



## **Polymer Nation – WearGuard 522**

*Technical Data Sheets*

**Filler/Patch: SP-15 Filler/Patch**

**Prime: F-01 – Epoxy Primer (pigmented)**

**Broadcast Silica Sand**

**Membrane: SP-20 – Urethane membrane (pigmented)**

**Wear: SP-24 – Flexible Urethane (pigmented)**

**Broadcast Silica Sand**

**Line Striping (if applicable): U-20G Waterborne Urespartic**



Made in the USA with domestic and imported ingredients.

# POLYMER NATION CHEMICAL COMPANY, LLC

*Setting the Standard*

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

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.

Revised: 3/25/25



Made in the USA with domestic and imported ingredients.

# POLYMER NATION CHEMICAL COMPANY, LLC

*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).

### 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

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        |

## 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 <sup>-6</sup> 27-30 x 10 <sup>-6</sup>   |
| 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.



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-20 SL FLEXIBLE URETHANE MEMBRANE SLURRY

### Product Overview

SP-20 SL is a flexible aromatic urethane slurry that has extreme tensile strength with an A shore hardness of 75. It is easy to install, has low odor and has tensile elongation properties of over 1000%. It creates a soft walking surface as a component in Polymer Nation floor systems.

### Uses and Benefits

SP-20 SL is primarily used as a basecoat for soft surface applications. It can also be bulked up using fumed silica to make a flexible patching paste.

### Limitations

Apply SP-20 SL slurry with either a 1/2" or 3/8" V-notch Kraft tool. It is not intended as a finish coat as it will amber. 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 potential condensation.

### 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

Do not split kits. Combine part A and B into a single container, *large enough* to accept the entire kit (1 mix equals 6 gallons when Part C is added). Premix liquids at 350 RPM for 1-2 minutes using an appropriate mixing blade or mixing machine. Once Part A & B have been combined and mixed, add 15 lbs. of PN 1620 S rubber granules and mix accordingly.

### Application

- \*SP-20 SL should be applied to a primed surface seeded lightly with silica broadcast sand.
- \*One mix of SP-20 SL will cover **85-90** sq. ft. when spread with a **1/2"** V-notch Kraft tool.
- \*One mix of SP-20 SL will cover **120-125** sq. ft. when spread with a **3/8"** V-notch Kraft tool.
- \*Each square foot will require a min of .25 lb. of PN 1620 S broadcast EPDM rubber granules if a broadcast to rejection is desired.

Pour material onto floor and spread to desired thickness using a screed rake 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 Xylene or Acetone.

### Technical Data

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

|                         |   |
|-------------------------|---|
| Packaging               | 5 Gallon kits   |
| Mix Ratio by Volume     | 4.30 gal A, 0.70 gal B, 15 lbs EPDM rubber granules (PN 1620 S) |
| Mixed Viscosity         | 2000 cP 25°C/77°F (A&B)   |
| Gel Time                | 23 minutes  |
| Dry to Touch            | 2.5 hours   |
| Through Dry             | 4 hours   |
| Dry to Walk             | 8 hours   |
| Dry to Light Use        | 12 hours  |
| Full Cure               | 7 days  |
| Shore A Hardness        | 40 @ 24 hours   |
| Shore A Hardness        | 75 @ 7 days   |
| Gloss @ 60 Degree Angle | 75-80   |
| VOC's of Mixed Material | <50 g/l EPA Method 24   |
| Color Scale             | N/A   |
| Solids by Volume Mixed  | 100%  |
| Application in Mills    | See Application section   |
| Available Colors        | Gray  |

## PHYSICAL PROPERTIES SP-20 SL FLEXIBLE URETHANE MEMBRANE

| 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 <sup>-6</sup> 27-30 x 10 <sup>-6</sup>   |
| 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  |
| Independent Certificate from third party testing agency | ASTM D3010  | N/A   |
| Adhesion  | ASTM D3359  | 5A  |
| Abrasion Resistance CS17 1000 g<br>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 | N/A   |
| Coefficient of Friction Wet Ave. three tests            | NFSI B101.1 | N/A   |
| 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.

