Polymer Nation Chemical Company, LLC
405 Oakwood Ave, Waukegan, IL 60085 | (847)774-5038
polymernation.com | sales@polymernation.com

URETHANE CONCRETE

F-52 AD

TECHNICAL DATA SHEET

COMPONENTS	SOLIDS	VOC	MIX RATIO
3	>99%	0 g/l	1 gal. A, 1 gal. B, 12.5 lbs. C

DESCRIPTION

F-52 AD is a proprietary formulation that allows longer working time with a snap-cure. It combines our water-based urethane resin and aliphatic 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, UV resistance, 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.

RECOMMENDED USES

F-52 AD is most often used as a topcoat for our TD and SL systems. It's low viscosity and tenacious bond to concrete make it an excellent prime/build coat for many decorative and industrial applications. F-52 AD 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 AD 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 gal. Part A, 1 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.

COMPONENTS

Part A

Part B

Part C

GENERAL PRODUCT INFORMATION

Chemistry	Urethane Concrete
Color / Finish	Natural, Tile Red, Light Gray, Medium Gray, Dark Gray, Black
Number of Components	3
Solids by Volume	>99%
VOC (Mixed)	0 g/l
Mix Ratio	1 gal. A, 1 gal. B, 12.5 lbs. C
Mixed Viscosity	400-600 cP
Gel / Working Time	10-15 minutes
Application Temperature	50-80°F
Odor	Subtle

Accuracy when mixing kits from bulk containers is critical. For mix ratio by weight contact Lab@polymerNation.com.

25°C/77°F (A&B)

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	D70@ 24 hours / D78 @ 7 days	Shore D
Tensile Strength	1,400 psi	ASTM C307
Compressive Strength	8,000 psi	ASTM C579
Flexural Strength	2,500 psi	ASTM C580
Abrasion — Taber CS-17	0.030g 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 The addition of PC 1244 drastically improves performance	ASTM D2794
Adhesion to Concrete	>450 Substrate failure	ASTM D7234
Gloss @ 60°	30-40	
Accelerated Weathering	Slight yellowing	ASTM G154
Moisture Absorption	0.04%	ASTM C413
Coefficient of Thermal Lineal Expansion	2 x 10 to the 5th	ASTM C531
Water Vapor Transmission	See ASTM D3010	ASTM D1653
Independent Certificate — Third-Party Testing	Breathable	ASTM D3010
Adhesion	N/A	ASTM D3359
Adhesion to Steel	N/A	ASTM D4541
Hiding Power	N/A	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

CURE SCHEDULE

Dry to Touch	2-4 hours
Through Dry	4-6 hours
Dry to Walk	6-10 hours
Dry to Light Use	16-24 hours
Full Cure	7 days

COVERAGE & PACKAGING

Coverage Rate	160 sq.ft./kit
Application Thickness	25 mils
Recoat Window	Recoat within 24 hours
Packaging	2 Gallons + 12.5 lbs. Aggregate
Number of Mixes per Kit	Mix: Part A - 1 gal, Part B - 1 gal, Part C - 12.5 lbs Aggregate

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 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.