

वी.के. पाण्डेय  
V.K. Pandey  
कार्यकारी निदेशक/पु०एवंसं०-II  
Executive Director/B&S-II



भारत सरकार-रेल मंत्रालय  
अनुसन्धान अभिकल्प और मानक संगठन  
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पत्रांक सं: CBS/Codes/ A&C

दिनांक: 02.02.2024

**Principal Chief Engineers:**

1. Central Railway, Mumbai CST - 400 001
2. Eastern Railway, Fairlie Place, Kolkata - 700 001
3. East Central Railway, Hazipur - 844 101
4. East Coast Railway, Bhubaneshwar - 751 016
5. Northern Railway, Baroda House, New Delhi - 110 001
6. North Central Railway, Allahabad - 211 001
7. North Eastern Railway, Gorakhpur - 273 001
8. Northeast Frontier Railway, Maligaon, Guwahati - 781 061
9. North Western Railway, Jaipur - 302 001
10. Southern Railway, Park Town, Chennai - 600 003
11. South Central Railway, Rail Nilayam, Secunderabad - 500 371
12. South East Central Railway, Bilaspur - 495 004
13. South Eastern Railway, Garden Reach, Kolkata - 700 043
14. South West Railway, Hubli - 580 023
15. Western Railway, Mumbai - 400 020
16. West Central Railway, Jabalpur - 482 001
17. Metro Railway, Jawaharlal Nehru Road, Kolkata - 700 071

**विषय: Addendum & Corrigendum slip No. 10 to "Indian Railway Standard Code of Practice for Plain, Reinforced & Prestressed Concrete for General Bridge Construction (Concrete Bridge Code)".**

- संदर्भ:** 1. RB Letter No. 2020/15/CE-III/BR/Correction Slips, Dated 30.01.2024.  
2. RB Letter No. 2023/3/CE-III/BR/BSC/ 87<sup>th</sup> BSC, Dated 22.11.2023.

In terms of reference 1 above an Addendum & Corrigendum Slip No. 10 to "Indian Railway Standard Code of Practice for Plain, Reinforced & Prestressed Concrete for General Bridge Construction (Concrete Bridge Code)" regarding "Accidental impact load and Load consideration for Fatigue" is enclosed for information and necessary action please.

संलग्नक: As above( 2 Pages)

(विनय कृष्ण पांडेय)  
(Vinay Krishna Pandey)  
कार्यकारी निदेशक /पुल एवं संरचना-II  
Executive Director/B&S-II



**प्रतिलिपि:**

- (A)**
1. Additional Member (Civil Engg.) Railway Board, Rail Bhawan, New Delhi - 110001
  2. Additional Member (Works) Railway Board, Rail Bhawan, New Delhi - 110001
  3. Principal Executive Director/Bridges, Railway Board, Rail Bhawan, New Delhi - 110001
  4. Director General, Indian Railway Institute of Civil Engg., Pune - 411 001
  5. Executive Director Civil Engg./B&S, Railway Board, Rail Bhawan, Room No.140A, New Delhi - 110001
  6. General Manager (C), N. F. Railway, Maligaon, Guwahati - 781001
  7. The Director General, National Academy of Indian Railways, Vadodara - 390004
  8. The Vice Chairman, Rail Land Development Authority, Unit No.702-B, 7<sup>th</sup> Floor, Konnectus Tower-2, DMRC Building, Ajmeri Gate, Delhi-110002

**(B) The Chief Administrative Officer (Construction):**

1. Central Railway, Mumbai CST - 400 001
2. Eastern Railway, Fairlie Place, Kolkata - 700 001
3. East Central Railway, Mahendrughat, Patna (Bihar) - 800 004
4. East Coast Railway, Bhubaneswar, (Orissa) - 751 016
5. Northern Railway, Kashmere Gate, Delhi - 110 006
6. USBRL Project, Northern Railway, Satyam Complex, Trikuta Nagar Extn., Jammu 180 020
7. North Central Railway, Allahabad, (U.P.) - 211 001
8. North Eastern Railway, Gorakhpur - 273 001
9. North Western Railway, Jaipur, (Rajasthan) - 302 001
10. Southern Railway, Egmore, Chennai - 600008
11. South Central Railway, DRM/Secunderabad Office Compound, Secunderabad -500 371
12. South Eastern Railway, Garden Reach, Kolkata - 700043
13. South East Central Railway, Bilaspur - 495 004
14. South Western Railway, No. 18 Miller Road, Bangalore, (Karnataka) - 560046
15. Western Railway, Mumbai - 400 020
16. West Central Railway, Jabalpur (M.P.) - 482 001
17. CAO-I, II & III, Northeast Frontier Railway, Maligaon, Guwahati - 781011
18. CAO/ERS, Southern Railway, Ernakulam, Kerala - 682506

