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POLYMER NATION CHEMICAL COMPANY, LLC

Setting the Standard

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TECHNICAL DATA SHEET: U-21 URESPARTIC™ CLEAR HYBRID WB

Product Overview

U-21 is a breakthrough technology combining urethane and polyaspartic polyols to create our state-of-the-art Urespartic™. By combining our Urespartic™ resin with our proprietary aliphatic hardener blend we are able to create a high-solids, clear finish that will not yellow, maintains its existing sheen and passes 2500 MEK double rubs! It is manufactured in a gloss but the sheen can be reduced using PN C-20 Sheen Reducer.

Uses and Benefits

U-21 is primarily used as a clear topcoat due to its unsurpassed UV, stain, mar and abrasion resistance. It can be applied to floors and walls and adheres well to many substrates including concrete, gypsum, cement board, metals, vinyl, PVC and fiberglass. It can also be applied direct to concrete as a primer and topcoat.

Limitations

U-21 is designed to be applied at 4-8 mills as a top coat on floors and walls. Allowing to puddle will have a negative effect on the finish. Ideal application temperatures to be between 60-90°F. Cooler temperatures will increase cure times. Warmer temperatures will decrease working and cure times. Higher RH will lengthen dry time. Verify that substrate temperature is 5 degrees above the dewpoint during application and cure of material to avoid a potential blush or condensation.

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.

Application

Combine all of part A and B into a single container, large enough to accept the entire kit. Mix at 350 RPM for 2-3 minutes using an appropriate mixing blade and making sure not to introduce excessive air into the solution (material can be thinned up to 10% with clean potable water). Pour material needed from the container onto the floor and spread with a 5-7 mil squeegee. Back roll perpendicular to evenly spread the material. Strike off the material in the same direction as material was squeegeed. Material can also be bucket-rolled using a 3/8" nap roller cover. For a non-skid finish add 288 grams per 3 gallon kit of PN 1337 S (1-12 oz

cup struck off at the top) or 4 lbs. of PN 1335 AO and stir to completely incorporate. Recoat within 24 hours. Clean tools with a hot soapy water or solvent similar to Denatured Alcohol or Acetone.

Technical Data

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

Packaging	3, 15, 165 Gallon kits
Mix Ratio by Volume	2:1
Mixed Viscosity	500-750 cP 25°C/77°F
Work Time	45 minutes
Dry to Touch	3-4 hours
Through Dry	10-12 hours
Dry to Walk	12-16 hours
Dry to Light Use	24 hours
Full Cure	7 days
Pendulum Hardness (König)	12 @ 24 hours
Pendulum Hardness (König)	46 @ 7 days
Gloss @ 60 Degree Angle	>90
VOC's of Mixed Material	0 g/l EPA Method 24
Color Scale	0.5-1.0 per ASTM D1500
Solids by Volume Mixed	>65%
Application in Mills	4-8 (200-400 sq.ft./gal.)
Available Colors	Clear and Color Packs

PHYSICAL PROPERTIES
U-21 URESPARTIC™ CLEAR HYBRID WB

Description	Standard	Results
Tensile Strength	ASTM C307	2,380 psi
Moisture Absorption	ASTM C413	<.17 weight increase
Coefficient of Thermal Lineal Expansion	ASTM C531	N/A
Compressive Strength	ASTM C579	N/A
Modulus of Elasticity	ASTM C580	N/A
Flexural Strength	ASTM C580	3,550 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 1000 cycles in g Loss	ASTM D4060	0.014 g 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	N/A
Flammability When Adhered to Concrete	ASTM D635	Self-Extinguishing
Adhesion to Concrete	ASTM D7234	>450 psi 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 guideline, 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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