

TENDER SPECIFICATION FOR SET OF NON METALIC PIPE USED FOR WAG-9(CO-CO) ELECTRIC LOCOMOTIVES

**TENDER SPECIFICATION No.
CLW/ES/3/0254 ALT-C**

ENCLOSURES:

1. ANNEXURE-I
2. DRG.NO.
 - a) CLW/ES/3/SK-1/0254
 - b) CLW/ES/3/SK-2/0254
 - c) CLW/ES/3/SK-3/0254

ISSUED BY:

**DY. CHIEF ELECTRICAL ENGINEER/D/CONV.
CHITTARANJAN LOCOMOTIVE WORKS
P.O. CHITTARANJAN – 713331
DISTRICT- BURDWAN (WEST), WEST BENGAL (INDIA)**

PREPARED BY	CHECKED BY	APPROVED BY
SSE/DRG&DGN (M)	SSE/DRG&DGN (M)	DY. CEE/D/CONV

ALTERATION RECORD SHEET

Sl. No.	Date	Alteration. No.	Reason	Authority Dy.CEE/CON/TU-I
1	28/03/2003	A	The material of set of insulation should be fire retardant /Self extinguishing properties as per IS:11731 (Part 1&2) or any other equivalent DIN,IEC standard.	-sd-
2	21/10/2003	B	Length of Non Metallic pipe connected to FB panel from sidewall 609 mm to 700 mm as per letter No.DCME/ ELA/43/3 Phase Dated 26/07/2003	-sd-
3	03/10/2016	C	Material is change from ABS to CPVC at sheet no 4&5 as per approval of CEE, noting no. ELDD/3758 dt 3/08/2016 Note: 100 L/s material will be procured with Alt-C For development of sources and Normal procurement will be as per Alt.B.	-sd-
4	-	D	DIN-16891 has been replaced by IS:17077 (Part-1) at Page no 5 of 7	

Specifications have been digitized and all alterations have been incorporated.

PREPARED BY		CHECKED BY		APPROVED BY	
NIRANJAN KUMAR	Digitally signed by NIRANJAN KUMAR	MANGLES HWAR GIRI	Digitally signed by MANGLESHWAR GIRI	SYAMA PRASAD PATRA	Digitally signed by SYAMA PRASAD PATRA
	Date: 2023.02.16 16:36:59 +05'30'		Date: 2023.02.16 16:40:30 +05'30'		Date: 2023.02.27 18:14:49 +05'30'
SSE/DRG&DGN (M)		SSE/DRG&DGN (M)		DY. CEE/D/CONV	

SPECIFICATION FOR SET OF NON METALIC PIPE USED FOR
WAG-9 (CO-CO) ELECTRIC LOCOMOTIVE

INDEX

1. **SCOPE**
2. **CLIMATE AND ENVIRONMENTAL CONDITION**
3. **STANDARD**
4. **TECHNICAL DATA**
5. **TEST**
6. **DRAWING**
7. **REFERENCE**

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SPECIFICATION FOR SET OF NON METALLIC PIPE USED FOR THREE PHASE,6000 H.P WAG-9
A.C LOCOMOTIVE

1. SCOPE:

This specification applies to smoke detector assembly pipe in various sizes.

Length 1260 mm
 Length 1270 mm
 Length 1345 mm
 Length 1516 mm
 Length 1990 mm
 Length 2124 mm
 Length 4060 mm
 Length 4770 mm
 Length 5000 mm
 Length 700 mm Alt-B
 Length 63 mm
 Length 785.5 mm

2. Climate and Environment Conditions :

*Maximum Atmospheric temperature : Under Sun : 70 °C

: In Shade : 50 °C

*Humidity : 100 % saturation during rainy season

*Reference site conditions :

i) Ambient Temp.max.47°C min. 0 °C

ii) The contactor will indicate the expected temperature rise in the machine room under reference site condition.

iii) Humidity : 60%

iv) Altitude : 160m above mean sea level.

*Rain Fall : Very heavy in certain areas. The locomotive will be designed to permit its running at 10 km/h in flood water level of 102 mm above rail level.

*Atmosphere during hot weather : Extremely dusty and desert terrain in certain areas.

*Coastal areas : Locomotive and equipment will be designed to work in coastal areas in humid and salt laden atmosphere.

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*Vibration : The equipment , sub-system and their mounting arrangement will be designed to withstand vibrations and shocks encountered in service as specified in corresponding IEC publications unless otherwise prescribed.

3. **STANDARD:** - As per relevant IS & IEC Standard.

4. **TECHNICAL DATA :**

Smoke Detector Pipe:-

IS: 17077 (Part-1)
Materials :- As per ~~DIN-16891~~ of Aerylonitrile – Butediese- styrene (4BS) d85 x 1.95/CPVC i.e chlorinated polyvinyl chloride is alternate material –Alt. C

4.1 **Socket Fittings:-** *IS: 17077 (Part-1)*

As per ~~DIN-16891~~ of Aerylonitrile - Butediese - styrene (4BS) d25 x 1.95/CPVC i.e chlorinated polyvinyl chloride is alternate material – Alt.C

Details description has given in the Annexure - 1 and Drawing No. CLW/ES/3/SK-1/0254 & CLW/ES/3/SK-2/0254

Quantity Per Loco :- 6 Nos.

4.2 **Quadrant Fittings d-25:**

IS: 17077 (Part-1)
As Per ~~DIN-16891~~ of Aerylonitrile - Butediese - Styrene (4BS) d25 x 1.95/CPVC i.e Chlorinated polyvinyl chloride is alternate material - Alt. C

Details description has given in the Annexure - 1 and Drawing No. CLW/ES/3/SK-1/0254 & CLW/ES/3/SK-2/0254

Quantity per Loco :- 7 Nos.

4.3 **T-Fitting 90 DEG d-25:** *IS: 17077 (Part-1)*

Material :- As per ~~DIN-16891~~ of Aerylonitrile - Butediese - styrene (4BS) d25 x 1.95/CPVC i.e chlorinated polyvinyl chloride is alternate material - Alt. C

Details description has given in the Annexure -1 and Drawing No. CLW/ES/3/SK-1/0254 & CLW/ES/3/SK-2/0254.

Quantity per Loco :- 1 No.

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NIRANJAN KUMAR Digitally signed by NIRANJAN KUMAR Date: 2023.02.16 16:38:11 +05'30'	MANGLES HWAR GIRI Digitally signed by MANGLES HWAR GIRI Date: 2023.02.16 16:41:52 +05'30'	SYAMA PRASAD PATRA Digitally signed by SYAMA PRASAD PATRA Date: 2023.02.27 18:15:59 +05'30'
SSE/DRG&DGN (M)	SSE/DRG&DGN (M)	DY. CEE/D/CONV

5. **TEST** :- As per relevant. IS & IEC Standard.

6. **DRAWING:**

a) Details description has given in the Annexure - 1 and Drawing No CLW/ES/3/SK-1/0254 of Smoke Detector pipe.

b) Details description of socket fittings, Quadrant fittings and T-Fittings in the drawing No. CLW/ES/3/SK-2/0254 a,b,c respectively.

C) Description of smoke detector pipe in the drg. No. CLW/ES/3/SK-3/0254.

