Made in the USA with domestic and imported ingredients.

POLYMER NATION CHEMICAL COMPANY, LLC

Setting the Standard

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TECHNICAL DATA SHEET: F-52 D URETHANE CONCRETE DRESSING

Product Overview

F-52 D is a revolutionary formulation that allows longer working time with a snap-cure. It combines our water-based urethane resin and aromatic hardener with our proprietary blend of portland cement, lime and fillers (PN 1352 D). It has been formulated to work with our TD and SL systems to provide the highest degree of impact and thermal shock resistance of any urethane concrete on the market. It's low odor and easy application make it perfect for industrial and durable decorative applications.

Uses and Benefits

F-52 D is most often used as a topcoat for our TD and SL systems. It can also be used as a coating over vertical concrete and CMU and as a concrete primer for all of our flooring coatings. It's low viscosity and tenacious bond to concrete make it an excellent prime/build coat for many decorative and industrial applications. F-52 D can also be used as a primer when concrete floors exhibit high moisture transmission levels and can be applied to green concrete.

Limitations

Each mix of F-52 D will cover 160 sq. ft. at 25 mils theoretical coverage. A waste factor of 5% should be estimated when mixing and installing. Ideal application temperatures to be between 50-80°F. 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. A mixture consists of 1.05 gal. Part A, 0.75 gal Part B and 12.5 LB. of Part C (PN 1352 D). **Under agitation, add part C powder into Part A in a single container**, large enough to accept the entire kit (1 mix equals 2.8 gallons when all parts are added). **Pre-mix A and C at 350 RPM until a smooth, paste consistency is revealed**, using an appropriate mixing blade or mixing machine. Add part B and continue mixing for 1-2 minutes.

Application

Pour material on to floor and spread to desired thickness using squeegee and back roll techniques. If a broadcast has been selected, begin broadcasting evenly across the floor, following the same order in which the coating was installed. Whenever possible, work the shorter distance not the longer as this will help keep a fresh edge and make for easier blending. Recoat within 24 hours. Clean tools with a 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	1, 262 Gallon kits
Mix Ratio by Kit	1.05 gal. A, 0.75 gal. B, 12.5 lbs. C
Mixed Viscosity	300 cP 25°C/77°F (A&B)
Working Time	10-15 minutes
Dry to Touch	2 hours
Through Dry	4-6 hours
Dry to Walk	6-10 hours
Dry to Light Use	16-24 hours
Full Cure	7 days
Shore D Hardness	D70@ 24 hours
Shore D Hardness	D78 @ 7 days
Gloss @ 60 Degree Angle	30-40
VOC's of Mixed Material	<50 g/l EPA Method 24
Color Scale	N/A
Solids by Volume Mixed	>97%
Application in Mils	25 (approx.. 160 sq.ft./kit)
Available Colors	Natural (**PN 1342 WB Color Packs**), Tile Red, Light Gray, Medium Gray, Dark Gray, Black

PHYSICAL PROPERTIES
F-52 D URETHANE CONCRETE DRESSING

Description	Standard	Results
Tensile Strength	ASTM C307	1,400 psi
Moisture Absorption	ASTM C413	0.04%
Coefficient of Thermal Lineal Expansion	ASTM C531	2 x 10 to the 5th
Compressive Strength	ASTM C579	8,000 psi
Modulus of Elasticity	ASTM C580	N/A
Flexural Strength	ASTM C580	2,500 psi
Water Vapor Transmission	ASTM D1653	See ASTM D3010
Impact Resistance	ASTM D2794	>160 inch pounds The addition of PC 1244 drastically improves performance
Independent Certificate from third party testing agency	ASTM D3010	Breathable
Adhesion	ASTM D3359	N/A
Abrasion Resistance CS17 1000 g 1000cycles in g Loss	ASTM D4060	0.030g 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	N/A
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	Significant 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.

Revised: 7/1/25