



**Government of West Bengal**  
Engineer-in-Chief & E.O. Secretary  
Public Works Department  
'NABANNA', 8<sup>th</sup> Floor, Room No. 802  
325, Sarat Chatterjee Road, Howrah - 711 102  
Tel No: (033) 2253-5164, Fax No : (033) 2214-1075  
E-mail - [encpwd2014@gmail.com](mailto:encpwd2014@gmail.com)

**Memo No.- 385/-ENC/2021**

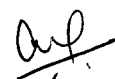
**Date- 02-08-2021**

## **ORDER**

### **Subject: Modified Guideline for use of reinforcement steel in RCC structures.**


1. In view of the notification no 8(1)/2015-TD (Vol-IV) dt. 12.05.2016 of Ministry of Steel, Govt. of India in supersession of the same Ministry's notification no 4(8)/2010-SD-1 dt. 24.04.2015 and recent D.O letter No. S-20027/13/2020-TECH dt. 12.01.2021 of Addl. Secretary, Ministry of Steel, Govt. of India, different Government Organisations like Ministry of Road Transport & Highways, Govt of India and Central Public Works Department have issued revised guidelines for use of reinforcement steel in structures.
2. After careful consideration, it has been decided to supersede the previous order issued vide Memo. No. 765-ENC/2020 dt. 10.12.2020 of Engineer in Chief & Ex-officio Secretary, Public Works Department, Govt. of West Bengal and align the existing policy of use of reinforcement steel by PWD as being followed by CPWD , MORTH and other Govt. of India Organisations.
3. The modified guidelines for use of reinforcement steel are as follows:
  - 3.1 The reinforcement steel of any RCC structure shall confirm to the provision of IS 1786:2008 -Indian Standard Specification for High Strength Deformed Steel Bars and Wires for concrete reinforcement with all its amendments, currently up to 4<sup>th</sup> amendment, published on 4<sup>th</sup> July, 2019 and with subsequent forthcoming amendments, if any.
  - 3.2 The Producer/Manufacturer/Contractor/Supplier shall produce manufacture's certificate as per cl. no.12.4 of IS 1786: 2008 (Latest amendment).
  - 3.3 The bundle containing the bars/wires conforming to the requirements of the standard IS 1786:2008 may be certified as per the conformity assessment schemes under the provisions of the Bureau of Indian Standards Act, 2016 and the Rules and regulations framed thereunder, and the bundle containing the bars/wires shall be marked with the Standard Mark. [As per cl.no 13.4 BIS certification marking, 4<sup>th</sup> amendment to IS 1786:2008]. The Manufacturers/Producers/Suppliers shall have to produce valid license in favour of the original producer to use the standard mark of the Bureau of Indian Standard.

- 3.4 For deformed bars produced by re-rolling finished products such as plates and rails (virgin or used or scrap), or by rolling material, full documentation of the metallurgical history has to be produced. [As per cl.no.1.6 of IS 1786:2008].
- 3.5 The reinforcement steel procured should be tested (both physical and chemical tests) as per required frequencies and as per relevant codes of Bureau of Indian Standards by procuring Authority / Engineer in Charge of the works at any NABL accredited laboratory or premier academic institutions like IITs. Cost of such testing will be borne by the suppliers / contractors from whom the Department is going to procure the reinforcement steel. The test results (both physical and chemical) should conform to IS 432, IS 1786, IS 13920, IRC:112 (Code of practice for concrete road bridges published by Indian Roads Congress) [Latest revisions] whichever is applicable.
- Authority / Engineer in Charge of the works are also advised to check the quality of the HSD bars undergone through heat treatment (Quenching and self-tempering) by doing the "Ring test" with Nital (5% nitric acid in alcohol) as stated in the Annex-A of IS 1786:2008, though this test is not to be regarded as the criterion for rejection. The reinforcement steel conforming to the requirements of the relevant standard for chemical and physical properties shall be considered acceptable.
- 3.6 The Authority/Engineer in Charge shall have the full power to reject the consignment of the reinforcement steel represented by the sample tested, in case the testing of the same cannot meet the required criteria of the relevant code.
- 3.7 The property of Ductility of reinforcement bars, being of utmost importance to effectively resist the seismic loads in structures or moving loads inducing stress reversal in bridges, has to be properly checked following the provisions in IS 13920:2016 (Indian standard specification for ductile design and detailing of reinforced concrete structures subjected to seismic forces).
- 3.8 For coastal zone and in abrasive climate, to make the structures disaster resilient, protection for corrosion of reinforcement steel is an important issue. To do that, Authority/ Engineer in Charge should make special provision of either of the choices like Corrosion resistant reinforcement steel / take corrosion protection measures for rebars as per IS 9077:1979, reaffirmed on 2018/ Fusion bonded epoxy coating of rebars as per IS 13620:1993 reaffirmed on 2015/ Hot dip Zinc coating on rebars as per IS 12594:1988 reaffirmed on 2016, with lowering of bond for coated reinforcement as per provision of IRC:112 (2020).
4. The NIT approving authority may prescribe for important structures like Bridges/ Multi-storied buildings, brands of reinforcement steel like SAIL, TATA, RINL, JSW, JSPL in the tender notice.
5. The producers/ manufactures, who have their registered office and/or manufacturing/production units in the State of West Bengal may be given preferences of use.
6. For the purpose of monitoring record of the quality of the reinforcement bars, the Planning and Monitoring Circle, PWD shall maintain a record, the instances of reinforcement bars of any make which have failed to meet the relevant codal



provisions after testing. All EEs in charge of works are instructed to furnish any such information about non-compliance of codal provisions to the Superintending Engineer, Planning and Monitoring Circle, PWD.

7. All field officials will strictly follow the above-mentioned guidelines and maintain register at the sites showing the details of all tests done on reinforcement bars, and cross check with the test results supplied by the manufacturers for the corresponding lot of bars.
8. This order will take immediate effect and will be in force till further orders.


  
Engineer in Chief & Ex-Officio Secretary  
Public Works Department

Memo No.- 385/1(2)-ENC/2021

Date- 02-08-2021

Copy forwarded for kind information to:

1. The Additional Chief Secretary, Public Works Department
2. P.S. to M.I.C., Public Works Department


  
Engineer in Chief & Ex-Officio Secretary  
Public Works Department

Memo No.- 385/2(9)-ENC/2021

Date- 02-08-2021

Copy forwarded for kind information to:

- 1) Chief Engineer, H.Q, P.W.Dte./ P.W.(Roads) Dte.
- 2) Chief Engineer, NH/PIU (ROB), P.W.(Roads) Dte.
- 3) Chief Engineer, Social Sector, P.W.Dte
- 4) Chief Engineer & Director, RBRI, P.W. (Roads) Dte.
- 5) Chief Engineer, Planning, P.W.Dte./ P.W.(Roads) Dte
- 6) Chief Engineer, P.W.Dte., South Zone/ West zone/ North Zone
- 7) Chief Engineer, P.W.(Roads).Dte, South Zone/ West zone/ North Zone
- 8) All Superintending Engineers.
- 9) All Executive Engineers.

  
Engineer in Chief & Ex-Officio Secretary  
Public Works Department