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भारत सरकार - रेल मंत्रालय
अनुसंधान अभिकल्प और मानक संगठन
लखनऊ - 226 011
Government of India - Ministry of Railways
Research Designs & Standards Organisation
Lucknow - 226 011

No.MC/TW

Date: 19.05.10

The General Manager (Engg.)
Northern Railway, Baroda House,
New Delhi -110 001.

Sub:Final Speed certificate of BG 4-Wheeler self propelled over head equipment inspection car manufactured by M/s Phooltas Tamper Pvt., Limited, Patna upto a maximum speed of 75 kmph.

- 1.0 Railway board vide their contract no.RE(S)/11/2006/0003/7/1/30657 dt.12.9.07 have placed orders on M/s Phooltas Tamper Pvt., Limited, Patna for manufacture of 11 nos. of self- propelled 4-Wheeler BG OHE inspection cars. OHE car to drawing no OHE 4-00 02/00 is completely designed and manufactured by M/s Phooltas Tamper Pvt., Limited, Patna for an operational speed of 75kmph. The maximum axle load, under gross load condition is 16t. It has single stage primary coil suspension with spherical roller bearings. It is fitted with screw coupling and side buffers at head stocks and has been provided with air brake system.
- 1.1 With a view to assess the speed potential of the OHE Car the detailed oscillation trials were conducted upto a maximum test speed of 85 kmph on Dehradun-Haridwar-Laksar section of Northern Railway. The results as contained in RDSO Report No. MT-RDSO/TG/MT-1005/F Rev.-0 Amendment – Nil, Dt. 21.12.2009 indicates that the vehicle has exhibited satisfactory riding & stability quality up to 85 kmph.
- 2.0 Based on the above, it is certified that operation of BG 4-Wheeler self propelled over head equipment inspection car manufactured by M/s Phooltas Tamper Pvt., Limited, Patna may be permitted to run up to a maximum speed of 75 kmph subject to the following condition:
 - 2.1 **Track**
 - 2.1.1 The track shall be to a minimum standard of 90 R rails on sleepers to M+4 density and depth of ballast cushion below sleepers of 200 mm which may consist of at least 75mm clean and the rest in caked up condition, on compacted and stable formation.
 - 2.1.2 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 dt.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.

- 2.1.3 The maximum permissible speed on curves shall be decided on the basis of the existing provisions of the Indian Railways Permanent Way Manual, second reprint 2004.

2.2 Bridges

- 2.2.1 The clearance refers to bridges with standard design of girders, slabs, pipe, culverts, piers and abutments etc. Issued by RDSO for BGML, RBG & 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 direction 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-Structure 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 The clearance is subject to the following parameters of M/s Phooltas Tamper Pvt. Ltd.'s BG-4 Wheeler:
- | | | | |
|-------|-------------------------------------|---|------------------|
| (i) | Maximum axle load | - | 16.0 t |
| (ii) | Maximum tractive effort | - | 13.154 t |
| (iii) | Maximum braking force at rail level | - | 7.731 t |
| (iv) | Maximum CG height from rail level | - | less than 1830mm |

2.3 Signal

- 2.3.1 Provisions of GR, SR, SEM & all extant instructions issued from time to time shall be complied with.
- 2.3.2 The speed of vehicle while running through the station shall be decided by the Zonal Railways depending upon type of Track relay used, type of route release circuit adopted, length of FVT track circuit provided ahead of last stop signal and standard of interlocking existing at the station.

2.4 Traction Installation

- 2.4.1 In 25kV ac traction area, the CEE of the concerned Railway shall have to ensure that the minimum height of contact wire and electrical clearances as stipulated in provision of Chapter-V and V-A, Electric Traction "Schedule of

Dimension of 1676 gauge (BG), Revised 2004" is not violated and strictly followed to ensure its safe running when pantograph and lifting cum swivelling platform are held in locked down and in collapsed condition.

2.5 General

- 2.5.1 All the permanent and temporary speed restrictions in force and those imposed from time to time due to track, bridges, curves, signalling and interlocking etc. shall be observed.
- 2.5.2 This speed certificate is valid only with the dummy pantograph in the lockdown condition and the lifting-cum-swivelling platform held in collapsed and lockdown condition as shown in the layout drawing no. OHE4-00 02/00
- 2.5.3 The BG OHE car infringes clause no. 5 & 19(a) of chapter-IV(A) of B.G. Schedule of dimensions, Revised 2004. Railway Board vide their letter no.2009/CEDO/SR/10, dated 12.06.2009 has condoned these infringements.
- 2.5.4 On curves the speed should be limited to 60 kmph.

DA: Nil

dk
19/5/2010
(D.K. Agarwal)

Executive Director Standards / Motive Power

Copy to:

1. The General Manager (Elect./Mech./Optg.), Northern Railway, Baroda House, New Delhi.
2. The Secretary (Railway Electrification (G)), Railway Board, New Delhi.
3. M/s Phooltas Tamper Pvt., Limited, Layak Bhavan Boring Canal Road, Patna-800 001.

DA: Nil

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(D.K. Agarwal)

Executive Director Standards / Motive Power