

# PolyGreen Solutions



*"Polymer Solutions for Sustainability"*

## Technical Data Sheet Polyurea Aromatic 907

### PRODUCT DESCRIPTION

**PAR-907** is a 100% solids elastomeric two-component spray applied aromatic polyurea, formulated as military grade for blast mitigation and other high impact applications. **PAR-907** is used in vertical and horizontal applications on concrete, wood and metal surfaces. Its quick gel and set time is convenient for applications on substrates ranging from 0 to 150 F surface temperature. Functional operation temperatures range from -40 to 250 F. It is sprayed in one or more passes and is insensitive to moisture. Final topcoat appearance is glossy smooth. Coverage at 16 mils is 100 sq. ft./ 1 mixed gal. or 9 sq. ft. at 1/4".

### ADVANTAGES

- Chemical Resistance - Good
- Complies with National Association of Corrosion Engineers (NACE 6A198) definition for a polyurea coating
- Complies with SCAQMD Requirements - 100% Solids
- Complies with the Polyurea Development Associations (PDA) definition of a pure polyurea coating
- Installation with or without reinforcement
- Low Temperature Flexibility
- Meets USDA Criteria
- No Primer for Carbon or Mild Steel Metals
- Odorless
- Thermal Stability – Excellent

### RECOMMENDED USES

- Blast Mitigation
- High Impact Applications
- Beverage/Food Processing Plants
- Environmental
- Gas/Oil - Primary and Secondary Containment
- Industrial/Manufacturing Facilities
- Marine
- Military
- Mining/Timber
- Parking Structures
- Transportation
- Utilities
- Wildlife Enclosures

### SURFACE PREPARATION

Surface preparation is the essential first stage treatment of a substrate before the application of any coating. The performance of a coating is significantly influenced by its ability to adhere properly to the substrate material. It is generally well established that correct surface preparation is the most important factor affecting the total success of surface treatment. The presence of even small amounts of surface contaminants, oil, grease, oxides etc. can physically impair and reduce coating adhesion to the substrate.

Be sure that surfaces are clean, dry, and sound and give sufficient profile to obtain adequate product adhesion. Remove all dust, efflorescence, laitance, salts, curing compounds, dirt, oil, form release agents, and other foreign matter. Perform an adhesion test prior to starting any coating project.

Concrete should be cured for a minimum of 28 days prior to product application and have at least 3000psi compressive strength.

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### SURFACE PREPARATION REFERENCES

ASTM D4258-Standard practice for cleaning concrete  
ASTM D4259-Standard practice for abrading concrete  
ASTM D4260-Standard practice for etching concrete  
ASTM F1869-Standard test method for measuring moisture vapor emission rate of concrete  
ICRI 03732: CSP 3-5-Concrete surface preparation  
SSPC-SP 5/NACE No.1, White Metal Blast Cleaning  
SSPC-SP 6/NACE No. 3, Commercial Blast Cleaning  
SSPC-SP 7/NACE No. 4, Brush-Off Blast Cleaning  
SSPC-SP 8, Pickling  
SSPC-SP 10/NACE No.2, Near-White Blast Cleaning  
SSPC-SP 11, Power Tool Cleaning to Bare Metal  
SSPC-SP 12/NACE No. 5, Surface Preparation and Cleaning of Metals by Water Jetting prior to Recoating  
SSPC-SP 13/NACE No. 6, Surface Preparation of Concrete  
SSPC-SP 14/NACE No. 8, Industrial Blast Cleaning

### CONCRETE REPAIR

If the concrete surface is unsuitable for coating, use a suitable primer or suitable primer with sand as a repair agent. Once the repair has cured, prime the entire surface intended for coating. Consult PolyGreen or your Sales Agent for selecting the best primer for your substrate.

### COLOR

Black and Neutral – Non Standard colors and color packs are available upon request. Add color to Part-B only.

Aromatic polyureas are known to yellow or darken in color when exposed to UV and/or sunlight. If a top coat is required it must be applied within six (6) hours of application with an aliphatic polyurea, polyurethane, or other suitable coating.

### COVERAGE RATE

1 gallon (3.79 liters) of **PAR-907** will cover approximately 1600 square feet 1 mil (0.025mm) thick, and can be applied in one or more passes to achieve a desired thickness.

### PACKAGING

52 gallons Part-A (Isocyanate) and 52 gallons Part-B (Resin) packaged in 55 gallon drums.

### MIXING PROCEDURES

Do not Dilute **PAR-907** under any circumstances.

Adequately blend **PAR-907** Part-B (Resin) with air driven power tools until the mixture and color is consistent.

### STORAGE

**PAR-907** has a shelf life of 1 year shelf life from the date of manufacture, in factory-sealed containers.

Storage temperature for Part-A and Part-B is between 59°F - 77°F (15°C - 25°C), avoid freezing temperatures.

Keep containers sealed tightly to eliminate any condensation, moisture, or water contamination in Part-A or Part-B.

## APPLICATION

Primer is recommended on all substrates. Except on properly prepared steel (immersion service requires a primer).