7. **REFERENCE:**

Smoke detector assembly pipe

Drg. item	ABB Identification No.	Length	Qty/Loco
12	3EHP 431625 P0012	5000 mm	03
13	3EHP 431625 P0013	785.5 mm	01
14	3EHP 431625 P0014	1270 mm	01
15	3EHP 431625 P0015	1990 mm	01
16	3EHP 431625 P0016	2124 mm	01
17	3EHP 431625 P0017	1260 mm	01
18	3EHP 431625 P0018	4770 mm	01
19	3EHP 431625 P0019	1345 mm	01
20	3EHP 431625 P0020	700 mm	01
21	3EHP 431625 P0021	4060 mm	01
22	3EHP 431625 P0022	1516 mm	01
23	3EHP 431625 P0023	63 mm	02

Supplier's Address:

ABB Diamler Benz/M/s. ADtranz
P.O. Box No . 8384
CH 8050 Zurich
Switzerland
Tel. 4113126159
FAX: 4113126159

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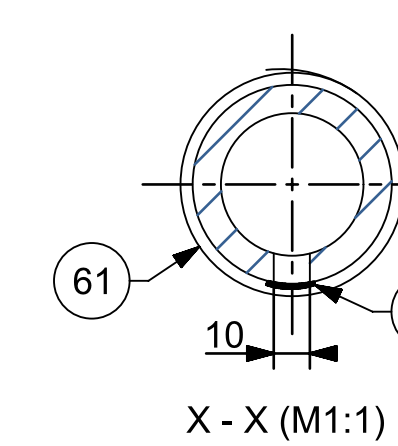
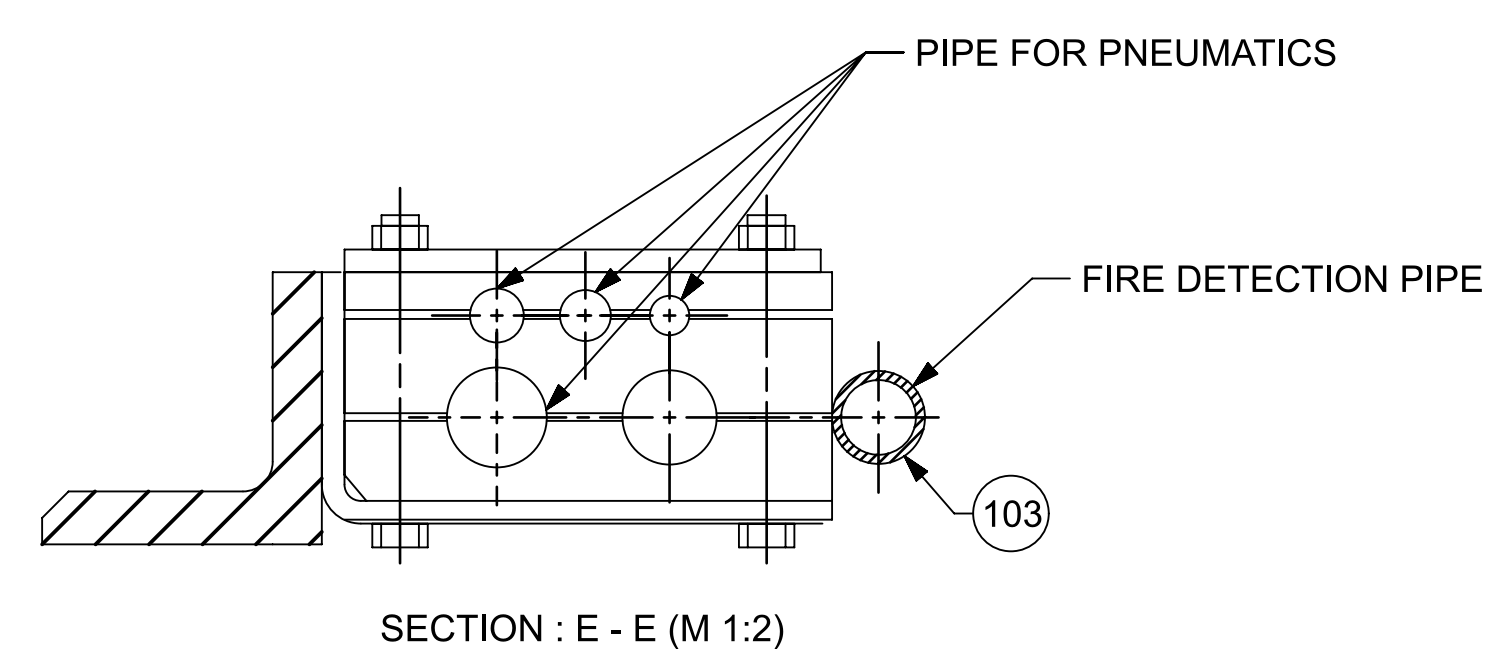
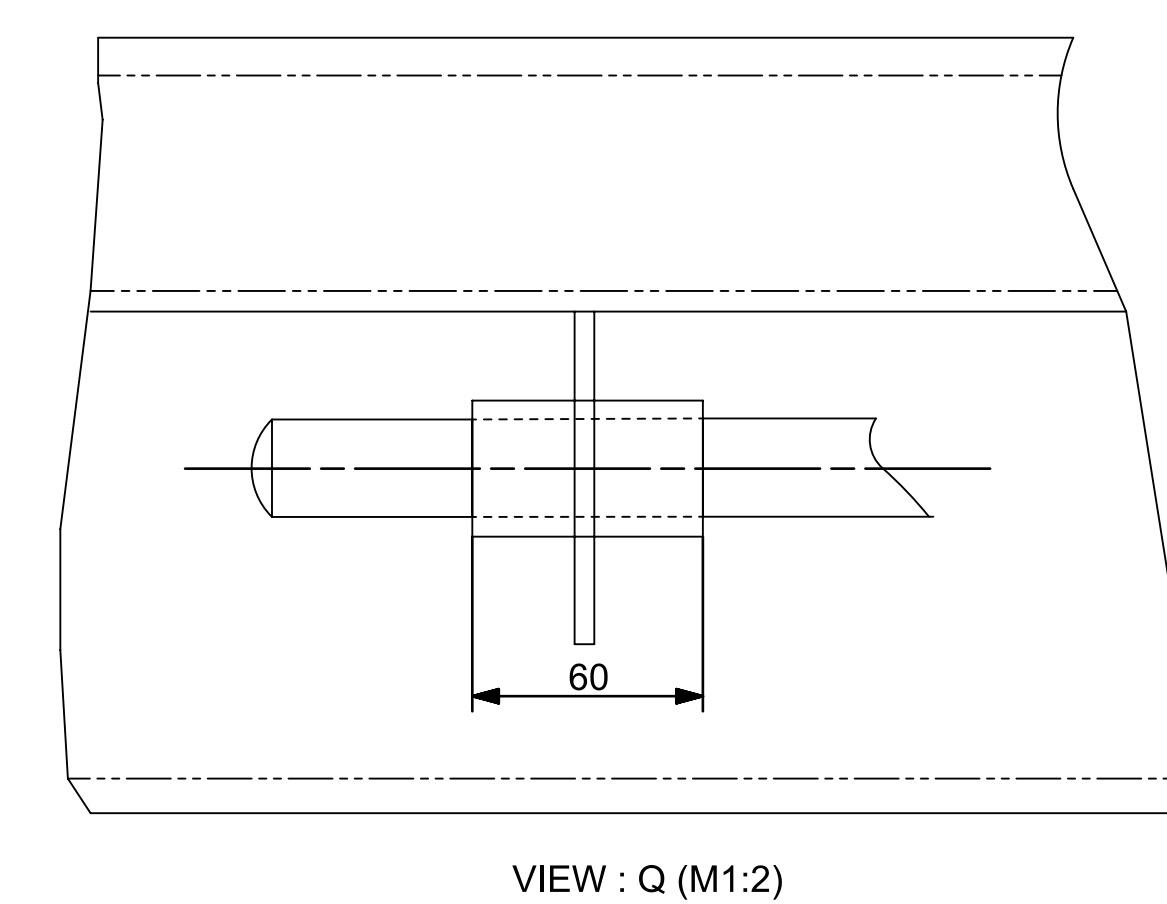
