

# KEM SUPLAST PCE 100 VM

**Hyper Plasticizer based on a blend of modified Poly Carboxylate & viscosity modifier Ether (PCE)**

**Ref. CA/SP-V1-0312**

## Description

KEM Suplast PCE 100 VM is a liquid admixture based on a blend of polycarboxylate others and viscosity modifying agents.

Incorporating KEM Suplast PCE 100 VM adjusts the viscosity of a mix ensuring the right balance between flow ability & resistance to segregation to be achieved. This can not be achieved by addition of water due to possibility of segregation.

## Uses

KEM Suplast PCE 100 VM can be used whenever an increase in mix viscosity would be advantageous:

- SCC (Self Compacting Concrete)
- Pumped concrete
- Mixes lacking in fines.
- Deep sections that may be prone to bleeding.
- Improve surface finish.

## Advantages

- Can be used with all types of cement.
- Suitable for both low & high workability mixes.
- Does not effect setting times at given dosages.
- Mixes are less **sensitive** to changes in water demand.
- Can prevent segregation due to grading changes.
- Increases cohesiveness & eliminates bleeding.

- Obtain a more even mortar to entrain & keep the solid concrete particles in suspension, thereby ensuring excellent filling of the formwork.
- Make the mixture less sensitive to variations in sand grading, shape & moisture content of the aggregates & to the characteristics of the binders.
- Low risk of segregation, greater pumping speeds & distances.
- Provide a wide range of tolerance in mix water content.

## Typical Properties

**Appearance** : Brown colour liquid.

**Specific gravity** : 1.110-1.130 @ 20°C

**pH** : 6 - 9

**Chloride Ion content** : Nil to BS

**Alkali content** : < 0.1%

## Standards

ASTM C494 Types F

ASTM C – 1017 Type I

IS 9103: 1999

## Direction for use

KEM Suplast PCE 100 VM is a ready to use liquid admixture, which should be added to the concrete after all the other components of the mix.

This is a particularly important in order to obtain maximum efficacy. For best performance it is advisable to continue mixing until the mix is completely homogeneous. To produce Self Compacting Concrete, KEM Suplast PCE 100 VM may be used in combination with other super plasticizer mixtures.

**Application:** KEM Suplast PCE 100 VM consists of water - soluble polymers which are absorbed on to the surface of the cement granules, thereby changing the viscosity of the water & influencing the rheological properties of the mix. KEM Suplast PCE 100 VM has a dual action. During the concrete placement of:



It decreases viscosity & maintains internal cohesion of the concrete during casting, due to shear thinning.

**Whilst** the concrete is static:

It resists segregation due to aggregations of the polymer chains when the concrete is not moving.

Can be used as such or blended with other plasticizers to obtain various properties. KEM Suplast PCE 100 VM is chloride free & compatible with all cements to ASTM standards for reinforced concrete.

### Dosage

KEM Suplast PCE 100 VM is batched on the total of fines below 0.1 mm & is recommended between 0.3 - 2.0% by weight of cement/fines. Other dosage may be recommended in special cases according to specific job site conditions.

### Effects of Over Dosage

A severe over-dosage of KEM SUPLAST PCE 100 VM can result in the following:

- Extension of initial and final set
- Bleed/segregation of mix, quick loss of workability
- Increased plastic shrinkage

A slight overdosing may not adversely affect the ultimate strength of the concrete and can achieve higher strengths than normal concrete, provided it is properly compacted and cured.

### Compatibility

KEM Suplast PCE 100 VM is compatible with OPC, PPC, Fly Ash, GGBS & micro silica.

### Corrosivity & Non-Corrosivity

KEM SUPLAST PCE 100 VM admixture will neither initiate nor promote corrosion of reinforcing steel embedded in concrete, prestressed concrete or concrete placed on galvanized steel floor and roof systems. Neither calcium chloride nor any calcium chloride-based ingredients are used in the manufacture of KEM SUPLAST PCE 100 VM admixture.

In all concrete application, KEM SUPLAST PCE 100 VM admixture will conform to the most stringent or minimum chloride ion limits currently suggested by construction industry standards and practices.

### Workability

KEM SUPLAST PCE 100 VM ensures that rheoplastic concrete remains workable in excess of 30 minutes at +25°C. Workability loss is dependent on temperature, and on the type of cement, the nature of aggregates, the method of transport and initial workability. It is strongly recommended that concrete should be properly cured particularly in hot, windy and dry climates.

### Packaging

KEM Suplast PCE 100 VM is supplied in 210 litre drum.

### Storage and Shelf life

KEM Suplast PCE 100 VM must be stored in a place where temperature does not drop +5°C. If product has frozen, thaw @ +3°C & agitate until completely reconstituted. Store under cover, out of direct sunlight & protect from extremes of temperature. Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging.

Shelf life up to 12 months if stored according to manufacturers instructions in original unopened Drums.

### Technical Service

Chembond has established itself in various fields on the basis of its dependable technical service. For this purpose, we maintain a well equipped laboratory for research & quality assurance of all products. Our experienced personnel are always on call and would always be available for product demonstrations and product performance monitoring.

### Safety precautions

KEM Suplast PCE 100 VM is non-toxic and non-flammable. However, any splashes on the human body, must be washed with plenty of water.

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