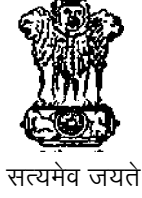


फैक्स / Fax : 91-0522-2452494
तार : 'रेलमानक' लखनऊ
Telegram : 'RAILMANAK'
Lucknow
टेलीफोन / Tele: 2451200 (PBX)
2465775 (DID)



भारत सरकार –रेल मंत्रालय
अनुसंधान अभिकल्प और मानक संगठन
लखनऊ – 226011
Government of India - Ministry of Railways
Research Designs & Standards Organisation
Lucknow – 226011

No. MW/BOBRN

Date:07.04.2008

The General Manager (Engg.)

1. Northern Railway, Baroda House, New Delhi – 110 001.
2. Central Railway, Chhatrapati Shivaji Terminus, Mumbai – 400 001.
3. Eastern Railway, Fairlie place, Kolkata – 700 001.
4. Western Railway, Churchgate, Mumbai – 400 020.
5. Southern Railway, Park Town, Chennai – 600 003.
6. South Central Railway, Rail Nilayam, Secunderabad – 500 071.
7. South Eastern Railway, Garden Reach, Kolkata – 700 043.
8. North Eastern Railway, Gorakhpur – 273 001.
9. North East Frontier Railway, Maligaon, Guwahati – 781 011.
10. East Central Railway, Hajipur – 844 101.
11. North Central Railway, Allahabad – 211 001
12. North Western Railway, Jaipur – 302 006.
13. South Western Railway, Hubli – 580 023.
14. East Coast Railway, Railway Complex, Bhubaneswar – 751 023.
15. West Central Railway, Jabalpur – 482 001.
16. South East Central Railway, Bilaspur – 495 004.

Sub : Provisional Speed Certificate for 22.32t axle load (CC+6t+2t) broad gauge bogie open rapid bottom discharge coal hopper wagon type BOBRNHSM1.

- 1.0** Vide Railway Board's letter No. 2004/CE-II/TS/2/Vol.I dated 2.2.2006 & 15.02.2006, directives have been issued to increase the loading of BOBRN wagon from CC to CC+6t+2t on certain specified routes of Indian Railways, for loading 'E', 'F' and inferior grade coal in order to increase the throughput per rake. This loading is equivalent to 22.32 t axle load.
- 1.1** This broad gauge bogie open rapid bottom discharge coal hopper wagon type BOBRNHSM1 with modified bogie suspension having maximum axle load of 22.32 t is same as existing 20.32 t axle load BOBRNHS wagon except its bogie suspension. All dimensions, bogie particulars, purpose etc. are same. The leading particulars of BOBRNHSM1 wagon are indicated in RDSO drg. no.WD-91071-S-01 alt. 8.

1.2 BOBRNHS wagon with axle load of 20.32 t is permitted to run upto a maximum speed of 100 kmph both in empty and loaded conditions vide speed certificate no. MW/BOBRN dated 19.07.2006.

2.0 Based on the above, the BOBRNHSM1 wagon with axle load of 22.32 t on the routes mentioned in Railway Board's letter no 2004/CE-II/TS/2/Vol. I dated 02.02.2006 and 15.02.2006, and other such routes may be permitted to run up to a maximum speed of 65 kmph when empty and 60 kmph when loaded. Following additional conditions, in addition to those specified in speed certificate in para 1.2 above shall also apply :

2.1 Track

2.1.1 (a) Maximum permissible speed up to 60 kmph :

The track shall be to a minimum standard of 52Kg rail (72UTS) on sleeper with M+7 density and minimum depth of ballast cushion below sleepers of 250mm, which may consist of at least 100mm clean and the rest in caked up condition on compact and stable formation.

(b)Maximum permissible speed up to 30 kmph :

The track shall be to a minimum standard of 90R rail on sleeper with M+4 density and minimum depth of ballast cushion below sleepers of 200mm, which may consist of at least 75mm clean and the rest in caked up condition on compact and stable formation.

2.1.2 Wherever condition warrant on account of corrosion on rail/weld collar, wear of rail, cupping in the welds necessary precautions should be taken for fish plating/joggle fish plating of the rail/weld.

2.1.3 Zonal Railways may impose such further restrictions of speed as deemed fit, based on the age and condition of track and the extent of rail fractures/weld failures/defect generation rate occurring in the sections.

