



CONSTRUCTION CHEMICALS TECHNOLOGIES

VIMAROL®

Water Reducer / Concrete plasticiser*
Mass waterproofing

Properties

VIMAROL is a liquid additive acting as **mass waterproofing** due to its plasticising action.

- as a **water reducer**, it reduces porosity and improves binding power.
- as a **plasticiser** of the ready mixed concrete, it improves workability, acts against separation of its aggregates and therefore optimizes condensation.
- In both cases, **VIMAROL** improves cement hydration and development of cement grout in the concrete mass, resulting in increased strengths and reduction of water permeability. Also it reduces significantly the creation of cracking due to shrinkage setting.

Applications

VIMAROL is a significant aid in preparing pumped concrete specifically in cases of dense reinforcement or fair-faced concrete.

- **VIMAROL** is added as a water reducer during concrete preparation, so by reducing water/cement ratio, it significantly increases its initial and final strengths
- **VIMAROL** is added as plasticiser in ready-mixed concrete, so it significantly improves workability and final strength of concrete.
- In both the above cases, **VIMAROL** acts as a mass waterproofing. However, mainly for practical reasons, it is added into the ready-mixed concrete on site as a plasticiser – mass waterproofing.
- **VIMAROL**'s plasticising action decreases after 30 minutes. Mixing in the truck mixer drum should last 4-5 minutes in high rotations (8-12 rounds per minute) so as to achieve a uniform distribution of **VIMAROL** in the mass.

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- In accordance with the standard ELOT EN 934-2:2001, Table 2. The conformation was certified by ELOT with Certification No 0365-CPD-070/01.12.01/1
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Technical Characteristics

Colour: dark brown Density: 1,10-1,16 kg/l pH: $\leq 5,2$
Conciseness in water-soluble chlorine: free of chlorine
Conciseness in alkali: $\leq 1,0\%$ by weight

Dosage

Permissible dosage: 0.4 – 0.9% by cement weight
Recommended dosage: 0.5 – 0.6% by cement weight

In order to find the best dosage in each case, some test mixtures are required. The respective concrete compositions should be made with the materials and ratios to be used on site, as the chemical action of the additive is affected by the properties and the ratios of the other concrete components.

Effectiveness

Indicatively the effectiveness of **VIMAROL**, so that the user can be directed in the determination of the advisable dosage, is summarized in the followings:

Water Reducer:

For all the field of the allowed dosage, with reduction of mixture water by 8% until 11%, the increase of compressive strength so much afterwards 7 as afterwards 28 days is bigger than 10% (Requirements of Table 2 of standard ELOT EN 934-2)

Plasticiser:

VIMAROL for the minimal dosage (0,4%) offers at least doubling of initial slump flow , while for biggest (0,9%) it corresponds in the requirements of a superplasticiser. (The ELOT EN 934-2 standard does not forecast control for the action of the plasticiser, only requirements for the superplasticiser according to Table 3.2). For all the field of the allowed dosage the increase of the final strengths is given for over 10%, while the relative standard allows for the superplasticisers reduction up to 10%.

Storage

The life span of **VIMAROL** reaches the 18 months in the initial closed packing in temperature between $+ 5^{\circ}\text{C}$ and $+ 35^{\circ}\text{C}$. The material must be protected from direct solar radiation and frost.



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General Remarks

- **VIMAROL** is suitable for all kinds of Portland cement.
- Overdosage may cause concrete setting retardation, this however will not effect unfavourably the final strengths
- If the material is frozen, return it to a temperature at least +5° C and stir so as to achieve uniformity.

! Concrete additives improve the properties of concrete significantly. However, this does not imply that Concrete Technology Regulations should not be strictly applied.