

**High Performance Superplasticizer**

VB-Parmix is polycarboxylate ether (PCE) based high range water reducing admixture developed and manufactured by Finnsementti. It is a most versatile superplasticizer for readymix concrete.

**Properties**

VB-Parmix is intended for all ready-mix concrete. It can be used for normal, high-strength and self-compacting ready-mix concrete. It is also suitable for air-entrained ready-mix concrete.

VB-Parmix has an extremely high water reduction capacity. It has a slight set retarding effect depending on dosage and concrete temperature. VB-Parmix has a very long duration of action.

**Dosage**

VB-Parmix is a ready-to-use liquid. It is added to the concrete mixer either together with concrete water or into fresh concrete. The agent is most effective when added into concrete about a minute after dosing water.

The dosage of VB-Parmix is usually 0.5...2% of the weight of concrete. 0.5...1.0% dosage is used for plasticising normal concrete. In high-grade concrete, dosage is usually 1.5...2% of concrete weight. In self-compacting concrete, the dosage of VB-Parmix is 2.0...3.0%.

**Applications**

VB-Parmix has a long duration of action, lasting at a temperature of 20 °C for more than an hour. VB-Parmix is suitable for ready-mix concrete. Because of the extremely high water reduction capability, it can be used to manufacture high-grade concrete and self-compacting concrete. VB-Parmix has a slight set retarding effect, which needs to be taken into account in cool circumstances when using large (> 2.5%) dosages.

VB-Parmix is suitable for manufacturing air-entrained, frost-proof concrete together with the air-entraining agent by Finnsementti (Ilma-Parmix).

VB-Parmix is suitable for manufacturing self-compacting concrete.

**Technical information**

Colour:	brownish
State:	liquid
Dry content:	12%
Density:	1030 kg/m <sup>3</sup>
Base material:	Polycarboxylate
Operating temperature:	over +5 °C
Storage temperature:	over +5 °C
Chloride content:	< 0.1%

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### Superplasticised Concrete

Superplasticised concrete is manufactured by substituting part of the water used during manufacturing with a high grade water reducing admixture, such as VB-Parmix. The workability of concrete remains unchanged even if up to 30% of water is substituted with superplasticiser. The late strength of concrete grows in the same proportion as the water-concrete ratio decreases.

### Self-Compacting Concrete

VB-Parmix can be used to manufacture self-compacting concrete. It is concrete which compacts by its own weight, without vibration. When this kind of concrete is manufactured, a large amount of filler is needed. It is also usual to use a relatively large amount of concrete. If there is no suitable natural filler available, lime filler for example is used in the manufacturing of self-compacting concrete. The segregation of self-compacting concrete can be avoided by using Stabilizing admixture (Parmix-Stabilaattori).

### High-Strength Concrete

Concrete with a compression strength of at least 70 MPa is called high-grade concrete. The manufacturing of this kind of concrete is based on the use of silica (Parmix Silika) and a remarkably heavy water reduction implemented with a superplasticiser.

Strong water reduction requires that the admixture used has an excellent dispersing power. VB-Parmix fulfils this requirement.

### Duration Of Action of Plasticizer

The speed of concrete reactions clearly grows as temperature rises, and at the same time the effect of the plasticiser disappears more quickly. The duration of action is clearly longer in cold than in high temperatures.

VB-Parmix has been developed for readymix concrete, and its duration of action is long even in warm circumstances.

### Use with Other Admixtures

VB-Parmix is suitable for use together with other admixtures by Finnsementti.

VB-Parmix is also suitable for the manufacturing of air-entrained, frost-proof concrete together with air-entraining agents such as Ilma-Parmix.

### Environment and Industrial Safety

VB-Parmix has not been classified as a dangerous chemical, but as with chemicals generally, prolonged exposure may cause irritation in the eyes or on the skin. Therefore we recommend the use of protective eyewear and gloves in continuous application.

Spoiled or outdated VB-Parmix is no hazardous waste and is disposed of according to the local regulations.

Also read the Material Safety Data Sheet.

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