															
8. ALL OVER MACHINING 6.3/ FOR STOPPER RINGS.															
9. V-SHOULDER FOR VICTAULIC COUPLING.															
10. TOTAL Wt. OF VARIANT (1) - 310.4 Kgs.															
TOTAL Wt. OF VARIANT (2) - 317.6 Kgs. FOR BREAK UP REFER TABLE 1 & 2.															
11. WHERE "Y" IS GREATER THAN 1000, ONE CIRCUMFERENTIAL JOINT IS ALLOWED ON "Y", OUTSIDE SEGMENT TOWARDS OUTLET END. THIS JOINT SHOULD NOT FOUL WITH LUG															
12. SURFACE PREPARATION AND PAINTING: REF PAINTING SCHEME DOC. No. : PS- L&T - TANDA. BENDS.															
13. OVERALL BEND TOLERANCE:-															
a]. AXIAL SHIFT: ± 3 MM															
b]. RADIAL SHIFT: ± 3 MM															
c]. OUT OF SQUARENESS: ± 3 MM.															
14. CONTROL DURING WELDING OF SHOULDER TO CASING :-															
a] OVALITY OF CASING ON OUTER DIAMETER TO BE MAINTAINED WITHIN 1.0 mm															
b] WELDING OF SHOULDER TO CASING AS PER DETAIL-A, TO BE DONE IN SUCH A WAY AS TO ENSURE THAT DISTORTION OF COLLAR IS LIMITED SUCH THAT DIM. $\varnothing 610$ mm IS STRICTLY WITHIN THE RANGE SPECIFIED IN SHEET 2 OF 3.															
VENDOR TO DO THE NEEDFUL TO ACHIEVE 14(a) AND 14(b).															
15. ALL PARTS HAVE TO BE 6mm FILLET WELDED, IF NOT SPECIFIED.															
16. TOLERANCES ON SPOOL PIPE: AS PER API- 5L STANDARD.															
NAME OF CUSTOMER/PROJECT															
BHARAT HEAVY ELECTRICALS LTD., ELECTROPORCELAINS DIVISION BANGALORE - 560 012															
NAME SIGN DATE															
DRN Kaushik.K 28-07-2016															
CHD M.Vinod 18/10/16															
APPD Felix.J 18/10/16															
DEPT GRADE OF TOL DIM SCALE WEIGHT (<g) REF TO ASSY.DRG															
CODE C/M/F N.T.S. Refer Table-1 (Approx) EL-DG- 3-986-01-10000 (500A-12)															
TITLE CARD CODE DRAWING No. REV.															
CASING FOR BENDS 500NB DETAIL (V-V) 3-986-01-10001 00															
SHEET No. 3 No. OF SHEETS 3															

3-986-01-10011

826 FOR C6-4, C74

576 mm FOR OTHER
ASSEMBLY NBS

A.

Earth Lug (2)

Base Plate for
Name Plate

ASSY. No.
DU No

Arrow to be embossed
on each item by welding

Shoulder ID Ø540

OUTLET END

WELD SL. No.
HERE

L.1 (Refer Table-1)

I.D. Ø 482.6 (TYP)

Casing OD 538.6

Flange OD $\varnothing 700 \pm 1$

INLET END

Y (Refer Table-1)

DETAIL OF LIFTING LUG

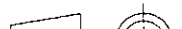
EARTH LUG DETAIL-B

TABLE - 2TABLE - 1

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BHEL

BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

	NAME	SIGN	DATE
DRN	Kaushik K		28-07-2016
CHD	M.Vinod		22-09-16
APPD	Felix.J		30-9-16

DEPT	GRADE OF		SCALE	WEIGHT (kg)	REF TO ASSY.DRG	ITEM No.	No. OF ITEMS
CODE	TOL DIM C/M/F		N.T.S.	Refer NOTE 10 (Approx)	EL-DG-3-986-01-10010 (550A-13)		
TITLE				CARD CODE	DRAWING No.		REV.
CASING FOR BENDS 500NB DETAIL (F-V)					3-986-01-10011		01
				SHEET No. 1		No. OF SHEETS 3	

SUPERSEDES DRG. No.

SHT.24 SIZE A3 420 x 297

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REF. DRG. NO.

SIGN AND DATE

INVENTORY NO.

FIRST ANGLE PROJECTION

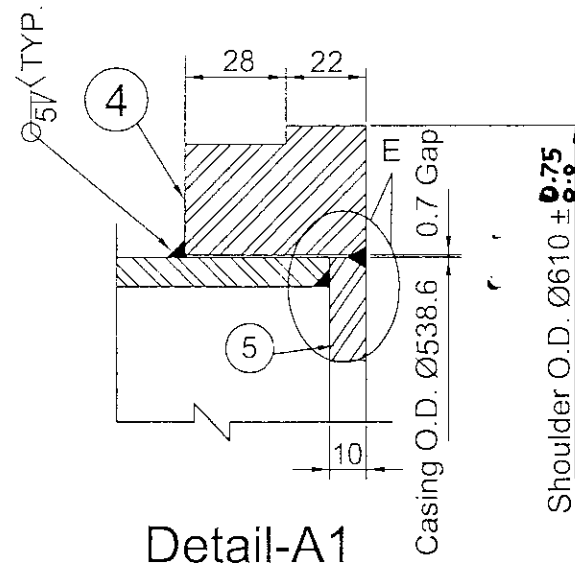
ALL DIMENSIONS ARE IN mm.

REV
013-986-01-10011
DRG No.

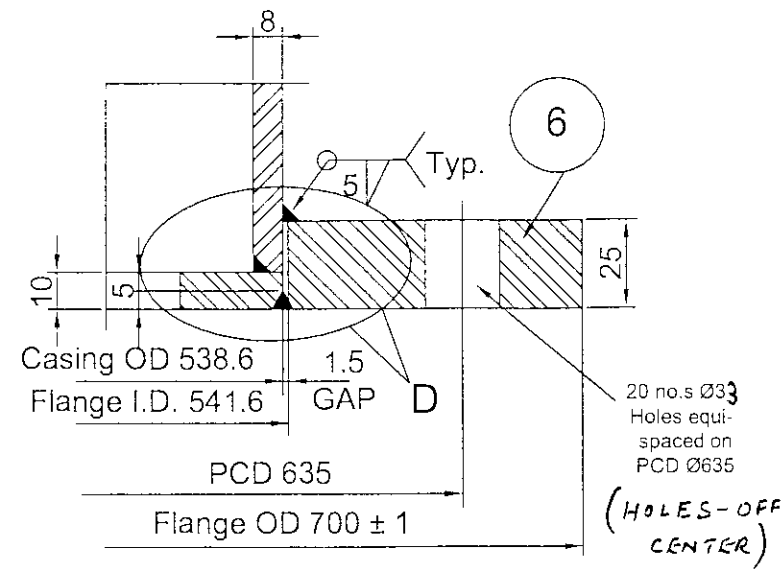
THE INFORMATION ON THIS DOCUMENT IS THE PROPERTY OF BHARAT HEAVY ELECTRICALS LIMITED., IT MUST NOT BE USED DIRECTLY OR INDIRECTLY IN ANY WAY DETRIMENTAL TO THE INTEREST OF THE COMPANY

SIGN AND DATE
REF. DRG. No.

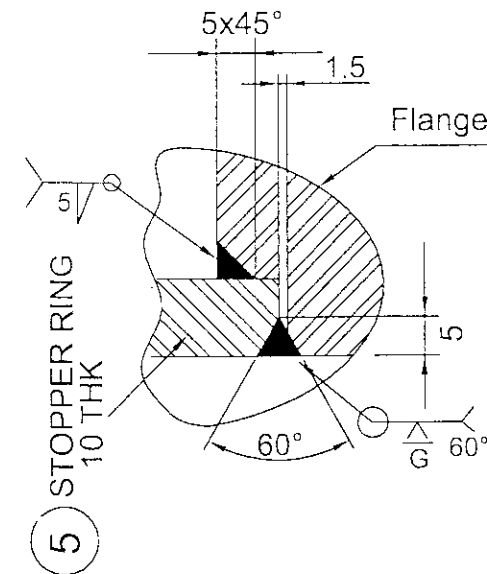
INVENTORY No.



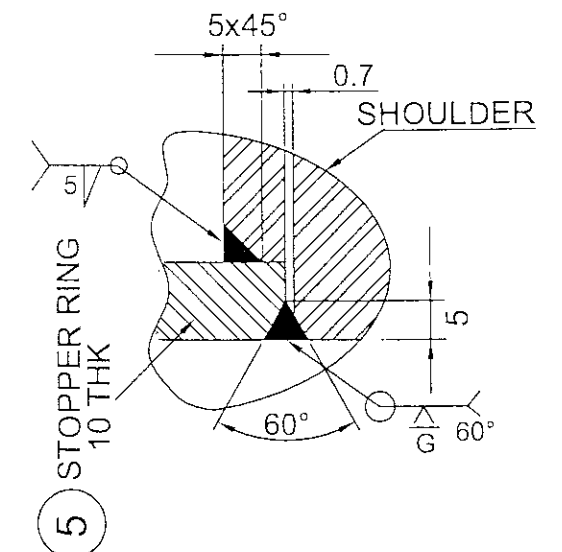
Detail-A1



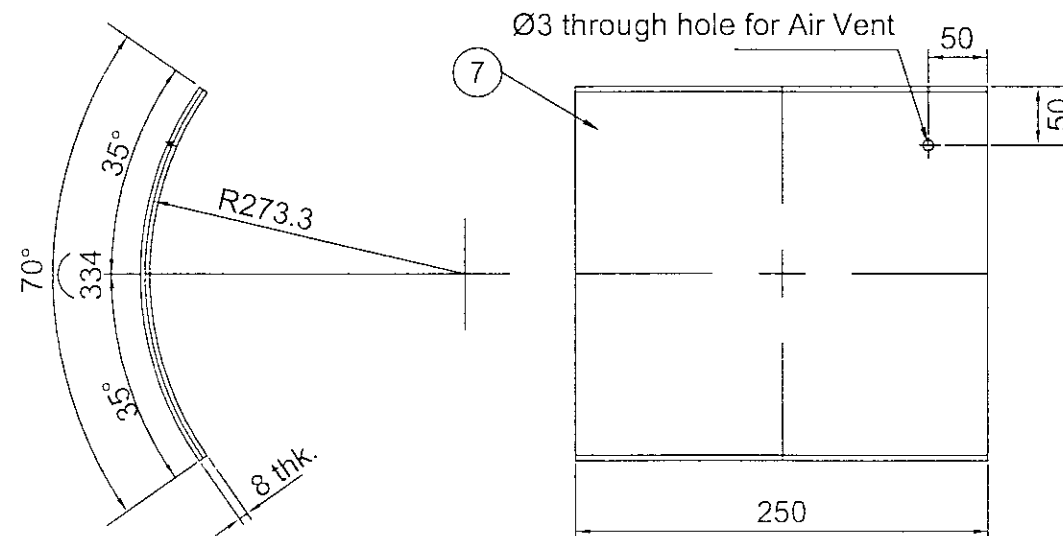
Detail-A



Detail-D

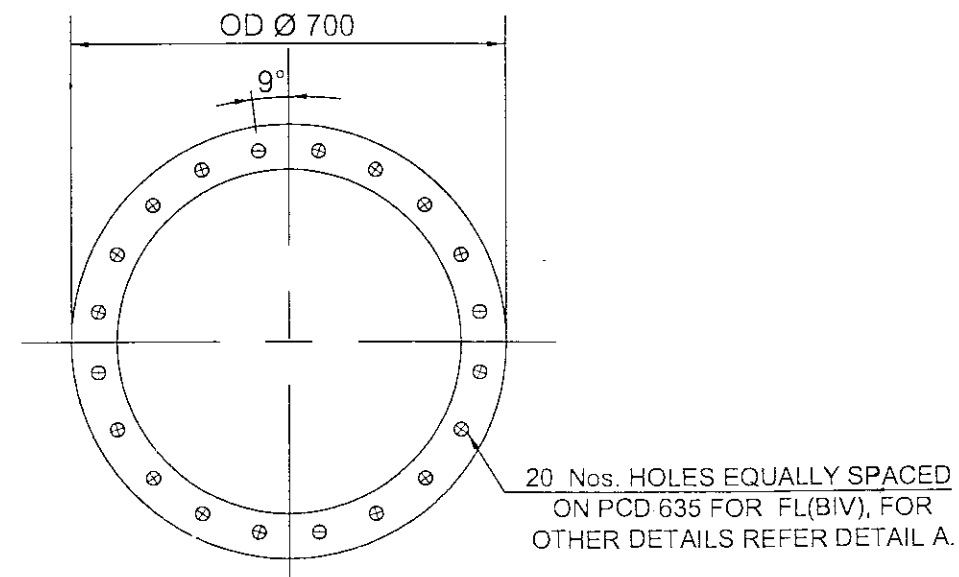


Detail-E

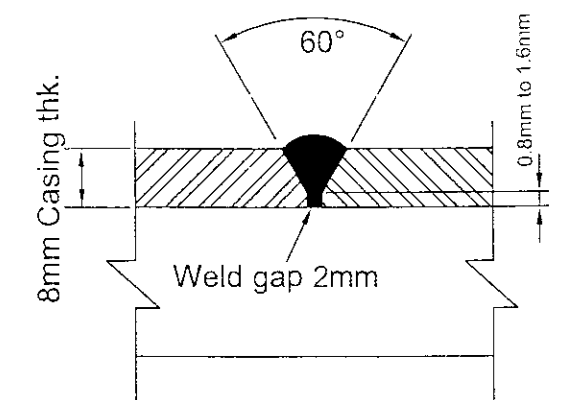


TYPICAL SUPPORT PAD DETAIL

FOR SUPPORT PAD LOCATION,
ORIENTATION, QUANTITY
REF DRG. 3-986-99-07790 &
3-986-99-07800.



FLANGE HOLE ORIENTATION

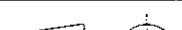
EDGE PREPARATION
WELDING DETAIL

NAME OF CUSTOMER/PROJECT



BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

	NAME	SIGN	DATE
DRN	Kaushik K		28-07-2016
CHD	M.Vinod		22/09/16
APPD	Felix J		30.9.16

DEPT	GRADE OF		SCALE	WEIGHT (kg)	REF TO ASSY.DRG	ITEM	No. OF
CODE	TOL DIM		N.T.S.	Refer NOTE 10	EL-DG-3-986-01-10010	No.	ITEMS
	C/M/F			(Approx)	(550A-13)		
TITLE				CARD	DRAWING No.		REV.
CASING FOR BENDS 500NB				CODE	3-986-01-10011		01
DETAIL (F-V)					SHEET No. 2		No. OF SHEETS 3

SUPERSEDES DRG. No.

SHT.24 SIZE A3 420 x 297

REV
1011001-10-986-3
DRG No.

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REF. DRG. No.

SIGN AND DATE

INVENTORY No.

NOTE:-

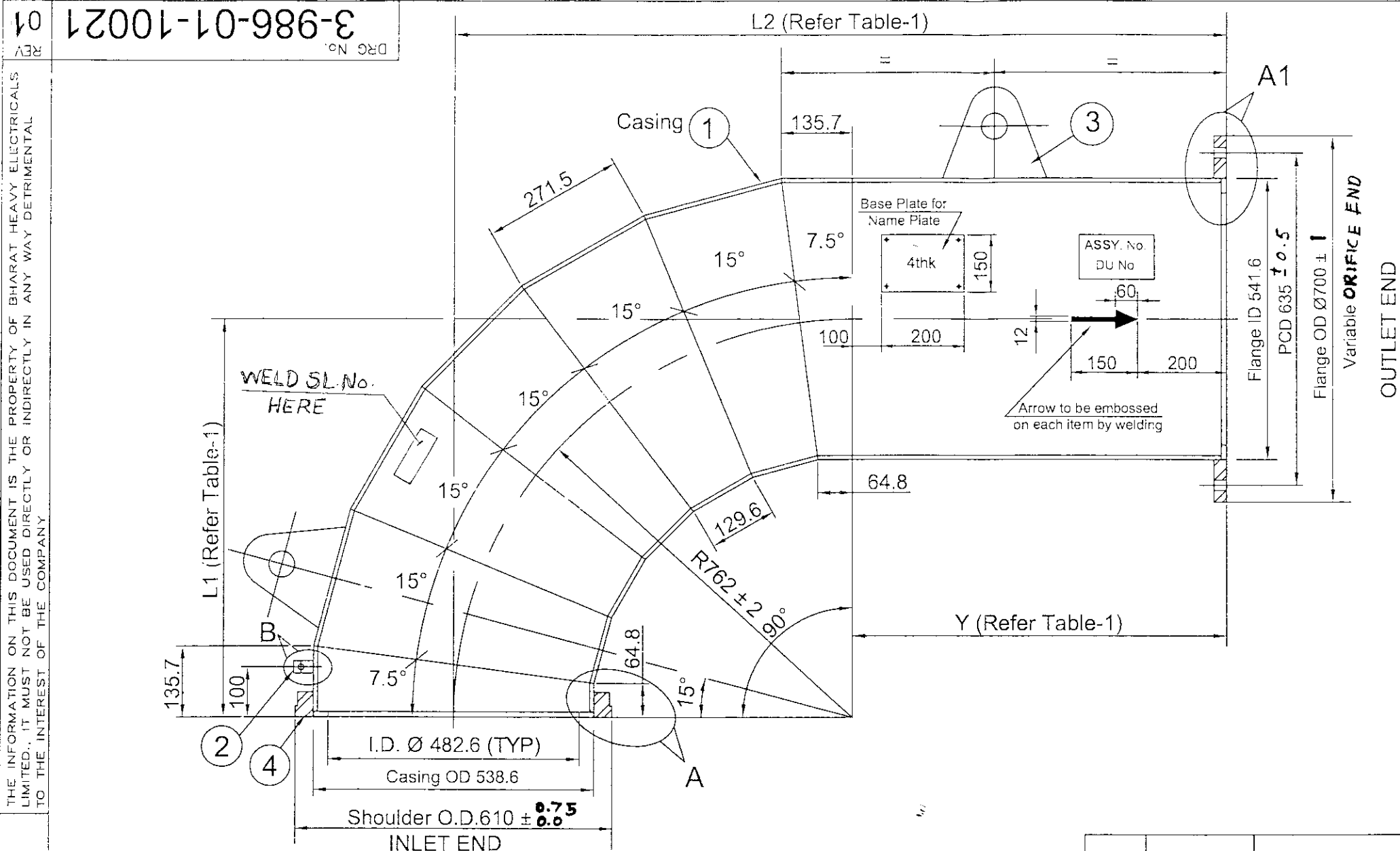
1. FOR CONSTRUCTION MATERIAL REFER TABLE-2
2. DURING ASSY. LONGITUDINAL WELDING BETWEEN SEGMENTS TO BE STAGGERED.
3. ALL SUPPLIES TO CONFORM CLN:QP:01/00. WELDING AS PER WP:CL001A & AWS:D 1.1.
4. DIMENSIONS INDICATED ARE FINISHED SIZE ONLY.
5. ASSEMBLY No., DU No., AND ARROW HEAD TO BE WELD DEPOSITED OVER CASING AS SHOWN , AS PER CE:1501:21
6. BASE PLATE FOR NAME PLATE TO BE WELDED ON TO CASING, AT LOCATION SHOWN, FOR BASE PLATE & WELDING DETAILS REF DRG : 4 986 99 07720
7. FACE ANGLES TO BE MATCHED DURING ASSY.
8. ALL OVER MACHINING 6.3/ FOR STOPPER RINGS.
9. FL(BIV) = FLANGE FOR BURNER INLET VALVE & V = SHOULDER FOR VICTAULIC COUPLING .
10. FOR CASING Wt. REFER TABLE -1
FOR Wt. OF LIFTING LUG, EARTH LUG, STOPPER RINGS, SUPPORT PAD, REFER TABLE - 2
11. WHERE "Y" IS GREATER THAN 1000, ONE CIRCUMFERENTIAL JOINT IS ALLOWED ON "Y", OUTSIDE SEGMENT TOWARDS OUTLET END. THIS JOINT SHOULD NOT FOUL WITH LUG
12. CONTROL DURING WELDING OF SHOULDER TO CASING :-
 - a) OVALITY OF CASING ON OUTER DIAMETER TO BE MAINTAINED WITHIN 1.0 mm
 - b) WELDING OF SHOULDER TO CASING AS PER DETAIL-A, TO BE DONE IN SUCH A WAY AS TO ENSURE THAT DISTORTION OF COLLAR IS LIMITED SUCH THAT DIM. Ø610 mm IS STRICTLY WITHIN THE RANGE SPECIFIED IN SHEET 2 OF 3.
VENDOR TO DO THE NEEDFUL TO ACHIEVE 12(a) AND 12(b).
13. APPROPRIATE STIFFENERS HAVE TO BE PROVIDED BETWEEN FLANGES AND CASING BODY TO MINIMIZE DISTORTION OF FLANGES WHILE WELDING. STIFFENERS HAVE TO BE REMOVED AFTER WELDING.
14. SURFACE PREPARATION AND PAINTING: REF PAINTING SCHEME DOC. No. : PS- L&T - TANDA. BENDS.
15. OVERALL BEND TOLERANCE:-
 - a). AXIAL SHIFT: ± 3 MM
 - b). RADIAL SHIFT: ± 3 MM
 - c). OUT OF SQUARENESS: ± 3 MM.
16. ALL PARTS HAVE TO BE 6mm FILLET WELDED, IF NOT SPECIFIED .

NAME OF CUSTOMER/PROJECT

BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

	NAME	SIGN	DATE
DRN	Kaushik.K		28-07-2016
CHD	M.Vinod		22/09/16
APPD	Felix.J		30.9.16

DEPT	GRADE OF TOL DIM	SCALE	WEIGHT (kg)	REF TO ASSY.DRG	ITEM No.	No. OF ITEMS
CODE	C/M/F	NTS	Refer NOTE 10 (Approx)	EL-DG-3-986-01-10010 (550A-13)		
TITLE	CARD CODE	DRAWING No.	REV.			
CASING FOR BENDS 500NB DETAIL (F-V)		3-986-01-10011	01			
		SHEET No. 3	No. OF SHEETS 3			



SL No.	Description	Size	Material	Qty. per Bend	Wt. / Piece (Kgs.)	Remarks
6	Flange- FL(Vo)	24 mm Thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.s	26.0	
5	Stopper Ring	10mm thk.	KILLED STEEL IS:2062 - 2011 E250 BR	2 No.s	3.5	
4	Shoulder	ID:540, OD:610	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.s	-	FREE Issue By BHEL To Vendor
3	Lifting Lug	8 mm Thk.	KILLED STEEL IS:2062 - 2011 E250 BR	2 No.s	1.3	
2	Earth Lug	3 mm Thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1No.s	0.02	
1	Casing	8 mm Thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.s	Refer Table-1	

TABLE - 2

2	CLCP-170	D1-2, D4-2, D2-2, D6-2, D7-2, D3-2	762	1857	1095	V	FL(VO)	6	238.7
1	CLCP-168	C1-2, C4-2, C5-2, C6-2, C7-2, C8-2	762	1778	1016	V	FL(VO)	6	230.5
Var. No.	DU No.	Assembly No.	L1	L2	Y	End connection inlet side	End connection outlet side	Qty.	Weight kg/L and

TABLE - 1

NAME OF CUSTOMER/PROJECT



BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

	NAME	SIGN	DATE
DRN	Kaushik.K		31-07-2016
CHD	M.Vinod		22/09/16
APPD	Felix.J		30-9-16

DEPT	GRADE OF TOL DIM	SCALE	WEIGHT (kg)	REF TO ASSY.DRG	ITEM No.	No. OF ITEMS
CODE	C/M/F	N.T.S.	Refer NOTE 10 (Approx)	EL-DG-3-986-01-10020 (550A-14)		
TITLE	CARD CODE	DRAWING No.	REV.			
CASING FOR BENDS 500NB DETAIL (V-F)		3-986-01-10021	01			
		SHEET No. 1	No. OF SHEETS 3			

SUPERSEDES DRG. No.

SHT.24 SIZE A3 420 x 297

REV 01

3-986-01-10021

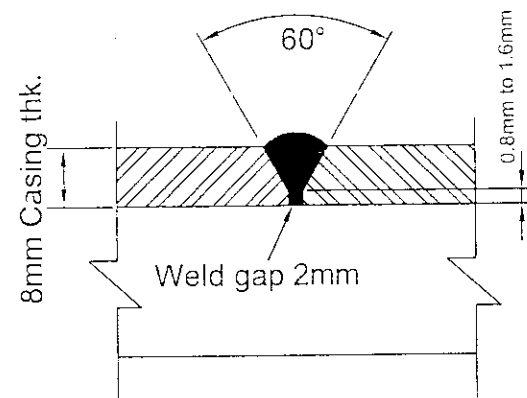
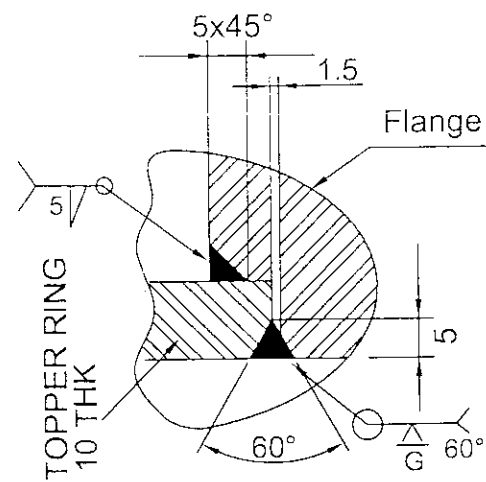
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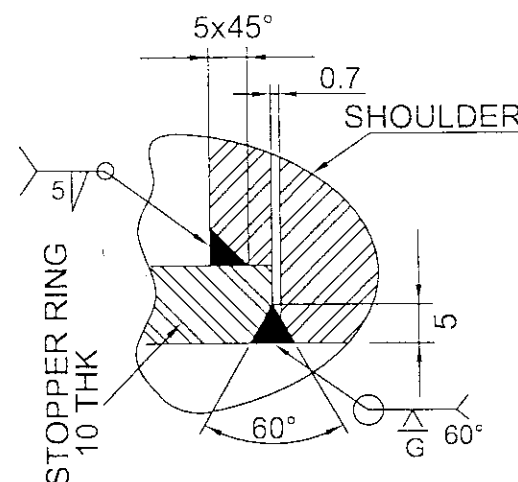
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SIGN AND DATE

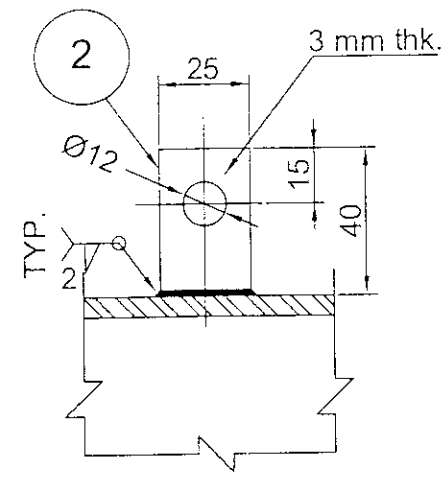
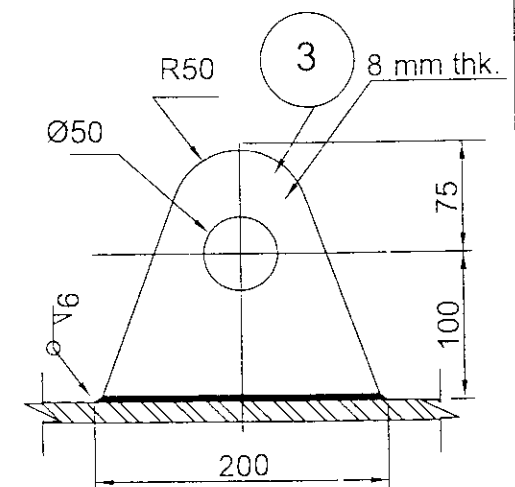
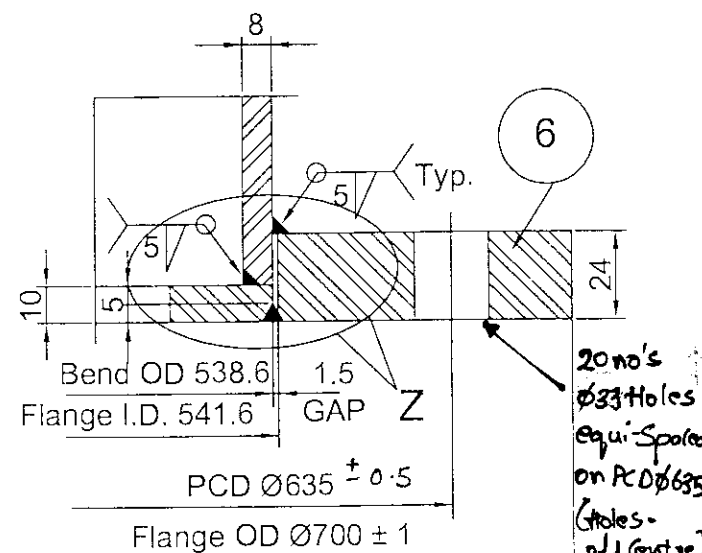
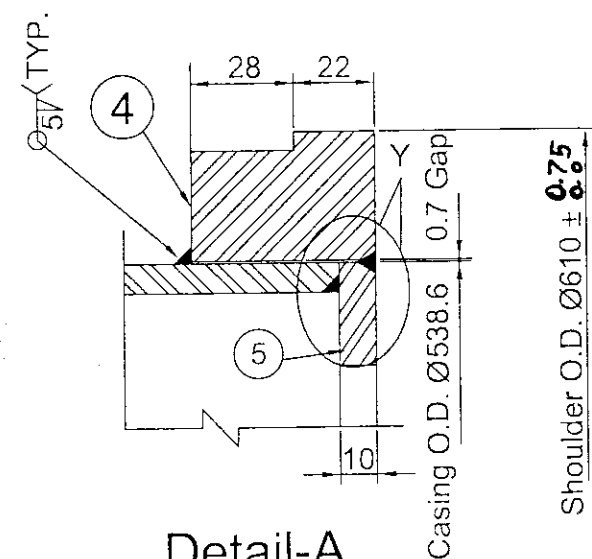
INVENTORY No.

EDGE PREPARATION
WELDING DETAIL

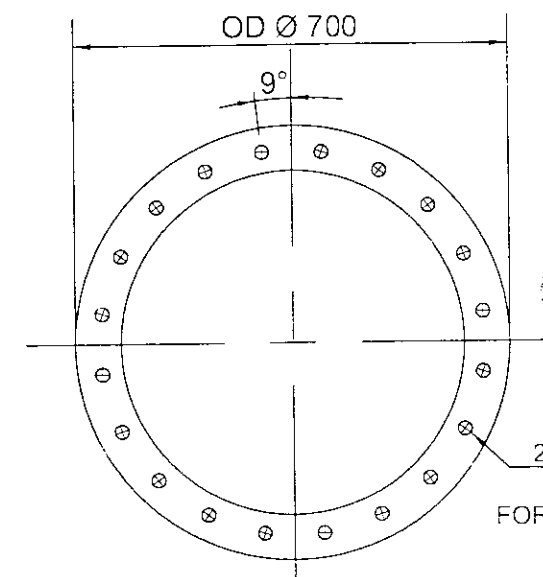
Detail-Z



Detail-Y

EARTH LUG DETAIL
Detail-BDETAIL OF
LIFTING LUGDetail-A1
FLANGE (VO)

Detail-A



FLANGE HOLE ORIENTATION

20 Nos. HOLES EQUALLY SPACED
ON PCD 635 FOR FL(VO),
FOR OTHER DETAILS REFER DETAIL A1.

NAME OF CUSTOMER/PROJECT

BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPCRELAINS DIVISION
BANGALORE - 560 012

DRN	NAME	SIGN	DATE
CHD	Kaushik K		31-07-2016
APPD	M.Vinod		22/09/16
	Felix J		30.9.16

DEPT	GRADE OF TOL DIM	SCALE	WEIGHT (kg)	REF TO ASSY.DRG	ITEM No.	No. OF ITEMS
CODE	C/M/F	N.T.S.	Refer NOTE 10 (Approx)	EL-DG-3-986-01-10020 (550A-14)		
TITLE	CARD CODE	DRAWING No.	REV			
CASING FOR BENDS 500NB DETAIL (V-F)		3-986-01-10021	01			
		SHEET No. 2	No. OF SHEETS 3			

REV 01
DRG No. 3-986-01-10021

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REF. DRG. No.

SIGN AND DATE

INVENTORY No.

NOTE:-

1. FOR CONSTRUCTION MATERIAL REFER TABLE-2
2. DURING ASSY. LONGITUDINAL WELDING BETWEEN SEGMENTS TO BE STAGGERED.
3. ALL SUPPLIES TO CONFORM CLN:QP:01/00. WELDING AS PER WP:CL001A & AWS:D 1.1.
4. DIMENSIONS INDICATED ARE FINISHED SIZE ONLY.
5. ASSEMBLY No., DU No., AND ARROW HEAD TO BE WELD DEPOSITED OVER CASING AS SHOWN , AS PER CE:1501:21
6. BASE PLATE FOR NAME PLATE TO BE WELDED ON TO CASING, AT LOCATION SHOWN,
FOR BASE PLATE & WELDING DETAILS REF DRG : 4 986 99 07720
7. FACE ANGLES TO BE MATCHED DURING ASSY.
8. ALL OVER MACHINING 6.3/ FOR STOPPER RINGS.
9. V- VICTAULIC COUPLING SHOULDER, FL(VO) - VARIABLE ORIFICE FLANGE.
10. FOR CASING Wt. REFER TABLE -1
FOR Wt. OF LIFTING LUG, STOPPER RINGS, **EARTH LUG AND FLANGE , REFER TABLE -2**
11. WHERE "Y" IS GREATER THAN 1000, ONE CIRCUMFERENTIAL JOINT IS ALLOWED ON "Y", OUTSIDE SEGMENT TOWARDS OUTLET END.
THIS JOINT SHOULD NOT FOUL WITH LUG
12. SURFACE PREPARATION AND PAINTING: REF PAINTING SCHEME DOC. No. : PS- L&T - TANDA. BENDS.
13. OVERALL BEND TOLERANCE:-
 - a]. AXIAL SHIFT: ± 3 MM
 - b]. RADIAL SHIFT: ± 3 MM
 - c]. OUT OF SQUARENESS: ± 3 MM.
14. CONTROL DURING WELDING OF SHOULDER TO CASING :-
 - a] OVALITY OF CASING ON OUTER DIAMETER TO BE MAINTAINED WITHIN 1.0 mm
 - b] WELDING OF SHOULDER TO CASING AS PER DETAIL-A, TO BE DONE IN SUCH A WAY AS TO ENSURE THAT DISTORTION OF COLLAR IS LIMITED SUCH THAT DIM. $\varnothing 610$ mm IS STRICTLY WITHIN THE RANGE SPECIFIED IN SHEET 2 OF 3.
VENDOR TO DO THE NEEDFUL TO ACHIEVE 14(a) AND 14(b).
15. **PROVIDE STIFFENERS TO ELIMINATE DISTORTION OF FLANGE, WHEN WELDING.**
16. **ALL PARTS HAVE TO BE 6mm FILLET WELDED, IF NOT SPECIFIED.**

NAME OF CUSTOMER/PROJECT

BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

	NAME	SIGN	DATE
DRN	Kaushik.K		11-07-2016
CHD	M.Vinod		22/09/16
APPD	Felix.J		30.9.16.

DEPT	GRADE OF TOL DIM	SCALE	WEIGHT (kg)	REF TO ASSY.DRG	ITEM No.	No. OF ITEMS
CODE	C/M/F	N.T.S.	Refer NOTE 10 (Approx)	EL-DG-3-986-01-10020 (550A-14)		
TITLE				CARD CODE	DRAWING No.	REV.
CASING FOR BENDS 500NB DETAIL (V-F)					3-986-01-10021	01
					SHEET No. 3	No. OF SHEETS 3

SUPERSEDES DRG. No.

SHT.24 SIZE A3 420 x 297

3-986-01-10031

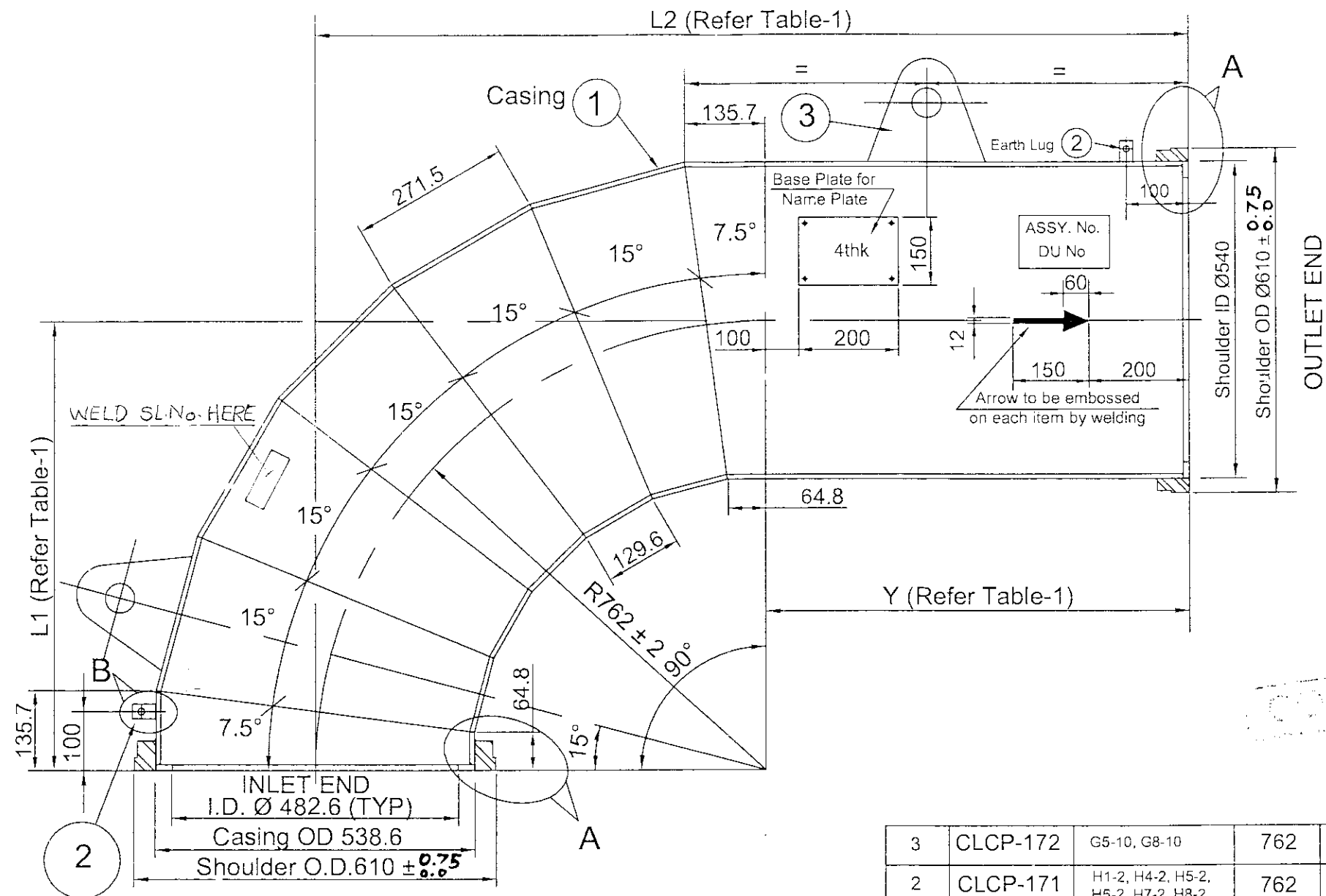
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REF. DRG. No.

SIGN AND DATE:

INVENTORY No.



5	Stopper Ring	10 mm Thk.	KILLED STEEL IS:2062 - 2011 E250 BR	2 No.s	3.5	
4	Shoulder	ID:540, OD:610	KILLED STEEL IS:2062 - 2011 E250 BR	2 No.s	-	FREE Issue By BHEL To Vendor
3	Lifting Lug	8mm thk.	KILLED STEEL IS:2062 - 2011 E250 BR	2 No.s	1.3	
2	Earth Lug	3mm thk.	KILLED STEEL IS:2062 - 2011 E250 BR	2 No.s	0.02	
1	Casing	8mm thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.s	Refer Table-1	
SL No.	Description	Size	Material	Qty. per Bend	Total Wt. (Kgs.)	Remarks

TABLE-2

3	CLCP-172	G5-10, G8-10	762	2082.8	1320.8	V	V	2	262.4
2	CLCP-171	H1-2, H4-2, H5-2, H5-2, H7-2, H8-2	762	1928.0	1166.0	V	V	6	246.2
1	CLCP-169	G2-10, G3-10	762	1818.0	1056.0	V	V	2	234.7
Var No.	DU No.	Assembly No.	L1	L2	Y	End connection inlet side	End connection outlet side	Qty.	Weight kg/Bend

TABLE - 1

NAME OF CUSTOMER/PROJECT



BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

	NAME	SIGN	DATE
DRN	Kaushik.K		01-08-2016
CHD	M.Vinod		07/10/16
APPD	Felix.J		07.10.16

REV	DATE	ALTERED	REV	DATE	ALTERED	REV	DATE	ALTERED	DEPT	GRADE OF TOL DIM		SCALE	WEIGHT (kg)	REF TO ASSY.DRG	ITEM No.	No. OF ITEMS
		CHECKED			CHECKED			CHECKED	CODE	C/M/F	N.T.S.	Refer Note-10 (Approx)	EL-DG-3-986-01-10030 (550A-15)			
									TITLE			CARD CODE	DRAWING No.		REV.	
									CASING FOR BENDS 500NB DETAIL (V-V)				3-986-01-10031		00	
													SHEET No. 1	No. OF SHEETS 3		

SUPERSEDES DRG. No.

SHT.24 SIZE A3 420 x 297

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN mm.

REV

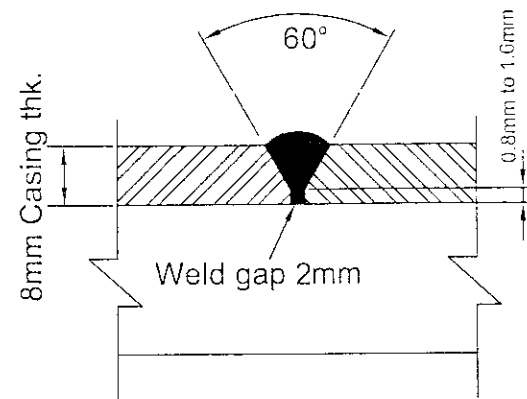
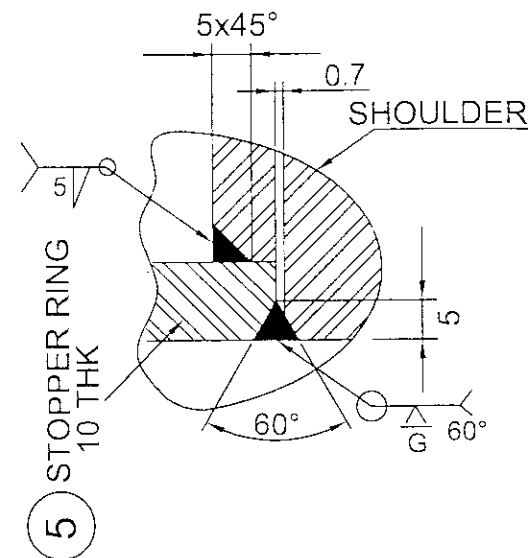
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SIGN AND DATE

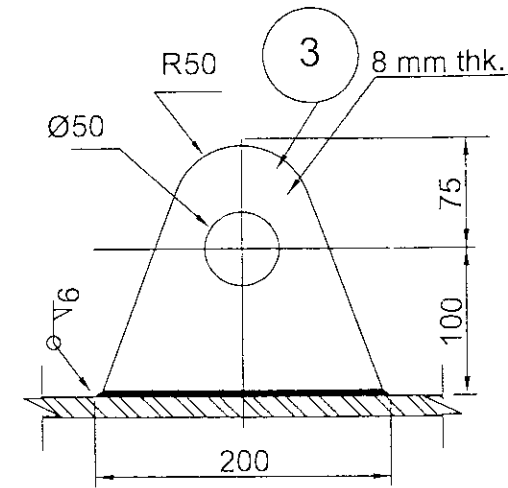
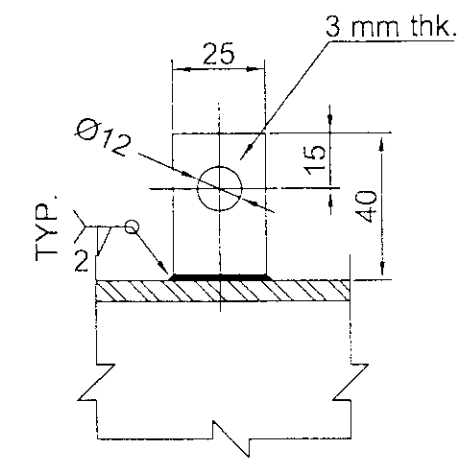
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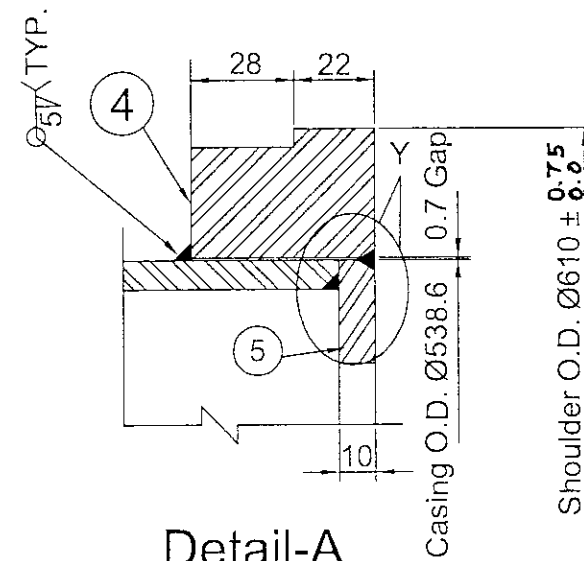
DRG No.

EDGE PREPARATION
WELDING DETAIL

Detail-Y

DETAIL OF
LIFTING LUG

EARTH LUG DETAIL-B



Detail-A

NAME OF CUSTOMER/PROJECT

BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

DRN	NAME	SIGN	DATE
CHD	Kaushik.K		01-08-2016
APPD	M.Vinod		07/10/16
	Felix.J		07-10-16

DEPT	GRADE OF TOL DIM	SCALE	WEIGHT (kg)	REF TO ASSY.DRG	ITEM No.	No.OF ITEMS
CODE	C/M/F	N.T.S.	Refer Note-10 (Approx)	EL-DG-3-986-01-10030 (550A-15)		
TITLE	CASING FOR BENDS 500NB DETAIL (V-V)		CARD CODE	DRAWING No.	REV.	
				3-986-01-10031	00	
				SHEET No. 2	No.OF SHEETS 3	

SUPERSEDES DRG. No.

SHT.24 SIZE A3 420 x 297

00

3-986-01-10031

REV

DRG No.

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NOTE:-

1. FOR CONSTRUCTION MATERIAL REFER TABLE-2
2. DURING ASSY. LONGITUDINAL WELDING BETWEEN SEGMENTS TO BE STAGGERED.
3. ALL SUPPLIES TO CONFORM CLN:QP:01/00. WELDING AS PER WP:CL001A & AWS:D 1.1.
4. DIMENSIONS INDICATED ARE FINISHED SIZE ONLY.
5. ASSEMBLY No., DU No., AND ARROW HEAD TO BE WELD DEPOSITED OVER CASING AS SHOWN , AS PER CE:1501:21
6. BASE PLATE FOR NAME PLATE TO BE WELDED ON TO CASING, AT LOCATION SHOWN,
FOR BASE PLATE & WELDING DETAILS REF DRG : 4 986 99 07720
7. FACE ANGLES TO BE MATCHED DURING ASSY.
8. ALL OVER MACHINING 6.3/ FOR STOPPER RINGS.
9. V- VICTAULIC COUPLING SHOULDER.
10. FOR CASING Wt. REFER TABLE -1
FOR Wt. OF LIFTING LUG, STOPPER RINGS & EARTH LUG, REFER TABLE - 2.
11. WHERE "Y" IS GREATER THAN 1000, ONE CIRCUMFERENTIAL JOINT IS ALLOWED ON "Y", OUTSIDE SEGMENT TOWARDS OUTLET END.
THIS JOINT SHOULD NOT FOUL WITH LUG
12. SURFACE PREPARATION AND PAINTING: REF PAINTING SCHEME DOC. No. : PS- L&T - TANDA. BENDS.
13. OVERALL BEND TOLERANCE:-
 - a]. AXIAL SHIFT: ± 3 MM
 - b]. RADIAL SHIFT: ± 3 MM
 - c]. OUT OF SQUARENESS: ± 3 MM.
14. CONTROL DURING WELDING OF SHOULDER TO CASING :-
 - a] OVALITY OF CASING ON OUTER DIAMETER TO BE MAINTAINED WITHIN 1.0 mm
 - b] WELDING OF SHOULDER TO CASING AS PER DETAIL-A, TO BE DONE IN SUCH A WAY AS TO ENSURE THAT DISTORTION OF COLLAR IS LIMITED SUCH THAT DIM. $\varnothing 610$ mm IS STRICTLY WITHIN THE RANGE SPECIFIED IN SHEET 2 OF 3.
VENDOR TO DO THE NEEDFUL TO ACHIEVE 14(a) AND 14(b).
15. ALL PARTS HAVE TO BE 6 mm FILLET WELDED, IF NOT SPECIFIED.