**(C) Chief Bridge Engineers:**

1. Central Railway, Mumbai CST- 400 001
2. Eastern Railway, Fairlie Place, Kolkata - 700 001
3. East Central Railway, Hazipur - 844 101
4. East Coast Railway, Bhubaneshwar - 751 016
5. Northern Railway, Baroda House, New Delhi - 110 001
6. North Central Railway, Allahabad - 211 001
7. North Eastern Railway, Gorakhpur - 273 001
8. Northeast Frontier Railway, Maligaon, Guwahati - 781 061
9. North Western Railway, Jaipur - 302 001
10. Southern Railway, Park Town, Chennai - 600 003
11. South Central Railway, Rail Nilayam, Secunderabad - 500 371
12. South East Central Railway, Bilaspur - 495 004
13. South Eastern Railway, Garden Reach, Kolkata-700 043
14. South West Railway, Hubli - 580 023
15. Western Railway, Mumbai - 400 020
16. West Central Railway, Jabalpur - 482 001
17. Metro Railway, Kolkata - 700071



**(D) Commissioner of Railway Safety:**

1. Chief Commissioner of Railway Safety, N.E. Railway Office Compound, Ashok Marg, Lucknow - 226002
2. Central Circle, 2nd Floor, Churchgate Station Building Mumbai - 400020
3. Eastern Circle, Multistoreyed Building of Eastern Railway, 12th Floor, Strand Road, Kolkata - 700001
4. Northern Circle, near Centre for Railway Information System, Safdarjung Railway Station, New Delhi - 110021
5. North Eastern Circle, DRM Compound, Northern Railway, Hazratganj, Lucknow - 226001
6. Northeast Frontier Circle, 12 Strand Road, Multistoreyed Building of Eastern Railway, Kolkata - 700001
7. Southern Circle, 7 Seshadri Road, Gandhi Nagar, Bangalore - 560009
8. South Central Circle, Opp. Rail Nilayam, Sarojini Devi Road, Secunderabad - 500 071
9. South Eastern Circle, 14 Strand Road, Multistoreyed Building of Eastern Railway, Kolkata-700001
10. Western Circle, 2nd Floor, Churchgate Station Building Annexe, Maharishi Karve Road, Mumbai-400020.

**(E) Railway PSUs & Others:**

1. The Managing Director, RITES LTD, RITES Bhawan, Plot No.1, Sect.29, Gurgaon (Haryana) - 122001
2. The Managing Director, IRCON, Palika Bhawan, Sector-XIII, R.K. Puram, New Delhi - 110066
3. The Chairman & Managing Director, Konkan Railway Corporation Ltd., Belapur Bhavan, Plot No. 6, Sector-II CBD Belapur, Navi Mumbai - 400 614
4. The Managing Director, Rail Vikas Nigam Ltd., Ist floor, August Kranti Bhawan, Bhikaji Coma Place, Africa Road, R.K. Puram, New Delhi - 110 016
5. The Managing Director, DFCCIL, 5th Floor, Pragati Maidan, Metro Station Building Complex New Delhi - 110001
6. The Managing Director, Delhi Metro Rail Corporation Ltd., NBCC Place, Bhishma Pitamah Marg, Pragati Vihar, New Delhi - 110003



GOVERNMENT OF INDIA  
MINISTRY OF RAILWAYS

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**INDIAN RAILWAY STANDARD CODE OF PRACTICE  
FOR PLAIN, REINFORCED AND PRESTRESSED CONCRETE  
FOR GENERAL BRIDGE CONSTRUCTION  
(CONCRETE BRIDGE CODE)**

**FIRST ADOPTED- 1936  
FIRST REVISION-1985  
SECOND REVISION -1997  
REPRINT- SEPTEMBER -2014**

**ADDENDUM & CORRIGENDUM SLIP NO. 10 DATED – 02.02.2024**

**(1) Delete existing clause 13.4 and insert as following:**

**13.4 Fatigue**-The effect of repeated live loading on the fatigue strength of a bridge shall be considered in respect of reinforcing bars.

**13.4.1** For welded Reinforcing bars, the stress range under various load combinations for the serviceability limit state shall be determined as described in Appendix-H.

- (a) The connection is made to standard workmanship levels as given in 7.1.3:
- (b) The welded bars are not part of a deck slab spanning between longitudinal and/ or transverse members and subjected to the effect of concentrated loads.
- (c) Lap welding is not used.

