

TENDER SPECIFICATION FOR SET OF NON METALIC PIPE USED FOR WAP-5(BO-BO) ELECTRIC LOCOMOTIVES

**TENDER SPECIFICATION No.
CLW/ES/3/0413 ALT-B**

ENCLOSURES:

1. ANNEXURE- I
2. DRG. NO.
 - a) CLW/ES/3/SK-1/0413
 - b) CLW/ES/3/SK-2/0413
 - c) CLW/ES/3/SK-3/0413

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
NIRANJAN KUMAR Digitally signed by NIRANJAN KUMAR Date: 2023.03.15 11:52:42 +05'30'		
SSE/DRG&DGN (M)	SSE/DRG&DGN (M)	DY. CEE/D/CONV

ALTERATION RECORD SHEET

SL. NO.	DATE OF AMENDMENT	ALTERATION NO.	REASON	AUTHORITY
1.	19/4/2000	A	Qty./Loco for Quadrant fittings has been changed to 5 nos. Instead of 4 Nos. in the scope of supply at sheet no. 6 as per the actual requirement of the shop.	-sd-
2.	28/03/2003	B	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-
3.		C.	DIN-16891 has been replaced by IS:17077 (Part-1) at page no 425 of 6.	

Specifications have been digitized and all alterations have been incorporated

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NIRANJAN KUMAR Digitally signed by NIRANJAN KUMAR Date: 2023.03.15 11:53:55 +05'30'	MANGLES HWAR GIRI Digitally signed by MANGLESHWAR GIRI Date: 2023.03.29 17:31:35 +05'30'	SYAMA PRASAD PATRA Digitally signed by SYAMA PRASAD PATRA Date: 2023.03.29 17:53:33 +05'30'
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SPECIFICATION FOR SET OF NON-METALLIC PIPE USED FOR
WAP-5 (BO-BO) ELECTRIC LOCOMOTIVES

INDEX

1. **SCOPE**
2. **CLIMATE AND ENVIRONMENT CONDITION**
3. **STANDARD**
4. **TECHNICAL DATA**
5. **TEST**
6. **DRAWING**
7. **SCOPE OF SUPPLY.**

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NIRANJAN KUMAR <small>Digitally signed by NIRANJAN KUMAR Date: 2023.03.15 11:54:46 +05'30'</small>		
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SPECIFICATION FOR SET OF NON METALLIC PIPE USED FOR THREE PHASE,5000 H.P
WAP-5(BO-BO) A.C LOCOMOTIVE

1. SCOPE:

This specification applies to smoke detector assembly pipe for 3-phase, 6000 H.P WAP-5 class locomotive for ,25KV AC 50HZ system.

2. Climate and environmental conditions:-

* Maximum atmospheric temperature : Under Sun : 70°C and 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/hr 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.

*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:-

Materials:- As per ~~DIN-16891~~ of Aerylonitrile –Butadiene - Styrene (4BS) d25 x 1.95.

IS: 17077 (Part 1)

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NIRANJAN KUMAR Digitally signed by NIRANJAN KUMAR Date: 2023.03.15 11:55:17 +05'30'	MANGLES HWAR GIRI Digitally signed by MANGLESHWAR GIRI Date: 2023.03.29 17:32:20 +05'30'	SYAMA PRASAD PATRA Digitally signed by SYAMA PRASAD PATRA Date: 2023.03.29 17:54:13 +05'30'
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4.1 Socket Fittings:- IS: 17077 (Part-1)

As per ~~DIN-16891~~ of Aerylonitrile -Butediese - styrene (4BS) d25 x 1.95.

Details description has given in the Annexure - I and Drawing no. CLW/ES/3/SK-1/0413 & CLW/ES/3/SK-2/0413

Quantity per Loco :- 8 Nos.

4.2 Quadrant Fittings d-25 :- IS: 17077 (Part-1)

As per ~~DIN-16891~~ of Aerylonitrile -Butediese-styrene (4BS) d25 x 1.95.

Details description has given in the Annexure -1 and Drawing No. CLW/ES/3/SK-1/0413 & CLW/ES/3/SK-2/0413

Quantity per Loco :- 4 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.

Details description has given in the Annexure-1 and Drawing No. CLW/ES/3/SK-1/0413 & CLW/ES/3/SK-2/0413

Quantity per Loco :-1 Nos.

