



## **Polymer Nation – DecoGuard 211**

*Technical Data Sheets*

**Base: F-10 SL – Epoxy Slurry (Pigmented)**

**Broadcast Silica Sand**

**Wear: F-01 Epoxy finish (Pigmented)**



# POLYMER NATION CHEMICAL COMPANY, LLC

Made in the USA with domestic and imported ingredients.



*Setting the Standard*

Florida (239) 424-8692 | [info@floorcoatingsource.com](mailto:info@floorcoatingsource.com)

405 Oakwood Ave  
Waukegan, IL 60085

## TECHNICAL DATA SHEET: F-10 SL PIGMENTED EPOXY

### Product Overview

F-10 SL combines our pigmented, nonylphenol-free, epoxy resin, our blended cycloaliphatic curing agent and our Slurry Aggregate PN 1360 to create an easy-to-use slurry material. This mixture allows the installer to create a pigmented, high-build, epoxy flooring system in a shorter amount of time than double broadcasting the floor. The cured material has high compressive strength (three times that of concrete), great impact resistance and a broad range of resistance to chemical attack. It is virtually odor-free.

### Uses and Benefits

F-10 SL is primarily used as a fast-setting epoxy overlay to protect and/or repair concrete when sloping is not required. On solid concrete, the system is self-priming and with the appropriate conditions and a skilled installer it can be left as a high-build, single step flooring system. When conditions or skill do not allow a one step process, a broadcast of select aggregates and fillers can be used to help level the floor and release trapped air.

### Limitations

F-10 SL is designed to be applied at 1/8" (66 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 a potential amine blush.

### 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](mailto:Lab@polymerNation.com).

the shorter distance not the longer as this will help keep a fresh edge and make for easier blending. Temperature should be descending, not ascending during application and cure of slurry. This is critical whenever a broadcast will not be cast into the wet slurry. Recoat within 24 hours. 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 kit + Agg     |
| Mix Ratio by Volume     | 2:1 + 50 lb Agg        |
| Mixed Viscosity         | 300-400 cP 25°C/77°F   |
| Gel Time                | 25 minutes             |
| Dry to Touch            | 2 hours                |
| Through Dry             | 4-6 hours              |
| Dry to Walk             | 8-12 hours             |
| Dry to Light Use        | 16-24 hours            |
| Full Cure               | 5-7 days               |
| Shore D Hardness        | D65 @ 24 hours         |
| Shore D Hardness        | D78 @ 7 days           |
| Gloss @ 60 Degree Angle | 60-70                  |
| VOC's of Mixed Material | <50 g/l EPA Method 24  |
| Color Scale             | 0.5-1.0 per ASTM D1500 |
| Solids by Volume Mixed  | 100%                   |
| Application in Mils     | 1/8" (66 sq.ft./kit)   |
| Available Colors        | Gray                   |

### Mixing

A mixture consists of 2 gallon F-10 SL Part A, 1 gallon F-10 SL Part B and 50 LB. of C (PN 1360). Combine part A and B into a single container, large enough to accept the entire kit (1 mix equals 6.5 gallons when Part C is added). Premix liquids at 350 RPM for 1 minutes using an appropriate mixing blade or mixing machine. Pour Part C into the mixed resin and continue mixing until a homogenous mortar is achieved (2-3 minutes usually), making sure not to introduce excessive air into the solution.

### Application

Pour material on to floor and spread to desired thickness using a screed rake or notched squeegee. Once material has leveled, back roll with a spiked roller to aid in the release of trapped air. If a broadcast has been selected, begin broadcasting evenly across the floor, following the same order in which the slurry was installed. Whenever possible, work

## PHYSICAL PROPERTIES F-10 SL PIGMENTED EPOXY

| Description   | Standard    | Results   |
|---|-------------|---|
| Tensile Strength  | ASTM C307   | 2,870 psi   |
| Moisture Absorption                                     | ASTM C413   | <.2 weight increase   |
| Coefficient of Thermal Lineal Expansion                 | ASTM C531   | 24.5 x 10-6 in/in/F   |
| Compressive Strength                                    | ASTM C579   | 15,200 psi  |
| Modulus of Elasticity                                   | ASTM C580   | 1,300 psi   |
| Flexural Strength                                       | ASTM C580   | 5,000 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  | N/A   |
| Abrasion Resistance CS17 1000 g 1000cycles in g Loss    | ASTM D4060  | 0.083g 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   | N/A   |

\* 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.