NAME OF CUSTOMER/PROJECT

BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

	NAME	SIGN	DATE
DRN	Kaushik.K		1-08-2016
CHD	M.Vinod		07/10/16
APPD	Felix.J		07.10.16

DEPT	GRADE OF TOL DIM	SCALE	WEIGHT (kg)	REF TO ASSY.DRG	ITEM No.	No.OF ITEMS
CODE	C/M/F	N.T.S.	Refer Note-10 (Approx)	EL-DG-3-986-01-10030 (550A-15)		
TITLE	CARD CODE	DRAWING No.	REV.			
CASING FOR BENDS 500NB DETAIL (V-V)		3-986-01-10031	00			
		SHEET No. 3	No.OF SHEETS 3			

SUPERSEDES DRG. No.

SHT.24 SIZE A3 420 x 297

REV

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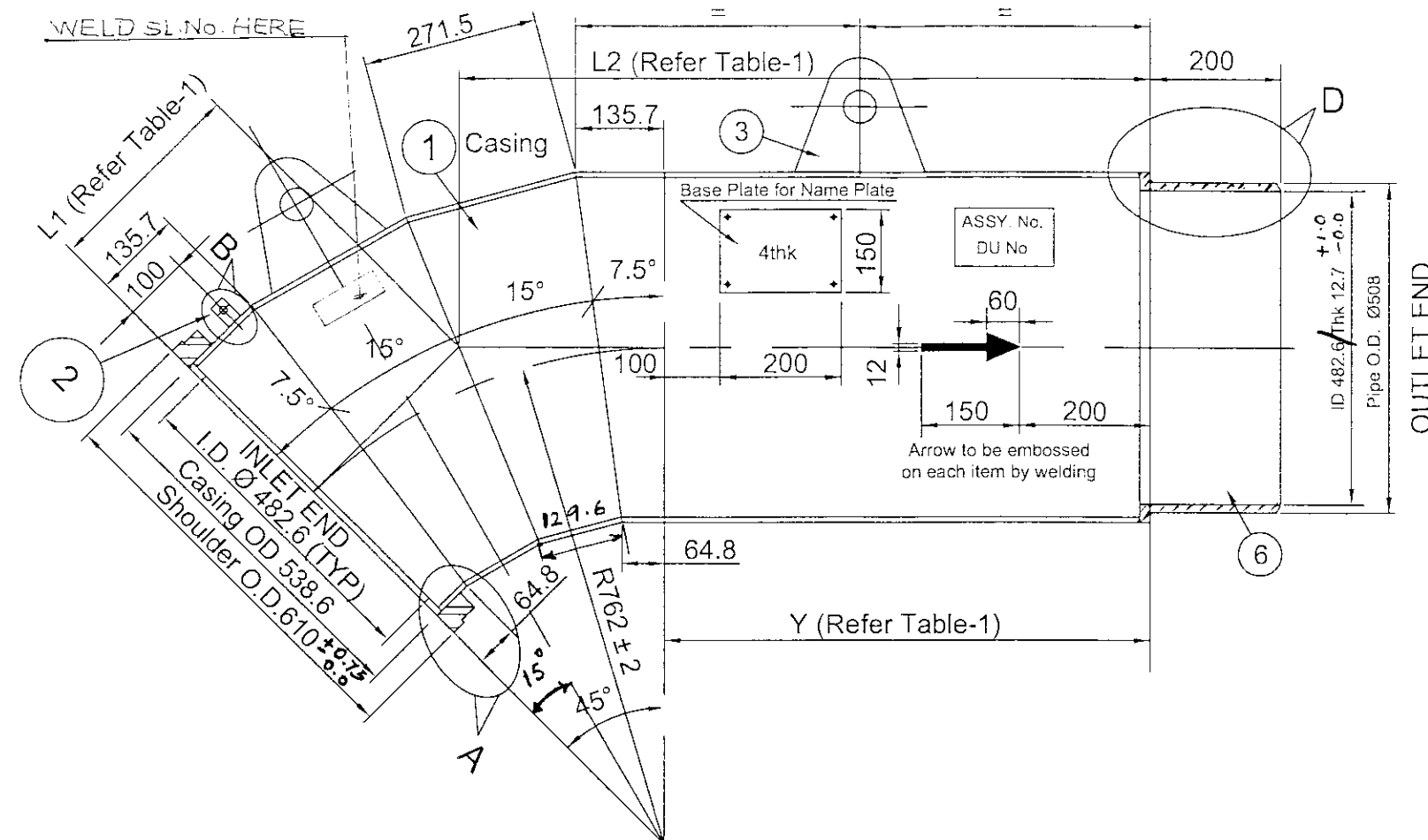
REF. DRG. No.

SIGN AND DATE

INVENTORY No.

3-986-01-10041

DRG No.



7	Stopper Ring	16 mm Thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.s	5.6	
6	St. Pipe Ø508x200Lg.	12.7 mm Thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.s	31.0	
5	Stopper Ring	10 mm Thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.s	3.5	
4	Shoulder	ID: 540, OD:610	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.s	-	FREE Issue By BHEL To Vendor
3	Lifting Lug	8mm thk.	KILLED STEEL IS:2062 - 2011 E250 BR	2 No.s	1.3	
2	Earth Lug	3mm thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.s	0.02	
1	Casing	8mm thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.s	Refer Table-1	
SL No.	Description	Size	Material	Qty. per Bend	Wt. / Piece (Kgs.)	Remarks

TABLE - 2

2	CLCP-153	H6-11, H7-11	315.6	823.6	508	V	W	2	114.1
1	CLCP-152	E1-2, E4-2, H6-9, H7-9	315.6	1331.6	1016	V	W	4	167.2
Var. No.	DU No.	Assembly No.	L1	L2	Y	End connection inlet side	End connection outlet side	Qty.	Weight kg/Bend

TABLE - 1

NAME OF CUSTOMER/PROJECT



BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

	NAME	SIGN	DATE
DRN	Kaushik.K		01-08-2016
CHD	M.Vinod		07/10/16
APPD	Felix.J		07-10-2016

DEPT	GRADE OF TOL DIM C/M/F	SCALE N.T.S.	WEIGHT (kg) Refer Note-10 (Approx)	REF TO ASSY.DRG EL-DG- 3-986-01-10040 (500A-16)	ITEM No.	No.OF ITEMS
CODE	TITLE CASING FOR BENDS 500NB DETAIL (V-W)	CARD CODE	DRAWING No. 3-986-01-10041	REV. 00	SHEET No. 1	No.OF SHEETS 3

SUPERSEDES DRG. No.

SHT.24 SIZE A3 420 x 297

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN mm.

REV

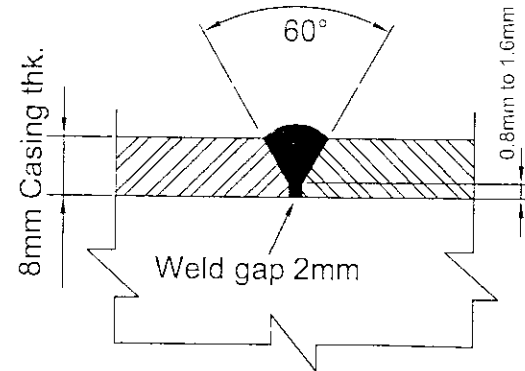
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SIGN AND DATE

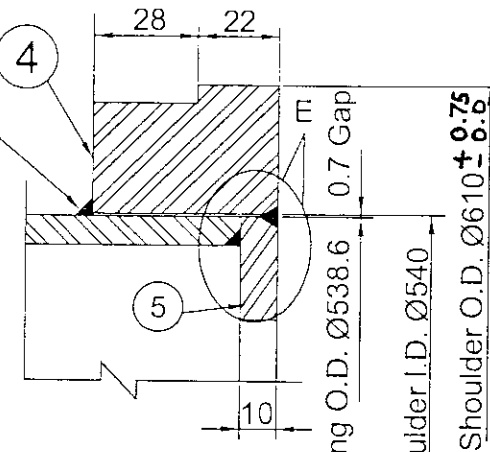
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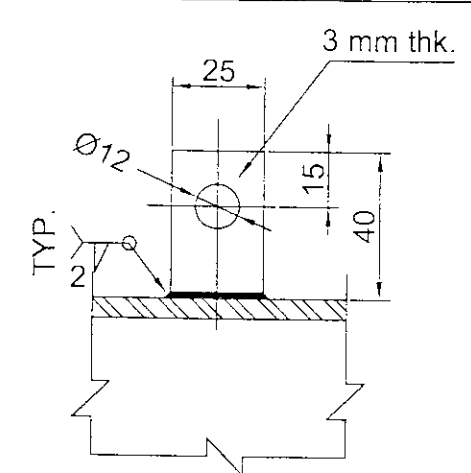
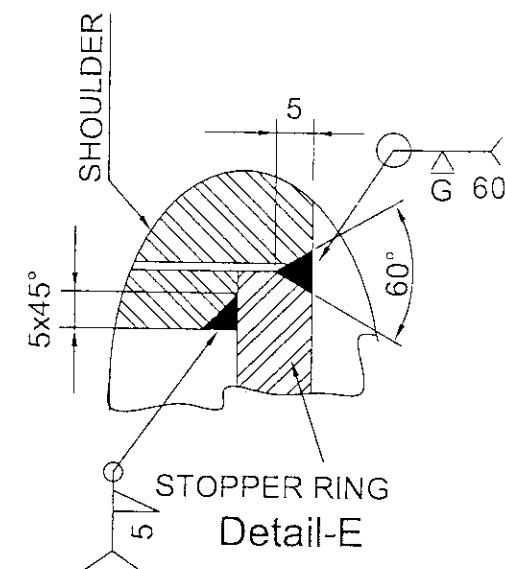
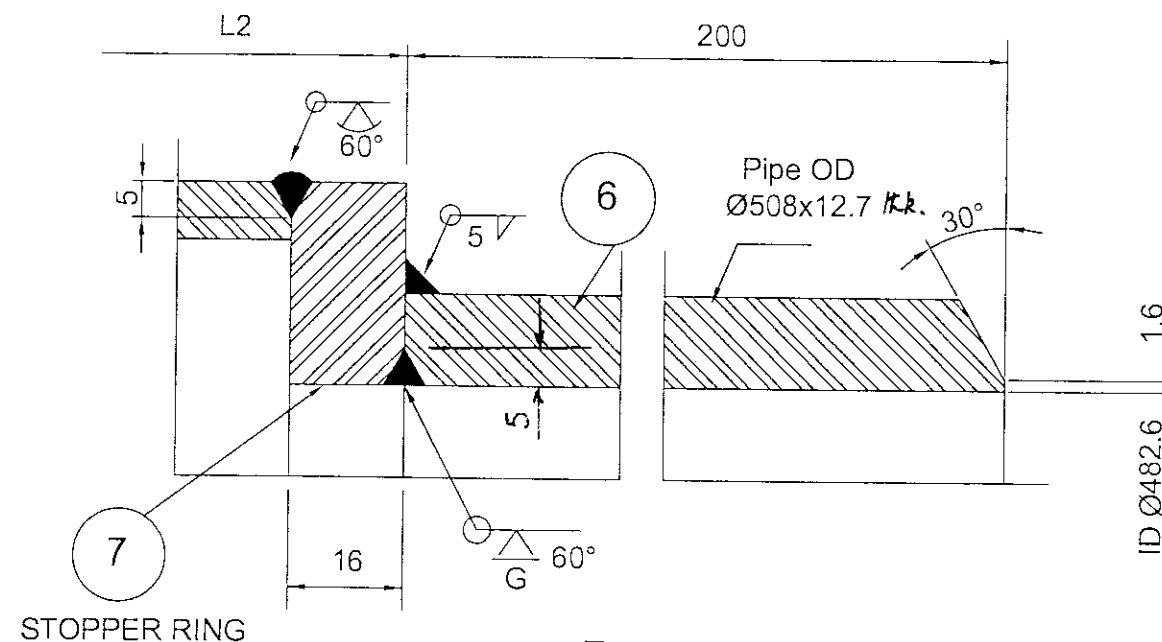
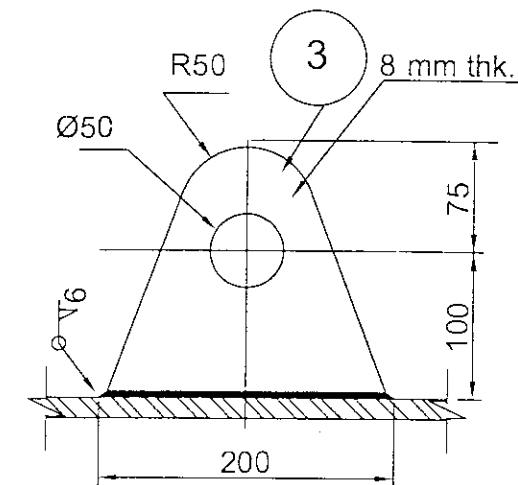
DRG No.

EDGE PREPARATION
WELDING DETAIL

Ø57 TYP.



Detail-A

EARTH LUG
DETAIL-BDetail-D
Butt Weld End DetailDETAIL OF
LIFTING LUG

NAME OF CUSTOMER/PROJECT

BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

NAME	SIGN	DATE
DRN Kaushik.K		01-08-2016
CHD M.Vinod		07.10.16
APPD Felix.J		07.10.16

DEPT	GRADE OF TOL DIM	SCALE	WEIGHT (kg)	REF TO ASSY.DRG	ITEM No.	No.OF ITEMS
CODE	C/M/F	N.T.S.	Refer Note-10 (Approx)	EL-DG- 3-986-01-10040 (500A-16)		
TITLE				CARD CODE	DRAWING No.	REV.
CASING FOR BENDS 500NB DETAIL (V-W)					3-986-01-10041	00
				SHEET No.	No.OF SHEETS	
				2	3	

SUPERSEDES DRG. No.

SHT.24 SIZE A3 420 x 297

REV
00

3-986-01-10041

DRG No.

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NOTE:-

1. FOR CONSTRUCTION MATERIAL REFER TABLE-2
2. DURING ASSY. LONGITUDINAL WELDING BETWEEN SEGMENTS TO BE STAGGERED.
3. ALL SUPPLIES TO CONFORM CLN:QP:01/00. WELDING AS PER WP:CL001A & AWS:D 1.1.
4. DIMENSIONS INDICATED ARE FINISHED SIZE ONLY.
5. ASSEMBLY No., DU No., AND ARROW HEAD TO BE WELD DEPOSITED OVER CASING AS SHOWN , AS PER CE:1501:21
6. BASE PLATE FOR NAME PLATE TO BE WELDED ON TO CASING, AT LOCATION SHOWN,
FOR BASE PLATE & WELDING DETAILS REF DRG : 4 986 99 07720
7. FACE ANGLES TO BE MATCHED DURING ASSY.
8. ALL OVER MACHINING 6.3/ FOR STOPPER RINGS.
9. V-SHOULDER FOR VICTAULIC COUPLING & W/BW- BUTT WELD SPOOL PIPE.
10. FOR CASING Wt. REFER TABLE -1
FOR Wt. OF LIFTING LUG, EARTH LUG, STOPPER RINGS **AND SPOOL PIPE.**
REFER TABLE - 2
11. WHERE "Y" IS GREATER THAN 1000, ONE CIRCUMFERENTIAL JOINT IS ALLOWED ON "Y", OUTSIDE SEGMENT TOWARDS OUTLET END.
THIS JOINT SHOULD NOT FOUL WITH LUG
12. SURFACE PREPARATION AND PAINTING: REF PAINTING SCHEME DOC. No. : PS- L&T - TANDA. BENDS.
13. OVERALL BEND TOLERANCE:-
 - a]. AXIAL SHIFT: ± 3 MM
 - b]. RADIAL SHIFT: ± 3 MM
 - c]. OUT OF SQUARENESS: ± 3 MM.
14. CONTROL DURING WELDING OF SHOULDER TO CASING :-
 - a] OVALITY OF CASING ON OUTER DIAMETER TO BE MAINTAINED WITHIN 1.0 mm
 - b] WELDING OF SHOULDER TO CASING AS PER DETAIL-A, TO BE DONE IN SUCH A WAY AS TO ENSURE THAT DISTORTION OF COLLAR IS LIMITED SUCH THAT DIM. $\varnothing 610$ mm IS STRICTLY WITHIN THE RANGE SPECIFIED IN SHEET 2 OF 3.
VENDOR TO DO THE NEEDFUL TO ACHIEVE 14(a) AND 14(b).
15. ALL PARTS HAVE TO BE 6 mm FILLET WELDED, IF NOT SPECIFIED.
16. TOLERANCES ON SPOOL PIPE : AS PER API-5L STANDARD.

NAME OF CUSTOMER/PROJECT

BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

	NAME	SIGN	DATE
DRN	Kaushik.K		01-08-2016
CHD	M.Vinod		07/10/16
APPD	Felix.J		07.10.16.

DEPT	GRADE OF TOL DIM C/M/F	SCALE	WEIGHT (kg)	REF TO ASSY.DRG	ITEM No.	No.OF ITEMS
CODE		N.T.S.	Refer Note-10 (Approx)	EL-DG- 3-986-01-10040 (500A-16)		
TITLE				CARD CODE	DRAWING No.	REV.
CASING FOR BENDS 500NB DETAIL (V-W)					3-986-01-10041	00
				SHEET No.	No.OF SHEETS	
				3	3	

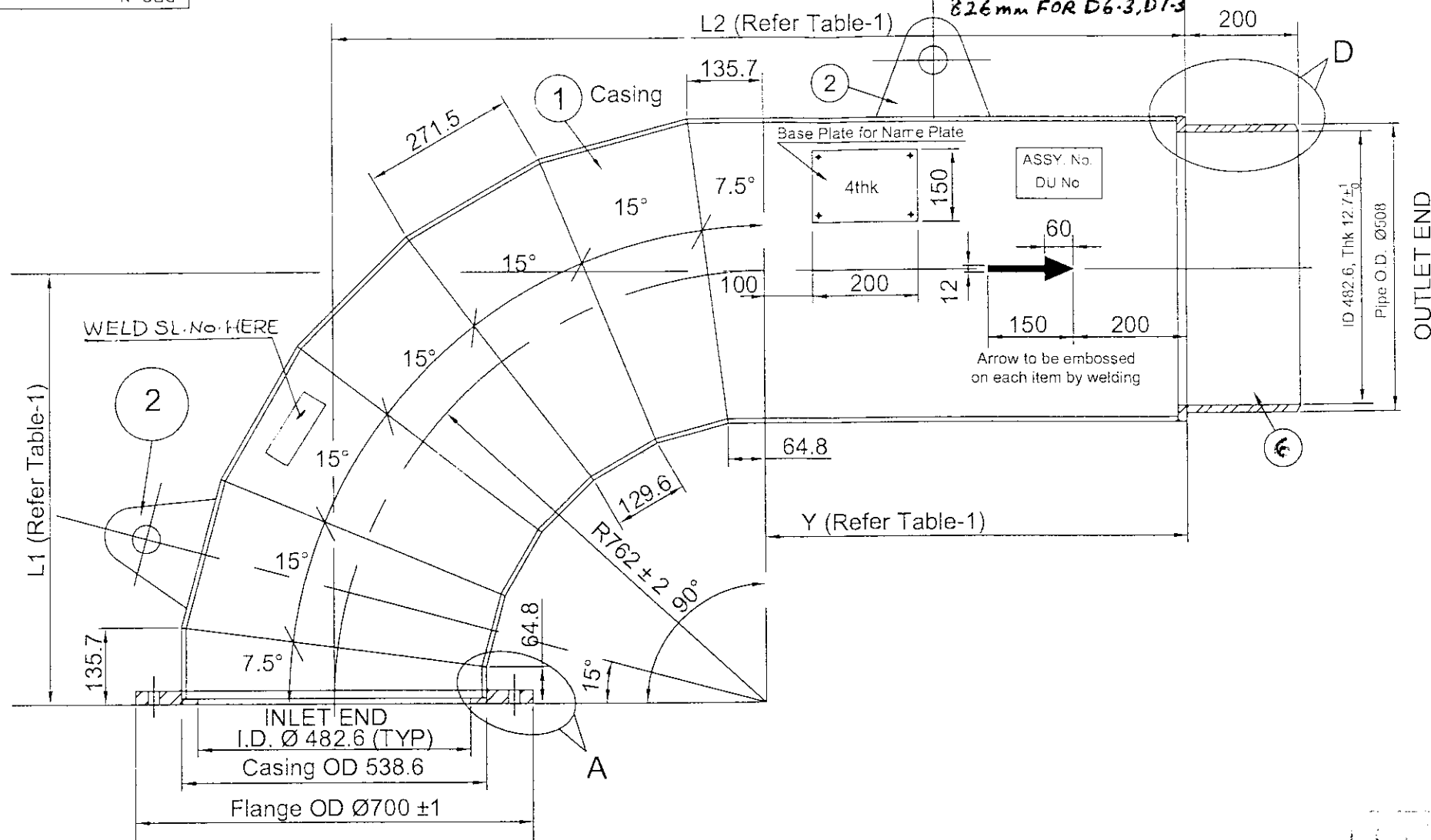
SUPERSEDES DRG. No.

SHT.24 SIZE A3 420 x 297

ALL DIMENSIONS ARE IN mm.

576mm FOR D1-3, D4-3

826mm FOR D6-3, D7-3



7	Support Pad	8 mm Thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.s	5.2	—
6	St. Pipe Ø508x200Lg.	12.7 mm Thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.s	31.0	—
5	Stopper Ring	10mm thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.s	3.5	—
4	Stopper Ring- Pipe end	16mm thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.s	5.6	—
3	Flange -FL(VO)	24 mm Thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.s	26.0	—
2	Lifting Lug	8 mm Thk.	KILLED STEEL IS:2062 - 2011 E250 BR	2 No.s	1.3	—
1	Casing	8 mm Thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.s	Refer Table-1	—
SL No.	Description	Size	Material	Qty. per Bend	Wt. / Piece (Kgs.)	Remarks
TABLE - 2						

1	CLCP-150	D1-3, D4-3, D6-3, D7-3,	762	1778	1016	FL(VO)	W	4	229.8
Var. No.	DU No.	Assembly No.	L1	L2	Y	End connection inlet side	End connection outlet side	Qty. Nos	Weight kg./3end

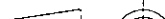
TABLE-1

NAME OF CUSTOMER/PROJECT



BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

	NAME	SIGN	DATE
DRN	Kaushik.K		02-08-2016
CHD	M.Vinod		07/10/16
APPD	Felix.J		07-10-16

DEPT	GRADE OF TOL DIM		SCALE N.T.S.	WEIGHT (kg) Refer Note-10 (Approx)	REF TO ASSY.DRG EL-DG- 3-986-01-10050 (500A-17)	ITEM No.	No.OF ITEMS
CODE	C/M/F						
TITLE CASING FOR BENDS 500NB DETAIL (F-W)				CARD CODE	DRAWING No. 3-986-01-10051		REV. 01
					SHEET No. 1	No OF SHEETS 3	

SUPERSEDES ORG. No.

SHT.24 SIZE A3 420 x 297

FIRST ANGLE PROJECTION

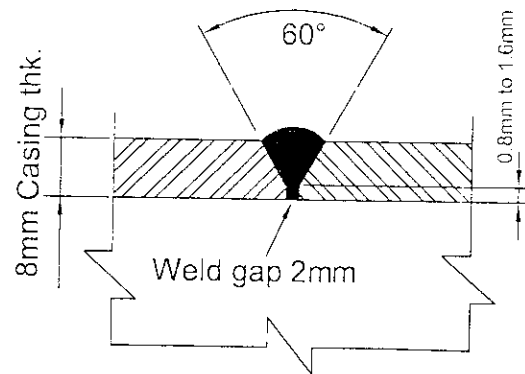
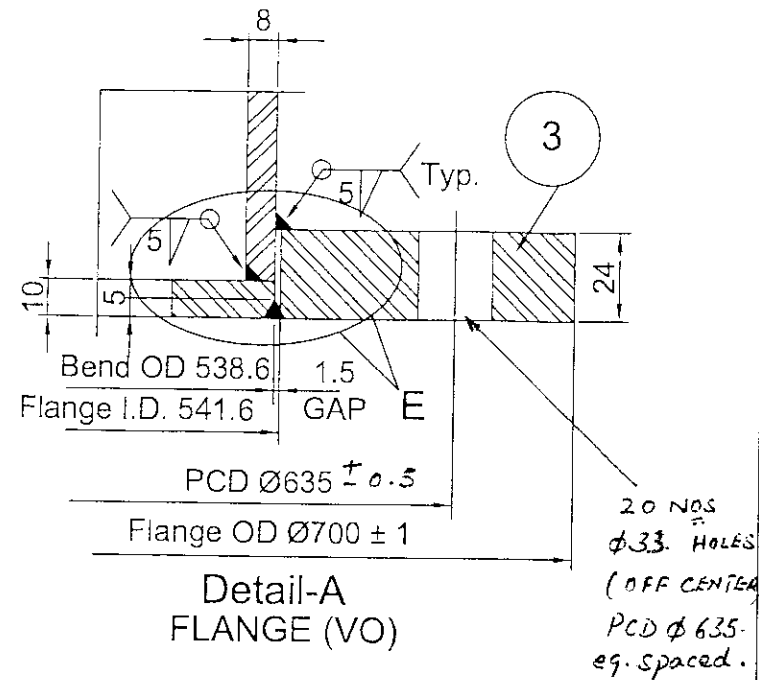
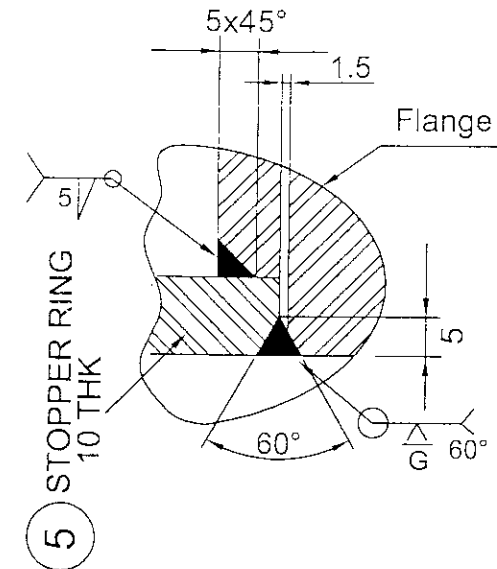
ALL DIMENSIONS ARE IN mm.

REV 01
DRG No. 3-986-01-10051

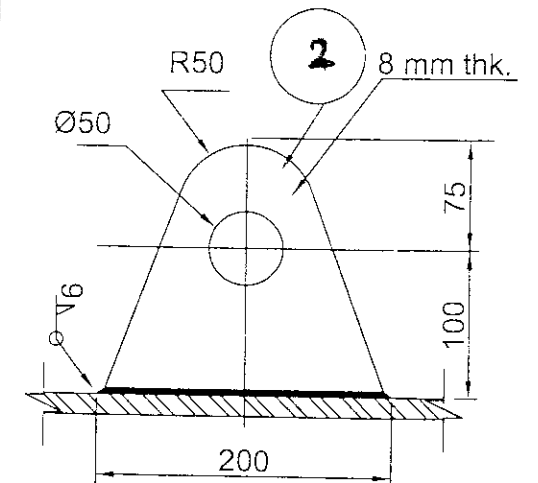
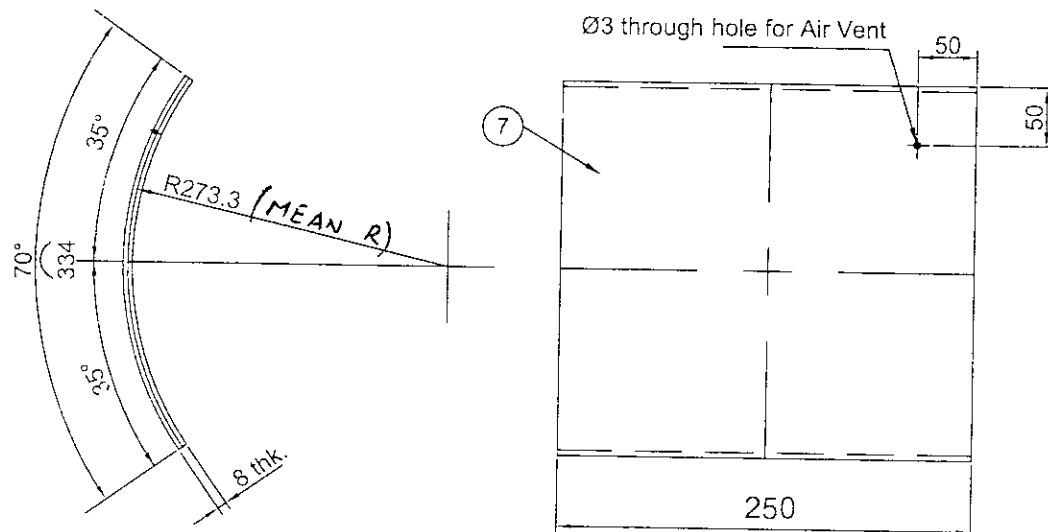
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SIGN AND DATE
REF. DRG. No.

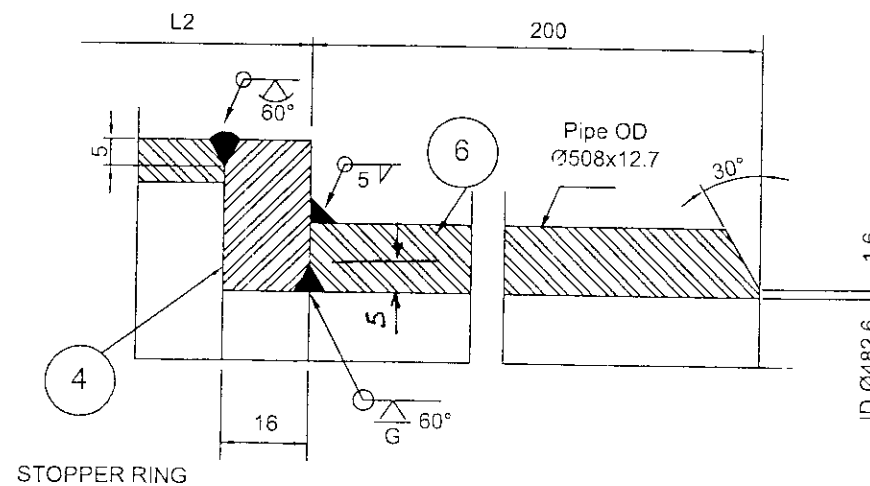
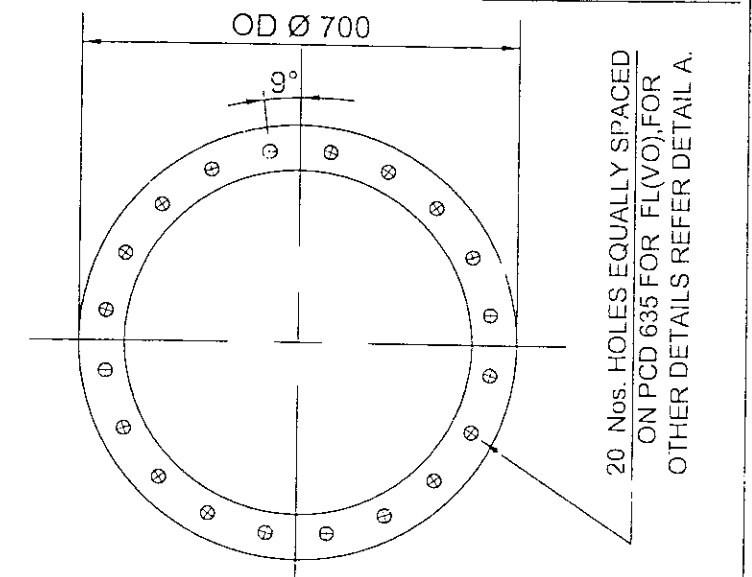
INVENTORY No.

EDGE PREPARATION
WELDING DETAILDetail-A
FLANGE (VO)

Detail-E

DETAIL OF
LIFTING LUG

TYPICAL SUPPORT PAD DETAIL

FOR SUPPORT PAD LOCATION,
ORIENTATION, QUANTITY
REF DRG. 3-986-99-07790 &
3-986-99-07800.Detail-D
Butt Weld End Detail

FLANGE HOLE ORIENTATION

NAME OF CUSTOMER/PROJECT

BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

NAME	SIGN	DATE
DRN Kaushik K		02-08-2016
CHD M.Vinod		07-10-16
APPD Felix J		

DEPT	GRADE OF TOL DIM C/M/F	SCALE	WEIGHT (kg)	REF TO ASSY.DRG	ITEM No.	No. OF ITEMS
CODE		N.T.S.	Refer Note-10 (Approx)	EL-DG- 3-986-01-10050 (500A-17)		
TITLE	CASING FOR BENDS 500NB DETAIL (F-W)			CARD CODE	DRAWING No. 3-986-01-10051	REV. 01
SHEET No. 2		No. OF SHEETS 3				

SUPERSEDES DRG. No.

SHT.24 SIZE A3 420 x 297

ALL DIMENSIONS ARE IN mm.

REV	RG No.
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1. FOR CONSTRUCTION MATERIAL REFER TABLE-2
2. DURING ASSY. LONGITUDINAL WELDING BETWEEN SEGMENTS TO BE STAGGERED.
3. ALL SUPPLIES TO CONFORM CLN:QP:01/00. WELDING AS PER WP:CL001A & AWS:D 1.1.
4. DIMENSIONS INDICATED ARE FINISHED SIZE ONLY.
5. ASSEMBLY No., DU No., AND ARROW HEAD TO BE WELD DEPOSITED OVER CASING AS SHOWN , AS PER CE:1501:21
6. BASE PLATE FOR NAME PLATE TO BE WELDED ON TO CASING, AT LOCATION SHOWN,
FOR BASE PLATE & WELDING DETAILS REF DRG : 4 986 99 07720
7. FACE ANGLES TO BE MATCHED DURING ASSY.
8. ALL OVER MACHINING 6.3/ FOR STOPPER RINGS.
9. FL(VO) - VARIABLE ORIFICE FLANGE, W/BW- SPOOL PIPE/ BUTT WELDED.
10. FOR CASING Wt. REFER TABLE -1
FOR Wt. OF LIFTING LUG, FLANGE, STOPPER RINGS, SUPPORT PAD AND SPOOL PIPE.
REFER TABLE - 2
11. WHERE "Y" IS GREATER THAN 1000, ONE CIRCUMFERENTIAL JOINT IS ALLOWED ON "Y", OUTSIDE SEGMENT TOWARDS OUTLET END.
THIS JOINT SHOULD NOT FOUL WITH LUG
12. SURFACE PREPARATION AND PAINTING: REF PAINTING SCHEME DOC. No. : PS- L&T - TANDA. BENDS.
13. OVERALL BEND TOLERANCE:-
 - a]. AXIAL SHIFT: ± 3 MM
 - b]. RADIAL SHIFT: ± 3 MM
 - c]. OUT OF SQUARENESS: ± 3 MM.
14. TOLERANCES ON SPOOL PIPE: AS PER API-5L STANDARD.
15. ALL PARTS HAVE TO BE 6 mm FILLET WELDED, IF NOT SPECIFIED.

DATE: 11/11/2001 11:00 AM

SIGN AND DATE	NAME OF CUSTOMER/PROJECT																
	 BHARAT HEAVY ELECTRICALS LTD., ELECTROPORCELAINS DIVISION BANGALORE - 560 012										DRN	NAME	SIGN	DATE			
INVENTORY No.	REV	DATE	ALTERED	REV	DATE	ALTERED	REV	DATE	ALTERED	DEPT	GRADE OF	 	SCALE	WEIGHT (kg)	REF TO ASSY.DRG	ITEM	No. OF
			CHECKED			CHECKED			CHECKED								
											C/M/F			(Approx)	(500A-17)		
										TITLE			CARD	DRAWING No.		REV.	
										CASING FOR BENDS 500NB DETAIL (F-W)			CODE	3-986-01-10051		01	
														SHEET No. 3	No. OF SHEETS 3		

SHT.24 SIZE A3 420 x 297

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19001-10-986-E

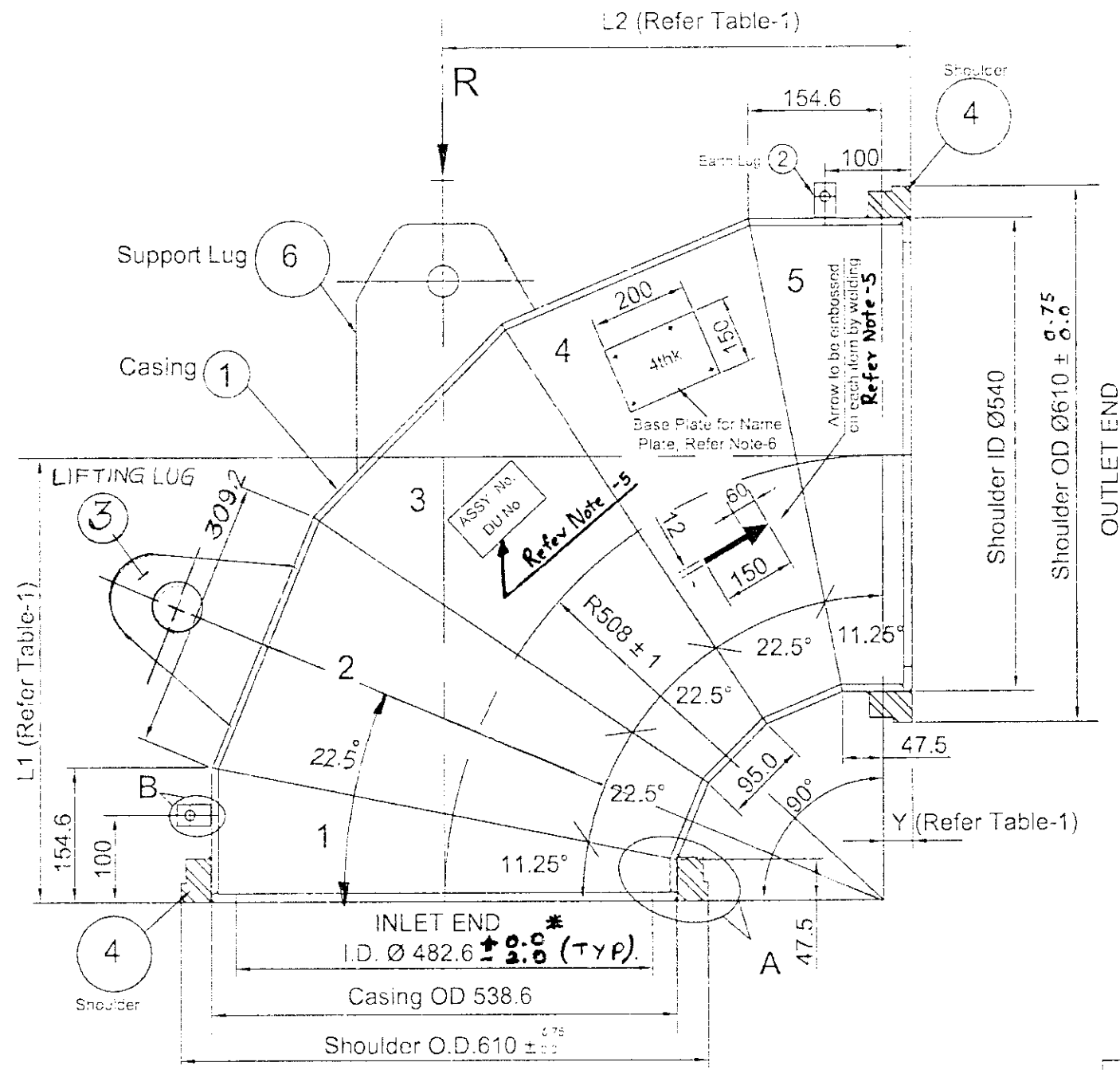
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REF. DRG. NO.

SIGN AND DATE

INVENTORY No.



* STOPPER RING ID 482.6 PREFERABLY TO BE MAINTAINED ON MINUS SIDE WITHIN TOLERANCE.

6	Support Lug	16mm thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No	4.7	
5	Stopper Ring	10mm thk.	KILLED STEEL IS:2062 - 2011 E250 BR	2 No.s	3.5	
4	Shoulder	ID:540 OD:610	KILLED STEEL IS:2062 - 2011 E250 BR	2 No.s	-	FREE Issue By BHEL To Vendor
3	Lifting Lug	8 mm Thk	KILLED STEEL IS:2062 - 2011 E250 BR	1 No	1.3	
2	Earth Lug	3 mm Thk	KILLED STEEL IS:2062 - 2011 E250 BR	2 No.s	0.02	
1	Casing	8 mm Thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.	Refer Table-1	
SL No.	Description	Size	Material	Qty. per Bend	Wt. / Piece (Kgs.)	Remarks

TABLE - 2

1	CLCP-141	F1-10 & F4-10 B 1-B 4-B 8	508	542	34.0	V	V	SL	4	86.0
Var.No.	DU No	Assembly No.	L1	L2	Y	End connection inlet side	End connection outlet side	Accy	Qty	Weight kg/Bend

TABLE - 1

NAME OF CUSTOMER/PROJECT



BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

DRN	NAME	SGN	DATE
CHD	Kaustik K		04-08-2016
APRD	M Vinod		04-11-16
	Felix J		04-11-16

DEPT	GRADE OF TOL D.V	SCALE	WEIGHT (kg)	REF TO ASSY.DRG	ITEM No OF No. ITEMS
CODE	C/M/F	NTS	Refer Note-10 (Append)	EL-DG 3-986-01-10060 (500A-18)	

CASING FOR BENDS 500NB
DETAIL (V-V)

CARD CODE	DRAWING No	REV.
	3-986-01-10061	00
SHEET No.	NO. OF SHEETS	

00
REV

19001-10-986-3

DRG No.

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NOTE:-

1. FOR CONSTRUCTION MATERIAL REFER TABLE-2
2. DURING ASSY. LONGITUDINAL WELDING BETWEEN SEGMENTS TO BE STAGGERED.
3. ALL SUPPLIES TO CONFORM CLN:QP:01/00. WELDING AS PER WP:CL001A & AWS:D 1.1.
4. DIMENSIONS INDICATED ARE FINISHED SIZE ONLY.
5. ASSEMBLY No., DU No., AND ARROW HEAD TO BE WELD DEPOSITED ON SEGMENT ^{}3 OVER CASING AS SHOWN, AS PER CE:1501:21
6. BASE PLATE FOR NAME PLATE TO BE WELDED ON SEGMENT #4 OVER CASING, AT LOCATION SHOWN,
FOR BASE PLATE & WELDING DETAILS REF DRG : 4 986 99 07720
7. FACE ANGLES TO BE MATCHED DURING ASSY.
8. ALL OVER MACHINING 6.3/ FOR STOPPER RINGS
9. V-SHOULDER FOR VICTAULIC COUPLING.
10. FOR CASING Wt. REFER TABLE -1
FOR Wt. OF LIFTING LUG, SUPPORT LUG, EARTH LUG & STOPPER RINGS.
REFER TABLE - 2
11. WHERE "Y" IS GREATER THAN 1000, ONE CIRCUMFERENTIAL JOINT IS ALLOWED ON "Y", OUTSIDE SEGMENT TOWARDS OUTLET END.
THIS JOINT SHOULD NOT FOUL WITH LUG
12. SURFACE PREPARATION AND PAINTING: REF PAINTING SCHEME DOC. No. : PS- L&T - TANDA. BENDS.
13. OVERALL BEND TOLERANCE:-
 - a). AXIAL SHIFT: ± 3 MM
 - b). RADIAL SHIFT: ± 3 MM
 - c). OUT OF SQUARENESS: ± 3 MM.
14. CONTROL DURING WELDING OF SHOULDER TO CASING :-
 - a) OVALITY OF CASING ON OUTER DIAMETER TO BE MAINTAINED WITHIN 1.0 mm
 - b) WELDING OF SHOULDER TO CASING AS PER DETAIL-A, TO BE DONE IN SUCH A WAY AS TO ENSURE THAT DISTORTION OF COLLAR IS LIMITED SUCH THAT DIM. $\varnothing 610$ mm IS STRICTLY WITHIN THE RANGE SPECIFIED IN SHEET 2 OF 3.
VENDOR TO DO THE NEEDFUL TO ACHIEVE 14(a) AND 14(b).

NAME OF CUSTOMER/PROJECT

BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

	NAME	SIGN	DATE
DRN	Kaushik K		4-08-2016
CHD	V Vinod		04/08/16
APPD	Felix		04.11.16

DEPT	GRADE OF TOL DIV	SCALE	WEIGHT (kg)	REF TO ASSY.DRG	ITEM No.	No. OF TEMS
CODE	C/M/F	N.T.S	Refer Note 10 (Approx)	EL-DG- 3-986-01-10060 (500A-18)		
TITLE				CARD CODE	DRAWING No	REV.
CASING FOR BENDS 500NB DETAIL (V-V)					3-986-01-10061	00
					SHEET No	No OF SHEETS
					3	3

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN mm.

REV

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REF. DRG. No.

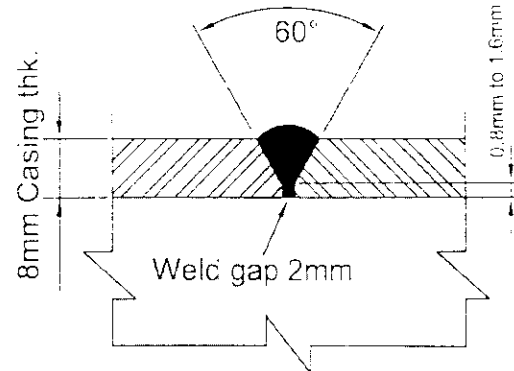
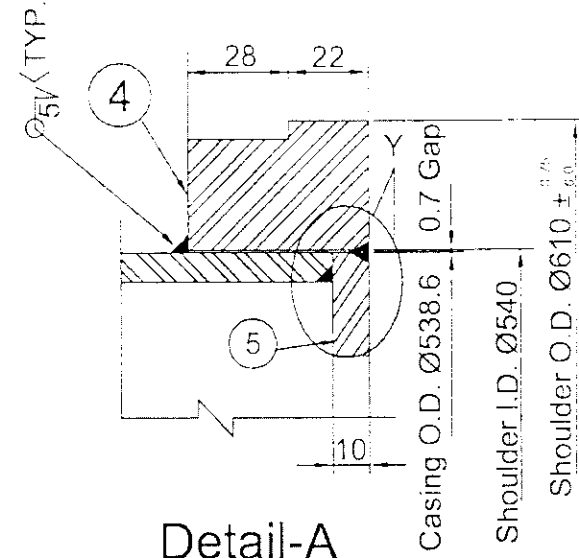
SIGN AND DATE

INVENTORY No.

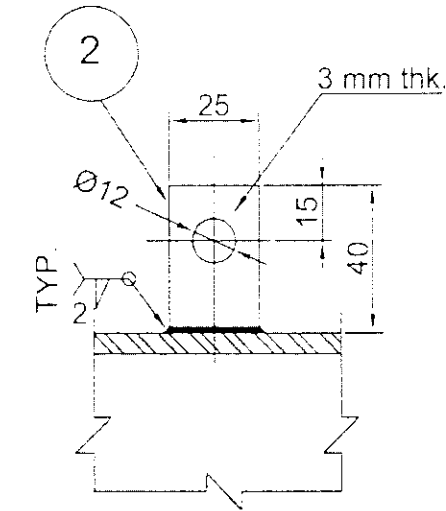
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19001-10-986-3

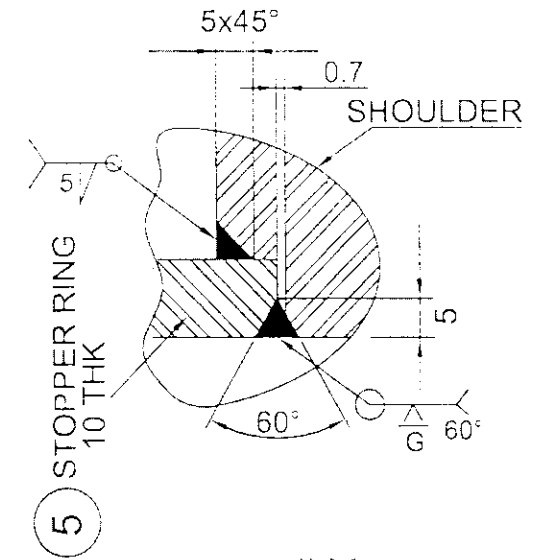
DRG No.

