GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)
****

No. 2007/CE-II/CS/2 **New Delhi, dt. 19.05.2009**

The General Managers (Engg.)-CR, ER, ECR, ECoR, NR, NCR, NER, NFR, NWR, SR, SCR, SER, SECR, SWR, WR, WCR and Metro Railway/Kolkata.
The General Manager (Const.), N.F.Railway, Guwahati.
The CAO/Const. All Indian Railways.
Managing Director, Konkan Railway Corporation Ltd, Rail Bhawan, New Delhi.
Managing Director, IRCON, New Delhi.
Managing Director, RITES, New Delhi.
Managing Director, DMRC, N.B.C.C. Building, Pragati Vihar, New Delhi.
Managing Director, CONCOR, New Delhi.
Managing Director, RVNL, August Kranti Bhawan, Bhikaji Cama Place, New Delhi.
Managing Director, DFCCIL, 2nd Floor, Palika Bhawan, Sec.13, R.K. Puram, New Delhi.
Managing Director, PIPAVAV Railway Corp. Ltd., Ist Floor Jeeven Tara Building, Gate No.4, Parliament Street, New Delhi.
Managing Director, MRVC, Church Gate station Building 2nd Floor, Mumbai – 400020.
Managing Director, RLDA, IRCON Office Compound, Next to Safdarjang Rly. station, Motibagh-I, New Delhi.
The Chief Project Officer, DMRC, Pragati Vihar, New Delhi.
Director, IRICEN, Pune.
Director, IRIEEN, Nasik.
Director, , IRISET, Secunderabad.
Director, IRIMEE, Jamalpur.
Director, IRITM, Vill. Kanausi, Hardoi, Manik Nagar, Lucknow.
Director General, Railway Staff College, Vadodara.
FA & CAO, All Indian Railways.
The Director General (Track), RDSO/Alambagh, Lucknow.
Chief Commissioner of Railway Safety, Lucknow.
Genl. Secretaries, AIRF, NFIR, IRPOF, FROA, AIRPFA, DAI (Railways) Rail Bhawan, New Delhi.

Sub: Advance Correction Slip No. 117 to the Indian Railways Permanent Way Manual.

Ministry of Railways (Railway Board) have decided that correction/addition as indicated in the enclosed Advance Correction Slip No.117 dated 19.05.2009, to relevant para of the IRPWM, be made.

Receipt of this letter may please be acknowledged.

Encl: As above in 4 pages

(P.K. Sharma)
Director Civil Engg.(P),
Railway Board.

No. 2007/CE-II/CS/2 **New Delhi, dt. 19.05.2009**

Copy to : CRB, ME, ML, MS, MM, MT, FC, Secretary.

AM(CE), AM(W), AM(Budget), AM(Elect.), AM(Fin.), AM(Sig.), AM(Plg.), AM(MS), AM(Mech.), AM(PU.), AM(Tele.), AM(Traffic), Adv(Vig.), Adv(L&A), Adv(Safety).

EDF(X)-II, EDCE(P), ED(Works), EDW(Plg.), EDV(E), EDTK(M), EDTK(MC), EDTK(P), EDCE(G), EDCE(B&S)I, EDCE(B&S)II, ED(L&A)I, ED(L&A)II.

DTK(MC), DTK(M), DTK(P), Dir(Works) I & II, Dir. Works(Plg.), Dir(L&A), DCE(B&S), DVE-I & DVE-II, IPWE(I), OSD(ME),

---

INDIAN RAILWAYS PERMANENT WAY MANUAL

ADVANCE CORRECTION SLIP No. 117 dated 19/05/09

The existing **paras 322, 248 (1), 248(2) (a)**, **244(4) and 263(2) (a)** of Indian Railways Permanent Way Manual shall be replaced by the following:

Para 322 – Identification of different qualities of rails in the field:

(1) **'**Prime Quality' Rails **–** Indian Railway Specification IRS-T-12/2009 provides the detailed specification of flat bottom rails 68kg/m, 60kg/m, ZU-1-60 & 52 kg/m of grade 880 MPa, 1080MPa CR and 1080 MPa HH. These rails shall be classified as Class 'A' and Class 'B' rails based on tolerance in End straightness. This specification also specifies the requirements of special class of rail steel such as Niobium (NB), Vanadium (VN), Corrosion Resistant rail steel Copper Molybdenum (CM), Nickel Chromium Copper (NC). The rolling mark on rails shall indicate rail section, the grade of steel, identification marks of the manufacturer, process of steel making and direction of rolling of rails.

