TECHNICAL DATA SHEET

REPAIRTOP R4

REPAIRTOP R4 is a structural polymer fiber-reinforced, water-repellent repair mortar, meeting the requirements of Class R4 according to BS EN 1504-3.

USES

- Suitable for both indoor and outdoor applications
- Repair on damaged concrete by rusty reinforcing steel bars due to carbonation and/or chloride penetration
- Quick repairs to deteriorated parts in concrete beams, pillars or structural members where the use of high strength mortar is required
- Repair of pre-fabricated concrete members and elements
- Repair of concrete floor, cornices, casting of slopes of drains and drainage

CONSTITUENTS

- Ordinary Portland Cement CEM I conforming to EN 197
- Basaltic Sand graded up to 1 mm
- Additives with shrinkage-reducing, set time controlling & adhesion enhancing properties
- Synthetic Fibres
- Water Repellent

KEY FEATURES

- Meets the requirement of BS EN 1504 – 3; Class R4 (Structural repairs)
- Pre-packed mortar
- Easy to mix and apply
- Low Shrinkage
- Excellent adhesion
- Fast setting properties
- Application thickness of up to 100 mm
- High mechanical properties
- Compatible with corrosion inhibitor (Example: ZINC-ALU PAINT or any equivalent)

TESTS / STANDARDS

- All quality control tests have been performed based on EN 1015 and EN 1504-3 methods of mortar testing.
- Drymix Ltd is certified ISO 9001; as such there is a factory production control system in place to ensure good quality of raw materials, semi-finished materials & finished goods.

DRYMIX
L'EXPERT DES MORTIERS

TECHNICAL DATA

PRODUCT AND APPLICATION DATA

Appearance	Grey powder
Packaging	25 kg bag
Storage Conditions	1 month from date of production if stored properly in original unopened, sealed and undamaged packaging in dry and cool conditions
Maximum grain of aggregate	1.00 mm
Water Demand	5.0 - 5.5 L water per bag
Application Temperature	+ 5 C to + 35 C
Workable life	Approx. 15 - 20 mins
Fresh Density	2200 Kg/m^3
pH	13
Minimum application thickness	7 mm
Maximum application thickness	100 mm
Consumption	Approx. 2.1 kg/m^2/mm *(as a guide)*

PERFORMANCE DATA (REQUIREMENTS EN 1504-3 CLASS R2)

	RESULTS	**REQUIREMENTS EN 1504-3 CLASS R4**
Compression Strength (MPa)	50.8	≥ 45
Chloride ion content (%)	< 0.01	≤ 0.05
Adhesive Bond (MPa)	2.4	≥ 2.0
Restrained		Bond strength after test
- Shrinkage (MPa)	2.2	≥ 2.0
- Expansion (MPa)	2.0	
Carbonation Resistance [mm]		dk ≤ reference concrete
- REPAIRTOP R4	5.0	
- Reference Concrete	6.0	
Skid resistance, wet tested [units]	64	Class III
Coeff of expansion [K-1]	12 × 10^{-6}	Declared value
Capillary absorption [kg/m^2.√h]	< 0.5	< 0.5
Elastic Modulus (GPa)	17.2	≥ 15 GPa (R3)
Fire Resistance	Class A1	-

APPLICATION METHODOLOGY

SURFACE PREPARATION

- Remove any loose concrete surface/iron bar/debris.
- Rust on the iron bar shall be meticulously cleaned.
- Surface shall be cleaned with water and allow to completely dry.
- Apply a coat of ZINC-ALU PAINT on the iron bar to completely cover the metal to galvanize the surface. Apply a second coat, if necessary.
- When the surface is touche-dry, apply layers of **REPAIRTOP R4**, as necessary.
- **REPAIRTOP R4** shall be mixed only with water.

APPLICATION

- Pour clean water into a container and slowly add **REPAIRTOP R4** while mixing.
- Carefully mix for several minutes until a homogenous, lump-free mix is obtained. For 1 bag of 25 kg product, add about 5.0 - 5.5 L clean water.
- Allow the fresh paste to mature for about one minute and re-mix.
- If a corrosion inhibitor was used on the same day, wait 30 - 45 mins before applying a first coat of **REPAIRTOP R4**.
- Build up layers to the recommended thickness and compact them without inclusion of entrapped air and proceed with standard finishing step.
- Application thickness varies from 7 mm to 100 mm (Application shall be done in several layers up to 100mm).
- Level the surface with an aluminium rule and proceed with standard finishing method.
- For a regular finish, it is important to rinse sponge at every 1 – 1.5m.

PRECAUTIONS

- Do not apply the product at temperatures < 5 C and > 35 C.
- Avoid applications during rainy periods even if intermittent or on surfaces with dripping water.
- To avoid shrinkage, it is imperative to respect the gauging water quantity.
- Ensure that surfaces of applications are protected against the wind and direct sunshine in order to prevent rapid desiccation of the product leading to shrinkage as well.

CURING DETAILS

It is essential to cure the render the next day following application for a minimum of 3 days to ensure full cement hydration and to minimize cracking. (Avoid performing high vibration work during this period).

HEALTH & SAFETY NOTES

As with all cement based products:

- Wearing of gloves, goggles are highly recommended during application
- Avoid contact with the eyes & skin
- In case of contact with skin or the eyes, wash abundantly with clean water
- In case irritation persists, consult a doctor immediately

For further information and advice on the safe handling, storage and disposal of this products, user shall refer to the most recent Material Safety Data Sheet containing physical, ecological, toxicological and other safety-related data.

NOTES

The information, and, in particular, the recommendations relating to the application and end-use of DRYMIX products, are given in good faith based on DRYMIX's current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with DRYMIX's recommendations. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered.