

Superplasticizer for water-resistant concretes



AREA OF USE

Cementol Waterproof Concrete is a superplasticizer designed to produce concretes that resist water penetration under pressure and to improve the overall quality of the concrete. It allows a reduction of up to 30 % in the amount of water to be mixed, depending on the type and dosage of cement, the water-cement ratio and the dosage of the superplasticizer.

The strength of the basic concrete is increased when the water/cement ratio is reduced by adding a superplasticizer to the concrete at the same time, thus increasing the density of the cement paste, resulting in improved water-tightness.

The basic concrete's workability, pumpability and buildability are improved by keeping the water/cement ratio constant when the superplasticizer is added.

ACTION

By adsorbing the superplasticizer to the cement particles, they acquire the same charge, improving wetting and lowering internal friction. This improves the workability of the cement paste and, as a result, the fresh concrete. The increased density of the hardened cement paste improves the water-tightness of the concrete and its durability. The adhesion of concrete to steel reinforcement is also improved.

TECHNICAL CHARACTERISTICS

Characteristic	Declared value
Appearance	Dark brown liquid
Density, 20 °C	[1.18 ± 0.03] kg/L
pH	9 ± 1
Water-soluble chloride content [Cl ⁻]	Chloride free
Alkali content [Na ₂ O equivalent]	<8.0 %

COMPLIANCE

Cementol Waterproof Concrete – superplasticizer complies with the requirements of EN 934-1 and EN 934-2 / T3.1 and T3.2

DOSAGE AND INSTRUCTIONS FOR USE

The recommended dosage is 0.5 - 1.5 % by weight of cement [0.125 - 0.375 kg per 1 bag of cement], depending on the desired effects and working conditions.

For the preparation of good quality concrete, in addition to sufficient cement, natural/crushed sand and coarse aggregate of the appropriate grain size and composition, and drinking water are used.

The concrete admixture is dosed diluted with the mixing water. In this way, we allow it to be evenly distributed throughout the concrete mix.

Instructions for the preparation of water-tight concrete:

The prerequisites for the preparation of water-tight concrete are a sufficiently high cement dosage and a sufficiently low water-cement ratio.

1. Dose of cement in 1 m³ of concrete:
 - min. 300 kg/m³ if using 0-31 mm aggregate, or
 - min. 350 kg/m³ when using aggregate size 0-16 mm.
2. The water/cement ratio [w/c] can be max. 0.45 and can be reduced by using Cementol Waterproof Concrete superplasticizer

$$\frac{V}{C} = \frac{\text{quantity [kg] of water}}{\text{quantity [kg] of cement}} = \text{max. 0.45}$$

Water in the sand must also be taken into account in the calculation!

Indicative recipe for a 100 L mixer:

• Cement	approx. 20 kg [5 shovels] approx. 24 kg [6 shovels]	if using 0-31 mm sand if using 0-16 mm sand
• Sand	approx. 120 kg [15 shovels]	
• Cementol Waterproof Concrete	approx. 2 dL approx. 3 dL	if using 0-31 mm sand if using 0-16 mm sand
• Water	max. 9 L max. 10.5 L	Added water and sand water together! Added water and sand water together!

Mixing instructions:

Switch on the concrete mixer and add 4-5 L of water and Cementol Waterproof Concrete. Add 3 shovels of sand and then cement. Then add the remaining sand and, if necessary, water to the maximum amount. Add the water carefully and slowly - the water should not be secreted on the surface.

Add all the ingredients while mixing.

Mix the concrete mix for about 5 minutes to obtain a homogeneous fresh mix.

If the concrete is installed for so long that its workability is reduced, this can be corrected by adding Cementol Waterproof Concrete (do not add water!). Care must be taken to ensure that the total amount of the additive does not exceed the maximum recommended dose of 1.5 %.

After this workability correction, mix the concrete for at least 1 minute more.

Note: for the above recipe, an additional 0,5 dL of additive can be added to the mixer.

Cementol Waterproof Concrete is compatible with other admixtures such as Cementol Wintermix Concrete and Cementol Concrete Contact.

If several admixtures are used in one concrete mix, they must be added separately (one after the other).

Mix before use.

PACKAGING

cans 5 kg and 10 kg

STORAGE

- The product should be stored at temperatures between +5 °C and +35 °C. Protect it from damage, freezing and direct sunlight.
- A properly stored product has a shelf life of at least 2 years after the date of manufacture.
- The product may still be used after the date of expiry, but the characteristics important for the intended use have to be examined.

HEALTH, SAFETY AND ECOLOGY

Protective gloves must be worn when working with Cementol Waterproof Concrete. Follow the general instructions for working with chemicals: take care of cleanliness, do not eat, drink or smoke while working. After finishing work, wash hands thoroughly with water.

More information on safe handling and disposal of the product is available in the safety data sheet, which is provided on request, and is also available from the dealer or distributor where you purchased the product.

WARNING

Instructions and recommendations are given based on tests in our laboratories and experience to date. Due to specific conditions and work methods, preliminary tests are advised for every type of use, for each individual case of use of the product alone, or in combination with other admixtures. Since we cannot influence the course of work, we cannot be held responsible for its quality!



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