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BRIDGE DECK & ROADWAY REHABILITATION SYSTEMS

PRODUCT DATA SHEET: KBP Epoxy LM

PRODUCT DESCRIPTION

KBP Epoxy LM is Kwik Bond Polymer’s low modulus, epoxy resin binder system designed primarily for use as a protective wearing course for concrete bridge decks and a binder system for High Friction Surface Treatments (HFST). KBP Epoxy LM is easily mixed with a drill motor mixer and applied with serrated squeegees, or with current automated installation equipment. KBP Epoxy LM has the following performance advantages:

Bridges:

- Meets or exceeds most State DOT standards for Thin Polymer Bridge Deck Overlay.
- Is designed to provide a durable wearing course that will extend the life of a steel-reinforced, concrete bridge deck.
- Minimize the intrusion of moisture, de-icing chemicals, carbonation and other potential sources of premature degradation of concrete bridge decks.
- KBP Epoxy LM is best suited as part of a bridge deck preservation strategy for increased life expectancy.

High Friction Surface Treatment (HFST):

- Superior adhesion to asphalt and concrete pavements as specified for High Friction Surface Treatments (HFST)
- Bonds well with durable high friction aggregates
- Designed to work with rigid and flexible pavement surfaces

*TYPICAL PHYSICAL PROPERTIES - KBP Epoxy LM	
Mix Ratio	1:1
Weight per gallon	9-9.2 lbs.
Viscosity	1400-1800 cps
Tensile Strength (ASTM D-638)	2800- 3,200 psi
Tensile Elongation (ASTM D-638)	50-60%
Compressive Strength (ASTM C-579)	>5000psi
Durometer Hardness (ASTM D-2240)	70
Bond Strength (ASTM C-1583)	>250psi
Thermal Compatibility (ASTM C884)	Pass
Chloride Ion Permeability (AASHTO T277)	0 coulombs
Shelf Life	2 years
* material property values noted are typical and subject to slight variation	

CURE CHART - KBP Epoxy LM		
Temperature (F)	Sweep (Hours after placement)	Open to Traffic (Hours after placement)
50	6	6
75	2	3.5
100	1.25	1.75

TYPICAL APPLICATIONS

- Thin-Polymer Bridge Deck Overlay
- High Friction Surface Treatment
- Pedestrian Bridges
- Sidewalks

Broadcast aggregates must be cleaned, washed, kiln- dried with a maximum moisture content of 1.2%. Follow the specifying agencies requirements for durability properties of aggregates that have been tested and approved for use, or recommended by the manufacturer.

SURFACE PREPARATION

Surface Prep:

Shot-blasting, or other approved mechanical methods are recommended to remove surface contaminants from Portland cement concrete decks prior to applying polymeric overlay systems. The final surface should be clean, free of oils, dirt, curing compounds, and other materials that may affect the adhesion of the polymer system. Unsound concrete areas should be located by using a chain-drag or hammer. The unsound areas must be removed and repaired until a sound concrete base is established. For asphalt pavement air-wash with oil-free, compressed air; a high pressure air compressor fitted with an oil trap and air lance is recommended. Remove all trapped dust, dirt and debris from the pavement surface. Pavement markings within the application area should be removed by grinding or other approved method. Remove any oil, grease, or other contaminants prior to installation.

Patching Steps (Concrete): Saw cut (dry blade) a minimum 3/8" depth shoulder around the edge of the prepared area

1. Chip out the delaminated, unsound PCC areas
2. Blow off dust from saw cutting operations and chipping operations
3. Patch unsound areas with PPC™ "EASY" Patch
4. Fill the prepared area to rough grade; strike-off to final grade

KBP Epoxy LM APPLICATION

Prior to use, pre-condition material to 65°-85°F (18°-29°C) as a best practice for mixing and proportioning. Pre-mix components (A) and (B) individually prior to mixing together. In conformance with many State agency specifications for the Thin-Polymer Overlay of bridge decks and High Friction Surface Treatment when the following steps are followed:

Bridge Deck Overlay Application:

KBP Epoxy LM Layer 1: Mix the KBP Epoxy LM resin binder at a 1:1 ratio of component (A) to component (B). Use a drill motor with a “jiffy” style mixer and mix for a minimum of 3 minutes at 300-600 rpm’s. Keep the mixer below the surface of the resin binder to minimize any entrainment of air during the mixing process. Pour material on prepared area. Spread material using a notched squeegee (or automated mixing equipment) at an approximate rate of 40ft²/gal. (1m²/L). As soon as possible and prior to gelling, broadcast the graded aggregate at a rate of approximately 10-12 lbs. per square yard, or until refusal. As soon as Layer 1 gains sufficient strength to retain the aggregate, the excess can be removed by power brooming and/or vacuuming.