(2) 'Industrial Use' Rails (IU rails) – In addition to above 'Industrial Use' rails are arising at steel plants, particularly during the inspection of rails as per IRS-T-12/2009 while producing 'Prime Quality' rails. There is no deviation in chemical composition or mechanical properties in 'Industrial Use' rails form that of 'Prime Quality' rails. The deviations exist only in tolerances for parameters as mentioned in IRS-T-12/2009. These rails can be used in industrial sidings with speed restriction of 50 kmph. IU rails shall be identified by blue paint on both sides end face of flange on either side for distance of 500 mm from each end. The letter 'IU' (Industrial Use Grade) shall be stamped in 15 mm size on both end faces of rails in addition to colour marking.

Para 248 Standard Sections of Rails – (1) *General* **–** Rail sections are normally selected to suit the standard of loading and the speeds.

(2) (a) Broad Gauge – The following rail sections should be provided during renewals, construction of New lines, Gauge conversions and Doublings as per the details shown in the ensuing table.

S. No.	*In case of*	*All BG Routes*
(i)	Track Renewals & Doublings	60 kg
(ii)	All Gauge Conversion & New Line construction works except those indicated in (iii) below;	60 kg
(iii)	Gauge Conversion & New Line construction having annual GMT less than 5 and not defined as mineral route	52 kg

Note: Minimum UTS of rails for sections mentioned above shall be 90 UTS.

Loop Lines:

60 kg (SH) or 52 kg (SH) should be used. New rails may be used on loop lines of Group A, B & C routes with prior approval of Board.

Sidings:

Private and Other Sidings	Sidings with permissible speed up to 50 kmph.	52kg (SH) or 52 kg (IU)
	For sidings with permissible speed more than 50 kmph	60 kg

Para 244 (4) Minimum Sleeper Density –

(a) **Broad Gauge** - The minimum sleeper density for all Track Renewal (complete track renewal and through sleeper renewal), Doubling, Gauge Conversion, New Line construction works shall be 1660 nos. per km.

Loop Lines:

Route	*Min Sleeper density (nos. per km) for Loop Lines*
A, B & C	1540
All other routes	1340 for temperature zone-I & II 1540 for other temperature zones

Sidings:

Private and Other Sidings	Sidings with permissible speed up to 50 kmph.	1340 for temperature zone-I & II 1540 for other temperature zones
	For sidings with permissible speed more than 50 kmph	1660

b) **Metre Gauge**:– In the case of MG track renewals, the sleeper densities as recommended for the various MG routes are given below.

SLEEPER DENSITY FOR MG

Route	*Q*	*R1*	*R2*	*R3*	*S*
Sleeper density	M+7	M+7	M+7	M+4	M+3

Note for BG & MG :- (i) Higher sleeper density may be provided with the approval of the Chief Engineer.

(ii) For LWR/CWR even on loop lines or sidings, minimum sleeper density shall be 1540 nos. per km however, in case of PSC sleepers, sleeper density of 1340 nos. per km can be adopted in temperature zone-I & II.

(iii) In case of SWR, the minimum sleeper density is fixed as 1340 nos. per km.

Para 263 (2) *Depths of Ballast Cushion* **–** (a) The minimum depth of the ballast below the bottom of the sleepers at the rail seat should be as under **–**

(i) **Broad Gauge** -

In case of	*Minimum depth for all BG routes (mm)*
Track Renewals (complete track renewals and through sleeper renewals)	300*
All Doubling, Gauge Conversion & New Line construction works	350
Loop Lines	250

*-Where possible a depth of 350 mm may be provided.

(ii) **Metre Gauge** –

Groups	*Minimum Depth for track renewals*
'Q' routes	250mm (300 mm when speed is 100 kmph)
'R1' routes	250 mm
'R2' and 'R3' routes	200 mm
'S' routes	150 mm

(iii) **Narrow Gauge** - 150 mm