EDGE PREPARATION
WELDING DETAIL

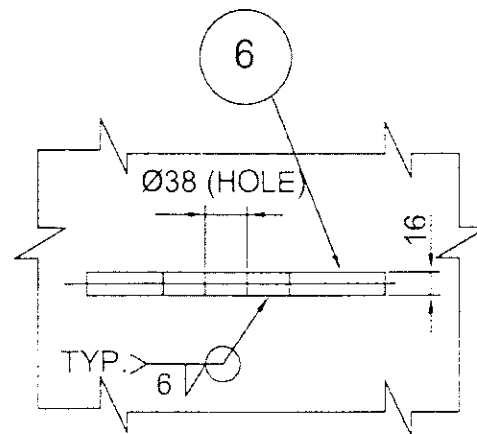
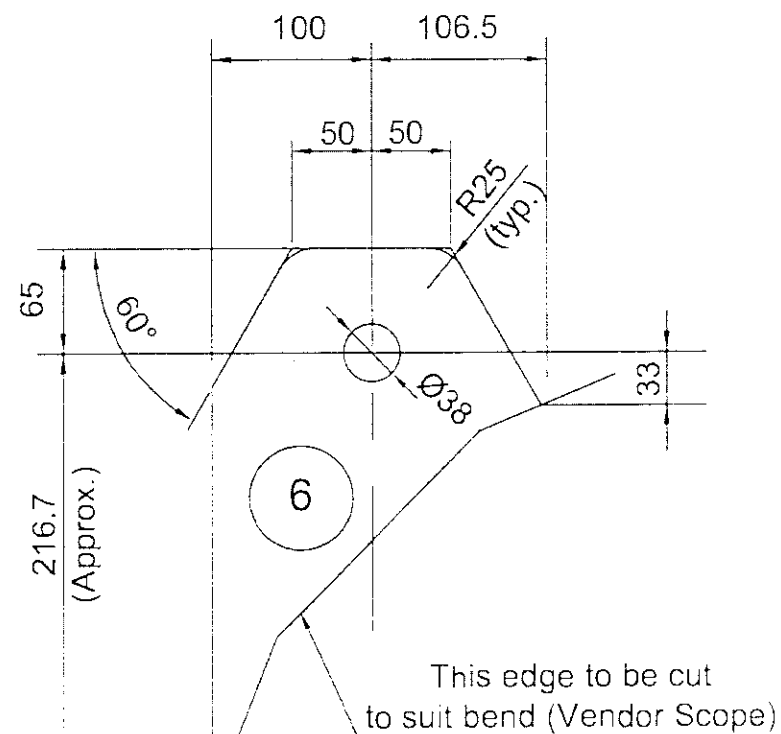
Detail-A



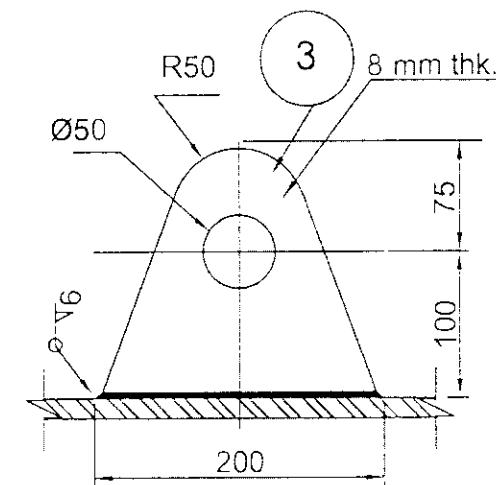
EARTH LUG DETAIL-B



Detail-Y

VIEW-R
Supporting Lug

SUPPORT LUG

DETAIL OF
LIFTING LUG

NAME OF CUSTOMER/PROJECT

BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

NAME	SIGN	DATE
DRN	Kaushik K	04.08.2016
CHD	M Vinod	04.11.16
APPD	Felix J	04.11.16

DEPT	GRADE OF	SCALE	WEIGHT (kg)	REF TO ASSY DRG	ITEM	No OF
CODE	TOL DIM	N T S	Refer Note -10	EL-DG- 3-986-01-10060	No.	TEMS
	C/M/F		(Approx)	(500A-18)		
TITLE	CARD	DRAWING No.	REV.			
CASING FOR BENDS 500NB	CODE	3-986-01-10061	00			
DETAIL (V-V)						
	SHEET No	2	No OF SHEETS	2		

SUPERSEDES DRG. No.

SHEET 24 OF 24

DRG No.

Technical drawing of a 90-degree elbow flange assembly. The drawing shows the inlet end on the left and the outlet end on the right. Key dimensions include:

- Inlet End I.D. Ø 482.6 (TYP)
- Casing OD 538.6 (TYP)
- Shoulder O.D. 610 ± 0.8
- Elbow Radius: R762 ± 2
- Elbow Angle: 90°
- Flange Thickness: 150
- Base Plate for Name Plate: 4thk, 200 x 150
- Support Lug: 135.7
- Earth Lug: 100
- Shoulder ID Ø540 (TYP)
- Shoulder OD Ø610 ± 0.8
- Arrow to be embossed on each item by welding

The drawing is labeled with 'L1 (Refer Table-1)' and 'L2 (Refer Table-1)'.

TABLE - 2TABLE - 1

NAME OF CUSTOMER/PROJECT



BHEL

BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

CASING FOR BENDS 500NB
DETAIL (V-V)

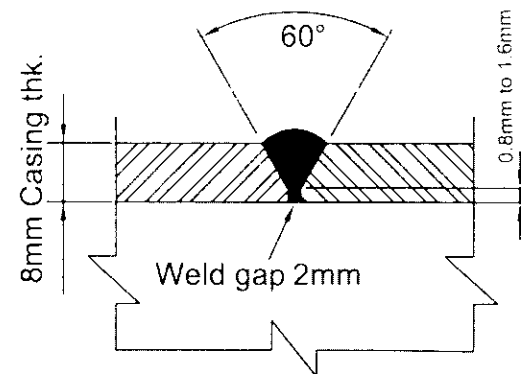
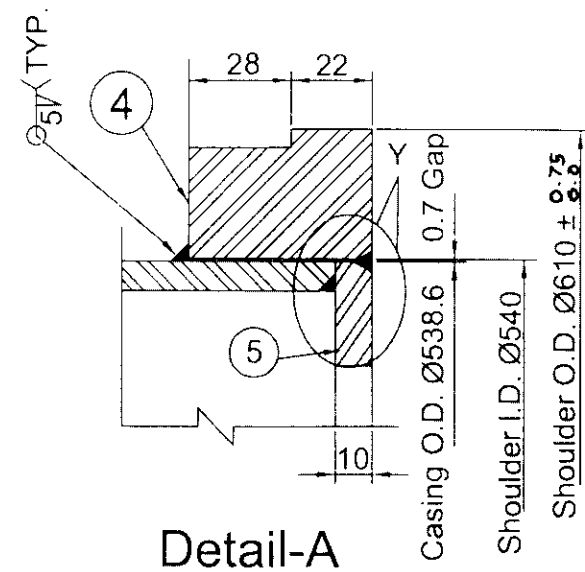
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SHT.24 SIZE A3 420 x 297

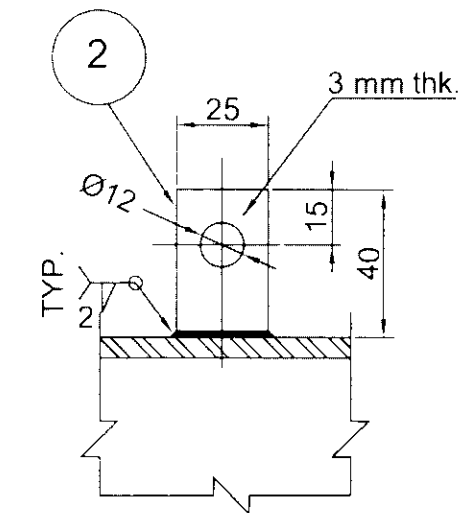
FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN mm.

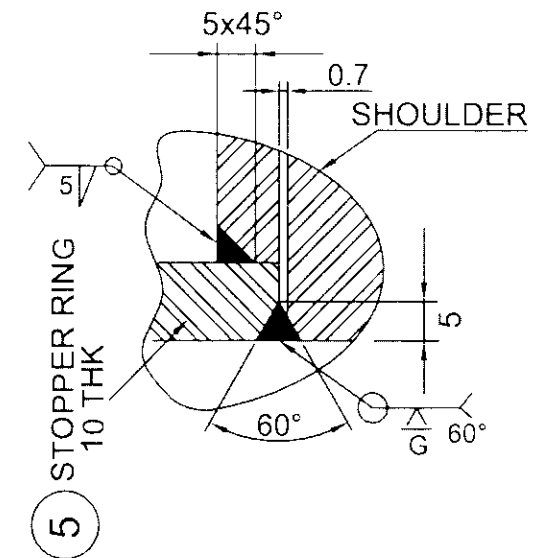
REV 00 3-986-01-10071

EDGE PREPARATION
WELDING DETAIL

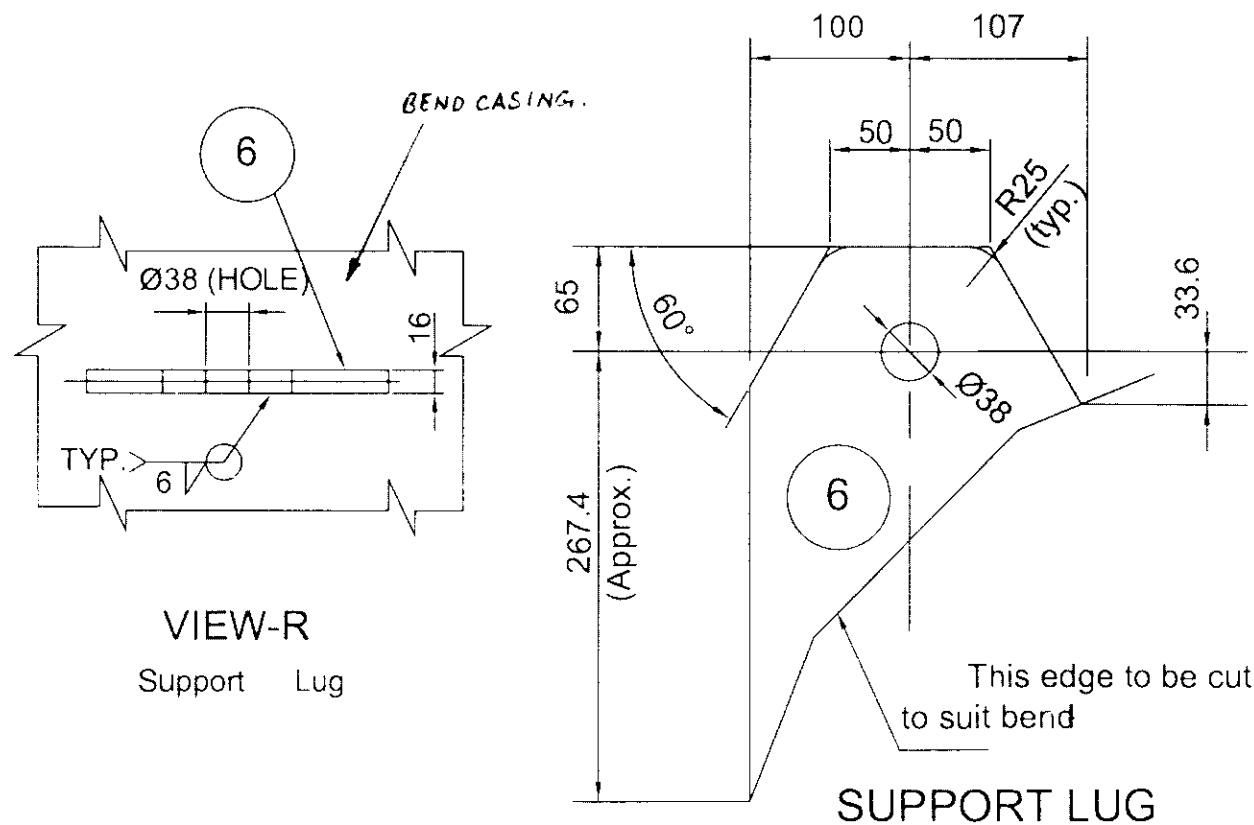
Detail-A



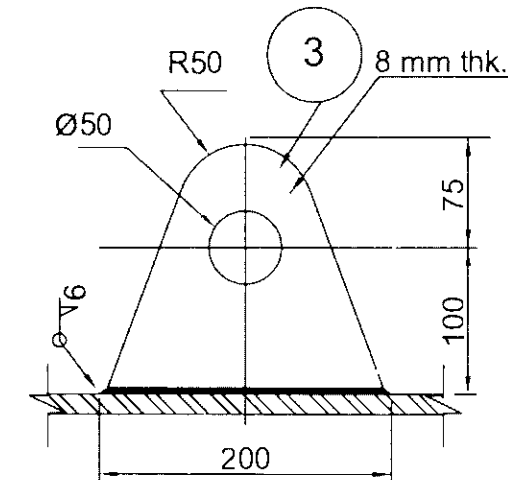
EARTH LUG DETAIL-B



Detail-Y



SUPPORT LUG

DETAIL OF
LIFTING LUG

NAME OF CUSTOMER/PROJECT

BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

	NAME	SIGN	DATE
DRN	Kaushik K		02-08-2016
CHD	M Vinod		07-10-16
APPD	Felix J		07-10-16

DEPT	GRADE OF TOL DIM C/M/F	SCALE	WEIGHT (kg)	REF TO ASSY.DRG	ITEM No.	No. OF ITEMS
CODE		N.T.S.	Refer Note -10 (Approx)	EL-DG- 3-986-01-10070 (500A-19)		
TITLE	CASING FOR BENDS 500NB DETAIL (V-V)			CARD CODE	DRAWING No.	REV.
					3-986-01-10071	00

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SIGN AND DATE REF. DRG. No.

VENTORY No.

REV	DATE	ALTERED	REV	DATE	ALTERED	REV	DATE	ALTERED
		CHECKED			CHECKED			CHECKED

REV

12001-10-986-3

DRG No.

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REF. DRG. No.

SIGN AND DATE

INVENTORY No.

NOTE:-

1. FOR CONSTRUCTION MATERIAL REFER TABLE-2
2. DURING ASSY. LONGITUDINAL WELDING BETWEEN SEGMENTS TO BE STAGGERED.
3. ALL SUPPLIES TO CONFORM CLN:QP:01/00. WELDING AS PER WP:CL001A & AWS:D 1.1.
4. DIMENSIONS INDICATED ARE FINISHED SIZE ONLY.
5. ASSEMBLY No., DU No., AND ARROW HEAD TO BE WELD DEPOSITED OVER CASING AS SHOWN , AS PER CE:1501:21
6. BASE PLATE FOR NAME PLATE TO BE WELDED ON TO CASING, AT LOCATION SHOWN,
FOR BASE PLATE & WELDING DETAILS REF DRG : 4 986 99 07720
7. FACE ANGLES TO BE MATCHED DURING ASSY.
8. ALL OVER MACHINING 6.3/ FOR STOPPER RINGS.
9. V-SHOULDER FOR VICTAULIC COUPLING, ACCY - ACCESSORY, SL- SUPPORT LUG.
10. FOR CASING Wt. REFER TABLE -1
FOR Wt. OF LIFTING LUG, EARTH LUG, STOPPER RINGS & SUPPORT LUG.
REFER TABLE - 2
11. WHERE "Y" IS GREATER THAN 1000, ONE CIRCUMFERENTIAL JOINT IS ALLOWED ON "Y", OUTSIDE SEGMENT TOWARDS OUTLET END.
THIS JOINT SHOULD NOT FOUL WITH LUG
12. SURFACE PREPARATION AND PAINTING: REF PAINTING SCHEME DOC. No. : PS- L&T - TANDA. BENDS.
13. OVERALL BEND TOLERANCE:-
 - a). AXIAL SHIFT: ± 3 MM
 - b). RADIAL SHIFT: ± 3 MM
 - c). OUT OF SQUARENESS: ± 3 MM.
14. CONTROL DURING WELDING OF SHOULDER TO CASING :-
 - a) OVALITY OF CASING ON OUTER DIAMETER TO BE MAINTAINED WITHIN 1.0 mm
 - b) WELDING OF SHOULDER TO CASING AS PER DETAIL-A, TO BE DONE IN SUCH A WAY AS TO ENSURE THAT DISTORTION OF COLLAR IS LIMITED SUCH THAT DIM. $\varnothing 610$ mm IS STRICTLY WITHIN THE RANGE SPECIFIED IN SHEET 2 OF 3.
VENDOR TO DO THE NEEDFUL TO ACHIEVE 14(a) AND 14(b).
15. ALL PARTS HAVE TO BE 6 mm FILLET WELDED, IF NOT SPECIFIED .
16. TO LOCATE EARTH LUG AT 100mm (OUTLET END), MOVE THE SAME CIRCUMFERENTIALLY FORWARD BY 25mm, TOWARDS ARROW HEAD .

CONTROLLED COPY

NAME OF CUSTOMER/PROJECT

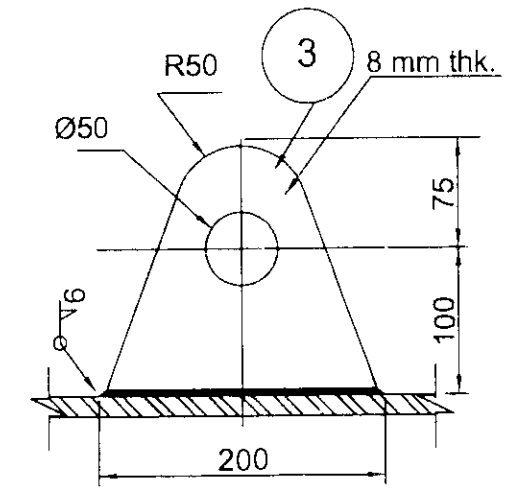
BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

	NAME	SIGN	DATE
DRN	Kaushik K		2-08-2016
CHD	M.Vinod		07-10-16
APPD	Felix J		07-10-16

DEPT	GRADE OF TOL DIM	SCALE	WEIGHT (kg)	REF TO ASSY.DRG	ITEM No.	No.OF ITEMS
CODE	C/M/F	N.T.S.	Refer Note -10 (Approx)	EL-DG- 3-986-01-10070 (500A-19)		
TITLE	CARD CODE	DRAWING No.	REV.			
CASING FOR BENDS 500NB DETAIL (V-V)		3-986-01-10071	00			
		SHEET No. 3	No.OF SHEETS 3			

DRG No.

INVENTOR > NO



DETAIL OF LIFTING LUG

1	CLCP-132	E1-9,E2-8,E3-8,E4-9, E5-8,E6-8,E7-8&E8-8	762	1949	1187	FL(SJ)	V		248.4
Var. No.	DU No.	Assembly No.	L1	L2	Y	End connection inlet side	End connection outlet side	Qty. Nos	Approx Weight kg/Bend

TABLE-1

NAME OF CUSTOMER/PROJECT

BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

	NAME	SIGN	DATE
DRN	Kaushik.K		5/12/16
CHD	M.Vinod		05/12/16
APPO	Felix.J		06/12/16

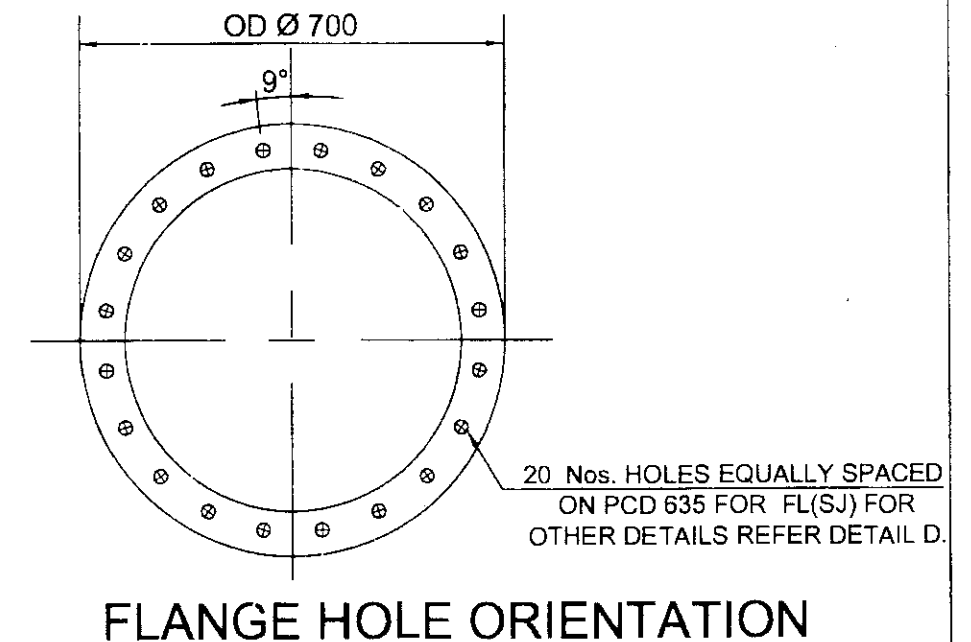
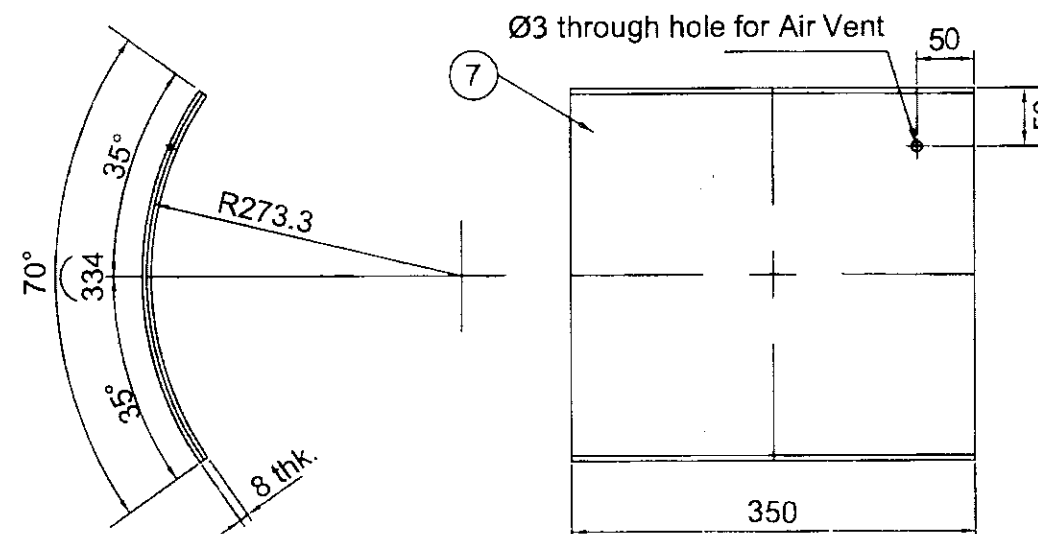
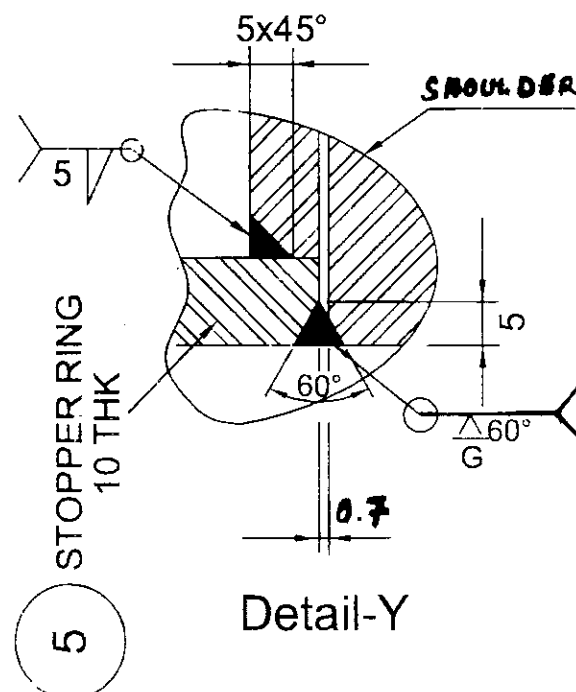
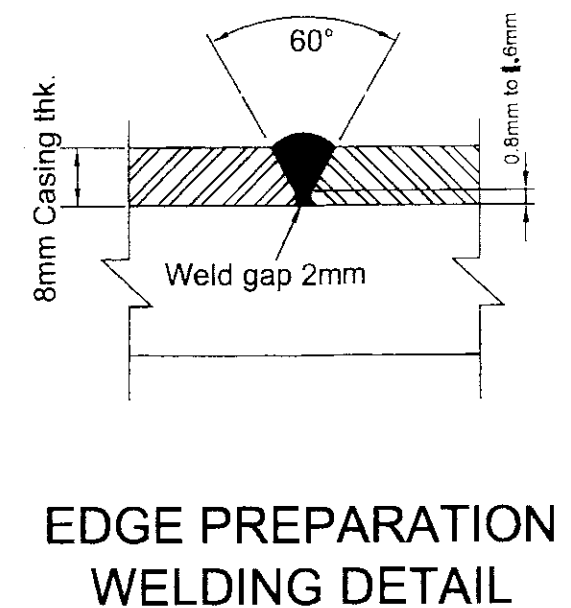
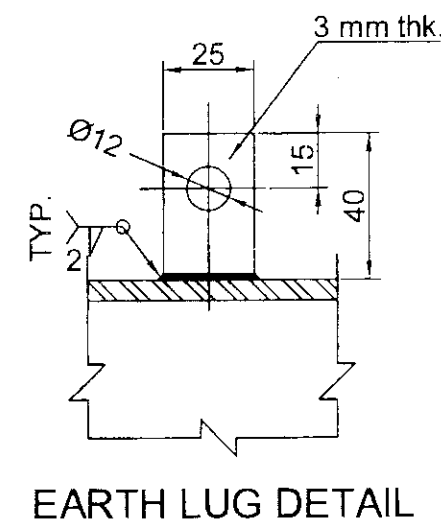
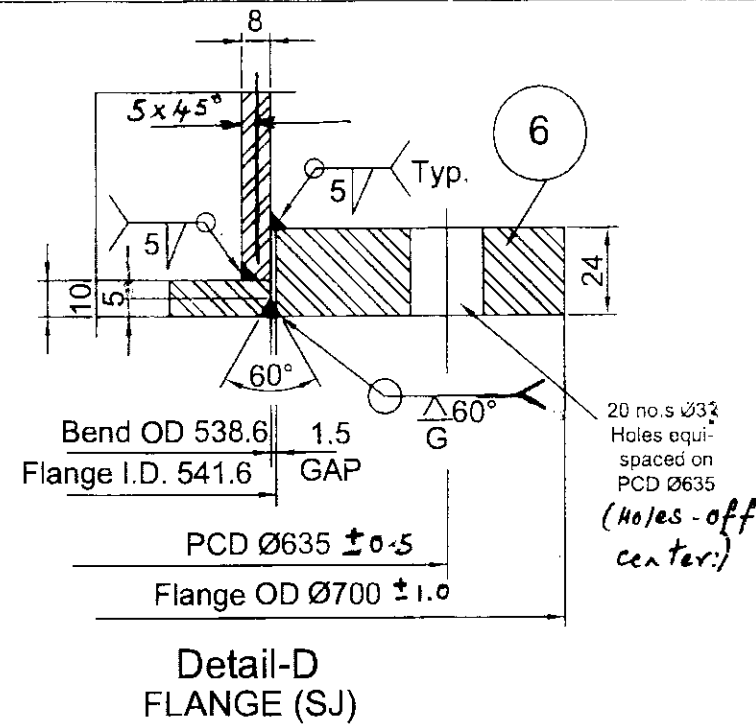
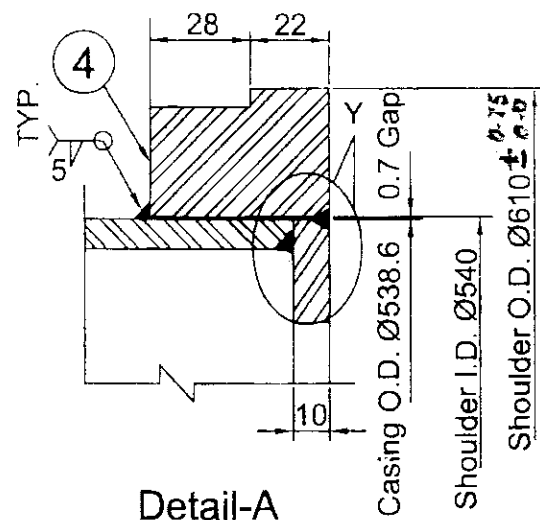
DEPT	GRADE OF		SCALE	WEIGHT (kg)	REF TO ASSY.DWG	ITEM No.	No. OF 1TE.MS
CODE	TOL DIM		N.T.S.	REF NOTE 10	3-986-01-10250 (7132-Sht-4 of 21)		
TITLE				CARD CODE	DRAWING No.		REV.
CASING FOR BENDS 500NB DETAIL (F-V)					3-986-01-10251		01
					SHEET No. 1	No. OF SHEETS 3	

SUPERSEDES DRG No

SHT.24 SIZE A3 420 x 297

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN mm.

0
REV
19201-10-986-3
DRG No.

SUPPORT PAD LOCATION,
ORIENTATION, QUANTITY
REF DRG. 3-986-99-07790 &
3-986-99-07800.

NAME OF CUSTOMER / PROJECT



BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

NAME	SIGN	DATE
DRN Kaushik.K		5/12/14
CHD M.Vinod		05/12/14
APPD Felix.J		06/12/14

DEPT	GRADE OF TOL DIM C/M/F	SCALE	WEIGHT (kg)	REF TO ASSY.DRG	ITEM No.	No. OF ITEMS
CODE		N.T.S.	REPNOTE 10 (Approx)	3-986-01-10250 (7132-Sht-4 of 21)		
TITLE	CASING FOR BENDS 500NB DETAIL (F-V)		CARD CODE	DRAWING No.	REV.	
				3-986-01-10251	0	
				SHEET No. 2	No. OF SHEETS 3	

SUPERSEDES DRG. No.

SHT.24 SIZE A3 420 x 297

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SIGN AND DATE
REF. DRG. No.

INVENTORY No.

REV	DATE	ALTERED	REV	DATE	ALTERED	REV	DATE	ALTERED
		CHECKED			CHECKED			CHECKED

0
REV
3-986-01-10251
DRG No.

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

NOTE:-

1. FOR CONSTRUCTION MATERIAL REFER TABLE-2
2. DURING ASSY. LONGITUDINAL WELDING BETWEEN SEGMENTS TO BE STAGGERED.
3. ALL SUPPLIES TO CONFORM CLN:QP:01/00. WELDING AS PER WP:CL001A & AWS:D 1.1.
4. DIMENSIONS INDICATED ARE FINISHED SIZE ONLY.
5. ASSEMBLY No., DU No., AND ARROW HEAD TO BE WELD DEPOSITED OVER CASING AS SHOWN, AS PER CE:1501:21
6. BASE PLATE FOR NAME PLATE TO BE WELDED ON TO CASING, AT LOCATION SHOWN,
FOR BASE PLATE & WELDING DETAILS REF DRG : 4 986 99 07720
7. FACE ANGLES TO BE MATCHED DURING ASSY.
8. ALL OVER MACHINING 6.3/ FOR STOPPER RINGS.
9. FL(SJ) = FLANGE SLEEVE JOINT & V = SHOULDER FOR VICTAULIC COUPLING .
10. FOR CASING Wt. REFER TABLE -1
FOR Wt. OF LIFTING LUG, EARTH LUG, STOPPER RINGS, SUPPORT PAD AND FLANGE, REFER TABLE - 2
11. WHERE "Y" IS GREATER THAN 1000, ONE CIRCUMFERENTIAL JOINT IS ALLOWED ON "Y", OUTSIDE SEGMENT TOWARDS OUTLET END.
THIS JOINT SHOULD NOT FOUL WITH LUG
12. CONTROL DURING WELDING OF SHOULDER TO CASING :-
 - a] OVALITY OF CASING ON OUTER DIAMETER TO BE MAINTAINED WITHIN 1.0 mm
 - b] WELDING OF SHOULDER TO CASING AS PER DETAIL-A, TO BE DONE IN SUCH A WAY AS TO ENSURE THAT DISTORTION OF COLLAR IS LIMITED SUCH THAT DIM. Ø610 mm IS STRICTLY WITHIN THE RANGE SPECIFIED IN SHEET 2 OF 3.VENDOR TO DO THE NEEDFUL TO ACHIEVE 12(a) AND 12(b).
13. SURFACE PREPARATION AND PAINTING: REF PAINTING SCHEME DOC. No. : PS- L&T - KHARGONE-BENDS/PIPES
14. OVERALL BEND TOLERANCE:-
 - a]. AXIAL SHIFT: ± 3 MM
 - b]. RADIAL SHIFT: ± 3 MM
 - c]. OUT OF SQUARENESS: ± 3 MM.
15. ALL PARTS HAVE TO BE 6mm FILLET WELDED, IF NOT SPECIFIED.
16. PROVIDE STIFFENERS TO ELIMINATE DISTORTION OF FLANGES, WHEN WELDING.

NAME OF CUSTOMER/PROJECT

BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCEIAINS DIVISION
BANGALORE - 560 012

	NAME	SIGN	DATE
DRN	Kaushik.K		5/12/16
CHD	M.Vinod		05/12/16
APPD	Felix.J		06/12/16

DEPT	GRADE OF TOL DIM	SCALE	WEIGHT (kg)	REF TO ASSY.DRG	ITEM No.	No.OF ITEMS
CODE	C/M/F	N.T.S.	REFNOTE 10 (Approx)	3-986-01-10250 (7132-Sht-4 of 21)		
TITLE	CARD CDDE	DRAWING No.	REV.			
CASING FOR BENDS 500NB DETAIL (F-V)		3-986-01-10251	0			
SHEET No.	3	No.OF SHEETS	3			

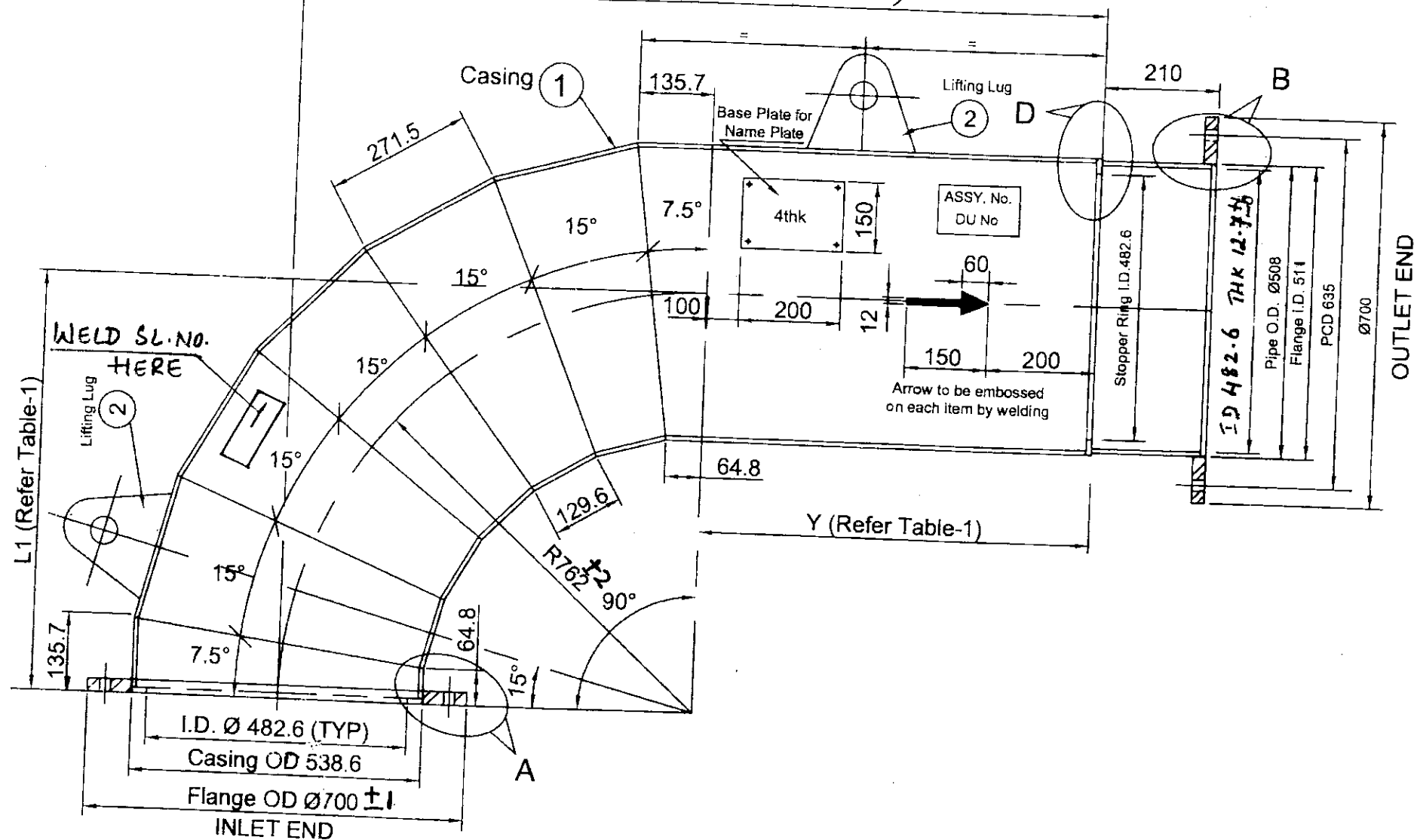
SUPERSEDES DRG. No.

SHT.24 SIZE A3 420 x 297

19201-10-986-3

REV 01

L2 (REFER TABLE-1)



SL No.	Description	Size	Material	Qty. per Bend	Wt. / Piece (Kgs.)	Remarks
7	Straight Pipe	12.7xØ508x200Lg	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.	31.0	
6	Flange (BIV)	25 mm thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.	-	FREE ISSUE BY BHEL TO VENDOR
5	Stopper Ring	16mm thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.	5.6	
4	Stopper Ring	10mm thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.	3.5	
3	Flange (SJ)	24mm thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.	26.0	
2	Lifting Lug	8 mm Thk.	KILLED STEEL IS:2062 - 2011 E250 BR	2 No.s	1.3	
1	Casing	8 mm Thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.	Refer Table-1	

TABLE - 2 PULVERISED COAL BEND PIPE MATERIAL DETAIL

1	CLCP-134	A2-4, A3-4	762	1778	1016	FL(SJ)	FL(BIV)	2	229.5
Var. No.	DU No.	Assembly No.	L1	L2	Y	End connection inlet side	End connection outlet side	Qty. No./ Unit	Approx. Unit Wt. (kgs.)

TABLE - 1

NAME OF CUSTOMER/PROJECT



BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

DRN	NAME	SIGN	DATE
CHD	Kaushik.K		5/12/16
APPD	M.Vinod		05/12/16
	Felix.J		06/12/16

DEPT	GRADE OF TOL DIM	SCALE	WEIGHT (kg)	REF TO ASSY.ORG	ITEM No.	No. OF ITEMS
CODE	C/M/F	N.T.S.	REF. NOTE 10. (Approx)	3-986-01-10260 (7132 Sht-5 of 21)		
TITLE				CARD CODE	DRAWING No.	REV.
CASING FOR BENDS 500NB DETAIL (F-F)					3-986-01-10261	01
					SHEET No. 1	No. OF SHEETS 3

SUPERSEDES DRG. No.

SHT.24 SIZE A3 420 x 297

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REF. DRG. No.

SIGN AND DATE

INVENTORY No.

REV	DATE	ALTERED	REV	DATE	ALTERED	REV	DATE	ALTERED	REV	DATE	ALTERED
		CHECKED			CHECKED			CHECKED			CHECKED

IN DETAIL - A. HOLE DIM. Ø33 WAS Ø32. REFER RR2401

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN mm.

REV 01

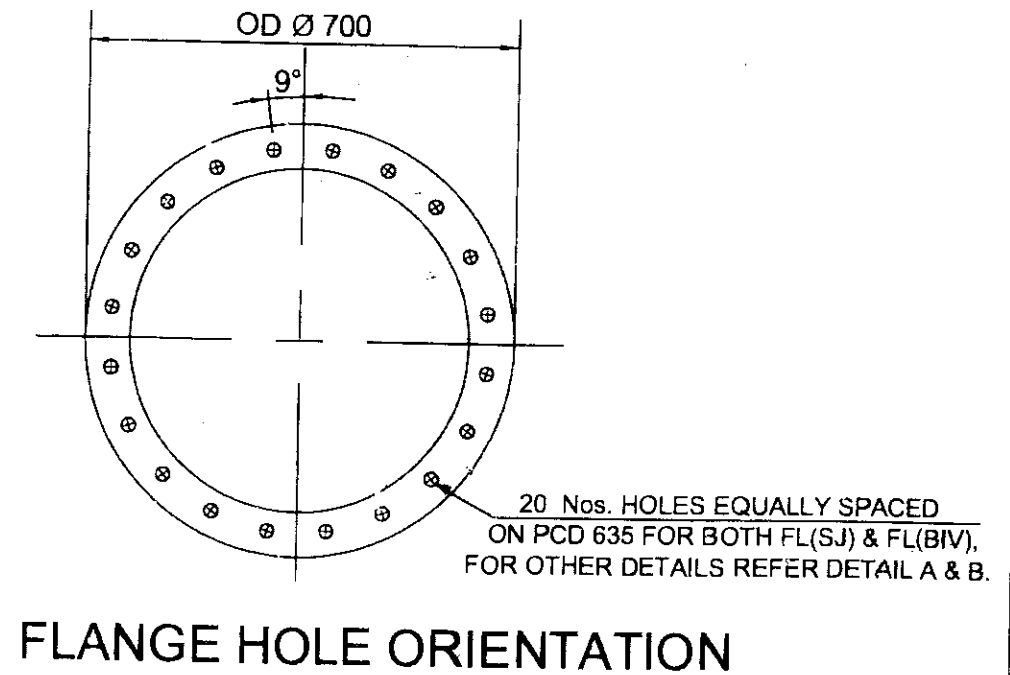
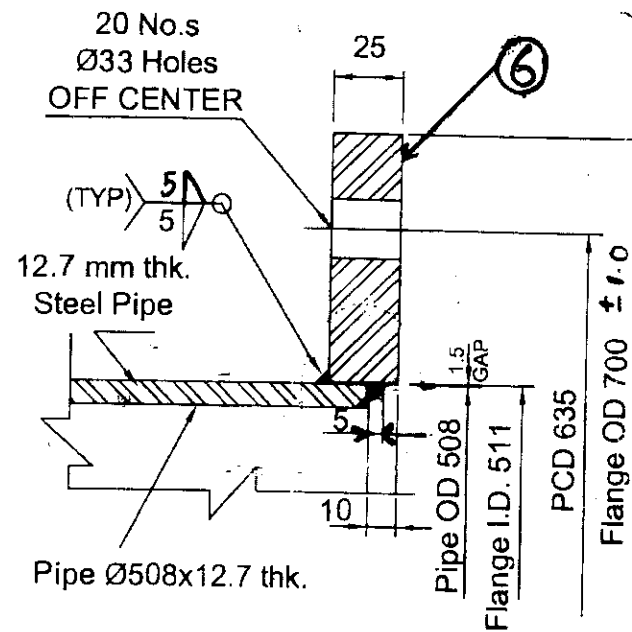
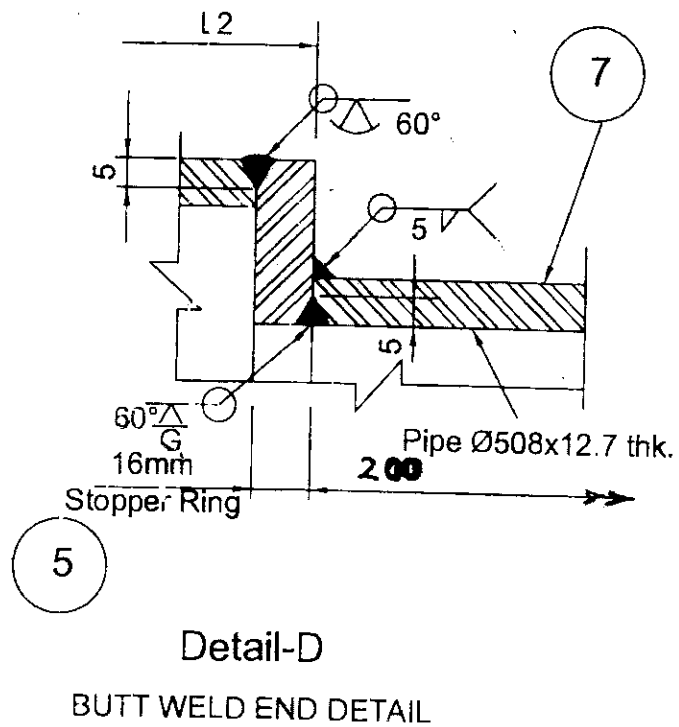
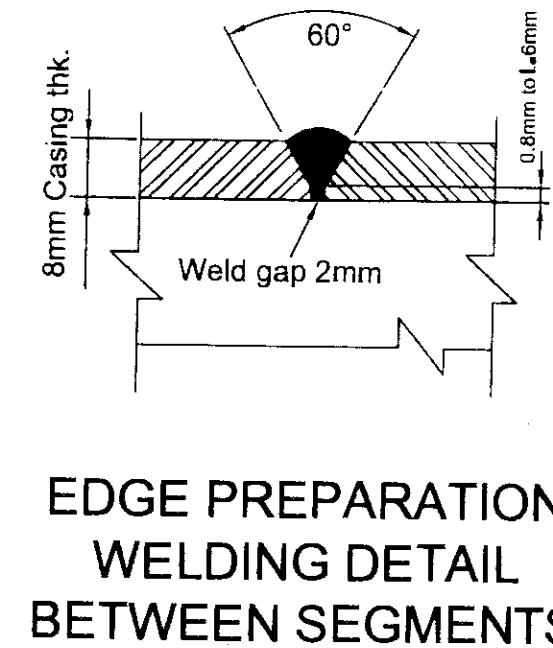
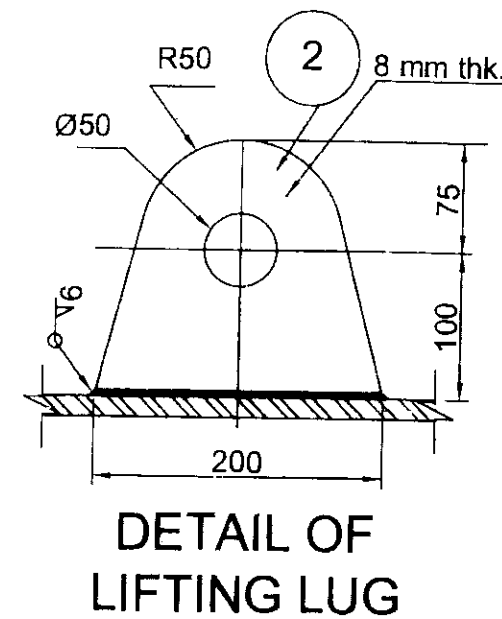
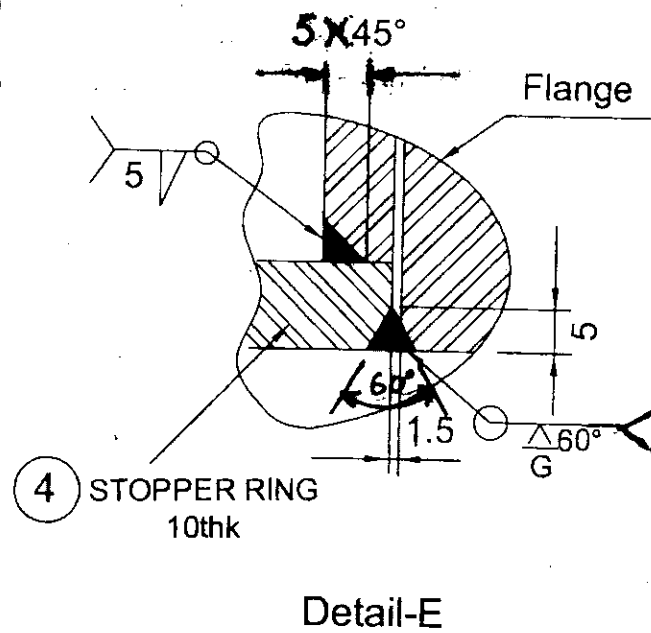
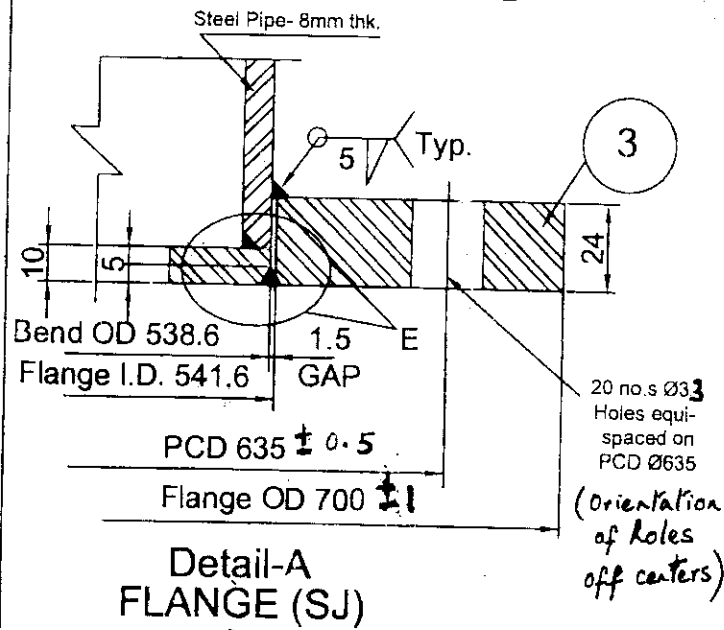
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DRG No.

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SIGN AND DATE REF. DRG. No.

INVENTORY No.



NAME OF CUSTOMER/PROJECT



BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

NAME	SIGN	DATE
DRN Kaushik.K		5/12/16
CHD M.Vinod		05/12/16
APPD Felix.J		06/12/16

DEPT	GRADE OF TOL DIM	SCALE	WEIGHT (kg)	REF TD ASSY.DRG	ITEM No.	No. OF ITEMS
CODE	C/M/F	N.T.S.	REF. NOTE 10 (Approx)	3-986-01-10260 (7132 Sht-5 of 21)		
TITLE				CARD CODE	REV.	
CASING FOR BENDS 500NB DETAIL (F-F)					3-986-01-10261 01	
SHEET No. 2				No. OF SHEETS 3		

SUPERSEDES DRG. No.

SHT.24 SIZE A3 42D x 297

REV

19201-10-986-3

DRG No.

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SIGN AND DATE

INVENTORY No.

