

# ConProtect WP1

Liquid waterproofing crystallizing concrete admixture

## DESCRIPTION

ConProtect WP1 is an easy-to-use liquid concrete admixture based on nanotechnology.

ConProtect WP1 is used to ensure the resistance to water of concrete and to fill microcracks in a humid environment.

The admixture, based on nanotechnology provokes chemical reaction with cement, filling the pores and capillaries of the concrete with a sealing insoluble structure.

## USE AND ADVANTAGES

When ConProtect WP1 is used, a significant improvement of the properties of strength and durability of cement concrete is achieved.

Used for waterproofing of basements, water tanks, roofs, reservoirs, dams, sewage treatment plants, swimming pools, water treatment plants, tunnels, marine facilities, etc. The advantages are following:

- Seals microcracks. Seals hair-line cracks up to 0.5 mm.
- Totally waterproof concrete.
- Greater durability.
- Protection against the intrusion of chlorides and sulphates.
- Withstands hydrostatic pressure.
- Improves protection against chemicals and carbonation.
- Fast pace of construction.
- Permanent water-tightness.
- Integral resistance to water.
- Non-toxic.
- Improves workability and strength.
- May reduce the cost of the admixtures used.
- Addition to concrete is not limited by weather conditions.
- The liquid does not form balls like powders and is easy to proportion automatically.
- Improves the hydration process.

## USE

### ConProtect WP1 – Liquid

ConProtect WP1 is added to the concrete in a mixing unit by an automatic batcher in the quantity of **0,8 - 1 L ( 1L=1,24-1,26kg ) per 100 kg** of total cementitious material. Under certain conditions the quantity may be up to 2 litres per 100 kg of cementitious material to meet the specific requirements of a project. Consult the material manufacturer SL Protection OÜ for optimal batching.

## STANDARDS

### Water-tightness

Absorption of water– according to the standard (EN 934-2, Table 9, MORTAR), the ConProtect WP1 reduced absorption of water, compared to the measurement standard.

Penetration of water – according to the standard EN 12390-8 it decreased compared to the reference concrete.

### Compressive strength

Measurement of compressive strength after 7 days (according to EN 934-2, Table 2) showed a 10% increase in strength, compared to the control sample.

Measurement of compressive strength after 28 days (according to EN 934-2, Table 2) showed a 10% increase in strength, compared to the control sample.

### Air content

The requirement (EN 934-2, Table 9) for the air content of the concrete mix, tested according to the standard EN 12350-7 is that the the air content of the test mix is up to 2% higher by volume than the air content of the control mix.

### Sulphate resistance

Sulphate resistance, measured by both mass loss and length gain, improved.

### Freezing / defrosting resistance

Freezing / defrosting resistance measurement according to EVS 814:2020 showed that the attack resistance of the treated concrete, compared to the control mixture was equivalent to the measurement standard concrete.

## OVERPROPORTION

Overproportion of ConProtect WP1 results in increased pumpability, faster hardening is possible. In case of accidental overproportion the strength and hardening of the concrete must be checked before removing the formworks. Usually there are no long-term adverse side effects from overproportion if the correct hardening with water has taken place before removing the formworks. Generally the strength improves in 28 days. If in doubt, contact SL Protection's Technical department.

## PACKAGING

ConProtect WP1 (liquid) is available in 1000 L IBCs. At the customer's request, it is possible to pack into other containers, such as 25 L jerricans or 200 L barrels.

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## STORAGE

The product must be kept in the shade at a minimum temperature of 7 °C. When stored in suitable conditions and in original sealed container, the shelf life is 12 months. Stir before use and protect from freezing.

## HEALTH AND SAFETY

ConProtect WP1 is highly alkaline. Protect hands with rubber gloves and eyes with protective goggles during mixing. Avoid contact with skin and eyes during the use. In case of contact, rinse with plenty of water. If irritation persists, seek medical advice.

## CONTACT OF THE MANUFACTURER

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**EVS-EN 934-2:2009+A1:2012**

**Plasticizing admixture, reducing the water demand of concrete, ConProtect WP1**

EN 934-2: T2.

Chlorides content Maximum content  $\leq 0.1\%$  by mass

Alkalis content Maximum content 10% by mass

Corrosivity Contains only components according to EN 934-1: 2008 Annex A.1

Hazardous substances NPD (*No Performance Determined*)