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POLYMER NATION CHEMICAL COMPANY, LLC

Setting the Standard

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



405 Oakwood Ave
Waukegan, IL 60085

TECHNICAL DATA SHEET: F-81 FAST SPEED CLEAR POLYASPARTIC

Product Overview

F-81 combines our fast polyaspartic resin with our proprietary aliphatic hardener blend to create a fast speed, clear polyaspartic. F-81 is a 83% solids, low odor, low viscosity polyaspartic that provides the skilled installer with a short working time- fast dry time material that will allow for multiple steps to be completed in one day.

Uses and Benefits

F-81 is primarily used as a 1-day floor system. It can go direct to concrete as a primer and broadcast resin and be ready for recoat within 2 hours. It has excellent UV, abrasion and hot tire resistance. Alternatively, a low viscosity hardener is available as well (see below).

Limitations

F-81 is designed to be applied between 6-15 mils as a topcoat for floors and 5-6 mils as a topcoat on walls. Ideal application temperatures to be between 40-80°F and 60% RH or less. Cooler temperatures will increase cure times. Warmer temperatures will decrease working and cure times.

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 F-81 Part A to 1 part F-81 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 - 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 maintain a wet edge. Pour next ribbon on top of wet material and repeat the process. Recoat within 2-24 hours. Clean tools with a solvent similar to Xylene or Acetone.

F-81 LV (Low Viscosity Hardener)

| Product | Dry to touch | Initial Cure | Through Cure | Mix viscosity |
|---------|--------------|--------------|--------------|---------------|
| F-81 | 15-20 min | 25-30 min | 40-45 min | 350 cP |
| F-81 LV | 25-30 min | 40-45 min | 1 hr | 270 cP |

Note: Data collected at 71°F / 50% RH

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 | 250-350 cP 25°C/77°F |
| Gel Time | N/A |
| Dry to Touch | 0.5-1 hours |
| Through Dry | 1.25-2 hours |
| Dry to Walk | 2.5-5 hours |
| Dry to Light Use | 10-12 hours |
| Full Cure | 7 days |
| Pendulum Hardness (König) | 20 @ 24 hours |
| Pendulum Hardness (König) | 50 @ 7 days |
| Gloss @ 60 Degree Angle | >90 |
| VOC's of Mixed Material | 165 g/L (calculated) |
| Color Scale | N/A |
| Solids by Volume Mixed | 83% |
| Application in Mils | 5-15 (110 – 300 sq. ft./gal.) |
| Available Colors | Clear and Color Packs |

PHYSICAL PROPERTIES

F-81 FAST SPEED CLEAR 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 | 12,500 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 | 0.022g 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 | 2-5/175 When pigmented |
| 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 | 0.75 |
| 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.