

# K A U F M A N

PRODUCT  
INFORMATION

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## Duracrete II

### Description

Duracrete II 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 just two hours 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 II is designed for use on highways, airport runways, bridge decks, pavement joint repairs, parking garages, and industrial facilities. 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 2 hours (at 75°F). Duracrete II 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 .46 cubic feet. When 1 bag is combined with 30# of proper aggregate, the yield increases to ~.72 ft<sup>3</sup>.

### 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

### Physical Properties, Regular, Neat – 75°F

Initial set:	10-16 mins.
Final set:	18-22 mins.
(ASTM C-191)	
Compressive Strength	2 hrs. 2,600 psi
(ASTM C-109)	3 hrs.. 4,100 psi
	1 Day 5,500 psi
	7 Days 6,500 psi
	28 Days 7,300 psi
Bond Strength	1 Day 1,710 psi
(ASTM C-882)	7 Days 2,440 psi
	28 Days 3,050 psi.
Flexural Strength	1 Day 700 psi
(ASTM C-78)	7 Days 1,450 psi
	28 Days 1,600 psi
Splitting Tensile Strength	750 psi.
(ASTM C-496)	
Direct Bond Strength	28 Days 1,100 psi.
(ASTM C-1583)	
Length Change-Wet	+0.01 @ 14 Days
(ASTM C-157)	+0.01 @ 28 Days
Length Change-Dry	-0.05 @ 14 Days
(ASTM C-157)	-0.06 @ 28 Days
Scaling Resistance	.81 lbs./ft <sup>2</sup>
(ASTM C-672, 50 cycles)	
Chloride Ion Permeability	Very Low
(ASTM C-1202, 360 minutes)	
Freeze-Thaw Cycling	96% @ 300 Cycles
(ASTM C-666, Procedure A)	
Modulus of Elasticity	3.2 x 10 <sup>6</sup>
(ASTM C-469)	

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 SurePoxo HM EPL, SurePoxo HM, or SurePoxo HM Class B.

### Mixing

Use 2.4 quarts (4.8 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.

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*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. 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. 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 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. When the weather conditions are hot, the user could cool Duracrete II and gauging water down to temperatures below 85° F in an effort to extend the open time for proper placement. The use of ice in the mix water will work to achieve these ends. During colder 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. Following American Concrete Institute guidelines for both cold weather and hot weather concrete is advisable.

## Curing

Proper curing is extremely important. Immediately after finishing, apply a coat of good curing compound, such as Krystal 25 Emulsion, Krystal 30 Emulsion, or a Thinfilm series product.

## Shelf Life

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

## Precautions

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

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