2.1.4 In empty condition – The track shall be to a minimum standard of 90 R rail on sleeper with M+4 density and minimum depth of ballast cushion below sleeper of 200 mm, which may consist of at least 75 mm clean and the rest in caked up condition on compact and stable formation – **Maximum permissible speed up to 65 kmph.**

2.1.5 The maximum permissible speed on curves to be decided on the basis of the existing provision of Indian Railway Permanent Way Manual reprint – 2004.

2.1.6 For track maintained to lower standard than that mentioned above, the Chief Engineer shall decide the lower maximum permissible speed on the basis of

maintenance condition. 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 upon the local conditions.

- 2.1.7 Besides, USFD testing of rail as per USFD Manual testing of rail head for detection of gauge face corner defects shall be undertaken at the frequency specified for need based concept in USFD Manual.

2.2 Bridges

- 2.2.1 The clearance refers to bridges with standard designs of girders, slabs, pipe culverts, piers and abutments etc. issued by RDSO for BGML, RBG and MBG-1987 standard loadings. However, the bearings of span 78.8 m (effective) designed for BGML standard loading as per RDSO's drawing No. BA-11154 should be strengthened by providing two additional anchor bolts.
- 2.2.2 Superstructures & bearings of non-standard spans including Arches and sub-structures of all bridges are to be examined under the directions of the Chief Bridge Engineer concerned and certified safe by him in terms of current IRS Bridge Rules, Steel Bridge Code, Concrete Bridge Code, Arch Bridge Code, Bridge Sub-structures and Foundation Code etc. read with up-to-date correction slips.
- 2.2.3 Zonal Railways to certify adequacy of existing bridges for permitting rolling stock based on physical condition of bridges by keeping them under observations considered necessary by the Chief Bridge Engineer of Railway.
- 2.2.4 Location of bridges on which speed restrictions are imposed shall be notified by the Railways and incorporated in the working timetable.
- 2.2.5 (a) In loaded condition, all standard spans of BGML, RBG and MBG-1987 are restricted to 40 kmph.
- (b) For single-headed operation in loaded condition, track on bridges and approaches of BGML 78.8 m (effective) shall be strengthened or modified in such a way so as to allow for dispersion of longitudinal force as per clause 2.8.3.2 of IRS Bridge Rules. In cases where dispersion cannot be allowed as per Clause 2.8.3.2 such as due to provision of SEJ in bridges etc., the bridge superstructure including bearings and sub-structure shall be checked for longitudinal force without dispersion and certified safe by the Chief Bridge Engineer concerned.
- (c) For double-headed operation in loaded condition, track on bridges and approaches of BGML spans 47.3m, 63.0m and 78.8m (all effective) shall

be strengthened or modified in such a way so as to allow for dispersion of longitudinal force as per clause 2.8.3.2 of IRS Bridge Rules. In cases where dispersion cannot be allowed as per Clause 2.8.3.2 such as due to provision of SEJ in bridges etc., the bridge superstructure including bearings and sub-structure shall be checked for longitudinal force without dispersion and certified safe by the Chief Bridge Engineer concerned.

2.2.6 Specific restrictions are applicable as mentioned in relevant Speed Certificates of hauling single/multiple locomotives/attached wagons issued by RDSO.

2.2.7 The clearance is subject to the following parameters of BOBRNHSM1 wagon :-

- (i) Maximum axle load (loaded) - 22.32t.
- (ii) Maximum axle load (Empty) - 6.4t
- (iii) Maximum C.G height from Rail level (loaded) - 2390 mm
- (iv) Maximum C.G height from Rail level (Empty) - 1120 mm
- (v) Maximum braking force at rail level per axle - 10 % of axle load

2.2.8 The directives of RDSO for operation of CC+8+2t & CC +6+2t axle load 22.82t & 22.32 t communicated vide RDSO letter No. CBS/Golden/Q/Strength dated 20.03.2007 shall also be followed.

2.3 Signalling

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

2.3.2 The condonation regarding infringements in schedule of dimensions shall be obtained in accordance with local conditions before movement.

2.3.3 On the sections where EBD of more than 1Km. is to catered for, second distant signal or automatic signaling should be available failing which suitable speed restriction is to be imposed.

2.4 Rolling Stock

2.4.1 Before initiating the movement, CME of the railway will certify the track worthiness and safety of the rolling stock.

