

K A U F M A N

PRODUCT
INFORMATION

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Duracrete II FR

Description

Duracrete II FR is a fast setting, fiber-reinforced, non-staining, non-metallic and very rapid hardening cement based repair mortar. Compressive strengths of 2000 psi are achieved in only 30 minutes, 4,000 psi. in one hour at 72 °F.

Duracrete II FR is composed of cement, special aggregates, accelerators, fibers, and water reducing agents. Since this is not a gypsum-based product, it can be used outdoors, and it will gain strength faster than any magnesium phosphate based grout, while maintaining dimensional stability. In addition, Duracrete II FR includes our migrating corrosion inhibiting agent for longer lasting repairs.

Uses

Duracrete II FR is designed for highways and bridge deck patches, pavement joint repair and other highway structural repairs. Parking garage repair are also an excellent use as well. The fast setting and high early strength properties reduces prolonged lane shut down and resulting traffic tie-ups.

Advantages

Shrinkage compensated. Single component-just add water. Rapid hardening- open to traffic in just 1/2 hour. Duracrete II FR is water resistant after it's initial set. Excellent resistance to de-icing salts and sulfates. Hard wearing surface. Can be broom finished to achieve slip resistance on sloped areas.

Specification

ASTM C-928, Very Rapid Hardening (R3)

Packaging & Yield

50 lb. polyethylene lined bags yields approximately .45 cubic feet.

Directions

Surface Preparation

The substrate must be structurally sound and free of foreign matter. Edges of area to be patched must be vertical and be at least 1/2" deep. All exposed reinforcing bars should be exposed to 100% of their circumference, thoroughly cleaned to remove corrosion deposits and primed with SurePoxy GM 24 or HM 12.

Flush area to receive patch with clean water to remove all dust and thoroughly dampen the

Physical Properties, Regular, Neat – 75°F

Initial set:	10-16 min.
Final set: (ASTM C-191)	18-22 min.
Compressive Strength (ASTM C-109)	1 hr. 2,500 psi 2 hr. 6,500 psi 3 hrs. 7,000 psi 1 Day 6,700 psi 7 Days 9,900 psi 28 Days 10,700 psi
Bond Strength (ASTM C-882)	1 Day 1,710 psi 7 Days 2,440 psi
Flexural Strength (ASTM C-78)	1 Day 700 psi 7 Days 1,000 psi
Length Change (ASTM C- 157)	In Air: -0.07% In Water: +0.04%
Scaling Resistance (ASTM C-672, 50 cycles)	.68 lbs./ft ²
Chloride Ion Permeability (ASTM C-1202, 360 minutes)	Very Low

concrete with water. Prior to placement, remove all excess water. For maximum bond strength to existing concrete, apply SurePoxy HM or HM EPL as a bonding agent.

Mixing

Use 2.25 qts (4.5 pints) of water per 50 lb bag of Duracrete II FR. Always add the water to the mixing container first, then add the powder. Use a mortar-type or forced action type mixer to ensure optimum mixing. Mix for 5 minutes before using. Place immediately. For mixing less than a 50 lb bag, a power drill with a maximum 500-rpm with a Jiffy-type mixing blade is satisfactory. Do not mix by hand. Apply at least 1/2" deep.

For patches >2" deep - Duracrete II FR should be extended by adding up to 30 lbs. of clean, washed, and saturated surface-dried 3/8" pea gravel per 50 lb. bag. Up to 1 pint of additional water may be added for increased workability if the aggregate is dry. Always mix by adding aggregate, then Duracrete II FR to the water. Mix for 5 minutes to ensure thoroughly wetting out of the powder.

Application

Saw cut the area to be patched so that edges are straight and flush. In temperatures less than 85°F, a maximum of 10 minutes should be allowed to mix, place, and finish Duracrete II FR. Immediately place the properly mixed Duracrete II FR into the prepared area, working from one side to the other. Work and tamp down the material firmly into the bottom and sides of the patch to ensure a good bond. Screed and trowel the material level to the existing concrete. Seal the edges and saw cuts with light troweling. Minimal finishing is required. When properly leveled, Duracrete II FR may be broomed for a slip-resistant surface.

The temperature of the mix as well as the ambient temperatures of the area to be repaired will greatly affect the working and set times of Duracrete II FR. If using when temperatures are greater than 85°F, we recommend the use of Duracrete II HW or HWFR, since it will provide slightly longer setting and working times. However, if HW versions are used, the contractor would have to wait up to an hour before opening the patch up to traffic. As an alternate, the user could cool regular Duracrete II and gauging water down to temperatures below 85° F.

During cold weather, (below 40°F) heat the area to be patched until warm to the touch. Also heat Duracrete II FR and use at least 90°F water or tent the area to retain heat during the initial set. Curing blankets may also help.

Curing

Proper curing is extremely important. Immediately after finishing, apply a coat of good curing compound such as SureCure 25, SureCure 25 Emulsion or Thinfilm.

Shelf Life

12 months from manufacture date, when stored unopened under recommended conditions. Store between 40 and 85°F at low humidity. Keep containers tightly closed.

Precautions

Do not feather-edge. Thickness must be at least ½". Substrate should be damp during application. Read Material Safety Data before using.

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