NOTE:-

1. FOR CONSTRUCTION MATERIAL REFER TABLE-2
2. DURING ASSY. LONGITUDINAL WELDING BETWEEN SEGMENTS TO BE STAGGERED.
3. ALL SUPPLIES TO CONFORM CLN:QP:01/00. WELDING AS PER WP:CL001A & AWS:D 1.1.
4. DIMENSIONS INDICATED ARE FINISHED SIZE ONLY.
5. ASSEMBLY No., DU No., AND ARROW HEAD TO BE WELD DEPOSITED OVER CASING AS SHOWN , AS PER CE:1501:21
6. BASE PLATE FOR NAME PLATE TO BE WELDED ON TO CASING, AT LOCATION SHOWN,
FOR BASE PLATE & WELDING DETAILS REF DRG : 4 986 99 07720
7. FACE ANGLES TO BE MATCHED DURING ASSY.
8. ALL OVER MACHINING 6.3/ FOR STOPPER RINGS.
9. FL(SJ): FLANGE FOR SLEEVE JOINT, FL(BIV)/BW: BIV FLANGE WITH SPOOL PIPE
10. FOR CASING Wt. REFER TABLE -1
FOR Wt. OF LIFTING LUG, FLANGE, STOPPER RINGS AND SPOOL PIPE.
REFER TABLE - 2
11. WHERE "Y" IS GREATER THAN 1000, ONE CIRCUMFERENTIAL JOINT IS ALLOWED ON "Y", OUTSIDE SEGMENT TOWARDS **OUTLET END**.
THIS JOINT SHOULD NOT FOUL WITH LUG
12. SURFACE PREPARATION AND PAINTING: REF PAINTING SCHEME DOC. No. : PS- L&T - KHARGONE-BENDS/PIPES
13. OVERALL BEND TOLERANCE:-
 - a]. AXIAL SHIFT: ± 3 MM
 - b]. RADIAL SHIFT: ± 3 MM
 - c]. OUT OF SQUARENESS: ± 3 MM.
14. APPROPRIATE STIFFENERS HAVE TO BE PROVIDED BETWEEN FLANGES AND CASING BODY TO MINIMIZE DISTORTION OF FLANGES WHILE WELDING.
STIFFENERS HAVE TO BE REMOVED AFTER WELDING.
15. ALL PARTS HAVE TO BE 6 mm FILLET WELDED, IF NOT SPECIFIED.
16. TOLERANCES ON SPOOL PIPE : AS PER API-SL STANDARD.

NAME OF CUSTOMER/PROJECT

BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

	NAME	SIGN	DATE
DRN	Kaushik.K		5/12/16
CHD	M.Vinod		05/12/16
APPD	Felix.J		06/12/16

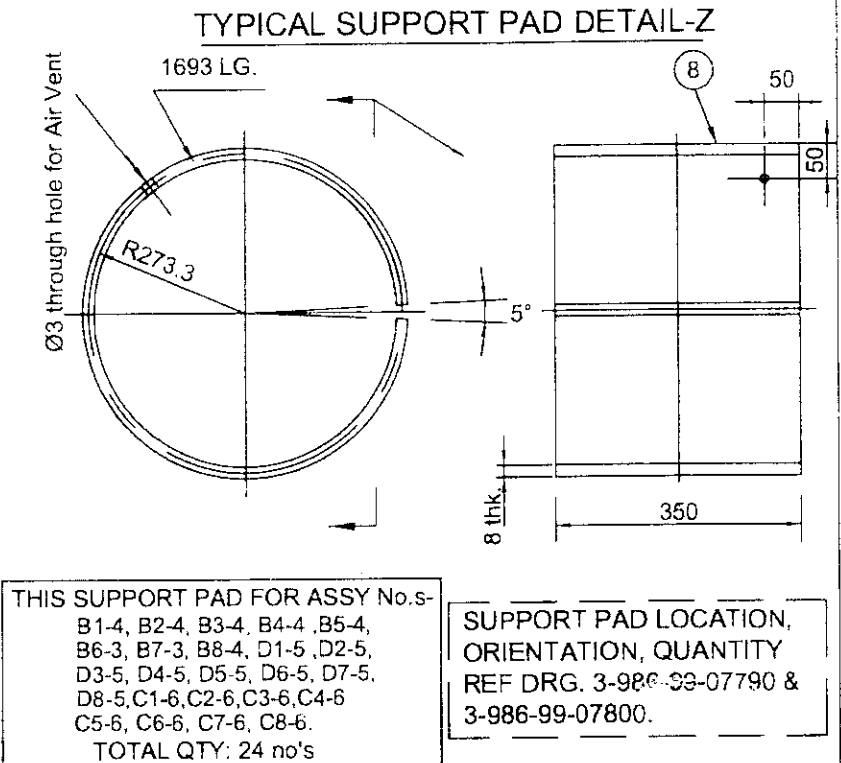
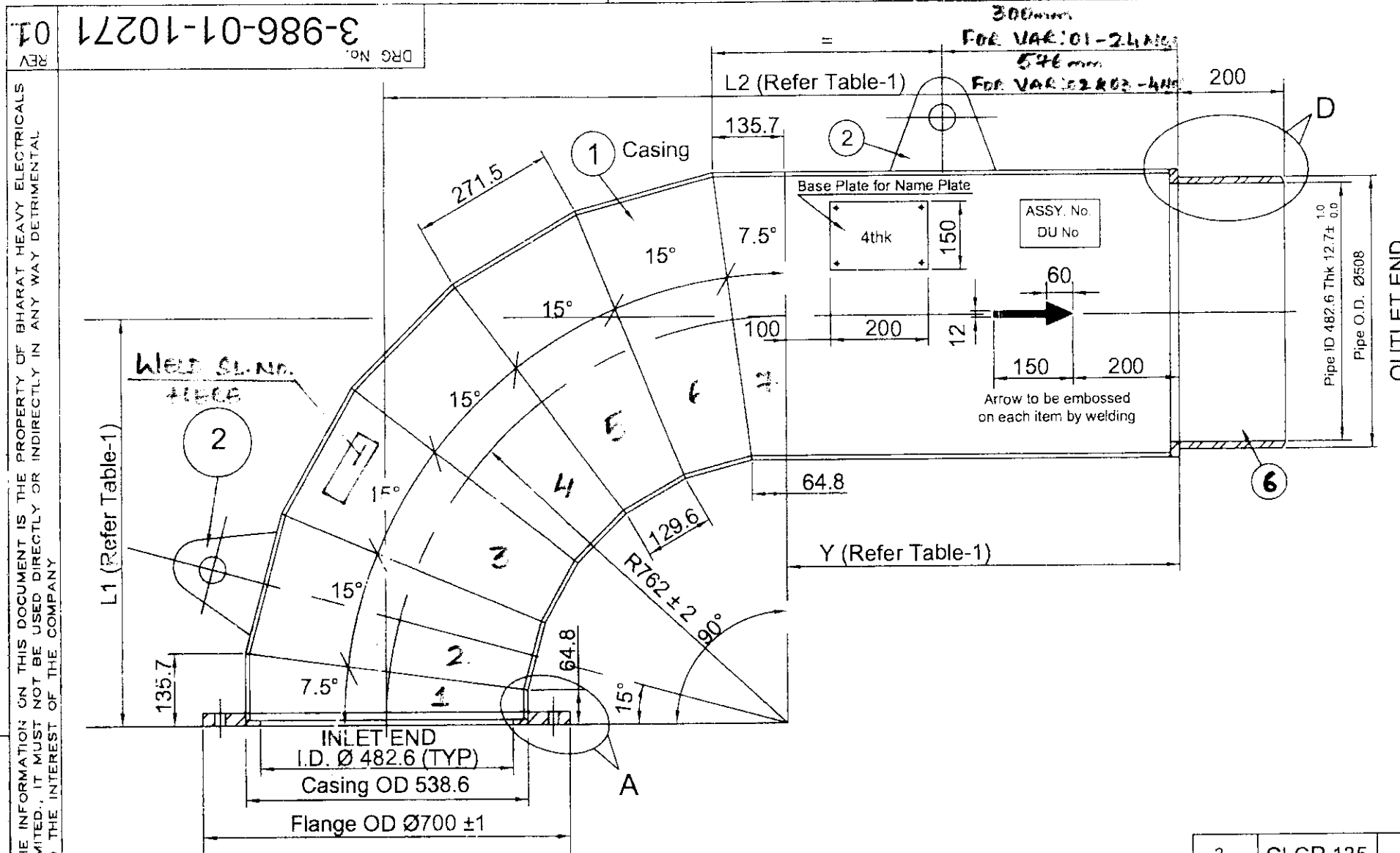
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CODE	C/M/F	N.T.S.	REF. NOTE 10 (Approx)	3-986-01-10260 (7132 Sht-5 of 21)		
TITLE CASING FOR BENDS 500NB DETAIL (F-F)				CARD CODE	DRAWING No. 3-986-01-10261	REV. 01
					SHEET No. 3	No.OF SHEETS : 3

SUPERSEDES DRG. No.

SHT.24 SIZE A3 420 x 297

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN mm.



3	CLCP-135	D2-3, D3-3	762	1778	1016	FL(SJ)	W	●	230.0
2	CLCP-135	F6-8, F7-8	762	1778	1016	FL(SJ)	W	●	230.0
1	CLCP-135	B1-4, B2-4, B3-4, B4-4, B5-4, B6-3, B7-3, B8-4, D1-5, D2-5, D3-5, D4-5, D5-5, D6-5, D7-5, D8-5, C1-6, C2-6, C3-6, C4-6, C5-6, C6-6, C7-6, C8-6.	762	1778	1016	FL(SJ)	W	●	230.0
Var. No.	DU No.	Assembly No.	L1	L2	Y	End connection inlet side	End connection outlet side	Qty. Nos	Weight kg/Bend

TABLE - 1

NAME OF CUSTOMER/PROJECT



BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

NAME	SIGN	DATE
DRN Kaushik.K		08/12/16
CHD M.Vinod		08/12/16
APPD Felix.J		09/12/16

DEPT	GRADE OF TOL DIM	SCALE	WEIGHT (kg)	REF TO ASSY.DRG	ITEM No.	No. OF ITEMS
CODE	C/M/F	N.T.S	Refer Note -10 (Approx)	3-986-01-10270 (7132 Sht 6 of 21)		
TITLE	CARD CODE	DRAWING No.	REV.			
CASING FOR BENDS 500NB DETAIL (F-W)		3-986-01-10271	01			
		SHEET No. 1	No. OF SHEETS 3			

SUPERSEDES DRG. No.

SHT.24 SIZE A3 420 x 297

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SIGN AND DATE REF. DRG. No.

INVENTORY No.

SL No.	Description	Size	Material	Qty. per Bend	Wt. / Piece (Kgs.)	Remarks
9	Support Pad	8 mm Thk. L-250	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.s	5.2	For Var.No. 3 - Detail Z1- L 250
8	Support Pad	8 mm Thk. L-350	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.s	37.2	For Var.No. 1 - Detail Z
7	Support Pad	8 mm Thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.s	7.3	For Var.No. 2 - Detail Z1- L 350
6	St. Pipe Ø508x200Lg.	12.7 mm Thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.s	31.0	
5	Stopper Ring	10mm thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.s	3.5	
4	Stopper Ring- Pipe end	16mm thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.s	5.6	
3	Flange -FL(SJ)	24 mm Thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.s	26.0	
2	Lifting Lug	8 mm Thk.	KILLED STEEL IS:2062 - 2011 E250 BR	2 No.s	1.3	
1	Casing	8 mm Thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.s	Refer Table-1	

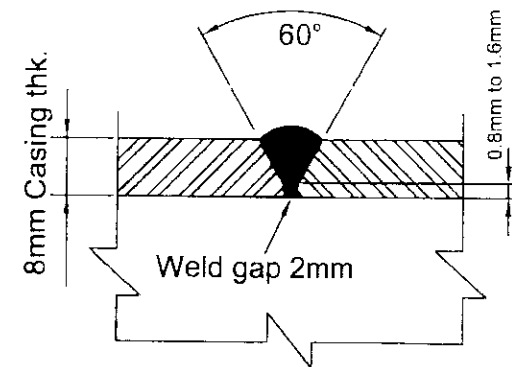
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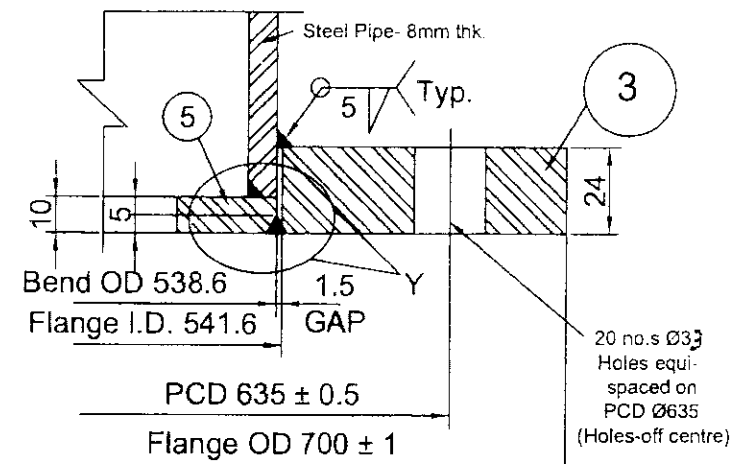
FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN mm.

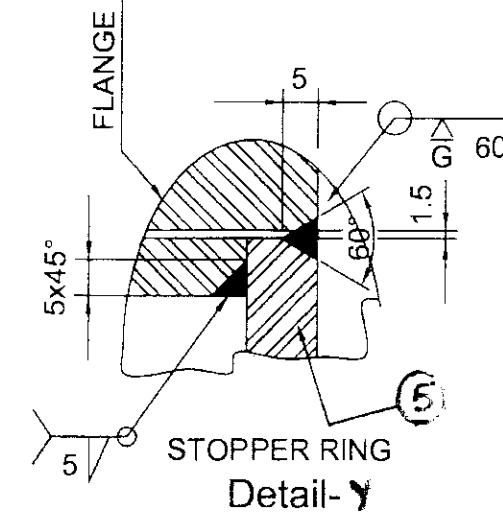
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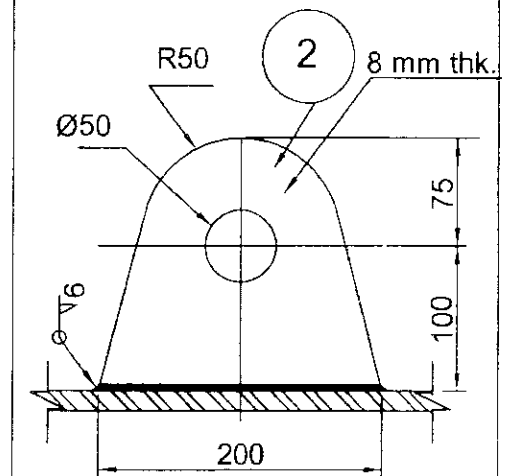
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WELDING DETAIL**



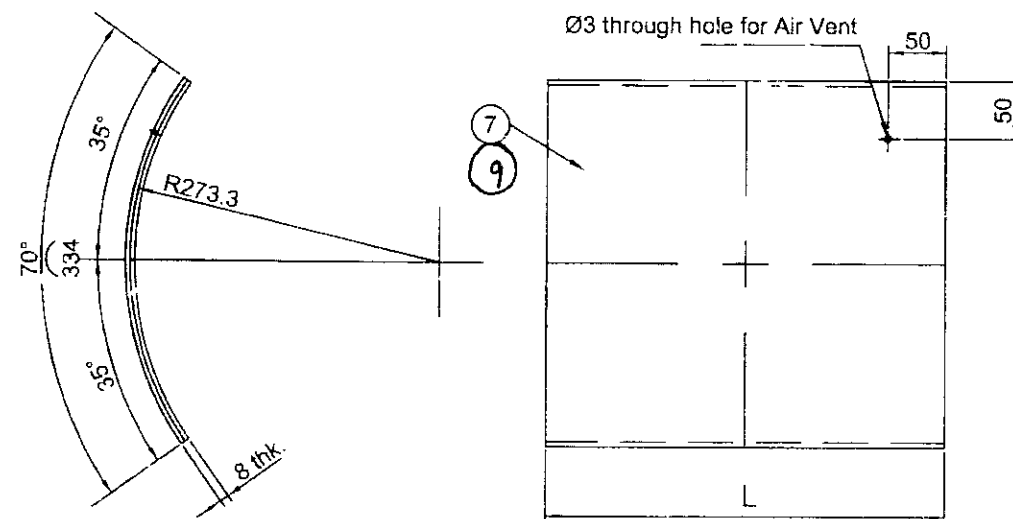
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FLANGE (SJ)**



**STOPPER RING
Detail-Y**



**DETAIL OF
LIFTING LUG**

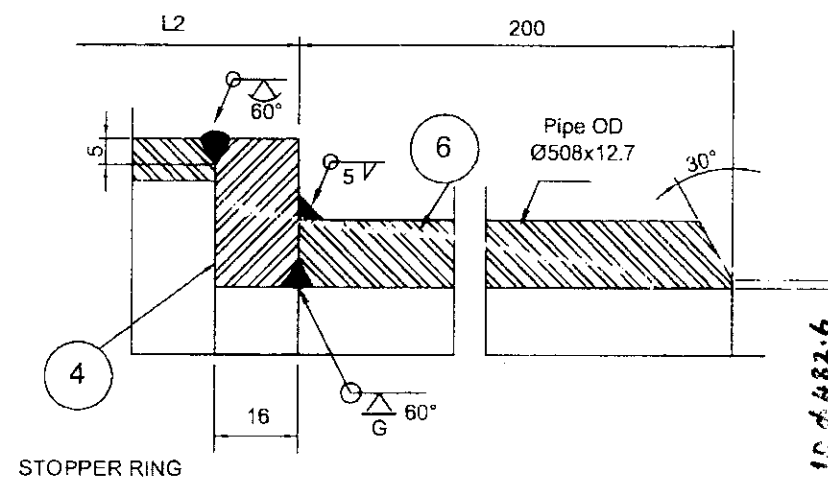


**TYPICAL SUPPORT PAD DETAIL -Z1 - FOR ASSEMBLY NOS
IN TABLE-3.**

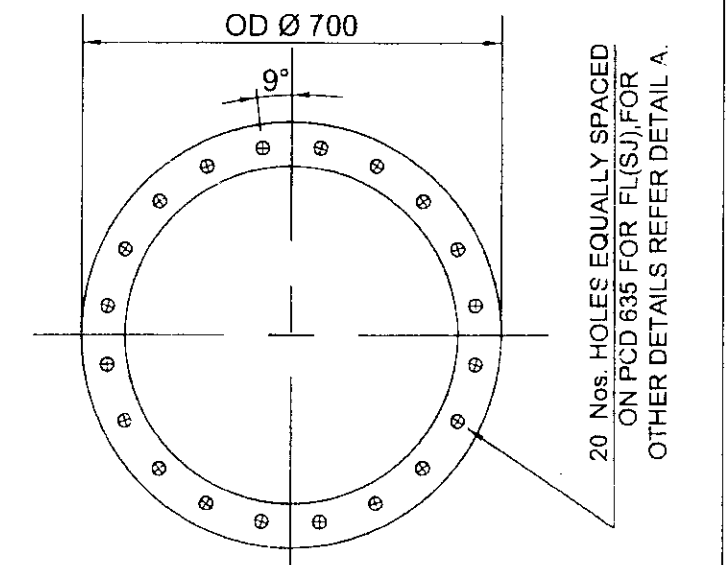
Sl.No.	Assembly No.	'L'	Total Qty
9	D2-3, D3-3	250	2
7	F6-8, F7-8	350	2

Table - 3

**FOR SUPPORT PAD LOCATION,
ORIENTATION, QUANTITY
REF DRG. 3-986-99-07790 &
3-986-99-07800.**



**Detail-D
Butt Weld End Detail**



FLANGE HOLE ORIENTATION

NAME OF CUSTOMER/PROJECT



BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

NAME	SIGN	DATE
DRN Kaushik.K		08/12/16
CHD M.Vinod		08/12/16
APPD Felix.J		09/12/16

DEPT	GRADE OF TOL DIM	SCALE	WEIGHT (kg)	REF TO ASSY.DRG	ITEM No.	NO. OF ITEMS
CODE	C/M/F	N.T.S	Refer Note - 10 (Approx)	3-986-01-10270 (7132 Sht 6 of 21)		

TITLE	CARD CODE	DRAWING No.	REV.
CASING FOR BENDS 500NB DETAIL (F-W)		3-986-01-10271	01

SHEET No.	No. OF SHEETS
2	3

SUPERSEDES DRG. No.

SHT.24 SIZE A3 420 x 297

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SIGN AND DATE REF. DRG. No.

INVENTORY No.

REV	DATE	ALTERED	CHECKED	REV	DATE	ALTERED	CHECKED	REV	DATE	ALTERED	CHECKED
-----	------	---------	---------	-----	------	---------	---------	-----	------	---------	---------

10
REV
3-986-01-10271
DRG No.

NOTE:-

1. FOR CONSTRUCTION MATERIAL REFER TABLE-2
2. DURING ASSY. LONGITUDINAL WELDING BETWEEN SEGMENTS TO BE STAGGERED.
3. ALL SUPPLIES TO CONFORM CLN:QP:01/00. WELDING AS PER WP:CL001A & AWS:D 1.1.
4. DIMENSIONS INDICATED ARE FINISHED SIZE ONLY.
5. ASSEMBLY No., DU No., AND ARROW HEAD TO BE WELD DEPOSITED OVER CASING AS SHOWN , AS PER CE:1501:21
6. BASE PLATE FOR NAME PLATE TO BE WELDED ON TO CASING, AT LOCATION SHOWN, FOR VARIANT 1 TO PP (1000) VARIANT 2 (2000), VARIANT 3 (2000) FOR VARIANT 1-3000 17 & CITE CE - 11 (1000), LOCATE THE SEGMENT 1-1000 17 FOR BASE PLATE & WELDING DETAILS REF DRG : 4 986 99 07720
7. FACE ANGLES TO BE MATCHED DURING ASSY.
8. ALL OVER MACHINING 6.3/ FOR STOPPER RINGS.
9. FL(SJ)-FLANGE FOR SLEEVE JOINT, W/BW- SPOOL PIPE.
10. TOTAL Wt. OF VARIANT 1 - 335.9 Kgs.
TOTAL Wt. OF VARIANT 2 - 306.0 Kgs.
TOTAL Wt. OF VARIANT 3 - 303.9 Kgs., FOR BREAK UP REFER TABLE 1 & 2.
11. WHERE "Y" IS GREATER THAN 1000, ONE CIRCUMFERENTIAL JOINT IS ALLOWED ON "Y", OUTSIDE SEGMENT TOWARDS OUTLET END. THIS JOINT SHOULD NOT FOUL WITH LUG
12. SURFACE PREPARATION AND PAINTING: REF PAINTING SCHEME DOC. No. : PS- L&T - KHARGONE-BENDS/PIPES
13. OVERALL BEND TOLERANCE:-
 - a). AXIAL SHIFT: ± 3 MM
 - b). RADIAL SHIFT: ± 3 MM
 - c). OUT OF SQUARENESS: ± 3 MM.
14. TOLERANCES ON SPOOL PIPE: AS PER API-5L STANDARD.
15. ALL PARTS HAVE TO BE 6MM FILLET WELDED, IF NOT SPECIFIED.
16. PROVIDE STIFFENERS TO ELIMINATE DISTORTION OF FLANGES, WHEN WELDING.
17. EACH BEND COMPRISES OF ONLY ONE TYPE OF SUPPORT PAD.

1000 17

NAME OF CUSTOMER/PROJECT

BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

	NAME	SIGN	DATE
DRN	Kaushik.K		08/12/16
CHD	M.Vinod		08/12/16
APPD	Felix.J		09/12/16

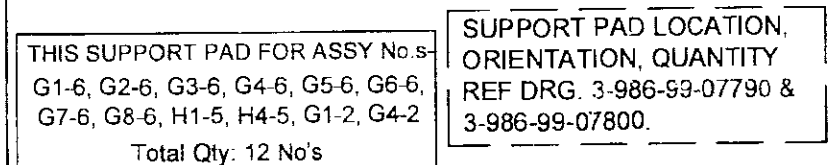
DEPT	GRADE OF TOL DIM		SCALE	WEIGHT (kg)	REF TO ASSY.DRG	ITEM No.	No.OF ITEMS
CODE	C/M/F		N.T.S.	Refer Note -10 (Approx)	3-986-01-10270 (7132 Sht 6 of 21)		
TITLE CASING FOR BENDS 500NB DETAIL (F-W)				CARD CODE	DRAWING No. 3-986-01-10271		REV. 01
					SHEET No. 3		No.OF SHEETS 3

SUPERSEDES DRG. No.

SHT.24 SIZE A3 420 x 297

ALL DIMENSIONS ARE IN mm.

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



5	CLCP-136	F1-8, F2-9, F3-9, F4-8, F5-9, F8-9	762	1778	1016	V	W		230.0
4	CLCP-136	G1-6, G2-6, G3-6, G4-6, G5-6, G6-6, G7-6, G8-6	762	1778	1016	V	W		230.0
3	CLCP-138	G1-2, G4-2	762	2152	1390	V	W		269.0
2	CLCP-137	H1-5, H4-5	762	1968	1206	V	W		250.0
1	CLCP-136	A6-2, A7-2, D5-3, D8-3, E4-7, E1-7, E2-6, E3-6, E5-6, E6-6, E7-6, E8-6, F2-6, F3-6, F5-6, F6-6, F7-6, F8-6, G2-4, G3-4, G5-4, G6-4, G7-4, G8-4, H2-2, H3-2, H5-3, H6-3, H7-3, H8-3	762	1778	1016	V	W		230.0
Var.No.	DU No.	Assembly No.	L1	L2	Y	End connection outlet side	End connection outlet side	Qty. Nos.	Weight kg/Bend

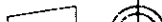
TABLE-1

NAME OF CUSTOMER/PROJECT



BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

	NAME	SIGN	DATE
DRN	Kaushik.K	<i>[Signature]</i>	08/12/16
CHD	M.Vinod	<i>[Signature]</i>	08/12/16
APPD	Felix.J	<i>[Signature]</i>	08/12/16

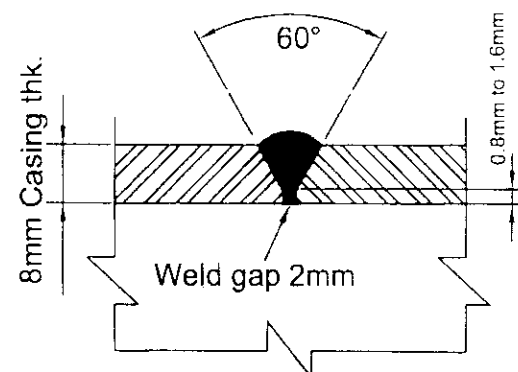
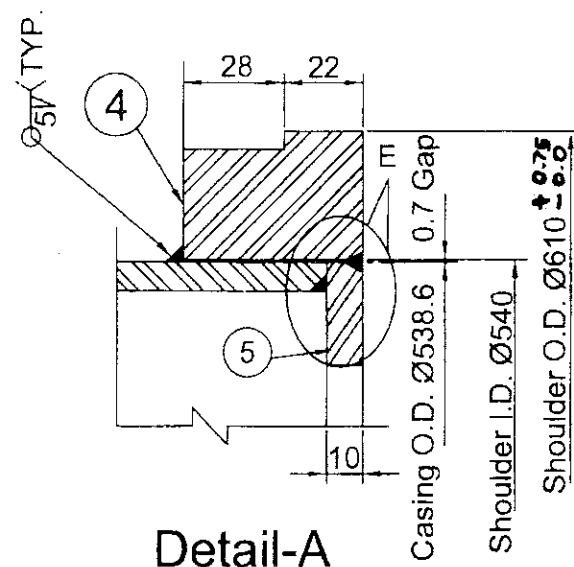
DEPT	GRADE DF		SCALE	WEIGHT (kg)	REF TO ASSY.DWG	ITEM No.	No.OF ITEMS
CODE	TOL DIM		N.T.S.	Refer Note -10 (Approx)	3-986-01-10280 (7132 Sht-7 of 21)		
TITLE				CARD CODE	DRAWING No.		REV.
CASING FOR BENDS 500NB DETAIL (V-W)					3-986-01-10281		00
					SHEET No. 1	No.OF SHEETS	3

SUPERSEDES DRG. No.

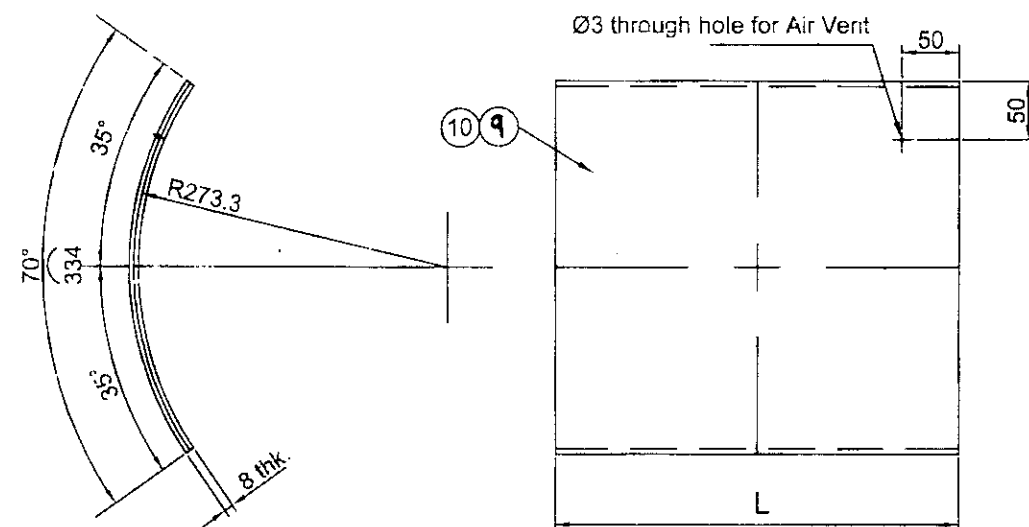
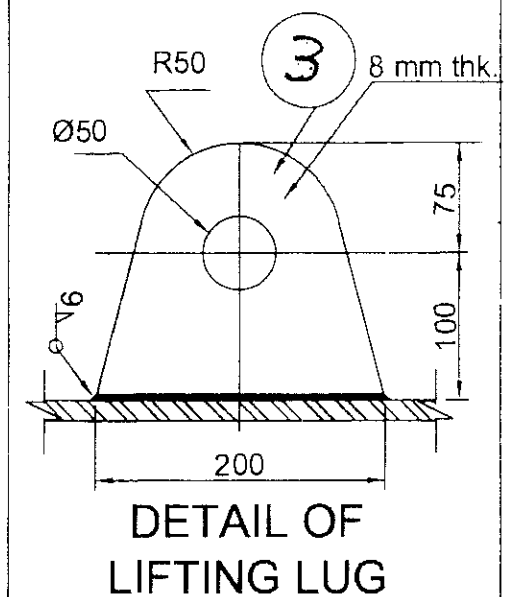
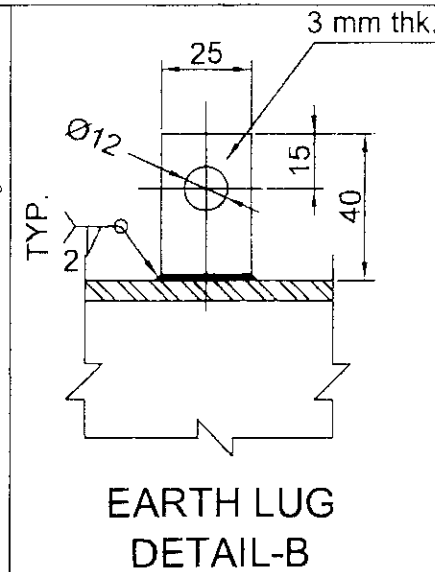
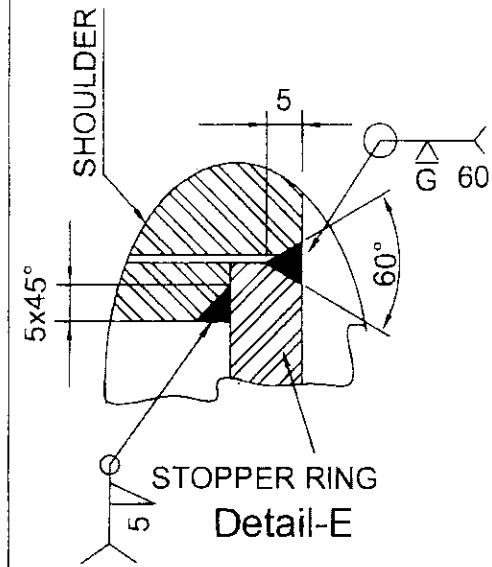
SHT.24 SIZE A3 420 x 297

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN mm.

00 18201-10-986-3
REV No. DRG No.EDGE PREPARATION
WELDING DETAIL

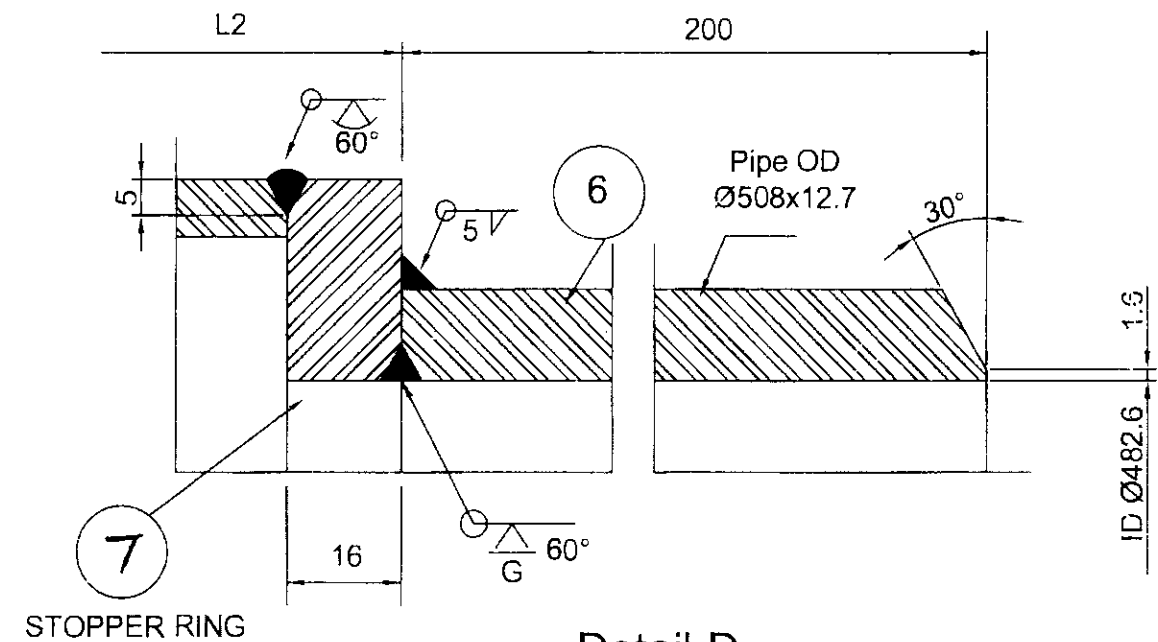
Detail-A

TYPICAL SUPPORT PAD DETAIL - Z-1 - FOR ASSLY NOS
IN TABLE-3.

10	A6-2, A7-2, D5-3, D6-3, E4-7, E1-7, E2-6, E3-6, E5-6, E6-6, E7-6, E8-6, F2-6, F3-6, F5-6, F6-6, F7-6, F8-6, G2-4, G3-4, G5-4, G6-4, G7-4, G8-4, H2-2, H3-2, H5-3, H6-3, H7-3, H8-3	30	250
9	F1-8, F2-9, F3-9, F4-8, F5-9, F8-9	6	350
SL No.	Assembly No.	Total Qty (No's)	L (mm)

TABLE-3

FOR SUPPORT PAD LOCATION,
ORIENTATION, QUANTITY
REF DRG. 3-986-99-07790 &
3-986-99-07800.



STOPPER RING

Detail-D
Butt Weld End Detail

NAME OF CUSTOMER/PROJECT



BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

DRN	NAME	SIGN	DATE
CHD	M.Vinod		08/12/16
APPD	Felix.J		09/12/16

DEPT	GRADE OF TOL DIM	SCALE	WEIGHT (kg)	REF TO ASSY.DRG	ITEM No.	No. OF ITEMS
CODE	C/M/F	N.T.S.	Refer NOTE 10 (Approx)	3-986-01-10280 (7132 Sht- 7 of 21)		
TITLE	CASING FOR BENDS 500NB DETAIL (V-W)	CARD CODE		DRAWING No. 3-986-01-10281	00	
				SHEET No. 2	No. OF SHEETS 3	

SUPERSEDES DRG. No.

SHT.24 SIZE A3 420 x 297

ALL DIMENSIONS ARE IN mm.

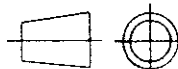
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SIGN AND DATE	REF. DRG. No.
---------------	---------------

INVENTORY No.

NOTE:-

1. FOR CONSTRUCTION MATERIAL REFER TABLE-2
2. DURING ASSY. LONGITUDINAL WELDING BETWEEN SEGMENTS TO BE STAGGERED.
3. ALL SUPPLIES TO CONFORM CLN:QP:01/00. WELDING AS PER WP:CL001A & AWS:D 1.1.
4. DIMENSIONS INDICATED ARE FINISHED SIZE ONLY.
5. ASSEMBLY No., DU No., AND ARROW HEAD TO BE WELD DEPOSITED OVER CASING AS SHOWN , AS PER CE:1501:21
6. BASE PLATE FOR NAME PLATE TO BE WELDED ON TO CASING, AT LOCATION SHOWN,
FOR BASE PLATE & WELDING DETAILS REF DRG : 4 986 99 07720
7. FACE ANGLES TO BE MATCHED DURING ASSY.
8. ALL OVER MACHINING 6.3/ FOR STOPPER RINGS.
9. V-SHOULDER FOR VICTAULIC COUPLING & W/BW- BUTT WELD SPOOL PIPE.
10. TOTAL Wt. OF VARIANT 1 - **277.92 Kgs.**
TOTAL Wt. OF VARIANT 2 - **329.92 Kgs.**
TOTAL Wt. OF VARIANT 3 - **348.92 Kgs.**
TOTAL Wt. OF VARIANT 4 - **309.92 Kgs.**
TOTAL Wt. OF VARIANT 5 - **280.02 Kgs.** FOR BREAK UP REFER TABLE 1 & 2.
11. WHERE "Y" IS GREATER THAN 1000, ONE CIRCUMFERENTIAL JOINT IS ALLOWED ON "Y", OUTSIDE SEGMENT TOWARDS OUTLET END.
THIS JOINT SHOULD NOT FOUL WITH LUG
12. SURFACE PREPARATION AND PAINTING: REF PAINTING SCHEME DOC. No. : PS- L&T - KHARGONE-BENDS/PIPES
13. OVERALL BEND TOLERANCE:-
a). AXIAL SHIFT: ± 3 MM
b). RADIAL SHIFT: ± 3 MM
c). OUT OF SQUARENESS: ± 3 MM.
14. CONTROL DURING WELDING OF SHOULDER TO CASING :-
a) OVALITY OF CASING ON OUTER DIAMETER TO BE MAINTAINED WITHIN 1.0 mm
b) WELDING OF SHOULDER TO CASING AS PER DETAIL-A, TO BE DONE IN SUCH A WAY AS TO ENSURE THAT DISTORTION OF COLLAR IS LIMITED SUCH THAT DIM. $\varnothing 610$ mm IS STRICTLY WITHIN THE RANGE SPECIFIED IN SHEET 2 OF 3.
- VENDOR TO DO THE NEEDFUL TO ACHIEVE 14(a) AND 14(b).
15. ALL PARTS HAVE TO BE 6mm FILLET WELDED, IF NOT SPECIFIED.
16. TOLERANCES ON SPOOL PIPE : AS PER API- 5L STANDARD.
17. EACH BEND COMPRISES OF ONLY ONE TYPE OF SUPPORT PAD.
- 07/01/2021**
- | NAME OF CUSTOMER/PROJECT | | | |
|--------------------------|-----------|---|--|
| | NAME | SIGN | |
| DRN | Kaushik K |  | |
| CHD | M Vinod |  | |
| APPD | Felix J |  | |
-  **BHARAT HEAVY ELECTRICALS LTD.,**
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

NAME OF CUSTOMER/PROJECT															
		BHARAT HEAVY ELECTRICALS LTD., ELECTROPORCELAINS DIVISION BANGALORE — 560 012			NAME		SIGN		DATE						
					DRN		Kaushik K		08/12/16						
					CHD		M Vinod		08/12/16						
					APPD		Felix.J		09/12/16						
DEPT		GRADE OF				SCALE		WEIGHT (kg)		REF TO ASSY.DRG		ITEM		No. OF	
CODE		TOL DIM				N.T.S.		Refer Note -10 (Approx)		3-986-01-10280 (7132 Sht- 7 of 21)		No.		ITEMS	
		C/M/F													
TITLE								CARD		DRAWING No.				REV.	
CASING FOR BENDS 500NB DETAIL (V-W)								CODE		3-986-01-10281				00	
										SHEET No. 3				No. OF SHEETS 3	

SUPERSEDES DRG No.

SHT.24 SIZE A3 420 x 297

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN mm.

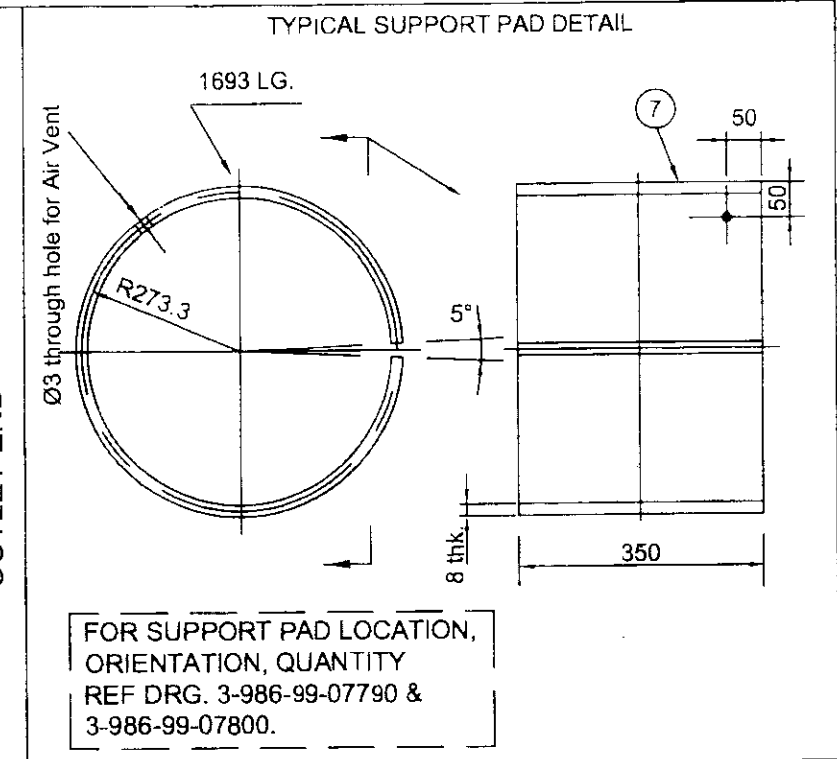
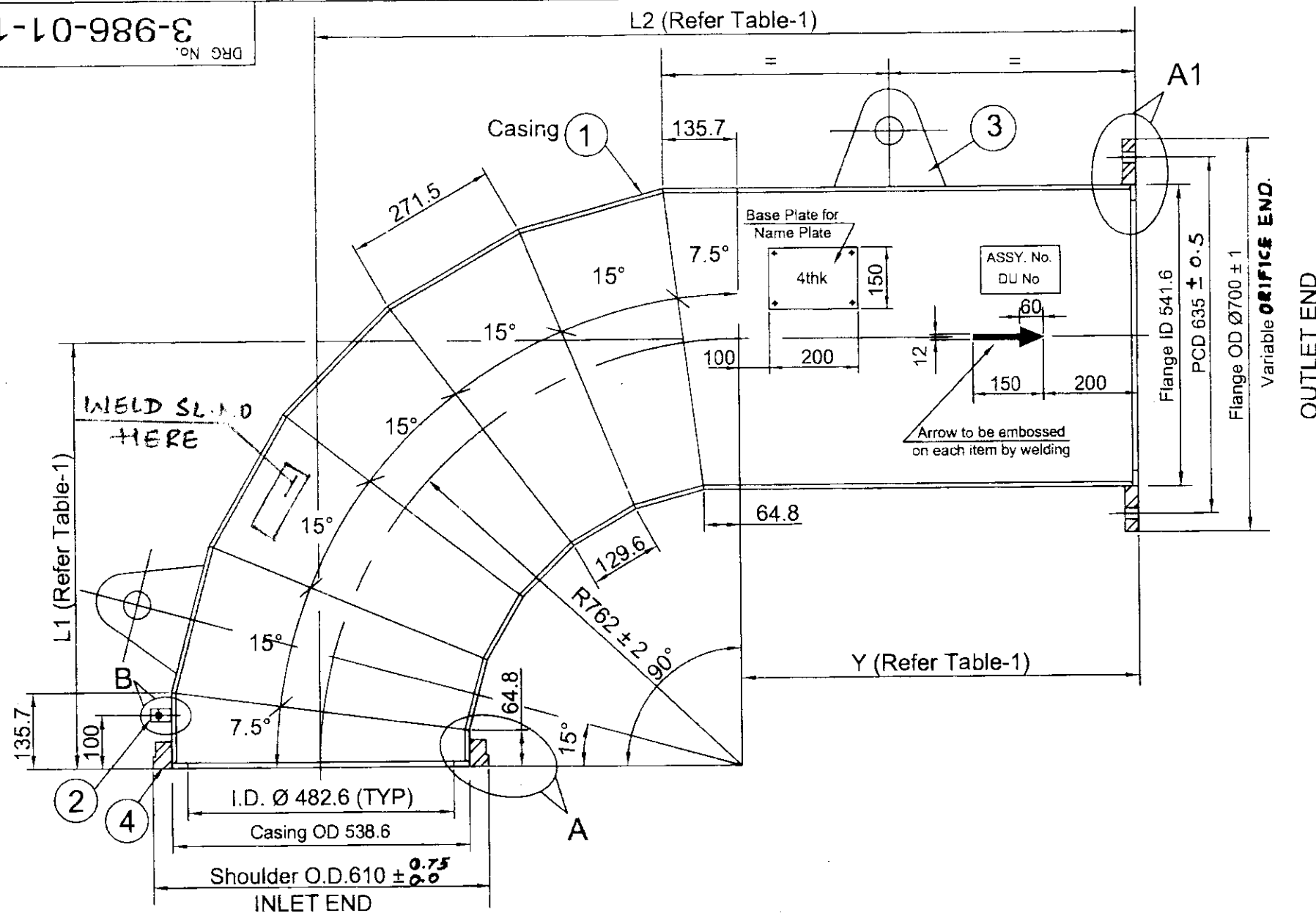
10 16201-10-986-3
REV

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REV. DRG. No.

SIGN AND DATE

INVENTORY No.



7	Support Pad	8 mm Thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.s	37.2	
6	Flange-FL(VO)	24 mm Thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.s	26.0	
5	Stopper Ring	10 mm Thk.	KILLED STEEL IS:2062 - 2011 E250 BR	2 No.s	3.5	
4	Shoulder	ID:540, OD:610	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.s	-	FREE Issue By BHEL To Vendor
3	Lifting Lug	8mm thk.	KILLED STEEL IS:2062 - 2011 E250 BR	2 No.s	1.3	
2	Earth Lug	3mm thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.s	0.02	
1	Casing	8mm thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.s	Refer Table-1	
Sl. No.	Description	Size	Material	Qty. per Bend	Wt. / Piece (Kgs.)	Remarks

TABLE - 2

2	CLCP-140	H2-4, H3-4, H5-5, H6-5, H7-5, H8-5	762	1978	1216	V	FL(VO)	6	251.4
1	CLCP-139	G2-2, G3-2, G5-2, G6-2, G7-2, G8-2	762	2162	1400	V	FL(VO)	6	270.7
Var. No.	DU No.	Assembly No.	L1	L2	Y	End connection inlet side	End connection outlet side	Qty. Nos	Approx Weight kg/Bend

TABLE - 1

NAME OF CUSTOMER/PROJECT

BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

	NAME	SIGN	DATE
DRN	Kaushik.K		09/12/16
CHD	M.Vinod		09/12/16
APPD	Felix.J		10/12/16

DEPT	GRADE OF TOL DIM C/M/F	SCALE N.T.S.	WEIGHT (kg) Refer NOTE 10 (Approx)	REF TO ASSY.DRG 3-9869-01-10290 (7132-Sht 8 of 21)	ITEM No.	No.OF ITEMS
CDDE						
TITLE	CASING FOR BENDS 500NB DETAIL (V-F)			DRAWING No. 3-986-01-10291	REV. 01	
				SHEET No. 1	No.OF SHEETS 3	

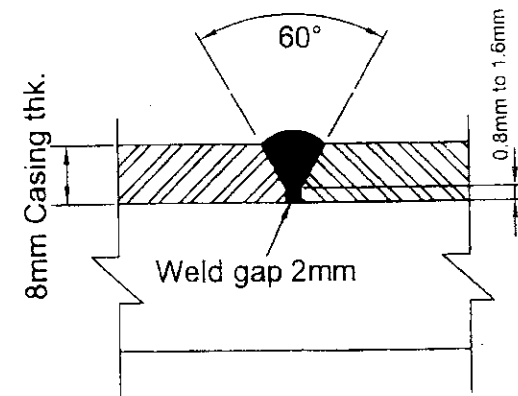
SUPERSEDES DRG. No.

