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POLYMER NATION CHEMICAL COMPANY, LLC

Setting the Standard

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TECHNICAL DATA SHEET: L-21 NOVOLAC EPOXY LINER

Product Overview

L-21 is a medium viscosity, nonylphenol-free, high-functional novolac resin. It has been designed as a chemical resistant liner for higher levels of protection than our standard Bisphenol A or Bisphenol F epoxies.

Uses and Benefits

L-21 is most often used as a high-build finish coat in areas that require high heat and/or a high degree of protection from chemical attack. It provides protection from acids, caustics and solvents.

Limitations

L-21 is designed to be applied between 10-16 mils. 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.

Mixing

It is always recommended to mix the entire kit, whenever possible, to avoid off-ratio mixtures. Mix ratio is 2 parts L-21 Part A to 1 part L-21 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.

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.

Recoat within 2-24 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	3, 15, 150 Gallon kits
Mix Ratio by Volume	2:1
Mixed Viscosity	300-400 cP 25°C/77°F
Gel Time	45 minutes
Dry to Touch	6 hours
Through Dry	10 hours
Dry to Walk	12 hours
Dry to Light Use	24 hours
Full Cure	7 days
Shore D Hardness	D65 @ 24 hours
Shore D Hardness	D85 @ 7 days
Gloss @ 60 Degree Angle	80-85
VOC’s of Mixed Material	<50 g/l EPA Method 24
Color Scale	N/A
Solids by Volume Mixed	100%
Application in Mils	10-16 (100-160 sq.ft./gal.)
Available Colors	Clear and Color Packs

CHEMICAL RESISTANCE TESTING – L-21 NOVOLAC EPOXY LINER

	1 Day	7 Days
ACIDS, INORGANIC		
10% Hydrochloric	E	E
30% Hydrochloric	E	E
10% Nitric	E	E
50% Phosphoric	E	G
37% Sulfuric	E	E
98% Sulfuric	E	E
ACIDS, ORGANIC		
10% Acetic	G	F
10 % Citric	E	E
Oleic	E	E
ALKALIS		
10% Ammonium Hydroxide	E	E
50% Sodium Hydroxide	E	E
SOLVENTS		
Ethylene Glycol	E	E
Isopropanol	E	E
Methanol	P	P
d-Limonene	E	E
Jet Fuel	E	E
Gasoline	E	E
Mineral Spirits	E	E
Xylene	E	E
Methylene Chloride	P	P
MEK	P	P
PMA	G	F
MISCELLANEOUS		
20% Ammonium Nitrate	E	E
Brake Fluid	E	E
Bleach	E	E
Motor Oil	E	E
Skydrol®500B	E	E
Skydrol®LD4	E	E
20% Sodium Chloride	E	E
10% TSP	E	E

E- Excellent (Not Effected)

G-Good (Limited Negative Effect)

F-Fair (Moderate Negative Effect)

P-Poor (Unsatisfactory)

PHYSICAL PROPERTIES
L-21 NOVOLAC EPOXY LINER

Description	Standard	Results
Tensile Strength	ASTM C307	2,800 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	14,000 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	0.073g 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	0.75
Coefficient of Friction Wet Ave. three tests	NFSI B101.1	0.7
Accelerated Weathering Testing	ASTM G154	Moderate 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.