

No.RW/NH-34041/44/91-S&amp;R

Dated, the 29th May, 1998

To

The Chief Engineers (dealing with NHs); Chairman, National Highways Authority of India; Director General Border Roads, Director General, Central Public Works Department

Subject: Use of Fusion Bonded Epoxy Coated Reinforcement in bridges on National Highways and other centrally sponsored bridge projects to be constructed in marine environment susceptible to severe corrosion

Attention is invited to this Ministry's circular letter No.RW/NH-34041/18/93-S&R dated 15.3.1994 on the above subject (copy enclosed).

2. The durability concerns for reinforced concrete members of bridges were recently discussed in a meeting with senior officers of the Ministry, PWDs, Consultants and Contractors. The meeting took note of the fact that good quality dense concrete was the foremost requirement in construction of bridges for which all works shall conform to prescribed specifications and requisite quality assurance plan. In addition, it was felt that for structures located in marine environment susceptible to severe corrosion, it will be desirable to provide for an assured system of protective coating to reinforcing bars particularly for the members exposed to alternate wetting and drying, salt spray, etc. Selection of this type of protective coatings should be based on the following criteria:

- (i) Successful past experience, supported by accepted tests endorsed by an independent research organisation;
- (ii) consistency in the quality of coating through mechanised application;
- (iii) matching international standards and specifications;
- (iv) long shelf life; and
- (v) amenability to fabrication after coating, practicability of using at site.

There was unanimity of view that earlier circular prescribing anti-corrosion treatment to reinforcing bars needed to be reviewed in the light of past experience and accepted tests endorsed by independent research/testing organisations. Further, the quality of coatings must be consistent for which processes with controlled mechanised application need only be accepted. The data from bridges with indigenous coating developed by Research Institutions are scanty and not supported with long term test records of independent Research Organisations. Further, these specifications also do not conform to equivalent international standards/specifications. Keeping in view the above facts and the need for having long shelf life of such coatings and their ability to facilitate fabrication, as also the practicability of using at site, it was felt that only Fusion Bonded Epoxy Coated Reinforcement meets the requirement.

3. It was further noted that IS:13620-1993 for fusion bonded epoxy coatings is deficient in respect of many provisions and does not conform to updated International Code of Practices. It has been accordingly decided that fusion bonded epoxy coating used shall only conform to the latest ASTM specifications, till such time IS Code is updated. To this extent the provisions mentioned in para 5 of the Ministry's Circular letter dated 15.3.1994 would be duly modified.

4. It is requested that the contents of this letter may be brought to the notice of all concerned in your organisations for compliance and appropriate action.