

# KEY VINYL ESTER BINDER/COATING

Product Data Sheet



## DESCRIPTION

**KEY VINYL ESTER BINDER/COATING** is a novolac vinyl ester resin used with all **Key Vinyl Ester Systems**. Combining high acid, solvent and corrosion resistance with high temperature resistance, **KEY VINYL ESTER BINDER/COATING** is the ideal resin component for secondary containment lining systems, metal plating areas, tank linings, exteriors of high temperature equipment, FGD stacks, trenches, pits, and sumps. The installed system thickness varies by system type and project specifications. **KEY VINYL ESTER BINDER/COATING** may optionally be available with fiberglass cloth reinforcement, mineral flake filler, glass flake filler, or carbon (graphite) filler at additional cost, contact Key Resin for details.

## KEY ADVANTAGES

- Excellent acid, solvent and corrosion resistance
- High heat and impact resistance
- Will not support growth of fungus or bacteria

## KEY CONSIDERATIONS

- Substrate temperature must be a minimum of 50°F
- Substrate must be free of excess moisture content or emission rate, curing agents, and other foreign materials which can prevent proper cure and bond
- Substrate irregularities may transmit through finish depending on system thickness
- Vinyl ester resin has a characteristic styrene odor during application and cure, fumes are flammable and heavier than air, use respirators and proper ventilation during application indoors and until system has fully cured—this will prevent high concentration of styrene from inhibiting the cure of the system.

## COLOR SELECTION

**KEY VINYL ESTER BINDER/COATING** is available in Standard Gray. The addition of carbon (graphite) filler to Gray (when specified) yields a darker charcoal gray.

## COVERAGE

**KEY VINYL ESTER BINDER/COATING** applied at 80-100 ft<sup>2</sup> per gallon will yield approximately 16-20 mils wft (12-16 mils dft). Coverage rate and number of coats varies by system type—contact Key Resin for details.

## COMPOSITION & PACKAGING

Vinyl ester-novolac resin with fillers and styrene.  
Packaging: 5 gallon pail part A and 15 vol. oz. part B Catalyst.

## CURE/DRY TIME

Pot Life*	40 min @ 75°F, 50% RH
Recoat* (Min-Max)	4-96 hrs @ 75°F, 50% RH
Light Foot Traffic*	24 hrs @ 75°F, 50% RH
Full Cure & Max. Resistance*	3 days @ 75°F, 50% RH

\*Cure time varies with temperature, air movement, humidity and thickness.

If exposed to direct sunlight, maximum recoat time is 6 hrs @ 75°F.

## APPLICATION

### SURFACE PREPARATION

Surface Preparation is the most critical portion to any successful resinous flooring system application. All substrates must be properly prepared as outlined in **Key Resin Technical Bulletin #1**. Work must be performed by trained or experienced contractors or maintenance personnel. Contact the **Key Resin Technical Service Department** with questions.

### MIXING & INSTALLATION

**KEY VINYL ESTER BINDER/COATING** in 5 gallon kits is supplied with 15 ounces of Part B (Catalyst). Additional Part B may be purchased separately.

**Mixing:** Thoroughly pre-mix Part A (Resin) component for 30 seconds prior to combining with Part B (Catalyst). Add 3.0 fluid ounces of Part B (Catalyst) per gallon of Part A (Resin) and mix thoroughly with a low speed drill and jiffy-type mixer at 75°F for additional 2 minutes. This ratio can be varied slightly to suit temperature and cure conditions. At 50°F add 4.0 fluid ounces. **Note:** Optional to add 3%-6% (4.0-8.0 fluid ounces/gallon) styrene to lower viscosity if desired. Styrene monomer may be sourced from a fiberglass supply business.

**Application (Coating):** Pour mixture in a ribbon and spread with squeegee to coverage rate of 80-100 ft<sup>2</sup> per gallon. Immediately back roll with medium nap high quality roller. For Binder application, refer to the appropriate System Application Instructions.

**Note:** Application in direct sunlight may lead to blistering, pinholes or wrinkling due to outgassing of air in the concrete and high substrate temperatures. Double priming, shading or evening application may be necessary. For complete mixing and installation instructions, consult the installation instructions document for the specified system and contact **Key Resin Technical Service**.

### CLEAN UP

Clean skin with soap and water. Tools and equipment should be cleaned with MEK or lacquer thinner, DO NOT use Acetone. Consult Safety Data Sheet (SDS) for safety and health precautions.

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## TECHNICAL DATA

Mixing Ratio	1 gallon Part A to 3-4 vol. oz. Part B catalyst
Solids Content	80%, by volume
Volatile Organic Content (VOC) (EPA Method 24)	<100 g/L, compliant to Industrial Maintenance Coating VOC Rule 1113
Flash Point	90°F
Shelf Life	2-3 months @ 70°F (Higher Temps = Decreased Life)

## AVAILABILITY

Key Resin materials are available throughout the United States and a number of other countries. Contact the **Key Resin Representative** in your area for details.

## PHYSICAL PROPERTIES

Adhesion to Concrete	ASTM D7240	300-400+ psi (Concrete Failure, varies by concrete strength)
Impact Resistance	Gardner Impact Tester	>120 in/lbs
Hardness, Shore D	ASTM D2240	75-85
Tensile Strength	ASTM D638	2000-2500 psi
Thermal Coefficient of Expansion	ASTM C531	6-10 x 10 <sup>-3</sup>
Flexural Strength	ASTM C580	5000-5100 psi
Abrasion Resistance	ASTM D4060	25-30 mg
Fungus & Bacterial Growth	MIL-F-52050 §4.4.2.11	Will not support growth of fungus or bacteria when subjected to mildew and bacteria test
Flammability	ASTM D635	Self-Extinguishing over Concrete

## WARRANTY

Key Resin Company ("Key") warrants for a period of one (1) year that its products will be free of manufacturing defects and will be in conformity with published specifications when handled, stored, mixed, and applied in accordance with recommendations of Key. If any product fails to meet this warranty, the liability of Key will be limited to replacement of any non-conforming material if notice of such non-conformity is given to Key within (1) one year of delivery of materials. Key may in its discretion refund the price received by Key in lieu of replacing the material. No customer, distributor, or representative of Key is authorized to change or modify the published specifications of this warranty in any way. No one is authorized to make oral warranties on behalf of Key. In order to obtain replacement or refund the customer must provide written notice containing full details of the non-conformity. Key reserves the right to inspect the non-conforming material prior to replacement. EXCEPT FOR THE EXPRESSED WARRANTY STATED ABOVE, THERE ARE NO OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING WITHOUT LIMITATION, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR PURPOSE. KEY'S OBLIGATION SHALL NOT EXTEND BEYOND THE OBLIGATIONS EXPRESSLY UNDERTAKEN ABOVE AND KEY SHALL HAVE NO LIABILITY OR RESPONSIBILITY TO THE PURCHASER OR ANY THIRD PARTY FOR ANY LOSS, COST, EXPENSE, DAMAGE OR LIABILITY, WHETHER DIRECT OR INDIRECT, OR FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.

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