Prior to application: Precondition both Part-A and Part-B to 75°F - 80°F (24°C - 27°C) before applying.

Surface temperature should be greater than 0°F (-10°C). Insure that the outside temperature is at least 5°F (-15°C) above the dew point.

Fit Part-A with a desiccant drying device.

Apply **PAR-907** using a plural component, high pressure 1:1 ratio heated, spray equipment.

### Proportioner Conditions:

- Capacity minimum 20 lbs. per minute
- Static pressure 2800 – 3000psi
- Spraying pressure 2500psi minimum
- Pressure balance 100 variance desirable
- 300 psi variance maximum
- Temperatures preheaters & hose 170°F (77°C) each

**PAR-907** should be sprayed in a smooth pattern, to establish uniform thickness and appearance.

Perform a substrate adhesion test (if required) seven days after application of **PAR-907**.

## EQUIPMENT CLEAN UP

Immediately clean equipment with an environmentally safe solvent, as permitted by local regulations. Cured or dried material may be removed by mechanical means.

## SPECIFICATION AND FIELD ASSISTANCE

Contact PolyGreen Solutions for specification assistance.

Jobsite visits by PolyGreen Solutions employees or its independent agents are for the purpose of making recommendations only and can not provide analysis of architectural specifications, management or quality control on the project.

## LIMITATIONS

The end user should check the suitability of this product prior to its application.

Excess moisture vapor in concrete slabs may result in primer and/or coating to delaminate, discolor or cause improper curing.

Recoat **PAR-907** within 0 – 6 hours of previous coat.

Do not open until ready to use.

PolyGreen Solutions assumes no liability for substrate defects.

Substrates that have previously been coated are subject to absorption, which may affect the adhesion of a new coating.

Surface temperature should be greater than 0°F (-10°C) and at least 5°F (-15°C) above the dew point.

High temperatures and humidity can significantly affect pot life and the cure time.

Low temperatures and humidity can extend the cure time.  
Not UV Stable will discolor.

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PART-B.....	300–600 CPS
SHORE HARDNESS, ASTM D-2240.....	45 - 50 D
TENSILE, ASTM D-412.....	3610 PSI
ELONGATION, ASTM D-412.....	500%
TEAR, ASTM D-412.....	550 PLI
WATER VAPOR PERMEABILITY ASTM E-96.....	0.361 P/INCH
VOC CONTENT.....	0 G/L
RETURN TO SERVICE: FOOT TRAFFIC.....	1 HOURS
RETURN TO SERVICE: FULL SERVICE.....	6-24 HOURS
TABER ABRASION RESISTANCE, ASTM D-4060 (CS 17, 1000 CYCLES, 1 KG LOAD) (MAXIMUM).....	25 MG LOSS
WATER ABSORPTION, ASTM D-453 (MAXIMUM 23°C, 24 HOURS).....	<1%
IMPACT RESISTANCE @ 25°C (ASTM D-2794).....	300 IN / LB
PULL-OFF STRENGTH (MINIMUM), ASTM D-4541.....	EXCELLENT
INTER-COAT ADHESION (WITHIN RECOAT TIME).....	1 - 2%
LINEAL SHRINKAGE.....	PASSED
FLEXIBILITY (1/8" 3 MM MANDREL BEND TEST) ASTM D-522.....	100%
TOTAL SOLIDS BY WEIGHT, ASTM D-2369.....	100%
TOTAL SOLIDS BY VOLUME, ASTM D-2369.....	100%
BOND STRENGTH, ASTM D4541 (PRIMED SUBSTRATE) CONCRETE PRIMED.....	300 PSI
STEEL PRIMED.....	1000PSI
WOOD PRIMED.....	250PSI
VOLATILE ORGANIC COMPOUNDS ASTM D-2369.....	0 LB/GAL, 0 GM/LITER

NOTE: PHYSICAL PROPERTIES MAY VARY ON THE TYPE OF SPRAY EQUIPMENT USED. THE END USER SHOULD CHECK THE SUITABILITY OF THIS PRODUCT PRIOR TO ITS USE.

CHEMICAL RESISTANCE ASTM D-3912  
21 DAY IMMERSION @ 77°F (25°C)

R - RECOMMENDED (NO DAMAGE)  
RC - CONDITIONAL (SOME SWELLING, DISCOLORATION)  
C - CONDITIONAL ( CRACKLING – WASH DOWN 1 HR)  
N- NOT RECOMMENDED

ACETIC ACID 60% - C	METHANOL - R
ALUMINUM HYDROXIDE (14%) - R	MINERAL SPIRITS - R
ACETONE - RC	NITRIC ACID 20% - R
BLEACH - R	PHOSPHORIC ACID 60% - R
DEISEL FUEL - R	SULFURIC ACID 10% - R
GASOLINE - R	SULFURIC ACID 30% - N
HYDROFLUORIC ACID 10% - R	TOLUENE - R
HYDROCHLORIC ACID 25% - R	WATER - R
ISOPROPYL ALCOHOL 99% - R	XYLENE - R
MEK - RC	