

# EPOCON SP 970

High Range Water Reducing, Super Plasticizer Concrete Admixture



## DESCRIPTION

**EPOCON SP 970** is a high range water reducing, early strength increasing super plasticizer concrete admixture. It can provide very high level of water reduction up to 10 to 15 % without loss of workability or to produce high quality concrete of reduced permeability with highly early strength

## CHARACTERISTICS

**EPOCON SP 970** is used for ready mix concrete and precast industry where high early compressive strength of the concrete is very important. It reduces mixing water (w/c ratio in concrete structure). It promotes excellent dispersion of the particles in cement resulting in a major improvement of the workability. It provides good wetting of fine-coarse aggregates, cement and mineral additives. It can be used under all weather conditions. It does not cause segregation. Free of Cl ions. It can be used with all types of cement. Prolongation of workability time depends on cement type and ambient temperature

## APPLICATIONS

**EPOCON SP 970** is used for cross-sections, ready mix concrete for early mold in projects and all types of concrete structures. It is used for producing prefabricated members, economical concrete, quality plasticizer concrete, and precast industry. It is used for providing stable concrete strength. It is used for increasing 16 hours and 28 days strength.

## USAGE

**EPOCON SP 970** is used as a plasticizer without any risks of segregation, for ready mix concrete and precast industry where high early strength is necessary. Mix cement (and pozzolanic materials), sand, aggregate and 50-70% of mixing water are mixed until a homogeneous mixture obtained. **EPOCON SP 970** is added the remaining mixing water and mixed until a homogeneous mixture and the desired workability obtained.

## COMPATIBILITY

**EPOCON SP 970** can be used in all types of Portland cement, sulfate resisting cement and supplementary cementitious materials. **EPOCON SP 970** should be dispensed directly into the mixer and should not be pre-mixed with other admixtures.

If other admixtures are to be used in concrete containing **EPOCON SP 970**, they must be dispensed separately.

## TECHNICAL SPECIFICATION

| Test Name              | Average Result  |
|------------------------|---|
| Chemical Composition   | Sulphonated naphthalene based                                   |
| Form                   | Liquid (Homogeneous)  |
| Colour                 | Dark Brown  |
| Specific Gravity @20°C | 1.200 ± 0.03  |
| pH                     | 7.5 ± 1.5   |
| Chloride content (%)   | < 0.1   |
| Freeze harm            | Complete Stir or agitate the container before use               |
| Freeze temperature     | 0°C   |
| Boiling point          | 100°C   |
| Odor                   | Mild odor   |
| Toxicity               | None  |
| Flammability           | None  |
| Clean-up               | Water   |
| Fumes during treatment | Slight  |
| Environmental Hazards  | None  |
| Air Entrainment        | Up to 2.0% depending on dosage rate and concrete proportioning. |



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## CONSUMPTION

**EPOCON SP 970** is used in a range of 0.60 Kg to 2.0 Kg/100Kg of the cementitious material weight (Depending on climatic conditions, proportioning and other components of the concrete)

## REMARKS

Usage dosages stated here under were obtained in laboratory conditions; they may change depending on the characteristics of other components, ambient conditions and water/cement ratio. Therefore, it is recommended that designs and tests should be conducted at sites using preliminary mixture ratios.

## RELEVANT STANDARDS

**ASTM C 494 Type D/G, BS 5075 Part I, BS EN 934 Part 2 (TS EN 934-2)**

## PACKING

Plastic jerry can (30Kg), Drums (250Kg), Bulk (storage tanks can be provided for Bulk use)

## SHELF LIFE

12 months indoors, without opening original package. The product should be stored in a cool, dry storage. Do not store at temperatures below 10°C or in direct sunlight.

## TECHNICAL ASSISTANCE

**EPO GULF SPECIALITIES**; technical department with its highly trained and qualified Chemicals Marketing Advisory team provides a complete service in the field. Please consult your nearest service/sales department for assistance. Field services where provided, do not constitute any supervisory responsibilities.

## TECHNICAL INFORMATION

**Typical Engineering Data:** The following data using **EPOCON SP 970** was developed under laboratory conditions and according to ASTM C 494/10a limits Type D/G.

## Mix Design:

Cement content (OPC): 307 Kg/M<sup>3</sup>  
Coarse aggregate: approx. 30 %  
Fine aggregate: approx. 70 %  
Admixture dosage: 1 %  
Water/Cement Ratio: 0.52

| Properties  | Specification % of Control  | EPOCON SP 970                     |
|---|-----------------------------|-----------------------------------|
| <b>Compressive Strength vs. Control 100%</b><br>3 days<br>7 days<br>28 days | <br>125 %<br>115 %<br>110 % | <br>> 130 %<br>> 120 %<br>> 110 % |
| <b>Flexural Strength vs. Control 100%</b><br>7 days<br>28 days              | <br>100 %<br>100 %          | <br>> 105 %<br>> 102 %            |

| Properties  | Control Mix            | EPOCON SP 970          |
|---|------------------------|------------------------|
| <b>Setting Time</b><br>Initial Setting<br>Final Setting | <br>240 min<br>495 min | <br>430 min<br>562 min |
| <b>Length Change ASTM C 157 @28 days</b>                | -0.025 %               | -0.031 %<br>Pass       |

## SAFETY PRECAUTIONS

As with all construction chemical products, adequate precautions and care must be taken during usage and storage. Avoid direct contact with foodstuff, eyes, skin, and mouth. Keep away from children and animals. Any direct contact with skin, eyes, etc. should be washed thoroughly with clean running water and soap. Use proper safety wear, goggles, and mask, etc.

## NOTICE

The information given in this publication is based on present state of our knowledge. Any recommendations and suggestions are made without guarantee since the conditions and procedures are beyond our control. Buyers and users should make their own assessment of our product under their own conditions and for their own requirements

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