

K A U F M A N

PRODUCT
INFORMATION

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Duracrete II

Description

Duracrete II is a fast setting, non-staining, non-metallic and very rapid hardening cement based repair mortar. Compressive strengths of 2500 psi are achieved in only one hour at 75 °F.

Duracrete II 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 includes our migrating corrosion inhibiting agent for longer lasting repairs.

Uses

Duracrete 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 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 .46 cubic feet. When 1 bag is combined with 30# of proper aggregate, the yield increases to ~.72 cu. ft.

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 SurePoxo HM EPL or HM 12.

Flush area to receive patch with clean water to remove all dust and thoroughly dampen the concrete with water. Prior to placement, remove all

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. 8,000 psi 1 Day 9,500 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 |

excess water. The use of a slurry coat is advised immediately prior to placement of Duracrete II. For maximum bond strength to existing concrete, apply SurePoxo 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. 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 water with SureBond Acrylic Bonding Agent.

For patches >2" deep - Duracrete II 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 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. Immediately place the properly mixed Duracrete II 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 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. If using when temperatures are greater than 85°F, we recommend the use of Duracrete II *HW*, 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 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.