

EPOCON SP 545

High Performance, High Water Reducing, Super Plasticizer Concrete Admixture



DESCRIPTION

EPOCON SP 545 is a chloride free super plasticizer concrete admixture with high performance, high range water reducing concrete admixture. It can provide very high level of water reduction 15 to 20% without loss of workability or to produce high quality concrete of reduced permeability with highly early strength.

CHARACTERISTICS

EPOCON SP 545 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 Chloride ions. It can be used with all types of cement. Prolongation of workability time depends on cement type and ambient temperature

APPLICATIONS

EPOCON SP 545 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 545 is used as a super plasticizer without any risks of segregation, for ready mix concrete where high workability is required. Concrete will be workable up to 3 hours if right dosage and mix design used. Mix cement (and pozzolanic materials), sand, aggregate and 50-70% of mixing water are mixed until a homogeneous mixture obtained. **EPOCON SP 545** is added the remaining mixing water and mixed until a homogeneous mixture and the desired workability obtained.

COMPATIBILITY

EPOCON SP 545 can be used in all types of Portland cement, sulfate resisting cement and supplementary cementitious materials. **EPOCON SP 545** 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 545**, they must be dispensed separately.

TECHNICAL SPECIFICATION

Test Name	Average Result
Chemical Composition	Sulfonated naphthalene based
Form	Liquid (Homogeneous)
Colour	Brown
Specific Gravity	1.205 ± 0.01 (20°C)
pH	7 ± 1.5
Chloride content%	< 0.06
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 545 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 temperature conditions, dosage and water/cement ratio. Therefore, it is recommended that mix 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), (EN 480-10)

PACKING

IBC (1000 Ltr), Bulk

SHELF LIFE

12 months from the date of manufacturing.

STORAGE CONDITION

Store indoor at a temperature between +5°C to +45°C. If frozen agitate thoroughly before use. Protect from 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 545** was developed under laboratory conditions and according to ASTM C 494/10a limits Type G.

Mix Design:

Cement content (OPC) 307 Kg/M³
Coarse aggregate: approx. 30 %
Fine aggregate: approx. 70 %
Admixture dosage: 1 %
Water/Cement Ratio: 0.54

Properties	Specification % of Control	EPOCON SP 545
Compressive Strength vs. Control 100%		
3 days	125 %	> 130 %
7 days	115 %	> 125 %
28 days	110 %	> 120 %
Flexural Strength vs. Control 100%		
7 days	100 %	> 105 %
28 days	100 %	> 103 %

Properties	Control Mix	EPOCON SP 545
Setting Time		
Initial Setting	240 min	415 min
Final Setting	495 min	568 min
Length Change ASTM C 157 @28 days	-0.022 %	-0.024 % 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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