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.

Revised: 3/25/25



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-24 FLEXIBLE ALIPHATIC URETHANE WEAR SURFACE

### Product Overview

SP-24 is a flexible aliphatic urethane designed to provide a semi-flexible wear surface as part of a traffic coating system or waterproofing floor system. It is easy to install, has little odor and provides a UV stable, tough, abrasion and chemical resistant topcoat.

### Uses and Benefits

SP-24 is primarily used as an intermediate and topcoat in parking deck and waterproofing applications. It can also be used as a binder for floor applications that require more resiliency than epoxy floors typically can provide.

### Limitations

SP-24 is designed to be applied between 15-25 mils as an intermediate or topcoat. 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).

### Mixing

Do not split kits. 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 the entire content from the container onto the floor and follow normal squeegee and back roll or cut and roller 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               | 5 Gallon kits                     |
| Mix Ratio by Volume     | 3.95 gal A, 1.05 gal B            |
| Mixed Viscosity         | 1800 cP 25°C/77°F                 |
| Gel Time                | 30 minutes                        |
| Dry to Touch            | 2.5 hours                         |
| Through Dry             | 4 hours                           |
| Dry to Walk             | 16-24 hours                       |
| Dry to Light Use        | 24 hours                          |
| Full Cure               | 7 days                            |
| Shore D Hardness        | D25 @ 24 hours                    |
| Shore D Hardness        | D45 @ 7 days                      |
| Gloss @ 60 Degree Angle | 75-80                             |
| 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     | 15-25 (64 – 110 sq.ft./gal.)      |
| Available Colors        | Light Gray, Dark Gray, Tan, Black |

Below figures are guide values and should not be used as a base for specifications

| Chemical                  | Results | Chemical  | Results |
|---------------------------|---------|---|---------|
| Acetic Acid 10%           | +       | Mineral Spirits   | +       |
| Acetic Acid 50%           | -       | Motor Oil   | +       |
| Acetone                   | +       | Phosphoric Acid 50%   | -       |
| Anti-Freeze               | +       | Phosphoric Acid 70%   | -       |
| Bleach                    | +       | Potassium Hydroxide 50%   | +       |
| Brake Fluid               | -       | Simple Green  | +       |
| Caustic Soda              | +       | Skydrol   | -       |
| Gasoline                  | -       | Sodium Hydroxide 50%  | +       |
| Hydraulic Fluid           | +       | Sulfuric Acid 25%   | -       |
| Hydrochloric Acid - - 10% | +       | Sulfuric Acid 50%   | -       |
| Hydrochloric Acid - - 31% | -       | (-) --> Visual Defects Observed<br>(+) --> No Visual Defects Observed |         |
| Jet Fuel                  | +       |   |         |
| Methanol                  | -       |   |         |

**PHYSICAL PROPERTIES**  
**SP-24 FLEXIBLE APLIPHATIC URETHANE WEAR SURFACE**

| Description   | Standard    | Results   |
|---|-------------|---|
| Tensile Strength  | ASTM D412   | 1,500 psi   |
| Moisture Absorption                                     | ASTM C413   | <.2 weight increase   |
| Coefficient of Thermal Lineal Expansion                 | ASTM C531   | test not performed  |
| Compressive Strength                                    | ASTM C579   | N/A   |
| Modulus of Elasticity                                   | ASTM C580   | N/A   |
| Flexural Strength                                       | ASTM C580   | Not tested  |
| 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   |
| Elongation  | ASTM D412   | 81%   |
| Abrasion Resistance CS17 1000 g 1000cycles in g Loss    | ASTM D4060  | 0.050g 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  | 2-5/150   |
| 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 | 0.72  |
| Coefficient of Friction Wet Ave. three tests            | NFSI B101.1 | 0.67  |
| Accelerated Weathering Testing                          | ASTM G154   | Non-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.

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.



Made in the USA with domestic and imported ingredients.