**13.4.2** For unwelded reinforcing bars, the stress range under various load combinations for the serviceability limit state shall be limited to  $155 \text{ N/mm}^2$  for bars upto 16 mm diameter and to  $120 \text{ N/mm}^2$  for bars exceeding 16 mm diameter.

**(2) The existing clause H-2 (c) of APPENDIX-H is modified as following:**

Substitute " $k_1=1$ " , for " $k_1=10$ "

**(3) Insert clause 11.2.1.6 below clause 11.2.1.5 as under:**

**11.2.1.6 Combinations 6-** Dead load, Superimposed dead load, live load, earth pressure together with Accidental Impact loads.



(4) The existing TABLE-12 is modified as following:

LOADS TO BE TAKEN IN EACH COMBINATION WITH APPROPRIATE  $Y_{fl}$  (Clauses 11.2 and 11.3)

LOAD		LIMIT STATE	$Y_{fl}$ TO BE CONSIDERED IN COMBINATION					
			1	2	3	4	5	6
Dead weight of concrete		ULS	1.25	1.25	1.25	1.25	1.25	1.00
		SLS	1.00	1.00	1.00	1.00	1.00	1.00
Superimposed dead load		ULS	2.00	2.00	2.00	2.00	2.00	1.00
		SLS	1.20	1.20	1.20	1.20	1.00	1.00
Wind	During erection	ULS	-	1.25	-	-	-	-
		SLS	-	1.00	-	-	-	-
	with dead and superimposed dead loads only and for members primarily resisting wind loads.	ULS	-	1.60	-	-	-	-
		SLS	-	1.00	-	-	-	-
	With dead plus superimposed dead plus other appropriate combination 2 loads.	ULS	-	1.25	-	-	-	-
		SLS	-	1.00	-	-	-	-
	Relieving effect of wind	ULS	-	1.00	-	-	-	-
		SLS	-	1.00	-	-	-	-
Earth quake	During erection	ULS	-	1.25	-	-	-	-
		SLS	-	1.00	-	-	-	-
	With dead and superimposed dead loads only	ULS	-	1.60	-	-	-	-
		SLS	-	1.00	-	-	-	-
	With dead plus superimposed dead plus other appropriate combination 2 loads.	ULS	-	1.25	-	-	-	-
		SLS	-	1.00	-	-	-	-
Temperature	Restraint against movement except frictional	ULS	-	-	1.50	-	-	-
		SLS	-	-	1.00	-	-	-
	Frictional restraint	ULS	-	-	-	1.50	-	-
		SLS	-	-	-	1.00	-	-
	Differential temperature effect	ULS	-	-	1.15	-	-	-
		SLS	-	-	0.80	-	-	-
Differential settlement		ULS	As specified by engineer					-
		SLS						-
Earth Pressure	Fill retained and or live load surcharge	ULS	1.70	1.70	1.70	1.70	-	1.00
		SLS	1.00	1.00	1.00	1.00	-	1.00
	relieving effect	ULS	1.00	1.00	1.00	1.00	-	1.00
Erection temporary loads (when being considered)		ULS	-	1.30	1.30	-	-	1.00
Live load on foot path		ULS	1.50	1.25	1.25	-	-	0.75
		SLS	1.00	1.00	1.00	-	-	0.75
Live load		ULS	1.75	1.40	1.40	-	-	0.75
		SLS	1.10	1.00	1.00	-	-	0.75
Derailment loads		(As specified by bridge rules for combination 5 only)						-
Accidental Impact Load		As specified by IRS Bridge Rules for combination 6 only						-

NOTE 1- ULS: Ultimate Limit State

SLS: Serviceability Limit State

NOTE 2- Superimposed dead load shall include dead load of ballast, track, ballast retainer, precast footpath, wearing course, hand rails, utility services, kerbs etc.

NOTE 3- Wind and earth quake loads shall not be assumed to be acting simultaneously.

NOTE 4- Live load shall also include dynamic effect, forces due to curvature exerted on track, longitudinal forces, braking forces and forces on parapets.

NOTE 5- Proposed load factors for combination 6 are to be used as an interim measure under specific approval of PCE duly supported with detailed investigation and analysis of risk and cost.

BY ORDER

*hvd*  
02/02/24

(वी.के. पाण्डेय)

(V. K. Pandey)

कार्यकारी निदेशक/पु०एवंस०-II  
Executive Director/B&S-II

LUCKNOW

Dated: 02.02.2024