Polymer Nation – WearGuard 315

Technical Data Sheets

Filler Material: SP-15 – Filler/Patch

Body: F-41 TDQ – Epoxy with trowelled aggregate (Quartz or Terrazzo)

Grout: F-41 Clear epoxy

Wear: F-41 – Clear Epoxy

Made in the USA with domestic and imported ingredients.

POLYMER NATION CHEMICAL COMPANY, LLC

Setting the Standard

Florida (239) 424-8692 | info@floorcoatingsource.com

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.

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 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.

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.

Revised: 3/25/25

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TECHNICAL DATA SHEET: F-41 TDQ CLEAR UV RESISTANT EPOXY QUARTZ TROWEL DOWN

Product Overview

F-41 TDQ combines our low viscosity, nonylphenol-free, clear, UV resistant epoxy resin, our UV resistant, cycloaliphatic amine curing agent and our Quartz Trowel Down Aggregate (PN 1321 L) to create the easiest troweling material available anywhere. This combination achieves an easily closed, decorative, epoxy mortar that can be walked on within a few hours. The cured material has high compressive strength (three times that of concrete), great impact resistance, excellent UV resistance and a broad range of resistance to chemical attack. It is virtually odor-free.

Uses and Benefits

F-41 TDQ is primarily used as a decorative, epoxy overlay to protect and/or repair concrete. Because it is a mortar, it is the ideal material for sloping floors and creating ramps and transitions. It can also be troweled vertically by skilled technicians to make cove base and stunning wall finishes.

Limitations

Each mix of F-41 TDQ will cover 28 sq. ft. at 1/4" theoretical coverage. A waste factor of 10-15% should be contemplated. 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.

Mixing

A mixture consists of 0.5 gal A, 0.25 gal B and 50 LB. of C (PN 1321 L). Combine part A and B into a single container, large enough to accept the entire kit (1 mix equals 4.47 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).

Application

Pour material on floor and spread to desired thickness using a screed rake or pour material into a screed box. Follow using good hand or power trowel techniques. 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, 4 x 50 lb. bags of agg (4 mix kits)
Mix Ratio by Kit	0.5 gal A, 0.25 gal B, 50 lb. C Each kit provides 4 mixes
Mixed Viscosity	600-700 cP 25°C/77°F
Gel Time	60 minutes
Dry to Touch	5-6 hours
Through Dry	10-12 hours
Dry to Walk	15 hours
Dry to Light Use	24 hours
Full Cure	7 days
Shore D Hardness	D65 @ 24 hours
Shore D Hardness	D85 @ 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 inches	1/4" (28 sq.ft./mix)
Available Colors	Receives its color once blended with PN 1321 L

PHYSICAL PROPERTIES
F-41 TDQ CLEAR UV RESISTANT EPOXY QUARTZ TROWEL DOWN

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	No yellowing

* 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-41 CLEAR UV RESISTANT EPOXY FLOOR COATING

Product Overview

F-41 consists of a low viscosity, nonylphenol-free, clear, UV resistant epoxy resin with our UV resistant, cycloaliphatic amine curing agent. This combination achieves a UV resistant, clear epoxy with good flow and leveling, characteristics. The cured material has good broad-range chemical resistance as well as good abrasion and impact resistance.

Uses and Benefits

F-41 is most often used as a clear topcoat for resinous concrete flooring projects that may experience higher UV exposure than is found in most interior environments.

Limitations

F-41 is designed to be applied at 10-20 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.

Mixing

It is always recommended to mix the entire kit, whenever possible, to avoid off-ratio mixtures. Mix ratio is 2 parts F-41 Resin (Part A) to 1 part F-41 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. 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	600-700 cP 25°C/77°F
Gel Time	45 minutes
Dry to Touch	5 - 6 hours
Through Dry	10 - 12 hours
Dry to Walk	15 hours
Dry to Light Use	18 - 24 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	10-20 (80 – 160 sq. ft./gal.)
Available Colors	Clear and Color Packs

PHYSICAL PROPERTIES – F-41 CLEAR UV RESISTANT EPOXY FLOOR COATING

Description	Standard	Results
Tensile Strength	ASTM C307	2,870 psi
Moisture Absorption	ASTM C413	<.19 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	5,550 psi
Water Vapor Transmission	ASTM D1653	See ASTM D3010
Impact Resistance	ASTM D2794	>160 inch pounds
Adhesion	ASTM D3359	5A
Abrasion Resistance CS17 1000 g 1000cycles in g Loss	ASTM D4060	0.043g 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	Slight 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.

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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