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EPOXIES

P-99

TECHNICAL DATA SHEET

COMPONENTS	SOLIDS	VOC	MIX RATIO
2	100%	<50 g/l	2 gal A, 1 gal B

DESCRIPTION

P-99 is a state of the art, Bisphenol F epoxy, Moisture Vapor Suppression (MVS) coating. As a Bis F, it has higher functionality than Bis A epoxies, providing better chemical resistance to caustics and acids. This is critical when combating high alkalinity at the concrete/coating interface. P-99, when properly installed, creates a tight film that tenaciously bonds to concrete. This highly crosslinked film reduces the amount of moisture vapor that can pass from the concrete through the P-99. Independent testing, performed by CTL Labs, shows ASTM E96 test results of .074 grains per hour, per square feet, per 1 inch of mercury. This extremely low perm rating results in P-99 being classified as a Class 1 vapor retarder. P-99 comes in standard and fast set versions. Ask your P-99 supplier for the CTL test results and always demand third party testing when comparing MVS product performance between manufactures!

RECOMMENDED USES

Primer-Used when concrete testing, per ASTM F2170, shows average RH readings above 75% or when moisture vapor emissions are suspected, and an additional level of moisture transmission protection is desired. When applied seamlessly at 16 mils over a concrete surface profile (CSP) of 2 or 3, P-99 will mitigate moisture vapor transmission (MVT) to less than .1 perms as shown in independent testing. Independent testing shows that broadcasting flake into P-99 results in a Class 2 Vapor retarder or > .1 and </=1. Chemical Resistant Build and Topcoat-Used when a high build epoxy with a broad degree of chemical resistance is needed such as in battery charging stations, laboratories and chemical splash and spill locations.

LIMITATIONS

Verify that substrate temperature is above 5 degrees of dewpoint during application and cure of material to avoid a potential amine blush. Follow Technical Data below.

SURFACE PREPARATION

For guaranteed performance follow all steps found in ASTM F3010. Patch all holes, cracks and non-moving joints using SP-15 prior to coating application. Understanding of osmotic, capillary and hydrostatic pressures with the potential of alkaline hydrolysis (which can erode the bond strength) is critical to successful evaluation, preparation and installation. Osmotic, capillary and hydrostatic pressures have been measured in excess of 3,000 p.s.i. which is well above the tensile strength of concrete. Polymer Nation encourages its customers to review its presentation called Understanding Moisture Vapor Suppression available where P-99 is sold. To receive a MVS warranty contact Polymer Nation techservice@polymernation.com prior to the start of project. Only written warrantees will be honored for labor and material coverage.

MIXING

Do not split kits. Mix ratio is 2 parts P-99 Part A to 1 part P-99 Part B. Combine all of part A and B into a single container, large enough to except the entire kit. Mix using a 350 RPM mixer using an appropriate mixing blade for 1.5 – 2.5 minutes making sure to not introduce excessive air into the material. If adding colorant, first mix with Part A before adding Part B.

APPLICATION

Pour the entire content from the container onto the floor and follow normal squeegee and back roll or cut and roller techniques. P-99 can be applied in one coat at 16 mils when concrete and environmental conditions allow. If concrete is porous and/or environmental conditions unfavorable a two-coat process is recommended with the first coat placed at 8 mils and the second coat placed at 8 mils for a total thickness of 16 mils. Successful material performance requires a monolithic, pinhole-free finish. Achieving this finish is dependent on the substrate condition and the installer's skill level. Recoat within 24 hours. Clean tools with a solvent similar to Xylene or Acetone.

COMPONENTS

Part A

Part B

GENERAL PRODUCT INFORMATION

Chemistry	Epoxies
Color / Finish	Clear or color packs
Number of Components	2
Solids by Volume	100%
VOC (Mixed)	<50 g/l
Mix Ratio	2 gal A, 1 gal B
Mixed Viscosity	700-1000 cP 25°C/77°F
Gel / Working Time	15-20 minutes
Application Temperature	60-85°F
Odor	Very Subtle

Do not split kits.

Warmer temperatures will reduce viscosity and lower temperatures will increase viscosity

(remove from work_time; carry as a record-level Technical Data caveat instead)

PHYSICAL PROPERTIES

The data below was gathered at temperatures of 72-75°F and 30-50% RH

Hardness	D65 @ 24 hours / D78 @ 7 days	Shore D
Tensile Strength	7,870 psi	ASTM C307
Compressive Strength	13,000 psi	ASTM C579
Flexural Strength	5,550 psi	ASTM C580
Abrasion — Taber CS-17	0.049g Loss (when higher abrasion resistance is required the addition of PC 1336 to the coating should be included)	ASTM D4060
Impact Resistance	>160 inch pounds	ASTM D2794
Adhesion to Concrete	>450 Substrate failure	ASTM D7234
Perm Rating	< 0.1 perms (ASTM E96); Yes 0.074 perms (ASTM F3010)	ASTM E96
Gloss @ 60°	80-90	
Color Scale	0.5-1.0	ASTM D1500
Accelerated Weathering	N/A	ASTM G154
Moisture Absorption	<0.2% weight increase	ASTM C413
Coefficient of Thermal Lineal Expansion	15-17 x 10-6 27-30 x 10-6	ASTM C531
Adhesion	5A	ASTM D3359
Adhesion to Steel	>1,000 psi	ASTM D4541
Hiding Power	2-5/200	ASTM D5150
Flammability When Adhered to Concrete	Self-Extinguishing	ASTM D635
Coefficient of Friction — Dry	0.75	NFSI B101.0
Coefficient of Friction — Wet	0.7	NFSI B101.1

Water Vapor Transmission per ASTM E96; Perm Rating - Independent Certificate from third party testing per ASTM F3010

Applying material close to dew point will decrease gloss and may result in an amine blush

CURE SCHEDULE

Dry to Touch	4-6 hours (2-3 if fast set)
Through Dry	6-10 hours (3-6 is fast set)
Dry to Light Use	16 - 24 hours (8-12 if fast set)
Full Cure	7 days

COVERAGE & PACKAGING

Coverage Rate	80-100 sq.ft./gal
Application Thickness	16 mils or 2 coats of 8 mils
Recoat Window	Within 24 hours
Packaging	3 Gallon kits

STORAGE, HANDLING & SAFETY

Store at 60-85 degrees F. Store material between 60-85 degrees F in a protected dry location. Refer to the current Safety Data Sheet (SDS) for this product before handling, mixing, or applying. Use appropriate personal protective equipment and ensure adequate ventilation during application and cure. Dispose of material, containers, solvents, etc., per Federal, State and local guideline, rules and laws.

TEST DATA

Test data has been gathered from testing conducted by independent, internal and third party testing. The best way to compare coating performance is by head-to-head independent testing as this removes the numerous variables found between testing standards, equipment and testing agencies.

TYPICAL VALUES

The information here is general information to help our customers determine whether our products suit their specific applications. Our products are intended for sale to commercial and industrial customers. We require that customers inspect and test our products before use to satisfy themselves as to the content and suitability for the applications they intend to use our products. Nothing herein shall constitute any warranty expressed or implied, including any warranty of merchantability or fitness for a particular purpose, nor is any protection from any law or patent to be inferred. The exclusive remedy for all proven claims is the replacement of our materials, and we shall not be liable for incidental or consequential damages. Polymer Nation Chemical Company LLC, 405 Oakwood Ave. Waukegan, IL 60085. All rights reserved.