



# PolyArmor 52-39

## TECHNICAL DATA SHEET

PolyArmor 52-39 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. PolyArmor 52-39 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 0° Fahrenheit, (-17.8° Celsius). It is sprayed in one or more passes and is insensitive to moisture.

### FEATURES

- Good chemical resistance
- Complies with NACE 6A198
- Complies with PDA definition of a pure polyurea coating
- Installation with or without reinforcement
- Complies with SCAQMD Requirements - 100% Solids
- 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
- Amusement Parks/Entertainment
- Environmental
- Gas/Oil - Primary & Secondary Containment
- Industrial/Manufacturing Facilities
- Marine
- Institutional/Medical/Pharmaceutical
- Military
- Mining/Timber
- Parking Structures
- Transportation
- Utilities
- Wildlife Enclosures

### TECHNICAL DATA

	Units	Values		Test Method
MIX RATIO BY VOLUME		1A:1B		
POT LIFE @ 150°F (66°C)	sec	4		
TACK FREE	sec	7-10	Sprayed	
RECOAT TIME	hrs	0-6	Sprayed	
DENSITY (A & B COMBINED)	lbs/gal	1.078	Calculated	
VISCOSITY @ 75°F (24°C)				
PART A	cps	800-1200		Brookfield
PART B	cps	300-600		Brookfield
SHORE HARDNESS	Shore D	55	Sprayed	ASTM D-2240
TENSILE	psi	4089	Sprayed	ASTM D-412
ELONGATION	%	378	Sprayed	ASTM D-412
TEAR	pli	677	Sprayed	ASTM D-412
FOOT TRAFFIC / FULL SERVICE	hrs	1 / 6-24	Sprayed	
WATER VAPOR PERMEABILITY	p/in	0,361	Sprayed	ASTM E-96
PERCENT SOLIDS	%	100 (0 g/l VOCs)	Calculated	ASTM D-2369
TABOR ABRASION RESISTANCE	mg/1000 cycles	6	Sprayed	ASTM D-3389
WATER ABSORPTION (MAX 23°C, 24 HRS)	%	<1	Sprayed	ASTM D-453
IMPACT RESISTANCE @ 25°C		Passed	Sprayed	ASTM D-2794
PULL-OFF STRENGTH (MIN) INNER-COATADHESION WITHIN RECOAT TIME		Excellent	Sprayed	ASTM D-4541
LINEAL SHRINKAGE	%	1-2		
FLEXIBILITY		Passed	Sprayed	ASTM D-522
BOND STRENGTH (PRIMED SUBSTRATE)				
CONCRETE FAILED AT	psi	500-700		ASTM D-4541
STEEL EXCEEDED AT	psi	1400		ASTM D-4541
WOOD FAILED AT	psi	200-250		ASTM D-4541
VOLATILE ORGANIC COMPOUNDS	lb/gal, gm/liter	0, 0	Sprayed	ASTM D-2369

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

**PRECAUTIONS:** Part-A contains an Isocyanate. Before using, refer to Safety Data Sheets (SDS). Ensure the same safe working methods are followed for all persons in the work area. Wear suitable protective clothing, rubber gloves and safety goggles with side shields during mixing and application. Respiratory masks should be worn at all times. Contact with skin-wash immediately with soap and water. Contact with eyes-rinse immediately with lots of water and seek medical attention. Keep away from children.

**NOTICE:** Read all the information in this product information bulletin, and safety data sheet (SDS) before applying any material. The information contained herein is for the purpose of identifying the product and does not constitute a warranty or guaranty that the product will conform to this description. Product specifications and performance will vary depending on application methodologies, raw materials and other factors. All published information and specifications are subject to change without notification. Technical data shown in product data sheets are typical but reflect laboratory test procedures conducted in laboratory conditions. Actual field performance and test results will depend on installation methods and site conditions. Field test results will vary due to critical job site factors. All recommendations, statements and technical data contained in this data sheet are based on tests we believe to be reliable and correct, but accuracy and completeness of said tests are not guaranteed and are not to be construed as a warranty or guaranty of any kind. Satisfactory results depend upon many factors beyond the control of The Hanson Group, LLC. User shall rely on their own information and tests to determine suitability of the product for the intended use and user assumes all risk, loss, damage, expense and liability resulting from their direct use, indirect use or consequential to their use of the product. The Hanson Group, LLC shall not be liable to the buyer or any third party for any injury, loss or damage directly or indirectly resulting from use or inability to use the product. Products manufactured by The Hanson Group, LLC are free of defects for a period of one (1) year from time of manufacture. Liability and buyer's remedy under this limited warranty shall not exceed the purchase price of the materials in question. PolyArmor® is a trademark registered in the US Patent and Trademark Office. The marks of The Hanson Group, LLC, its divisions, slogans, emblems, other marks appearing in this document are the trademarks and/or service marks of The Hanson Group, LLC, its subsidiaries, affiliates or licensors.



## 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. Metal and composite fiber surfaces should be thoroughly cleaned and primed for optimum adhesion or light abraded by blasting to a 2-3 mil profile. Consult your representative for further information. Concrete should be cured for a minimum of 28 days prior to product application and have at least 3000psi compressive strength.

## 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 The Hanson Group for selecting the best primer for your substrate.

## COLOR

Black and Neutral – Non Standard colors and color packs are available upon request. Aromatic polyureas are known to yellow or darken in color when exposed to UV and/or sunlight.

## COVERAGE RATE

1 gallon (3.79 liters) of POLYARMOR 52-39 will cover approximately 1600 square feet at 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 as a “kit” in 2x55 gallon drums. 275 gallon IBC Totes are available.

## MIXING PROCEDURES

Adequately blend POLYARMOR 52-39 Part-B (Resin) with air driven power tools until the mixture and color is consistent and uniform with no striations.

## STORAGE

POLYARMOR 52-39 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 60°F - 95°F. (Avoid freezing temperatures). Keep containers sealed tightly to eliminate any condensation, moisture, or water contamination in Part-A or Part-B. Use nitrogen to flush partial containers before re-sealing.

## 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. Know your equipment and how to perform routine maintenance.

## 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). Ensure that the substrate and outside air temperature is between 40°F and 104°F, and at least 6°F above the dew point and rising. Fit Part-A with a desiccant drying device. Apply POLYARMOR 52-39 using plural component, high pressure 1:1 ratio heated spray equipment.

## TYPICAL SPRAY MACHINE REQUIREMENTS

- Capacity minimum 20 lbs. per minute
- Static pressure 1800 – 2500psi
- Spraying pressure 2200psi
- Pressure balance 100 variance desirable
- 300 psi variance maximum
- Temperatures preheaters & hose 155°F-165°F each. Check with your local representative
- POLYARMOR 52-39 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 POLYARMOR 52-39.