# POLYMER NATION CHEMICAL COMPANY, LLC

*Setting the Standard*

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



405 Oakwood Ave  
Waukegan, IL 60085

## TECHNICAL DATA SHEET: U-20 2K WB GLOSS URETHANE ACRYLIC HYBRID - PIGMENTED

### Product Overview

U-20 is a breakthrough technology combining urethane and acrylic characteristics to create a unique, zero-VOC water-based topcoat. By combining our hybrid urethane/acrylic resin with our proprietary aliphatic hardener blend we are able to create a high-solids, pigmented finish that will not yellow, maintains its existing sheen and passes 2500 MEK double rubs! It is manufactured only in a gloss finish. If a *satin* finish is desired, see the data sheet for U-30 2K WB Satin Urethane.

### Uses and Benefits

U-20 is primarily used as a pigmented topcoat due to its unsurpassed UV, mar and abrasion resistance. It can be applied to floors and walls and adheres well to many substrates including concrete, gypsum, cement board, metals, vinyl, PVC and fiberglass. It can also be applied direct to concrete as a primer and topcoat.

### Limitations

U-20 is designed to be applied at 4-6 mils as a top coat on floors and walls. Allowing to puddle will have a negative effect on the finish. Ideal application temperatures to be between 60-90°F. Cooler temperatures and high humidity will increase cure times. Warmer temperatures and low humidity will decrease working and cure times. Verify that substrate temperature is 5 degrees above the dewpoint during application and cure of material to avoid a potential blush or condensation.

### 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).

### Application

Combine all of part A and B into a single container, large enough to accept the entire kit. Mix at 350 RPM for 2-3 minutes using an appropriate mixing blade and making sure not to introduce excessive air into the solution (IF NEEDED, material can be thinned up to 10% with clean potable water). Pour material needed from the container onto the floor and spread with a 5-7 mil squeegee. Back roll perpendicular to evenly spread the material. Strike off the material in the same direction as material was squeegeed. Material can also be bucket-rolled using a 3/8" nap roller cover. For a non-skid finish add 288 grams per 3 gallon kit of PN 1337 S (1-12 oz cup struck off at the top) or 4 lbs. of PN 1335 AO and stir to

completely incorporate. Recoat within 24 hours. Clean tools with hot soapy water or 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                 | 2.5, 5, 25 Gallon kits   |
| Mix Ratio by Volume       | 4:1  |
| Mixed Viscosity           | 250-500 cP 25°C/77°F   |
| Work Time                 | 10-15 minutes  |
| Dry to Touch              | 2-4 hours  |
| Through Dry               | 6-10 hours   |
| Dry to Walk               | 12-16 hours  |
| Dry to Light Use          | 24 hours   |
| Full Cure                 | 7 days   |
| Pendulum Hardness (König) | 12 @ 24 hours  |
| Pendulum Hardness (König) | 46 @ 7 days  |
| Gloss @ 60 Degree Angle   | >90  |
| VOC's of Mixed Material   | 0 g/l EPA Method 24  |
| Color Scale               | 0.5-1.0 per ASTM D1500   |
| Solids by Volume Mixed    | 58%  |
| Application in Mils       | 4-6 (275-400 sq.ft./gal.)  |
| Available Colors          | White, Light Gray, Warm Sun<br>**Custom colors available upon request. Please inquire. |

**PHYSICAL PROPERTIES**  
**U-20 2K WB GLOSS URETHANE ACRYLIC HYBRID - PIGMENTED**

| Description   | Standard    | Results  |
|---|-------------|--|
| Tensile Strength  | ASTM C307   | 2,380 psi  |
| Moisture Absorption                                     | ASTM C413   | <.17 weight increase   |
| Coefficient of Thermal Lineal Expansion                 | ASTM C531   | N/A  |
| Compressive Strength                                    | ASTM C579   | N/A  |
| Modulus of Elasticity                                   | ASTM C580   | N/A  |
| Flexural Strength                                       | ASTM C580   | 3,550 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 1000 cycles in g Loss   | ASTM D4060  | 0.014 g 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  | N/A  |
| 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 | 0.72   |
| Coefficient of Friction Wet Ave. three tests            | NFSI B101.1 | 0.67   |
| 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.

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.