

DRYMIX

CRYSTALLINE ADMIXTURE IN **POWDER**
FOR CONCRETE WATERPROOFING

CHLORIDE FREE
COMPLAINT WITH NORM EN 934-2



PRODUCT DESCRIPTION

DRYMIX is a **powder** crystalline admixture with an active chemical that waterproofs and protects concrete masses, thus extending their durability. The longevity of concrete significantly depends on its microstructural properties, such as porosity and pore size, which allow water and aggressive agents to penetrate, leading to degradation. The active chemical components of DRYMIX react with moisture and cement hydration by-products, resulting in the formation of an insoluble crystalline complex within the capillary porosity. This complex becomes an integral part of the cement matrix, acting as an impermeable barrier that prevents the penetration of water and chemical agents from any direction. The development of the crystalline formation can be reactivated over time in response to water or moisture infiltrations. It has the capability to seal cracks up to 0.5 mm in width, exerting a self-sealing action. This self-sealing action, when combined with a significant reduction in permeability, is essential for increasing the lifespan of concrete structures. DRYMIX is suitable for on-site use with all types of cement, including shotcrete and precast concrete.

FEATURES

- Waterproofs the concrete mass and protects it permanently
- Does not interact with other additives present in concrete
- Does not alter the performance of fresh concrete
- Does not affect the cement's setting time
- Reactivates in the presence of moisture and water
- Heals cracks up to 0.5 mm
- Resists extremely high hydrostatic pressures
- Waterproofs from any direction (both positive and negative sides)
- Resistant to continuous chemical aggressions with pH levels between 3 and 11
- Provides permanent waterproofing and protection to the concrete mass
- Certified for use with potable water

ADVANTAGES

- Drymix reduces waterproofing costs
- Added directly to the concrete mixer on-site
- Allows a significant reduction in the construction schedule of the works because it is not necessary to wait for the curing times of the concrete as like for the traditional waterproofing.
- Significantly increases the durability of concrete as it seals the pores, preventing the water and aggressive chemical agents from entering its mass, thereby avoiding oxidation and corrosion of the reinforcements.
- Its self-sealing properties reduce the cost of maintenance and repair of concrete structures.
- Does not contain VOCs and is REACH compliant.

GREEN TECHNOLOGY

Drymix is an eco-friendly product that uses cement chemistry to perform its function, thus allowing for future recycling and avoiding the use of any external layer or coating materials that would require a high disposal cost. Drymix Ultra therefore contributes to acquiring LEED credits.

AREAS OF APPLICATION

- Foundations
- Multi-story parking garages
- Roof slabs
- Water holding tanks and reservoirs

- Water treatment facilities
- Swimming pools
- Water basins
- Submerged elements
- Marine structures
- Tunnels and underground conduits
- Bridges, viaducts, dams

DOSAGE

The dosage of DRYMIX is 1% by weight of the cement content in the concrete. For shotcrete, the dosage should be increased to 2%.

USAGE INSTRUCTIONS

Mixing in the concrete truck on-site

Before pouring DRYMIX into the concrete mixer, the additive must be diluted with water (1 part water to 2 parts product) to obtain a slurry. Then pour the slurry into the concrete mixer while it is in loading mode and mix for at least 5-10 minutes at maximum speed to ensure an even distribution of DRYMIX in the concrete.

LIMITATIONS

When mixing DRYMIX with concrete, the temperature must be above 4°C.

DRYMIX is an effective waterproofing tool for rigid concrete structures but may not effectively heal structural or moving cracks.

HEALTH AND SAFETY

DRYMIX contains chemicals that can cause skin irritations. It is recommended to use gloves, goggles, and a mask while handling the product and follow standard precautions for handling chemical products. For further and complete information regarding the safe use of the product, refer to the Safety Data Sheet.

STORAGE

The product must be stored in a dry place. In its intact and sealed packaging, the product has a shelf life of 12 months.

PACKAGING

Available in 25 kg buckets.

TECHNICAL DATA

Performance features	Test methods	Minimum regulatory requirements	DRYMIX
Chloride content	UNI EN 480-10	≤ 0,10% in mass	≤0,06% in mass
Alkali content	UNI EN 480-12	No minimum requirement	≤9,2% in mass
Capillary absorption	UNI EN 480-5	Tested on 7 days old concrete for 7 days: test mixture ≤50 mass% of control mixture Tested on 90 days old concrete for 28 days: test mix ≤60 mass% of control mix	7-days control mix 4.2; with DRYMIX: 1.4 (33% of control) 90 days control mix 8.9; with DRYMIX 3.1 (35% of control)
Compressive Strength	UNI EN 12390-3	At 28 days: test mix ≥85% of control mix	≥100% of the mixture without additives
Air content in fresh concrete	UNI EN 12350-7	Test mix ≤2% by volume above the control mixture unless otherwise stated by the manufacturer	≤2%
Water permeability	UNI EN 12390-8	No minimum requirement	Values 40% lower than concrete without additives
Chemical resistance	ASTM C-267-77	Comparison with a mixture without additives	No variation between pH 3 and 11 with constant contact

Freeze-thaw resistance	ASTM C666 - 97	Comparison with a mixture without additives	After 300 cycles, the additivated concrete exhibits less dimensional variation (0.039%) compared to the untreated concrete (-0.09%)
Rapid Chloride Penetration	ASTM C1202-03	Comparison with a mixture without additive	Chloride penetration decreases by 50 % compared to the mixture without additive
Materials in contact with drinking water	D.M. 174/2004	Compliance with the parameters – Annex II	Compliant



Green
Building
Council
Italia

DRYKOS Srl

Registered office: Via Poli, 29 00187 Rome | **Offices:** Via San Vittore 7, 20123 Milan | Piazza Marconi 7, 12020 Tarantasca (CN) Tel: +39017118174992

Manufacturing Plant: North Industrial Area 68, Via Villafalletto, 12020 Tarantasca (CN)