

REC TOP 1005

EXTRA HIGH-STRENGTH DUAL COMPONENT CEMENTITIOUS REPAIR MORTAR

DESCRIPTION

REC TOP 1005 is a high-performance, two-component, cementitious repair mortar designed for structural and non-structural repair of concrete. The product consists of a liquid component (Part A) and a specially formulated dry powder component (Part B) that contains sulfate resistant Portland cement, hydraulic binders, well graded sands, specially selected polymer fibers and special additives to significantly reduce the risk and incidence of shrinkage and cracking. When both components are mixed together, it produces a flowable, high-strength mortar with excellent adhesion and durability. **REC TOP 1005** can be used in thicknesses from 20 mm up to 200 mm.

PRIMARY APPLICATIONS

REC TOP 1005 is used for the structural repair of concrete elements such as:

- Columns, cross beams and piers of all bridges.
- In conjunction with electro-chemical cathodic protection systems.
- Marine and other civil structures.
- Water treatment and sewerage facilities.
- Large area structural repairs using form work and casting method.
- Areas of congested reinforcement where hand or spray application is not possible.

FEATURES/BENEFITS

- Two-component cementitious repair mortar.
- High-performance structural concrete repair.
- Flowable and easy to apply.
- High early and 28-day strength.
- Excellent adhesion to concrete.
- Low chloride content.
- High durability and dimensional stability.
- Low capillary water absorption.
- Good resistance to freeze/thaw and thermal cycling.
- Suitable for 20–200 mm repair thicknesses.
- High resistance to carbonation.
- Extended working time of approximately 60 minutes.
- Suitable for structural and non-structural concrete repairs.

TECHNICAL INFORMATION

PROPERTY	DATA	
Chemical Base	2 Components Cementitious	
	A	B
Physical State	Liquid	Powder
Color	White	Grey
Mixing Ratio (%)	1	3
Packaging	6 kg	24 Kg
Chloride Content (EN 1015-17)	≤ 0.01 %	
Layer Thickness (mm)	Minimum	Maximum
	20	200
Fresh Mortar Density (g /cm ³)	Approx. 2.2	
Working Time (Minutes)	60	

Application Temperature (°C)	+5 to +30		
Compressive Strength (N/mm ²) (EN 12190)	1 Day	7 Days	28 Days
	≥ 15	≥ 40	≥ 55
Modulus of Elasticity (N/mm ²) (EN13412)	≥ 23,000 at 28 days.		
Adhesion to Concrete (N/mm ²) (EN 1542)	≥ 2.7 at 28 days		
Adhesion to Concrete (N/mm ²) After Freeze-Thaw (50 cycles with salt) (EN 13687-1)	≥ 3.1 at 28 days		
Adhesion to Concrete (N/mm ²) After Thunder-Shower (50 cycles) (EN 13687-2)	≥ 3.0 at 28 days		
Adhesion to Concrete (N/mm ²) After Dry Cycling (50 cycles) (EN 13687-4)	≥ 3.0 at 28 days		
Resistance to Carbonation (EN 13295)	≤ Ref. Concrete at 28 days		
Capillary Absorption (kg·m ⁻² ·h ^{-0.5}) (EN 13057)	≤ 0.5 at 28 days		
Cracking Tendency	No Cracking up to 180 days.		

*All technical data stated in this Product Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

DIRECTIONS FOR USE

i. SURFACE PREPARATION

The concrete substrate must be sound, clean and free from dust, oil, grease, laitance, coatings, loose particles and other contaminants. Remove all weak or deteriorated concrete until a sound substrate is exposed. The substrate should normally be pre wetted to a saturated surface-dry (SSD) condition before application.

ii. MIXING

Homogenize Part A before use. Mix both component A and B in the ratio of 1:3 using a suitable mechanical mixer. Continue mixing for approximately 3–5 minutes until a uniform, homogeneous and lump-free mortar is obtained. Avoid excessive mixing speed to minimize air entrainment. Do not add additional water unless specifically permitted by the approved application procedure. Apply the mixed material within the specified working time.

REC TOP 1005 provides a flowable consistency suitable for placing, pouring or troweling, depending on the repair configuration and application requirements.

The consistency may vary slightly with temperature and mixing conditions.

iii. APPLICATION

Pre soak the prepared substrate for 2–24 hours. Before application, the surface should be damp but free of standing water. Apply **REC TOP 1005** at temperatures between +5°C and +30°C. The material can be poured or pumped into the repair area or behind form work. For form work applications, pour continuously from one side to allow air to escape. The material is self-compacting and normally requires no vibration. Keep the form work in place as long as possible and cure properly. **REC CURE E4** may be used for curing. For horizontal repairs, brush the first layer into the prepared surface and apply additional material wet-on-wet to the required thickness.

CONSUMPTION

Approx 1.8-1.9 kg/ m²/ mm of thickness, depending on substrate profile, porosity and scope of use.

CLEANING

Tools and mixer must be cleaned immediately after use with water. Cured material can only be removed mechanically.

PACKAGING

REC TOP 1005 can be supplied in various quantity as a on demand.

SHELF LIFE

Up to one year when stored in accordance with manufacturer's instructions.

QUALITY STATEMENT

All our products are manufactured to comply with our internal quality management system to ensure consistency and quality.

DISCLAIMER

While the company guarantees its products against defective materials, the use and application of these products are made without guarantee since the conditions of their application are beyond its control. It is recommended to verify with the company that the product is suitable for the intended use. This Data Sheet version is the latest one. The company may modify it without any prior notice. Technical characteristics are listed for guidance only. For more information, please contact the company's head office located in Lahore.

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