

K A U F M A N

PRODUCT
INFORMATION

KAUFMAN
PRODUCTS
INC.

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Duracrete II FT

Description

Duracrete II FT is a very rapid setting, non-staining, and non-metallic cement based repair mortar. Compressive strengths of greater than 2,500 psi are achieved in only two hours at 75°F. The unique advantage to Duracrete II FT is the resistance to deicing chemicals, such as calcium chloride and road salts. Independent testing shows that Duracrete II FT loses just .5% of its weight after 25 freeze-thaw cycles in calcium chloride, and experiences zero weight loss after 25 cycles in table salt. When a longer lasting repair is needed, Duracrete II FT is the product of choice.

Duracrete II FT is composed of cement, special aggregates, accelerators, 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 FT includes our migrating corrosion inhibiting agent for longer lasting repairs.

Uses

Duracrete II FT is designed for highways, airport runways, bridge decks, pavement joint repairs, parking garage repairs, and industrial facilities. The fast setting and high early strength properties will reduce prolonged shutdowns and resulting traffic tie-ups, or lack of production in industrial facilities.

Advantages

Shrinkage compensated. Single component-just add water. Very Rapid Hardening- open to traffic in just 2 hours (at 75°F). Duracrete II FT is water resistant after its initial set. Excellent resistance to de-icing salts and sulfates. Hard wearing surface. May 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 ft³. When one bag is combined with 30# of the proper aggregate, the yield increases to ~.72 ft³

Physical Properties, Regular, Neat - 75°F

Initial set:	10-12 min.
Final set: (ASTM C-191)	18-22 min.
Compressive Strength (ASTM C-109)	2 hours 3,500 psi 1 Day 4,500 psi 7 Days 7,700 psi 28 Days 8,500 psi
Bond Strength (ASTM C-882)	1 Day 1,710 psi 7 Days 3,000 psi
Flexural Strength (ASTM C-78)	1 Day 700 psi 7 Days 1,450 psi 28 Days 1,600 psi
Length Change-Wet (ASTM C-157)	+0.04 @ 14 Days +0.04 @ 28 Days
Length Change-Dry (ASTM C-157)	-0.05 @ 14 Days -0.06 @ 28 Days
Length Change (VDOT Test Method)	<i>In Air</i> 14 Days -.045% 28 Days -.048% <i>In Water</i> 14 Days .026% 28 Days .041%
Freeze-Thaw Resistance (VDOT Test Method)	25 Cycles .5% Loss 50 Cycles 1.4% Loss
Scaling Resistance lbs./ft ² (ASTM C-672, 50 cycles)	.68
Chloride Ion Permeability Low (ASTM C-1202, 360 minutes)	Very Low
Chloride Ion Permeability Low (ASTM C-1202, Modified by VDOT)	Low

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Directions

Surface Preparation

The concrete surface must be clean, free of all contaminants and all deleterious materials. The surface must be prepared to a minimum of 1/16" or to a Concrete Surface Profile (CSP) of five, as per Guideline Number 03732, Selecting & Specifying Concrete Surface Preparation for Sealers, Coatings, and Polymer Overlays from the International Concrete Repair Institute (ICRI). Additionally, once prepared properly, the concrete surface must be saturated surface dry (SSD), unless using a bonding agent. If steel reinforcement is exposed, then it should be prepared by mechanical means to remove all rust. If corrosion has occurred, the steel should be prepared with high-pressure water after the mechanical preparation. For proper priming of the steel, use SurePoxy HM EPL, SurePoxy HM, SurePoxy HM Class B.

Mixing

Use 2.4 quarts (4.8 pints) of water per 50 lb. bag of Duracrete II FT. 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 superior impact resistance and bond strength, replace 1/2 of the mix water with SureBond, Acrylic Bonding Agent. For patches > 2" deep Duracrete II FT 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 FT to the water. Mix for 5 minutes to ensure thoroughly wetting out of the powder. Do not ever add plasticizers, accelerators, retarders, or any other ingredients besides potable water unless advised by Kaufman Products in writing.

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 FT. Immediately place the properly mixed Duracrete II FT 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 FT may be broom-finished 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 FT. The end user may cool Duracrete II FT and use water that has been cooled down with ice to lower the temperature and slow down the set time. During cold weather, (below 40°F) heat the area to be patched until warm to the touch. Also heat Duracrete II FT 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 quality curing compound, such as Krystal 25 Emulsion, Krystal 30 Emulsion, or a Thinfilm series product.

Notes

Duracrete II FT meets all aspects of ASTM C-928, Very Rapid Hardening (R3) when used at 70 ±15 degrees Fahrenheit. However, Duracrete II FT is acceptable for use from 45 degrees Fahrenheit and rising.

Shelf Life

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

Precautions

Do not feather edge. Thickness must be at least 1/2". Substrate should be damp during application. *Read Safety Data Sheet before using*

Technical Information

Test results were achieved under laboratory conditions. Statistical variations will occur based upon mixing methods, temperature & humidity, test methodology, site conditions, curing conditions, application methods, and equipment.

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