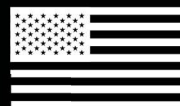


PolyStar™ PRO ST

High performance Industrial Polyaspartic Coating

Product Technical Data Sheet

DCC Master Format™ 09 67 00



U.S. RESIN SUPPLY & MANUFACTURING

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PRODUCT DESCRIPTION

Representing the forefront of technological innovation, the **PolyStar PRO ST™** is meticulously engineered as transparent high performance Polyaspartic topcoat with superior toughness.

This advanced formulation achieves an accelerated curing profile, reaching a tack-free state within approximately 180 minutes under recommended ambient conditions, enabling the efficient completion of flooring system installations within a single operational cycle. Its state-of-the-art composition delivers unparalleled mechanical strength and chemical resilience, complemented by minimal maintenance requirements and a visually superior, UV-stable finish.

For enhanced versatility and customization, the **PolyStar PRO ST™** integrates seamlessly with U.S. Resin Supply's decorative elements, including chips, quartz, and aggregates. Additionally, it is compatible with many of U.S. Resin Supply's line of products such as the POLYSTAR SERIES™, TAC 50™ SERIES, AQUASTOP™ MVB SERIES, EPOXY OIL PRIME, and EPOXYSTARZ SERIES™. For detailed technical specifications or application-specific guidance, please consult with a U.S. RESIN SUPPLY™ representative."

BENEFITS:

- ★ VOC Compliant
- ★ Advanced Composition
- ★ Low maintenance
- ★ Multi-Integration options
- ★ Excellent elongation and abrasion resistance
- ★ Superior mechanical and chemical properties
- ★ Self-Priming
- ★ Chemical Resilience
- ★ Seamless Coating
- ★ Aliphatic / UV Stability
- ★ Multi-Coat application in one single day.
- ★ Impermeability / Mold resistant
- ★ VOC and EPA Compliant in all States and Canadian Provinces
- ★ CIFA, USDA, FDA, Food Safety Compliant

APPLICATIONS

The chemical and mechanical properties of the PolyStar PRO ST™ provides excellent results for several applications.

- Industrial Flooring
- Commercial Spaces
- Garage floors
- Healthcare Facilities
- Kitchens
- Food and Beverage Industries
- Public Transit Facilities
- Residential Projects
- Boutiques and Showrooms
- Heavy Manufacturing
- Pharmaceutical
- Aerospace Facilities
- Commercial Centers
- Electronics Manufacturing
- Schools
- Warehouses

PACKAGING

The **PolyStar PRO ST™** kit consists of Resin Part A and Part B Hardener.

	Part A	Part B
3 Gallon Kit	2 Gallons	1 Gallon
15 Gallon Kit	10 Gallons	5 Gallons

Larger units available upon request

TESTING

All surfaces are not the same. It is recommended to create a sample area before starting the project. The test should be performed on site, using the method offered by your U.S. RESIN SUPPLY & MANUFACTURING LLC™ representative to ensure good adhesion and color. A sampling area should also be performed on existing coatings to determine if there are any contaminants or if delamination will occur.

CHECK CONCRETE MOISTURE

Concrete must be dry before application of this floor coating material. Concrete moisture tests are required, either ASTM F1869 (calcium chloride) or ASTM F2170 (in situ RH probe) or any other methods approved by U.S. RESIN SUPPLY & MANUFACTURING LLC™.

TEMPERATURE AND HUMIDITY

Floor and material temperature must be at or above the published Technical Data Sheet requirements. Dew point must be 5°F (3°C) or more below the surface temperature. Do not apply if humidity is at or above 80%.

SURFACE PREPARATION

Surface preparation in accordance with: ICRI Guideline No. 310.2R Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, Polymer Overlays, and Concrete Repair. The pH of the concrete substrate should be at 9 or above. All bond-breaking material must be removed.



