



IPANOL E - FLEX

Flexible Epoxy Overlay

IPANOL E - FLEX – Product Data Sheet

Moisture Insensitive *Flexible Epoxy Overlay System*

Description:

IPANOL E-FLEX is a 100% solids, two component moisture insensitive epoxy system. **IPANOL E-FLEX** is used in situations requiring a low modulus of elasticity for the epoxy to perform where variations in material stress and temperature exist.

Uses:

IPANOL E-FLEX has been used as a surface barrier providing a waterproof system for bridge decks, parking garages, loading docks and industrial plants, and can be modified by aggregate broadcast providing excellent skid resistance.

IPANOL E-FLEX is an excellent binder resin for broadcast overlays where high durability is required.

Advantages:

Traffic bearing conditions can be applied to the newly installed **IPANOL E-FLEX** film within 3 hours at 77°F (25°C). The very rapid curing system permits low temperature curing in conditions as low as 50°F (10°C).

Working range tensile strengths are attained within 3 hours, even in low temperature environments.

No primer required – easy installation.

Physical Properties:

Type:	Moisture Insensitive, 100% Solids	
Viscosity:	10 to 20 Poise @ 75°F (1-2 Pa·s @ 24°C)	
Pot Life, Neat:	15 to 20 minutes @ 75°F (24°C)	
Tensile Strength, psi	ASTM D 638	2000 psi minimum (14 MPa)
Tensile Elongation, %	ASTM D 638	50% minimum

Epoxy Mortar Properties

Compressive Strength	ASTM C 579-91, Method B	
3 hrs @ 75°F (24°C)	1300 psi average	(9 MPa)
3 ¼ hrs @ 75°F	1700 psi average	(11.7 MPa)
3 ½ hrs @ 75°F	2200 psi average	(15 MPa)
48 hrs @ 75°F	6800 psi average	(47 MPa)

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TECHNICAL DATA

Shelf Life: One year in unopened containers. Store in a cool dry place out of direct sunlight. Keep from freezing.

Color: Dark amber when mixed

Packaging: 10 Gallon and 110 Gallon Units (37.85 liter and 416.35 liter)

Yield: First course – 40 ft² per gallon (.98 m² per liter); second course – 20 ft² per gallon (.49 m² per liter)

Mixing ratio: Part A to Part B, 1:1 by volume

Working Time: 15 to 20 minutes – higher temperatures reduce working time

Curing Time: Traffic bearing approximately four hours after completion

Surface Preparation:

All surfaces must be clean and free of dirt, dust, oil, grease or any contaminant that would adversely affect the bond. Surfaces must be structurally sound. All loose particles or soft unsound sections must be removed.

On most concrete surfaces it is recommended that the surface be sandblasted to remove laitance on top of the concrete, and on road surfaces remove grease, dirt and oil deposited by vehicles.

Prior to placing the first course of epoxy, the installer shall use the Test Method prescribed in ACI 503-R, Appendix A of the ACI Manual of Concrete Practice to determine the cleaning method. The method provides direction for the size of shot, flow of shot, forward speed of shot blast machine, and number of passes necessary. The method shall improve the surface to provide a tensile bond strength greater than or equal to 250 psi (1724 kPa) or a failure rate of ¼ inch (6.4 mm) or more into the base concrete, over at least 50 percent of the test area.

Mixing Instructions:

Pre-mix both components individually for two to three minutes. Using a clean mixing container, slowly place 1 part by volume of component B into 1 part by volume of component A. Mix thoroughly for 2 to 3 minutes with a mixing paddle on slow speed (250 rpm). Mix only the amount of product that can be placed during the working life of the product. Product working time will vary according to temperature. For best results, precondition epoxy to 75°F (24°C) before application.

Application:

The epoxy overlay should be installed using two separate courses. Apply first coat epoxy binder using squeegee, roller or trowel at a rate of 2 pounds of epoxy per square yard (approximately 40 square feet per gallon) (.76 kg per square meter — approximately .98 square meters per liter).

When material levels, immediately broadcast the specified dry aggregate at approximately 10 pounds per square yard (5.4 kg per square meter), such that the entire surface is covered in excess. The first course should be cured for a minimum of 1 hour until brooming or vacuuming can be performed. This procedure should not cause tearing or damage to the surface during the curing period. After the curing period, all loose aggregate should be removed by brooming or vacuuming followed by the next overlay course.

Second course epoxy binder should be applied at the rate of 4 pounds per square yard (approximately 20 square feet per gallon) (1.5 kg per square meter — approximately .5 square meters per liter). Use the same installation method for the second course as for the first.

Keep traffic off of the newly installed epoxy system until compressive strength testing (2" (5 cm)) cubes of the overlay mixture has attained a minimum of 2,000 psi (14 MPa).

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The size and types of aggregate should be selected on the basis of intended use of the application. Hard emery or other fine aggregates may be used where abrasion resistance is required.

Fine aggregates permit easier cleanup of the finished surface. Coarse aggregates provide long term skid resistance. For best skid resistance on road surfaces, we recommend clean, dry (less than 0.2% moisture), angular grain silica sand or basalt. The aggregates should be free from dirt, clay, asphalt or other organic materials. Silica sands should have a minimum MOH scale hardness number of 7.

Recommended Aggregate Gradations (% Passing U.S. Standard Sieve Sizes):

#4 Sieve	100
#8 Sieve	30 to 75
#16 Sieve	Maximum 1

Curing:

Self curing

Clean-up:

Using appropriate safety methods and protective clothing, clean equipment and tools with xylene or toluene.

Limitations:

IPANOL E-FLEX overlay system is a vapor barrier and should not be applied where moisture vapor transmission is a concern or failure near the bond line may occur.

Plan work so no rain is expected within twelve hours.

CAUTION – FOR INDUSTRIAL USE ONLY:

IPANOL E-FLEX Epoxy System components contain alkaline amines. These materials are strong sensitizers and MAY CAUSE SKIN SENSITIZATION or allergic response ranging from a mild wheezing to a severe asthmatic type attack. Avoid contact with skin or eyes. IN CASE OF CONTACT immediately wash skin with soap and water. Flush eyes with water and obtain medical attention. Wear protective clothing, goggles for eyes and barrier cream on all exposed skin.

See MSDS for additional precautionary information and health hazard data.

WARRANTY

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