

# EPOCON SP 990

High Range Water Reducing, Retarding, Super Plasticizer Concrete Admixture



## DESCRIPTION

**EPOCON SP 990** is high range water reducing super plasticizer concrete admixture. It can provide very high level of water reduction up to 20 to 25 % without loss of workability or to produce high quality concrete of reduced permeability with highly early strength

## CHARACTERISTICS

Owing to its binder composition of synthetic complex co-polymers **EPOCON SP 990** increases early and final strengths of the concrete. It promotes excellent dispersion of the particles in cement resulting in a major improvement of the workability. Extended setting time allows effective hot-weather concreting at low water cement ratio. It allows quicker consolidation and improves surface appearance and pumpability as well as improved impermeability and reduced shrinkage in the hardened concrete. Compatible with concrete containing pozzolanic materials.

## APPLICATIONS

**EPOCON SP 990** is used as multipurpose HRWRA for ready mix concrete and industry; at dams, viaducts, bridge supports road works, pre-fabrication, reinforced concrete, high strength concrete, industrial slabs, light weight concrete, pre-stressed concrete, parking structures, watertight concrete without any risks of segregation **EPOCON SP 990** is formulated to ensure fluidity concrete remains workable for more than 2 hours at high temperature.

## USAGE

Mix cement (and pozzolanic materials), sand, aggregate and 50-70% of mixing water until a homogeneous mixture is obtained. **EPOCON SP 990** is poured into the concrete mix after the addition of the first 50 – 70 % of the mixing water. It is important that the mixing period should be sufficiently extended for the complete dispersion throughout the mix. **EPOCON SP 990** is added to the remaining mixing water until required workability and homogeneous mixture are obtained.

## COMPATIBILITY

**EPOCON SP 990** can be used in all types of Portland cement, sulfate resisting cement and supplementary cementitious materials. **EPOCON SP 990** 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 990**, they must be dispensed separately.

## TECHNICAL SPECIFICATION

Test Name	Average Result
Chemical Composition	Sulphonated naphthalene based
Form	Liquid
Colour	Dark Brown
Specific Gravity@20°C	1.225 +/- 0.01
pH	7.5 ± 1.5
Chloride content (%)	Zero as (EN 480-10) (According to the report B.30.2. TU. 0.50.00.00/4621 of TU)
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 990** is used in a range of 0.60 Kg to 2.2 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 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 INFORMATION

**Typical Engineering Data:** The following data using **EPOCON SP 990** was developed under laboratory conditions and according to ASTM C494/05 limits Type G.

### Mix Design:

Cement content (OPC) 307 Kg/M<sup>3</sup>  
Coarse aggregate 62 %  
Fine aggregate 38 %

### Compressive Strength vs. Control

1 day - up to 140%  
3 days - 140 - 160%  
7 days - 130 - 150%  
28 days - 130 - 140%

### Flexural Strength vs. Control

3 days - 120 - 130%  
7 days - 120 - 130%  
28 days - 110 - 120%

## 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.

## 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.

## 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