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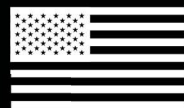
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PHYSICAL PROPERTIES

PROPERTIES	VALUES	REFERENCES
Compressive Strength	14,000 psi – 96MPa	ASTM C 579
Flexural Strength:	3,700 psi – 25.5MPa	ASTM D 790
Tensile Strength:	8,000 psi – 55.2MPa	ASTM D 638
Bond Strength (concrete):	350psi – (2.4) Concrete fails at this point	ASTM D 4541
Flammability	Combustible	ASTM D 635
Hardness (Shore D):	> 73 at full cure	ASTM D 2240
Water Absorption:	< 0.1% < 0.1%	ASTM D 570 MIL D 3134
Impact Resistance	No chipping, cracking, or delaminating	ASTM D 2240
Flash Point:	>200°F - >93°C	
Abrasion Resistance	58 mg loss	ASTM D 4060

PRODUCT DATA

Volumetric Ratio:	2A:1B
Solids Content:	85% 93% > 24hrs
*Coverage (Wet Mills):	100 - 267 SQ. FT./Gallon
**Application Temperature:	Min 50°F (10°C) <80%Rh Max 86°F (30°C) <80%Rh
Min Substrate Temperature:	33°F (1°C)
Thinner:	Not required
Pot Life @ 21°C (69.8°F):	10-15 minutes
*Drying / Curing Time :	
Working Time:	20-25 minutes (at 22°C/71.6°F <50%Rh)
Gel Time:	1 hour (at 22°C/71.6°F <50%Rh)
Tack Free:	1h50min (at 22°C/71.6°F <50%Rh)
Light Foot Traffic:	5-7 hours (at 22°C/71.6°F <50%Rh)
Foot Traffic:	24 hours (at 22°C/71.6°F <50%Rh)
Vehicular Traffic:	4 hours (at 22°C/71.6°F <50%Rh)
Max Curing Time for resurfacing:	24 hours (at 22°C/71.6°F <50%Rh)
Shelf Life:	12 months (in original sealed container under prescribed conditions)
USDA Food & Beverage & CFIA:	Meets the requirements

*Coverage will differ depending on the quality, porosity, of the substrate, thickness, and application methods.

CONCRETE SURFACE PREPARATION

> **Proper preparation of the concrete surface is essential before applying the coating system to ensure maximum durability and adhesion. The following requirements must be met:**

- ★ **Dry** – The concrete must have no wet zones, with moisture levels below 4%.
- ★ **Clean** – All contaminants such as dust, grease, delaminated coatings, laitance, or other materials that could hinder adhesion must be completely removed.
- ★ **Profiled** – Mechanically profiled Surface (Surface Preparation ICRI Guideline No. 310.2R Concrete Surface Profile (CSP 2 and above) Depending on System to be Installed and Condition of Concrete, and/or approved by a U.S. RESIN SUPPLY™ Representative.
- ★ **Sound** – To ensure the substrate is structurally sound, all cracks and chipped areas must be repaired using a compatible U.S. RESIN SUPPLY & MANUFACTURING LLC approved product. This step is critical to achieving a durable and effective coating application.
- ★ **Concrete preparation** - must be executed using mechanical methods, including shot blasting, grinding, sandblasting, or any other U.S. RESIN SUPPLY™ approved technique. This ensures optimal surface profile and adhesion for subsequent coating applications.

PATCHING & REPAIRS

To prevent visible cavities, cracks, and imperfections in the final coating, proper concrete repair is crucial. Fill and level cavities using a compatible U.S. RESIN SUPPLY™ approved product, ensuring a smooth substrate. Once the repair materials have fully cured, refine the surface by diamond sanding to address any residual irregularities. If non-U.S. RESIN SUPPLY™ repair materials are utilized, consult a U.S. RESIN SUPPLY™ technical representative to verify compatibility and ensure optimal results.

MIXING

The **PolyStar PRO ST™** requires a precise 2:1 mixing ratio by volume—two-part A (resin) combined with one-part B (hardener). For optimal blending, use a drill equipped with a mixing paddle, ensuring thorough and homogenous mixing for best results.

Note: If using a drill mixer, use a low speed (not to exceed 300 RPM) to avoid air entrapment.

1. Add the contents of the pre-measured **PolyStar PRO ST™** and mix for 2 minutes.
2. **PolyStar PRO ST™** is specifically designed to be applied immediately after mixing. Allowing the mixed product to remain in the container will significantly reduce its working time. Once dispensed onto the substrate, the typical working time is approximately 25 minutes at 25°C (77°F) & 50% Rh. Prompt application is essential to ensure optimal performance.