5. TEST:- As per Relevant IS & IEC Standard.**6. DRAWING:**

- Details description has given in the Annexure-1 and Drawing No CLW/ES/3/SK-1/0413 of smoke detector pipe.
- Details description of socket fittings , Quadrant fitting and T-Fittings in the drawing No. CLW/ES/3/SK-2/0413 , Fig. a, b, c respectively.
- Description of smoke detector pipe in the drg. No. CLW/ES/3/SK-3/0413 .

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NIRANJAN KUMAR Digitally signed by NIRANJAN KUMAR Date: 2023.03.15 11:56:04 +05'30'	MANGLES HWAR GIRI Digitally signed by MANGLESHWAR GIRI Date: 2023.03.29 17:32:47 +05'30'	SYAMA PRASAD PATRA Digitally signed by SYAMA PRASAD PATRA Date: 2023.03.29 17:54:33 +05'30'
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ANNEXURE-I**7. SCOPE OF SUPPLY:-**

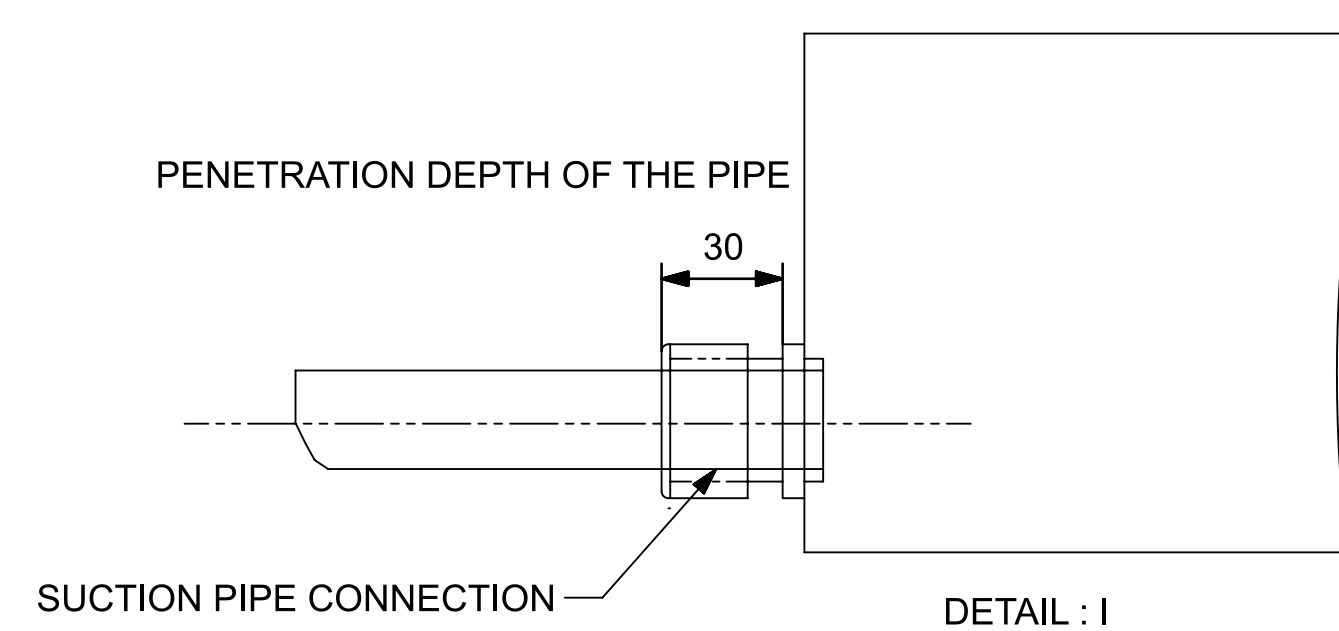
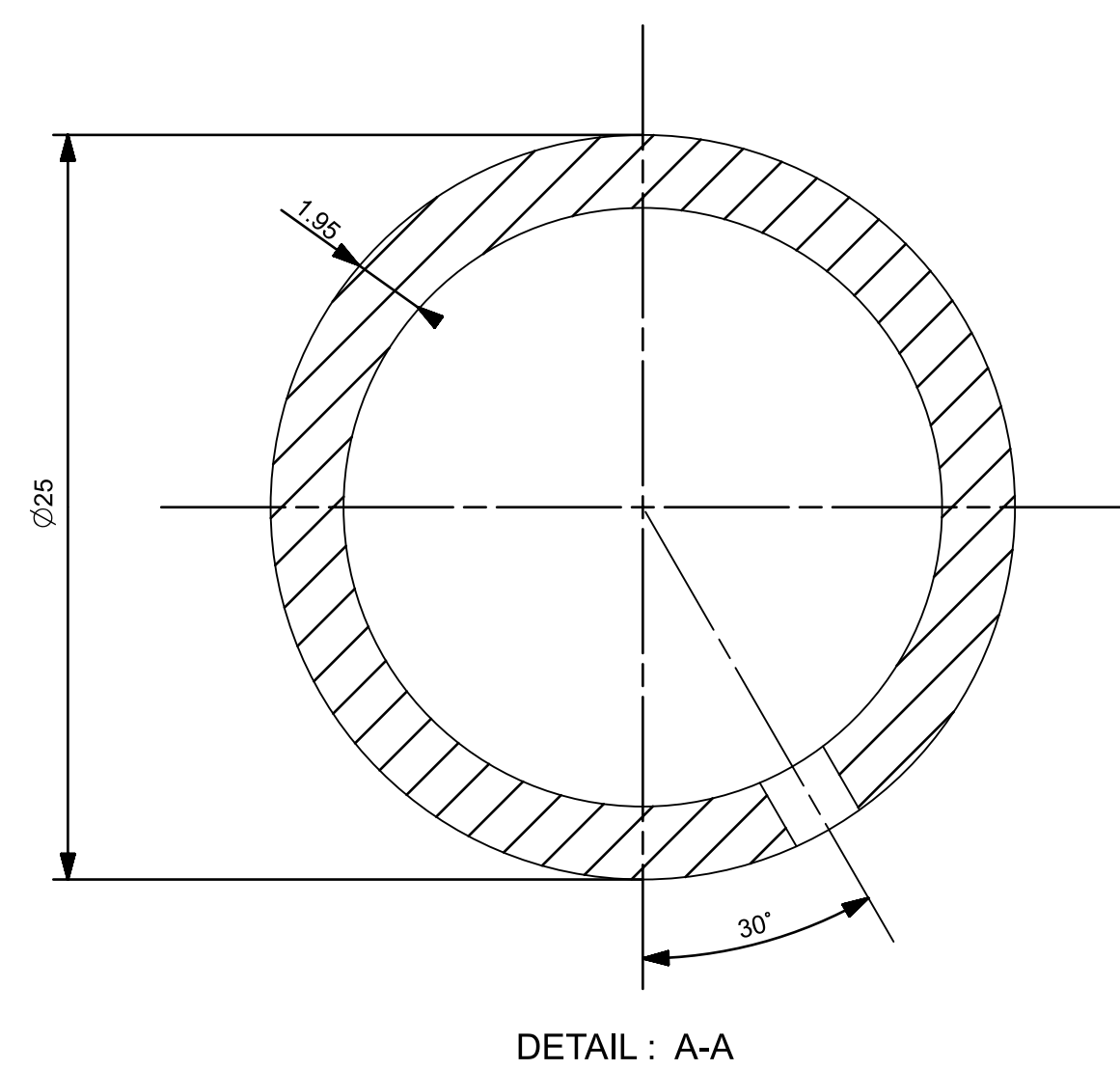
