



STAR - 331

HIGH RANGE WATER REDUCING SUPERPLASTICISER

DESCRIPTION

STAR-331 is Brown aqueous solution based on Sulphonated Formaldehyde and selected additives. **STAR-331** produced high workability pump able/Flow able concrete without loss of strength. It promotes high and early ultimate strength by taking advantage of water reduction while maintaining workability.

ADVANTAGES

- **Bleeding and segregation minimized:** Produces high quality concrete of improved durability and impermeability.
- **Slump Retention:** Excellent retention of slump at very low dosage.
- **Increased Strength:** Provides high early strength for pre-cast concrete with the advantage of higher water reduction ability.
- **Improve workability:** Increased workability reduces placing time and labor cost.
- **Improve Quality of Concrete:** Denser, close textured concrete with reduced porosity and hence more durable.
- **Chloride Free:** Safe in pre-stressed concrete and with sulphate resisting cement and marine aggregates.
- **Higher Cohesion:** Cohesion is improved due to dispersion of cement particles. Minimize segregation and finish of concrete surface.

USES

- RCC Columns/Beams.
- Pre-cast & Pre-stressed concrete
- General purpose concrete Mix.
- Ideal for heavily reinforced concrete structures
- Pump grade concrete applications.

STANDARDS COMPLIANCE

- ASTM C494-86 Types F
- IS 9103:1999

TYPICAL PROPERTIES

PROPERTIES	RESULTS
Appearance	Free flowing Liquid
Colour	Dark Brown
Active Solids	30±2
Chloride Content	0.00 % (Nil)
Water reduction %	20-25 %
Compressive Strength %	110
Ph Value	7-8
Specific Gravity @28 ° C, gms/ml	1.15±0.02

COMPATIBILITY

It can be used with all types of cement except high Alumina cement..Site trial should be carried out to optimise dosages.

- **Workability:** Can be used to produce flowing concrete requires no compaction. Some minor adjustments may be required to produce high workable mix without segregation.
- **Water Content:** Mixe 20-25% less water than required.
- **Cohesion:** Cohesion is improved due to dispersion of Cement particles thus minimizing segregation and improve surface finish.
- **Compressive strength:** Early compressive strength is increased upto 20% if water reduction is taken advantage of. Generally, there is improvement of strength upto 110% depending upon water to cement ration and other mix parameters.
- **Durability:** Reduction in water to cement ration enables increase in density and impermeability thus enhancing durability of concrete

APPLICATION INSTRUCTIONS

Dosage:

The optimum dosage is best determined by site trials with the concrete mix that enables the effect of workability, strength gain or cement reduction to be measured. Site trial with this product should always be compared with mix containing no admixture. As a guide the rate of addition is generally in the range of 200 ml to 750 ml per 50 kg of Cement.

Over Dosing:

An over dose of double the recommended amount of this product will result in very high workability and some retardation of setting time will occur. However, the ultimate compressive strength will not be impaired.

Dispensing:

The measured quantity of this product should be added along with the gauging water. For best result, add this product in the last phase after pre-wetting the mix with 80% of the total water required.

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 18 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 – 331 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

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(ISO 9001:2000)