



## 6030

### Crystallized Water Insulation Material



Product Code : 6030  
**Quality Certificates**  
 The product conforms to the EN 1504-2 standard.

**Description:** A cement-based crystallized mortar in powder form, made of specifically selected fine aggregates and chemicals activated by water and moisture. It is applied in positive and negative directions and the chemicals it contains penetrate into the concrete in depth by reacting with moisture and free lime present in the concrete, and forms crystals that do not dissolve in capillary voids and pores.

**Application Areas:**

Positive Water Pressure: Water tanks, swimming pools, isolation of curtain wall and shear walls, irrigation canals, sewer system pipes, concrete pipes and manholes, dams, cisterns.

Negative Water Pressure: Interior isolation of basement walls and grounds, exterior isolation of water tanks, retaining walls, tunnels, subways, floors and horizontal joints, elevator excavation.

**Advantages:**

- Effective in both positive and negative water pressure.
- Integrated with the surface it is applied, does not get ripped, pierced and provides a long lasting and complete water insulation.
- Ensures impermeability by filling the capillary voids in the concrete every time it contacts with water, with its crystallized structure that does not dissolve.
- Not poisonous. Perfect for water tanks.
- Falcon Crystallized Water Insulation Material dry shake application is a very easy and effective method for isolation problems that take place in horizontal work joints.
- Protects the concrete and reinforcement iron by preventing corrosion.
- It does not need to be protected with materials such as isolation plates prior to the filling application.
- Air and water vapor permeable, the structure can breathe.
- Can be applied to fresh concrete that has not set yet.
- Resistant to freeze-thaw cycle.

**Preparation of the Surface:** The application surface must be clear of materials which prevent bonding, such as dust, oil, paint, curing agents, detergents, mold release oils, silicone, and has to be moisturized. Weak parts of the concrete have must repaired, plasters that are not adhering well must be removed, the surface must be shaped flat and sound, static cracks on the building must be repaired with High Strength Shrinkage Compensated Repair Mortar, Dynamic (moving) cracks must be repaired with Polyurethane Sealant. The application surface must be saturated with water and must be kept moist during application.

**Preparation of the Mortar:** 25 kg of Falcon Crystallized Water Isolation Material is added in 10 liters of water for applications with brush, in 7 liters of water for applications with trowel, mixed preferably with a drill with low speed until there are no lumps. Always add water into Falcon Crystallized Water Insulation Material first and then mix it. The mixture in the pot must be used in 20 minutes. Bevel perpendicular corners appropriately.

**Application Information:** After the completion of surface preparation, there are three alternative types of application methods depending on the state of surface and the age of the structure:

**1- Slurry (mortar with water):** Falcon Crystallized Water Insulation Material is applied on the moisturized surface with a brush in two layers that are perpendicular to each other. Second layer is applied when the first layer is hardened but not completely dry (in about 3 - 4 hours).

**2- Plaster:** First coat of Falcon Crystallized Water Insulation Material can be applied with a plaster of 5 - 10 mm thickness for very old concrete, brick wall or briquette surfaces. Second layer of Falcon Crystallized Water Insulation Material can be applied on this as mortar.

**3- Dry Shake:** In cold joint applications, Falcon Crystallized Water Insulation Material can be sprinkled in powder form into the joints on horizontal surfaces.

Curing with water is very important after all types of application. Following the application, Falcon Crystallized

Water Insulation Material must be prevented to get dry quickly and kept moist for about 1 week. Thus, operations such as water spraying or laying out moist sack as implemented in concrete curing operations are useful. The application method is selected depending on the state of the structure being old or new:

**1- Application on New Structures:** For isolating the water coming from the ground, Falcon Crystallized Water Insulation Material can be applied as slurry or dry shake on the leveling concrete surface right before pouring floor covering concrete. This method prevents the surface to be flooded by preventing the water to leak inside. In groundwork, water isolation must be made on outer surface (the direction of water in-flow) if possible and if not, it must be made on inner surface. In cold joint applications due to breaks while pouring the concrete during the construction work, it can be applied as dry shake horizontally and as slurry vertically. Preferred System: Slurry or dry shake

