

OFFICE OF THE CHIEF ENGINEER, P.W.D. RAJASTHAN, JAIPUR

No. 337

Date: 12.03.15

CIRCULAR

No. 01/2015

Use of **Synthetic Polyester Triangular Fibres** in Construction of RCC/PCC Rigid Pavement & Cement plaster & Mortar on PWD works. —

It has been observed that cement concrete when subjected to the rigorous test of time and extreme weather conditions, tends to crack and loose its strength. It can lead to seepage and corrosion of primary steel & spoiling of concrete. (13/10) (16/10) (20/10) (30/10)

In concrete work, cement is fine and excellent material, with more and more use of fast setting cement coming in, heat of hydration in cement cause shrinkage stresses and therefore microstructure of cement and sand need reinforcement, so that these stresses do not cause shrinkage cracks. By use of fibre helps to improve abrasion resistance, compressive and flexural strength and also enhancement of fatigue life of concrete. (13/10) (30/10)

Synthetic Polyester Triangular Construction Fibre or Structural Synthetic Micro Fibres in such substances available in market, which acts as a secondary reinforcement material. It arrests shrinkage cracks and increase abrasion resistance and increase compressive behaviour, ductility and flexural strength. (13/10) (30/10)

Fibre technology has also been accredited by BIS and IRC under IS: 456 Amendment No. 3, Aug. 2007 and IRC SP-76-2008 and IRC-44, MORTH SECTION 600, Vision:2021 by Ministry of Road Transport & Highways, New Delhi.

Even this product has been also included in Rajasthan PWD BSR since 2005: PWD Jaipur-Rural Road BSR- 2013: Item No. 16.53 and PWD Jaipur City Circle BSR-2014 Item No. 15.29.

"AS the item of Synthetic Polyester Triangular Construction Fibre as an admixture for Plain or RCC/PCC/CC, Rigid Pavement and cement plaster & mortars works is already included in BSR of PWD/CPWD and Water & Resources Department, Rajasthan, therefore, after deliberations, it was decided that Synthetic Polyester Triangular Construction Fibre may also be considered as an admixture for Plain or RCC/PCC/CC and cement plaster works in PWD subject to following:-

- Use of admixture shall be made for RCC/PCC/CC, Rigid Pavement and cement plaster & mortars works etc. where such use is felt essential to improve the quality, keeping in view the prevailing site conditions.
- Provisions of use of this admixture should be made in the estimation/specification/or contract of sanction of the works wherever felt necessary. (

- Fibres may be added to concrete for special applications to enhance properties, for which specialist literature may be referred (as per IS-456 03rd Aug. 2007) 50/

The effect of this admixture in concrete or plaster work may be observed and communicated, following instructions must be adhered while using the above fibre.

1. Packed pouch of the product shall be printed with For "PWD Works Rajasthan" to avoid pilferage/misuse.
2. Bill will have to be produced by the user from latest authorized dealer/distributors of Rajasthan obtained by the manufacturers.
3. Test Certificate of product from the original manufacturer or supplier will also need to be attached.

Keeping above in view Polyester Triangular Synthetic Construction Fibre should be used in plain or RCC/PCC/CC or Cement Plaster works to improve the quality and durability of construction.

12/3/15
(R.K. Gupta)

**Chief Engineer & Addl. Secy.
P.W.D. Rajasthan, Jaipur**

No. 938

Date: 12.03.15

Copy submitted/forwarded to the followings for information & necessary action:-

1. PS to Hon'ble PWM, Govt. of Rajasthan, Jaipur.
2. PS to Pr. Secretary, PWD, Govt. of Rajasthan, Jaipur.
3. PS to Secy. PWD, Govt. of Rajasthan, Jaipur.
4. Chief Engineer PWD NH/PMGSY/Road/QC/SS, PWD, Raj. Jaipur.
5. Addl. Chief Engineer PWD Zone----- (All)
6. Superintending Engineer, PWD Circle----- (All)
7. Executive Engineer, PWD Dn.----- (All)
8. Guard File.

12/3/15
**Chief Engineer & Addl. Secy.
P.W.D. Rajasthan, Jaipur**