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Technical Bulletin

High Friction Surface Binder – K-206

Description:

High Friction Surface Binder (HFSB) K-206 is a 100 % solids, self-leveling, primerless, low odor, epoxy binder designed to increase friction of road pavements and other surfaces by encapsulation of high friction fillers or aggregate.

Product Advantages:

- ASTM C-881 TYPE III, GRADE 2 COMPLIANT
- 100% SOLIDS
- MOISTURE TOLERANT
- LOW MODULUS
- USER FRIENDLY 1:1 MIX RATIO

Application Guidelines:

K-206 can be easily applied with a squeegee or automated methods. Normal application thickness is 30-60 mils (0.76-1.52 mm) of mixed epoxy liquids immediately followed by an aggregate broadcast to refusal. Application thickness varies depending on the porosity and roughness of the surface, and size of the aggregate used. Multiple applications may be used to obtain the desired profile.

Handling Properties:

COMPONENTS	Resin, Hardener		
DENSITY MIXED, kg/l (lbs./gal)	1.06	(8.81)	
MIX RATIO, pbv (pbw)	1/1	(100/85)	
COLOR	Light Amber		
MIXED VISCOSITY, cP or mPa.s	2,400		ASTM D 2393 (ASTM D 2196)
WORKING TIME, min	10		
GEL TIME, min (60g mass)	18		ASTM C 881
APPLICATION TEMPERATURE, °F (°C)			
Ideal	60-80	(16-27)	
Acceptable	40-95	(4-35)	
COVERAGE* @ 30 mil or 0.76 mm, ft^2/gal (m^2/l)	53	(1.31)	

*Varies with porosity of surface

Physical Properties:

TENSILE STRENGTH, psi (MPa)	3,120	(21.5)	ASTM D638
ELONGATION @ BREAK, %	38		ASTM D 638
HARDNESS, Shore D	75		ASTM D 2240
ADHESION TO CONCRETE, psi (MPa)	>500	(3.45)	ASTM D 7234
COMPRESSIVE MODULUS, psi (MPa)	120,000	(828)	ASTM D 695
ABSORPTION, 24 hour, %	<1		ASTM D 570
THERMAL COMPATIBILITY	Pass		ASTM C 884

Surface Preparation:

To achieve excellent adhesion, the substrate should be clean and free of all loose or foreign materials. Oils, greases, waxes or other contaminates must be removed prior to coating. K-206 should not be applied to noticeably wet surfaces although a certain amount of dampness is acceptable. Minimum age of concrete before application is 21-28 days depending upon curing and drying conditions.

Relative humidity and dew point must be determined before application to avoid adhesion failures. The dew point is used to predict the substrate temperature at which air begins to condense, in the form of water, on the substrate. Never apply a coating unless the form surface temperature is 5 °F (2.5 °C) above the dew point. This temperature difference must be observed until the epoxy coating is cured to a tack-free state. Minimum substrate and ambient temperature of 40°F (4°C) during application.

Mixing:

Condition material to 65°-80°F (18°-27°C) before using. Add 1 part B (hardener) to 1 part A (resin) and mix for 3 minutes using a Jiffy Mixer and a slow speed drill. Mix at slow speed (less than 500 rpm) to avoid air entrainment. DO NOT mix more material than can be used within the stated working time. REMEMBER - you will have less working time at higher temperatures.

The K-206, before it is fully cured (hard), may be removed from tools with warm soapy water, isopropyl alcohol (IPA), MEK or acetone.

Application:

The K-206 may be applied with a squeegee or automated methods. Immediately broadcast with clean, dry aggregate to saturation. The recommended aggregate for high traffic areas is calcined bauxite such as Copps C-016. After the binder has cured, brush, broom or vacuum off excess aggregate. Repeat this procedure to build the desired overlay thickness.

MINMIUM CURING TIMES OF OVERLAY

(Aggregate Immobility Point)*

	40°F (4°C)	60°F (16°C)	72°F (22°C)	90°F (32°C)
Minimum Cure Time	**18-24 hrs.**	**6.5 hrs.**	**3.25 hrs.**	**2 hrs.**

* Time at which broadcasted aggregate can no longer be moved with moderate lateral pressure.

SAFETY PRECAUTIONS

Avoid breathing of vapors. NIOSH approved, organic vapor respirators and forced exhaust are recommended in confined areas, or when conditions (such as heated polymer, sanding) may cause high vapor concentrations. Do not weld on, burn or torch the K-206 or any epoxy material. Hazardous vapor is released when an epoxy is burned. Avoid skin or eye contact. Wash skin with soap and water if contact occurs. If eye contact occurs flush with water for 15 minutes and obtain medical attention. Read and understand all cautions on can labels and safety data sheets before using this material.

WARRANTY AND DISCLAIMER