



Dryplug

Ultra-fast setting crystallizing cementitious mortar for immediate stopping of water leaks

Drykos® **Dryplug** is a single-component, ultra-fast setting, volume-stable cementitious mortar developed for the immediate stopping of water leaks and seepages in concrete and masonry structures. The product is formulated with high-reactivity hydraulic binders, specific additives, and Drykos crystallizing technology, which enables the formation of insoluble crystalline complexes within the cement matrix, capable of sealing pores and capillary micro-cracks.

Unlike traditional waterplugs, Drykos® **Dryplug** integrates an active and permanent crystallizing action that continues over time in the presence of moisture, thus ensuring the self-healing of micro-cracks, progressive reduction of permeability, and long-lasting protection against the penetration of water and aggressive agents. The product reacts rapidly, developing a high-adhesion and high-strength material, suitable even in the presence of negative hydrostatic pressure.

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.

Main characteristics

- Ultra-fast setting
- Immediate stopping of even heavy water inflows
- Drykos crystallizing technology
- Active self-healing effect over time
- Permanent capillary sealing
- High adhesion to the substrate
- High resistance to water and chloride penetration
- Active even in the presence of moisture
- Chloride-free
- Contains no resins or elastomeric components



Fields of use

- Immediate stopping of active water leaks
- Sealing of cracks, cavities, and gravel pockets
- Construction joints and structural joints
- Wall/slab intersections
- Underground structures such as basements, foundations, elevator pits, etc.
- Tanks, reservoirs, and hydraulic works
- Emergency interventions even in the presence of negative hydrostatic pressure

Green Technology & LEED

Product formulated to reduce environmental impact, characterized by very low VOC emissions (Very Low Emission), suitable for contributing to LEED credits for indoor air quality.

SPECIFICHE TECNICHE

Packaging

10 kg bucket

25 kg bucket

Color

Gray.

Appearance

Powder.

Shelf life

12 months from production date.

Storage conditions

Store correctly in the original, sealed, and intact packaging, protected from moisture and direct sunlight, at temperatures between +5°C and +35°C.

APPLICATION DATA

Theoretical consumption

1.7 kg per liter of cavity to be filled

Coverage

5.5–6.0 liters of cavity to be filled per 10 kg package

Thinner

Water.

Application temperature

Minimum +5°C | Maximum +35°C

APPLICATION INFO



DRYKOS S.r.l.

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Substrate preparation

The substrate must be prepared beforehand with extreme care to ensure proper mechanical anchoring of the material and maximum effectiveness of the hydraulic seal.

Loose, crumbly, degraded, or poorly adhering parts must be completely removed until a sound, compact, and resistant substrate is reached. In the presence of cavities, lesions, infiltration points, gravel pockets, or casting discontinuities, it is necessary to pre-shape the intervention site, giving it, where possible, a “dovetail” geometry—meaning slightly flared towards the inside—to improve the mechanical retention of the cementitious plug and prevent expulsion due to water pressure.

Subsequently, surfaces must be thoroughly cleaned by brushing, pressure washing, or compressed air jets, removing dust, sludge, crumbly residues, efflorescence, and any material that could compromise the product's adhesion.

In the case of temporarily dry or highly absorbent substrates, it is advisable to proceed with preliminary wetting until saturation, while avoiding stagnant free water in the cavity at the time of application. In the presence of active leaks, preparation must be organized to make the area ready for immediate intervention, considering the product's extremely rapid setting times.

Product preparation

Drykos® **Dryplug** is a single-component product to be mixed exclusively with clean water, in quantities strictly limited to the actual application needs. Preparation should be carried out by dosing approximately 300 ml of water for every kg of powder, adding the water gradually until a plastic, compact, and moldable consistency suitable for manual application is obtained. The product must not be prepared using large-capacity equipment or in large quantities, as the setting reaction is almost immediate.

