



Renov Col

Pourable shrinkage-compensated structural repair mortar for restoration, reconstruction, and anchoring

Drykos® **Renov Col** is a single-component, pourable, rheoplastic, shrinkage-compensated cementitious structural mortar designed for restoration, reconstruction, and consolidation of concrete structures. The product is formulated with high-strength cements, super-pozzolan fillers, selected aggregates with a maximum diameter of 6 mm, shrinkage-compensating additives, and polymer modifiers, providing high mechanical performance, durability, and dimensional stability.

Thanks to its high fluidity and self-leveling capability, Drykos® **Renov Col** enables the execution of poured or pumped castings even in complex geometries, ensuring complete filling of volumes and excellent adhesion to the substrate and reinforcement. After hardening, the product develops high mechanical strength, low water permeability, and excellent resistance to aggressive agents, making it particularly suitable for structural applications even in severe environments.

CHARACTERISTICS

Certifications



EN 1504-3

Products and systems for the protection and repair of concrete structures - Structural and non-structural repair



EN 1504-6

Products and systems for the protection and repair of concrete structures - Anchoring of steel reinforcement



EN 998-1

Specification for mortar for masonry - Rendering and plastering mortar

Main characteristics

- High fluidity and self-leveling capability
- Complete filling of volumes without segregation
- Compensated shrinkage and dimensional stability
- High mechanical strength
- Excellent adhesion to concrete and steel
- High impermeability and resistance to carbonation
- High durability even in aggressive environments
- Suitable for pumped or poured castings
- Can be applied even in high thicknesses
- Compatible with Drykos restoration systems

Fields of use

- Structural restoration of concrete elements
- Section increases and consolidations
- Structural anchoring and large-scale embedments
- Under-plate filling and machinery foundations
- Grouting and encasement works
- Extrados reinforcement of reinforced concrete slabs
- Repair of industrial flooring
- Construction of structural joints and infrastructure works

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 and compliant, where applicable, with CAM (Minimum Environmental Criteria) requirements, also thanks to its recycled material content.

SPECIFICHE TECNICHE

Packaging

25 kg bag

Color

Gray.

Appearance

Powder.

Shelf life

12 months from production date.

Storage conditions

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

APPLICATION DATA

Theoretical consumption

~ 19.5 kg/m² per cm of thickness

Coverage

~ 1950 kg per m³ of mortar

Thinner

Water.

Application temperature

Minimum +5°C | Maximum +35°C

APPLICATION INFO



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Substrate preparation

The substrate must be carefully prepared in advance to ensure maximum adhesion performance and system durability. Complete removal of degraded, loose, or contaminated concrete is necessary until sound and resistant substrate is reached. Surfaces must be appropriately roughened by mechanical scarification, sandblasting, or preferably high-pressure hydro-scarification to obtain adequate roughness for mortar anchoring. Any exposed reinforcement must be fully exposed, cleaned of rust by brushing or sandblasting to clean metal grade and, if necessary, treated with Drykos® **Renov Col** passivator, depending on exposure conditions and intervention timing. Before application, the substrate must be saturated with water to a "saturated surface dry (SSD)" condition, carefully removing any surface ponding. Rigid, watertight, and perfectly sealed formwork must be prepared, suitable for containing the casting pressure and preventing mortar leakage. Formwork surfaces must be treated with suitable release agents to facilitate removal operations.

Product preparation

Drykos® **Renov Col** is a single-component mortar to be mixed with clean water until a fluid, homogeneous, lump-free mixture suitable for pouring is obtained. Pour approximately 2/3 of the required mixing water into the mixer, then gradually add the powder product under continuous agitation. Subsequently complete with the remaining water until the desired consistency is achieved. Mixing must be performed using a concrete mixer or low-speed mechanical agitator for a minimum of 3-5 minutes until a perfectly uniform mixture is obtained, free of agglomerates and with adequate fluidity.