SHT.24 SIZE A3 420 x 297

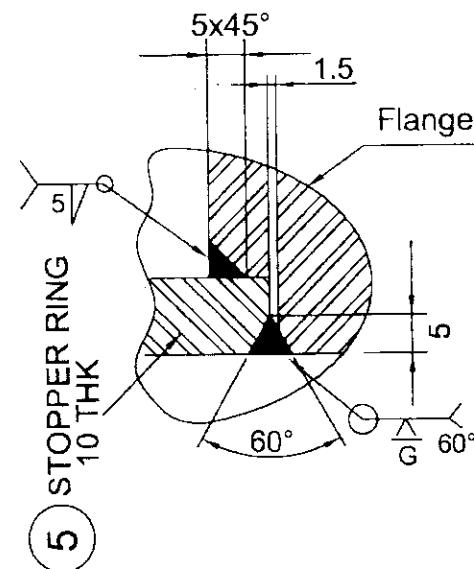
ALL DIMENSIONS ARE IN mm.

3-986-01-10291

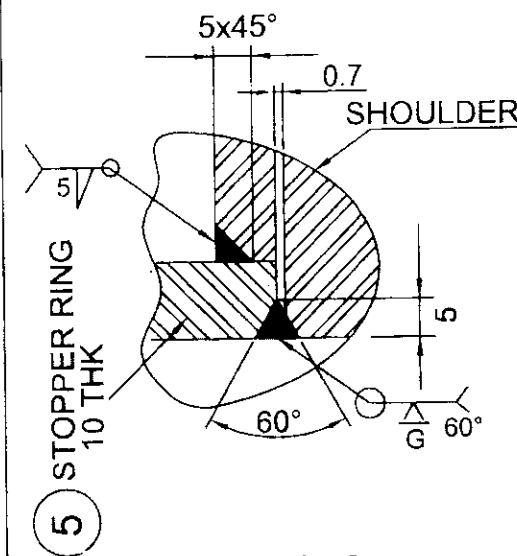
DRG No.



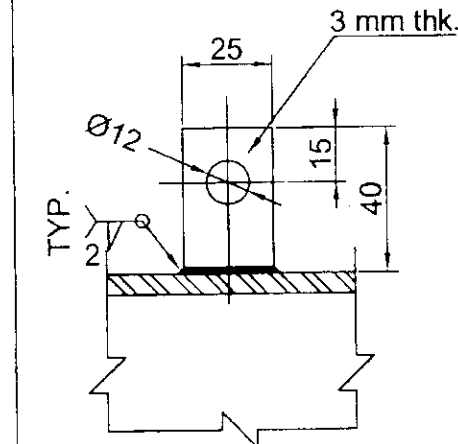
EDGE PREPARATION WELDING DETAIL



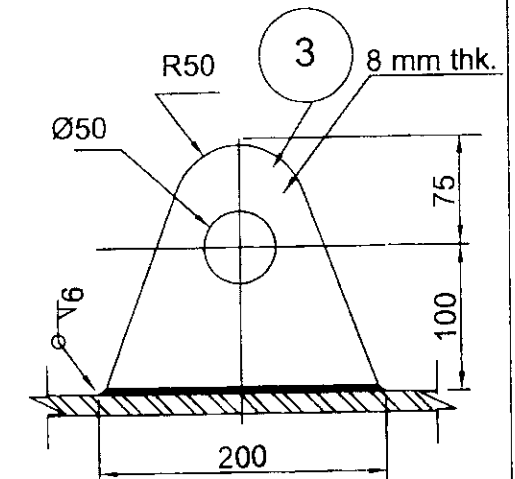
Detail-D



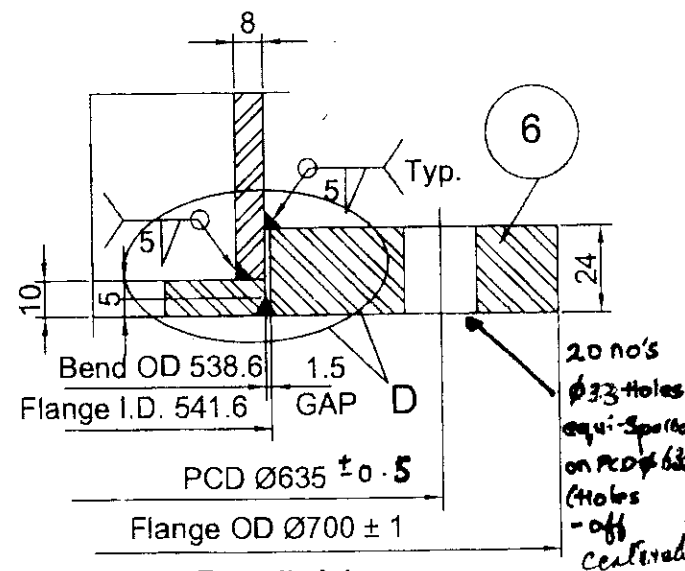
Detail-E



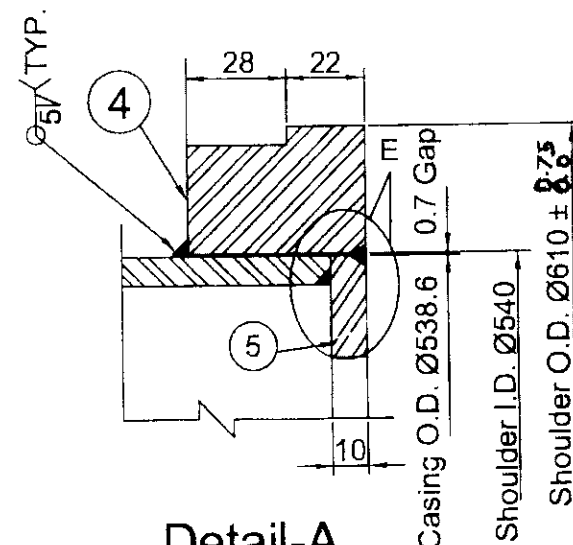
EARTH LUG DETAIL-B



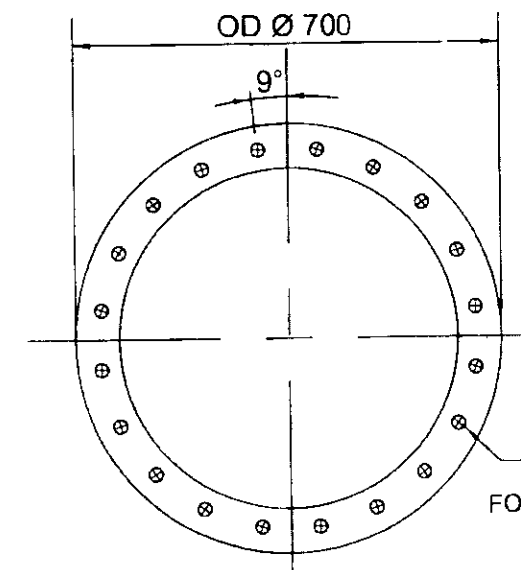
DETAIL OF LIFTING LUG



Detail-A1
FLANGE (VO)



Detail-A



20 Nos. HOLES EQUALLY SPACED
ON PCD 635 FOR FL(VO),
FOR OTHER DETAILS REFER DETAIL A1.

FLANGE HOLE ORIENTATION

NAME OF CUSTOMER/PROJECT



BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

	NAME	SIGN	DATE
DRN	Kaushik.K		09/12/16
CHD	M.Vinod		09/12/16
APPD	Felix.J		10/12/16

REV	DATE	ALTERED	REV	DATE	ALTERED	REV	DATE	ALTERED	DEPT	GRADE OF	SCALE	WEIGHT (KG)	REF TO ASSY DRS	REV	ITEMS
		CHECKED			CHECKED	01	17-3-17	CHECKED	CODE	TOL DIM		N.T.S.	Refer NOTE 10 (Approx)	3-9869-01-10290 (7132-Sht 8 of 21)	No.
						IN SHT 2 OF 3. DETAIL - A, HOLE DIA 33 WAS 32mm. REF RR 2394.			TITLE CASING FOR BENDS 500NB DETAIL (V-F)				CARD CODE	DRAWING No. 3-986-01-10291	REV. 01
														SHEET No. 2	No. OF SHEETS 3

SUPERSEDES DRG. No.

SHT.24 SIZE A3 420 x 297

REV
01

3-986-01-10291

DRG No.

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REF. DRG. No.

SIGN AND DATE

INVENTORY No.

NOTE:-

1. FOR CONSTRUCTION MATERIAL REFER TABLE-2
2. DURING ASSY. LONGITUDINAL WELDING BETWEEN SEGMENTS TO BE STAGGERED.
3. ALL SUPPLIES TO CONFORM CLN:QP:01/00. WELDING AS PER WP:CL001A & AWS:D 1.1.
4. DIMENSIONS INDICATED ARE FINISHED SIZE ONLY.
5. ASSEMBLY No., DU No., AND ARROW HEAD TO BE WELD DEPOSITED OVER CASING AS SHOWN , AS PER CE:1501:21
6. BASE PLATE FOR NAME PLATE TO BE WELDED ON TO CASING, AT LOCATION SHOWN,
FOR BASE PLATE & WELDING DETAILS REF DRG : 4 986 99 07720
7. FACE ANGLES TO BE MATCHED DURING ASSY.
8. ALL OVER MACHINING $\nabla 6.3$ FOR STOPPER RINGS.
9. V- VICTAULIC COUPLING SHOULDER, FL(VO) - VARIABLE ORIFICE FLANGE.
10. FOR CASING Wt. REFER TABLE -1
FOR Wt. OF LIFTING LUG, STOPPER RINGS (~~DET-D&E~~), EARTH LUG, SUPPORT PAD AND FLANGE, REFER TABLE - 2
11. WHERE "Y" IS GREATER THAN 1000, ONE CIRCUMFERENTIAL JOINT IS ALLOWED ON "Y", OUTSIDE SEGMENT TOWARDS OUTLET END.
THIS JOINT SHOULD NOT FOUL WITH LUG
12. SURFACE PREPARATION AND PAINTING: REF PAINTING SCHEME DOC. No. : PS- L&T - KHARGONE-BENDS/PIPES
13. OVERALL BEND TOLERANCE:-
 - a). AXIAL SHIFT: ± 3 MM
 - b). RADIAL SHIFT: ± 3 MM
 - c). OUT OF SQUARENESS: ± 3 MM.
14. CONTROL DURING WELDING OF SHOULDER TO CASING :-
 - a) OVALITY OF CASING ON OUTER DIAMETER TO BE MAINTAINED WITHIN 1.0 mm
 - b) WELDING OF SHOULDER TO CASING AS PER DETAIL-A, TO BE DONE IN SUCH A WAY AS TO ENSURE THAT DISTORTION OF COLLAR IS LIMITED SUCH THAT DIM. $\varnothing 610$ mm IS STRICTLY WITHIN THE RANGE SPECIFIED IN SHEET 2 OF 3.
VENDOR TO DO THE NEEDFUL TO ACHIEVE 14(a) AND 14(b).
15. ALL PARTS HAVE TO BE 6mm FILLET WELDED, IF NOT SPECIFIED.

NAME OF CUSTOMER/PROJECT

BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

	NAME	SIGN	DATE
DRN	Kaushik.K		09/12/16
CHD	M.Vinod		09/12/16
APPD	Felix.J		10/12/16

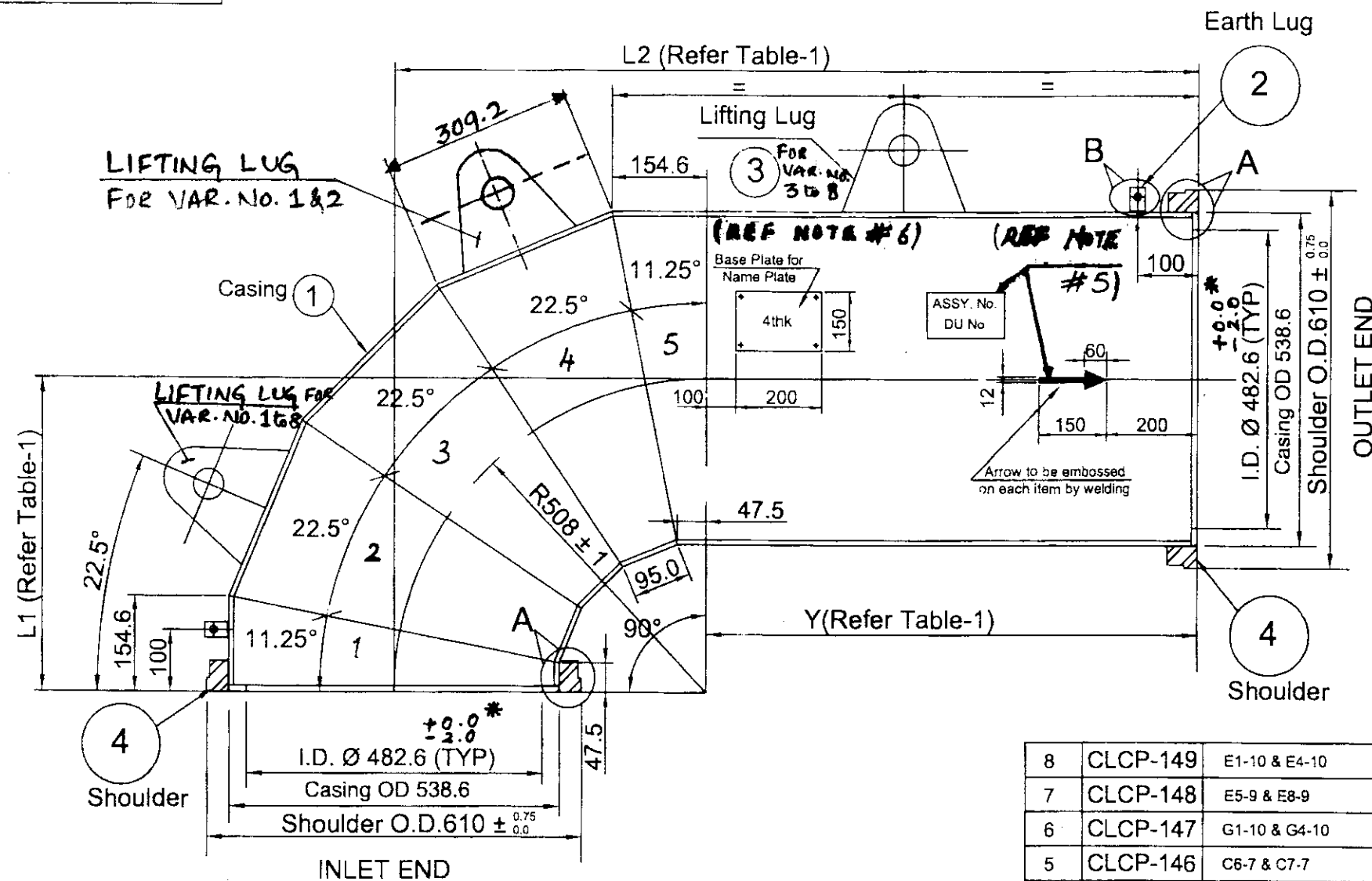
DEPT	GRADE OF TOL DIM	SCALE	WEIGHT (kg)	REF TO ASSY.DRG	ITEM No.	No.OF ITEMS
CODE	C/M/F	N.T.S.	Refer NOTE 10 (Approx)	3-9869-01-10290 (7132-Sht 8 of 21)		
TITLE	CARD CODE	DRAWING No.	REV.			
CASING FOR BENDS 500NB DETAIL (V-F)		3-986-01-10291	01			
		SHEET No. 3	No.OF SHEETS 3			

SUPERSEDES DRG. No.

SHT.24 SIZE A3 420 x 297

REV 01 3-986-01-10301-3
DRG No.

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* STOPPER RING ID 482.6 PREFERABLY TO BE MAINTAINED ON MINUS SIDE WITHIN TOLERANCE.

5	Stopper Ring	10 mm Thk.	KILLED STEEL IS:2062 - 2011 E250 BR	2 No.s	3.5	
4	Shoulder	ID:540, OD:610	KILLED STEEL IS:2062 - 2011 E250 BR	2 No.s	-	FREE Issue By BHEL To Vendor
3	Lifting Lug	8mm thk.	KILLED STEEL IS:2062 - 2011 E250 BR	2 No.s	1.3	
2	Earth Lug	3mm thk.	KILLED STEEL IS:2062 - 2011 E250 BR	2 No.s	0.02	
1	Casing	8mm thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.s	Refer Table-1	
SL No.	Description	Size	Material	Qty. per Bend	Wt. / Piece (Kgs.)	Remarks

TABLE - 2

8	CLCP-149	E1-10 & E4-10	508	1081.8	573.8	V	V	2	142.5
7	CLCP-148	E5-9 & E8-9	508	799.1	291.1	V	V	2	112.9
6	CLCP-147	G1-10 & G4-10	508	783.7	275.7	V	V	2	111.3
5	CLCP-146	C6-7 & C7-7	508	658.1	150.1	V	V	2	98.1
4	CLCP-145	A2-6 & A3-6	508	644.2	136.2	V	V	2	96.7
3	CLCP-144	C2-7 & C3-7	508	643.9	135.9	V	V	2	96.7
2	CLCP-143	E6-9 & E7-9	508	595	87	V	V	2	91.5
1	CLCP-142	C1-7, C4-7, C5-7, C8-7, E2-9, E3-9	508	542	34	V	V	6	86.0
Var.No.	DU No.	Assembly No.	L1	L2	Y	End connection inlet side	End connection outlet side	Qty. No's	Weight kg/Bend

TABLE - 1

NAME OF CUSTOMER/PROJECT



BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

DRN	NAME	SIGN	DATE
CHD	Kaushik.K		07/12/16
APPD	M.Vinod		09/12/16
	Felix.J		10/12/16

DEPT	GRADE OF TDL DIM	SCALE	WEIGHT (kg)	REF TO ASSY.DRG	ITEM No.	No. OF ITEMS
CODE	C/M/F	N.T.S.	Refer Note-10 (Approx)	3-986-01-10300 (7132-Sht 9 of 21)		
TITLE	CARD CODE	DRAWING No.	REV.			
CASING FOR BENDS 500NB DETAIL (V-V)		3-986-01-10301	01			
		SHEET No. 1	No. OF SHEETS 3			

FIRST ANGLE PROJECTION

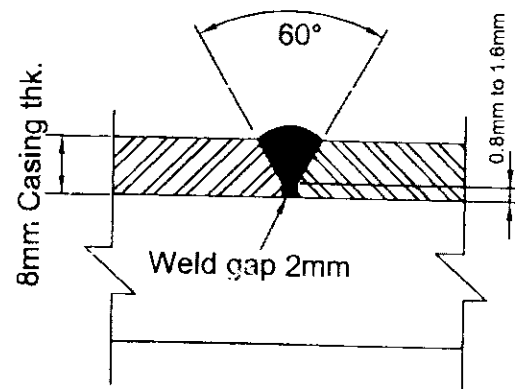
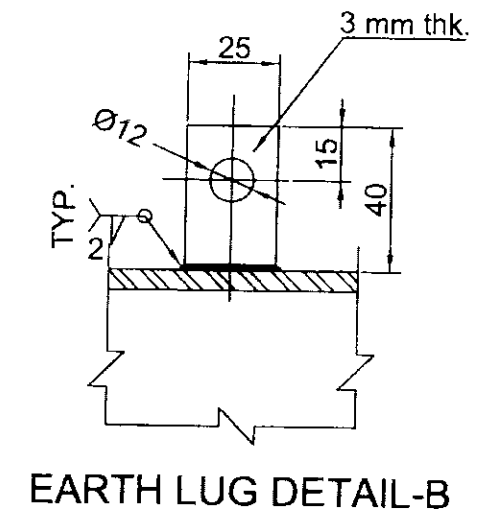
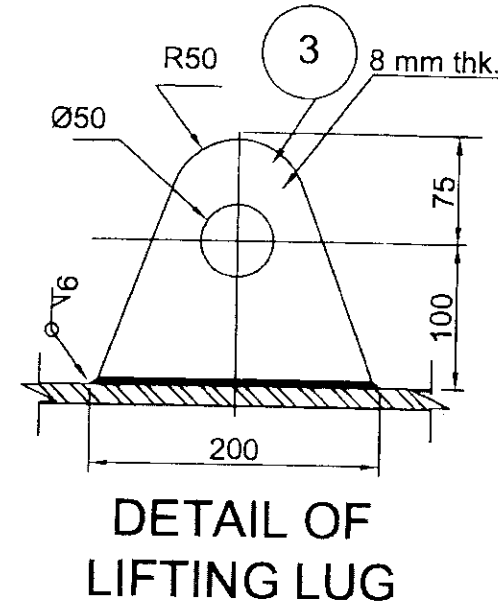
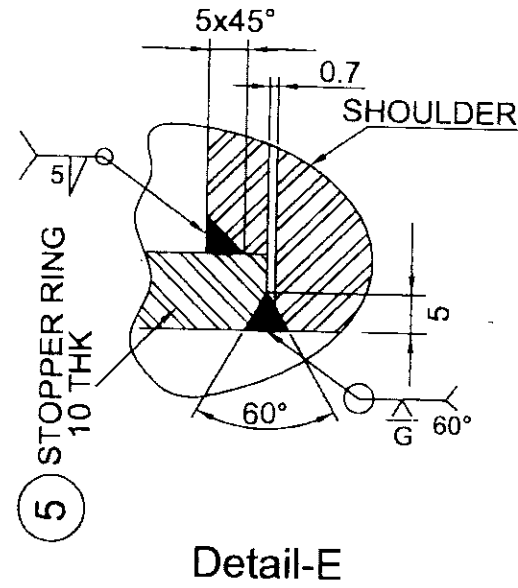
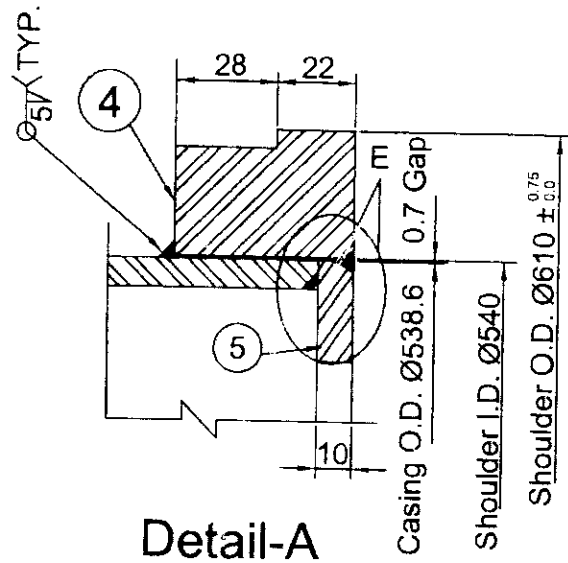
ALL DIMENSIONS ARE IN mm.

10 10301-01-986-3
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SIGN AND DATE REF. DRG. No.

INVENTORY No.



NAME OF CUSTOMER/PROJECT



BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

NAME	SIGN	DATE
DRN Kaushik.K		09/12/16
CHO M.Vinod		09/12/16
APPD Felix.J		10/12/16

DEPT	GRADE OF TOL DIM	SCALE	WEIGHT (kg)	REF TO ASSY.DRG	ITEM No.	No.OF ITEMS
CODE	C/M/F	N.T.S.	Refer Note-10 (Approx)	3-986-01-10300 (7132-Sht 9 of 21)		

TITLE	CARD CODE	DRAWING No.	REV.
CASING FOR BENDS 500NB DETAIL (V-V)		3-986-01-10301	01
		SHEET No. 2	No.OF SHEETS 3

SUPERSEDES DRG. No.

SHT.24 SIZE A3 420 x 297

REV 01 3-986-01-10301
DRG No.

NOTE:-

1. FOR CONSTRUCTION MATERIAL REFER TABLE-2
2. DURING ASSY. LONGITUDINAL WELDING BETWEEN SEGMENTS TO BE STAGGERED.
3. ALL SUPPLIES TO CONFORM CLN:QP:01/00. WELDING AS PER WP:CL001A & AWS:D 1.1.
4. DIMENSIONS INDICATED ARE FINISHED SIZE ONLY.
5. ASSEMBLY No., DU No., AND ARROW HEAD TO BE WELD DEPOSITED ON SEGMENT #3 OVER CASING FOR VAR-01 TO VAR-07 AND AT LOCATION SHOWN FOR VAR-08, AS PER CE:1501:21
6. BASE PLATE FOR NAME PLATE TO BE WELDED ON SEGMENT #4 OVER CASING, FOR VAR-01 TO VAR-07 AND AT LOCATION SHOWN FOR VAR-08.
FOR BASE PLATE & WELDING DETAILS REF DRG : 4 986 99 07720
7. FACE ANGLES TO BE MATCHED DURING ASSY.
8. ALL OVER MACHINING 6.3/ FOR STOPPER RINGS.
9. V- VICTAULIC COUPLING SHOULDER.
10. FOR CASING Wt. REFER TABLE -1
FOR Wt. OF LIFTING LUG, STOPPER RINGS, **AND** EARTH LUG, REFER TABLE - 2.
11. WHERE "Y" IS GREATER THAN 1000, ONE CIRCUMFERENTIAL JOINT IS ALLOWED ON "Y", OUTSIDE SEGMENT TOWARDS OUTLET END.
THIS JOINT SHOULD NOT FOUL WITH LUG
12. SURFACE PREPARATION AND PAINTING: REF PAINTING SCHEME DOC. No. : PS- L&T - KHARGONE-BENDS/PIPES
13. OVERALL BEND TOLERANCE:-
 - a). AXIAL SHIFT: ± 3 MM
 - b). RADIAL SHIFT: ± 3 MM
 - c). OUT OF SQUARENESS: ± 3 MM.
14. CONTROL DURING WELDING OF SHOULDER TO CASING :-
 - a) OVALITY OF CASING ON OUTER DIAMETER TO BE MAINTAINED WITHIN 1.0 mm
 - b) WELDING OF SHOULDER TO CASING AS PER DETAIL-A, TO BE DONE IN SUCH A WAY AS TO ENSURE THAT DISTORTION OF COLLAR IS LIMITED SUCH THAT DIM. $\varnothing 610$ mm IS STRICTLY WITHIN THE RANGE SPECIFIED IN SHEET 2 OF 3.
VENDOR TO DO THE NEEDFUL TO ACHIEVE 14(a) AND 14(b).
15. ALL PARTS HAVE TO BE 6 mm FILLET WELDED, IF NOT SPECIFIED.
16. FOR VAR: 3, 4 & 5, AT OUTLET END, LOCATE EARTH LUG AT 100 mm FROM COLLAR END AS SHOWN. BUT MOVE CIRCUMFERENTIALLY FORWARD BY 25 mm TOWARD ARROW HEAD.

NAME OF CUSTOMER/PROJECT



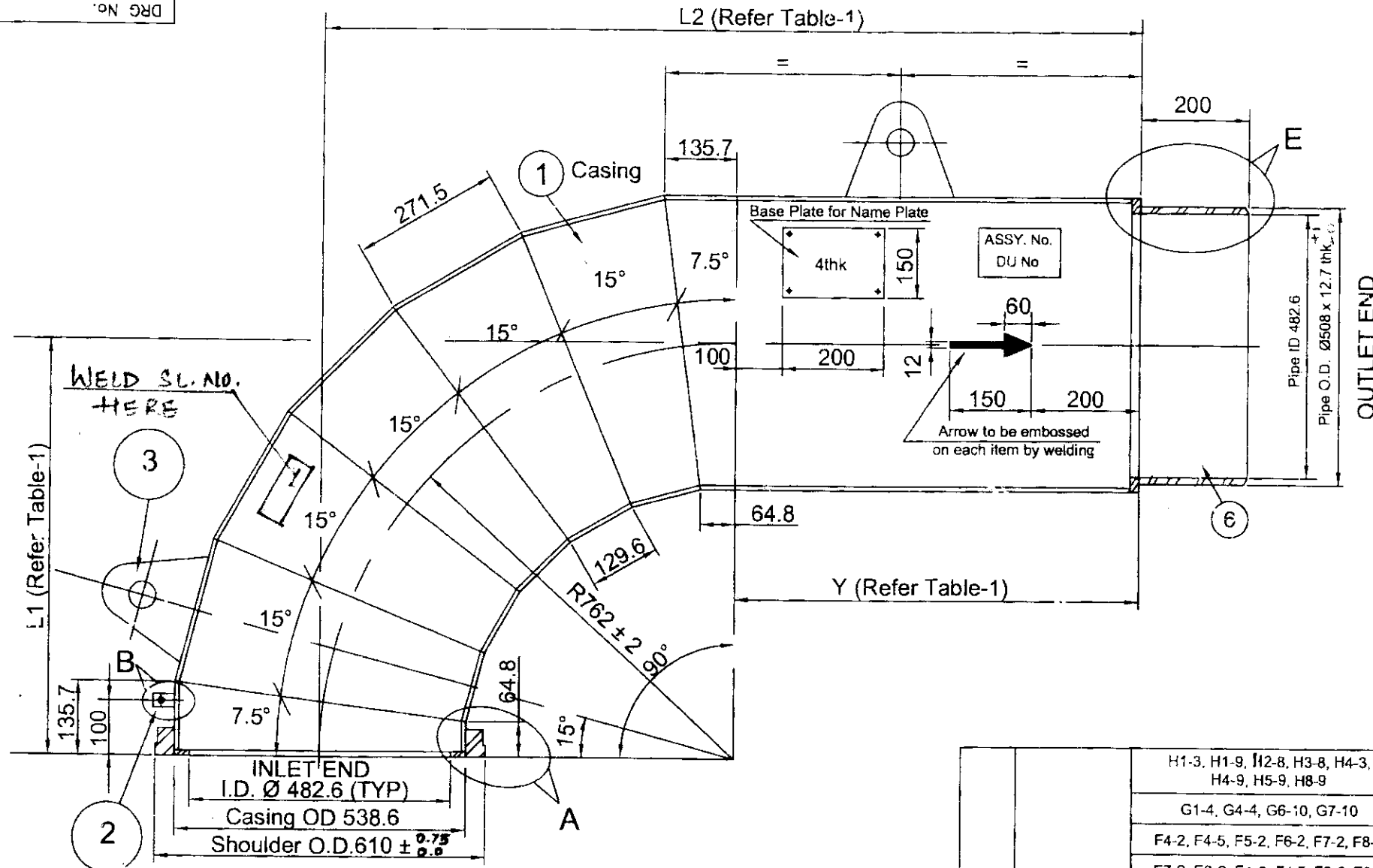
BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

	NAME	SIGN	DATE
DRN	Kaushik.K		09/12/16
CHD	M.Vinod		09/12/16
APPD	Felix.J		10/12/16

DEPT	GRADE OF TOL DIM	SCALE	WEIGHT (kg)	REF TO ASSY.DRG	ITEM No.	No.OF ITEMS
CODE	C/M/F	N.T.S.	Refer Note-10 (Approx)	3-986-01-10300 (7132-Sht 9 of 21)		
TITLE				CARD CODE	DRAWING No.	REV.
CASING FOR BENDS 500NB DETAIL (V-V)					3-986-01-10301	01
					SHEET No. 3	No.OF SHEETS 3

ALL DIMENSIONS ARE IN mm.

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.



7	Stopper Ring- St pipe end	16 mm Thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.s	5.6	
6	St. Pipe Ø508x200Lg.	12.7 mm Thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.s	31.0	
5	Stopper Ring	10 mm Thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.s	3.5	
4	Shoulder	ID:540, OD 610	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.s	-	FREE Issue By BHEL To Vendor
3	Lifting Lug	8mm thk.	KILLED STEEL IS:2062 - 2011 E250 BR	2 No.s	1.3	
2	Earth Lug	3mm thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.s	0.02	
1	Casing	8mm thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.s	Refer Table-1	
SL No.	Description	Size	Material	Qty. per Bend	Wt. / Piece (Kgs.)	Remarks

1	CLCP-151	H1-3, H1-9, H2-8, H3-8, H4-3, H4-9, H5-9, H8-9	762	1778	1016	V	W	44	229.8
		G1-4, G4-4, G6-10, G7-10							
		F4-2, F4-5, F5-2, F6-2, F7-2, F8-2							
		E7-2, E8-2, F1-2, F1-5, F2-2, F3-2							
		E2-2, E3-2, E4-4, E5-2, E6-2							
		B3-2, R4-2, B5-2, B8-2, C2-2, C3-2, E1-4							
		A1-2, A2-2, A3-2, A4-2, A5-2, A8-2, B1-2, B2-2							
Vax. No.	DU No.	Assembly No.	L1	L2	Y	End connection inlet side	End connection outlet side	Qty. No's	Weight kg/Bend

NAME OF CUSTOMER/PROJECT



BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

	NAME	SIGN	DATE
DRN	Kaushik.K		10/12/16
CHD	M.Vinod		10/12/16
APPD	Felix.J		10/12/16

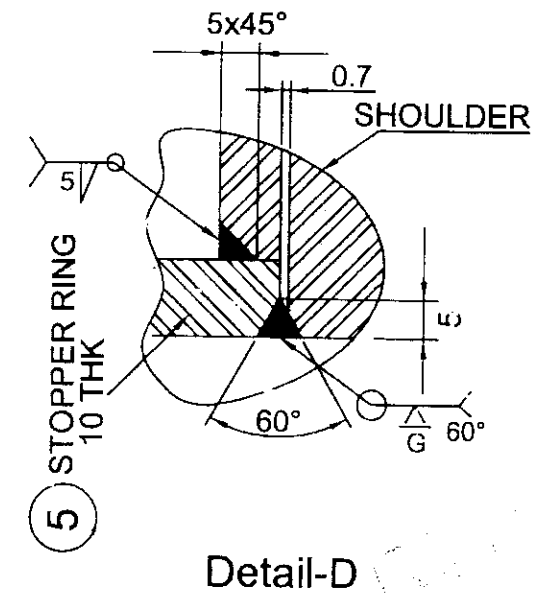
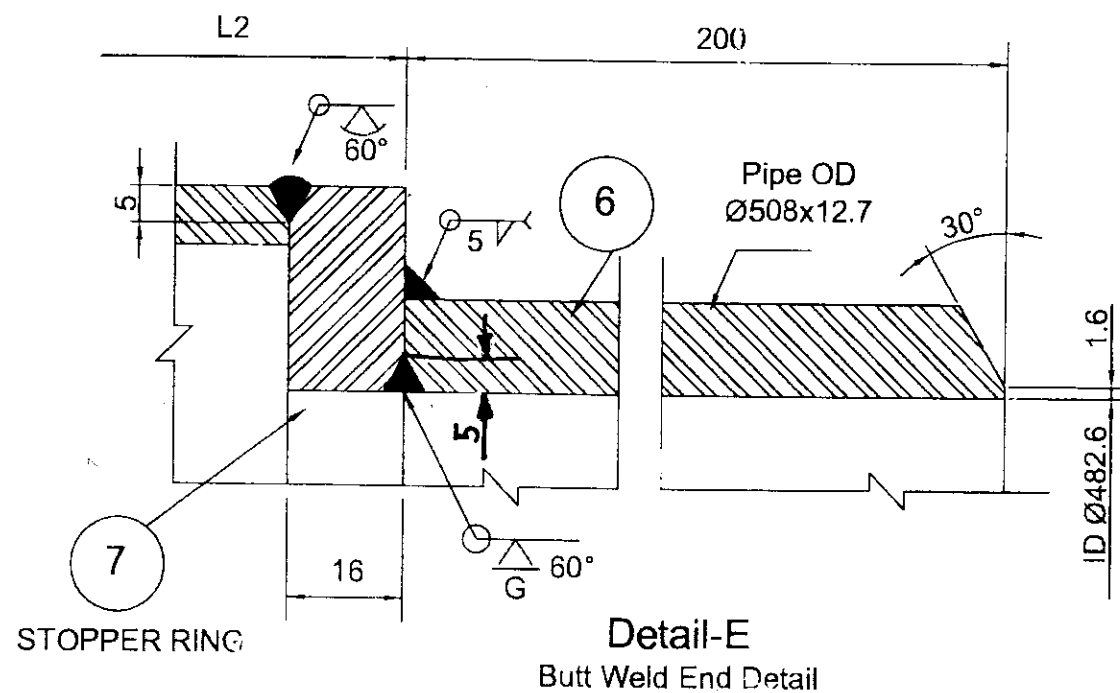
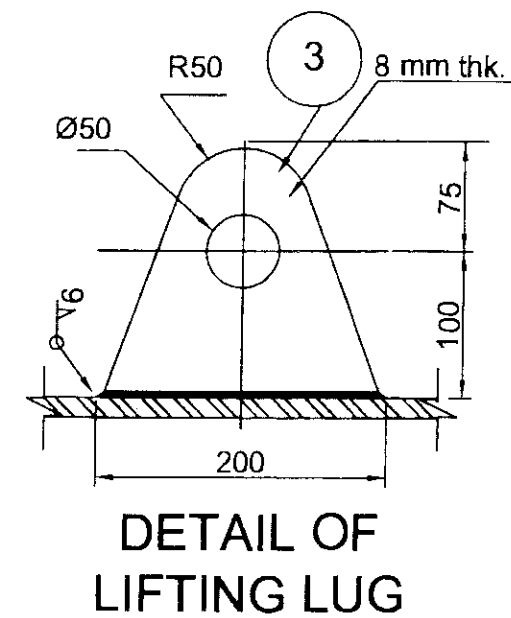
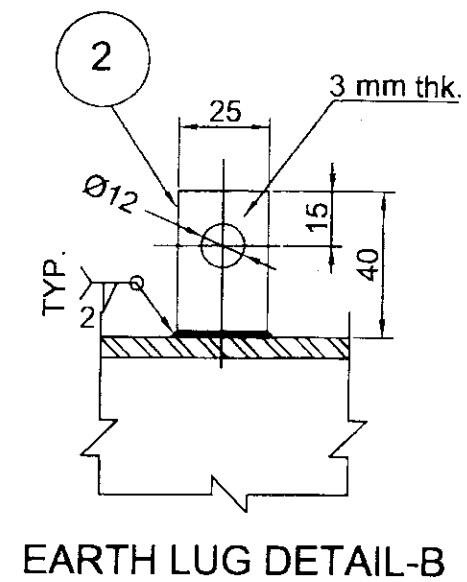
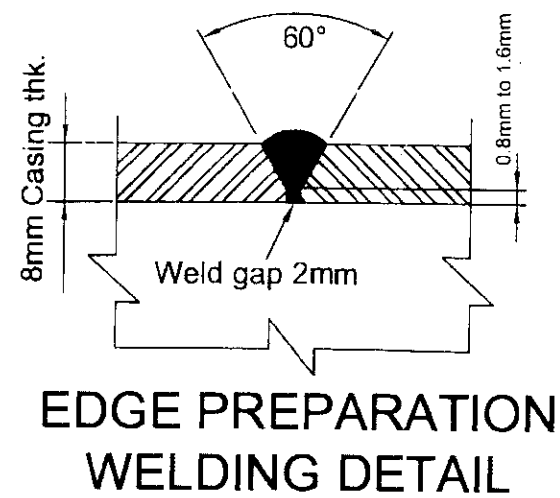
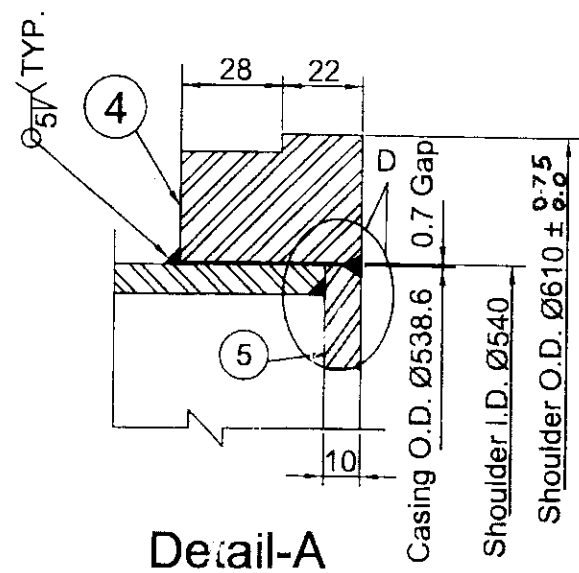
DEPT	GRADE OF TOL DIM		SCALE	WEIGHT (kg)	REF TO ASSY.DRG	ITEM	No. OF
CDDE	C/M/F		N.T.S.	Refer NOTE 10 (Approx)	3-986-01-10310 (7132-Sht 10 of 21)	No.	ITEMS
TITLE				CARD	DRAWING No.		REV.
CASING FOR BENDS 500NB DETAIL (V-W)				CODE	3-986-01-10311		00
					SHEET No. 1	No. OF SHEETS	3

SUPERSEDES DRG. No.

SHT.24 SIZE A3 420 x 297

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN mm.

00
REV
3-986-01-10311
DRG No.

NAME OF CUSTOMER/PROJECT

BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

NAME	SIGN	DATE
DRN Kaushik.K		10/12/16
CHD M.Vinod		10/12/16
APPD Felix.J		10/12/16

DEPT	GRADE OF TOL DIM	SCALE	WEIGHT (kg)	REF TO ASSY.DRG	ITEM No.	No. OF ITEMS
CODE	C/M/F	N.T.S.	Refer NOTE 10 (Approx)	3-986-01-10310 (7132-Sht 10 of 21)		
TITLE				CARD CODE	DRAWING No.	REV.
CASING FOR BENDS 500NB DETAIL (V-W)					3-986-01-10311	00
					SHEET No. 2	No. OF SHEETS 3

SUPERSEDES DRG. No.

SHT.24 SIZE A3 420 x 297

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN mm.

00
REV

11301-10-986-3

DRG No.

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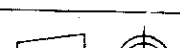
NOTE:-

1. FOR CONSTRUCTION MATERIAL REFER TABLE-2
2. DURING ASSY. LONGITUDINAL WELDING BETWEEN SEGMENTS TO BE STAGGERED.
3. ALL SUPPLIES TO CONFORM CLN:QP:01/00. WELDING AS PER WP:CL001A & AWS:D 1.1.
4. DIMENSIONS INDICATED ARE FINISHED SIZE ONLY.
5. ASSEMBLY No., DU No., AND ARROW HEAD TO BE WELD DEPOSITED OVER CASING AS SHOWN, AS PER CE:1501:21
6. BASE PLATE FOR NAME PLATE TO BE WELDED ON TO CASING, AT LOCATION SHOWN, FOR BASE PLATE & WELDING DETAILS REF DRG : 4 986 99 07720
7. FACE ANGLES TO BE MATCHED DURING ASSY.
8. ALL OVER MACHINING 6.3/ FOR STOPPER RINGS.
9. V-SHOULDER FOR VICTAULIC COUPLING & W/BW- BUTT WELD SPOOL PIPE.
10. FOR CASING Wt. REFER TABLE -1
FOR Wt. OF LIFTING LUG, EARTH LUG, STOPPER RINGS AND SPOOL PIPE.
REFER TABLE - 2
11. WHERE "Y" IS GREATER THAN 1000, ONE CIRCUMFERENTIAL JOINT IS ALLOWED ON "Y", OUTSIDE SEGMENT TOWARDS OUTLET END.
THIS JOINT SHOULD NOT FOUL WITH LUG
12. SURFACE PREPARATION AND PAINTING: REF PAINTING SCHEME DOC. No. : PS- L&T - KHARGONE-BENDS/PIPES
13. OVERALL BEND TOLERANCE:-
 - a). AXIAL SHIFT: ± 3 MM
 - b). RADIAL SHIFT: ± 3 MM
 - c). OUT OF SQUARENESS: ± 3 MM.
14. CONTROL DURING WELDING OF SHOULDER TO CASING :-
 - a) OVALITY OF CASING ON OUTER DIAMETER TO BE MAINTAINED WITHIN 1.0 mm
 - b) WELDING OF SHOULDER TO CASING AS PER DETAIL-A, TO BE DONE IN SUCH A WAY AS TO ENSURE THAT DISTORTION OF COLLAR IS LIMITED SUCH THAT DIM. $\varnothing 610$ mm IS STRICTLY WITHIN THE RANGE SPECIFIED IN SHEET 2 OF 3.
VENDOR TO DO THE NEEDFUL TO ACHIEVE 14(a) AND 14(b).
15. ALL PARTS HAVE TO BE 6 mm FILLET WELDED, IF NOT SPECIFIED.
16. TOLERANCES ON SPOOL PIPE: AS PER API-5L STANDARD.

NAME OF CUSTOMER/PROJECT

BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

	NAME	SIGN	DATE
DRN	Kaushik.K		10/12/16
CHD	M.Vinod		10/12/16
APPD	Felix.J		10/12/16

DEPT	GRADE OF TOL DIM		SCALE	WEIGHT (kg)	REF TO ASSY.DRG	ITEM No.	No. OF ITEMS
CODE	C/M/F		N.T.S.	Refer NOTE 10 (Approx)	3-986-01-10310 (7132-Sht 10 of 21)		
TITLE CASING FOR BENDS 500NB DETAIL (V-W)				CARD CODE	DRAWING No. 3-986-01-10311		REV. 00
					SHEET No. 3	No. OF SHEETS 3	

SUPERSEDES DRG. No.

SHT.24 SIZE A3 420 x 297

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN mm.

00
REV

3-986-01-10321

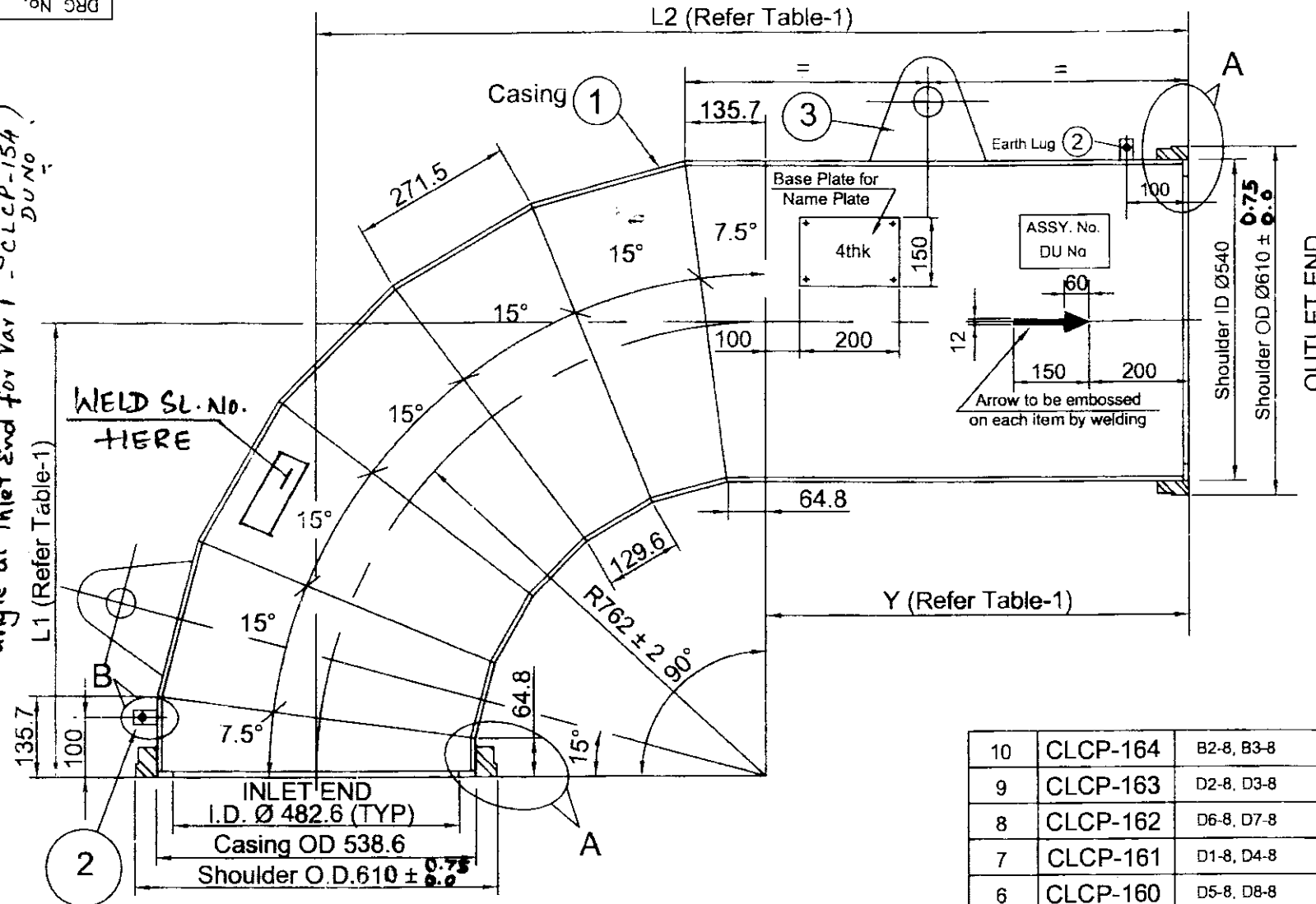
DRG No.

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REF. DRG. No.

SIGN AND DATE

INVENTORY No.

(L1 Includes 110mm extension beyond bend angle at Inlet End for Var 1 - CLCP-154)
DU No.

