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POLYUREA AND POLYASPARTICS

P-21

TECHNICAL DATA SHEET

COMPONENTS	SOLIDS	VOC	MIX RATIO
2	100%	<50 g/l	2:1

DESCRIPTION

P-21 is a two-component clear polyurea coating for use as a primer on concrete and as a basecoat for broadcast aggregates and flake. It is the perfect choice for priming concrete that has been exposed to oils, or when quick turn-around time is required. It comes in standard speed with the option of an accelerator to achieve faster cure or if applying in colder temperatures.

RECOMMENDED USES

P-21 is most often used as a clear basecoat, with added color packs, for flake systems or as a concrete primer. It has excellent adhesion properties and can be used as a primer for tinted Polymer Nation finish coats.

LIMITATIONS

P-21 is designed to be applied between 8-10 mils. It is not intended as a finish coat as it will amber; likewise, when used as a primer/basecoat in outdoor applications, P-21 will amber, even in flake systems. Ideal application temperatures are between 50-90 degrees Fahrenheit. Cooler temperatures will increase cure times (see Accelerator below). 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 any potential 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. 310.2R-2013 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 P-21 Part A to 1 part P-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 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. Clean tools with a solvent similar to Xylene or Acetone.

COMPONENTS

Part A

Part B

GENERAL PRODUCT INFORMATION

Chemistry	Polyurea and Polyaspartics
Color / Finish	Clear and Color Packs
Number of Components	2
Solids by Volume	100%
VOC (Mixed)	<50 g/l
Mix Ratio	2:1
Mixed Viscosity	400-500 cP 25°C/77°F
Gel / Working Time	10-15 mins
Application Temperature	50-90°F
Odor	Subtle

It is always recommended to mix the entire kit, whenever possible, to avoid off-ratio mixtures

Warmer temperatures will reduce viscosity and lower temperatures will increase viscosity

Verify that substrate temperature is above 5 degrees of dewpoint during application and cure of material to avoid any potential condensation.

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 Hardness
Tensile Strength	3,270 psi	ASTM C307
Compressive Strength	12,500 psi	ASTM C579
Flexural Strength	5,550 psi	ASTM C580
Abrasion — Taber CS-17	0.022g 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
Gloss @ 60°	60-70	
Color Scale	0.5-1.0	ASTM D1500
Accelerated Weathering	Moderate yellowing	ASTM G154
Moisture Absorption	<.2 weight increase	ASTM C413
Coefficient of Thermal Lineal Expansion	15-17 x 10-6 27-30 x 10-6	ASTM C531
Water Vapor Transmission	See ASTM D3010	ASTM D1653
Independent Certificate — Third-Party Testing	N/A	ASTM D3010
Adhesion	5A	ASTM D3359
Adhesion to Steel	>1,000 psi	ASTM D4541
Hiding Power	2-5/175 When pigmented	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

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

Clear to slightly amber before colorants are introduced

CURE SCHEDULE

Through Dry	3-4 hours
Dry to Walk	4-6 hours
Full Cure	5-7 days

COVERAGE & PACKAGING

Coverage Rate	160 – 200 sq.ft./gal
Application Thickness	8-10 mils
Recoat Window	2-24 hours
Packaging	3 Gallon kits

STORAGE, HANDLING & SAFETY

Store at 60-80 degrees F. Store material between 60-80 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 guidelines, 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.