

Key Bond™

Acrylic polymer type admixture and bonding agent for Portland cement based products. Non-wettable type.



PRODUCT INFORMATION

PACKAGING

KEY BOND™ 5 gallon pails

DESCRIPTION

KEY BOND™ is an organic polymer supplied as a one-component white liquid at a consistency slightly thicker than water. It is a high solids (49%) acrylic emulsion designed to be used as an admixture to sand and cement mixes or straight as a "paint on" type concrete bonding agent.

When used as an admixture, KEY BOND™ will increase the adhesion, cohesion, and chemical bond of cement mixes. It improves water and weather resistance qualities, concrete curing, and reduces shrinkage cracking. It also aids in creating hard, durable, and chemical resistant concrete surfaces. Cement mixes prepared with the addition of KEY BOND™ are suitable for both exterior and interior applications and can be installed in thickness from a fine skim coat to whatever depth is necessary. KEY BOND™ is also the product used as the latex resin additive or activator in many of the spray deck products on the market today.

When used as a "paint on" bonding agent KEY BOND™ will create better bonding between a compatible concrete substrate and a suitable cementitious top layer.

ADVANTAGES

- Once cured, KEY BOND™ will not re-emulsify or soften in wet environments
- Improves adhesion and cohesion of cement based mixes
- Promotes proper concrete curing
- Reduces cracking in cement mixes
- High bonding performance for both interior and exterior applications

USE

The many performance feature of KEY BOND™ provides a product of exceptional versatility. It improves the adhesion, flexural and shear bond strength of cement mixes. May be used in areas subject to high humidity or immersion in water. When used as an admixture in replacement of

part of the mixing water, KEY BOND™ reinforced cement and sand mixes are highly hydrophobic, have greater adhesion, and are more resistant to attacks of acids, alkalis or chemicals. Cement based mixes prepared with KEY BOND™ as an admixture result in a hard, tough surface with improved scrub resistance and water repellent qualities. Important application areas include patching and resurfacing, spray and fill coats, stucco, spray-deck cementitious coatings, industrial concrete floors, and thin topping systems.

When used as a bonding agent adhesive, the KEY BOND™ glue line becomes an integral part of the interface between the cementitious material and the surface to be bonded. It creates a multiple bond (chemical and mechanical) between materials assuring top-level adhesive performance.

LIMITATIONS/PRECAUTIONS

Prolonged exposure of modified cement mixes to solvents may create softening prior to full cure. Never apply where efflorescence is present (efflorescence is a white soluble salt that breaks down the bond of any cement-based product). Minimum application temperature is 45°F and rising. Placement of concrete products at temperatures below 45°F is not recommended because of poor cement hydration. High humidity and excessive moisture will retard curing time of KEY BOND™ modified mixes.

DO NOT store KEY BOND™ at temperatures below freezing. Prolonged freezing may damage contents. Frozen material should immediately be placed in warm environment to gradually thaw. Direct heat should not be applied. If KEY BOND™ can be stirred easily and is creamy smooth after thawing, bonding qualities in most cases have not been lost. Tests should be made (to simulate job conditions) prior to use.

COMPOSITION AND MATERIALS

Water based acrylic polymer emulsion. A white milky liquid that dries clear.

COVERAGE

ADMIXTURE: used as an admixture to cement mixes and plasters: consult Surface Preparation.

BONDING AGENT: used straight as a bonding agent 250 to 300 sq. ft. per gallon. Coverage will vary due to texture of substrate.

APPLICABLE STANDARDS

ASTM C-932-80 (1990)

MIL-B-19235C (YD)

ASTM C 1042-85

ASTM C 1059-86 Type II

TECHNICAL DATA

Surface Applied Bonding Agents for Exterior Plastering

ASTM C 932-90

TENSILE STRENGTH, PST

Curing Conditions	Fresh Sample (1)	High Temp Test (2)	Freeze Thaw (3)
Air-cured 4 days soaked 2 days air-cured 24 hrs	196	258	218
Air-cured 7 days	364	260	312
Air-cured 25 days, soaked in water 2 days, air-cured 24 hrs	179	224	203
Air-cured 28 days	202	250	205

1. Fresh sample from container tested as is.
2. Sample exposed to 140° for 30 days prior to testing.
3. Sample exposed to -10°F and to 72°F for 5 cycles then tested.

ASTM C 932 requires a minimum of 150 psi. All sample preparation and strength testing was done in accordance with ASTM C 932 test procedures.

Tensile Bond Strength Test (Rupture/Pull Apart): Briquets for tensile strength determinations were made with a neat cement paste using high-early cement and molded in accordance with the method outlined in ASTM C 190. Specimens were cured in the molds in the moist room for 48 hours at a temperature of 70°F, with relative humidity of 50%. Specimens were then sawed in half and one of the halves replaced in the molds. The inside

of each of the sawed specimens was coated with KEY BOND® by brushing. Samples were then filled with cement paste and tested for tensile strength in accordance with ASTM C 190.

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Manufactured by

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