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POLYMER NATION CHEMICAL COMPANY, LLC

Setting the Standard

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TECHNICAL DATA SHEET: SP-20 FLEXIBLE URETHANE MEMBRANE

Product Overview

SP-20 is a flexible aromatic urethane coating that has extreme tensile strength with an A shore hardness of 75. It is easy to install, has low odor and has tensile elongation properties of over 1000%. It far outperforms epoxy membranes in crack-bridging and as a waterproofing membrane under Polymer Nation floor systems.

Uses and Benefits

SP-20 is primarily used as a membrane in parking decks and waterproofing applications. It can also be used as a flexible broadcast resin, as a binder in flexible floor applications and bulked up using fumed silica to make a flexible patching paste.

Limitations

SP-20 is designed to be applied between 20-30 mils. It is not intended as a finish coat as it will amber. Ideal application temperatures to be between 60-90 degrees Fahrenheit. Cooler temperatures will increase cure times. Warmer temperatures will decrease working and cure times. Verify that substrate temperature is above 5 degrees of dewpoint during application and cure of material to avoid a potential amine blush.

Surface Preparation

The preparation method for each project is determined by a full understanding of the substrate to be coated, the chemistry of the coating system being used, the coating system thickness, and numerous other factors. The coating installer should fully read and understand ICRI Guideline NO.03732 and OSHA 29 CFR 1926.1153 before starting preparatory work. The aim, of preparing a substrate for coating applications, is to roughen the surface, remove weak layers, contaminants, dirt, debris and present a solid, clean, dry substrate for the primer. If unsure as to the level of preparation needed contact Polymer Nation at Lab@polymerNation.com.

Mixing

Do not split kits. Combine all of part A and B into a single container, large enough to accept the entire kit. Mix at 350 RPM for 1.5-2.5 minutes using an appropriate mixing blade and making sure not to introduce excessive air into the solution.

Application

Pour entire content of mixed material onto the floor in ribbons. Spread material using a flat blade or v-notched squeegee. Back roll material using a 3/8" nap roller cover to maintain an even mil thickness of material. Material can also be bucket rolled on smaller projects. Recoat within 2-24

hours. When a thicker membrane is desired, mix PN 1620 S with a full kit. This mix will cover 160 square feet at 60 mils and spread evenly up to 200 mils. Clean tools with a solvent similar to Xylene or Acetone.

Technical Data

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

Packaging	5 Gallon kits
Mix Ratio by Volume	4.30 gal A, 0.70 gal B
Mixed Viscosity	2000 cP 25°C/77°F
Gel Time	23 minutes
Dry to Touch	2.5 hours
Through Dry	4 hours
Dry to Walk	8 hours
Dry to Light Use	12 hours
Full Cure	7 days
Shore A Hardness	40 @ 24 hours
Shore A Hardness	75 @ 7 days
Gloss @ 60 Degree Angle	75-80
VOC's of Mixed Material	<50 g/l EPA Method 24
Color Scale	N/A
Solids by Volume Mixed	100%
Application in Mils	20-30 (50-80 sq.ft./gal.)
Available Colors	Light Gray

PHYSICAL PROPERTIES SP-20 FLEXIBLE URETHANE MEMBRANE

Description	Standard	Results
Tensile Strength	ASTM C307	2,870 psi
Moisture Absorption	ASTM C413	<.2 weight increase
Coefficient of Thermal Lineal Expansion	ASTM C531	15-17 x 10 ⁻⁶ 27-30 x 10 ⁻⁶
Compressive Strength	ASTM C579	13,000 psi
Modulus of Elasticity	ASTM C580	N/A
Flexural Strength	ASTM C580	5,550 psi
Water Vapor Transmission	ASTM D1653	See ASTM D3010
Impact Resistance	ASTM D2794	>160 inch pounds
Independent Certificate from third party testing agency	ASTM D3010	N/A
Adhesion	ASTM D3359	5A
Abrasion Resistance CS17 1000 g 1000cycles in g Loss	ASTM D4060	0.043g Loss (when higher abrasion resistance is required the addition of PC 1336 to the coating should be included)
Adhesion to Steel	ASTM D4541	>1,000 psi
Hiding Power	ASTM D5150	2-5/200
Flammability When Adhered to Concrete	ASTM D635	Self-Extinguishing
Adhesion to Concrete	ASTM D7234	>450 Substrate failure
Coefficient of Friction Dry Ave. three tests	NFSI B101.0	N/A
Coefficient of Friction Wet Ave. three tests	NFSI B101.1	N/A
Accelerated Weathering Testing	ASTM G154	N/A

* Dispose of material, containers, solvents, etc., per Federal, State and local guidelines, rules and laws.

* Store material between 60-80 degrees F in a protected dry location.

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.

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