

1824
3-31
2/6
फैक्स : 0535-2424 RDSO-IN

फैक्स : 91-0522-458500

तार : रेलमानक लखनऊ

Telegram : 'RAILMANAK', Lucknow

टेलीफोन/Tele : 451200 (PBX)
450115 (DID)

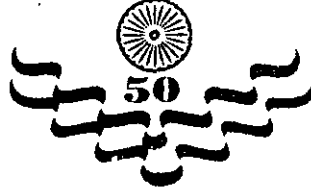


SN 1864

भारत सरकार - रेल मंत्रालय
अनुसंधान अभिकल्प और मानक संगठन
लखनऊ - 226011

Government of India-Ministry of Railways
Research Designs & Standards Organisation
LUCKNOW - 226011

No. MC/MT



Dated: 26-5-99

The General Manager (Engg):

Pr. Sec SN 1870, 1915, 1960, 1962
1961.

2532-2561085

1. Central Railway, CST, Mumbai 400001.
2. Northern Railway, Baroda House, New Delhi-110001.
3. Western Railway, Churchgate, Mumbai - 400020.
4. North Eastern Railway, Gorakhpur - 273012.
5. Northeast Frontier Railway, Maligaon, Guwahati - 781011.
6. Southern Railway, Park Town, Chennai - 600003.
7. South Central Railway, Secunderabad - 500371.
8. South Eastern Railway, Garden Reach, Calcutta - 700043.
9. Eastern Railway, Fairlie Place, Calcutta - 700001.

Sub: Final maximum permissible speed certificate for
40,000 litres / 9000 gallons capacity B.G. Bogie
Milk Tank Van, Type VVN, for operation on track
maintained to standards as specified in RDSO
Report No. C&M-I (Vol. I).

1. Broad Gauge Bogie milk tank van, type VVN, has been developed for bulk transport of milk. The milk tank van consists of an insulated stainless steel cylindrical tank with capacity to carry 40,000 litres (9000 gallons) of milk, supported on 12.8 meters long underframe and is provided with all coil ICF built coaching bogies. The gross weight of the milk tank van is 74.9 t with a maximum axle load of 18.725 t. The leading particulars are given in Sketch No. 76143, Alt.1 (copy enclosed).
- 1.1 The underframe of the milk tank van is of rivetted construction using rolled steel sections. The bogies are similar in construction to the ICF all coil BG-EMU motor coach bogies, with coil springs for the primary and secondary suspensions. Telescopic dashpot arrangements are provided in the primary suspension and double acting hydraulic dampers of 900 kg. at 10 cm/sec. capacity are provided in the secondary suspension. The design of secondary suspension characteristics have been modified as per drawing No. CONTR-9013-S/2 to suit the tare/gross load requirements and to improve the speed potential.
2. In order to assess the speed potential and riding quality of the milk tank van detailed oscillation trials upto a maximum test speed of 120 kmph were conducted on Ahmedabad-Vadodara section of Western Railway, the results of which are contained in RDSO's Report No. MT-61 of September, 1996. The results have indicated satisfactory riding characteristics of the milk tank van upto

the maximum test speed of 120 km/h, on track maintained to standards as specified in RDSO Report No. C&M-I (Vol.I).

3. Based on the above, it is certified that BG bogie milk tank van type VVN with modified suspension to Drg. No. CONTR-9013-S/2 may be permitted to run at a maximum speed of 110 km/h subject to the following conditions:

3.1 Track

- 3.1.1 The track shall be to a maximum standard of 52 kg rails on sleepers to M+7 density and depth of ballast cushion below sleepers of 250 mm which may consist of at least 100 mm clean and the rest in caked up condition, on compacted and stable formation.
- 3.1.2 The track maintenance shall be in accordance with the recommendations contained in RDSO Report No. C&M - I (Vol. I). In this connection, the instructions for the maintenance of track on high speed routes circulated to the Railways under RDSO's DO letter No. CRA/509 dated 7-7-1971 and approved by Railway Board vide their letters No. 71/W6/HS/8 dated 27-8-1971 and No. 71/W6/HS/1 dated 21-10-1971 should also be followed.
- 3.1.3 For track of lower standard than that mentioned above the Chief Engineer concerned shall decide the lower maximum permissible speed. In this connection Railway Board's letter No. 65/WDO/SR/26 dated 19/20-10-1966 may be seen. When the Chief Engineer considers that the road bed is not compacted or there is improper drainage, he may suitably restrict the maximum permissible speed depending on the local conditions.
- 3.1.4 The maximum permissible speed on curves shall be decided on the basis of the existing provisions of the Indian Railway Permanent Way Manual, 1986. Higher speeds may, however, be permitted subject to the maximum cant deficiency not exceeding 100 mm and the rate of change of cant and cant deficiency not exceeding 55 mm per second.

3.2 Bridges

- 3.2.1 The clearance in regard to bridges refers to standard design of girders, slabs, pipe, culverts, pier and abutments etc, issued by RDSO for BGML, RBG & MBG-1987 standard loadings.
- 3.2.2 All other designs of superstructures and sub-structures are to be examined under the direction of the Chief Engineer concerned and certified safe by him in terms of current IRS Bridge Rules, Steel Bridge Code, Bridge sub-structure and Foundation Code etc. read with upto date correction slips.
- 3.2.3 The clearance is subject to the following parameters:

Max. axle load = 18.725 t
TLD = 5.32 t/m
Max. BF = Not exceeding 10% of axle load

3.3 Signalling

3.3.1 Provision of GR, SR, SEM and all extant instructions issued from time to time shall be complied with.

3.4 General

3.4.1 All the permanent and temporary speed restrictions in force and those that may be imposed from time to time due to track, bridges, curves, signalling and interlocking etc. should be observed.

3.4.2 The milk tank van to RDSO Sketch No. 76143 Alt. 1 infringes the Schedule of Standard Dimensions (B.G.) in respect of Item 16, Chapter IV (A). This infringement has, however, been condoned by the Railway Board vide their letter No. 67/WDO/SD/8 dated 24-6-67.

DA: RDSO Sketch
No. 76143 Alt.1

P. Bhattacharya
(P. BHATTACHARYA)
Executive Director Stds. (Motive Power)

Copy to:

I. The General Manager (Mech./Optg.):

1. Central Railway, CST, Mumbai 400001.
2. Northern Railway, Baroda House, New Delhi-110001.
3. Western Railway, Churchgate, Mumbai - 400020.
4. North Eastern Railway, Gorakhpur - 273012.
5. Northeast Frontier Railway, Maligaon, Guwahati - 781011.
6. Southern Railway, Park Town, Chennai - 600003.
7. South Central Railway, Secunderabad - 500371.
8. South Eastern Railway, Garden Reach, Calcutta - 700043.
9. Eastern Railway, Fairlie Place, Calcutta - 700001.

II. The Secretary (Engg./Mech.), Railway Board, Rail Bhavan, New Delhi.

P. Bhattacharya
(P. BHATTACHARYA)
Executive Director Stds. (Motive Power)

o/c

SO/NC

Pl. name.

ca
2/6