2.4.2 For movement of wagon on any private or assisted siding for loading or unloading the consignments, the Chief Engineer of Railway shall be referred to.

2.5 General

2.5.1 All the permanent and temporary speed restriction enforced and those that may be imposed from time to time due to track, bridges, curves, signaling and interlocking etc shall be observed.

- 2.5.2 While loading the wagon, it shall be ensured that coal heap does not infringe with revised maximum moving dimension diagram no. 1D (EDO/T-2202) of IRSOD, Revised 2004.
- 2.5.3 Conditions stipulated in the Railway Board's letter no. 2005/CE-II/TS/7 dated 01-05-06 for operation of 22.32 t (CC+6t+2t) axle load shall continue to apply.
- 2.5.4 The design of the wagon infringes clause 13(b) of Chapter IV (A) and the profile for the Maximum Moving Dimensions of 1929 as shown in diagram 1A and others of the BG Metric Schedule of Dimensions-1973. Similar infringements are observed for the newly revised IRSOD, 2004. These infringements have been condoned by Railway Board vide their Letter No. 93/CEDO/SR/5 dated 30.12.93.
- 2.5.5 This speed certificate is provisional only and valid upto 5 years from date of issue or before date of issuance of relevant Final Speed Certificate, whichever is earlier.
- 2.5.6 The wagon will run at normal speed at locations where track centers are minimum 4570 mm (15'-0") and structure distance is 2135 mm (7'-0"). On locations, where track centers are less than 4570 mm (15'-0") and for structure distance less than 2135 mm suitable restrictions shall be imposed.
- 2.5.7 Suitable precautions for safety of passengers standing on the platform such as provision of strip marking beyond which passengers will not stand and the drivers blowing their horn while passing through platform lines to warn the passengers standing close to the platform, have to be taken by the Railways.
- 2.5.8 Before operation of the wagon on any route a campaign of education of the line staff will be carried out to warn them of additional width of these wagons.
- 2.5.9** The wagons have been painted with distinctive colour code to make them stand out amongst other wagon i.e red zebra strips on white background at all the four corners.
- 2.5.10 It shall be ensured that pick up shoes are in closed condition while wagon in operation. And the same will be in open condition at the unloading terminal only.
- 2.5.11 These wagons are fitted with compressed air brakes and therefore shall not moved in a mixed train formation. All the wagons shall be moved only in special train formation hauled by a suitable locomotive capable of hauling the trailing rake of wagons fitted with air brakes. Brake vans in the rear shall also be suitable for compressed air brake operations.

- 2.5.12 The maximum permissible speed of the empty and loaded wagon in the siding at originating point and destination shall be decided by the Chief Engineer concerned.

Encl: Drg. No. WD-91071-S-01 alt. 8

(S. Mani)

Exe. Director Standards (Motive Power)

Copy for information to :

1. The Secretary (Mech./Engg.), Railway Board, Rail Bhavan, New Delhi – 110 001.
2. The General Manager (Mech./Optg.)
 - (i) Northern Railway, Baroda House, New Delhi – 110 001.
 - (ii) Central Railway, Chhatrapati Shivaji Terminus, Mumbai – 400 001.
 - (iii) Eastern Railway, Fairlie place, Kolkata – 700 001.
 - (iv) Western Railway, Churchgate, Mumbai – 400 020.
 - (v) Southern Railway, Park Town, Chennai – 600 003.
 - (vi) South Central Railway, Rail Nilayam, Secunderabad – 500 071.
 - (vii) South Eastern Railway, Garden Reach, Kolkata – 700 043.
 - (viii) North Eastern Railway, Gorakhpur – 273 001.
 - (ix) North East Frontier Railway, Maligaon, Guwahati – 781 011.
 - (x) East Central Railway, Hajipur – 844 101.
 - (xi) North Central Railway, Allahabad – 211 001
 - (xii) North Western Railway, Jaipur – 302 006.
 - (xiii) South Western Railway, Hubli – 580 023.
 - (xiv) East Coast Railway, Railway Complex, Bhubaneswar – 751 023.
 - (xv) West Central Railway, Jabalpur – 482 001.
 - (xvi) South East Central Railway, Bilaspur – 495 004.

Encl: Drg. No. WD-91071-S-01 alt. 8

(S. Mani)

Exe. Director Standards (Motive Power)