**2- Application on Old Structures:** Water isolation for concrete curtain walls with water leakage or exposed to high water pressure: If there are holes on the surface with high water flow, the holes are enlarged first with a drill or a chisel in order to let the water flow and reduce the water pressure in these holes. If there are leakages in more than one spot, water must be evacuated by drilling a hole at the lower sections of the wall. If the water pressure is too high, a thin plastic pipe is placed inside the holes. If the pressure is not too high there is no need for a plastic pipe. The whole surface is isolated with Falcon Crystallized Water Insulation Material, except the holes. The mortar must be cured 24 hours later. After completing the isolation of the entire surface except the holes, the plastic pipe is removed and the hole is plugged with Falcon Crystallized Water Insulation Material. Water isolation on top of very old concrete, brick, and briquette: Falcon Crystallized Water Insulation Material is added to the plaster. Preferred System: Slurry or plaster

**Consumption:**

- Slurry : Positive water pressure...1 – 2 kg/m<sup>2</sup> (on 2 layers)  
 Negative water pressure...2 kg/m<sup>2</sup> (on 2 layers)
- Plaster: 2 – 3 kg/m<sup>2</sup> (on plaster with a thickness of 5 mm)
- Dry Shake: 2 kg/m<sup>2</sup>

**Caution:** Avoid application in temperatures below +5°C and above +35°C. Avoid application on frozen areas, on areas under risk of freezing in 24 hours or on areas open to direct sunlight or wind. Never attempt to extend the expired mortar by adding powder and water. To maintain the consistency of the mortar during the application mix it often. Structures such as water tanks must be filled with water 24 hours after the last layer of Falcon Crystallized Water Insulation Material is applied since water pressure speeds up the formation of the crystal and the penetration of Falcon Crystallized Water Insulation Material into the concrete. Complete water isolation is obtained in 5 - 7 days after the application in general. Soil filling is done at the end of this period. The degree of formation of crystal and penetration depends on the density of the concrete and the absorbency of the surface. In order to avoid non-decorative aspect of the crystals formed by Falcon Crystallized Water Insulation Material, plaster must be applied on it when it is still wet, and the paint must be applied on the plaster. In the case of ceramic or tile applications, ceramic adhesive must be applied directly on freshly applied Falcon Crystallized Water Insulation Material. If these applications will be made on Falcon Crystallized Water Insulation Material that is cured, crystals on the surface must be wiped off with diluted hydrochloric acid or bleach before the plaster. Wiping process only removes the crystals on the surface but does not inflict damage on the crystals penetrated inside the concrete. The values mentioned above are obtained at 23±2°C and 50±5 relative humidity conditions.

**Packaging:** 25 kg craft bags

**Shelf Life:** Unopened packages can be stored in dry environments for 12 months, stacked maximum 10 packages on a pallet.

**Health and Safety:** As with all chemical products, contact with food, skin, eyes and mouth should be avoided during usage and storing. If swallowed by accident, consult a doctor. In case of contact with skin, rinse with plenty of water. Wear protective gloves, glasses and clothes. Keep out of reach of children.

**Technical Properties**

Appearance	: Grey colored fine powder
Powder Density	: ~1.20 kg/lt
Water Mixing Rate	
Slurry	: 1 measure water / 2.25 – 2.50 measures Falcon Crystallized Water Insulation Material
Trowel Consistency	: 1 measure water / 3.25 – 3.50 measures Falcon Crystallized Water Insulation Material
Plaster	: 1 measure Falcon Crystallized Water Insulation Material
	2 measures sand and enough water to obtain trowel consistency
Resting Period	: 3 - 5 minutes
Pot Life	: 20 minutes
Application Temperature	: Between +5°C and +35°C
Service Temperature	: -20°C / +70°C

Application instructions and technical data provided for the products are obtained in line with our experience and the tests we implemented according to international standards under ambient temperatures of 23 ± 2 °C and ambient relative humidity conditions of 50%±5. Higher temperatures decrease the times and lower temperatures increase them.