The water/product ratio is approximately 10-12% by weight, about 2.5-3 liters per 25 kg bag, and must be strictly observed to avoid segregation, bleeding, or reduction in mechanical performance. For high-thickness filling, the addition of selected aggregates (such as clean gravel of appropriate grain size) may be considered according to design specifications.

It is recommended to prepare only the amount of material that can be applied within the workability time.

Application

Drykos® **Renov Col** must be applied by continuous pouring or pumping inside previously prepared and sealed formwork. Casting should preferably be performed from one side of the formwork to promote uniform advancement of the mortar and progressive air expulsion, avoiding the formation of voids, cavities, or discontinuities. Thanks to its rheoplastic and self-compacting nature, the product can completely fill even complex volumes and congested sections, ensuring perfect reinforcement encasement and high adhesion to the substrate.

The use of vibration should be limited to what is strictly necessary: excessive vibration can compromise mixture stability and final casting quality. During placement, it is essential to maintain operational continuity, avoiding interruptions that could generate cold joints. In case of casting resummptions, the surface must be appropriately prepared before subsequent application. For high thicknesses, casting can be performed in multiple phases or the use of supplementary aggregates may be considered, depending on project specifications.

During application, avoid unfavorable environmental conditions such as high temperatures, strong wind, or direct radiation, which can accelerate water evaporation and compromise proper material curing. At the end of casting, adequate curing must be ensured by protection with sheeting, curing compounds, or water misting for at least 24-48 hours to prevent plastic shrinkage phenomena and promote optimal development of mechanical strength.

Tool cleaning

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

Other indications

- Do not apply at temperatures below +5°C or above +35°C
- Do not apply on frozen, loose, or contaminated substrates
- Do not exceed the mixing water amount
- Do not use without adequate containment formwork
- Avoid excessive vibration during casting
- Ensure adequate product curing
- 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
Bulk density	EN 1015-6		2190 kg/m ³
Pot life			~ 60 minutes
Minimum recommended thickness			4 cm
Maximum recommended thickness			30 cm
Mixing water			10-12%
Compressive strength after 24 hours	EN 12190		> 30 N/mm ²
Compressive strength after 7 days	EN 12190		> 60 N/mm ²
Compressive strength after 28 days	EN 12190	Structural - Class R3 ≥ 25 N/mm ² Class R4 ≥ 45 N/mm ²	Class R4: > 80 N/mm ²
Flexural strength after 24 hours	EN 196-1		5 N/mm ²
Flexural strength after 7 days	EN 196-1		9 N/mm ²
Flexural strength after 28 days	EN 196-1		11 N/mm ²
Chloride content	EN 1015-17	≤ 0.05%	0,01%
Bond strength	EN 1542	Structural - Class R3 ≥ 1.5 N/mm ² Class R4 ≥ 2.0 N/mm ²	Class R4: ≥ 2 N/mm ²
Pull-out resistance of ribbed steel bar	EN 1881	≤ 0.6 mm with 75 kN load	≤ 0.6 mm
Resistance to carbonation	EN 13295	dk ≤ control concrete	Pass
Elastic modulus	EN 13412	≥ 20 kN/mm ²	30 kN/mm ²
Skid resistance	EN 13036-4	Structural - Class I: > 40 units wet test Class II: > 40 units dry test Class III: > 55 units wet test	Class II
Water penetration under pressure (5 bar for 72 hours)	EN 12390-8		< 5 mm
Determination of thermal compatibility	EN 13687-1		≥ 2 N/mm ²
Capillary absorption	EN 13057	≤ 0.5 kg·h ^{0.5} /m ²	0.49 kg·h ^{0.5} /m ²
Thermal conductivity	EN 12664		0.82 W/mK
CAM - Total recycled material content	UNI PdR 88		≥ 3.0%
Reaction to fire	EN 13501-1		Class A1



ENVIRONMENT AND SAFETY

VOC

Very Low Emission.

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

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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