# POLYMER NATION CHEMICAL COMPANY, LLC

Made in the USA with domestic and imported ingredients.



*Setting the Standard*

Florida (239) 424-8692 | [info@floorcoatingsource.com](mailto:info@floorcoatingsource.com)

405 Oakwood Ave  
Waukegan, IL 60085

## TECHNICAL DATA SHEET: F-01 CLEAR EPOXY FLOOR COATING

### Product Overview

F-01 is our workhorse, clear, 100% solids epoxy. It can be ordered with 3 different speed hardeners- Standard, Medium and Fast. This allows for easy transition between cold and warm weather applications and cure times. It can be used with our full line of colorants (PN 1339) to provide extreme color flexibility. Ease of use, good flow and leveling, toughness and flexibility are characteristics of this high quality epoxy. The cured material has good, broad-range, chemical resistance as well as good abrasion and impact resistance.

### Uses and Benefits

F-01 is most often used as a primer, broadcast resin and topcoat for resinous concrete flooring projects. It can also be used as a patching or trowel material when combined with PN 1170 or PN 1324 aggregate.

### Limitations

F-01 is designed to be applied at 8-12 mils as a primer, 12-20 mils as a body coat and 10-16 mils as a topcoat. Ideal application temperatures to be between 60 – 85°F. Cooler temperatures will increase cure times. Warmer temperatures will decrease working and cure times. Polymer Nation has tested its materials with our PN 1338 metallic powders. While we have taken every precaution to formulate an exceptional epoxy coating, certain undesired results in so-called epoxy metallic systems in which Polymer Nation resins are used (i.e. F-01, F-41, P-01) may occur due to a number of factors including mixing, placement techniques and thermal variations in the installation area. Good coating practices are required when installing our coatings. See our Solution Guide for helpful information. Verify that substrate temperature is above 5 degrees of dewpoint during application and cure of material to avoid a potential amine blush.

### 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](mailto:Lab@polymerNation.com).

patching material mix no more material than can be mixed and applied within the stated gel time and add the selected aggregate until the desired thickness is achieved. Recoat within 24 hours. 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, 15 & 165 Gallon Kits      |
| Mix Ratio by Volume     | 2:1                          |
| Mixed Viscosity         | 500-600 cP 25°C/77°F         |
| Gel Time S/M/F          | 45/30/15 minutes             |
| Dry to Touch            | 8/4/2 hours                  |
| Through Dry             | 10/7/5 hours                 |
| Dry to Walk             | 12/8/6 hours                 |
| Dry to Light Use        | 24/16/12 hours               |
| Full Cure               | 7 days                       |
| Shore D Hardness        | D65 @ 24 hours               |
| Shore D Hardness        | D78 @ 7 days                 |
| Gloss @ 60 Degree Angle | 90+                          |
| VOC's of Mixed Material | <50 g/l EPA Method 24        |
| Color Scale             | 0.5-1.0 per ASTM D1500       |
| Solids by Volume Mixed  | 100%                         |
| Application in Mils     | 8-20 (80 – 200 sq. ft./gal.) |
| Available Colors        | Clear and Color Packs        |

### Mixing

It is always recommended to mix the entire kit, whenever possible, to avoid off-ratio mixtures. Mix ratio is 2 parts F-01 Resin (Part A) to 1 part F-01 Hardener (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 1.5 – 2.5 minutes making sure to not introduce excessive air into the material.

### Application

Pour entire content of mixed material onto the floor in ribbons. Spread material using a flat blade or notched squeegee. Back roll material using a 3/8" nap roller cover to maintain an even mil thickness of material. To make an epoxy

## PHYSICAL PROPERTIES – F-01 CLEAR EPOXY FLOOR COATING

| Description   | Standard    | Results   |
|---|-------------|---|
| Tensile Strength  | ASTM C307   | 2,870 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   | 13,000 psi  |
| Modulus of Elasticity                                   | ASTM C580   | N/A   |
| Flexural Strength                                       | ASTM C580   | 5,750 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  | 0.053g 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  | 2-5/200   |
| 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   | Moderate 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.