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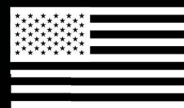
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APPLICATION INSTRUCTIONS

- 1. Temperature Considerations During Application** When applying PolyStar PRO ST™, it is crucial to consider temperature changes. Always apply the coating during decreasing temperatures. Concrete is a porous material that traps air; as temperatures rise (typically in the morning), the trapped air expands, which can result in gas escaping through the coating, leading to imperfections. For optimal results, especially in exterior applications, it is safer to apply the coating in the late afternoon when temperatures are on the decline.

- 2. Ambient Temperature Recommendations** For optimal performance during application, ensure the ambient temperature is maintained between 10°C and 30°C (50°F and 86°F) <80% Rh. Adhering to this temperature range helps achieve proper curing and overall product efficacy.

Mixing Instructions (Recap) Prepare the resin by following the previously outlined mixing instructions: Combine Two (2) part A (resin) with One (1) part B (hardener) by volume. Use a drill equipped with a mixing paddle to ensure a thorough and homogenous blend before application.

- 3. Application Technique:** Apply the product at a coverage rate of approximately 100–267 ft² per gallon. Pour the mixture onto the surface in a continuous ribbon pattern, ensuring an even distribution. Walk steadily while pouring to maintain a consistent flow, continuing this process until the bucket is completely emptied.
- 4. Avoid Dripping:** Ensure that the bucket is never allowed to drip onto the floor during application. Any excess unmixed material that drips may result in improperly cured areas, leading to defects in the final coating. Ensure that the contents are poured completely, and the container is promptly removed. Handle the bucket with precision to maintain a consistent and high-quality finish.
- 5. Squeegee Application Technique:** Using a squeegee attached to an extension, spread the PolyStar PRO ST™ evenly over the substrate as thinly as possible to thoroughly wet the surface and ensure even coverage. This technique allows trapped air within the concrete to escape more efficiently, reducing imperfections. When applying a single coat over an existing layer of PolyStar PRO ST™, maintain a coverage rate of approximately 75–100 ft² per gallon to achieve consistent results.
- 6. Roller Application Technique** Use a 10mm microfiber roller to evenly apply the PolyStar PRO ST™. Roll systematically forward and backward across the surface, ensuring smooth, consistent coverage. Apply steady pressure throughout the process to achieve optimal results and a uniform finish.

- 7. Final Step:** Cross-Rolling for a Smooth Finish Complete the application process by backing up with the squeegee in the opposite direction of the initial pass outlined in step 6. This ensures even distribution and eliminates streaks or inconsistencies for a flawless finish.
- 8. Surface Preparation – Cleaning and Smoothing:** Thoroughly clean and sweep the floor to remove any debris or dust. Identify and sand down any high points or imperfections to ensure a smooth, even surface. This step is crucial for achieving optimal adhesion and a flawless finish for the coating.
- 9. Topcoat Application:** Apply the topcoat at a coverage rate of approximately 100 sq. ft. per gallon. Follow the same procedure detailed in step 4 by pouring the product onto the surface in a ribbon pattern while walking and pouring simultaneously. This ensures even distribution and consistent application.
- 10. Additional Protection Requirements** If enhanced chemical resistance, abrasion durability, or anti-slip protection is needed, consult your U.S. RESIN SUPPLY & MANUFACTURING, LLC™ representative for tailored recommendations. They can guide you on suitable products or solutions to meet specific project requirements.

PRODUCT LIMITATIONS

Concrete slabs at ground level naturally emit invisible moisture vapor. To ensure coating integrity, the permissible moisture emissions must not exceed 3 lbs./1,000 ft² over 24 hours (<4%), as determined by the calcium chloride test. Alternatively, a relative humidity (RH) test, compliant with ASTM F2170, can be used to assess moisture vapor levels. The RH test results should remain below 80%. If either test reveals moisture levels above these thresholds, blistering and delamination of the coating may occur.

It is essential to perform a calcium chloride or RH test to evaluate the concrete's moisture levels before application. Should the RH exceed 80% or the calcium chloride test result surpass 3 lbs., a concrete moisture vapor control system must be installed prior to applying the coating system.