After initial mixing, the paste must be worked manually with a protective glove until a uniform, lump-free, and easily moldable mass is obtained. During this phase, the material progressively begins to develop heat: this phenomenon signals the start of the reaction and identifies the correct moment for application.

It is recommended to prepare only small quantities of product at a time, normally corresponding to the amount that can be applied immediately in a single operation. Do not add water to a mixture already in the setting phase and do not attempt to restore its workability, as this would compromise the mechanical performance and the effectiveness of the seal.

At temperatures below approximately 20°C, the reaction time may be slightly longer; conversely, at high temperatures, the product further accelerates setting times. For this reason, preparation must always be coordinated with the application phase.

Application

Once the correct reaction stage of the mixture is reached, Drykos® **Dryplug** must be applied immediately, shaping it manually into the form most suitable for the geometry of the cavity, generally spherical, conical, or as a plug.

The material should be introduced rapidly into the infiltration point, applying strong, continuous manual pressure until complete hardening, to counteract the water pressure and ensure a perfect fit within the previously prepared site. Pressure must be maintained for the time necessary for the product to set completely, generally in the range of a few minutes.

When sealing cracks or lesions in the presence of negative hydrostatic pressure, it is advisable to proceed from top to bottom, progressively closing the exit points to prevent pressure from concentrating on already treated areas.

In the presence of particularly intense or widespread leaks, it may be necessary to temporarily install a drainage pipe at the point of maximum pressure to divert the water flow and allow for the sealing of surrounding areas. Once the area is stabilized and the adjacent portions are closed, the pipe can be removed and the remaining hole sealed using the same procedure.

During application, it is essential not to release manual pressure too early and not to rework the product once setting has begun. After initial hardening, the cementitious matrix activated with Drykos crystallizing technology continues to develop a densification and capillary sealing action over time, improving resistance to water penetration and contributing to self-healing phenomena in the presence of residual moisture. This feature distinguishes Drykos® **Dryplug** from traditional rapid-setting waterplugs, transforming the leak-stopping intervention into an active and durable seal over time.



Tool cleaning

Clean tools with water immediately after use. Hardened product can only be removed mechanically.

Other indications

- Ultra-fast setting product: prepare only small quantities at a time, based on immediate application
- Do not add water to a mixture already in the setting phase and do not remix the hardening product, as this compromises mechanical performance and sealing effectiveness
- Apply the product immediately after mixing, respecting the extremely short workability times
- Do not apply at temperatures below +5°C or if there is a risk of frost
- In high-temperature conditions, setting times are further reduced: organize operational phases in advance
- Do not apply to loose, contaminated, or inadequately prepared substrates
- Do not use the product for applications other than immediate leak stopping or structural filling
- In the presence of high hydrostatic pressure, provide temporary drainage systems to facilitate application and ensure the effectiveness of the intervention
- Avoid early removal of manual pressure during setting to prevent detachment or loss of seal
- Use personal protective equipment (gloves, goggles, suitable clothing), as the product contains cementitious binders with an alkaline reaction
- 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
Density	EN 1015-6		1,925 kg/m ³
Minimum recommended thickness			10 mm
Maximum recommended thickness			60 mm
Pot life			~ 60 seconds
Mixing water			30%
Compressive strength at 10 minutes	EN 12190		2.5 N/mm ²
Compressive strength at 60 minutes	EN 12190		7 N/mm ²
Compressive strength at 28 days	EN 12190		24 N/mm ²
Flexural strength at 10 minutes	EN 196-1		1 N/mm ²
Flexural strength at 60 minutes	EN 196-1		2.4 N/mm ²
Flexural strength at 28 days	EN 196-1		5 N/mm ²
Ultrasonic pulse velocity	EN 12504-4		> 3,000 m/s
Chloride ion content	EN 1015-17	≤ 0.05%	0,04%



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ENVIRONMENT AND SAFETY

VOC

Very Low Emission (70 µg/m³).

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.



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