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# POLYMER NATION CHEMICAL COMPANY, LLC

*Setting the Standard*

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## TECHNICAL DATA SHEET: SP-24 FLEXIBLE ALIPHATIC URETHANE WEAR SURFACE

### Product Overview

SP-24 is a flexible aliphatic urethane designed to provide a semi-flexible wear surface as part of a traffic coating system or waterproofing floor system. It is easy to install, has little odor and provides a UV stable, tough, abrasion and chemical resistant topcoat.

### Uses and Benefits

SP-24 is primarily used as an intermediate and topcoat in parking deck and waterproofing applications. It can also be used as a binder for floor applications that require more resiliency than epoxy floors typically can provide.

### Limitations

SP-24 is designed to be applied between 15-25 mils as an intermediate or topcoat. Ideal application temperatures to be between 60-90°F. 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](mailto:Lab@polymerNation.com).

### Mixing

Do not split kits. 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.

### Application

Pour the entire content from the container onto the floor and follow normal squeegee and back roll or cut and roller techniques. Recoat within 24 hours. 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	3.95 gal A, 1.05 gal B
Mixed Viscosity	1800 cP 25°C/77°F
Gel Time	30 minutes
Dry to Touch	2.5 hours
Through Dry	4 hours
Dry to Walk	16-24 hours
Dry to Light Use	24 hours
Full Cure	7 days
Shore D Hardness	D25 @ 24 hours
Shore D Hardness	D45 @ 7 days
Gloss @ 60 Degree Angle	75-80
VOC's of Mixed Material	<50 g/l EPA Method 24
Color Scale	0.5-1.0 per ASTM D1500
Solids by Volume Mixed	100%
Application in Mils	15-25 (64 – 110 sq.ft./gal.)
Available Colors	Light Gray, Dark Gray, Tan, Black

Below figures are guide values and should not be used as a base for specifications

Chemical	Results	Chemical	Results
Acetic Acid 10%	+	Mineral Spirits	+
Acetic Acid 50%	-	Motor Oil	+
Acetone	+	Phosphoric Acid 50%	-
Anti-Freeze	+	Phosphoric Acid 70%	-
Bleach	+	Potassium Hydroxide 50%	+
Brake Fluid	-	Simple Green	+
Caustic Soda	+	Skydrol	-
Gasoline	-	Sodium Hydroxide 50%	+
Hydraulic Fluid	+	Sulfuric Acid 25%	-
Hydrochloric Acid - - 10%	+	Sulfuric Acid 50%	-
Hydrochloric Acid - - 31%	-	(-) --> Visual Defects Observed (+) --> No Visual Defects Observed	
Jet Fuel	+		
Methanol	-		

## PHYSICAL PROPERTIES SP-24 FLEXIBLE APLIPHATIC URETHANE WEAR SURFACE

Description	Standard	Results
Tensile Strength	ASTM D412	1,500 psi
Moisture Absorption	ASTM C413	<.2 weight increase
Coefficient of Thermal Lineal Expansion	ASTM C531	test not performed
Compressive Strength	ASTM C579	N/A
Modulus of Elasticity	ASTM C580	N/A
Flexural Strength	ASTM C580	Not tested
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
Elongation	ASTM D412	81%
Abrasion Resistance CS17 1000 g 1000cycles in g Loss	ASTM D4060	0.050g Loss (when higher abrasion resistance is required the addition of PC 1336 to the coating should be included)
Adhesion to Steel	ASTM D4541	N/A
Hiding Power	ASTM D5150	2-5/150
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	0.72

Coefficient of Friction Wet Ave. three tests	NFSI B101.1	0.67
Accelerated Weathering Testing	ASTM G154	Non-yellowing

\* 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.