Dryseal Ultra

Single-component, water-repellent, ready-to-use, high-penetration crystallizing waterproofing agent for cementitious substrates

Drykos® **Dryseal Ultra** is a water-based multifunctional treatment with crystallizing and water-repellent action, designed for the protection and waterproofing of concrete.
The product combines three integrated chemical technologies: surface repellent technology, impregnating technology with hydrated crystal formation, and deep-penetration waterproofing technology using hygroscopic crystals.
Due to its low viscosity, Drykos® **Dryseal Ultra** penetrates the pores and capillaries of concrete and reacts chemically with the moisture present and with the by-products of cement hydration. This reaction generates a protective system composed of a dense cortical crystalline formation with repellent action and crystalline structures that develop in depth, sealing the cementitious matrix.
The result is the formation of an internal non-film barrier capable of waterproofing concrete in depth, improving its compactness, restoring micro-porosity, and increasing its durability.
A single application is sufficient to protect the structure from water penetration and aggressive chemical agents such as sulfates, chlorides, and CO_2, also helping to counteract alkali-silica reaction (ASR) phenomena and freeze-thaw cycles.
Drykos® **Dryseal Ultra** maintains its effectiveness over time thanks to its ability to reactivate in the presence of new moisture within the concrete mass, activating a continuous and permanent protection mechanism.

CHARACTERISTICS

Drykos Technology

Drykos® crystallizing technology is distinguished by its efficiency through a chemical reaction with moisture and the by-products of cement hydration. This process generates, within the pores, capillaries, and cavities of the concrete, an insoluble crystalline complex that prevents water penetration. This complex becomes an integral part of the concrete mass, ensuring its resistance to water and aggressive chemical agents from any direction, promoting restoration and protection, imparting waterproof properties, and increasing its durability and service life.

Certifications

CE **EN 1504-2** Products and systems for the protection and repair of concrete structures - Concrete surface protection systems	**EN ISO 14025** Environmental labels and declarations - Type III environmental declarations	**EN 15804** Sustainability of construction works - Environmental product declarations - Core rules for the product category	**POTABLE WATER** Coating suitable for contact with water intended for human consumption in accordance with Ministerial Decree 174/2004 and Legislative Decree 18/2023.

Main characteristics

- High repellent action against water, fuels, oils, and aggressive chemical agents
- Active waterproofing in both positive and negative pressure
- Continuous chemical resistance in a pH range between 3 and 11
- High resistance to chloride and sulfate ion penetration
- Increased concrete durability in highly aggressive environments, such as marine contexts, wastewater treatment plants, and structures subject to de-icing salts
- Anti-dust effect with consolidation of the treated surface
- No alteration of the substrate's aesthetic appearance
- Improved resistance to freeze-thaw cycles
- Crack sealing capability up to 0.5 mm
- Preventive action against the formation of moss, algae, and biological vegetation
- Water-based formulation, non-toxic and low environmental impact
- Certification for suitability for contact with drinking water

Fields of use

Drykos® **Dryseal Ultra** is suitable for the protection, waterproofing, and increased durability of new or existing concrete structures, particularly in the presence of water or chemically aggressive environments. It is used in:

- Foundations, slabs, and retaining walls
- Underground parking and underground structures
- Tanks, reservoirs, and water containment structures, including potable water
- Wastewater treatment plants and sewage works
- Marine works and structures in coastal environments
- Bridges, viaducts, and infrastructure subject to de-icing salts
- Industrial flooring and concrete surfaces exposed to chemical agents
- Structures subject to freeze-thaw cycles
- Exposed concrete surfaces, both in civil and industrial applications, where a penetrating, non-film-forming, and long-lasting protective treatment is required

Green Technology & LEED

The product has a verified Environmental Product Declaration (EPD), compliant with ISO 14025 and EN 15804 standards. It contributes to credits in LEED v4/v4.1 sustainability protocols, specifically the MR credit – Building Product Disclosure and Optimization (EPD), supporting the achievement of up to 2 total points. The product is also consistent with the requirements of the Minimum Environmental Criteria (CAM) for construction, promoting environmental transparency of materials and use in sustainable public procurement.

Download EPD Certificate

EPD
INTERNATIONAL EPD SYSTEM

SPECIFICHE TECNICHE

Packaging

1-liter bottle | 5-liter canister | 25-liter canister

Color

Colorless after application.

Appearance

Liquid.

Shelf life

12 months from production date.

Storage conditions

Store correctly in the original, sealed, intact packaging, protected from frost and direct sunlight, at temperatures between +15°C and +35°C. Higher temperatures could deteriorate the product. Low temperatures could cause partial crystallization of the product; in this case, shake the package manually and store it in warm environments.

APPLICATION DATA

Theoretical consumption

~ 0.2 L/m2

Coverage

~ 5 m2 per 1 L

Thinner

Ready-to-use product.