SL No.	Description	Size	Material	Qty. per Bend	Wt. / Piece (Kgs.)	Remarks
5	Stopper Ring	10mm thk.	KILLED STEEL IS:2062 - 2011 E250 BR	2 No.s	3.5	
4	Shoulder	ID:540, OD:610	KILLED STEEL IS:2062 - 2011 E250 BR	2 No.s	-	FREE Issue By BHEL To Vendor
3	Lifting Lug	8 mm Thk.	KILLED STEEL IS:2062 - 2011 E250 BR	2 No.s	1.3	
2	Earth Lug	3 mm Thk.	KILLED STEEL IS:2062 - 2011 E250 BR	2 No.s	0.02	
1	Casing	8 mm Thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.s	Refer Table-1	

TABLE - 2

10	CLCP-164	B2-8, B3-8	762	1695.1	933.1	V	V	2	221.8
9	CLCP-163	D2-8, D3-8	762	1557.8	795.8	V	V	2	207.4
8	CLCP-162	D6-8, D7-8	762	1456.4	694.4	V	V	2	196.8
7	CLCP-161	D1-8, D4-8	762	1362.9	600.9	V	V	2	187.0
6	CLCP-160	D5-8, D8-8	762	1289.6	527.6	V	V	2	179.4
5	CLCP-159	F5-11, F8-11	762	1255.5	493.5	V	V	2	175.8
4	CLCP-158	B6-6, B7-6	762	1163.2	401.2	V	V	2	166.1
3	CLCP-157	F6-10, F7-10	762	1140.8	378.8	V	V	2	163.8
2	CLCP-156	F2-11, F3-11	762	1075.4	313.4	V	V	2	157.0
1	CLCP-154	H2-1, H3-1	872	1928.0	1166.0	V	V	2	257.8

Var. No.

DU No.

Assembly No.

L1

L2

Y

End connection inlet side

End connection outlet side

Qty. No's

Weight kg/Bend

TABLE - 1

NAME OF CUSTOMER/PROJECT

BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

NAME	SIGN	DATE
DRN Kaushik.K		09/12/16
CHD M.Vinod		09/12/16
APPD Felix.J		17/12/16

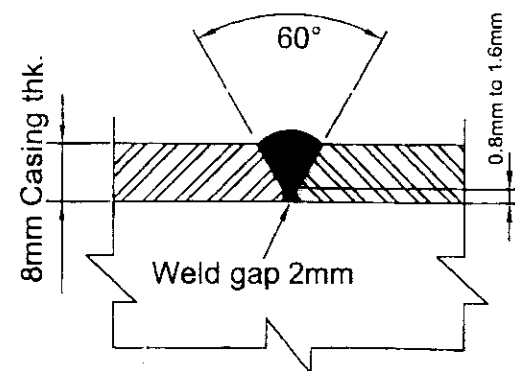
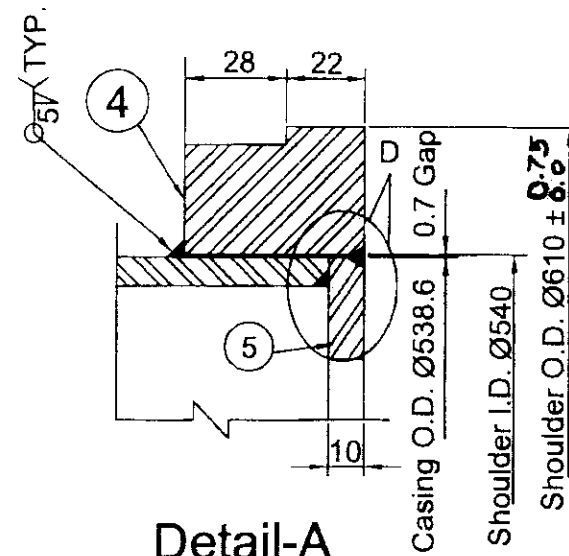
DEPT	GRADE OF TOL DIM C/M/F	SCALE N.T.S.	WEIGHT (kg) Refer Table-1 (Approx)	REF TO ASSY.DRG 3-986-01-10320 (7132-Sht 11 of 21)	ITEM No.	No. OF ITEMS
CODE						
TITLE	CASING FOR BENDS 500NB DETAIL (V-V)			DRAWING No. 3-986-01-10321	REV. 00	
				SHEET No. 1	No. OF SHEETS 3	

SUPERSEDES DRG. No.

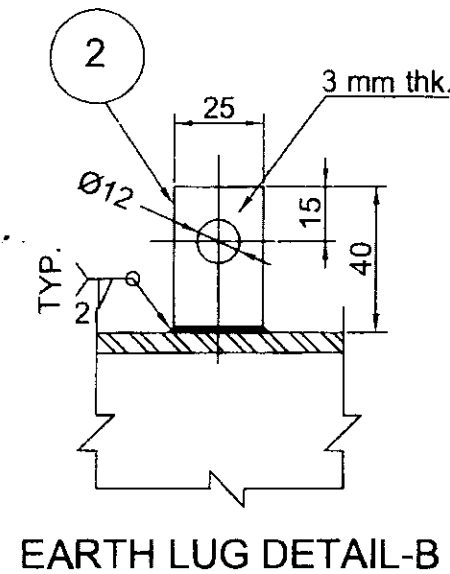
SHT.24 SIZE A3 420 x 297

FIRST ANGLE PROJECTION

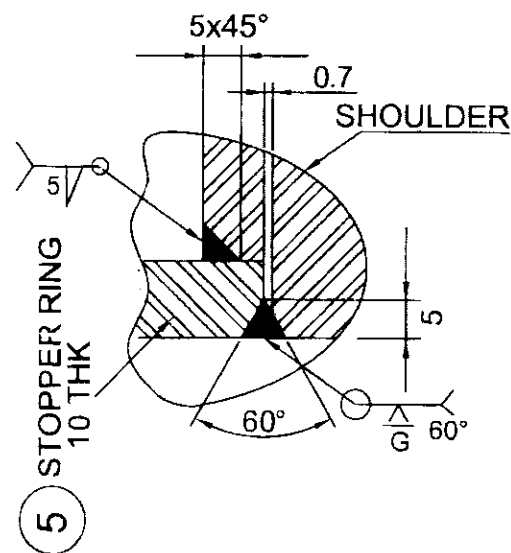
ALL DIMENSIONS ARE IN mm.

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REV
3-986-01-10321
DRG NoEDGE PREPARATION
WELDING DETAIL

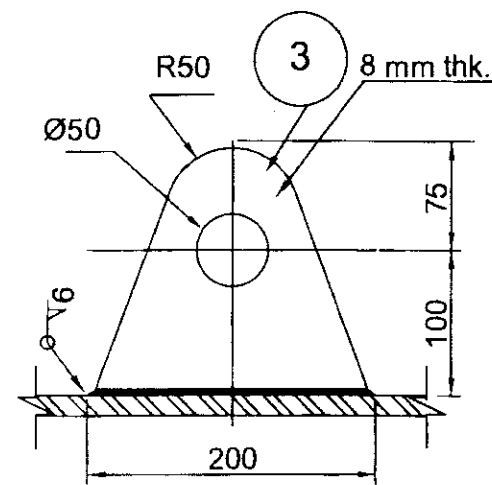
Detail-A



EARTH LUG DETAIL-B



Detail-D

DETAIL OF
LIFTING LUG

NAME OF CUSTOMER/PROJECT

BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

	NAME	SIGN	DATE
DRN	Kaushik.K		09/12/16
CHD	M.Vinod		09/12/16
APPD	Felix.J		10/2/16

DEPT	GRADE OF TOL DIM C/M/F	SCALE	WEIGHT (kg)	REF TO ASSY.DRG	ITEM No.	No.OF ITEMS
		N.T.S.	Refer Table-1 (Approx)	3-986-01-10320 (7132-Sht 11 of 21)		
TITLE				CARD CODE	DRAWING No.	REV.
CASING FOR BENDS 500NB DETAIL (V-V)					3-986-01-10321	00
					SHEET No. 2	No.OF SHEETS 3

SUPERSEDES DRG. No.

SHT.24 SIZE A3 420 x 297

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN mm.

00
REV

3-986-01-10321

DRG No.

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

NOTE:-

1. FOR CONSTRUCTION MATERIAL REFER TABLE-2
2. DURING ASSY. LONGITUDINAL WELDING BETWEEN SEGMENTS TO BE STAGGERED.
3. ALL SUPPLIES TO CONFORM CLN:QP:01/00. WELDING AS PER WP:CL001A & AWS:D 1.1.
4. DIMENSIONS INDICATED ARE FINISHED SIZE ONLY.
5. ASSEMBLY No., DU No., AND ARROW HEAD TO BE WELD DEPOSITED OVER CASING AS SHOWN , AS PER CE:1501:21
6. BASE PLATE FOR NAME PLATE TO BE WELDED ON TO CASING, AT LOCATION SHOWN,
FOR BASE PLATE & WELDING DETAILS REF DRG : 4 986 99 07720
7. FACE ANGLES TO BE MATCHED DURING ASSY.
8. ALL OVER MACHINING 6.3/ FOR STOPPER RINGS.
9. V-SHOULDER FOR VICTAULIC COUPLING.
10. FOR CASING Wt. REFER TABLE -1
FOR Wt. OF LIFTING LUG, EARTH LUG & STOPPER RINGS.
REFER TABLE - 2
11. WHERE "Y" IS GREATER THAN 1000, ONE CIRCUMFERENTIAL JOINT IS ALLOWED ON "Y", OUTSIDE SEGMENT TOWARDS OUTLET END.
THIS JOINT SHOULD NOT FOUL WITH LUG
12. SURFACE PREPARATION AND PAINTING: REF PAINTING SCHEME DOC. No. : PS- L&T - KHARGONE-BENDS/PIPES
13. OVERALL BEND TOLERANCE:-
 - a]. AXIAL SHIFT: ± 3 MM
 - b]. RADIAL SHIFT: ± 3 MM
 - c]. OUT OF SQUARENESS: ± 3 MM.
14. CONTROL DURING WELDING OF SHOULDER TO CASING :-
 - a] OVALITY OF CASING ON OUTER DIAMETER TO BE MAINTAINED WITHIN 1.0 mm
 - b] WELDING OF SHOULDER TO CASING AS PER DETAIL-A, TO BE DONE IN SUCH A WAY AS TO ENSURE THAT DISTORTION OF COLLAR IS LIMITED SUCH THAT DIM. $\varnothing 610$ mm IS STRICTLY WITHIN THE RANGE SPECIFIED IN SHEET 2 OF 3.
VENDOR TO DO THE NEEDFUL TO ACHIEVE 14(a) AND 14(b).
15. ALL PARTS HAVE TO BE 6mm FILLET WELDED, IF NOT SPECIFIED.

NAME OF CUSTOMER/PROJECT

BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

	NAME	SIGN	DATE
DRN	Kaushik.K		09/12/16
CHD	M.Vinod		09/12/16
APPD	Felix.J		10/12/16

DEPT	GRADE OF TOL DIM C/M/F	SCALE	WEIGHT (kg)	REF TO ASSY.DRG	ITEM No.	No.OF ITEMS
CODE		N.T.S.	Refer Table-1 (Approx)	3-986-01-10320 (7132-Sht 11 of 21)		
TITLE				CARD CODE	DRAWING No.	REV.
CASING FOR BENDS 500NB DETAIL (V-V)					3-986-01-10321	00
					SHEET No. 3	No.OF SHEETS 3

SUPERSEDES DRG. No.

SHT.24 SIZE A3 420 x 297

FIRST ANGLE PROJECTION

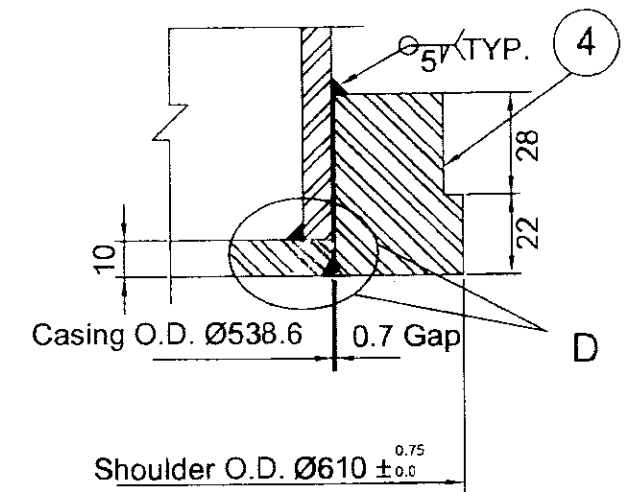
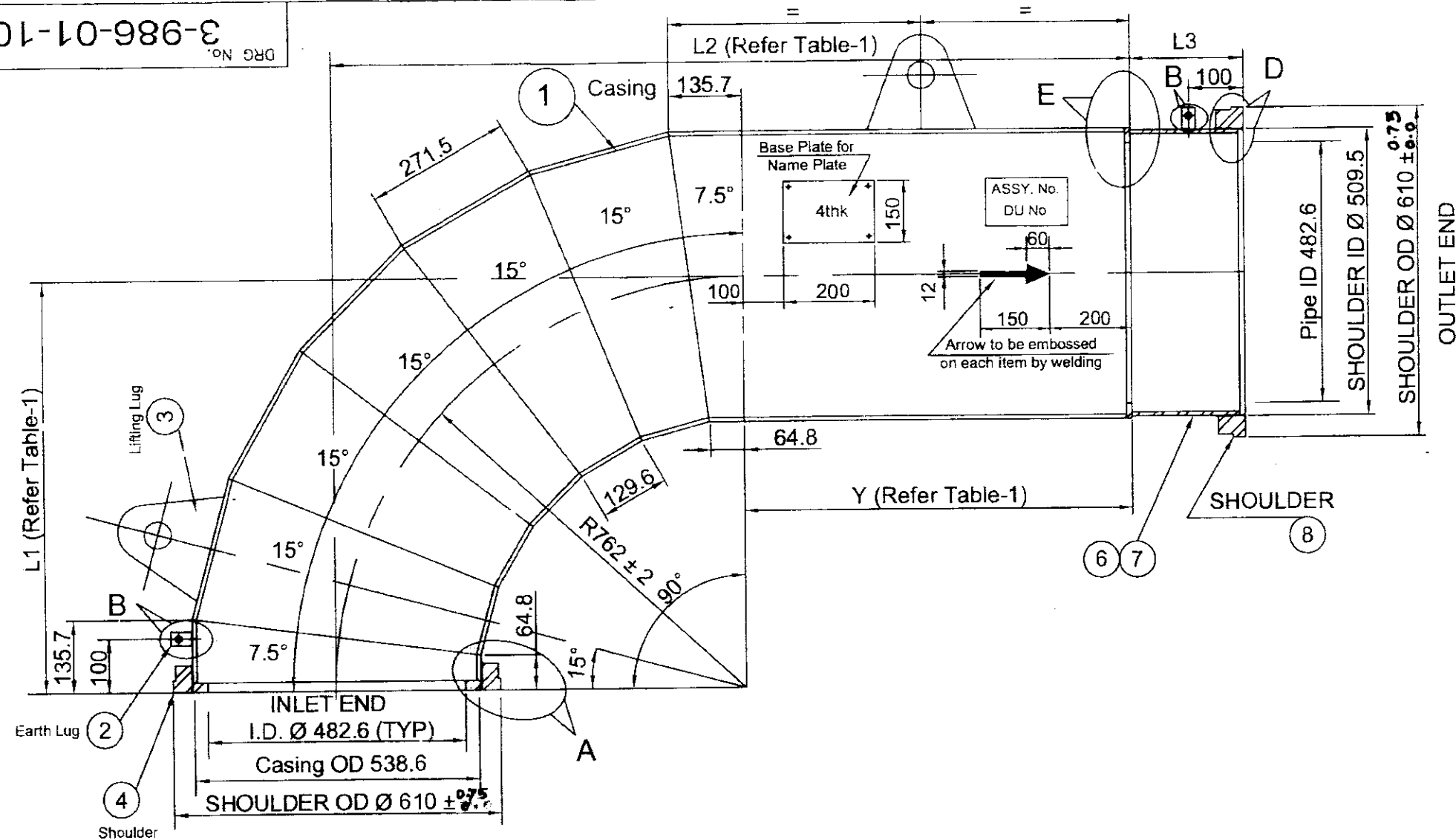
ALL DIMENSIONS ARE IN mm.

00
REV

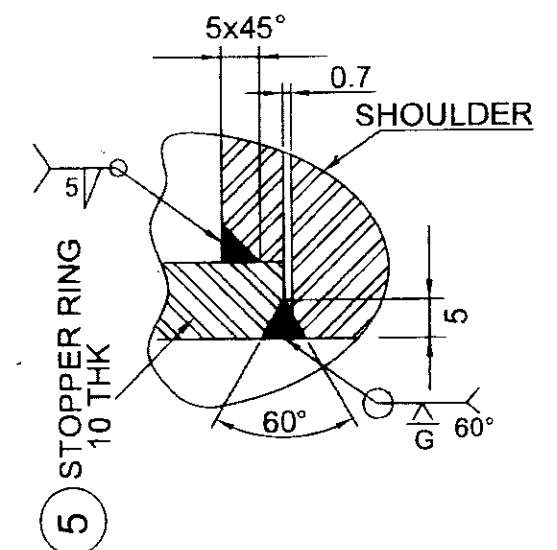
3-986-01-10331

DRG No.

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



Detail-A



Detail-D

10	Support Pad	8 mm Thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No's	5.2	Only For Van-2, Refer Detail-Z
9	Stopper Ring	10mm thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No's	3.5	
8	Shoulder	ID:509.5, OD:610	KILLED STEEL IS:2062 - 2011 E250 BR	1 No's	-	FREE Issue By BHEL To Vendor
7	Straight Pipe	508x12.7 (453Lg)	KILLED STEEL IS:2062 - 2011 E250 BR	1 No's	70.2	Only For Van-02
6	Straight Pipe	508x12.7 (440Lg)	KILLED STEEL IS:2062 - 2011 E250 BR	1 No's	68.2	Only For Van-01
5	Stopper Ring	16mm thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No's	5.6	
4	Shoulder	ID:540, OD:610	KILLED STEEL IS:2062 - 2011 E250 BR	1 No's	-	FREE Issue By BHEL To Vendor
3	Lifting Lug	8 mm Thk.	KILLED STEEL IS:2062 - 2011 E250 BR	2 No's	1.3	
2	Earth Lug	3 mm Thk.	KILLED STEEL IS:2062 - 2011 E250 BR	2 No's	0.02	
1	Casing	8 mm Thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No's	Refer Table-1	
SL No.	Description	Size	Material	Qty. per Bend	Wt. / Piece (Kgs.)	Remarks

TABLE - 2

2	CLCP-166	B6-2, B7-2	762	1778	463	1016	V	V	2	230.5
1	CLCP-165	D5-2, D8-2	762	1778	450	1016	V	V	2	230.5
Van. No.	DU No.	Assembly No.	L1	L2	L3	Y	End connection inlet side	End connection outlet side	Qty. Nos.	Weight kg/Bend

TABLE - 1

NAME OF CUSTOMER/PROJECT



BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

NAME	SIGN	DATE
DRN Kaushik.K		07/11/16
CHD M.Vinod		09/11/16
APPD Felix.J		10/11/16

DEPT	GRADE OF TOL DIM	SCALE	WEIGHT (kg)	REF TO ASSY.DRG	ITEM No.	No. OF ITEMS
CODE	C/M/F	N.T.S.	Refer Table-1 (Approx)	3-986-01-10330 (7132-Sht 12 of 21)		
TITLE	CARD CODE			DRAWING No.	REV.	
CASING FOR BENDS 500NB DETAIL (V-V)				3-986-01-10331	00	
				SHEET No. 1	No. OF SHEETS 3	

SUPERSEDES DRG. No.

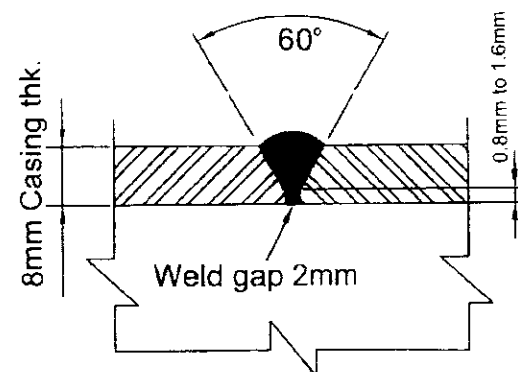
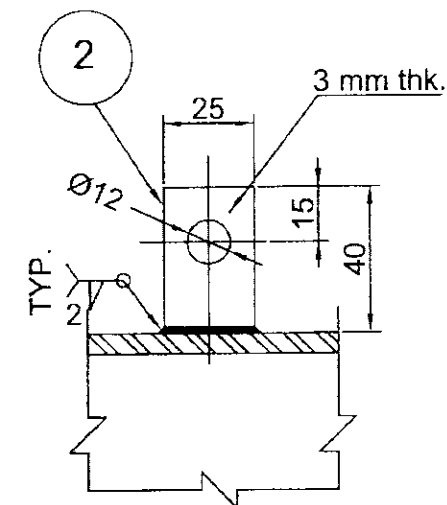
SHT.24 SIZE A3 420 x 297

FIRST ANGLE PROJECTION

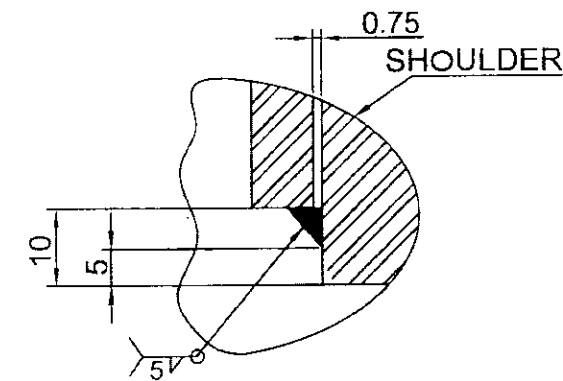
ALL DIMENSIONS ARE IN mm.

00
REV
3-986-01-10331
DRG No.

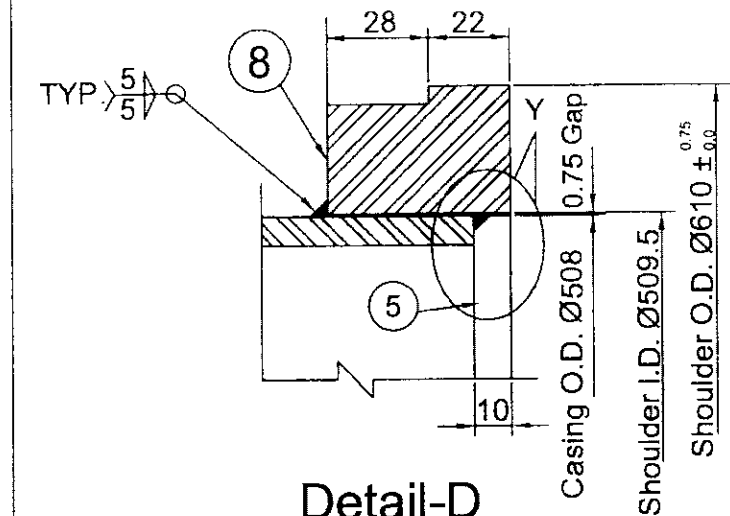
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EDGE PREPARATION
WELDING DETAIL

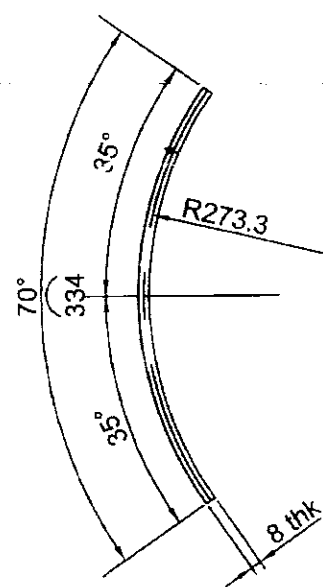
EARTH LUG DETAIL-B



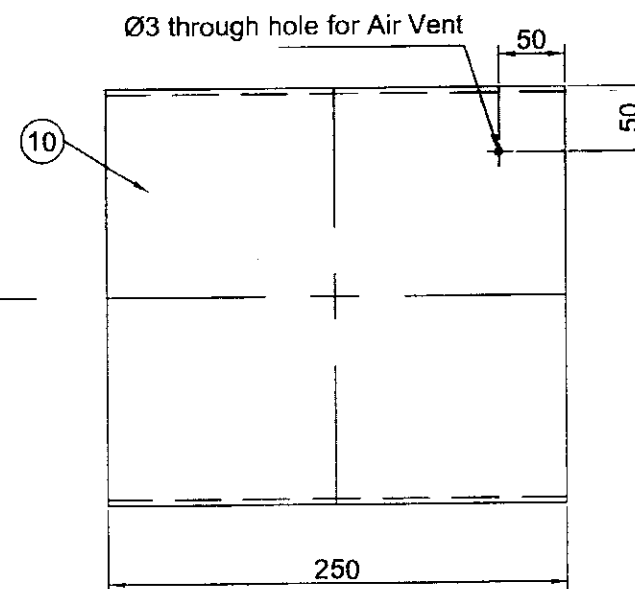
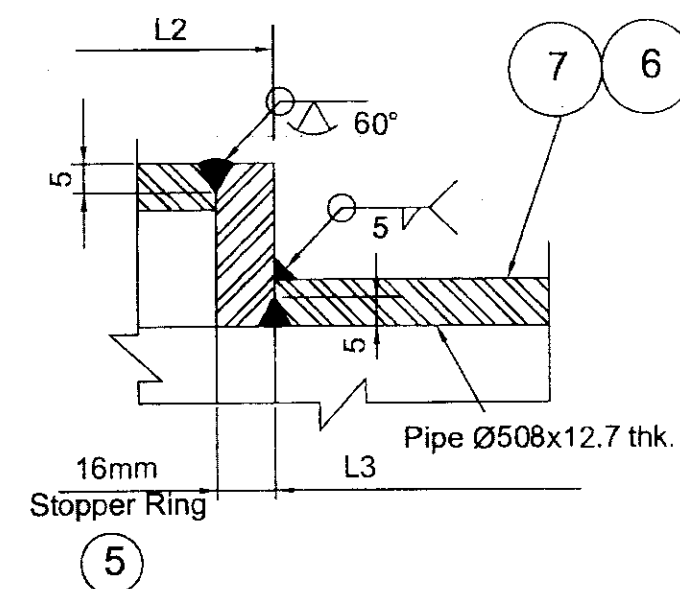
Detail-Y



Detail-D

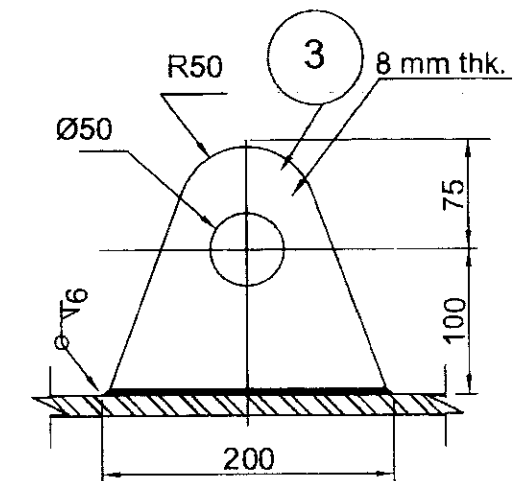


TYPICAL SUPPORT PAD DETAIL-Z

THIS SUPPORT PAD FOR DU No.s-
B6-2, B7-2/TOTAL Qty-2 nosFOR SUPPORT PAD LOCATION,
ORIENTATION, QUANTITY
REF DRG. 3-986-99-07790 &
3-986-99-07800.

Detail-E

BUTT WELD END DETAIL

DETAIL OF
LIFTING LUG

NAME OF CUSTOMER/PROJECT

BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

NAME	SIGN	DATE
DRN Kaushik.K		09/12/16
CHD M.Vinod		09/12/16
APPD Felix.J		10/12/16

DEPT	GRADE OF TOL DIM	SCALE	WEIGHT (kg)	REF TO ASSY.DRG	ITEM No.	No.OF ITEMS
CODE	C/M/F	N.T.S.	Refer Table-1 (Approx)	3-986-01-10330 (7132-Sht 12 of 21)		
TITLE	CASING FOR BENDS 500NB DETAIL (V-V)	CARD CODE	DRAWING No. 3-986-01-10331	REV. 00		
			SHEET No. 2	No.OF SHEETS 3		

SUPERSEDES DRG. No.

SHT.24 SIZE A3 420 x 297

FIRST ANGLE PROJECTION

00
REV
3-986-01-10331
DRG No.

NOTE:-

1. FOR CONSTRUCTION MATERIAL REFER TABLE-2
2. DURING ASSY. LONGITUDINAL WELDING BETWEEN SEGMENTS TO BE STAGGERED.
3. ALL SUPPLIES TO CONFORM CLN:QP:01/00. WELDING AS PER WP:CL001A & AWS:D 1.1.
4. DIMENSIONS INDICATED ARE FINISHED SIZE ONLY.
5. ASSEMBLY No., DU No., AND ARROW HEAD TO BE WELD DEPOSITED OVER CASING AS SHOWN , AS PER CE:1501:21
6. BASE PLATE FOR NAME PLATE TO BE WELDED ON TO CASING, AT LOCATION SHOWN,
FOR BASE PLATE & WELDING DETAILS REF DRG : 4 986 99 07720
7. FACE ANGLES TO BE MATCHED DURING ASSY.
8. ALL OVER MACHINING 6.3/ FOR STOPPER RINGS.
9. V-SHOULDER FOR VICTAULIC COUPLING.
10. TOTAL Wt. OF VARIANT (1) - 310.4 Kgs.
TOTAL Wt. OF VARIANT (2) - 317.6 Kgs. FOR BREAK UP REFER TABLE 1 & 2.

11. WHERE "Y" IS GREATER THAN 1000, ONE CIRCUMFERENTIAL JOINT IS ALLOWED ON "Y", OUTSIDE SEGMENT TOWARDS OUTLET END.
THIS JOINT SHOULD NOT FOUL WITH LUG

12. SURFACE PREPARATION AND PAINTING: REF PAINTING SCHEME DOC. No. : PS- L&T - KHARGONE BENDS/PIPES.

13. OVERALL BEND TOLERANCE:-
- a). AXIAL SHIFT: ± 3 MM
 - b). RADIAL SHIFT: ± 3 MM
 - c). OUT OF SQUARENESS: ± 3 MM.

14. CONTROL DURING WELDING OF SHOULDER TO CASING :-
- a) OVALITY OF CASING ON OUTER DIAMETER TO BE MAINTAINED WITHIN 1.0 mm
 - b) WELDING OF SHOULDER TO CASING AS PER DETAIL-A, TO BE DONE IN SUCH A WAY AS TO ENSURE THAT DISTORTION OF COLLAR IS LIMITED SUCH THAT DIM. $\varnothing 610$ mm IS STRICTLY WITHIN THE RANGE SPECIFIED IN SHEET 2 OF 3.
- VENDOR TO DO THE NEEDFUL TO ACHIEVE 14(a) AND 14(b).

15. ALL PARTS HAVE TO BE 6 mm FILLET WELDED, IF NOT SPECIFIED.
16. TOLERANCES ON SPOOL PIPE : AS PER API-5L STANDARD.

NAME OF CUSTOMER/PROJECT



BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

	NAME	SIGN	DATE
DRN	Kaushik.K		09/12/16
CHD	M.Vinod		09/12/16
APPD	Felix.J		10/12/16

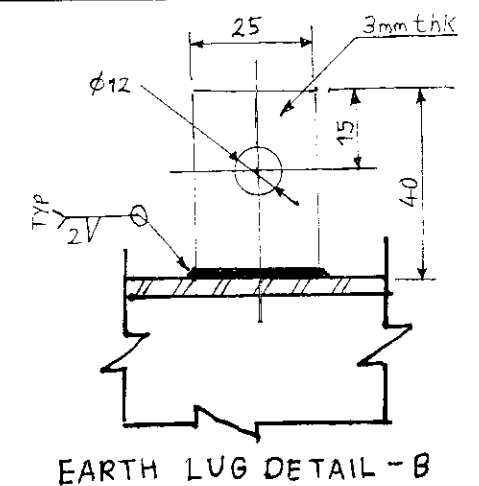
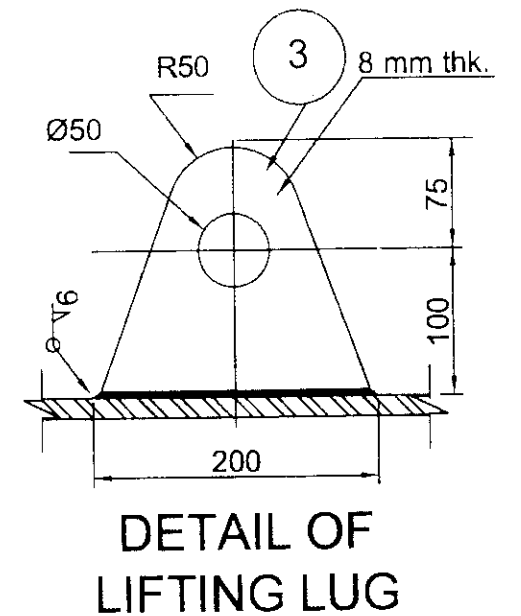
DEPT	GRADE OF TOL DIM	SCALE	WEIGHT (kg)	REF TO ASSY.DRG	ITEM No.	No. OF ITEMS
CODE	C/M/F	N.T.S.	Refer Table-1 (Approx)	3-986-01-10330 (7132-Sht 12 of 21)		
TITLE	CASING FOR BENDS 500NB DETAIL (V-V)		CARD CODE	DRAWING No.	REV.	
				3-986-01-10331	00	
				SHEET No. 3	No. OF SHEETS 3	

SUPERSEDES ORG. No.

SHT.24 SIZE A3 420 x 297

ALL DIMENSIONS ARE IN mm.

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1	CLCP-167	C1-4, C2-4, C3-4, C4-4 C5-4, C6-4, C7-4, C8-4	762	1778	1016	FL(BIV)	V		230.5
Var. No.	DU No.	Assembly No.	L1	L2	Y	End connection inlet side	End connection outlet side	Qty. Nos	Approx Weight kg/Bend

TABLE - 1

NAME OF CUSTOMER/PROJECT

SUPERSEDES DRG Nn

SHT.24 SIZE A3 420 x 297

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN mm.

REV

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

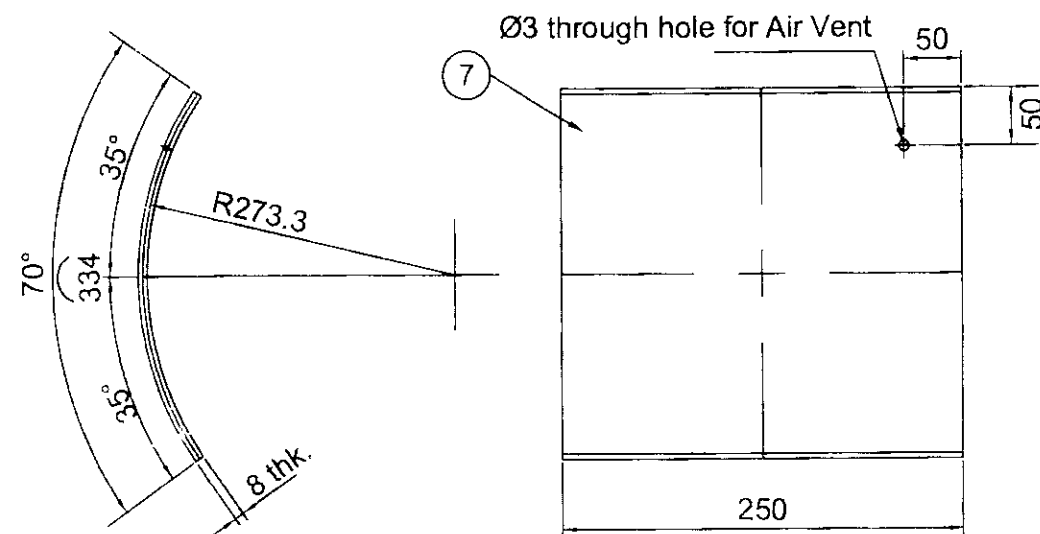
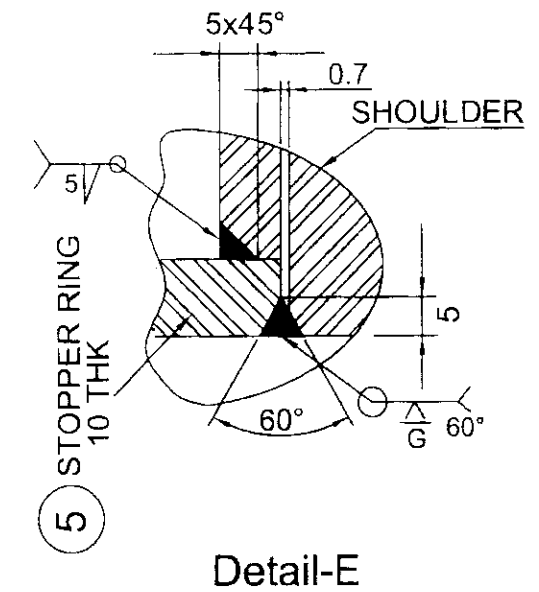
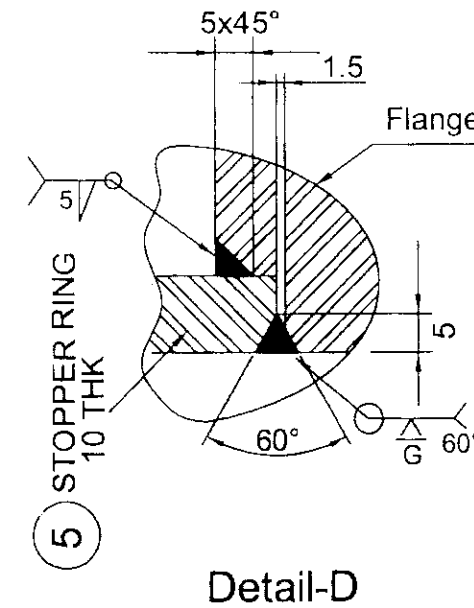
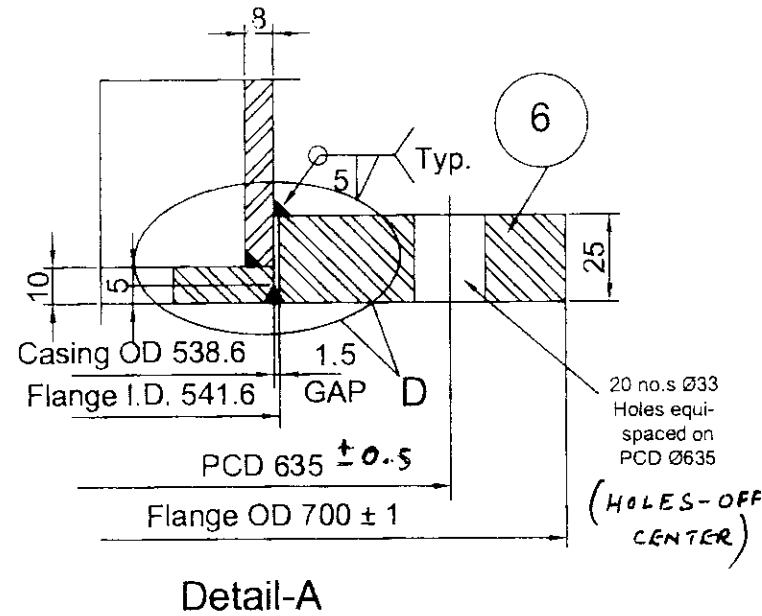
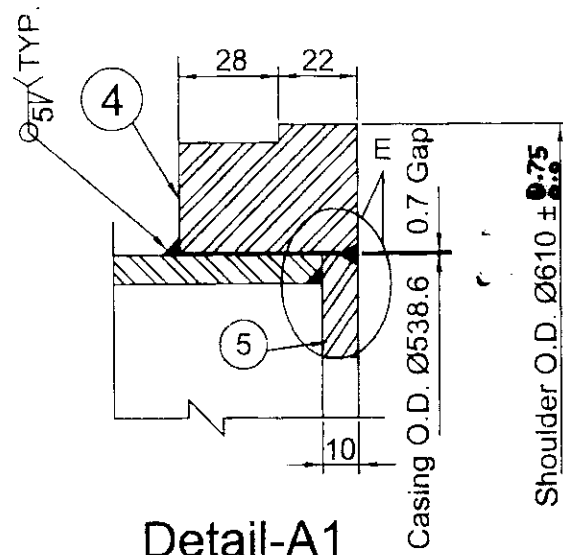
REF. DRG. No.

SIGN AND DATE

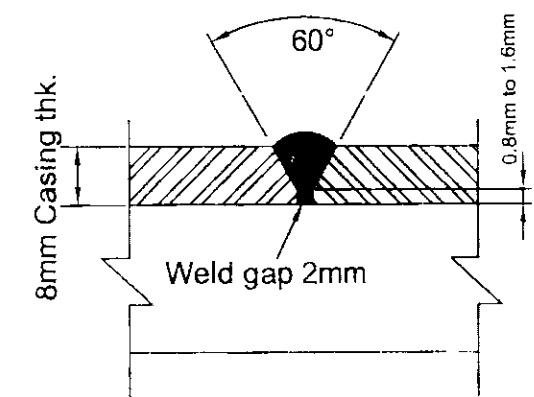
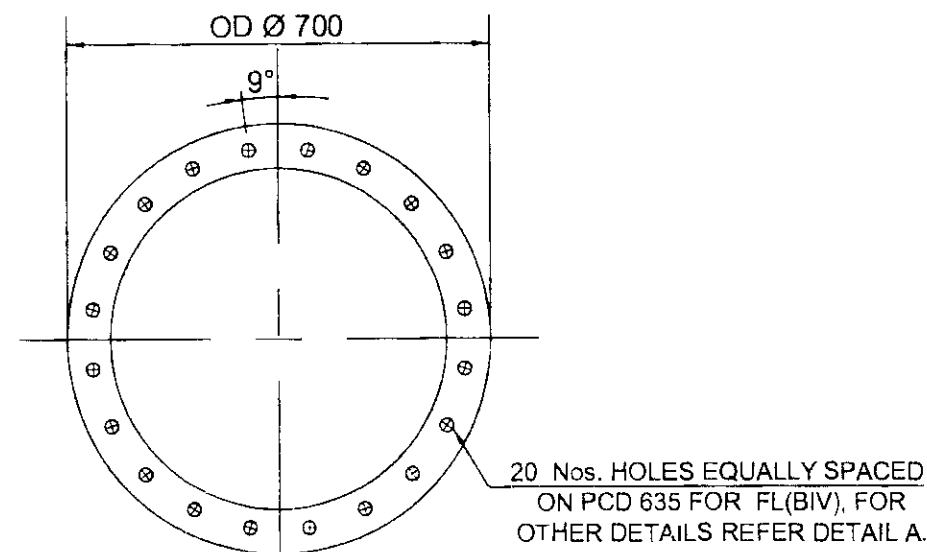
INVENTORY No.

3-986-01-10341

DRG No.



FOR SUPPORT PAD LOCATION,
ORIENTATION, QUANTITY
REF DRG. 3-986-99-07790 &
3-986-99-07800.



NAME OF CUSTOMER/PROJECT



BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

DEPT

GRADE DF

TOL DIM

C/M/F

SCALE

N.T.S.

TITLE

CASING FOR BENDS 500NB
DETAIL (F-V)

WEIGHT (kg)

Refer

NOTE 10
(Approx)

CARD CODE

NAME	SIGN	DATE
DRN Kaushik.K		08/12/16
CHD M.Vinod		10/12/16
APPD Felix.J		11/12/16

REF TO ASSY.DRG

3-986-01-10340
(7132-Sht 13 of 21)

DRAWING No.

3-986-01-10341

REV.

01

SHEET No. 2

No. OF SHEETS 3

SUPERSEDES DRG. No.

SHT 24 SIZE A3 420 x 297

REV
01

3-986-01-10341

DRG No.

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

NOTE:-

1. FOR CONSTRUCTION MATERIAL REFER TABLE-2
2. DURING ASSY. LONGITUDINAL WELDING BETWEEN SEGMENTS TO BE STAGGERED.
3. ALL SUPPLIES TO CONFORM CLN:QP:01/00. WELDING AS PER WP:CL001A & AWS:D 1.1.
4. DIMENSIONS INDICATED ARE FINISHED SIZE ONLY.
5. ASSEMBLY No., DU No., AND ARROW HEAD TO BE WELD DEPOSITED OVER CASING AS SHOWN , AS PER CE:1501:21
6. BASE PLATE FOR NAME PLATE TO BE WELDED ON TO CASING, AT LOCATION SHOWN,
FOR BASE PLATE & WELDING DETAILS REF DRG : 4 986 99 07720
7. FACE ANGLES TO BE MATCHED DURING ASSY.
8. ALL OVER MACHINING 6.3/ FOR STOPPER RINGS.
9. **FL(BIV)** - FL FOR BURNER INLET VALVE & V = SHOULDER FOR VICTAULIC COUPLING.
10. FOR CASING Wt. REFER TABLE -1
FOR Wt. OF LIFTING LUG, EARTH LUG, STOPPER RINGS, SUPPORT PAD, **REFER TABLE -2.**
11. WHERE "Y" IS GREATER THAN 1000, ONE CIRCUMFERENTIAL JOINT IS ALLOWED ON "Y", OUTSIDE SEGMENT TOWARDS OUTLET END.
THIS JOINT SHOULD NOT FOUL WITH LUG
12. CONTROL DURING WELDING OF SHOULDER TO CASING :-
 - a) OVALITY OF CASING ON OUTER DIAMETER TO BE MAINTAINED WITHIN 1.0 mm
 - b) WELDING OF SHOULDER TO CASING AS PER DETAIL-A, TO BE DONE IN SUCH A WAY AS TO ENSURE THAT DISTORTION OF COLLAR IS LIMITED SUCH THAT DIM. Ø610 mm IS STRICTLY WITHIN THE RANGE SPECIFIED IN SHEET 2 OF 3.
VENDOR TO DO THE NEEDFUL TO ACHIEVE 12(a) AND 12(b).
13. SURFACE PREPARATION AND PAINTING: REF PAINTING SCHEME DOC. No. : PS- L&T - KHARGONE-BENDS/PIPES
14. OVERALL BEND TOLERANCE:-
 - a). AXIAL SHIFT: ± 3 MM
 - b). RADIAL SHIFT: ± 3 MM
 - c). OUT OF SQUARENESS: ± 3 MM.
15. ALL PARTS HAVE TO BE 6mm FILLET WELDED, IF NOT SPECIFIED.
16. PROVIDE STIFFENERS TO ELIMINATE DISTORTION OF FLANGES, WHEN WELDING.

NAME OF CUSTOMER/PROJECT

BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

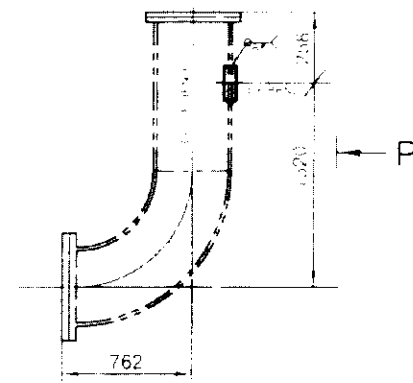
	NAME	SIGN	DATE
DRN	Kaushik K		08/12/16
CHD	M.Vinod		10/12/16
APPD	Felix.J		12/12/16

DEPT	GRADE OF TOL DIM	SCALE	WEIGHT (kg)	REF TO ASSY.DRG	ITEM No.	No.OF ITEMS
CODE	C/M/F	N.T.S.	REF NOTE 10 (Approx)	3-986-01-10341 (7132-Sht 13 of 21)		
TITLE				CARD CODE	DRAWING No.	REV.
CASING FOR BENDS 500NB DETAIL (F-V)					3-986-01-10341	01
					SHEET No. 3	No.OF SHEETS 3

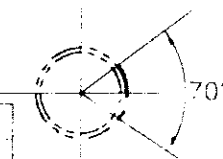
SUPERSEDES DRG. No.