KBP Epoxy LM Layer 2: For mixing follow the same mixing procedures as the first step. Spread the mixed material using a notched squeegee (or automated mixing equipment) at an approximate rate of at a coverage rate of 20ft²/gal. (0.5 m²/L). Broadcast aggregate at the rate of 14-15 lbs. per square yard. When the final coat has achieved sufficient strength to hold the aggregate, sweep or vacuum up any excess remaining on the surface. Traffic can typically be safely returned within 45 to 90 minutes after final sweeping.

High Friction Surface treatment Application:

KBP Epoxy LM: For hand mixing application, mix the KBP Epoxy LM epoxy resin binder at a 1:1 ratio of component (A) to component (B). Use a drill motor with a “jiffy” style mixer and mix for a minimum of 3 minutes at 300-600 rpm’s. Keep the mixer below the surface of the resin binder to minimize and entrainment of air during the mixing process. Dispense all the mixed material on the work area; material left in the mixing vessel will gel faster than it will in a thin film. It is considered best practice to get the material on the pavement and broadcast the aggregate into the resin expediently. Apply evenly using the proper serrated squeegees at a rate of 25-32 sf. /gal., or 50-65 wet mils in thickness. Without delay and prior to the gelling of the resin binder, evenly broadcast the graded aggregate until refusal at a minimum rate of 11-15 lbs. per square yard. For automated or machine-applied applications, a pump system and automated application equipment must be calibrated and tested prior to installation. Testing and calibration are recommended to ensure proper coverage rates of the resin binder and aggregate. Apply materials at recommended coverage rates, or as specified by the governing agency. Once the system has achieved sufficient strength to hold the aggregate, sweep or vacuum up any loose or remaining aggregate on the surface. Traffic can safely be returned within 45 to 90 minutes after final sweeping. It is recommended to sweep again after 24 hours to remove any additional loose aggregate.

STANDARD PACKAGING

KBP Epoxy LM Components

- KBP Epoxy LM Binder resin-available in 8 gallon kits and 110 gallon kits, 500 gallon kits and tankers.

PPC™ “EASY” Patch

- .43 cf Pre-Packaged Patch Kit
- Larger kits available upon request

STORAGE

Aggregates, KBP Epoxy LM Resin and hardener, PPC™ “EASY” Patch and catalyst components should be stored in a cool, dry location and in their original containers. Store all bagged aggregates in a clean, dry location away from moisture.

LIMITATIONS

New concrete must be a minimum of 28 days old. New asphalt pavements must be a minimum of 30 days old. Surface and ambient temperature must be a minimum of 50°F (10°C). Do not dilute KBP Epoxy LM with solvents, or other additives. Do not apply KBP Epoxy LM on unsound concrete, or incompatible patching materials. Contact a KBP technical representative with any concerns regarding the compatibility of underlying patching materials. Do not apply if moisture is present on the surface of the concrete at the time of application.

SAFETY

READ KBP Epoxy LM SDS PRIOR TO USING. Safety equipment and protective gear should be available for those unexpected emergency situations. Emergency equipment includes clean water for accidental contact in the eyes, and emergency center addresses, phone numbers, protective clothing, eye protection, and chemical resistant gloves. Organic vapor respirators are not normally required. For individuals highly sensitive to chemical vapors, organic vapor respirators are suggested.

Properly dispose any unused materials in accordance with the requirements of state, local and federal agencies.

The technical data furnished is true and accurate to the best of our knowledge. However, no guarantee of accuracy is given or implied. We suggest that customers evaluate these recommendations and suggestions in conjunction with their specific application. Kwik Bond Polymers, LLC warrants its products to be free from manufacturing defects conforming to its most recent material specifications. In the event of defective materials, Kwik Bond Polymers, LLC's liability will be limited to the replacement of material or the material value only at the sole discretion of Kwik Bond Polymers, LLC. Kwik Bond Polymers, LLC assumes no responsibility for coverage, suitability of application, performance or injuries resulting from use. 3-27-2017