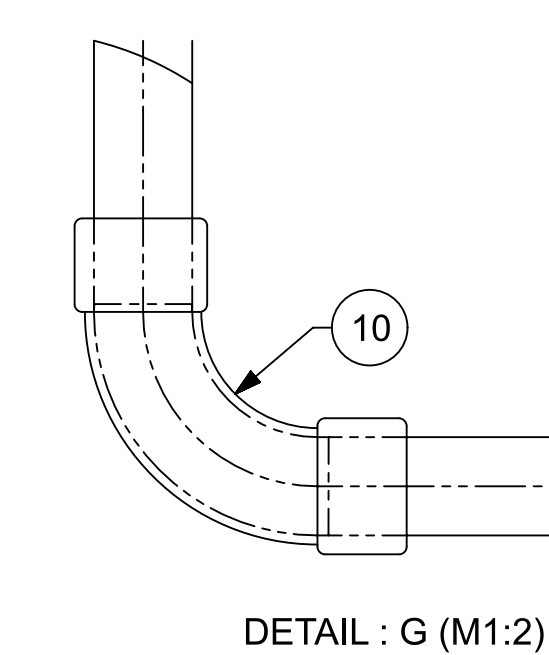
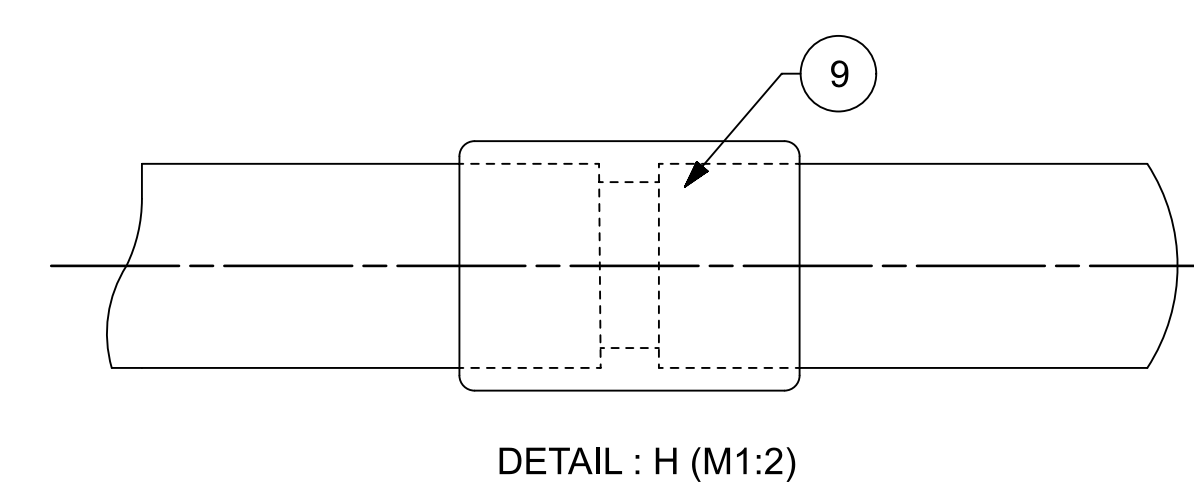
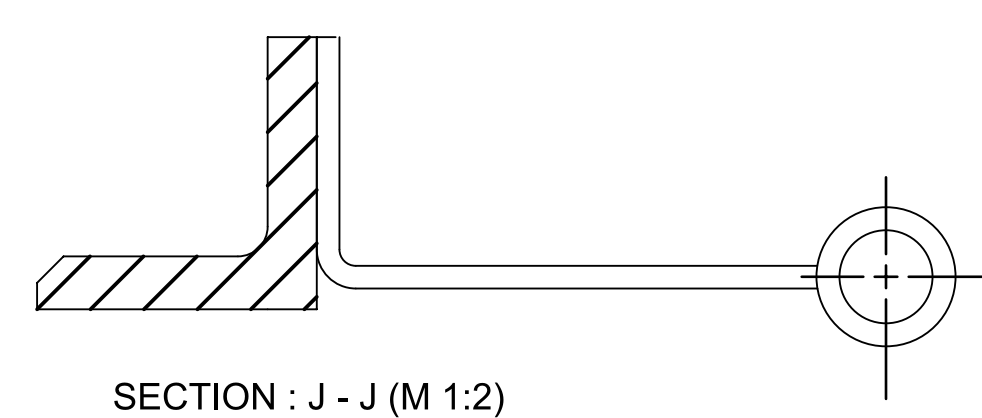
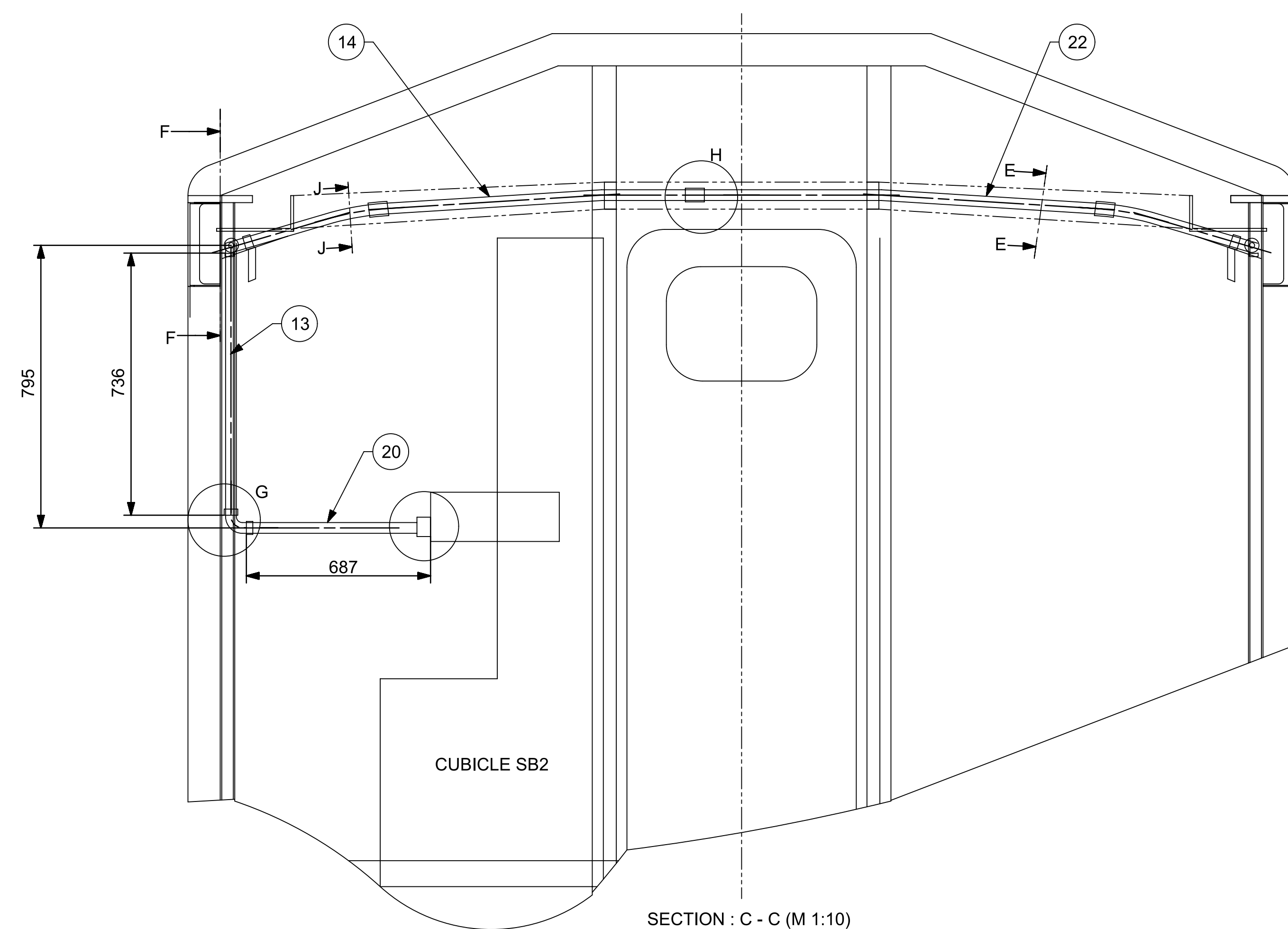
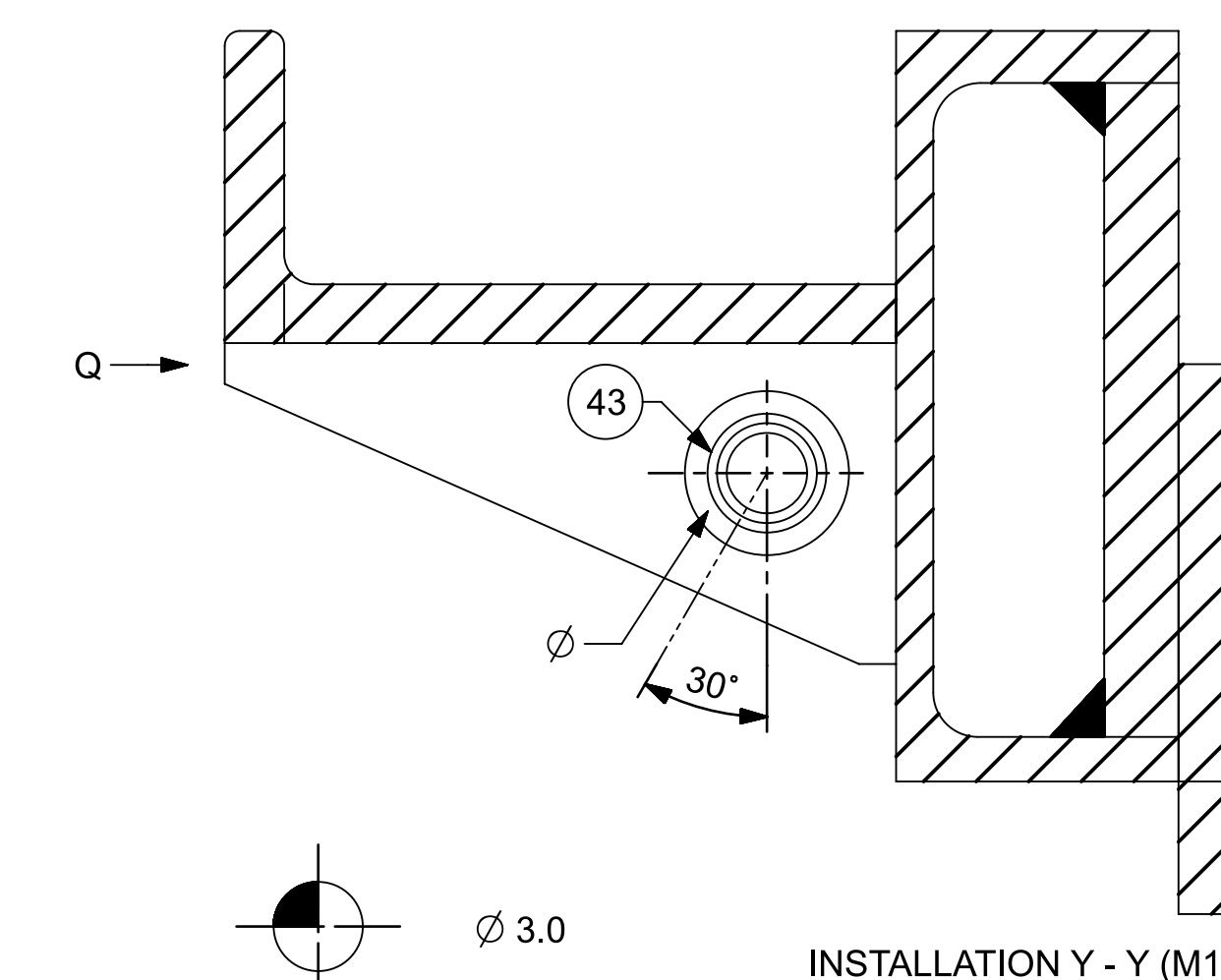
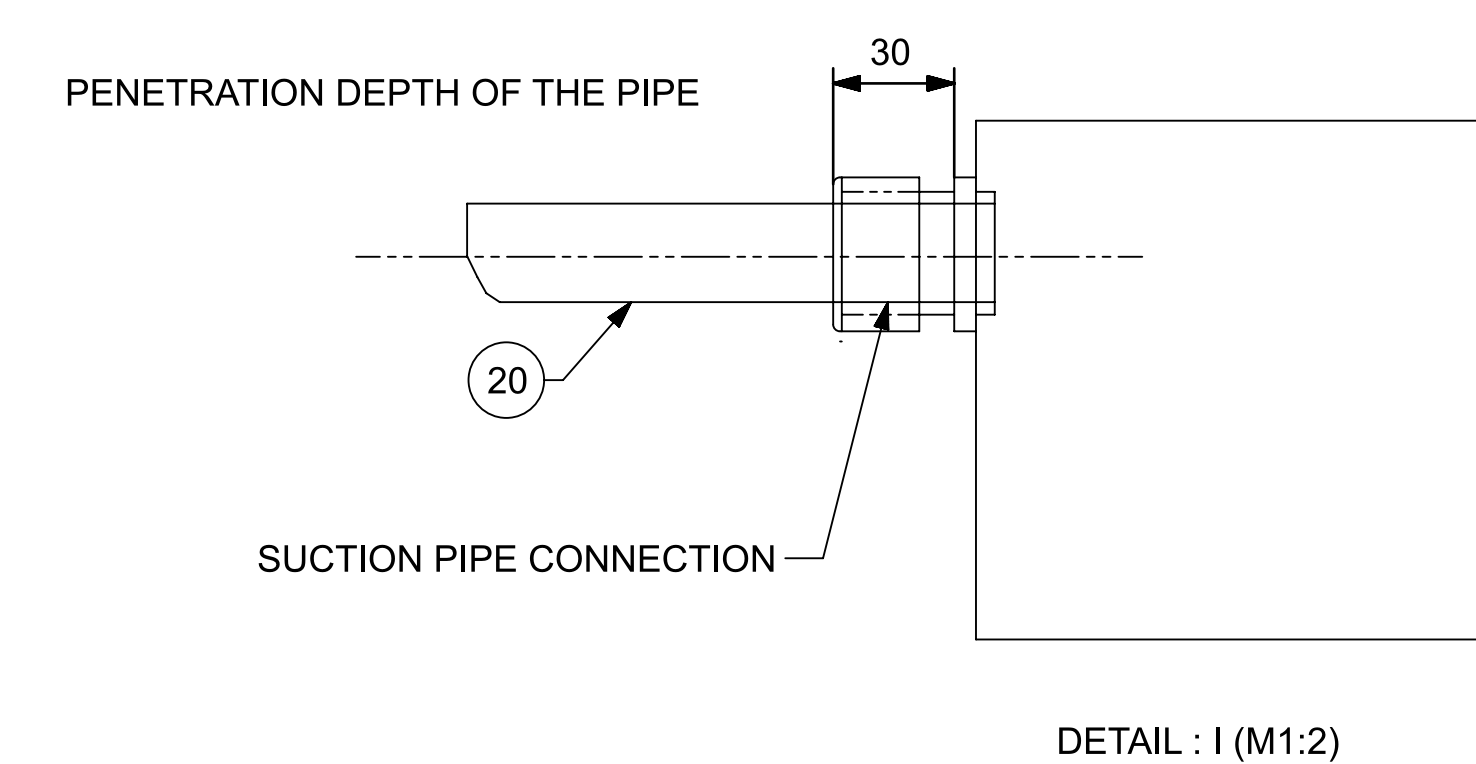
