PolyGreen Solutions

"Polymer Solutions for Sustainability"

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Technical Data Sheet
Polyurea Aromatic 207

PRODUCT DESCRIPTION
PAR-207 is a 100% solids elastomeric two-component spray applied aromatic polyurea, used as a protective or waterproofing coating with good chemical and abrasion resistance designed for commercial, industrial and manufacturing atmospheres. PAR-207 is used in vertical and horizontal applications on concrete, wood and metal surfaces. Its quick gel and set time is convenient for applications in temperatures down to 0º Fahrenheit, (-17.8º Celsius). It is sprayed in one or more passes and is insensitive to moisture.

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
- Beverage/Food Processing Plants
- Cold Storage Facilities
- Entertainment
- Environmental
- Gas/Oil - Primary and Secondary Containment
- Industrial/Manufacturing Facilities
- Marine
- Institutional/Medical/Pharmaceutical
- 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.

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-207 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-207 under any circumstances.

Adequately blend PAR-207 Part-B (Resin) with air driven power tools until the mixture and color is consistent.

STORAGE
PAR-207 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 59ºF - 77ºF (15ºC - 25ºC), avoid freezing temperatures.

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

Not UV Stable will discolor.

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 75ºF - 80ºF (24ºC - 27ºC) before applying.

Surface temperature should be greater than 50ºF (10ºC). Insure that the outside temperature is at least 5ºF (-15ºC) above the dew point.

Fit Part-A with a desiccant drying device.

Apply **PAR-207** 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 170ºF (77ºC) each

PAR-207 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-207**.

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-207** 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 50ºF (10ºC) and at least 5ºF (-15ºC) 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.

PART-B	**...300–600 CPS**
SHORE HARDNESS, ASTM D-2240	**.....50 D**
TENSILE, ASTM D-412	**.....4089 PSI**
ELONGATION, ASTM D-412	**.....378%**
TEAR, ASTM D-412	**.....677 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-3389 (H18 WHEEL, 1000 CYCLES, 1 KG LOAD) (MAXIMUM)	**.....349 MG LOSS**
WATER ABSORPTION, ASTM D-453 (MAXIMUM 23°C, 24 HOURS)	**.....<1%**
IMPACT RESISTANCE @ 25°C (ASTM D-2794)	**.....PASSED**
PULL-OFF STRENGTH (MINIMUM), ASTM D-4541	
INTER-COAT ADHESION (WITHIN RECOAT TIME)	**.....EXCELLENT**
LINEAL SHRINKAGE	**.....1 - 2%**
FLEXIBILITY (1/8" 3 MM MANDREL BEND TEST) ASTM D-522	**.....PASSED**
TOTAL SOLIDS BY WEIGHT, ASTM D-2369	**.....100%**
TOTAL SOLIDS BY VOLUME, ASTM D-2369	**.....100%**
BOND STRENGTH, ASTM D4541 (PRIMED SUBSTRATE)	
CONCRETE FAILED AT	**.....500-700PSI**
STEEL EXCEED	**.....1400PSI**
WOOD FAILED AT	**.....200-250PSI**
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-1308 AND ASTM D-543-95
7 DAY IMMERSION @ 77°F (25°C)

R - RECOMMENDED (NO DAMAGE)
C - CAUTION (SOME SWELLING, DISCOLORATION, OR CRACKING)
N- NOT RECOMMENDED

ACETIC ACID 60% - C
ACETIC ACID 25% - R
ACETONE - C
BLEACH - R
CITRIC ACID 50% - R
DENATURED ALCOHOL - C
FORMIC ACID 60% - R
HCL 20% - C
ISOPROPYL ALCOHOL 99% - R
MEK - C
METHANOL - C
NITRIC ACID 20% - R
NITRIC ACID 40% - N
PHOSPHORIC ACID 60% - R
SULFURIC ACID 30% - R
SULFURIC ACID 60% - N
TOLUENE - C
WATER - R
XYLENE - C