Application temperature

Minimum +5°C | Maximum +35°C

APPLICATION INFO

Substrate preparation

Application on New Concrete
The surface to be treated must be brushed and cleaned using compressed air to remove dust, processing residues, and loose particles. Subsequently, it is necessary to wash with a pressure washer to ensure complete cleaning of the substrate. Application of Drykos® **Dryseal Ultra** must be carried out on a dry surface.
Application on Existing Concrete
Before application, it is necessary to remove any contaminants such as grease, oils, release agents, or other substances that may compromise adhesion and product penetration, using suitable detergents or systems.
Once the substrate has been cleaned, proceed with the same preparation required for new concrete.

Product preparation

Drykos® **Dryseal Ultra** is a ready-to-use product and must not be diluted. Thoroughly homogenize the product by manually shaking the sealed container before application.

Application

Drykos® **Dryseal Ultra** must be applied in a single uniform pass by spraying with a low-pressure pump or with a brush, ensuring complete and uniform coverage of the surface to be treated. The product must be distributed continuously, avoiding pooling or accumulation and ensuring proper saturation of the substrate.
The product can also be applied as a second pass on surfaces previously treated with Drykos® **Dryseal Ultra**. The combined use of the two products enhances the restorative and protective action of concrete, promoting pH increase in deteriorated areas and contributing to slowing or stopping reinforcement oxidation phenomena.
After application, the treated surface must be left to dry for approximately 1 hour at a reference temperature of 24°C before being put into service; at lower temperatures, drying times may increase by 1–2 hours depending on environmental conditions.
The product must not be applied on surfaces with temperatures below 5°C and the concrete must have reached a minimum curing time of at least 7 days. It is also necessary to avoid application in the presence of imminent rain or on frozen substrates.
Immediately after treatment, the concrete may exhibit temporary surface darkening, which disappears completely when the product dries. In case of excessive application, slight whitish halos may appear on the dry surface; such residues can be easily removed by simple washing with water.

Tool cleaning

Tools are cleaned with water immediately after use.

Other indications

- Do not apply the product outdoors if rain is expected within 2 hours of application.
- In case of rain during application, immediately stop work and wait for the surface to dry completely before resuming treatment.
- Surfaces already treated and in the drying phase must not be re-coated.
- Do not apply on frozen, overheated, or surfaces exposed to strong direct sunlight.
- Avoid pooling or excess product; any accumulation may generate surface halos.
- Do not dilute the product and do not mix with other materials not expressly indicated.
- Protect glass, metals, and non-absorbent surfaces during application.
- For anything not covered, contact Technical Support at +39 0171 1874992 or write to info@drykos.com.

TECHNICAL PERFORMANCE

Characteristic	Test method	Standard requirements	Performance
Freeze-thaw cycles with immersion in de-icing salts	EN 13581	Mass loss of the surface of the impregnated specimen must occur at least 20 cycles later than that of the non-impregnated specimen	35 cycles later than the impregnated specimen
Penetration depth	EN 14630	Class I: < 10 mm | Class II: ≥ 10 mm	Class I: 3 mm
Water absorption and alkali resistance test for hydrophobic impregnation	EN 13580	Absorption ratio < 7.5%, compared to the untreated specimen | Absorption ratio (after immersion in an alkali solution) < 10%	Water absorption: 4.9% | Alkali absorption: 8.5%
Drying rate for hydrophobic impregnation	EN 13579	Class I: > 30%	Class I: 151%
Hazardous substances			Compliant with point 5.4

Characteristic	Test method	Standard requirements	Performance
Water permeability under pressure	EN 12390-8	Comparison with non-admixed mixture	56% reduction (5 bar/72 h)
Rapid chloride permeability	ASTM C1202	Comparison with non-admixed mixture	Significant reduction in charge passed compared to reference concrete: -60%
Coating suitable for contact with water intended for human consumption	In accordance with Ministerial Decree 174/2004 and Legislative Decree 18/2023		Suitable

ENVIRONMENT AND SAFETY

VOC

Solvent Free.

Safety

For information and advice on safety, handling, storage, and disposal, users of the product must refer to the most recent version of the Safety Data Sheet, which provides information on the physical, ecological, and toxicological characteristics of the product. If necessary, request the updated Safety Data Sheet by contacting Customer Service at +39 0171 1874992 or writing to info@drykos.com. Product compliant with the requirements of Regulation (EC) No. 1907/2006 (REACH) and Annex XVII, entry 47, and subsequent amendments and additions.

Use

Product for professional use.

WARRANTIES AND LEGAL NOTES

Should the product be defective, the liability of Drykos S.r.l. shall be limited solely to its replacement. The information and instructions in this technical data sheet regarding the application and end-use of the products are provided in good faith and reflect current scientific and technical knowledge; however, they do not constitute any guarantee or assumption of liability regarding the final outcome of the work involving their use. Given the variety of operating conditions and external factors beyond the control of Drykos S.r.l. during execution, it is the user's responsibility to verify the product's suitability for the specific application, assuming all risks and liabilities. Drykos S.r.l. reserves the right to modify the properties of its products at any time. Always refer to the most recent version of the product's technical data sheet. This edition cancels and replaces all previous versions. The latest updated technical data sheets are available on our portal at www.drykos.com.