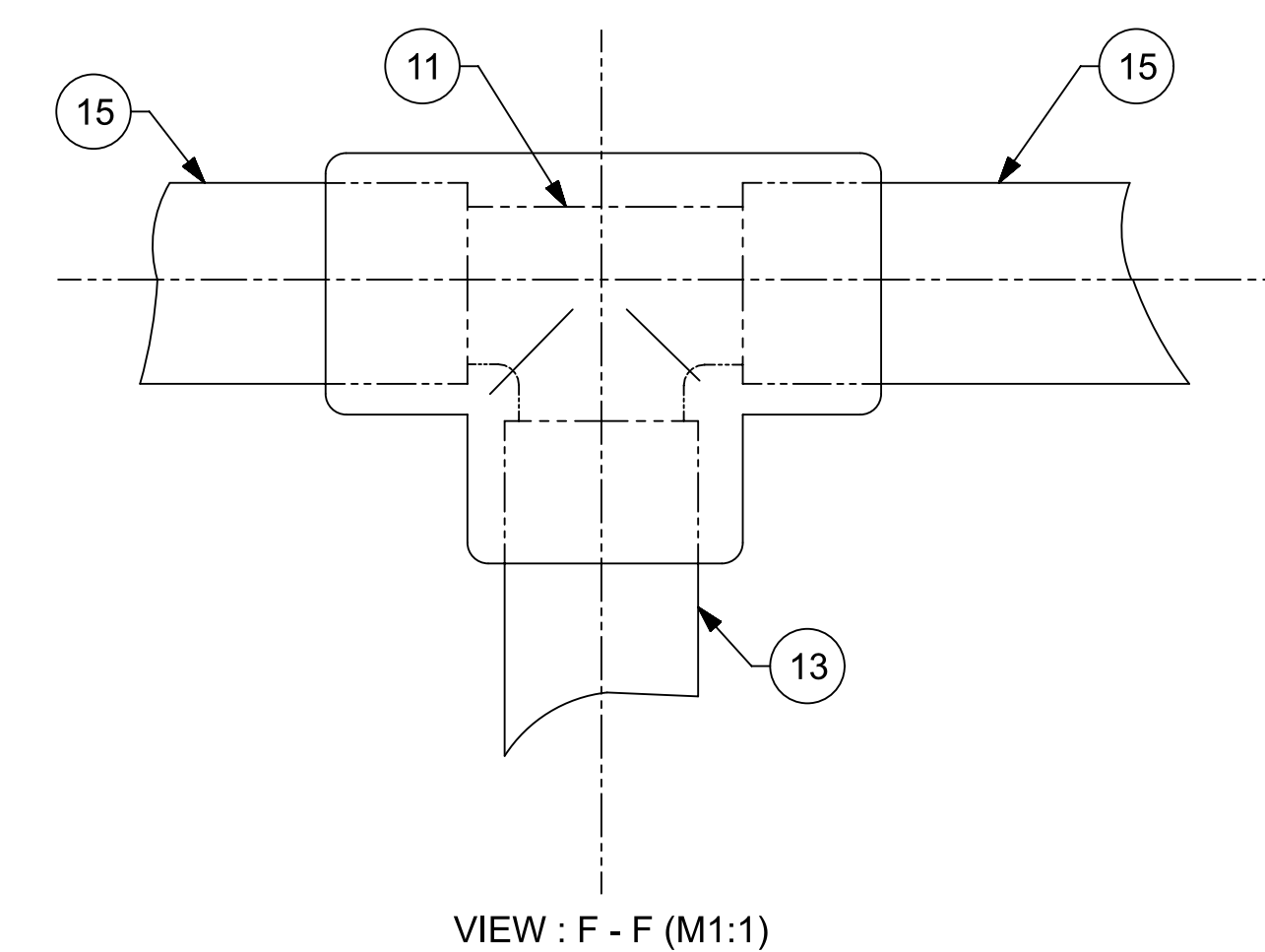
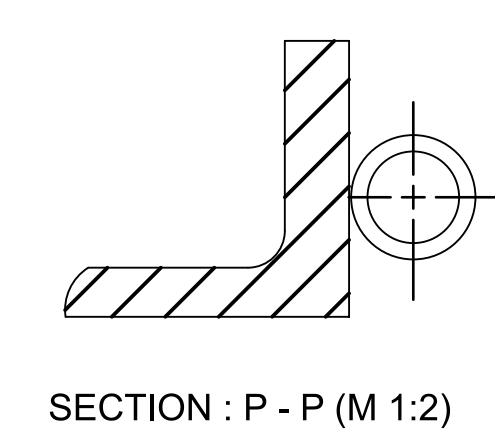
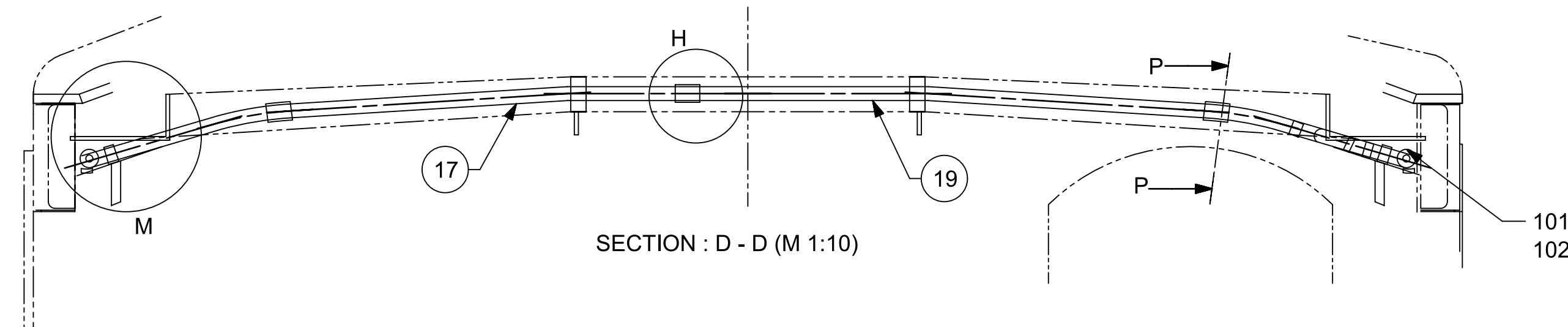
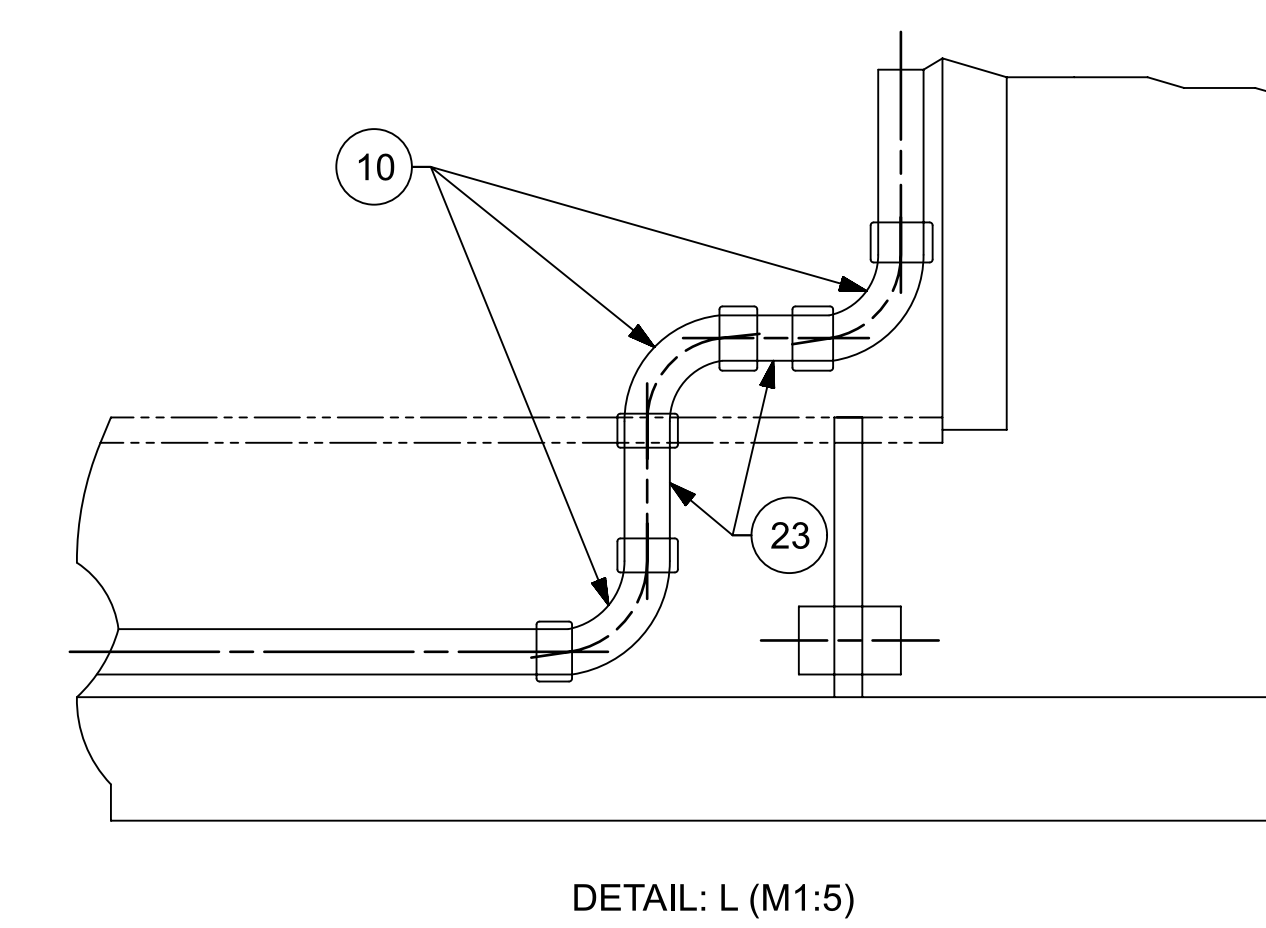
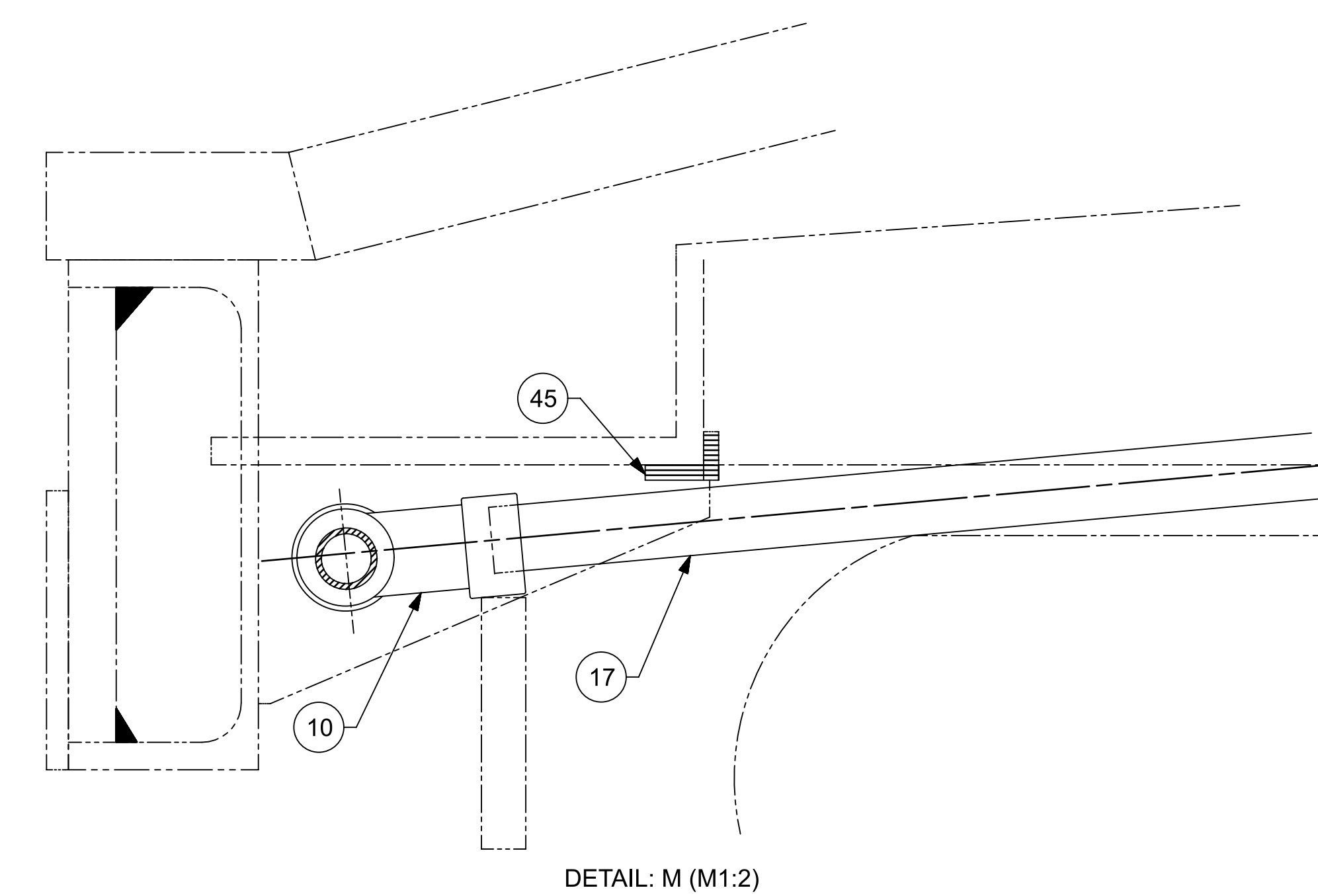
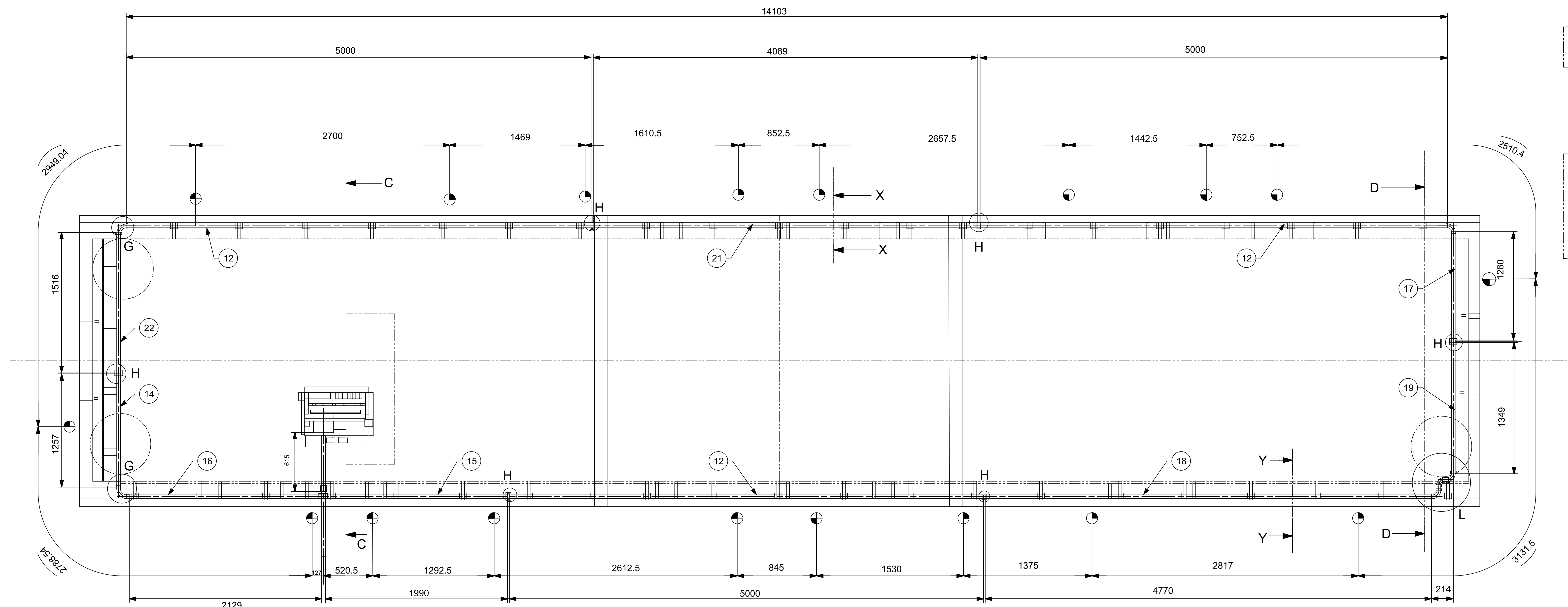
ANNEXURE - 1