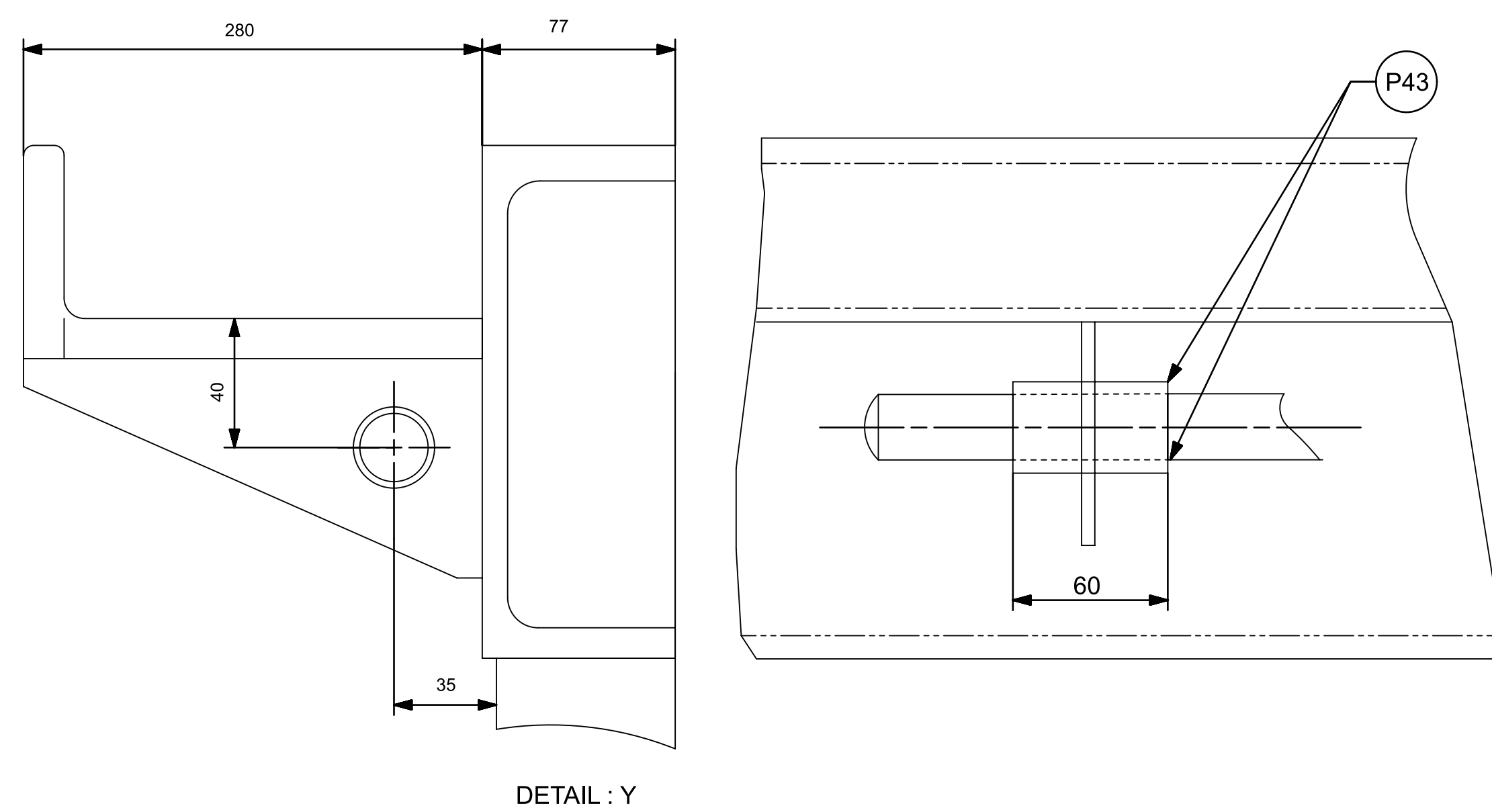
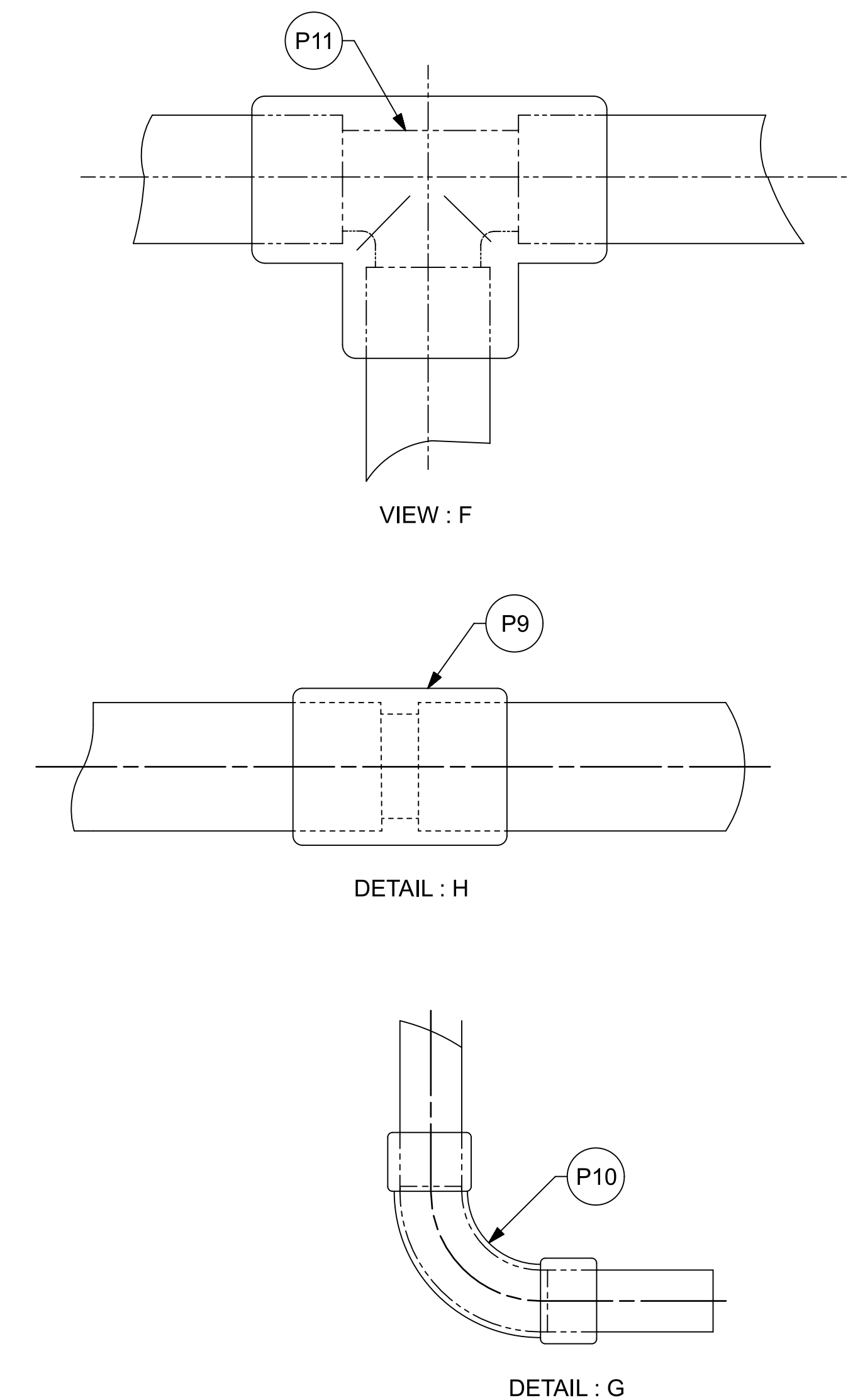
<u>Description</u>	<u>ABB Identity No.</u>	<u>Ref.Drg. No.& Item no.</u>	<u>Qty/Loco</u>
Socket Fitting d=25	- 3EHP 431362 P0002	SK-2, Fig-a	8
Quadrant Fitting d=25	- 3EHP 431362 P0010	SK-2, Fig-b	5
T-Fitting 90 DEG d=25	- 3EHP 431362 P0018	SK-2, Fig-c	1
Pipe/L = 5000	- 3EHP 431363 P0012	SK-1, P-12	4
Pipe/L = 1210	- 3EHP 431363 P0013	SK-1, P-13	1
Pipe/L = 580	- 3EHP 431363 P0014	SK-1, P-14	1
Pipe/L = 1610	- 3EHP 431363 P0015	SK-1, P-15	1
Pipe/L = 1140	- 3EHP 431363 P0016	SK-1, P-16	1
Pipe/L = 640	- 3EHP 431363 P0018	SK-1, P-18	1
Pipe/L = 240	- 3EHP 431363 P0019	SK-1, P-19	1
Pipe/L = 1480	- 3EHP 431363 P0020	SK-1, P-20	1
Pipe/L = 1260	- 3EHP 431363 P0021	SK-1, P-21	1
Pipe/L = 1000	- 3EHP 431363 P0024	SK-1, P-24	1
Pipe/L = 620	- 3EHP 431363 P0025	SK-1, P-25	1
Pipe/L = 730	- 3EHP 431363 P0017	SK-1, P-17	1

