

# K A U F M A N

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INFORMATION

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## PATCHWELL KIT

### Description

Patchwell Kit consists of a *liquid* acrylic polymer modified mortar for repairing horizontal concrete surfaces. The extremely fine dry powder is composed of specially graded, hard quartz, dispersing and modifying agents, as well as special cements-all properly combined for high strength and feather-edge troweling. The liquid polymer contains high molecular weight acrylic resins for added strength and resistance. These polymers, which are less than one micron in diameter, penetrate deeply into the pores of concrete to increase the bonding ability of the Kit mortar to the substrate. When both components are combined, they form a strong, very durable chemical and abrasion resistant mortar. Special additives increase the performance in resisting corrosion of reinforcing steel.

Each Kit comes prepackaged and ready to use. Nothing else to buy. Simply pour the liquid component, contained in the jug inside each pail, into the powder in the bottom of the pail. Mix well and you're ready to go. The self-contained units reduce the chances of contamination or mixing errors. Since the Kits are self-curing, it is not necessary to keep the mortar covered to develop high strength under normal conditions.

### Uses

Patchwell Kit is designed for use in industrial and commercial applications to repair broken, cracked or uneven horizontal concrete surfaces. It is excellent for repairing spalled areas. Use whenever high strength, wear resistant, water and chemical resistant topping or patching are the prime considerations. Patchwell Kit can also be used as a high strength bonding slurry for topping to be applied over a structural slab. When properly mixed and applied, Patchwell Kit forms a bond between new to old or new to new concrete that is stronger than the concrete itself and many times stronger than plain cement slurries. The Kits can be used inside or out, above, on, or below grade; they can even be used on new concrete surfaces to increase abrasion and chemical resistance.

### CHEMICAL RESISTANCE AT 75°F

Reagent	Constant Immersion	Temporary Spillage
Acetic Acid 10%		X
Chlorides, Deicing Salts	X	
Citric Acid 10%	X	
Ethyl Alcohol		NR
Formic Acid 10%		NR
Gasoline		NR
Glycolic Acid 20%		NR
Hydrochloric Acid 10%		NR
Hydraulic Fluid	X	
Isopropyl Alcohol		X
Lactic Acid 10%		NR
MEK		NR
Nitric Acid 12%		X
Oil		X
Perchloroethylene	X	
Petroleum		X
Skydrol	X	
Sodium Hydroxide Conc.	X	
Sulfates	X	
Sulfuric Acid 10%		X
Water	X	
Xylene		X

Above recommendation based on structural integrity. Occasional discoloration was not considered reason for non-recommendation. If color is important, contact KPI.

### PHYSICAL PROPERTIES AT 75°F

		Patchwell Kit	Field Mixes
Coefficient of linear thermal expansion		$4.5 \times 10^{-6}$	$4.5 \times 10^{-6}$
Compressive strength ASTM C-109	1 day	1500	1200
	7 days	4000	3200
	28 days	7200	4800
Shear bond strength	28 days	600	50-150
Tensile strength ACTM C-109	1 day	310	110
	7 days	250	150
	28 days	530	215
Flexural strength ASTM C-78	1 day	700	130
	7 days	1690	420
	28 days	2000	610
Abrasion resistance .% of weight lost of dry sample ASTM C-241		1.80	21.7
Water vapor transmission rate, perms ASTM E-96		3	20.3

### Advantages over field mixes

- Mix and carry in its' own container
- Higher strengths better bond to concrete
- Consistent results no measuring
- 20 times greater abrasion resistance
- Outstanding water and chemical resistance
- Twice the impact resistance
- Compatible with concrete's coefficient of thermal expansion
- Feather-edges
- Self-curing
- Compatible with floor tile adhesives

### Directions

#### Surface Preparation

Clean the surface to remove all foreign matter, including curing compounds and form release agents. Remove all unsound concrete. Acid etching with a 1:1 muriatic acid: water solution, water or sand blasting is needed to bond to smooth troweled concrete. Rinse thoroughly with copious amounts of clean water under pressure to remove all acid and loose laitance. Always dampen substrate thoroughly for ½ hour prior to placement of the Kit. This will control the temperature and the suction rare of the substrate. Never apply over puddles of freestanding water.

#### Mixing

Mix the entire contents of both packages (or proportional amounts of each by volume) until uniformly blended. Always add the liquid to the powder. Do not add water unless specifically directed to later, as you will weaken the mix. A low slump mix is always preferable for patching and resurfacing. Hand mixing with a trowel, scoop or hoe is satisfactory as long as all pockets of dry material are thoroughly blended into the liquid. A ½" heavy-duty type drill with paddle blade and 500 rpm maximum speed should be used for mixing the material more easily. The components can also be mixed in a mortar mixer. After mixing, use within 20 minutes. **Never retemper.**

#### Application

Horizontal patching and toppings. Prepare bonding slurry as described in following and scrub intimately into surface. If surface is very rough, this step can be eliminated. While still wet, apply regular Patchwell Kit without any extra water and bring to proper elevation. Wood float whenever possible for maximum bond and minimum shrinkage. Any steel floating/troweling should be limited to one pass about 10 minutes after placement Excessive troweling can cause separation and cracking within the patch. This material is self-curing. Do not apply thicker than 1/2" at any one time.

### Bonding Slurry

After mixing the powder and liquid emulsion of regular kit, add 1 quart of water per unit and mix to a creamy consistency. Brush onto the already prepared substrate. Be sure to work the slurry into the pores with a stiff bristle brush for maximum bonding efficiency. Maintain 1/16 – 1/8" thickness over the entire area to be Lopped, Apply topping or patch before slurry starts to dry.

### Precautions

Protect contents from freezing. Avoid air entrapment caused by excessive mixing. Clean all tools and equipment with water immediately after using. Do not add excessive amounts of water, as this will weaken the mortar. Do not trowel to a very smooth surface as over troweling results in discoloration and a weak cracked surface. Do not apply when substrate or ambient temperatures are below 40°F. If applications over ½" are required, contact KPI. Shelf life is 6 months for unopened containers.

Existing expansion joints should be maintained. When application occurs over joints, the original joint must be reproduced in the Kit topping. Use of a joint forming tool or saw cutting can be used. In either case, the new joint in Kit must be exactly over the existing joint. Steel strips can also be inserted in the old joint and brought to elevation just below the top surface of Kit. Cracks in the substrate must be repaired properly before resurfacing with Kit, otherwise they will "telegraph" through.

### Coverage (per unit)

10 square feet ½" thickness  
20 square feet ¼" thickness  
40 square feet 1/8" thickness  
Yield - .364 cubic feet

10 square feet @ 1/16 thickness – (Bonding Slurry)

### Packaging

Heavy-duty reusable pail with handle, containing jug of liquid polymer  
Gross weight 50#