



# STAR 320

**WATER REDUCING, HIGH PERFORMANCE,  
PLASTICISING ADMIXTURE**

## DESCRIPTION

STAR – 320 is a high performance water reducing, based on polycarboxylic polymer, superplasticising admixture for use in concrete and Portland cement.

STAR – 320 does not contain any added chloride ions ensuring that the product does not support corrosion of reinforcing steel.

STAR – 320 is a new generation concrete admixture, different mechanism of action that improves the cement dispersion. Traditional superplasticisers based on melamine and naphthalene sulphonates are polymers which are absorbed by the cement granules. The sulphonic groups of the polymer chains increase the negative charge of the cement particle surface and disperse these particles by electrical repulsion. This electrostatic mechanism causes the cement paste to disperse and has the positive consequence of requiring less mixing water to obtain a given concrete workability.

STAR – 320 has a different chemical structure from the traditional superplasticisers based on Polycarboxylic Polymers. The particular configuration of Polycarboxylic Polymers, allow its delayed absorption on to the cement particles and disperse them efficiently. It is possible to obtain a high quality concrete mix with accelerated strength development and extended workability without delayed setting characteristics.

## ADVANTAGES

- Provide specified strength grades at comparatively lower cement content.
- It reduce water content, improves compressive Strength.
- Enhances durability through the production of low permeability concrete
- Minimises segregation and bleeding and produce a dense, close textured surface, improving durability.
- Chloride free, safe for use in pre-stressed and reinforced concrete
- Anticorrosive in nature, neither initiate nor promote corrosion.
- Allows workability to be increased without adding extra water

## USES

It improves workability and provides early strength gain of Portland cement concrete and mortar mixes without the introduction of chloride.

Acts as a plasticiser, so gives significant increases in both ultimate and early strengths. Typical applications include pre-cast concrete, concrete placed in cold weather, concrete for repairs, mortars for brickwork.

## TYPICAL PROPERTIES

|                  |                       |
|------------------|-----------------------|
| Appearance       | : Brown liquid        |
| Specific gravity | : 1.10 kg/lit.at 20°C |
| Chloride content | : Nil to IS : 456     |
| Air entrainment  | : Less than 1%        |
| PH by ph meter   | : 7                   |

## STANDARDS COMPLIANCE

ASTM C-494 Type C  
EN 934-2: T6 & T7  
IS 9103: 1999  
IS 456

## COMPATIBILITY

STAR – 320 is compatible with most admixtures used in the production of quality concrete including normal, other mid-range water-reducing admixtures, accelerators, retarders.

The effect of STAR – 320 is dependent upon the cement properties and the type of plasticizers used in the concrete mix. The setting time and early strength gain may be affected if strong retarders are used in the mix. STAR – 320 admixture will neither initiate nor promote corrosion of reinforcing steel, pre-stressed concrete or concrete placed on galvanized steel floor and roof systems.

## APPLICATION INSTRUCTIONS

### Dosage

The optimum dosage determined by site trials with a specific concrete mix which enables the effects of workability, strength gain and setting time to be measured.

The rate of addition of STAR – 320 is typical between 200 ml to 400 ml per 100 kg cement.

### Mixing

STAR – 320 should be stirred before use.

STAR – 320 is a ready-to-use liquid, which is dispensed into the concrete together with the mixing water. The dispersing of admixture shall be more uniform if the admixture is added to the damp concrete after 50 to 70% of the mixing water has been added. The addition of STAR – 320 to dry aggregate or cement is not recommended.

### CURING:

Normal curing methods such as water pounding/ spray or wet Hessian must be used.

### Mix Design:

STAR has a dedicated advisory service on concrete mix Design and can be controlled if assistance is required.

## STORAGE

This product has a minimum shelf life of 12 month when stored under normal temperature. It should be protected from extreme temperatures. It should be protected from extreme temperature and preferably stored in shade.

## PRECAUTIONS

STAR – 320 is safe, non-toxic, and eco-friendly and presents no health hazard. As with all chemicals, caution should always be exercised. Protective clothing such as gloves and goggles

**INHALATION:** Inhalation of vapor or mist should be avoided. Symptoms include coughing, wheezing, laryngitis, and shortness of breath, headache, nausea, and vomiting. Immediately shift victim to fresh air, and, if needed immediately start artificial respiration. Give oxygen if breathing is labored. Get emergency

**EYE CONTACT:** Flush eyes with water for 15 minutes and call for medical help.

**INGESTION:** causes nausea, vomiting, and loss of consciousness. If accidentally swallowed do not induce.

**SKIN CONTACT:** Flush with water or soap and water until all traces have been removed. Seek medical attention if required.

Technical Support:



Polymertech UK Ltd.  
& CN-07468396  
United Kingdom

**NOTE:-** We make no warranty either expressed or implied or statutory in this document except as expressly stated in any sale and purchase agreement entered into between the buyer and us. This document is a technical data information sheet. The information given in this sheet is to the best of our knowledge, true and accurate. However buyers are requested to confirm the same in their laboratories as test results may vary between two laboratories due to change in test conditions, purity of chemicals and personal error of chemists. Under the above conditions we are not liable for special, incidental or consequential damage.

**For further assistance kindly mail us :** support@starcoating.in

**Marketed By:**



**Star Coatings & Membranes Pvt. Ltd.**

New Delhi-110025, visit us at : [www.starcoating.in](http://www.starcoating.in), E-mail: [info@starcoating.in](mailto:info@starcoating.in)



(ISO 9001:2000)