

**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)**

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Signature No. _____
Verified _____
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NIRANJAN KUMAR
Date: 2023.02.16
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Reason: IRIS PS-CRIS
Location: New Delhi

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	1) DIN-16851 deleted from clause no. 4, 4.1.4.2, 24.3 2) Test added in clause no. 5 (Test clause)	
Specifications have been digitized and all alterations have been incorporated.				

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NIRANJAN KUMAR	Digitally signed by NIRANJAN KUMAR Date: 2023.02.16 16:36:59 +05'30'	MANGLES	Digitally signed by MANGLESHWAR GIRI Date: 2023.02.16 16:40:30 +05'30'	SYAMA	Digitally signed by SYAMA PRASAD PATRA
	SSE/DRG&DGN (M)	HWAR GIRI	SSE/DRG&DGN (M)	PRASAD PATRA	Date: 2023.02.27 18:14:49 +05'30'
				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 contractor 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:- ~~★ Deleted~~

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

4.1 **Socket Fittings:-** ~~Deleted~~

As per ~~DIN - 16891~~ of Aerylonitrile - Butadiene - 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:**

As Per ~~DIN - 16891~~ of Aerylonitrile - Butadiene - 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:** ~~Deleted~~

Material :- As per ~~DIN - 16891~~ of Aerylonitrile - Butadiene - 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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5. TEST :-

As per relevant IS & IEG Standard.

- 1) Deleted
 2) Fire retardant (self-extinguishing properties)
 3) Dimensional test as per drawing attached in specification.

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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SSE/DRG&DGN (M)	SSE/DRG&DGN (M)	DY. CEE/D/CONV