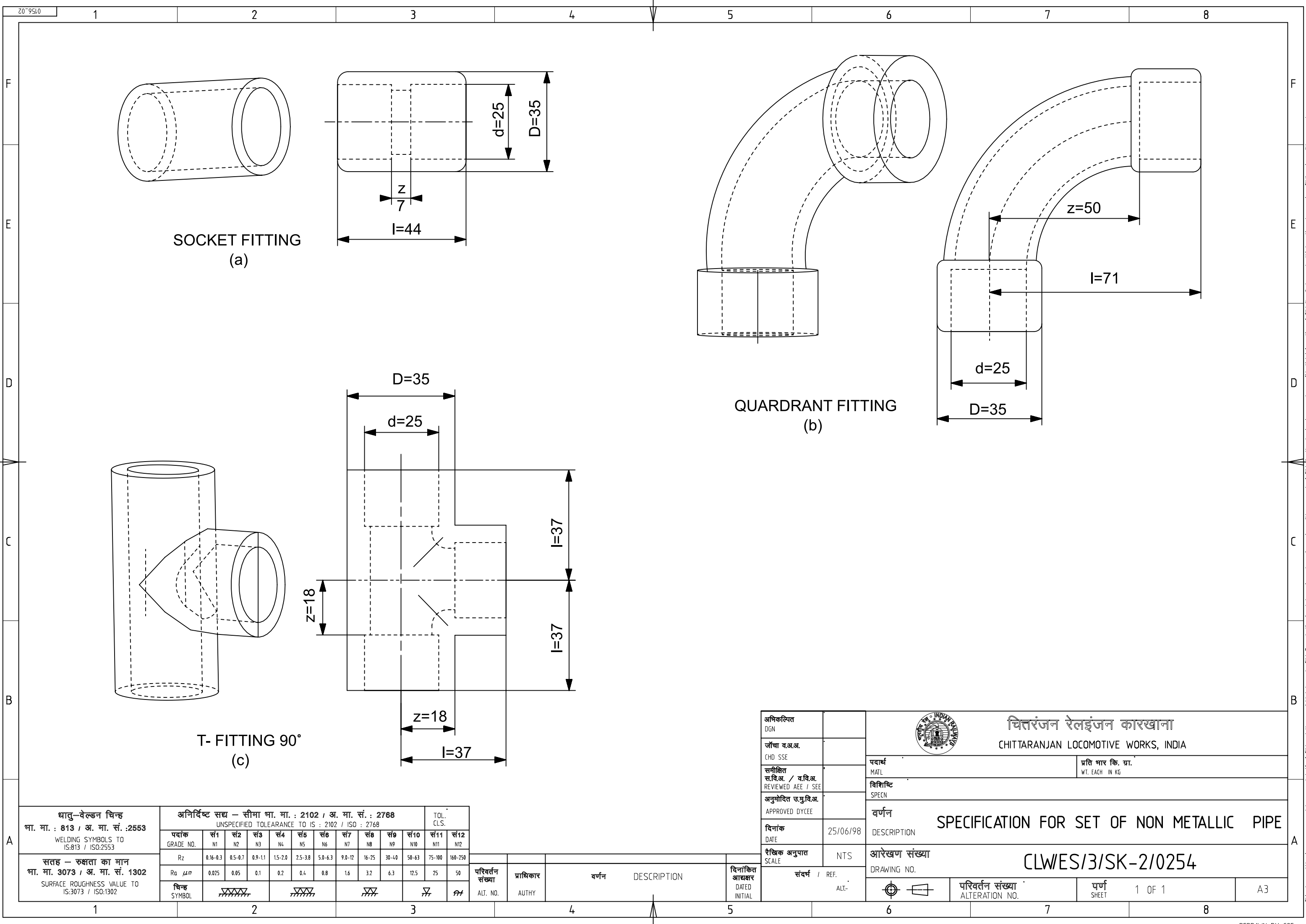
<u>Qty/Loco</u>	<u>Item No</u>	<u>Text</u>
6	9	SOCKET FITTING d=25
7	10	QUADRANT FITTING d=25
1	11	T-FITTING 90 DEG d=25
3	12	PIPE/L = 5000 mm
1	13	PIPE/L = 785.5 mm
1	14	PIPE/L = 1270 mm
1	15	PIPE/L = 1990 mm
1	16	PIPE/L = 2124 mm
1	17	PIPE/L = 1260 mm
1	18	PIPE/L = 4770 mm
1	19	PIPE/L = 1345 mm
1	20	PIPE/L = 700 mm Alt -B
1	21	PIPE/L = 4060 mm
1	22	PIPE/L = 1516 mm
2	23	PIPE/L = 63 mm