SHT.24 SIZE A3 420 x 297

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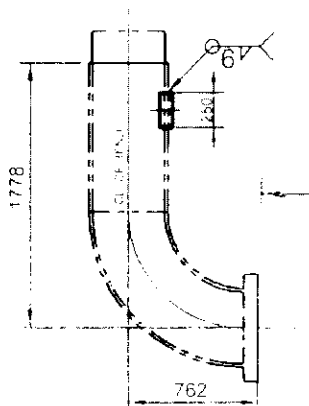


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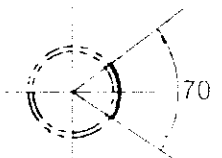


PLAN

DJ No	CLCP-167
ASSY No	C1-4 & C4-4
QUANTITY	2 No s
No. OF PAD	01/ Bend
REF DRG	3-986-01 10011 / 3-986-01 10341



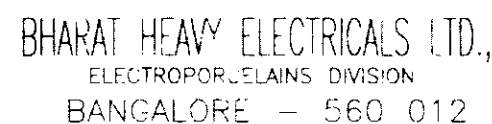
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PLAN

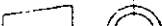
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ASSY No	G24 & G34
QUANTITY	2 Nos
No DFPAD	01) Benc
REF DRG	3-886-01-0995 3-886-01-0294

NAME OF CUSTOMER/PROJECT



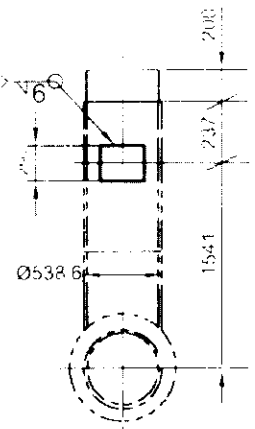
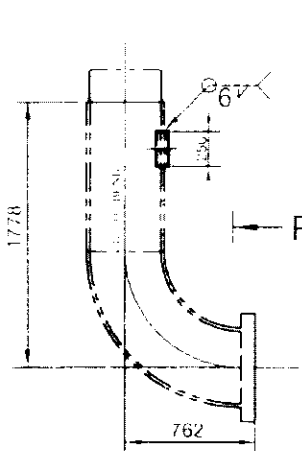
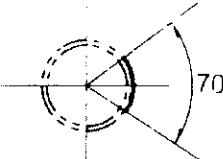
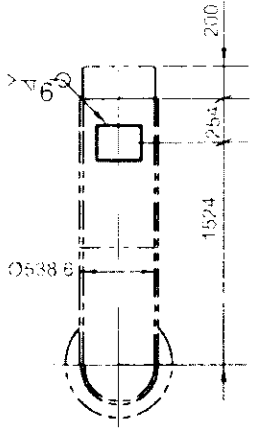
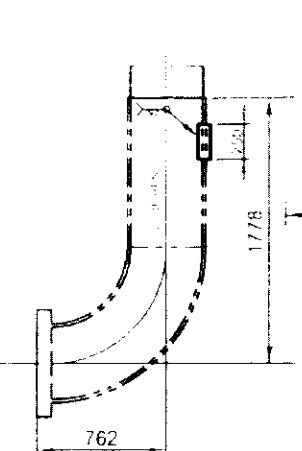
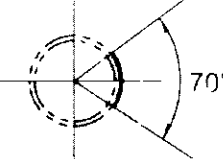
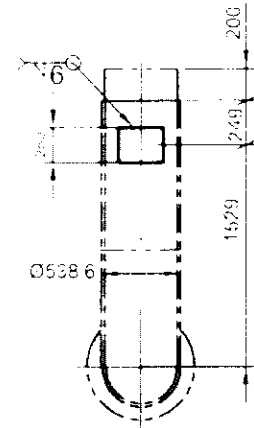
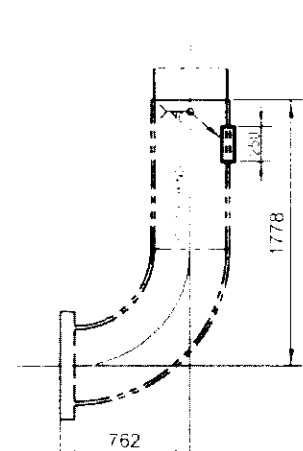
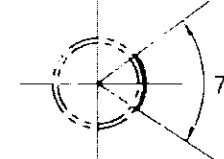
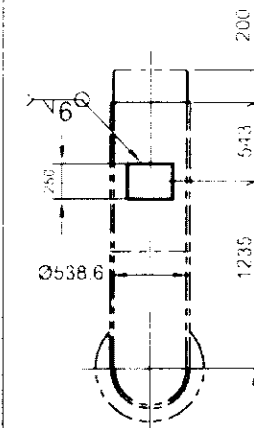
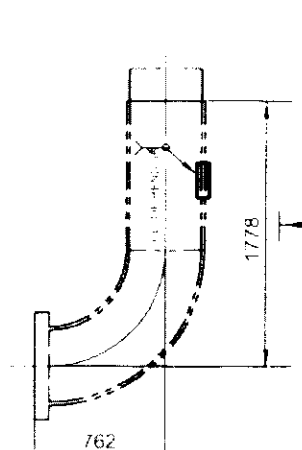
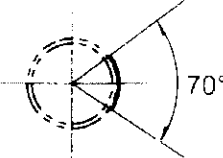
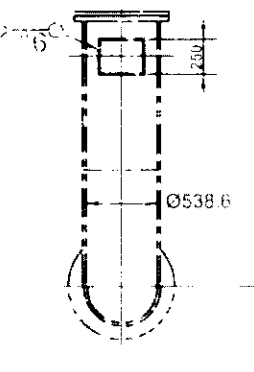
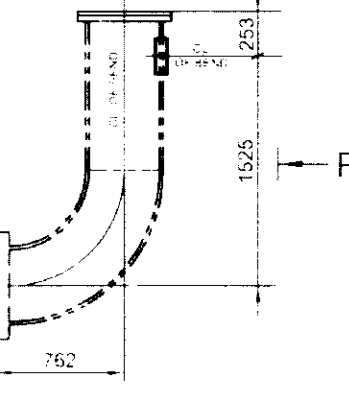
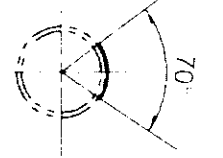
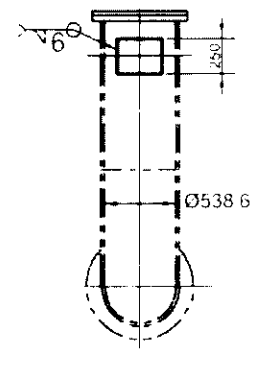
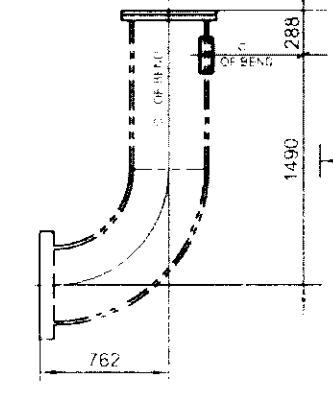
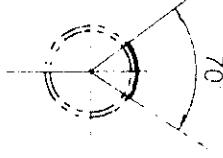
	NAME	SIGN	DATE
DRN	Kaushik k	-SD-	25-08-2018
CHD	Vinod M	-SD-	25-10-2018
APPD	Felix J	SD	27-10-2018

REV	DATE	ALTERED	V.N.	REV	DATE	ALTERED	ED	KK	REV	DATE	ALTERED	ED	KK
03	9-3-12	CHECKED	T.F.	02	03/12/16	CHECKED	M.V.		01	09/12/16	CHECKED	M.V.	
DRC. UPDATED BASED ON CUSTOMER REQUIREMENT REF RR 2391				NOTE 1) SUPPORT PAD LOCATION MODIFIED FOR ASSY No. C24 & C34 (SHT 23) 2) NEW REF DES No ADDED FOR ALL VARIANTS REFER RR 0345				NOTE SUPPORT PAD LOCATION MODIFIED FOR ASSY No. C14 C44 D45 D53 C15 C84 D53 & D12 REFER RR 2359					

DEPT	GRADE OF TOL DIM		SCALE 1:1	WEIGHT (kg) (Approx)	REF TO ASSY.DRG L33300-7132 SHT-21	ITEM No.	No. OF ITEMS
CODE	C/M/F						
STYLE CERAMIC LINING COAL FOR PIPE BENDS 500A (FLOOR CUT-OUT SUPPORTS PAIR)				CARD CODE	DRAWING No. 3-986-99-07800		REV. 01
					SHEET No.	No. OF SHEETS	

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN mm.

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. 00870-66-986-3 3-986-99-07800																																										
SIGN AND DATE REF. DRG. P.No.		 VIEW - P		 ELEVATION		 PLAN		<table border="1" style="width: 100%; border-collapse: collapse; font-size: 0.7em;"> <tr><td>DU No.</td><td>CLCP-136</td></tr> <tr><td>ASSY. No.</td><td>H2-2 & H3-2</td></tr> <tr><td>QUANTITY</td><td>2 Nos</td></tr> <tr><td>No. OF PAD</td><td>01/ Bend</td></tr> <tr><td>REF. DRG.</td><td>3-986-01-09251 / 3-986-01-10281</td></tr> </table>		DU No.	CLCP-136	ASSY. No.	H2-2 & H3-2	QUANTITY	2 Nos	No. OF PAD	01/ Bend	REF. DRG.	3-986-01-09251 / 3-986-01-10281																							
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SHEET No.				No. OF SHEETS		3																																				

SUPERSEDES DRG. No.

SHT 24 SIZE A3 420 x 297

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN mm.

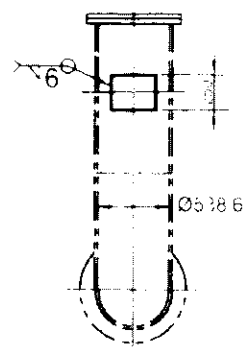
00870-66-986-E

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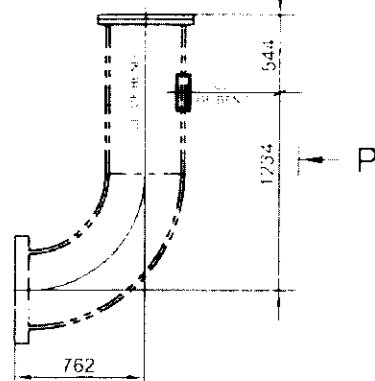
SIGN AND DATE REF. DRG. No.

INVENTORY No.

00870-66-986-E

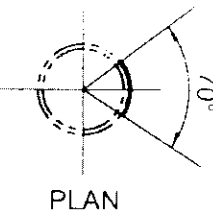


VIEW - P

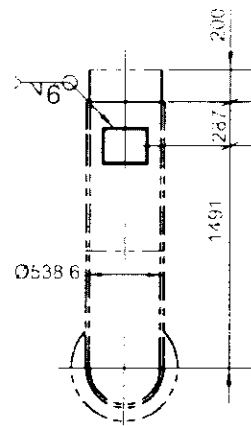


ELEVATION

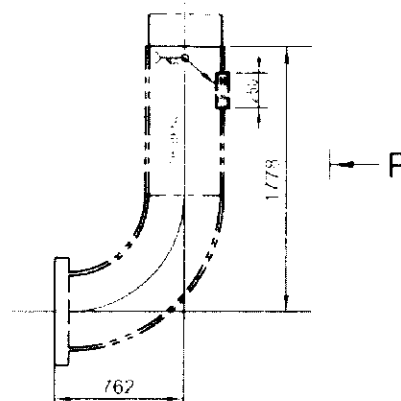
DJ No	CLCP-167
ASSY No	C6-4 & C7-4
QUANTITY	2 Nos
No OF PAD	01/ Bend
REF DRG	3-986-01-10011 / 3-986-01-10341



PLAN

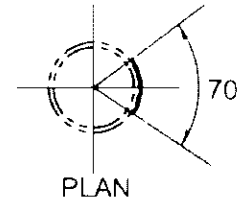


VIEW - P

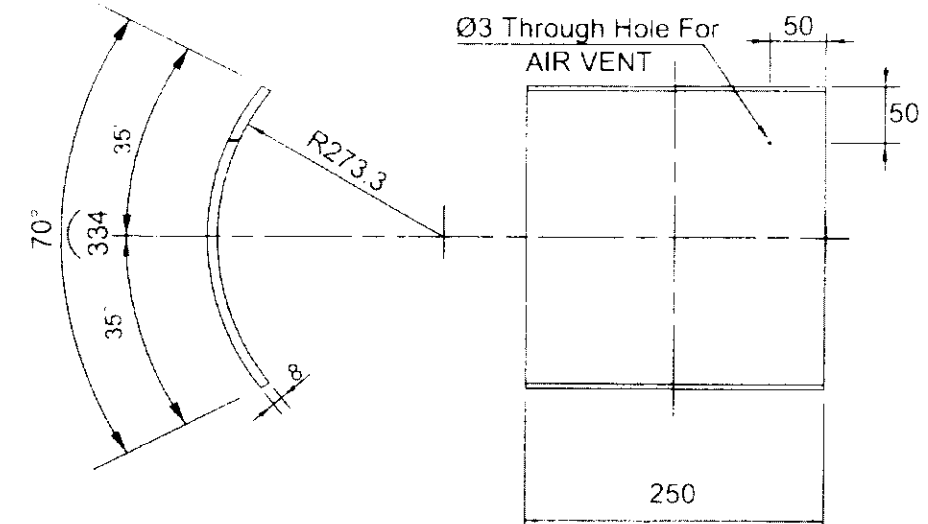


ELEVATION

DJ No	CLCP-136
ASSY No	D5-3 & D8-3
QUANTITY	2 Nos
No OF PAD	01/ Bend
REF DRG	3-986-01-09951 / 3-986-01-10281



PLAN



TYPICAL SUPPORT PAD DETAIL

NOTES:-

- 1) THIS DRAWING REFER ONLY FOR SUPPORT PAD LOCATION, ORIENTATION, QUANTITY.
- 2) NO.OF SUPPORT PAD MENTIONED IN TABLE SEPARATELY.
- 3) SUITABLE BENDING THE PAD FOR PIPE BENDS.
- 4) FIRST MAKE THE BEND THEN WELD WITH SUPPORT PAD SUITABLY.
- 5) ALL SUPPORT PADS ARE IN CASING VENDOR SCOPE.

NAME OF CUSTOMER/PROJECT



BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

	NAME	SIGN	DATE
DRN	Kaushik k	SD	05-08-2016
CHD	Vinod M.	SD	05-10-2016
APPD	Felix J	SD	07-10-2016

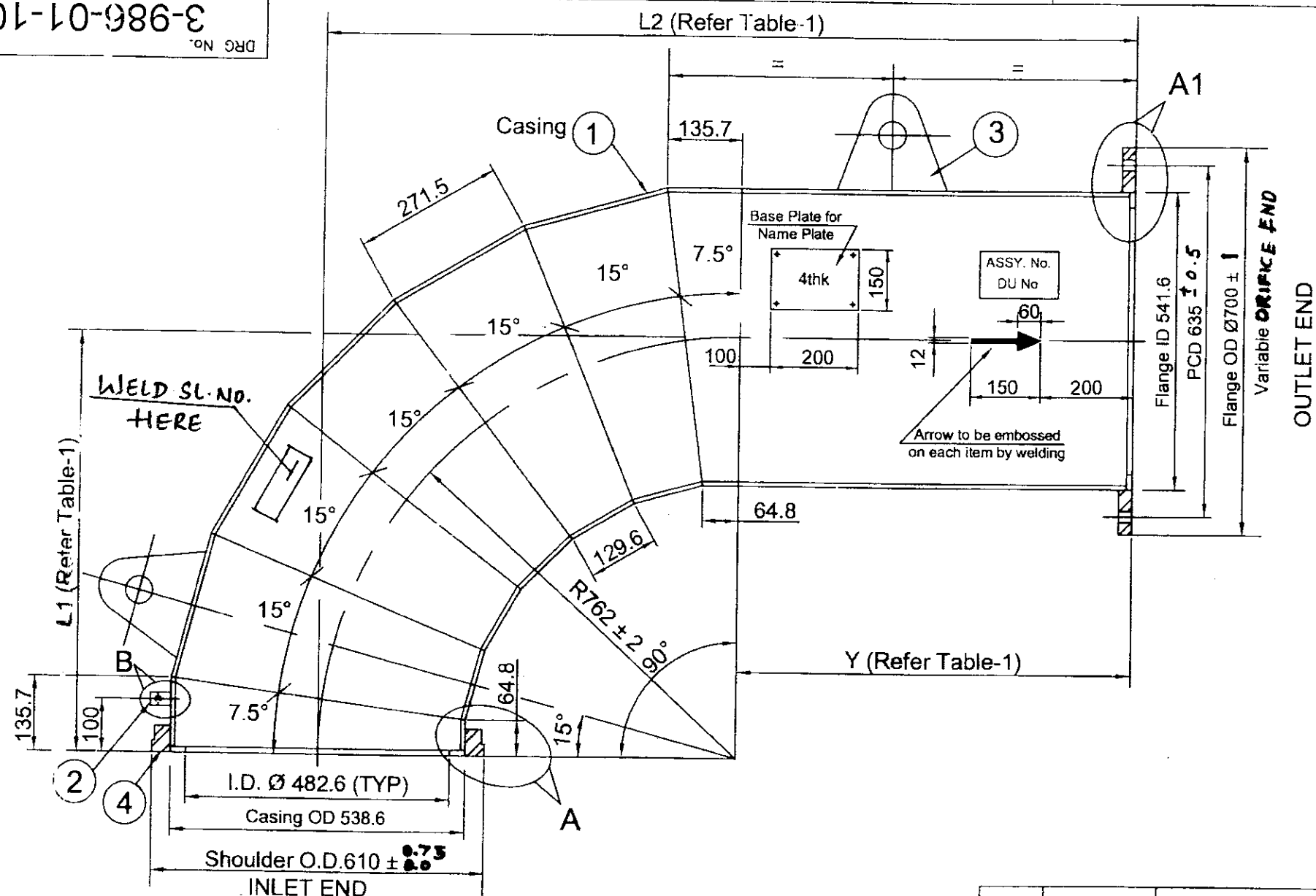
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CODE		NTS	(Approx)	L33300-7132 SHT-21		
TITLE				DRAWING No.		REV.
CERAMIC LINING COAL FOR PIPE BENDS - 500A (FLOOR CUT-OUT SUPPORTS PAD)				3-986-99-07800		03
				SHEET No.		No.OF SHEETS
				3		3

SUPERSEDES DRG. No.

SHT.24 SIZE A3 420 x 297

ALL DIMENSIONS ARE IN mm.

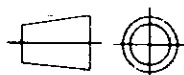
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6	Flange - FL (vo)	24 mm Thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.s	26.0	
5	Stopper Ring	10mm thk.	KILLED STEEL IS:2062 - 2011 E250 BR	2 No.s	3.5	
4	Shoulder	ID:540, OD:610	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.s	-	FREE Issue By BHEL To Vendor
3	Lifting Lug	8 mm Thk.	KILLED STEEL IS:2062 - 2011 E250 BR	2 No.s	1.3	
2	Earth Lug	3 mm Thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1No.s	0.02	
1	Casing	8 mm Thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.s	Refer Table-I	
SL No.	Description	Size	Material	Qty. per Bend	Wt. / Piece (Kgs.)	Remarks

TABLE - 2

2	CLCP-170	D1-2, D4-2, D 2 -2, D6-2, D7-2, D 3 -2	762	1857	1095	V	FL(VO)	6	238.7
1	CLCP-168	C1-2, C4-2, C5-2, C6-2, C7-2, C8-2	762	1778	1016	V	FL(VO)	6	230.5
Var. No.	DU No.	Assembly No.	L1	L2	Y	End connection inlet side	End connection outlet side	Qty.	Weight kg/cond

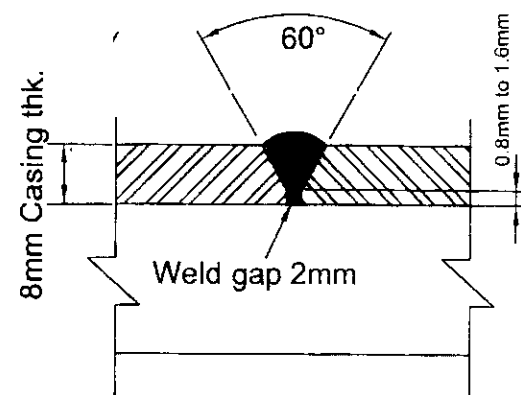
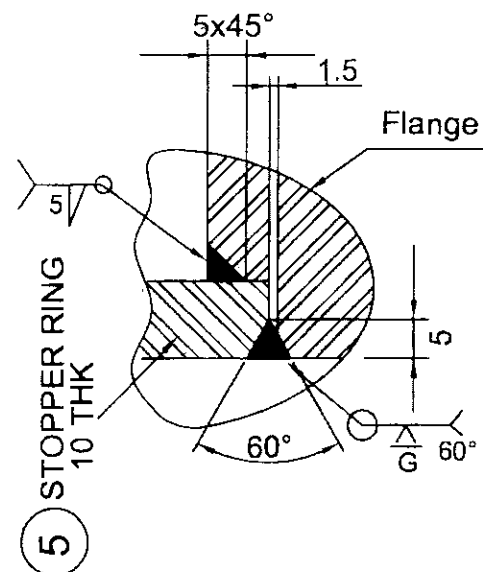
TABLE - 1									
NAME OF CUSTOMER/PROJECT									
		BHARAT HEAVY ELECTRICALS LTD., ELECTROPORCELAINS DIVISION BANGALORE - 560 012				NAME	SIGN	DATE	
					DRN	Kaushik.K		19/12/16	
					CHD	M.Vinod		19/12/16	
					APPD	Felix.J		24/12/16	
DEPT	GRADE OF		SCALE	WEIGHT (kg)	REF TO ASSY.DRG 3-986-01-10350 (7132-Sht 14 of 21)			ITEM	No. OF ITEMS
CODE	TOL DIM C/M/F		N.T.S.	Refer NOTE 10 (Approx)					
TITLE CASING FOR BENDS 500NB DETAIL (V-F)					CARD CODE	DRAWING No.			REV.
						3-986-01-10351			00
					SHEET No. 1		No. OF SHEETS 3		

SUPERSEDES DRG. No.

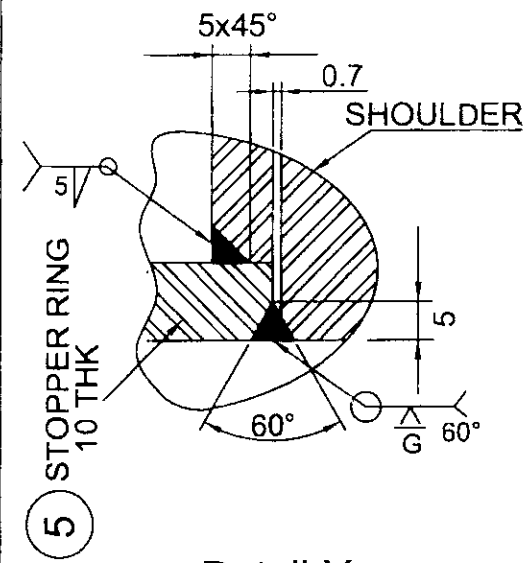
SHT.24 SIZE A3 420 x 297

FIRST ANGLE PROJECTION

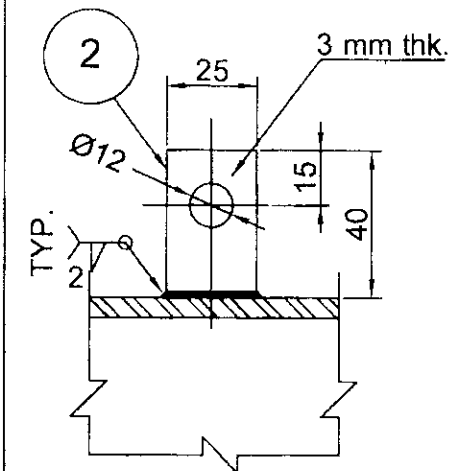
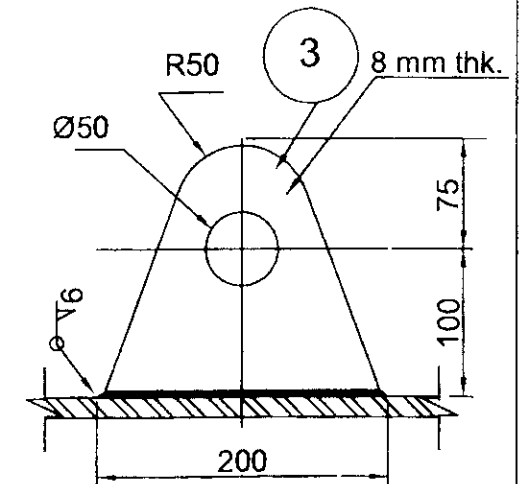
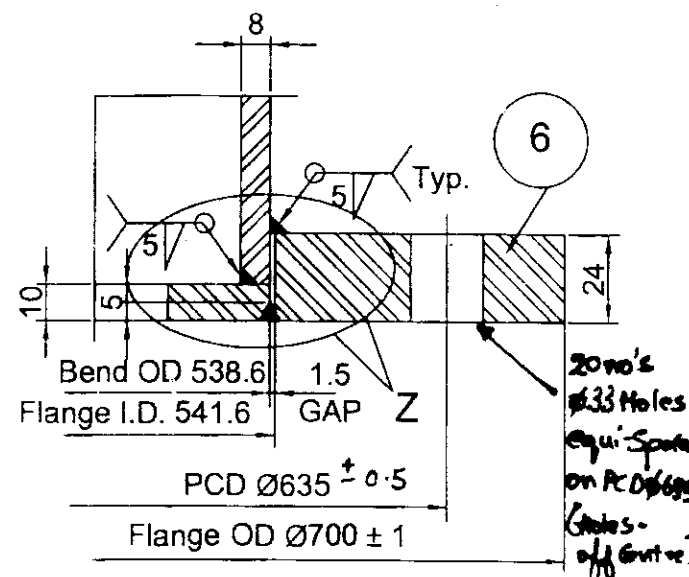
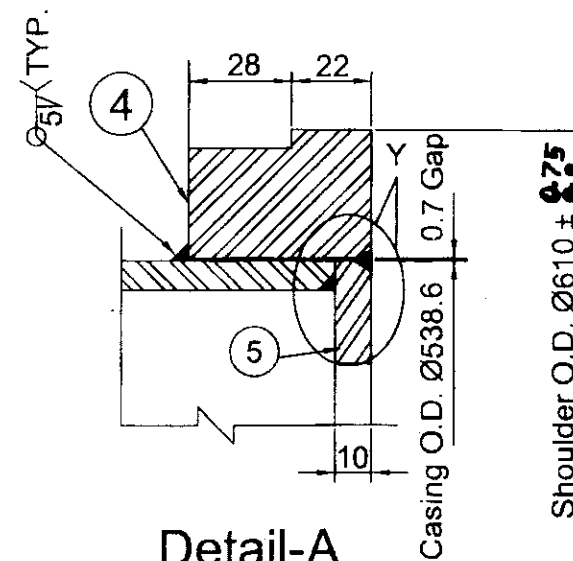
ALL DIMENSIONS ARE IN mm.

REV 00
3-986-01-10351
DRG No.EDGE PREPARATION
WELDING DETAIL

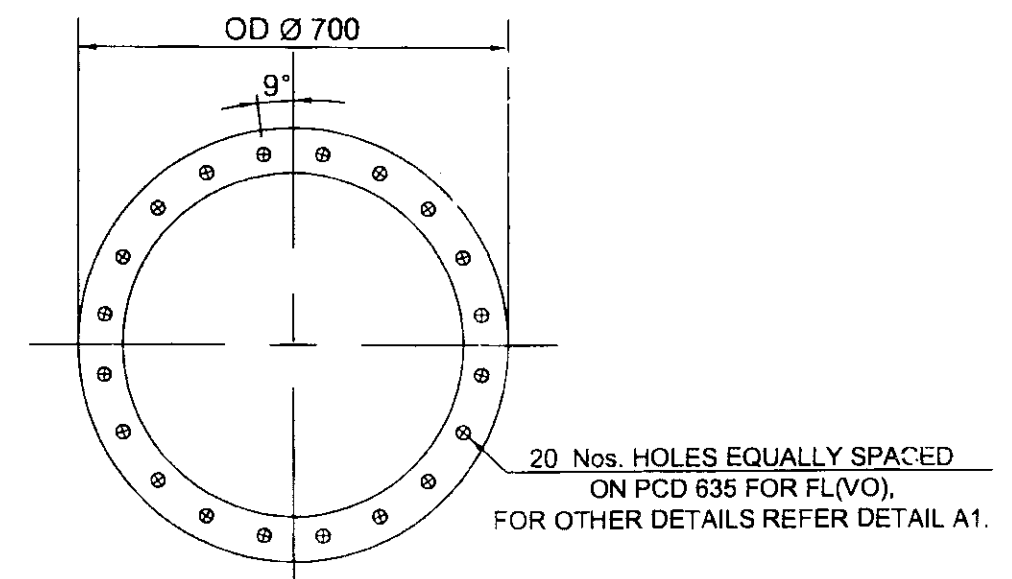
Detail-Z



Detail-Y

EARTH LUG DETAIL
Detail-BDETAIL OF
LIFTING LUGDetail-A1
FLANGE (VO)

Detail-A



FLANGE HOLE ORIENTATION

NAME OF CUSTOMER/PROJECT

BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

DRN	NAME	SIGN	DATE
CHD	Kaushik.K		19/12/16
APPD	M.Vinod		19/12/16
	Felix.J		24/12/16

DEPT	GRADE OF TOL DIM	SCALE	WEIGHT (kg)	REF TO ASSY.DRG	ITEM No.	No. OF ITEMS
CDDE	C/M/F	N.T.S.	Refer 10 (Approx)	3-986-01-10350 (7132-Sht 14 of 21)		

TITLE	CARD CODE	DRAWING No.	REV.
CASING FOR BENDS 500NB DETAIL (V-F)		3-986-01-10351	00
		SHEET No. 2	No. OF SHEETS 3

SUPERSEDES DRG. No.

SHT.24 SIZE A3 420 x 297

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SIGN AND DATE
REF. DRG. No.

INVENTORY No.

REV	DATE	ALTERED	REV	DATE	ALTERED	REV	DATE	ALTERED
		CHECKED			CHECKED			CHECKED

20 No's
33 Holes
equi Spaced
on PCD 635
(Holes
off Centre)

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN mm.

00
REV

3-986-01-10351

DRG No.

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 INTERESTS OF THE COMPANY

REF. DRG. No.

SIGN AND DATE

INVENTORY No.

NOTE:-

1. FOR CONSTRUCTION MATERIAL REFER TABLE-2
2. DURING ASSY. LONGITUDINAL WELDING BETWEEN SEGMENTS TO BE STAGGERED.
3. ALL SUPPLIES TO CONFORM CLN:QP:01/00. WELDING AS PER WP:CL001A & AWS:D 1.1.
4. DIMENSIONS INDICATED ARE FINISHED SIZE ONLY.
5. ASSEMBLY No., DU No., AND ARROW HEAD TO BE WELD DEPOSITED OVER CASING AS SHOWN , AS PER CE:1501:21
6. BASE PLATE FOR NAME PLATE TO BE WELDED ON TO CASING, AT LOCATION SHOWN,
FOR BASE PLATE & WELDING DETAILS REF DRG : 4 986 99 07720
7. FACE ANGLES TO BE MATCHED DURING ASSY.
8. ALL OVER MACHINING 6.3/ FOR STOPPER RINGS.
9. V- VICTAULIC COUPLING SHOULDER, FL(VO) - VARIABLE ORIFICE FLANGE.
10. FOR CASING Wt. REFER TABLE -1
FOR Wt. OF LIFTING LUG, STOPPER RINGS, **EARTH LUG AND FLANGE , REFER TABLE-2**
11. WHERE "Y" IS GREATER THAN 1000, ONE CIRCUMFERENTIAL JOINT IS ALLOWED ON "Y", OUTSIDE SEGMENT TOWARDS OUTLET END.
THIS JOINT SHOULD NOT FOUL WITH LUG
12. SURFACE PREPARATION AND PAINTING: REF PAINTING SCHEME DOC. No. : PS- L&T -KHARGONE-BENDS/PIPES
13. OVERALL BEND TOLERANCE:-
 - a]. AXIAL SHIFT: ± 3 MM
 - b]. RADIAL SHIFT: ± 3 MM
 - c]. OUT OF SQUARENESS: ± 3 MM.
14. CONTROL DURING WELDING OF SHOULDER TO CASING :-
 - a] OVALITY OF CASING ON OUTER DIAMETER TO BE MAINTAINED WITHIN 1.0 mm
 - b] WELDING OF SHOULDER TO CASING AS PER DETAIL-A, TO BE DONE IN SUCH A WAY AS TO ENSURE THAT DISTORTION OF COLLAR IS LIMITED SUCH THAT DIM. $\varnothing 610$ mm IS STRICTLY WITHIN THE RANGE SPECIFIED IN SHEET 2 OF 3.
VENDOR TO DO THE NEEDFUL TO ACHIEVE 14(a) AND 14(b).
15. PROVIDE STIFFENERS TO ELIMINATE DISTORTION OF FLANGE, WHEN WELDING.
16. ALL PARTS HAVE TO BE 6mm FILLET WELDED, IF NOT SPECIFIED.

NAME OF CUSTOMER/PROJECT

BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

	NAME	SIGN	DATE
DRN	Kaushik.K		19/12/16
CHD	M.Vinod		19/12/16
APPD	Felix.J		24/12/16

DEPT	GRADE OF TOL DIM	SCALE	WEIGHT (kg)	REF TO ASSY.DRG	ITEM No.	No.OF ITEMS
CODE	C/M/F	 N.T.S.	Refer NOTE 10 (Approx)	3-986-01-10350 (7132-Sht 14 of 21)		
TITLE CASING FOR BENDS 500NB DETAIL (V-F)				CARD CODE	DRAWING No. 3-986-01-10351	REV. 00
					SHEET No. 3	No.OF SHEETS 3

SUPERSEDES DRG. No.

SHT.24 SIZE A3 420 x 297

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN mm.

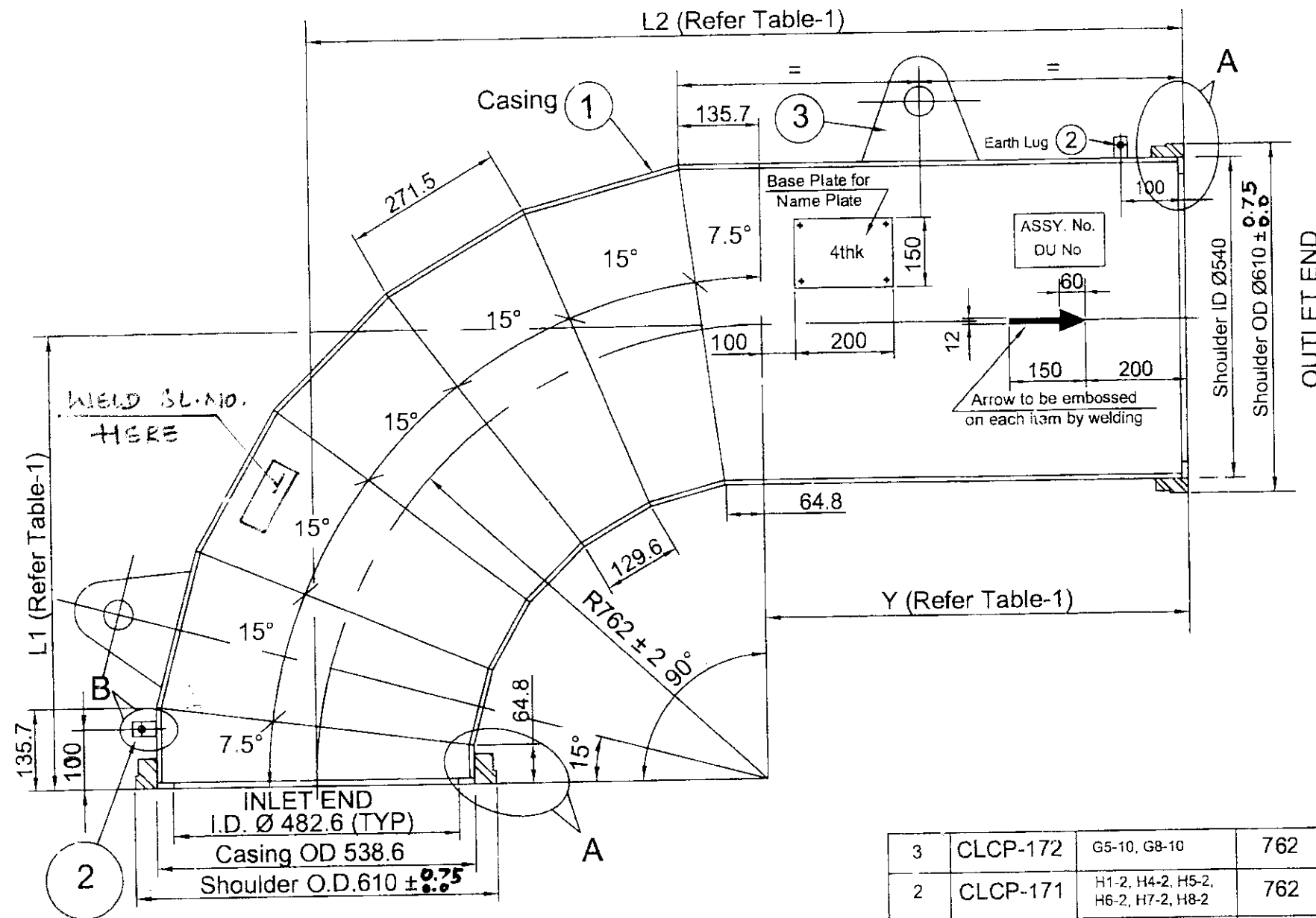
00 19801-10-986-3
REV DRG No.

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REF. DRG. No.

SIGN AND DATE

INVENTORY No.



5	Stopper Ring	10 mm Thk.	KILLED STEEL IS:2062 - 2011 E250 BR	2 No.s	3.5	
4	Shoulder	ID:540, OD:610	KILLED STEEL IS:2062 - 2011 E250 BR	2 No.s	-	FREE Issue By BHEL To Vendor
3	Lifting Lug	8mm thk.	KILLED STEEL IS:2062 - 2011 E250 BR	2 No.s	1.3	
2	Earth Lug	3mm thk.	KILLED STEEL IS:2062 - 2011 E250 BR	2 No.s	0.02	
1	Casing	8mm thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.s	Refer Table-1	
SL No.	Description	Size	Material	Qty. per Bend	Total Wt. (Kgs.)	Remarks

TABLE - 2

3	CLCP-172	G5-10, G8-10	762	2082.8	1320.8	V	V		262.4
2	CLCP-171	H1-2, H4-2, H5-2, H6-2, H7-2, H8-2	762	1928.0	1166.0	V	V		246.2
1	CLCP-169	G2-10, G3-10	762	1818.0	1056.0	V	V		234.7
Vary No.	DU No.	Assembly No.	L1	L2	Y	End connection inlet side	End connection outlet side	Qty.	Weight kg/Bend

TABLE - 1

NAME OF CUSTOMER/PROJECT

BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

	NAME	SIGN	DATE
DRN	Kaushik.K		12/12/16
CHD	M.Vinod		12/12/16
APPD	Felix.J		12/14/16

DEPT	GRADE OF TOL DIM C/M/F	SCALE NTS.	WEIGHT (kg) Refer Note-10 (Approx)	REF TO ASSY.DRG 3-986-01-10360 (7132 Sht 15 of 21)	ITEM No.	No. OF ITEMS
CODE						
TITLE	CASING FOR BENDS 500NB DETAIL (V-V)			CARD CODE	DRAWING No. 3-986-01-10361	REV. 00
					SHEET No. 1	No. OF SHEETS 3

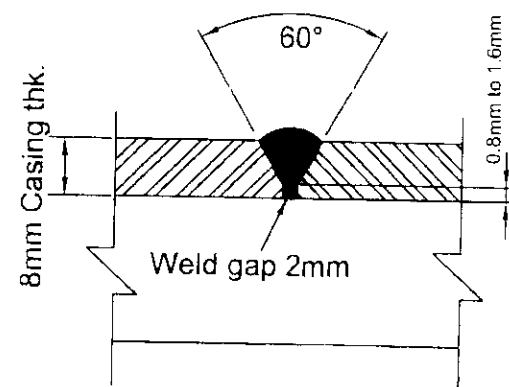
SUPERSEDES DRG. No.

SHT.24 SIZE A3 420 x 297

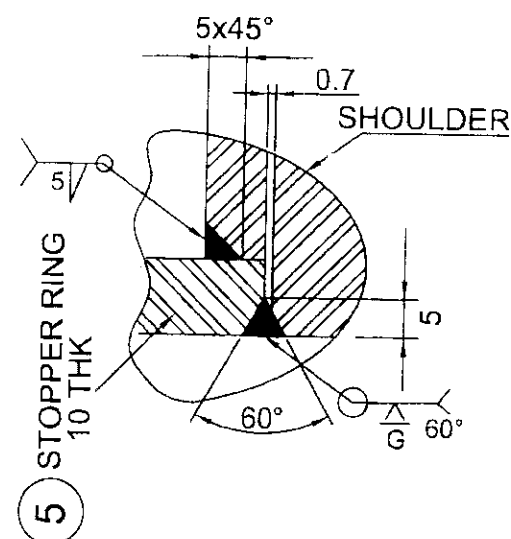
ALL DIMENSIONS ARE IN mm.

3-986-01-10361

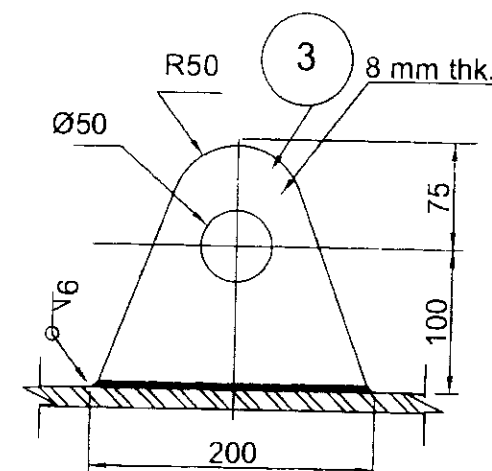
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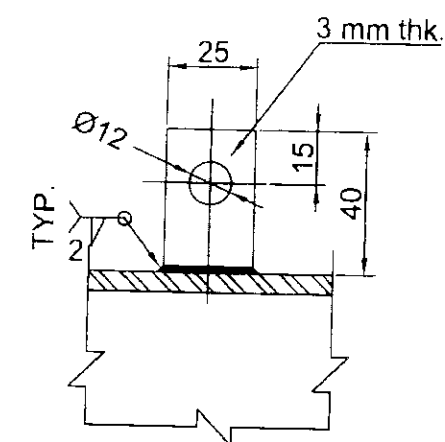
EDGE PREPARATION WELDING DETAIL



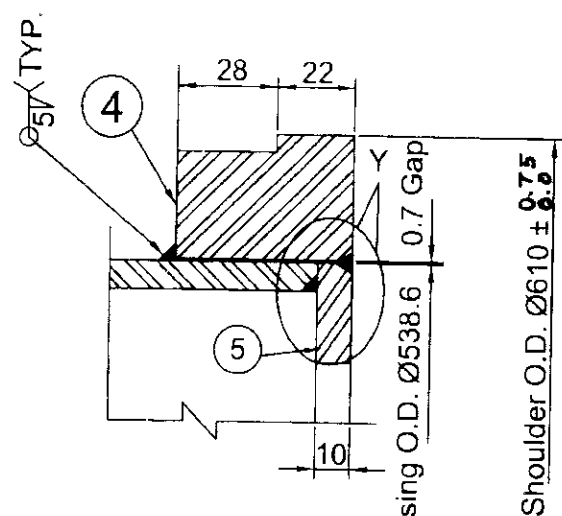
Detail-Y



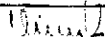
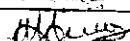
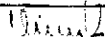
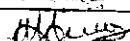
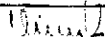
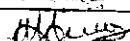
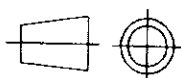
DETAIL OF LIFTING LUG



EARTH LUG DETAIL-B



Detail-A

NAME OF CUSTOMER/PROJECT																								
		BHARAT HEAVY ELECTRICALS LTD., ELECTROPORCELAINS DIVISION BANGALORE - 560 012			<table><thead><tr><th></th><th>NAME</th><th>SIGN</th><th>DATE</th></tr></thead><tbody><tr><td>ORN</td><td>Kaushik.K</td><td></td><td>12/12/16</td></tr><tr><td>CHD</td><td>M.Vinod</td><td></td><td>12/12/16</td></tr><tr><td>APPD</td><td>Felix.J</td><td></td><td>12/12/16</td></tr></tbody></table>			NAME	SIGN	DATE	ORN	Kaushik.K		12/12/16	CHD	M.Vinod		12/12/16	APPD	Felix.J		12/12/16		
	NAME	SIGN	DATE																					
ORN	Kaushik.K		12/12/16																					
CHD	M.Vinod		12/12/16																					
APPD	Felix.J		12/12/16																					
DEPT	GRADE OF		SCALE	WEIGHT (kg)	REF TD ASSY.DRG 3-986-01-10360 (7132 Sht 15 of 21)	ITEM No.	No.0 ITEM																	
CODE	TOL DIM C/M/F		N.T.S.	Refer Note-10 (Approx)																				
TITLE					CARD CODE	DRAWING No.		REV.																
CASING FOR BENDS 500NB DETAIL (V-V)						3-986-01-10361			00															
					SHEET No. 2		No.OF SHEETS 3																	

SUPERSEDES DRG. No.

SHT.24 SIZE A3 420 x 297

00
REV
3-986-01-10361
DRG No.

NOTE:-

1. FOR CONSTRUCTION MATERIAL REFER TABLE-2
2. DURING ASSY. LONGITUDINAL WELDING BETWEEN SEGMENTS TO BE STAGGERED.
3. ALL SUPPLIES TO CONFORM CLN:QP:01/00. WELDING AS PER WP:CL001A & AWS:D 1.1.
4. DIMENSIONS INDICATED ARE FINISHED SIZE ONLY.
5. ASSEMBLY No., DU No., AND ARROW HEAD TO BE WELD DEPOSITED OVER CASING AS SHOWN , AS PER CE:1501:21
6. BASE PLATE FOR NAME PLATE TO BE WELDED ON TO CASING, AT LOCATION SHOWN,
FOR BASE PLATE & WELDING DETAILS REF DRG : 4 986 99 07720
7. FACE ANGLES TO BE MATCHED DURING ASSY.
8. ALL OVER MACHINING 6.3/ FOR STOPPER RINGS.
9. V- VICTAULIC COUPLING SHOULDER.
10. FOR CASING Wt. REFER TABLE -1
FOR Wt. OF LIFTING LUG, STOPPER RINGS & EARTH LUG, REFER TABLE - 2.
11. WHERE "Y" IS GREATER THAN 1000, ONE CIRCUMFERENTIAL JOINT IS ALLOWED ON "Y", OUTSIDE SEGMENT TOWARDS OUTLET END.
THIS JOINT SHOULD NOT FOUL WITH LUG
12. SURFACE PREPARATION AND PAINTING: REF PAINTING SCHEME DOC. No. : PS- L&T - KHARGONE-BENDS/PIPES
13. OVERALL BEND TOLERANCE:-
 - a]. AXIAL SHIFT: ± 3 MM
 - b]. RADIAL SHIFT: ± 3 MM
 - c]. OUT OF SQUARENESS: ± 3 MM.
14. CONTROL DURING WELDING OF SHOULDER TO CASING :-
 - a] OVALITY OF CASING ON OUTER DIAMETER TO BE MAINTAINED WITHIN 1.0 mm
 - b] WELDING OF SHOULDER TO CASING AS PER DETAIL-A, TO BE DONE IN SUCH A WAY AS TO ENSURE THAT DISTORTION OF COLLAR IS LIMITED SUCH THAT DIM. $\varnothing 610$ mm IS STRICTLY WITHIN THE RANGE SPECIFIED IN SHEET 2 OF 3.
VENDOR TO DO THE NEEDFUL TO ACHIEVE 14(a) AND 14(b).
15. ALL PARTS HAVE TO BE 6 mm FILLET WELDED, IF NOT SPECIFIED.

NAME OF CUSTOMER/PROJECT

BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

	NAME	SIGN	DATE
DRN	Kaushik.K		12/12/16
CHD	M.Vinod		12/12/16
APPD	Felix.J		12/12/16

DEPT	GRADE OF TOL DIM	SCALE	WEIGHT (kg)	REF TO ASSY.DRG	ITEM No.	No.OF ITEMS
CODE	C/M/F	N.T.S.	Refer Note-10 (Approx)	3-986-01-10360 (7132 Sht 15 of 21)		
TITLE				CARD CODE	DRAWING No.	REV.
CASING FOR BENDS 500NB DETAIL (V-V)					3-986-01-10361	00
					SHEET No. 3	No.OF SHEETS 3

SUPERSEDES DRG. No.

SHT.24 SIZE A3 420 x 297

FIRST ANGLE PROJECTION

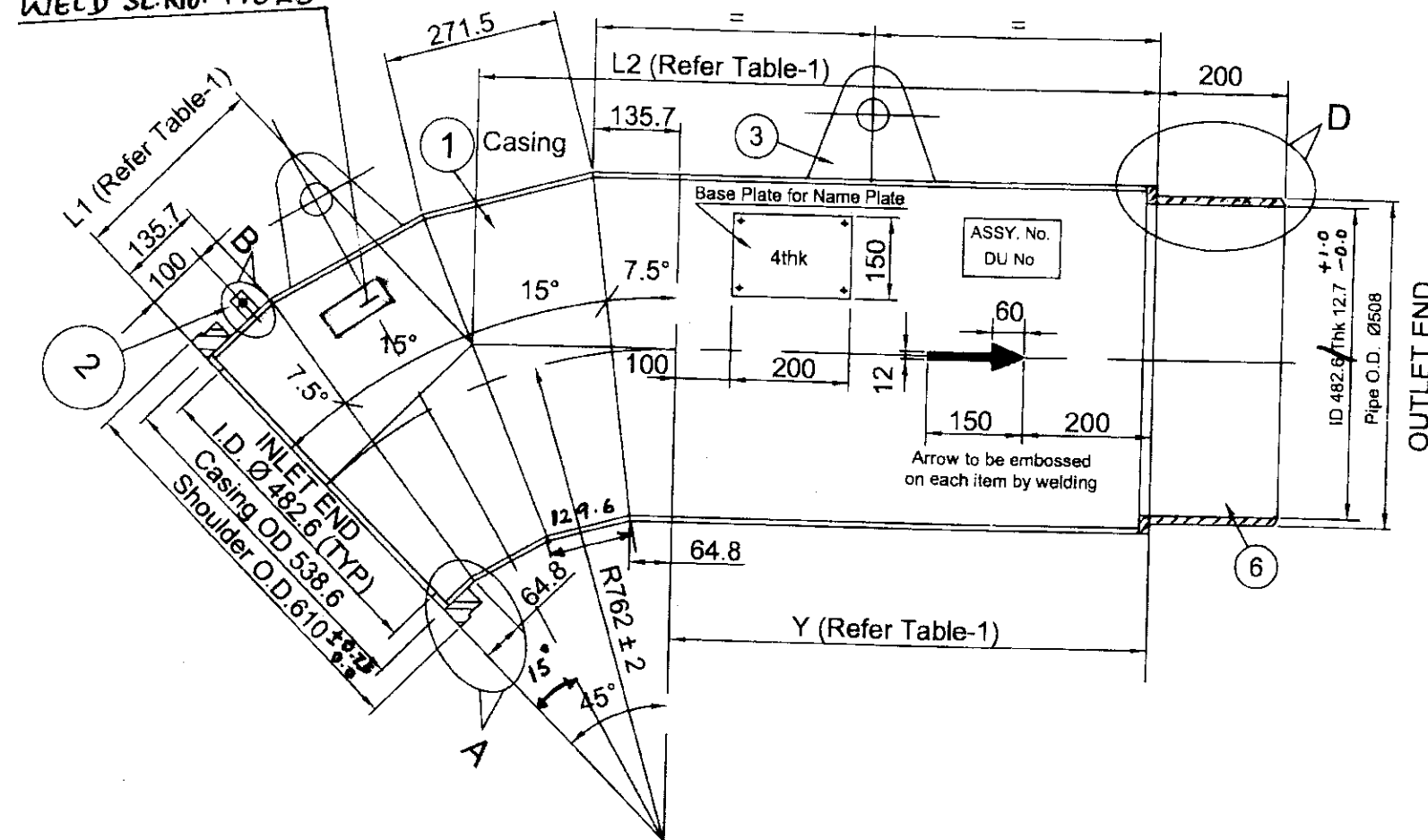
ALL DIMENSIONS ARE IN mm.

