

TENDER SPECIFICATION

NO. : CHWMB/3/062

ALT: ② ③ ④ ⑤ ⑥ ⑦ ⑧

ENCLOSURES :

1. ANNEXURE : A ②

2. DRG. NO. : 1209-01.011-01B, ALT. ③

②

TOTAL NO. OF SHEETS - 5 + ALT. SHEET ① + ANNEX. A ②

ALT:	1	4	5	6	7	
SHEETS:	6	4	10	10	10	10

SPECIFICATION

FOR

SUSPENSION TUBE COMPLETE FOR USE ON
WAG-9 ELECTRIC LOCOMOTIVES

ISSUED BY :

BY: CHIEF ELECTRICAL ENGINEER/CON/TU
CHITTARANJAN LOCOMOTIVE WORKS
P.O. : CHITTARANJAN - 713331
DIST: BURDWAN, WEST BENGAL (INDIA)

PREP.D. BY <i>[Signature]</i>	CHKD. BY <i>[Signature]</i>	REVD. BY <i>[Signature]</i>	APPROVED BY <i>[Signature]</i>	WAG-9 (COO)	D&D CENTRE
CDM	Surst	S.H.E.	BY: CEE/CON/TU	SPECIFICATION FOR SUSPENSION TUBE	CHITTARANJAN LOCO- MOTIVE WORKS CHITTARANJAN-713331 IND. - CHWMB/3/062
				ALT. NO.	⑧

pag

NOTE 2 RT TUBE 204

SEE TABLE 1
 FOR
 CRACK
 CAVITIES
 CRACKS

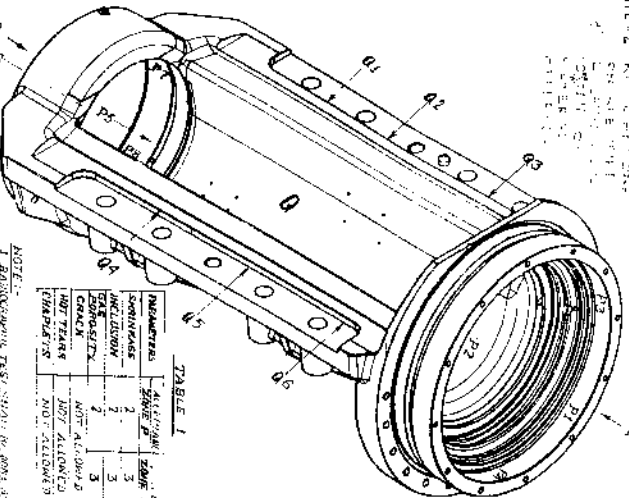


TABLE 1

PARAMETERS	ALLOWED ZONE P	ALLOWED ZONE 2
SPRINTAGE	2	3
INCLUSION	2	3
GAS POROSITY	2	3
CRACK	NOT ALLOWED	NOT ALLOWED
HOT TEARS	NOT ALLOWED	NOT ALLOWED
CHAPCRACKS	NOT ALLOWED	NOT ALLOWED

NOTE 1:

1. RADIOGRAPHIC TEST SHALL BE DONE BY THE
 CENTER 889 95 RADIOGRAPHIC CENTER BE
 EXAMINE TO ASSURE THE CASTING E 186 AS
 PER TABLE 1 MENTIONED ABOVE.

2. RADIOGRAPHIC TEST SHALL BE DONE BY THE
 CENTER 889 95 RADIOGRAPHIC CENTER BE
 EXAMINE TO ASSURE THE CASTING E 186 AS
 PER TABLE 1 MENTIONED ABOVE.

PREPARED BY

S. M. S. S.

APPROVED BY

S. M. S. S.

⑤

H005 CD

(120)

DETAILS OF ALTERATIONS

ALT. NO.	DATE	DESCRIPTION	REASON	SIGNATURE
①	3-6-00	DRG. NO. IN SCOPE OF SUPPLY AGAINST PARA 2 AND ON PAGE 1 WAS 1209-01-011-018. ALTERATION SHEET - 1 ADDED.	ALLIED FITTINGS OF SUSPENSION TUBE ADDED IN THE DRAWING WHICH WERE THE ITEMS OF M.S.D.A. COMPONENTS EARLIER.	<i>[Signature]</i> 26-9-01
②	26-4-01	DRG. NO. IN SCOPE OF SUPPLY AGAINST PARA 2 AND ON PAGE 1 WAS 1209-01-011-018 ALT. 4.	DRG. RETRACED, BROUGHT UP TO DATE & SEC. 'CC' ADDED.	<i>[Signature]</i> 29/02/12
③	1-2-02	DRG. NO. ON COVER PAGE AND IN CLAUSE 2 OF PAGE No. 2 WAS 1209-01-011-018, ALT. 6.	DRG. HAS BEEN ALTERED TO ACHIEVE THE PROPER QUALITY OF HARDWARES.	<i>[Signature]</i> 24/4/12
④	28-3-10	ANNEXURE - A & PARA 7-3 C) ADDED FOR GUIDELINE TO RADIOGRAPHIC TEST. ALT. NO. WAS 7 IN DRG. NO. 1209-01-011-019	GUIDELINE TO RADIOGRAPHIC TEST ADDED. ALT. NO. OF DRG. UPDATED.	<i>[Signature]</i> 24/4/12
⑤	27-7-11	NOTE 2 OF ANNEX - A UPDATED AS 100% RADIOGRAPHY TEST TO BE DONE.	TO PREVENT FAILURE	<i>[Signature]</i> 24/4/11
⑥	11-7-12	NOTE 2 OF ANNEX - A REVERTED AS 10% RADIOGRAPHY TEST TO BE DONE. VIDE APPROVAL LETTER No. EL/13-10-3 DT. 24-10-2011.	TO MAINTAIN STATUS QUO.	<i>[Signature]</i> 24/4/12
⑦	28-8-12	NOTE 2 OF ANNEX - A MENTIONED AS 100% RADIOGRAPHY TEST TO BE DONE VIDE NO. APPROVAL LETTER 16 DT. 18-12-2012 AND CORR. 17 DT. 21-12-2012.	TO PREVENT FAILURE.	<i>[Signature]</i> 27/12
⑧	9-6-15	NOTE-2 OF ANNEX-A REVERTED AS 10% (TEN) RT TO BE DONE VIDE APPROVAL NOTE NO. ELDD/3751/MT/62 DT. 6-6-15.	TO MAINTAIN STATUS QUO.	<i>[Signature]</i> 05/04/15

