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सत्यमेव जयते

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/SPD/BG/BOSTM1/22.32t/PROV.

Dated:25.05.2006.

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 22.32 t.(CC+6t+2t) axle load
broad gauge bogie open Wagon type BOSTM 1.**

- 1.0 Vide Railway Board's letter No. 2006/TT-1/27/12/Pt.Dated:26-04-2006, directives have been issued to increase loading of certain freight wagons from CC to CC+6t+2t on identified routes in order to increase throughput per rake.
- 1.1 Broad Gauge bogie open wagon type BOST M1 having maximum axle load of 22.32 t.(CC+6t+2t) is same as existing 20.32 t axle load BOST wagon. All dimensions, purpose are same as BOST wagon except suspension.. The leading particulars of the wagon are indicated in RDSO drg.No.WD-06032-S-01 Alt.-Nil. The wagon with higher pay load is expected to exhibit better oscillation characteristics.

- 1.2 Based on the above, it is certified that BOSTM 1 wagon to RDSO drg.No.WD-06032-S-01 Alt.-Nil. may provisionally be permitted to run on routes identified in Rly Bd's letter No. 2006/TT-1/27/12/Pt. Dated:26-04-2006 and on other such routes which may be permitted by Railway Board in future subject to the following conditions:

2.0 Track

2.1 For loaded condition

(a) Maximum Speed upto 60Kmph:

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 sleeper of 250mm, which may consist of at least 100mm clean and the rest in caked up condition on compact and stable formation.

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.

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.

(b) Maximum Speed upto 30Kmph:

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

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.

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.

2.2 For empty condition:

Maximum Speed upto 65 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 sleeper of 200mm, which may consists of at least 75mm clean and the rest in caked up condition on compact and stable formation.

- 2.3 The maximum permissible speed on curves to be decided on the basis of the existing provision of Indian Railway Permanent Manual second reprint-2004.
- 2.4 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.
- 2.5 The track on the sections covered under the pilot project shall be monitored closely by the Zonal Railways as per directives of Railway Board vide letter no. 2003/CE-II/TS/5 Vol I dated 4-5-2005 and para 6.1 & 6.3 of Minutes of PCEs/CEs meeting held on 16-5-2005 in Railway Board in connection with running of BOXN wagons loaded up to CC+8t+2t on certain identified iron ore routes as a pilot project for a period of one year (No.2003/CE-II/TS/5 Vol I) issued vide Railway Board's letter no. 2005/CE-II/MT-TS/I dt:13-6-2005. Attention is also drawn towards Board's letter No.Track/21/2004/0902/7 dt. 14-6-05 regarding Ultrasonic testing of rails/welds.
- 2.6 The directives of Railway Board communicated vide para 3.1 and 3.2 of Railway Board's letter no.2004/CE-II/TS/2 dt:4-5-05 and CRB's D O letter No 2004/Dev.Cell/IDEI/2 dt.29-9-04 and Fax no 2004/Dev Cell/IDEI/2 dt:15-10-2004, and Commercial Dte. /Railway Board's letter no.TCI/2004/109/4 dt:4-11-2004 regarding in motion weigh bridges and monitoring of loading shall be strictly adhered to.
- 2.7 The directives of Railway Board regarding operation of BOXN with CC+8t+2 t. communicated vide Railway Board's letter no.2003/T-II/TS/5 Vol I dt.4.5.05 shall be strictly adhered to.
- 2.8 The directives of Railway Board regarding operation of BOXN with CC+4t+2t communicated vide Railway Board's letter No.2004/CE-II/TS/2 dt:04-05-05 and other letters of Railway Board therein (Board's letter No.2004/CE-II/TS/2 dt:19-11-2004, CRB's D O letter No. 2004/Dev.Cell/IDEI/2 dt.29-09-2004 and Fax No. 2004/Dev Cell/IDEI/2 dt:15-10-2004, and Commercial Dte. /Railway Board's letter No.TCI/2004/109/4 dt:04-11-2004) regarding in motion weigh bridges and monitoring of loading shall be strictly adhered to.
- 2.9 Attention is drawn towards ensuring ultrasonic testing of rails for gauge face corner defects as per procedure circulated by RDSO's letter No.CT/USFD dt:29/02-4/5-2003 and 14/15-7-2005.

3.0 Bridges

- 3.1 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.
- 3.2 All other designs of superstructures and sub structures are to be examined under the direction of the Principal Chief Engineer concerned and certified safe by him in terms of current IRS Bridge Rules. Steel Bridge Code, Concrete Bridge Code, Arch Bridge Code, Bridge Substructures and Foundation Code etc. read with up-to-date correction slips.
- 3.3 In loaded condition with double-headed operation, track on bridges and approaches of BGML spans 63.0m and 78.8m (both 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 Principle Chief Engineer concerned.
- 3.4 Other specific restrictions are applicable which are indicated in relevant Speed Certificates of hauling single/multiple locomotives issued by RDSO.
- 3.5 The clearance is subject to the following parameters of wagon.
- | | |
|---|------------------------|
| (i) Maximum axle load (loaded) | - 22.32 t. |
| (ii) Maximum axle load (Empty) | - 6.375 t. |
| (iii) Maximum C.G height from Rail level (loaded) | -1823 mm |
| (iv) Maximum C.G height from Rail level (Empty) | -1036 mm |
| (v) Maximum braking force at rail level
per axle | - 10 % of
axle load |

4.0 Signalling

- 4.1 Provision of GR, SR, SEM and all extent instructions issued from time to time shall be complied with.
- 4.2 The condonation regarding infringements in schedule of dimensions shall be obtained in accordance with local conditions before movement.
- 4.3 On the sections where EBD of more than 1Km. is to be catered for second distant signal or automatic signaling should be available failing which suitable speed restriction is to be imposed.

5.0 Rolling Stock

- 5.1 Before initiating the movement , CME of the railway will certify the track worthiness and safety of the rolling stock.
- 5.2 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.

6.0 General

- 6.1 All the permanent and temporary speed restrictions in force and those that may be imposed from time to time due to track, bridges, curves, signaling and interlocking etc. shall be observed.
- 6.2 The design of BOSTM1 wagon, does not infringe diagram no. 1D and clauses of Indian Railway Schedule of Dimensions B.G. Revised, 2004.
- 6.3 The provisional speed certificate for operation at 22.32 t.(CC+6t+2t) axle load BOSTM1 wagon shall remain valid up to 5 years except when superseded by final speed certificate.

Encl: Drg. No.WD- 06032-S-01 Alt. Nil.

(S. K. Sinha)
Sr. 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.
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 - (ix) North East Frontier Railway, Maligaon, Guwahati – 781 011.
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Encl: Drg. No.WD- 06032-S-01 Alt. Nil.

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