REV 00 3-986-01-10371

DRG No.

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WELD SL.NO. HERE



7	Stopper Ring	16 mm Thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.s	5.6	
6	St. Pipe Ø508x200Lg.	12.7 mm Thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.s	31.0	
5	Stopper Ring	10 mm Thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.s	3.5	
4	Shoulder	ID: 540, OD:610	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.s	-	FREE Issue By BHEL To Vendor
3	Lifting Lug	8mm thk.	KILLED STEEL IS:2062 - 2011 E250 BR	2 No.s	1.3	
2	Earth Lug	3mm thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.s	0.02	
1	Casing	8mm thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.s	Refer Table-1	
SL No.	Description	Size	Material	Qty. per Bend	Wt. / Piece (Kgs.)	Remarks

TABLE - 2

2	CLCP-153	H6-11, H7-11	315.6	823.6	508	V	W	2	114.1
1	CLCP-152	E1-2, E4-2, H6-9, H7-9	315.6	1331.6	1016	V	W	4	167.2
Var. No.	DU No.	Assembly No.	L1	L2	Y	End connection inlet side	End connection outlet side	Qty.	Weight kg/Bend

TABLE - 1

NAME OF CUSTOMER/PROJECT

BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

NAME	SIGN	DATE
ORN Kaushik.K		10/12/16
CHD M.Vinod		10/12/16
APPD Felix.J		12/12/16

DEPT	GRADE OF TOL OIM C/M/F	SCALE N.T.S.	WEIGHT (kg) Refer Note-10 (Approx)	REF TO ASSY.ORG 3-986-01-10370 (7132-Sht 16 of 21)	ITEM No.	No. OF ITEMS
------	------------------------	--------------	------------------------------------	--	----------	--------------

CASING FOR BENDS 500NB
DETAIL (V-W)

CARD CODE	DRAWING No. 3-986-01-10371	REV. 00
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SHEET No. 1 No. OF SHEETS 3

SUPERSEDES DRG. No.

SHT.24 SIZE A3 420 x 297

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN mm.

REV 00

3-986-01-10371

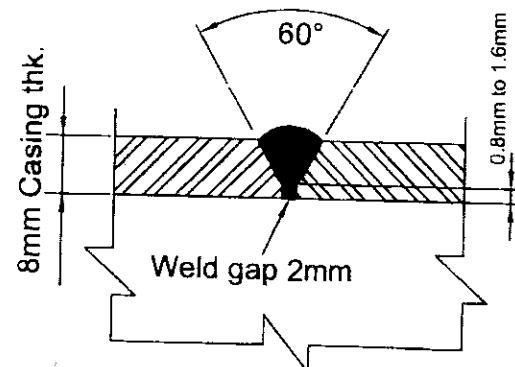
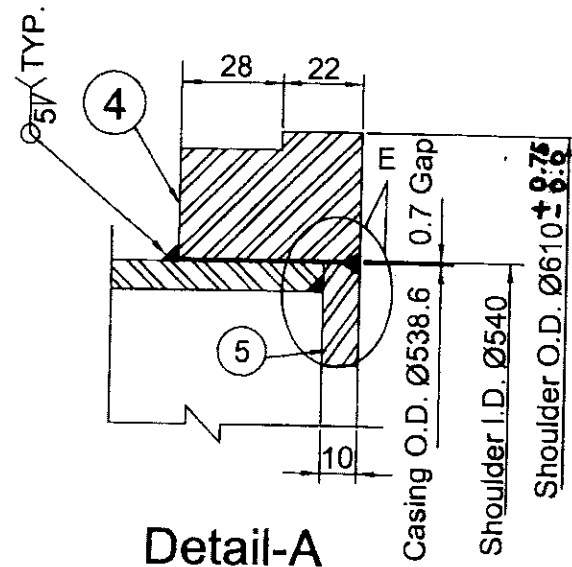
DRG No.

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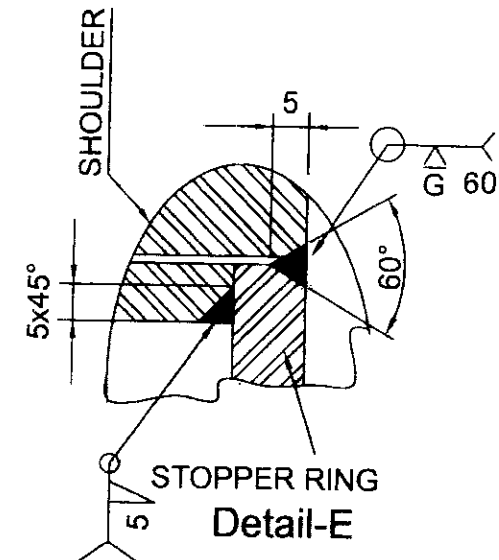
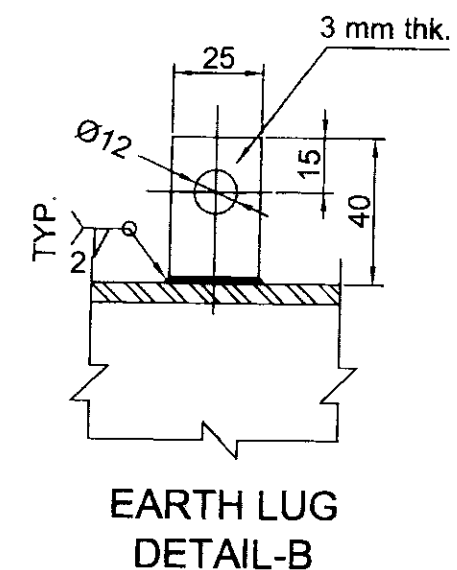
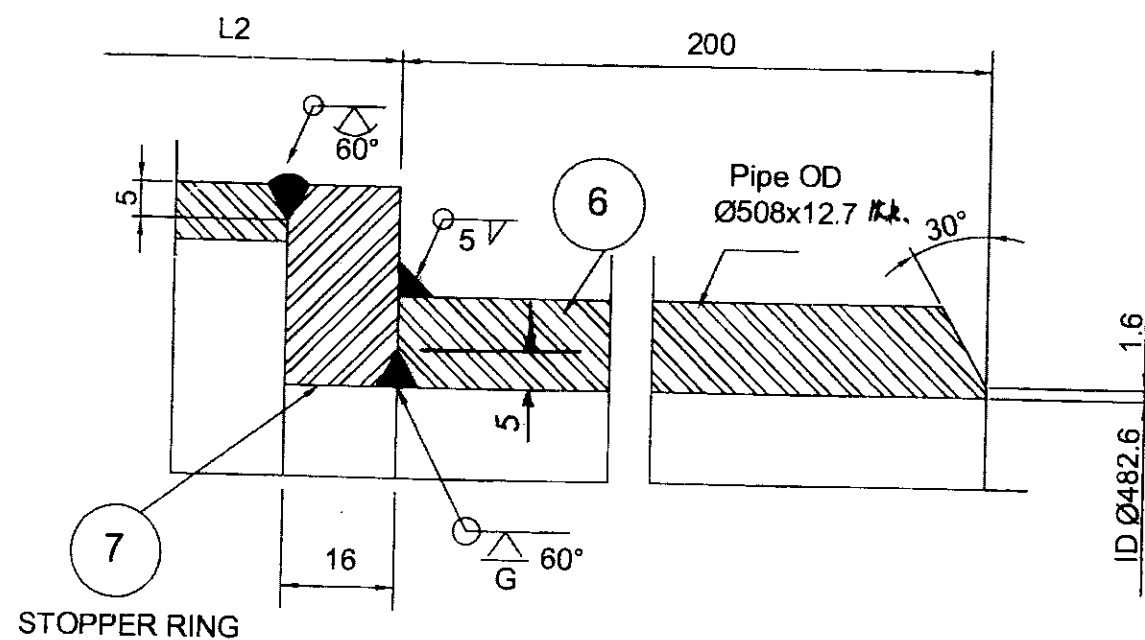
REF. DRG. No.

SIGN AND DATE

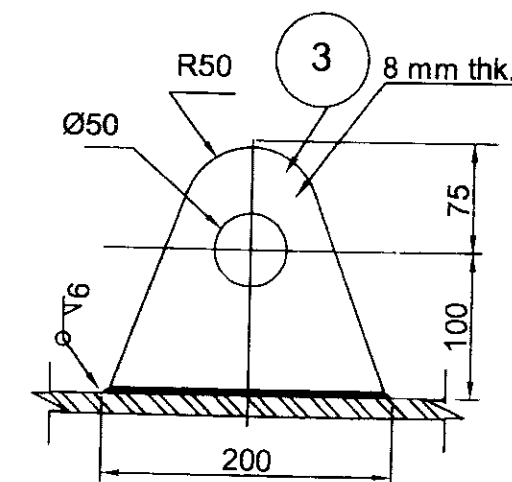
INVENTORY No.

EDGE PREPARATION
WELDING DETAIL

Detail-A

STOPPER RING
Detail-EEARTH LUG
DETAIL-B

STOPPER RING

Detail-D
Butt Weld End DetailDETAIL OF
LIFTING LUG

NAME OF CUSTOMER/PROJECT

BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

	NAME	SIGN	DATE
DRN	Kaushik.K		10/12/16
CHD	M.Vinod		10/12/16
APPD	Felix.J		12/12/16

DEPT	GRADE OF TOL DIM	SCALE	WEIGHT (kg)	REF TO ASSY.DRG	ITEM No.	No.OF ITEMS
CODE	C/M/F	N.T.S.	Refer Note-10 (Approx)	3-986-01-10370 (7132-Sht 16 of 21)		
TITLE				CARD CODE	DRAWING No.	REV.
CASING FOR BENDS 500NB DETAIL (V-W)					3-986-01-10371	00
					SHEET No. 2	No.OF SHEETS 3

SUPERSEDES DRG. No.

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN mm.

00
REV
17801-10-986-3
DRG No.

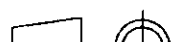
NOTE:-

1. FOR CONSTRUCTION MATERIAL REFER TABLE-2
2. DURING ASSY. LONGITUDINAL WELDING BETWEEN SEGMENTS TO BE STAGGERED.
3. ALL SUPPLIES TO CONFORM CLN:QP:01/00. WELDING AS PER WP:CL001A & AWS:D 1.1.
4. DIMENSIONS INDICATED ARE FINISHED SIZE ONLY.
5. ASSEMBLY No., DU No., AND ARROW HEAD TO BE WELD DEPOSITED OVER CASING AS SHOWN , AS PER CE:1501:21
6. BASE PLATE FOR NAME PLATE TO BE WELDED ON TO CASING, AT LOCATION SHOWN,
FOR BASE PLATE & WELDING DETAILS REF DRG : 4 986 99 07720
7. FACE ANGLES TO BE MATCHED DURING ASSY.
8. ALL OVER MACHINING 6.3/ FOR STOPPER RINGS.
9. V-SHOULDER FOR VICTAULIC COUPLING & W/BW- BUTT WELD SPOOL PIPE.
10. FOR CASING Wt. REFER TABLE -1
FOR Wt. OF LIFTING LUG, EARTH LUG, STOPPER RINGS **AND SPOOL PIPE.**
REFER TABLE - 2
11. WHERE "Y" IS GREATER THAN 1000, ONE CIRCUMFERENTIAL JOINT IS ALLOWED ON "Y", OUTSIDE SEGMENT TOWARDS OUTLET END.
THIS JOINT SHOULD NOT FOUL WITH LUG
12. SURFACE PREPARATION AND PAINTING: REF PAINTING SCHEME DOC. No. : PS- L&T -KHARGONE-BENDS/PIPES
13. OVERALL BEND TOLERANCE:-
 - a]. AXIAL SHIFT: ± 3 MM
 - b]. RADIAL SHIFT: ± 3 MM
 - c]. OUT OF SQUARENESS: ± 3 MM.
14. CONTROL DURING WELDING OF SHOULDER TO CASING :-
 - a] OVALITY OF CASING ON OUTER DIAMETER TO BE MAINTAINED WITHIN 1.0 mm
 - b] WELDING OF SHOULDER TO CASING AS PER DETAIL-A, TO BE DONE IN SUCH A WAY AS TO ENSURE THAT DISTORTION OF COLLAR IS LIMITED SUCH THAT DIM. $\varnothing 610$ mm
IS STRICTLY WITHIN THE RANGE SPECIFIED IN SHEET 2 OF 3.
VENDOR TO DO THE NEEDFUL TO ACHIEVE 14(a) AND 14(b).
15. ALL PARTS HAVE TO BE 6 mm FILLET WELDED, IF NOT SPECIFIED.
16. TOLERANCES ON SPOOL PIPE : AS PER API-5L STANDARD.

NAME OF CUSTOMER/PROJECT

BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

	NAME	SIGN	DATE
DRN	Kaushik.K		10/12/16
CHD	M.Vinod		10/12/16
APPD	Felix.J		12/12/16

DEPT	GRADE OF TOL DIM		SCALE	WEIGHT (kg)	REF TO ASSY.DRG	ITEM No.	No.OF ITEMS
CODE	C/M/F		N.T.S.	Refer Note-10 (Approx)	3-986-01-10370 (7132-Sht 16 of 21)		
TITLE				CARD CODE	DRAWING No.		REV.
CASING FOR BENDS 500NB DETAIL (V-W)					3-986-01-10371		00
					SHEET No. 3	No.OF SHEETS 3	

SUPERSEDES DRG. No.

SHT.24 SIZE A3 420 x 297

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SIGN AND DATE

REF. DRG. No.

INVENTORY No.

REV	DATE	ALTERED	REV	DATE	ALTERED	REV	DATE	ALTERED
		CHECKED			CHECKED			CHECKED

00
REV

3-986-01-10391

DRG No.

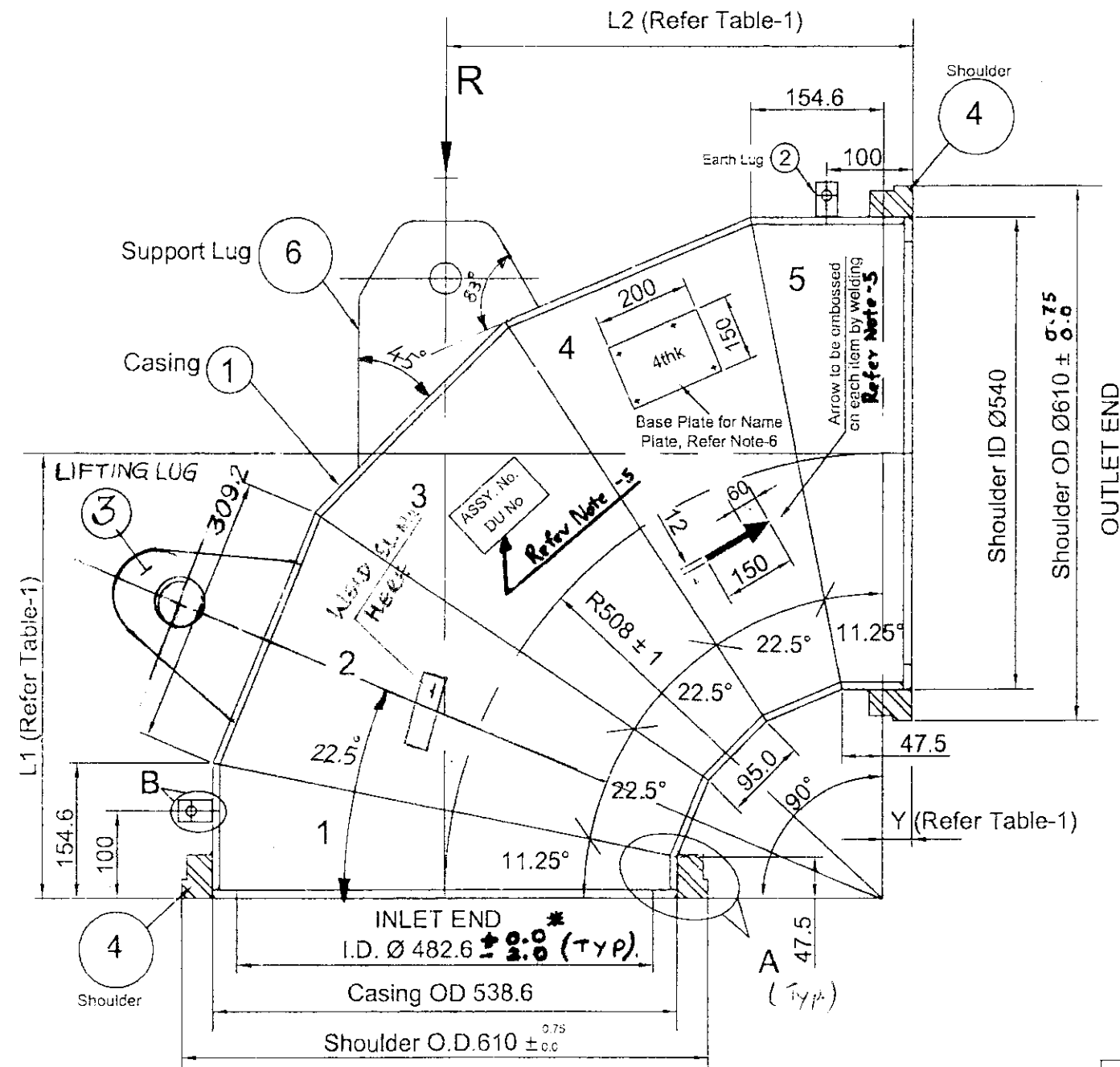
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REF. DRG. No.

SIGN AND DATE

INVENTORY No.

REV	DATE	ALTERED	REV	DATE	ALTERED	REV	DATE	ALTERED
		CHECKED			CHECKED			CHECKED



* STOPPER RING I.D. 482.6 PREFERABLY TO BE MAINTAINED ON MINUS SIDE WITHIN TOLERANCE.

6	Support Lug	16mm thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.	4.7	
5	Stopper Ring	10mm thk.	KILLED STEEL IS:2062 - 2011 E250 BR	2 No.s	3.5	
4	Shoulder	ID:540, OD:610	KILLED STEEL IS:2062 - 2011 E250 BR	2 No.s	-	FREE Issue By BHEL To Vendor
3	Lifting Lug	8 mm Thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.	1.3	
2	Earth Lug	3 mm Thk.	KILLED STEEL IS:2062 - 2011 E250 BR	2 No.s	0.02	
1	Casing	8 mm Thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.	Refer Table-1	
SL No.	Description	Size	Material	Qty. per Bend	Wt. / Piece (Kgs.)	Remarks

TABLE - 2

1	CLCP-141	F1-10 & F4-10 B 1-8, B4-8	508	542	34.0	V	V	SL	●	86.0
Var.No.	DU No	Assembly No	L1	L2	Y	End connection inlet side	End connection outlet side	Accy.	Qty.	Weight kg/Bend

TABLE - 1

NAME OF CUSTOMER/PROJECT



BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

	NAME	SIGN	DATE
DRN	Kaushik.K		12/12/16
CHD	M.Vinod		12/11/16
APPD	Felix.J		12/11/16

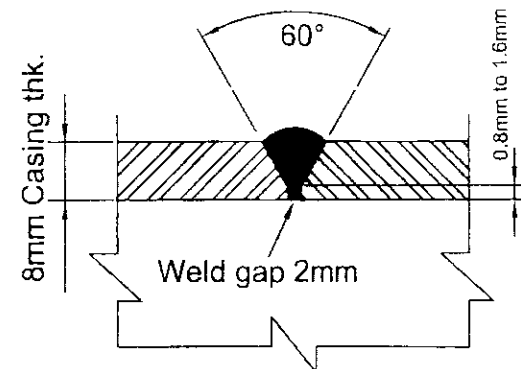
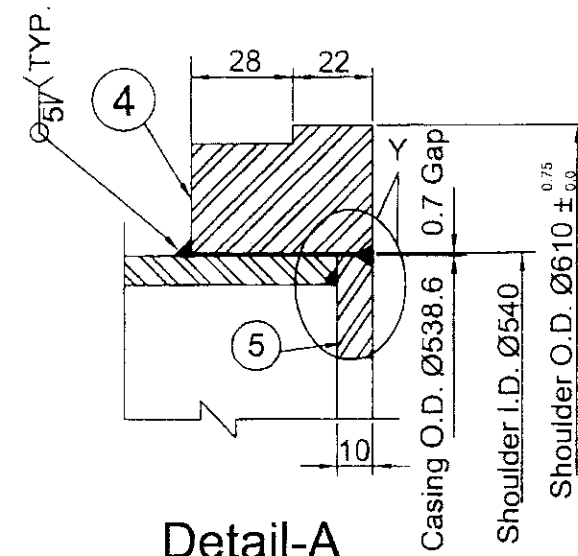
DEPT	GRADE OF TOL DIM	SCALE	WEIGHT (kg)	REF TO ASSY.DRG	ITEM No.	No. OF ITEMS
CODE	C/M/F	N.T.S	Refer Note -10 (Approx)	3-986-01-10390 (7132-Sht 18 of 21)		

TITLE	CARD CODE	DRAWING No.	REV.
CASING FOR BENDS 500NB DETAIL (V-V)		3-986-01-10391	00

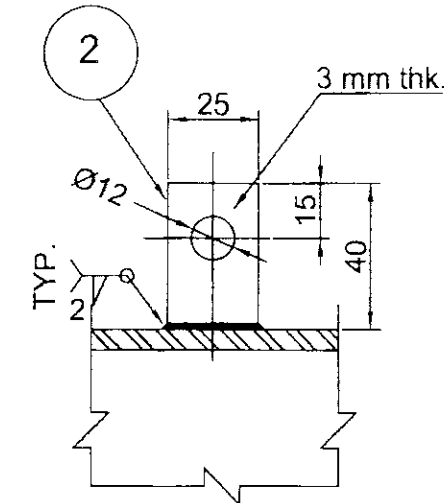
SHEET No. 1 No. OF SHEETS 3

FIRST ANGLE PROJECTION

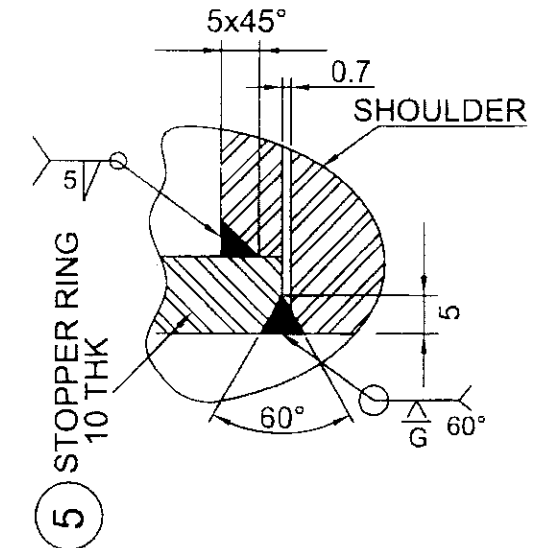
ALL DIMENSIONS ARE IN mm.

REV 00
DRG No. 3-986-01-10391EDGE PREPARATION
WELDING DETAIL

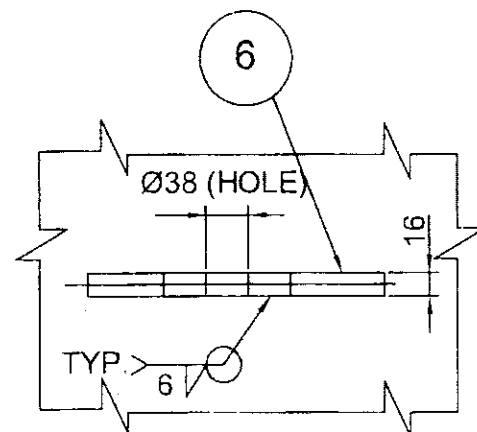
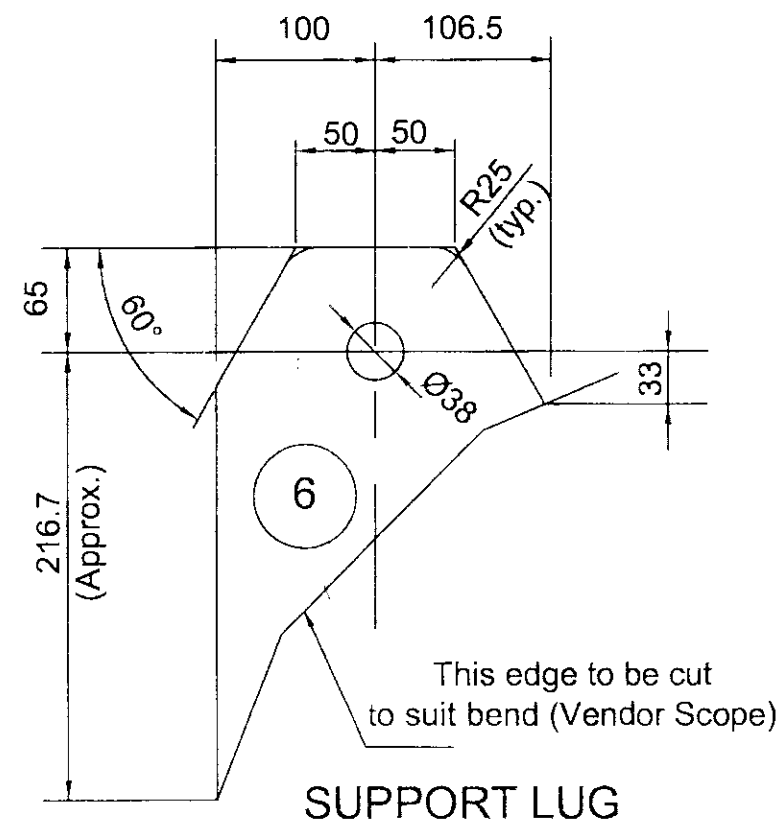
Detail-A



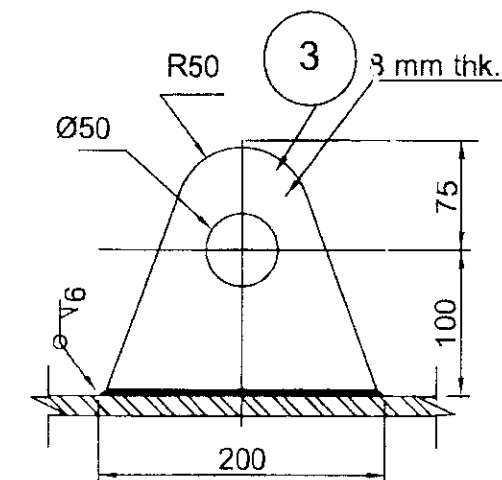
EARTH LUG DETAIL-B



Detail-Y

VIEW-R
Supporting Lug

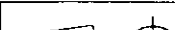
SUPPORT LUG

DETAIL OF
LIFTING LUG

NAME OF CUSTOMER/PROJECT

BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

DRN	NAME	SIGN	DATE
CHD	Kaushik.K	<i>[Signature]</i>	12/12/16
APPD	M.Vinod	<i>[Signature]</i>	12/12/16
	Felix.J	<i>[Signature]</i>	14/12/16

DEPT	GRADE OF TOL DIM		SCALE	WEIGHT (kg)	REF TO ASSY.DRG	ITEM No.	No.OF ITEMS
CODE	C/M/F		N.T.S.	Refer Note -10 (Approx)	3-986-01-10390 (7132-Sht 18 of 21)		
TITLE				CARD CODE	DRAWING No.		REV.
CASING FOR BENDS 500NB DETAIL (V-V)					3-986-01-10391		00
					SHEET No. 2	No.OF SHEETS 3	

SUPERSEDES DRG No.

SHT.24 SIZE A3 420 x 297

00
REV
16301-10-986-3
DRG No.

NOTE:-

1. FOR CONSTRUCTION MATERIAL REFER TABLE-2
2. DURING ASSY. LONGITUDINAL WELDING BETWEEN SEGMENTS TO BE STAGGERED.
3. ALL SUPPLIES TO CONFORM CLN:QP:01/00. WELDING AS PER WP:CL001A & AWS:D 1.1.
4. DIMENSIONS INDICATED ARE FINISHED SIZE ONLY.
5. ASSEMBLY No., DU No., AND ARROW HEAD TO BE WELD DEPOSITED ON SEGMENT #3 OVER CASING AS SHOWN, AS PER CE:1501:21
6. BASE PLATE FOR NAME PLATE TO BE WELDED ON SEGMENT #4 OVER CASING, AT LOCATION SHOWN,
FOR BASE PLATE & WELDING DETAILS REF DRG : 4 986 99 07720
7. FACE ANGLES TO BE MATCHED DURING ASSY.
8. ALL OVER MACHINING 6.3/ FOR STOPPER RINGS.
9. V-SHOULDER FOR VICTAULIC COUPLING.
10. FOR CASING Wt. REFER TABLE -1
FOR Wt. OF LIFTING LUG, SUPPORT LUG, EARTH LUG & STOPPER RINGS.
REFER TABLE - 2
11. WHERE "Y" IS GREATER THAN 1000, ONE CIRCUMFERENTIAL JOINT IS ALLOWED ON "Y", OUTSIDE SEGMENT TOWARDS OUTLET END.
THIS JOINT SHOULD NOT FOUL WITH LUG
12. SURFACE PREPARATION AND PAINTING: REF PAINTING SCHEME DOC. No. : PS- L&T -KHARGONE-BENDS/PIPES
13. OVERALL BEND TOLERANCE:-
 - a). AXIAL SHIFT: ± 3 MM
 - b). RADIAL SHIFT: ± 3 MM
 - c). OUT OF SQUARENESS: ± 3 MM.
14. CONTROL DURING WELDING OF SHOULDER TO CASING :-
 - a) OVALITY OF CASING ON OUTER DIAMETER TO BE MAINTAINED WITHIN 1.0 mm
 - b) WELDING OF SHOULDER TO CASING AS PER DETAIL-A, TO BE DONE IN SUCH A WAY AS TO ENSURE THAT DISTORTION OF COLLAR IS LIMITED SUCH THAT DIM. $\varnothing 610$ mm IS STRICTLY WITHIN THE RANGE SPECIFIED IN SHEET 2 OF 3.
VENDOR TO DO THE NEEDFUL TO ACHIEVE 14(a) AND 14(b).

15. ALL PARTS HAVE TO BE 6 mm FINEST VIBRO, IF NOT PRECISED

NAME OF CUSTOMER/PROJECT

BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

	NAME	SIGN	DATE
DRN	Kaushik.K		12/12/16
CHD	M.Vinod		12/12/16
APPD	Felix.J		12/12/16

DEPT	GRADE OF TOL DIM C/M/F	SCALE N.T.S.	WEIGHT (kg) Refer Note -10 (Approx)	REF TO ASSY.DRG 3-986-01-10390 (7132-Sht 18 of 21)	ITEM No.	No.OF ITEMS
CODE						
TITLE CASING FOR BENDS 500NB DETAIL (V-V)				CARD CODE	DRAWING No. 3-986-01-10391	REV. 00
					SHEET No. 3	No.OF SHEETS 3

REV

10401-10401-3-986

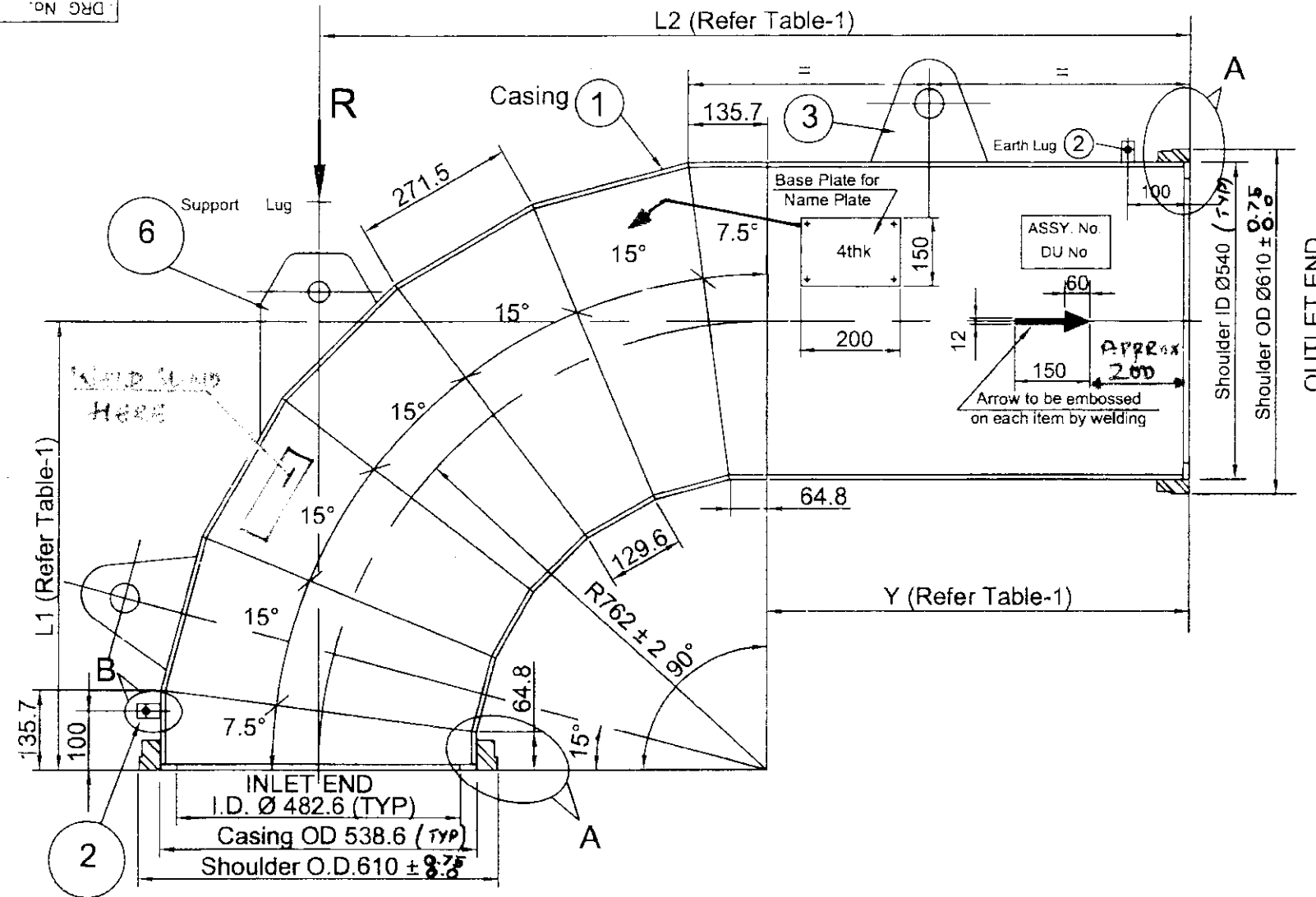
DRG No.

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REF. DRG. No.

SIGN AND DATE

INVENTORY No.



6	Support Lug	16mm thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.s	4.7	
5	Stopper Ring	10mm thk.	KILLED STEEL IS:2062 - 2011 E250 BR	2 No.s	3.5	
4	Shoulder	ID:540, OD:610	KILLED STEEL IS:2062 - 2011 E250 BR	2 No.s	-	FREE Issue By BHEL To Vendor
3	Lifting Lug	8 mm Thk.	KILLED STEEL IS:2062 - 2011 E250 BR	2 No.s	1.3	
2	Earth Lug	3 mm Thk.	KILLED STEEL IS:2062 - 2011 E250 BR	2 No.s	0.02	
1	Casing	8 mm Thk.	KILLED STEEL IS:2062 - 2011 E250 BR	1 No.s	Refer Table-1	
SL No	Description	Size	Material	Qty per Bend	Wt. / Piece (Kgs.)	Remarks

TABLE - 2

1	CLCP-155	B5-8, B8-8	762	936.2	174.2	SL	V	V	●	142.4
Var. No.	DU No.	Assembly No.	L1	L2	Y	ACCY.	End connection inlet side	End connection outlet side	Qty. No's	Weight kg/Bend

TABLE - 1

NAME OF CUSTOMER/PROJECT

BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

NAME	SIGN	DATE
DRN Kaushik.K		21/12/14
CHD M.Vinod		20/12/14
APPO Felix.J		24/12/14

DEPT	GRADE OF TOL DIM	SCALE	WEIGHT (kg)	REF TO ASSY.DRG	ITEM No.	No. OF ITEMS
CODE	C/M/F	N.T.S.	Refer Note 10 (Approx)	3-986-01-10400 (7152-Sht 19 of 21)		
TITLE	CARD CODE	DRAWING No.	REV.			
CASING FOR BENDS 500NB DETAIL (V-V)		3-986-01-10401	00			
		SHEET No. 1	No. OF SHEETS 3			

SUPERSEDES DRG. No.

SHT.24 SIZE A3 420 x 297

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN mm.

REV

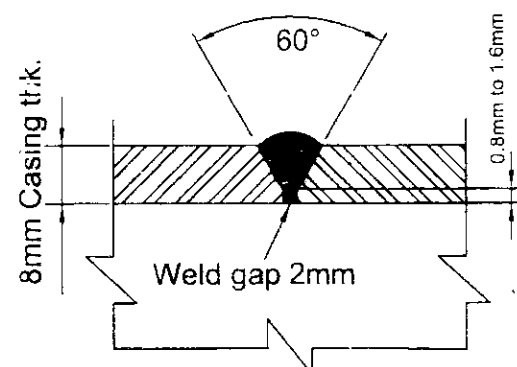
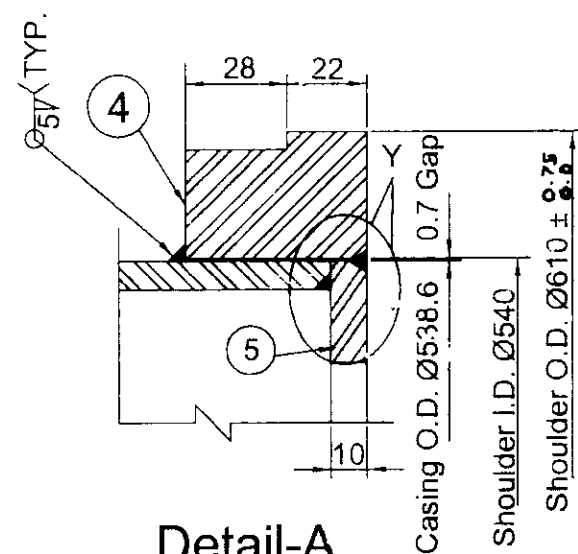
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SIGN AND DATE

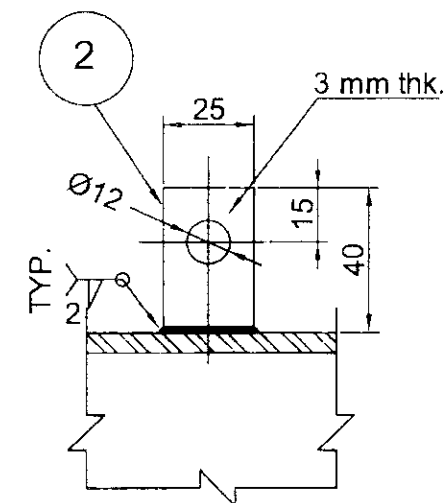
INVENTORY No.

3-986-01-10401

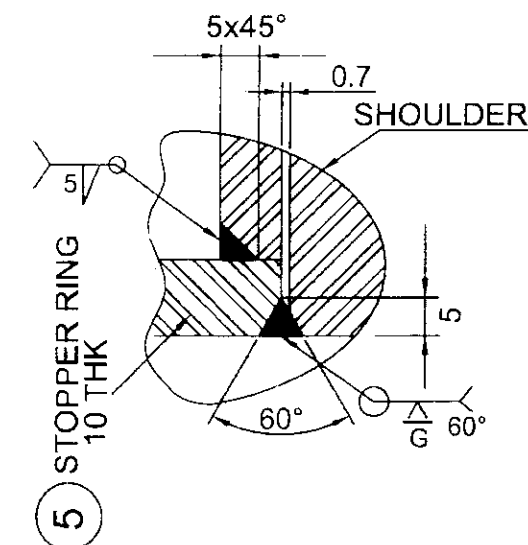
DRG No.

EDGE PREPARATION
WELDING DETAIL

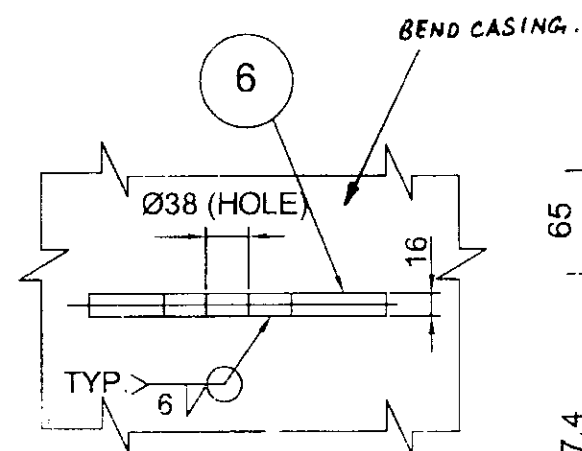
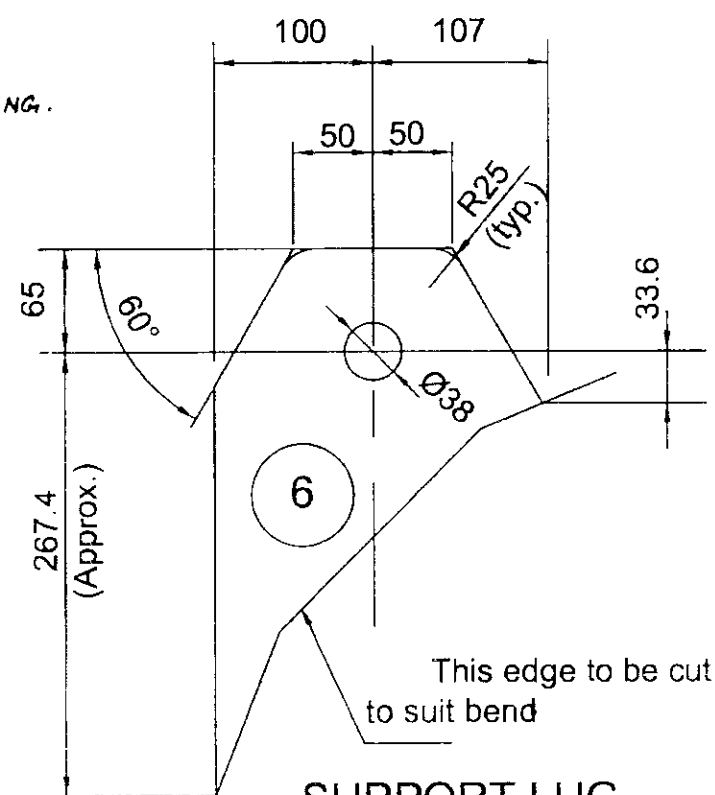
Detail-A



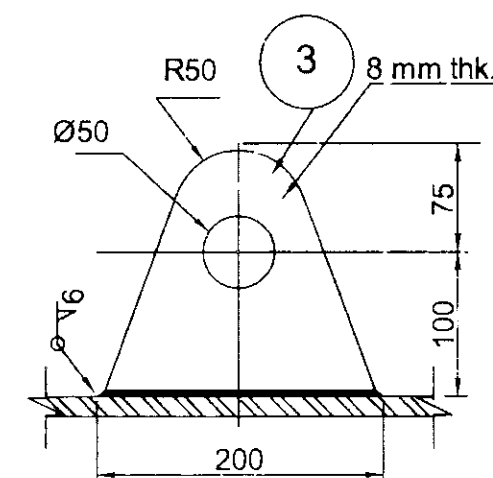
EARTH LUG DETAIL-B



Detail-Y

VIEW-R
Support Lug

SUPPORT LUG

DETAIL OF
LIFTING LUG

NAME OF CUSTOMER/PROJECT

BHARAT HEAVY ELECTRICALS LTD.,
ELECTROPORCELAINS DIVISION
BANGALORE - 560 012

	NAME	SIGN	DATE
DRN	Kaushik.K		21/12/16
CHD	M.Vinod		21/12/16
APPD	Felix.J		21/12/16

DEPT	GRADE OF TOL DIM C/M/F	SCALE	WEIGHT (kg)	REF TO ASSY.DRG	ITEM No.	No. OF ITEMS
CODE		N.T.S.	Refer Note -10 (Approx)	3-986-01-10400 (152-Sht 19 of 21)		
TITLE	CASING FOR BENDS 500NB DETAIL (V-V)			CARD CODE	DRAWING No.	REV.
					3-986-01-10401	00
					SHEET No. 2	No. OF SHEETS 2

SUPERSEDES DRG. No.

SHT.24 SIZE A3 420 x 297

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN mm.

00
REV

3-986-01-10401

DRG No.

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NOTE:-

1. FOR CONSTRUCTION MATERIAL REFER TABLE-2
2. DURING ASSY. LONGITUDINAL WELDING BETWEEN SEGMENTS TO BE STAGGERED.
3. ALL SUPPLIES TO CONFORM CLN:QP:01/00. WELDING AS PER WP:CL001A & AWS:D 1.1.
4. DIMENSIONS INDICATED ARE FINISHED SIZE ONLY.
5. ASSEMBLY No., DU No., AND ARROW HEAD TO BE WELD DEPOSITED OVER CASING AS SHOWN , AS PER CE:1501:21
6. BASE PLATE FOR NAME PLATE TO BE WELDED ON TO CASING, AT LOCATION SHOWN,
FOR BASE PLATE & WELDING DETAILS REF DRG : 4 986 99 07720
7. FACE ANGLES TO BE MATCHED DURING ASSY.
8. ALL OVER MACHINING 5.3/ FOR STOPPER RINGS.
9. V-SHOULDER FOR VICTAULIC COUPLING, ACCY - ACCESSORY, SL- SUPPORT LUG.
10. FOR CASING Wt. REFER TABLE -1
FOR Wt. OF LIFTING LUG, EARTH LUG, STOPPER RINGS & SUPPORT LUG.
REFER TABLE - 2
11. WHERE "Y" IS GREATER THAN 1000, ONE CIRCUMFERENTIAL JOINT IS ALLOWED ON "Y", OUTSIDE SEGMENT TOWARDS OUTLET END.
THIS JOINT SHOULD NOT FOUL WITH LUG
12. SURFACE PREPARATION AND PAINTING: REF PAINTING SCHEME DOC. No. : PS- L&T - KHARGONE-BENDS/PIPES.
13. OVERALL BEND TOLERANCE:-
 - a). AXIAL SHIFT: ± 3 MM
 - b). RADIAL SHIFT: ± 3 MM
 - c). OUT OF SQUARENESS: ± 3 MM.
14. CONTROL DURING WELDING OF SHOULDER TO CASING :-
 - a) OVALITY OF CASING ON OUTER DIAMETER TO BE MAINTAINED WITHIN 1.0 mm
 - b) WELDING OF SHOULDER TO CASING AS PER DETAIL-A, TO BE DONE IN SUCH A WAY AS TO ENSURE THAT DISTORTION OF COLLAR IS LIMITED SUCH THAT DIM. $\varnothing 610$ mm
IS STRICTLY WITHIN THE RANGE SPECIFIED IN SHEET 2 OF 3.
VENDOR TO DO THE NEEDFUL TO ACHIEVE 14(a) AND 14(b).
15. ALL PARTS HAVE TO BE 6 mm FILLET WELDED, IF NOT SPECIFIED.
16. TO LOCATE EARTH LUG AT 100mm (OUTLET END). MOVE THE SAME CIRCUMFERENTIALLY BY 25mm TOWARDS ARROW HEAD.

REF. DRG. No.

SIGN AND DATE

INVENTORY No.

REV	DATE	ALTERED	REV	DATE	ALTERED	REV	DATE	ALTERED
		CHECKED			CHECKED			CHECKED

NAME OF CUSTOMER/PROJECT			
 BHARAT HEAVY ELECTRICALS LTD., ELECTROPORCELAINS DIVISION BANGALORE - 560 012			
DEPT	GRADE OF TOL DIM C/M/F	SCALE N.T.S.	WEIGHT (kg) Refer Note -10 (Approx)
CODE	TITLE CASING FOR BENDS 500NB DETAIL (V-V)		CARD CODE
REF TO ASSY.DRG 3-986-01-10400 (7152-Sht 19 of 21)		ITEM No.	No. OF ITEMS
DRAWING No. 3-986-01-10401		REV. 00	
SHEET No. 3		No. OF SHEETS 3	

SUPERSEDES DRG. No.

SHT.24 SIZE A3 420 x 297