PREP. BY	CHECK BY	REVIEWED BY	APPROVED BY	WAG-9 (COC)	CENTRE for D & D
				SPECIFICATION FOR SUSPENSION TUBE	CHITTARANJAN LOCOMOTIVE WORKS
					CHITTARANJAN-713331
					NO. CLW/MS/3/052
					ALT NO. 6100

The inspecting authority of the purchaser shall have access to the master of manufacturer at all times during material turn. He shall be free to inspect the material there at any stage, to reject any material which is not conform to the terms of the quotation.

As the test values obtained on the test bar, in any secondary program, the properties of the castings themselves, following additional tests shall be carried out to improve the standard of the castings.

1) Drop test: This will be done by drop test and in tensile type test. No sign of fracture shall appear.

2) Falling weight test: This will be done by falling weight test method. No fracture shall appear external or internal in the quality of thickness.

3) Impact strength test: This shall be done in accordance with 1541957. The values shall conform to those specified in the specification indicated on the relevant drawing.

NON-DESTRUCTIVE TEST :

1) Castings shall be subjected to radiographic or other method of non-destructive inspection.

2) When castings are tested by ultrasonic method, reference stands shall be in accordance with 1541957.

3)

Castings or sub-components shall be in accordance with clause of the relevant DIN Specimen No. 1693 mentioned on the relevant drawing.

4) Sample of the casting shall be inspected by the authorized representative of the purchaser for its physical properties test.

Prototype inspection shall be carried out after clearance of test indicated at para 7.5.

Any testing and approval of the prototype sample by the purchaser shall in no way absolve the supplier of his responsibility under the terms of contract for the items supplied.

Final inspection of the casting shall be carried out after approval of prototype sample by the authorized representative of the purchaser.

The inspecting authority shall affix his stamp and on the material passed by him.

REMARKS TO BE SUPPLIED :

REPRODUCTION, REVISED, APPROVED BY : (MAG-5/COCO)

BY : (Signature)

BY : (Signature)

BY : (Signature)

BY : (Signature)

BY : (Signature)

BY : (Signature)

BY : (Signature)

BY : (Signature)

BY : (Signature)

BY : (Signature)

BY : (Signature)

DEPT. SECRETARY (COO)

CHIEF ENGINEER (COO)

CHIEF ENGINEER (COO)

CHIEF ENGINEER (COO)

CHIEF ENGINEER (COO)

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CHIEF ENGINEER (COO)

- 8.1 The tenderer shall furnish following informations along with their offer;
- Facilities available for casting and machining, testing of castings including non-destructive testings etc.
 - List showing similar types of castings produced by them along with copies of drawings and the address of customers.
- 8.2 The manufacturer shall produce the records of all tests carried out by them along with tested sample to the inspecting authority at the time of the offered lot.
- 8.3 Certificate of physical property test shall be supplied by the manufacturer along with each supply.
9. **WORKING :**
- Each castings shall be legibly and indelibly marked as follows;
- Material specification and grade
 - Manufacturer's initial or trade mark
 - Year and month of manufacture
 - Weight of the machined tube
10. **GARANTEE :**
- The suspension tube shall be guaranteed the supplier for five years of its entering into revenue service or six years of its supply whichever is earlier, for its manufacturing defects, satisfactory service performance and any failure.
11. **PACKAGING AND DELIVERY :**
- The finish machined suspension tube shall be prepared and packed in such a way as will protect them from damage of machined surfaces or any breakage.
12. **REFERENCE :**
- 12.1 The suspension tubes used by M/s. ABB Transportation for EMB-9 Class (EM-02) electric locomotives are supplied by:-
- M/s. ABB VERKEHRSTECHNIK GmbH
P.O. Box. 57, 80051 WEM BÄBELSCH, GERMANY
12. **TYPE :**
- ABB Dwg. No. IN 011-00265

PREPARED BY S. S. Sharma	CHD. PREPARED BY S. S. Sharma	APPROVED BY [Signature]	NO. 9 (C000)	DRG. CENTRE CHITTOORGAN LODG. MOTIVE POWER CHITTOORGAN-713004 IND. ADDRESS-500002 TEL. NO. 2742000
CDM	Suppt. Engg.	BY CEE/BON/TU	SPECIFICATION FOR SUSPENSION TUBE	18.11.77