



POLYUREA 205

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PRODUCT DESCRIPTION

Polyurea 205 is a spray-applied, two-part aromatic polyurea elastomer with 100% solids. It is designed to function as a long-lasting protective and waterproofing coating, providing excellent resistance to abrasion and chemical exposure in industrial, commercial, and manufacturing settings. The product can be used on both vertical and horizontal surfaces and adheres well to concrete, wood, and metal. Its fast gel and cure times enable rapid installation, even at temperatures down to 0°F (-17.8°C). Polyurea 205 may be applied in single or multiple spray passes and is tolerant of surface moisture.

GENERAL USES

Recommended Uses: Food Processing Plants, Cold Storage Facilities, Amusement Parks, Secondary Containment, Industrial/Manufacturing Facilities, Marine, Military, Mining/Timber, Parking Structures, Transportation, Utilities, Wildlife Enclosures

Features: 100% Solids, Low temperature flexibility, Good chemical resistance, Meets USDA criteria, No primer for carbon or mild steel metals, Odorless, Thermal Stability – Excellent

TECHNICAL DATA

	UNITS	VALUES	TEST METHOD
MIX RATIO BY VOLUME		1A:1B	
GEL TIME @ 150°F (66°C)	sec	4-8	
TACK FREE	sec	8-15	
RECOAT TIME	hrs	0-6	
DENSITY (A & B COMBINED)	lbs/gal	1.078	
VISCOSITY @ 75°F (24°C)			
PART A	cps	800-1200	Brookfield
PART B	cps	300-600	Brookfield
SHORE HARDNESS	Shore D	55 ± 5	ASTM D-2240
TENSILE	psi	3700 ± 300	ASTM D-412
ELONGATION	%	380 ± 20	ASTM D-412
TEAR	pli	600 ± 50	ASTM D-412
FOOT TRAFFIC / FULL SERVICE	hrs	1 / 6-24	
WATER VAPOR PERMEABILITY	p/in	0.361	ASTM E-96
PERCENT SOLIDS	%	100 (0 g/l VOCs)	ASTM D-2369
TABOR ABRASION RESISTANCE	mg/1000 cycles	CS-17: 6 H-18: 91	ASTM D-4060
WATER ABSORPTION (MAX 23°C, 24 HRS)	%	<1	ASTM D-453
IMPACT RESISTANCE @ 25°		Passed	ASTM D-2794
PULL-OFF STRENGTH (MIN) INNER-COAT ADHESION WITHIN RECOAT TIME		Excellent	ASTM D-4541
LINEAL SHRINKAGE	%	1-2	
FLEXIBILITY		Passed	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

PACKAGING

Each kit contains 52 gallons of Part A (Isocyanate) and 52 gallons of Part B (Resin), supplied in two 55-gallon drums. The product is also available in 275-gallon IBC totes.

SURFACE PREPARATION

Proper surface preparation is essential for any coating application, as the coating's long-term performance depends largely on its ability to adhere to the substrate. All surfaces must be clean, dry, structurally sound, and adequately textured to promote effective bonding. Any contaminants—such as dust, dirt, oil, grease, salts, efflorescence, curing compounds, or form release agents—must be completely removed, as even minimal residue can negatively impact adhesion. Performing an adhesion test prior to application is highly recommended to verify compatibility and bonding strength. Metal and composite fiber substrates should be thoroughly cleaned and either primed or lightly abrasive blasted to achieve a surface profile of 2-3 mils for optimal adhesion. Concrete surfaces must be fully cured for a minimum of 28 days, have at least 3,000 psi compressive strength, and any repairs should be properly primed before coating. Following these preparation steps helps ensure a durable and long-lasting coating system.

EQUIPMENT CLEAN-UP

Clean all equipment immediately using an environmentally approved solvent in accordance with local regulations. Any material that has cured or dried can be removed mechanically. Ensure you are familiar with your equipment and follow proper routine maintenance procedures.

CONCRETE REPAIR

If the concrete substrate is not suitable for direct coating, apply an appropriate primer, or a primer combined with sand, as a repair method. After the repair has fully cured, prime the entire area to be coated. Contact Rugged Coatings for assistance in selecting the most appropriate primer for your specific substrate.

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
- Polyurea 205 should be sprayed in a smooth pattern, to establish uniform thickness and appearance. Perform a substrate adhesion test (if required seven days after application).

WARRANTY AND DISCLAIMER

Rugged Coatings warrants Polyurea 205 to be free from defects in materials and manufacturing. Under this warranty, we will provide, at no charge, a quantity of Polyurea 205 sufficient to replace any Polyurea 205 proven to be defective when applied according to our written instructions and in applications recommended by us as suitable for the product. THIS LIMITED WARRANTY IS THE BUYER'S SOLE AND EXCLUSIVE REMEDY AGAINST RUGGED COATINGS REGARDING THE PRODUCT. IN NO EVENT SHALL RUGGED COATINGS BE LIABLE FOR ANY CONSEQUENTIAL, SPECIAL, INCIDENTAL, INDIRECT, PUNITIVE OR OTHER DAMAGES ARISING FROM THE USE OR PERFORMANCE OF THE PRODUCT. Since methods of application and on site conditions can affect performance, RUGGED COATINGS MAKE NO OTHER WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE REGARDING THE PRODUCT, AND RUGGED COATINGS HEREBY DISCLAIM ALL SUCH OTHER WARRANTIES. The information and recommendations set forth in this Product Data Sheet are based upon tests conducted by or on behalf of Rugged Coatings. Such information and recommendations set forth herein are subject to change and pertain to the product offered at the time of the publication. Consult your Rugged Coatings Technical Representative to obtain the most recent Product Data **Information**. If further information is needed, contact Rugged Coatings Technical Service at 205-440-4996.

COVERAGE RATE

One gallon (3.79 liters) of Polyurea 205 provides coverage of approximately 1,600 square feet at a thickness of 1 mil (0.025 mm) and may be applied in single or multiple passes to reach the desired film build.

COLOR

Polyurea 205 is available in black and neutral, with non-standard colors and color packs offered upon request. As an aromatic polyurea, it may yellow or darken over time when exposed to UV light or direct sunlight.

MIXING PROCEDURES

Thoroughly mix Polyurea 205 Part B (Resin) using air-driven power equipment until the material achieves a consistent, uniform color and appearance with no visible streaking or striations.

STORAGE

Polyurea 205 has a shelf life of one year from the date of manufacture when stored in factory-sealed containers. Both Part A and Part B should be stored at temperatures between 60°F and 95°F, and freezing conditions should be avoided. Containers must be kept tightly sealed to prevent condensation, moisture, or water contamination of either component. When partially used, flush containers with nitrogen prior to resealing.

APPLICATION

A primer is recommended for all substrates except properly prepared steel; however, steel used in immersion service does require a primer. Before application, condition both Part A and Part B to a temperature between 75°F and 80°F (24°C-27°C). Substrate temperatures must be above 0°F, as lower substrate and ambient temperatures will slow the final cure. Do not apply over damp, wet, or saturated surfaces. Moisture content in concrete and masonry substrates must be below 5% when measured with a Tramex CME meter. When substrates are below freezing, standard moisture testing methods are unreliable, and additional measures should be taken to confirm moisture levels. The substrate temperature must be at least 5°F above the dew point and rising at the time of application. Part A should be used with a desiccant drying device. Apply Polyurea 205 using plural-component, high-pressure, heated spray equipment set at a 1:1 ratio. Flush partially used containers with nitrogen before resealing.