



## **Polymer Nation – DecoGuard 243**

*Technical Data Sheets*

**Filler/Patch: SP-15 Filler/Patch (if needed)**

**Base: F-52 SL 36 Urethane Cement Slurry**

**Body: F-71 Medium Speed Polyaspartic (Pigmented)**

**Broadcast Decorative Flake**

**Wear: F-61 Slow Speed Polyaspartic (clear)**



# POLYMER NATION CHEMICAL COMPANY, LLC

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405 Oakwood Ave  
Waukegan, IL 60085

## TECHNICAL DATA SHEET: SP-15 EPOXY PATCHING PASTE

### Product Overview

SP-15 consist of a high viscosity, nonylphenol-free, epoxy resin, a thickened, cycloaliphatic amine reactant and a free-silica, powder (PN 1170). This combination, when properly mixed, achieves a non-shrinking patching paste with high compressive and tensile strength and which is easy to shape, sand and grind after initial cure.

### Uses and Benefits

SP-15 is most often used to patch concrete holes, cracks, divots and non-moving joints. It can also be used when a feathered edge is required for smooth transitions between differing planes.

SP-15 kit will cover approximately 3.2 sq. ft. at 1/4" or 150 LF of 1/4" X 1/4" joint.

### Limitations

SP-15 is designed to be applied at temperatures 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).

within 5 hours. If after 5 hours, abrade material with a minimum of 100 grit sanding screens. Clean tools with a solvent similar to Xylene or Acetone.

### Mixing

It is always recommended to mix the entire kit, whenever possible, to avoid off-ratio mixtures. A mixture consists of 1 quart SP-15 Part A, 1 pint SP-15 Part B and 3 LB. of Part C (PN 1170). Combine part A and B into a single container, large enough to accept the entire kit (1 mix equals .5 gallons when Part C is added). Premix liquids at 350 RPM for 1 minute using an appropriate mixing blade, and slowly add Part C under agitation until desired paste consistency is achieved.

### Application

Place mixed material on a mortar board and apply mixed material within 20 minutes using patching techniques. Recoat

### Technical Data

The data below was gathered at temperatures of 72-75°F and 30-50% RH

Packaging	0.5 Gallon kits
Mix Ratio by Volume	2:1 plus Part C
Mixed Viscosity	3500 cP 25°C/77°F
Gel Time	20 minutes
Dry to Touch	2.5 hours
Through Dry	4 hours
Dry to Grind	4 hours
Dry to Light Use	6-8 hours
Full Cure	7 days
Shore D Hardness	D65 @ 24 hours
Shore D Hardness	D81 @ 7 days
Gloss @ 60 Degree Angle	30-40
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	N/A
Available Colors	Clear or Color Packs

## PHYSICAL PROPERTIES

### SP-15 EPOXY PATCHING PASTE

Description	Standard	Results
Tensile Strength	ASTM C307	3,200 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 guidelines, 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.

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## TECHNICAL DATA SHEET: F-52 SL 36 URETHANE CONCRETE SLURRY

### Product Overview

F-52 SL 36 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 S 36). It has been formulated 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 SL 36 is most often used as a self-priming, slurry broadcast flooring system. It is used to achieve 3/16"-1/4" in one pass or when a decorative broadcast element is to be included. F-52 SL 36 can be used as a primer when concrete floors exhibit high moisture transmission levels. It can also be applied to green concrete.

### Limitations

Each mix of F-52 SL 36 will cover 35 sq. ft. at 3/16" theoretical coverage. A waste factor of 5% should be contemplated 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. 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).

### Mixing

A mixture consists of 1.05 gal. A, 0.75 gal B and 36 LB. of C (PN 1352 S 36). Combine part A and B into a single container, large enough to accept the entire kit (1 mix equals 4.4 gallons when Part C is added). Premix liquids at 350 RPM for 30-45 seconds using an appropriate mixing blade or mixing machine. Add Part C under agitation and mix for an additional 1-2 minutes.

### 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 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 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; 36 lbs C
Mixed Viscosity	300 cP 25°C/77°F (A&B)
Working Time	15-20 minutes
Dry to Touch	2 hours
Through Dry	4 hours
Dry to Walk	6 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 inches	3/16" – 1/4" (28 – 35 sq.ft./kit)
Available Colors	Natural (PN 1342 WB Color Packs), Tile Red, Light Gray, Medium Gray, Dark Gray, Black

## PHYSICAL PROPERTIES

### F-52 SL 36 URETHANE CONCRETE SLURRY

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.

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## TECHNICAL DATA SHEET: F-71 MEDIUM SPEED CLEAR POLYASPARTIC

### Product Overview

F-71 combines a proprietary blend of polyaspartic resins with aliphatic hardeners to create an intermediate speed, clear polyaspartic. F-71 is an 83% solids, low odor, low viscosity polyaspartic that provides easy application with a moderately fast dry time. It will not yellow or chalk over time and provides a great, high gloss finish with as little as 6 mils WFT.

### Uses and Benefits

F-71 is primarily used as a clear topcoat due to its unsurpassed UV and abrasion resistance. It can be applied to floors and walls and adheres well to many substrates including concrete, gypsum, cement board, metals and fiberglass.

### Limitations

F-71 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 60-80°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](mailto:Lab@polymerNation.com).

Recoat within 24 hours. Clean tools with a solvent similar to Xylene or Acetone.

### Mixing

It is always recommended to mix the entire kit, whenever possible, to avoid off-ratio mixtures. Mix ratio is 2 parts F-71 Part A to 1 part F-71 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 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.

### 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
Working Time	10-15 minutes
Dry to Touch	2-4 hours
Through Dry	5-6 hours
Dry to Walk	7-8 hours
Dry to Light Use	14-16 hours
Full Cure	7 days
Pendulum Hardness (König)	18 @ 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 Mil	5-15 (110 – 300 sq. ft./gal.)
Available Colors	Clear and Color Packs

## PHYSICAL PROPERTIES

### F-71 MEDIUM 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 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.

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## TECHNICAL DATA SHEET: F-61 SLOW SPEED CLEAR POLYASPARTIC

### Product Overview

F-61 combines a proprietary blend of polyaspartic resins with aliphatic hardeners to create our slowest speed, clear polyaspartic. F-61 is an 83% solids, low odor, low viscosity polyaspartic that provides easy application with a moderately fast dry time. It will not yellow or chalk over time and provides a great, high gloss finish with as little as 6 mils WFT.

### Uses and Benefits

F-61 is primarily used as a clear topcoat due to its unsurpassed UV and abrasion resistance. It can be applied to floors and walls and adheres well to many substrates including concrete, gypsum, cement board, metals and fiberglass.

### Limitations

F-61 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 70-90°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](mailto:Lab@polymerNation.com).

next ribbon on top of wet material and repeat the process. 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	250-350 cP 25°C/77°F
Working Time	15-20 minutes
Dry to Touch	4-5 hours
Through Dry	10-12 hours
Dry to Walk	14-18 hours
Dry to Light Use	18 - 24 hours
Full Cure	7 days
Pendulum Hardness (König)	18 @ 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

### Mixing

It is always recommended to mix the entire kit, whenever possible, to avoid off-ratio mixtures. Mix ratio is 2 parts F-61 Part A to 1 part F-61 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 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

## PHYSICAL PROPERTIES

### F-61 SLOW 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 60-85 degrees F in a protected dry location.

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