NOTE :- Smoke incoming hole of the smoke detector pipe as indicate as in the sk. no.CLW/ES/3/SK-1/0413.

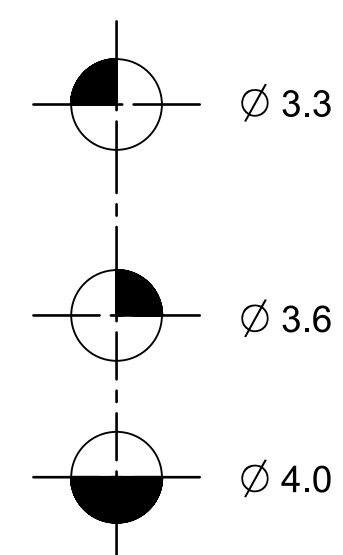
General :- The tenderer should ensure smoke detector pipes are used as similar to WAP-5, 3-Phase electric locomotives manufactured by M/s. ABB for Indian Railways.

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.

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NIRANJAN KUMAR Digitally signed by NIRANJAN KUMAR Date: 2023.03.15 11:56:33 +05'30'		
SSE/DRG&DGN (M)	SSE/DRG&DGN (M)	DY. CEE/D/CONV

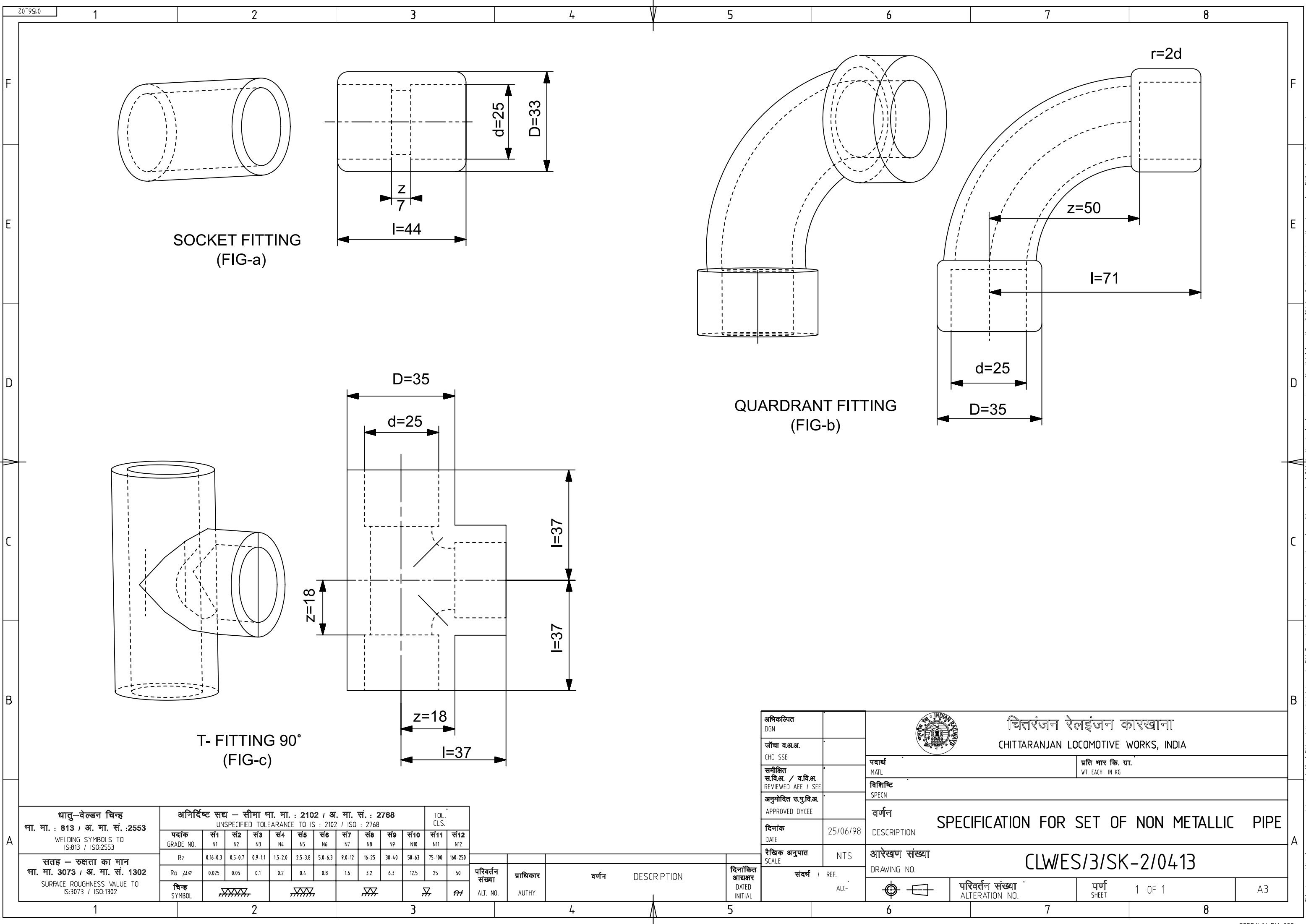


- CONNECTIONS ARE ADHESIVE BONDED P9,P10,P11.



- NOTE:
1. P44 - SCOTCH TAPE
 2. LENGTH=33 M/LOCO
 3. MARK BORES WITH SCOTCH TAPE
 4. LOCATE IT NEXT TO THE BORES.

SEE SHEET 6 & 9[illegible]



SOCKET FITTING
(FIG-a)

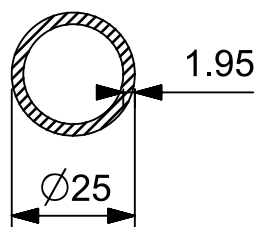
QUARDRANT FITTING
(FIG-b)

T- FITTING 90°
(FIG-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.	सं1 N1	सं2 N2	सं3 N3	सं4 N4	सं5 N5	सं6 N6	सं7 N7	सं8 N8	सं9 N9	सं10 N10	सं11 N11	सं12 N12
	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
सतह — रुक्षता का मान भा. मा. 3073 / अ. मा. सं. 1302 SURFACE ROUGHNESS VALUE TO IS:3073 / ISO:1302	चिन्ह SYMBOL												


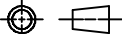
परिवर्तन संख्या ALT. NO.	प्राधिकार AUTHY	वर्णन DESCRIPTION	दिनांकित आधार DATED INITIAL
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अधिकृत DGN		 चितरंजन रेलइंजन कारखाना CHITTARANJAN LOCOMOTIVE WORKS, INDIA	
