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.

Meets the Requirements of NSF/ANSI/CAN 61 & 372

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

	ISOCYNATE	RESIN
Specific Gravity (grams/cc) ASTM D-792	1.12	1.01
Viscosity, cps	1150-1350	300-400
Solids by Volume/Weight	100%	100%
Volatile Organic Compouds	0 lbs/gal	0 lbs/gal
Gel Time, Seconds	2-4	
Cure Time, Hours	24	
Tack Free Time, Seconds	<5	
Theoretical Coverage	1600 sqft/gal @1 mil	
Odor	mild	amine
Color	amber/brown	straw
Shelf Life – Unopened Containers	12 months	12 months

TYPCIAL PHYSICAL PROPERTIES

	TEST METHOD ASTM	RESULT
Elongation, (%)	D412	200
Tear Strength (lbf)	D624	563
Static Coefficient of Friction	D1894	0.254
Taber Abbrasion (mg/1000 cycles)	D4060	6.4
Hardness (Shore D)	D2240	50.5
Impact Resistance (in-lb)	D2794	>320
Flexural Modulus (psi)	D790	1310
Tensile Strength (psi)	D412	3430
Water Vapor Transmision	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, Probler, or similar type spray gun
- Mix module: AR4242 or smaller

CHEMICAL RESISTANCE

Percent Change After 7 day Exposure per ASTM D543

Chemical Name	Hardness (%)	Density (%)	Tensile Strength (%)	Elongation (%)	Weight (%)
Acetic acid 10%	-15	2	-22	15	9.1
Ammonium Chloride 24%	-2	1	-12	0	0.9
Ammonium Hydroxide 30%	-10	1	-19	11	3.0
Automotive Oil	-5	1	9	7	0.1
Baking Soda 10%	-10	1	-14	8	1.6
Bleach (Chloride)	-5	0	-16	-1	0.8
Boric Acid 4%	-7	0	-21	1	1.8
Calcium Chloride 50%	2	0	4	-3	-0.2
Calcium Hypochlorite	-3	0	-20	-5	1.6
Citric Acid 10%	-10	0	-17	1	1.9
Club Soda	-10	0	-18	5	1.8
Cream Soda	-8	0	-14	7	1.9
Crude Oil	-5	0	-17	-4	2.6
Diesel Fuel	-7	0	-7	-4	2.1
Ethylene Glycol	-2	0	4	2	0.6
Hydrochoric Acid 5%	-5	1	-14	4	1.7
Kerosene	-3	-1	-3	-3	2.0
Lactic Acid 20%	-7	0	-9	16	4.1
Mineral Spirits	5	0	2	2	1.1
Nitric Acid 10%	-12	1	-10	18	6.9
Phosphoric Acid 50%	-5	2	-6	11	4.1
Potassium Hydroxide (50%)	5	0	9	0	-0.4
Saline Solution 30%	0	0	-10	1	0.7
Tannic Acid 40%	-7	0	-20	-3	1.6
Sodium Carbonate 10%	-5	0	-19	5	1.4
Sodium Chloride 26%	0	1	-3	6	0.7
Sodium Hydroxide 50%	5	1	15	-2	-0.6
Sodium Hydroxide 10%	-5	1	-12	1	1.3
Sodium Sulfate 30%	-5	1	-17	1	1.4
Sodium Sulfate 20%	-7	0	-19	2	1.4
Sugar Solution 30%	-5	0	-20	0	1.4
Sulfuric Acid 25%	-2	0	-6	1	1.0
Sulfuric Acid 10%	-3	1	-14	2	1.3
Tannic Acid 40%	-8	1	-19	4	2.2
Water (H20)	-7	0	-13	7	1.7

USE AND APPLICATION PARAMETERS

Polyurea 203 is designed to be used in a 1:1 ratio by volume. Both A and B side chemicals should be preheated to 70 degrees F. Both components should be sprayed at a minimum of 2,000 psi and a temperature above 140 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 per gallon at 1 mil thickness. Polyurea 203 should be stored above 60°F and avoid freezing.

For Drinking Water System applications, Polyurea 203 may be applied to a maximum thickness of 600 mils in two 300 mil coats. Approved colors include tan, gray and black.

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.Rugged Coatings.com.

WARRANTY AND DISCLAIMER