



Made in the USA with domestic
and imported ingredients.

POLYMER NATION CHEMICAL COMPANY, LLC

Setting the Standard



405 Oakwood Ave
Waukegan, IL 60085

847-774-5038 | www.polymernation.com | sales@polymernation.com

TECHNICAL DATA SHEET: SP-91 POLYSCAPES POLYASPARTIC

Product Overview

SP-91 Polyscapes combines our robust, proprietary polyaspartic resin blend with our UV-stable aliphatic hardener and PN 1440 Scapes aggregate to create a fast-curing, durable, decorative polyaspartic floor system with unique performance characteristics. SP-91 Polyscapes is a 100% solids, low odor, low viscosity, aggregate-filled polyaspartic that combines properties of amazing flexibility, toughness and UV resistance.

Uses and Benefits

SP-91 is primarily used as a binder resin for our decorative, aggregate-filled Polyscapes system, due to its unsurpassed UV stability, toughness and abrasion resistance. It adheres well to many substrates including concrete, gypsum, cement board, metals and fiberglass. Suitable **topcoats** for SP-91 Polyscapes are as follows: U-51 MCU, U-21 2K WB urethane, or F-series polyaspartics.

Limitations

SP-91, along with PN 1440 Scapes aggregate, is designed to be applied between 1/16" – 1/8" as a floor system (approximately 90-127 sq ft/kit). 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 (liquids only) is approximately 1.5 parts of SP-91 Part A to 1 part SP-91 Part B. Combine all of part A and B into a single container, large enough to accept the entire kit (Part A packaging is designed to contain the entire kit for mixing). At low speed, mix A&B liquids for 15-30 seconds using a 350 RPM mixer making sure to not introduce excessive air into the material. Under agitation, add 32 lb. bag of PN 1440 Scapes aggregate and mix thoroughly for 60-90 seconds.

Application

Pour ribbon of mixed material onto the floor and spread using a 1/4" or 3/8" steel v-notched rake. Upon placement of

material, back roll material with a metal-tine spike roller or a fresh plastic-tine spike roller 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. 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 Gallon kits (A – 1.84 gal B – 1.16 gal)
Mix Ratio by Volume	≈1.5:1 (A:B)
Mixed Viscosity	450-650 cP 25°C/77°F (liquids only)
Gel Time	10-12 minutes
Dry to Touch	2-3 hours
Through Dry	6-8 hours
Dry to Light Use	16-24 hours
Full Cure	7 days
Pendulum Hardness (König)	20 @ 24 hours
Pendulum Hardness (König)	50 @ 7 days
Gloss @ 60 Degree Angle	85-95
VOC's of Mixed Material	Near zero... <50 g/l EPA Method 24
Color Scale	N/A
Solids by Volume Mixed	100%
Application in Mils	60-80 (90 – 127 sq. ft./kit)
Available Colors	Clear

PHYSICAL PROPERTIES SP-91 POLYSCAPES POLYASPARTIC

Description	Standard	Results
Tensile Strength	ASTM C307	3,270 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	N/A
Modulus of Elasticity	ASTM C580	N/A
Flexural Strength	ASTM C580	5,150 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	0.026g 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	2-5/175 When pigmented
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	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.

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.