जोचा व.अ.अ. CHD SSE			
समीक्षित स.वि.अ. / व.वि.अ. REVIEWED AEE / SEE		पदार्थ MATERIAL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



SECTION A-A

	P12	P13	P14	P15	P16	P18	P19	P20	P21	P24	P25	P17
L	5000	1210	580	1610	1140	640	240	1480	1260	1000	620	730

<div><div>अधिकृतित DGN</div><div>जॉचा व.अ.अ. CHD SSE</div></div>														<div><div><div>चिततरंजन रेलइंजन कारखाना CHITTARANJAN LOCOMOTIVE WORKS, INDIA</div></div></div>																					
परिवर्तन संख्या ALT.NO.				प्राधिकार AUTHY				वर्णन DESCRIPTION				दिनांकित बाह्य DATED INITIAL		समीक्षित स.वि.अ. / व.वि.अ. REVIEWED AEE / SEE				पदार्थ MATL				प्रति भार कि. ग्रा. WT. EACH IN KG													
सतह - रुखाता का मान भा. मा. 3073 / अ. मा. सं. 1302 SURFACE ROUGHNESS VALUE TO IS:3073 / ISO:1302				अनिर्दिष्ट सब - सीमा भा. मा. : 2102 / अ. मा. सं. : 2768 UNSPECIFIED TOLERANCE TO IS : 2102 / ISO : 2768				TOL. CLS.				अनुमोदित उ.नु.वि.अ. APPROVED DYCEE				विशिष्ट SPECN				वर्णन DESCRIPTION <div>SPECIFICATION FOR SET OF NON METALLIC PIPE</div>															
धातु-वैल्लन चिह्न भा. मा. : 813 / अ. मा. सं. : 2553 WELDING SYMBOLS TO IS:813 / ISO:2553												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-3/0413									
Ra μm		0.025	0.05	0.1	0.2	0.4	0.8	1.6	3.2	6.3	12.5	25	50	संदर्भ / REF.				ALT. -								परिवर्तन संख्या ALTERATION. NO.				पृष्ठ SHEET		1 OF 1		A4	
चिह्न SYMBOL		