The material of set of insulation should be fire retardant /self extinguishing properties as per IS:11731 (part I & part II) or any other equivalent DIN, IEC standard.

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VIEW CANT RAIL WITHOUT ANGLE

[illegible][illegible]



SOCKET FITTING
(a)

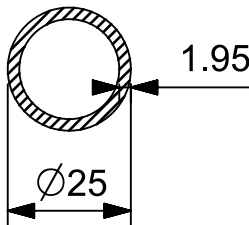
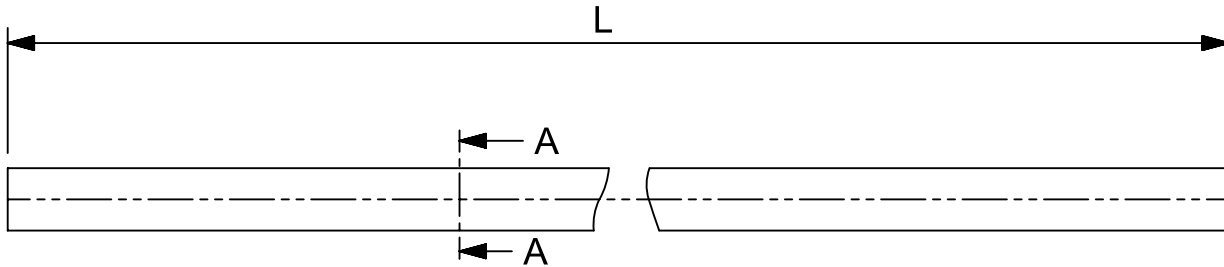
QUARDRANT FITTING
(b)

T- FITTING 90°
(c)







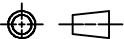
धातु-वेल्डन चिन्ह भा. मा. : 813 / अ. मा. सं. :2553 WELDING SYMBOLS TO IS:813 / ISO:2553	अनिर्दिष्ट सद्य – सीमा भा. मा. : 2102 / अ. मा. सं. : 2768 UNSPECIFIED TOLERANCE TO IS : 2102 / ISO : 2768											TOL. CLS.	
	पदांक GRADE NO.	स1 N1	स2 N2	स3 N3	स4 N4	स5 N5	स6 N6	स7 N7	स8 N8	स9 N9	स10 N10	स11 N11	स12 N12
सतह – रुक्षता का मान भा. मा. 3073 / अ. मा. सं. 1302 SURFACE ROUGHNESS VALUE TO IS:3073 / ISO:1302	Rz	0.16-0.3	0.5-0.7	0.9-1.1	1.5-2.0	2.5-3.8	5.0-6.3	9.0-12	16-25	30-40	50-63	75-100	160-250
	Ra μ m	0.025	0.05	0.1	0.2	0.4	0.8	1.6	3.2	6.3	12.5	25	50
	चिन्ह SYMBOL												

परिवर्तन संख्या ALT. NO.	प्राधिकार AUTHY	वर्णन DESCRIPTION	दिनांकित आधार DATED INITIAL
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अधिकृतित DGN		 चितरंजन रेलइंजन कारखाना CHITTARANJAN LOCOMOTIVE WORKS, INDIA	
जोचा व.अ.अ. CHD SSE			
समीक्षित स.वि.अ. / व.वि.अ. REVIEWED AEE / SEE		पदार्थ MATERIAL	प्रति भार कि. ग्रा. WT. EACH IN KG
अनुमोदित च.यु.वि.अ. APPROVED DYCEE		विशिष्ट SPECN	
दिनांक DATE	25/06/98	वर्णन DESCRIPTION	SPECIFICATION FOR SET OF NON METALLIC PIPE
रैखिक अनुपात SCALE	NTS	आरेखण संख्या DRAWING NO.	CLW/ES/3/SK-2/0254
संदर्भ / REF. ALT-		परिवर्तन संख्या ALTERATION NO.	पुर्ण SHEET
			1 OF 1
			A3



SECTION A-A

													अधिकृत DGN			चितरंजन रेलइंजन कारखाना CHITTARANJAN LOCOMOTIVE WORKS, INDIA							
													जॉचा व.अ. CHD SSE			पदार्थ MATL	प्रति भार कि. ग्रा. WT. EACH IN KG						
परिवर्तन संख्या ALT.NO.	प्राधिकार AUTHY		वर्णन DESCRIPTION							दिनांकित बाह्य DATED INITIAL	समीक्षित स.वि.अ. / व.वि.अ. REVIEWED AEE / SEE		विशिष्ट SPECN		वर्णन DESCRIPTION SPECIFICATION FOR SET OF NON METALLIC PIPE								
सतह - रूखाता का मान मा. मा. 3073 / अ. मा. सं. 1302 SURFACE ROUGHNESS VALUE TO IS:3073 / ISO:1302			अनिर्दिष्ट सद्य - सीमा मा. मा. : 2102 / अ. मा. सं. : 2768 UNSPECIFIED TOLERANCE TO IS : 2102 / ISO : 2768 धातु-वेल्डन चिन्ह मा. मा. : 813 / अ. मा. सं. : 2553 WELDING SYMBOLS TO IS:813 / ISO:2553							TOL. CLS.	अनुमोदित स.मु.वि.अ. APPROVED DYCEE		दिनांक DATE					25/06/98					
पदांक GRADE NO.	सं1 N1	सं2 N2	सं3 N3	सं4 N4	सं5 N5	सं6 N6	सं7 N7	सं8 N8	सं9 N9	सं10 N10	सं11 N11	सं12 N12	रैखिक अनुपात SCALE		NTS		आरेखण संख्या DRAWING NO.		CLW/ES/3/SK-3/0254				
Rz	0.16-0.3	0.5-0.7	0.9-1.1	1.5-2.0	2.5-3.8	5.0-6.3	9.0-12	16-25	30-40	50-63	75-100	160-250											
Ra μm	0.025	0.05	0.1	0.2	0.4	0.8	1.6	3.2	6.3	12.5	25	50											
चिन्ह SYMBOL															संदर्भ / REF. ALT. -				परिवर्तन संख्या ALTERATION. NO.		पर्ण SHEET	1 OF 1	A4