

INDIAN RAILWAYS



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PARTICULAR SPECIFICATION

FOR

BOGIE COVERED FLY ASH /CEMENT WAGON TYPE "BCFC"

BROAD GAUGE –1676MM

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INDIAN RAILWAYS
PARTICULAR SPECIFICATION FOR
BOGIE COVERED FLY ASH/CEMENT/ WAGON TYPE 'BCFC'

1.0 SCOPE :

- 1.1 This specification covers the particular requirements for the manufacture and supply of Broad Gauge Bogie Fly Ash/Cement/Alumina Wagon Type 'BCFC' strictly to the relevant drawings of relevant wagon out lined in RDSO index drawing No. WD-07054-S-01 (latest alteration), General Standard Specification No.G -72 (latest revision) and G-110 which can be had from Director General, RDSO, Lucknow 226011. These wagons shall be supplied complete in all respects.
- 1.2 In case of any contradiction in the various clauses of the present specification/drawings, General Standard Specification G-72 (latest revision), G-110 the most stringent requirement will be applicable.
- 1.3 Latest alteration of all drawings and amendment/revision of all specifications referred to in this specification shall be applicable at the time of manufacturing of wagons, unless otherwise permitted by the Purchaser/Engineers.

2.0 DEFINITIONS :

Definition of Purchaser, Engineer, Inspecting officer and Contractor etc. are as per tender document and as defined in General Standard Specification No. G-72 (Latest Rev.)

3.0 STANDARD SPECIFICATION:

For manufacture of these wagons latest issue of relevant RDSO specifications / IS shall be confirmed unless otherwise specified herein.

4.0 USE OF ALTERNATIVES:

Certain alternatives showing different methods of manufacture or use of alternative materials, which are technically permissible, have been indicated. Wherever such alternative use has been permitted, the tenderer must quote separately for the alternatives.

5.0 PARTICULAR REQUIREMENTS :

- 5.1. **Leading Particulars of the Wagon:** The wagon shall be equipped with Bogie, Coupler, Draft gear, Air brake system, Air Fludizing discharge system, and various valves . Details of these components shall be as per relevant drawings detailed in Drg. No. WD-07054-S-01 (latest revision) and G-110 of tendered design.
- 5.2. **Special Features:** All leading particular of the wagon, details of plenum chamber, Operating pressure, Test pressure, Inlet valves, Outlet valves, Loading Unloading method, Properties of commodities to be transported are provided in the relevant drawing of the wagon out lined in RDSO index drawing No. WD-07054-S-01 (latest alteration) and General Standard Specification no G-110.

6.0 WELDING :

General requirements and comprehensive guidance with regard to edge preparation, fit up for welding, welding procedure and inspection of welded joints are contained in relevant Clause of General Specification No. G-72 (latest revision).

7.0 PAINTING AND MARKINGS :

- 7.1 The wagon shall be painted as detailed in relevant Clause of General Standard Specification No.G-72 (Latest Rev) and as per marking diagram.
- 7.2 The marking on the wagon shall be as indicated in relevant drawings detailed in Drawing No WD-07054-S-01 (latest revision) of the tendered design.

8.0 TESTING :

- 8.1 Testing shall be carried out as per QA guidelines no. QM-G-8.1-5 (Latest revision). As per QA guidelines three pattern wagons shall be manufactured by contractor. One of them shall be assembled, painted and lettered complete in all respect. Second of them shall be unpainted but completed in all respect. Third of them the underframe, body side, body end, roof , slide plate assembly etc. are bolted/tacked and kept on respective fixtures.
- 8.2 The unpainted 'Pattern Wagon' shall be taken for carrying out different tests. This wagon will be squeeze load tested at the premises of the manufacturer in consultation with engineers.
- 8.3 The same wagon shall also be tested under loads as detailed in relevant Clause of General Standard Specification No. G-72 (latest revision). Clearances between various members on under frames and bogies measured under tare, fully loaded, over loaded and under no load conditions, certified by the Inspecting Officers, shall be submitted to the engineers by the Contractor.
- 8.4 The performance of air brake equipment's of each wagon shall be tested with single wagon test as per relevant proforma to be obtained from RDSO.
- 8.5 Every wagon shall be subjected to shower test. Duration of shower test shall be 20-30 minutes. In case of leakage, the wagon shall be repaired and rechecked again. For other details refer RDSO Drg. No. WD-04007-S-01.
- 8.6 Discharge test (measurement of time duration to discharge loaded wagon completely) shall be conducted on pattern wagon. The wagon should be loaded by either fly-ash or cement. The wagon shall completely discharges within 10 minutes.
- 8.7 Any modification arising out of squeeze load test shall have to be carried out by the manufacturers. It is only after approval of the prototype, series production of wagon shall be taken in hand.

9.0 WARRANTY/ GUARANTEE :

- 9.1 The Contractor shall guarantee the satisfactory performance of the wagons supplied under the contract for a period of 30 months from date of delivery or 24 months from the date of commissioning, whichever is earlier. However, for certain other subassemblies & bought out items, Guarantee periods shall be as specified in their individual specifications. For the items whose guarantee is not specified anywhere, standard provisions as per as per Clause 5 of the G-72 (latest Revision) shall be applicable.
- 9.2 If during such period any defect appears or if the quality of the material becomes unsatisfactory under conditions of reasonable service and if such defects or deterioration will have been caused by the use of defective design or using unsuitable material or bad workmanship in the manufacture, the Contractor shall arrange to repair and replace, as soon as possible and at the Contractor's own cost (including all transport charges), such replacements or additional materials or parts as are necessary.
- 9.3 Further should any design modification be required to be made in any part of the equipment, the period of 24 months would commence from the date when the modified part is commissioned in service. However, for certain other sub-assemblies and bought out items, the period of guarantee for replaced part shall be as specified in the individual specification of the item /sub-assembly.

10.0 INSPECTION :

- 10.1 The inspection of the wagon with all its fittings is to be carried out by RDSO Wagon Inspection Directorate as per Quality Assurance Plan duly approved by RDSO and other documents, as applicable. The Wagon Manufacturer will provide all the facilities to the Inspecting Officer.
- 10.3 In case of dispute between the manufacturer and the inspector regarding the interpretation of any clause/ clauses of this specification, the decisions of the 'Engineers' will be final and binding on the parties..

11. DISPUTE REGARDING INTERPRETATION :

In case of dispute between the manufacturers and the purchase regarding the interpretation of any clause/clauses of this specification, the decisions of the 'Engineers' will be final and binding on both the parties.