



CONSTRUCTION CHEMICALS TECHNOLOGIES

## VIMATOL® – BE

**Hardening (strength) accelerator  
Concrete anti-freezer**

### *Properties*

**VIMATOL-BE** is a liquid additive that works as a hardening (strength) accelerator for concrete. Thus the fresh concrete can withstand the tensions developed by water expansion which freezes inside its mass.

Also **VIMATOL-BE** lowers the freezing point of water, and postpones the formation of ice at lower temperatures.

### *Applications*

Used as an aid in the concrete placement at low temperatures.

The ambient temperature during concrete placement can reach -5° C, so after sunset, when it will drop to -10° C, the concrete will have sufficient early strength to cope with the tensile tensions developed.

**VIMATOL-BE** can also be used for any other reason required early strength attainment, e.g. early mold, direct foot traffic etc.

### *Technical Characteristics*

Colour: yellowish    Density: 1,32 kg/l    pH: ≤ 6,78

Conciseness in water-soluble chlorine :< 0,05% → free of chlorine

Maximum conciseness in alkali: 0,1%    Setting point: ~ -17° C

### *Dosage*

Recommended dosage: 1 % by cement weight

For the appropriate application, recommended dosage trial mixes should be performed with the materials and proportions used in the project, as the chemical action of the additive is affected by the properties and the ratios of the other concrete components



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## **Effectiveness**

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For the recommended dosage the early compressive strength increases for age of 1 day, more than 5%, while for age 2 days more than 30%.

The strength at the age of 28 days does not show, the usual for the hardening acceleration decrease, unlike usually observed a small increase in final strengths.

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## **Storage**

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The life span of **VIMATOL-BE** reaches 18 months in the initial closed packing in temperatures between - 17°C and + 35°C. In low temperatures between -18°C and - 25°C partial thickening of the material can be observed, however simple stirring brings back its homogeneity and it can be used with no need to be heated.

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## **General Remarks for placing concrete at low temperatures**

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- Concreting is **forbidden** when the temperature is less than -15° C.
- Concreting is not advisable when the ambient temperature is expected to be below -10° C in the next 12 hours.
- The materials used for the production of concrete should be heated or at least have a temperature above 0°C.
- It is recommended to use cement of high early strength 42,5 R or rather 52,5 R.
- The minimum cement content shall be 350 kg/m<sup>3</sup> and maximum ratio W/C = 0,58, meaning what is valid for concrete of reduced water permeability.
- The use of superplasticizer **VIMATOL-SPL** simultaneously with that of **VIMATOL-BE** facilitates the maintenance of low quantity of mixing water.
- During the setting, but for the next 3-4 days, it is compulsory to use thermal protection of the concrete e.g. with polyethylene sheets.

**Concrete additives improve the properties of concrete significantly. However, this does not imply that concrete technology regulations should not be strictly applied.**