



POLYUREA 203

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PRODUCT DESCRIPTION

Rugged Coatings Polyurea 203 is ANSI/NSF 61 approved for direct contact with potable water for tanks 800 gallons and larger. It is a fast set, rapid curing, 100% solids, flexible aromatic, two component spray polyurea that can be applied to multiple substrates. It may be applied in single or multiple applications without appreciable sagging and is relatively insensitive to humidity and temperature allowing application in most conditions.

Polyurea 203 provides a cost effective flexible, tough, resilient monolithic membrane with water and chemical resistance.

GENERAL USES & BENEFITS

Polyurea 203 is an excellent protective coating used in cold-storage facilities, fertilizer plants, industrial and manufacturing facilities, potable water pipes, potable water tanks, landfill containment, manholes, marine environments, mining operations, paper and pulp mills, parking garages, pen stocks, power plants, refineries, secondary containment, structural steel, walkways and balconies, and warehouse floors.

Polyurea 203 bonds to virtually all substrates, has excellent leveling properties as well as abrasion and impact resistance. Additionally, it has excellent chemical resistance.

CHEMICAL PROPERTIES

	ISOCYANATE	RESIN
Specific Gravity (grams/cc) ASTM D-792	1.19	1.01
Viscosity, cps	400-500	300-400
Solids by Volume/Weight	100%	100%
Volatile Organic Compounds	0 lbs/gal	0 lbs/gal
Gel Time, Seconds	2-5	
95-99% Cure Time, Hours	24	
Initial Cure 90%, Hours	24	
Theoretical Coverage	1600 sqft/gal @1 mil	
Odor	mild	amine
Color	amber/brown	straw
Shelf Life - Unopened Containers	12 months	12 months

TYPICAL PHYSICAL PROPERTIES

	TEST METHOD	RESULT
Elongation, (%)	D412	200
Tear Strength (lbf)	D624	69.6
Static Coefficient	D1894	0.254
Taber Abrasion (mg)	D4060	6.4
Hardness (Shore D)	D2240	50.5
Flexural Modulus	D790	1310
Tensile Strength (psi)	D412	3430
Water Vapor Transmission	E96	
Rate of Transmission (grains/hr/sqft)		0.50
Permeance (perms)		1.26

APPLICATION EQUIPMENT

- Equipment Used: High Pressure Proportioners such as Graco Reactor EXP-2
- Process Pressure: 2300 psi (static)

- Spray Gun: Fusion AP or Probler type gun
- Mix module: AR2929 or greater

CHEMICAL RESISTANCE

Chemical Name	Tensile Strength ASTM D412 Change (%)	Elongation ASTM D412 Change (%)	Hardness Cnrage (%)	Mass Change (%)	Density Change (%)
Acetic Acid 10%				7.80	2.59
Automotive Oil			-2.40	0.45	0.44
Bleach (Chloride)			-8.00	1.23	9.00
Boric Acis 3%				1.98	2.67
Calcium Chloride 50%			-7.20	1.71	-1.86
Citric Acid 10%				2.21	-0.57
Cream Soda (POP)			-5.60	2.26	-0.01
Crude Oil (Heating)					
Diesel Fuel	-4.90	4.63	-5.14	3.37	1.52
Ethylene Glycol	-1.49	-4.95	-3.41	0.94	5.58
Hydrochloric Acid 5%				2.24	-5.06
Kerosene	-25.09	-5.30	-10.54	7.46	0.53
Mineral Spirits			-10.94	3.60	-0.50
Nitric Acid 10%	-26.53	4.82	-18.93	16.17	8.47
Phosphoric Acid 50%			-11.72	2.88	2.60
Potassium Hydroxide 50%				13.29	8.73
Saline Solution 30%	-17.77	-5.12	-6.67	2.12	1.77
Sea Water	-19.60	7.82	-9.75	1.85	0.91
Sodium Hydroxide 50%				1.87	1.54
Sodium Sulfate 30%			-8.59	1.94	2.37
Sugar Solution 30%			-9.38	1.76	2.79
Sulfure Acid 25%	-3.26	-1.21	-5.07	1.51	1.40
Tannic Acid 40%			-12.50	2.28	1.34
Water	-17.83	10.27	-6.22	1.98	0.58

Our results of polyurea MFI08 after 7 days submersion compared to initial results of original polyurea.

USE AND APPLICATION PARAMETERS

Polyurea 203 is designed to be used in a 1:1 ratio by volume. The equipment used should be Graco EXP-2 and Probler P2 gun with an AR2929 chamber or equivalent. Both A and B side chemicals should be preheated to 70 degrees F. Both components should be sprayed at a minimum of 3,000 psi and a temperature above 130 degrees.

Surface preparation is key to adhesion and performance of any coating. All surfaces should be free from corrosion, dirt, oils and rust. This can be accomplished with solvents, wire brushes or sand blasting. The surface must be dry prior to application.

Coverage is dependent upon desired thickness. Theoretical yield is 1600 square feet at 1 mil.

Polyurea 203 should be stored above 60°F and avoid freezing.

This product is intended for industrial use only. You should consult the Polyurea 203 Safety Data Sheet prior to use. For extended warranty information, see published warranty qualifications or visit www.RuggedCoatings.com.

WARRANTY AND DISCLAIMER

Rugged Coatings warrants Polyurea 203 to be free from defects in materials and manufacturing. Under this warranty, we will provide, at no charge, a quantity of Polyurea 203 sufficient to replace any Polyurea 203 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.