VERTICAL/OVERHEAD REPAIR

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DURALTOP GEL

VERTICAL AND OVERHEAD STRUCTURAL REPAIR MORTAR WITH CORROSION INHIBITOR

EUCLID CHEMICAL

PACKAGING

44 lb (20 kg) bag and 1 gallon jug
Code: TD5103 (kit)

APPROXIMATE YIELD

44 lb (20 kg) kit: 0.4 ft³ (0.01 m³) per unit when mixing Part A powder with Part B liquid.

MINIMUM/MAXIMUM APPLICATION THICKNESS

1/8 to 2 inches (3.2 mm to 5 cm)

CLEAN UP

Clean tools and equipment with water before the material hardens.

SHELF LIFE

1 year in original, unopened package

DESCRIPTION

DURALTOP GEL is a rapid-setting, two-component, polymer modified, silica fume enhanced, cementitious repair mortar for vertical/overhead applications. DURALTOP GEL contains an integral corrosion inhibitor for added protection.

PRODUCT CHARACTERISTICS

FEATURES/BENEFITS

- Rapid setting, polymer modified repair mortar
- Achieves high compressive, flexural and bond strengths quickly
- Contains an integral corrosion inhibitor
- Non-sag, high build properties
- Pre-proportioned unit
- Silica fume enhanced

PRIMARY APPLICATIONS

- Structural concrete repairs
- Exterior or interior, above or below grade
- Vertical and overhead concrete and masonry repairs

TECHNICAL INFORMATION

The following are typical values obtained under laboratory conditions. Expect reasonable variation under field conditions.

Test Method	Test Property	Values
ASTM C109M Cured at 50% RH	Compressive Strength	4 hours. . . . . 1,150 psi (7.9 MPa) 1 day. . . . . 4,000 psi (27.6 MPa) 3 days . . . . . 6,100 psi (42.1 MPa) 7 days . . . . . 7,050 psi (48.6 MPa) 28 days . . . . . 7,500 psi (51.7 MPa)
ASTM C293	Flexural Strength	1 day. . . . . 2,000 psi (13.8 MPa) 28 days . . . . . 2,180 psi (15.0 MPa)
ASTM C882M	Bond Strength	1 day. . . . . 2,100 psi (14.5 MPa) 28 days . . . . . 2,475 psi (17.1 MPa)
CAN A23.2-6b	Tensile Bond Strength	28 days . . . . . Greater than concrete
ASTM C496	Splitting Tensile Strength	28 days . . . . . 750 psi (5.2 MPa)
NYSDOT 502.3P	Freeze/Thaw Resistance	50 cycles . . . . . .0.18% Weight Loss
ASTM C157	Length Change	7 days . . . . . .- 0.040% 28 days . . . . . .- 0.062%
NYSDOT 701.08	Vertical/ Overhead Patching	Passes
ASTM C1202	Chloride Permeability	< 1000 coulombs . . . . . “very low”

DIRECTIONS FOR USE

Surface Preparation: Concrete surfaces must be structurally sound, free of loose or deteriorated concrete and free of dust, dirt, paint, efflorescence, oil and all other contaminants. Mechanically abrade the surface to achieve a surface profile equal to CSP 6 - 8 in accordance with ICRI Guideline 310.2. Properly clean profiled area.

Priming & Bonding (Saw Cut & Chipped Out Repairs): Thoroughly clean any exposed reinforcing steel, and apply DURALPREP A.C. to the concrete and the reinforcing steel within the repair area. Refer to the DURALPREP A.C. technical data sheet for full instructions. Alternatively, application of EUCOWELD 2.0 to a dry substrate or a scrub coat of DURALTOP GEL to the saturated surface dry (SSD) concrete surface may be used for bonding. The repair material must be placed on the scrub coat before the scrub coat dries out.

Priming & Bonding (Vertical & Overhead Skim Coats/Toppings): Apply EUCOWELD 2.0 to a dry substrate or a scrub coat of DURALTOP GEL to the saturated surface dry (SSD) concrete surface. The repair material must be placed on the scrub coat before the scrub coat dries out.

Mixing: Mix only one kit of DURALTOP GEL at a time. In a clean container, add 80% of liquid Part B. Using a slow speed (400 to 600 rpm) drill and a "Jiffy" mixer, gradually add the powder (Part A) to produce a mortar with a smooth, no lumps consistency. Add remaining liquid, if necessary, to get desired consistency. Do not mix longer than 3 minutes.

Application: Air and surface temperature must be above 45 °F (7 °C). Apply DURALTOP GEL immediately after mixing. The working time is about 15 minutes, and finish time about 20 to 30 minutes, depending on temperature, humidity and finish desired. The surface must be SSD at the time of application. Before the scrub coat dries, trowel the material against the edge, and gradually work towards the center of the repair area. Apply at a minimum thickness of 1/8 in (0.32 cm) and in lifts of no more than 2 in (5.08 cm). Each lift should be allowed to reach final set, then scored to produce a roughened surface before applying the next lift. Consolidate, screed, and then finish following standard practices.

Curing: Follow standard ACI guidelines for curing. In the case of high temperature, high wind, or low humidity causing rapid surface drying, use a water based curing compound such as Kurez DR VOX. Protect from rain and freezing temperatures before the product is sufficiently cured. DO NOT use solvent based curing compounds.

PRECAUTIONS/LIMITATIONS

- Store at temperatures between 45 and 90 °F (7 to 32 °C), protected from moisture.
- Do not place ASTM C109 testing specimens in a 100% RH moist room or submerge in lime water at any time during the curing stage.
- Protect from freezing.
- Mix only one kit at a time.
- DO NOT MIX DURALTOP GEL LONGER THAN 3 MINUTES.
- Do not apply DURALTOP GEL below 45 °F (7 °C).
- When necessary, follow the recommendations in ACI 305R "Guide to Hot Weather Concreting" or ACI 306R "Guide to Cold Weather Concreting".
- Apply immediately after mixing.
- Delayed application will reduce adhesion.
- Minimum thickness 1/8" (3.2 mm), maximum per lift 2" (50.8mm).
- In all cases, consult the Safety Data Sheet before use.