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URETHANES

U-91

TECHNICAL DATA SHEET

COMPONENTS	SOLIDS	VOC	MIX RATIO
2	100%	<50 g/l	0.8:1

DESCRIPTION

U-91 combines our robust, proprietary polyol resin blend with our flexible aliphatic hardener to create a flexible, urethane with unique performance characteristics. U-91 is a 100% solids, low odor, low viscosity urethane that provides amazing flexibility, toughness and UV resistance.

RECOMMENDED USES

U-91 is primarily used as a binder for our Scapes aggregate, a clear grout coat over EPDM filled systems, due to its unsurpassed UV stability, flexibility and abrasion resistance. It can also be used as a component in flexible floor and wall systems and padding. It adheres well to many substrates including concrete, gypsum, cement board, metals and fiberglass. Suitable topcoats for U-91 are as follows: F-series polyaspartics, U-51 MCU, U-21 2K WB urethane, or SP-series polyaspartics.

LIMITATIONS

U-91 is designed to be applied between 100-125 mils when used with Scapes, 15-20 mils as a floor grout coat and 5-6 (260-300 sq ft/gal) as a wall top coat. U-91 should not be applied as a topcoat where there is vehicular wheel traffic or parked cars. 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 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 0.8 parts of U-91 Part A to 1 part U-91 Part B. Combine all of part A and B into a single container, large enough to accept the entire kit. Mix using a 350 RPM mixer using an appropriate mixing blade for 1 – 2 minutes making sure to not introduce excessive air into the material.

APPLICATION

Pour ribbon of mixed material onto the floor and spread using a flat blade or notched squeegee. Back roll material immediately using a 3/8" nap roller cover to maintain an even mil thickness of material while maintaining a wet edge. Pour next ribbon on top of wet material and repeat the process. Recoat within 24 hours. Clean tools with a solvent similar to Xylene or Acetone.

COMPONENTS

COMING SOON

Part A

Part B

GENERAL PRODUCT INFORMATION

Chemistry	Urethanes
Color / Finish	Clear and Color Packs
Number of Components	2
Solids by Volume	100%
VOC (Mixed)	<50 g/l
Mix Ratio	0.8:1
Mixed Viscosity	450-650 cP
Gel / Working Time	15-20 minutes
Application Temperature	60-90°F

3-component when used as binder resin in Urescapes system

25°C/77°F

Ideal application temperature. Cooler temperatures will increase cure times. Warmer temperatures will decrease working and cure times.

PHYSICAL PROPERTIES

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

Hardness	12 @ 24 hours / 45 @ 7 days	Pendulum Hardness (König)
Tensile Strength	3,270 psi	ASTM C307
Compressive Strength	N/A	ASTM C579
Flexural Strength	5,150 psi	ASTM C580
Abrasion — Taber CS-17	0.024g 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°	85-95	
Accelerated Weathering	Non-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	N/A	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

ASTM D4060 — Abrasion Resistance CS17 1000 g 1000cycles in g Loss

CURE SCHEDULE

Dry to Touch	4-8 hours
Through Dry	8-12 hours
Dry to Light Use	16-24 hours
Full Cure	7 days

COVERAGE & PACKAGING

Coverage Rate	100 – 300 sq. ft./gal.
Application Thickness	5-16 mils
Recoat Window	Within 24 hours
Packaging	3 Gallon kits (A – 1.32 gal B – 1.68 gal)

STORAGE, HANDLING & SAFETY

Store at 60-80°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 guideline, 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.