Humidity Control System Recommendation: For cases where humidity levels exceed acceptable limits, it is recommended to use; AQUASTOP™ SC, or AQUASTOP™ FC Moisture Vapor Barriers. These MVB systems meet the F3010 specification as verified by E96 test results. For further information or guidance, please contact a U.S. RESIN SUPPLY & MANUFACTURING LLC™ representative.



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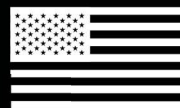
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Joint and Crack Treatment: To minimize the risk of cracking in the coating system caused by concrete movement or separation, proper treatment of joints and cracks is essential prior to application.

⚠ **Control Joints & Random Cracks:** These should be either sawn or chiseled before being filled with the **CRACKSTARZ™**, or **CRACKSTARZ™ POLY FAST** elastomeric epoxy crack filler to ensure stability and smoothness.

⚠ **Construction/Cold Joints:** These joints, where two slabs meet and may experience movement, must be addressed before coating. After the coating has been applied and fully cured, saw off the coating over the construction joints and fill them with an elastomeric joint filler for flexibility and durability.

⚠ These procedures are critical for maintaining the integrity and longevity of the coating systems.

For further information or guidance, please contact a U.S. RESIN SUPPLY™ representative.

⚠ Higher temperatures and humidity levels may reduce working time

⚠ Lower temperatures levels may slow the drying and curing process.

⚠ Tire transfer may occur when products are subjected to excess heat and humidity levels. Appropriate ventilation is recommended to minimize the curing period and maximize proper evaporation.

DISPOSAL

⚠ Excess material (A and B) should be mixed and allowed to cure. Cured product may be disposed without restriction.

⚠ Uncured materials should be stored in a suitable and sealed container and may be disposed in accordance with provincial, State, municipal, and /or Federal regulations.

⚠ SAFETY WARNING

Avoid contact with the skin. Some people may be allergic to epoxy resin. Protective gloves, eyewear, protective clothing, and adequate ventilation are recommended.

For additional information and advice on the safe handling, storage and disposal of chemical products, users should refer to the most recent **PolyStar PRO ST™** Material Safety Data Sheet containing physical, ecological, toxicological, and other safety-related data.

- KEEP OUT OF REACH OF CHILDREN -

- FOR INDUSTRIAL USE ONLY -

- KEEP FROM FREEZING -



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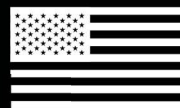
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WARRANTY



U.S. RESIN SUPPLY & MANUFACTURING LLC™ products are backed by a one-year guarantee from the date of application. For comprehensive details, please consult the U.S. RESIN SUPPLY & MANUFACTURING LLC™ Hardware Limited Warranty for additional details.

Disclaimer and Product Information

The recommendations and information regarding the application and end-use of U.S. RESIN SUPPLY & MANUFACTURING LLC™ products are provided in good faith, reflecting U.S. RESIN SUPPLY & MANUFACTURING LLC™'s extensive knowledge and expertise. This guidance is based on the assumption that the products are stored, handled, and applied according to standard prescribed conditions and within their specified shelf life.

However, due to the wide range of variables, such as differing materials, substrate conditions, and environmental factors at actual project sites, the performance of these products may vary. As such, U.S. RESIN SUPPLY & MANUFACTURING LLC™ makes no warranty, either expressed or implied, regarding the merchantability, fitness for a particular purpose, or any other aspect of product performance under diverse conditions.

Users bear the responsibility of determining whether the products are suitable for their specific application needs and must conduct adequate testing to confirm compatibility and performance. Additionally, users are advised to observe all proprietary rights of third parties and adhere to applicable legal requirements during use.

Sales Conditions

All orders are accepted under U.S. RESIN SUPPLY & MANUFACTURING LLC™'s current terms of sale and delivery, which can be provided upon request.

Accessing Product Details and Support

For the most accurate and up-to-date product information, users should refer to the latest version of the Technical Data Sheet for the specific product. These documents are readily available upon request, accessible online at www.usresinsupply.com, or by consulting U.S. RESIN SUPPLY & MANUFACTURING LLC™'s technical representatives.

For further inquiries or assistance, users may also contact U.S. RESIN SUPPLY & MANUFACTURING LLC™ via email at info@usresinsupply.com.



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