Raven 512
Technical Data Sheet

MANUFACTURER

Raven Lining Systems, Inc.
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DESCRIPTION

Raven® 512 is 100% solids "pure" polyurea coating featuring "low shrink" that is designed for a variety of applications. Raven 512 can be used in high humidity conditions with minimal bubbling and loss of adhesion. Raven 512 adheres well to properly prepared concrete, steel, geo fabric, wood, composites, and many other substrates. Contact Raven for primer recommendations for various substrates.

PHYSICAL PROPERTIES (Typical)

Description	Method	Result
Tensile Strength	ASTM D412/638	4,200 psi
Elongation	ASTM D412/638	536%
100% Modulus	ASTM D412/638	879 psi
300% Modulus	ASTM D412/638	1,708 psi
Taber Abrasion, CS-17 Wheel	ASTM D4060	14.5
Die "C" Tear	ASTM D624	418 pli
NSF/ANSI- 61 Certified	ASTM D624	No
Hardness, Shore A	ASTM D2240	87±5
Hardness, Shore D	ASTM 2240	38±5
Viscosity A-side (75°F)	Brookfield	1,000-1,500
Viscosity B-side (75°F)	Brookfield	300-750
Recommended PH	Application not to exceed	3 to 12
Moisture Vapor Tran.	ASTM D1653-WVT Grams/m2	1.0
% Shrinkage (72°F, 80 Mils DFT)	Internal Testing	0.33
Processing Properties:	**Units**	**Result**
Gel Time	Seconds	10-15
Tack Free Time	Seconds	30
Recoat Time	Hours	0-12
Walk On Time	Minutes	1.5

TYPICAL USES

- Secondary Containment Lining
- Steel Corrosion Protection
- Geotextile Fabric Lining
- Salt Water Corrosion Protection for Steel or Concrete
- Concrete Waterproofing
- Traffic Deck Membrane

COLOR

The standard colors: Desert Tan (In-Stock), Several others on request.

APPLICATION

Raven 512 has been specifically developed for use with high pressure plural component spraying equipment capable of maintain 2,500 psi and 160°F temperatures at all times heated hose is required. The manufacturer recommends Graco equipment such as a Graco HXP 2. Contact the manufacturer for details on material delivery systems. Re-circulation is recommended prior to using materials. It is recommended to recirculate for 15-30 mins prior to application. If recirculation is not available, Iso drum (Part A) should be warmed using heated drum blankets to a temperature of 85ºF prior to spraying. The Iso part is more viscous than the Resin part so a difference in pressures could be noted.

Recommended Settings	
Static Pressures	2,800 - 3,000 psi
Dynamic Pressure (Spraying)	2,000 psi
Heat Settings	160ºF - 170ºF
Hose Heat Settings	160ºF - 170ºF
Spray Gun	
Fusion Air Purge Chamber	AR 4242
Fusion Mechanical Purge	Many
Probler P2	01 Round

COMPONENTS AND MIX RATIO

Part A Iso: Part B Resin mix ratio is 1:1 by volume.

CLEAN UP

Cured product may be disposed of without restriction. The un-cured isocyanate and resin portions should be mixed together and disposed of in a normal manner. "Drip free" containers should be disposed of according to state, local, and federal laws.

LIMITATIONS

Raven 512 is an aromatic polyurea. While the physical properties may not be affected, the elastomer could fade with exposure to UV light or mercury vapor light. If color stability is mandatory, contact the manufacturer for recommendations. The chemical resistance chart should be consulted prior to application. Each individual user should check the product compatibility with their own application requirements prior to use.

SURFACE PREPARATION

Prior to coating, the substrate must be prepared in a manner that provides a uniform, clean, sound, neutralized surface suitable for the specified coating. The substrate must be free of all contaminants, such as oil, grease, rust, scale or deposits. In general, coating performance is proportional to the degree of surface preparation.

Steel surfaces may require "Solvent Cleaning" (SSPC-SP 1) to remove oil, grease and other soluble contaminants. Chemical contaminants may be removed according to SSPC-SP 12/NACE No. 5. Identification of the contaminants along with their concentrations may be obtained from laboratory and field tests as described in SSPC-TU 4 "Field Methods for Retrieval and Analysis of Soluble Salts on Substrates". Surfaces to be coated should then be prepared according to SSPC-SP 5/NACE No.1 "White Blast Cleaning" for immersion service or SSPC-SP 10/NACE No. 2 "Near White Blast Cleaning" for all other service. In certain situations, an alternate procedure may be to use high (>5,000 psi) or ultrahigh (>10,000 psi) pressure water cleaning or water cleaning with sand injection. The resulting anchor profile shall be 2.5-5.0 mils and be relative to the coating thickness specified.

Concrete and Masonry surfaces must be sound and contaminant-free with a surface profile equivalent to a minimum CSP3 to CSP5 in accordance with ICRI Technical Guideline No. 310.2R-2013. This can generally be achieved by abrasive blasting, shot blasting, high pressure water cleaning, water jetting, or a combination of methods.

AVAILABLE PACKAGES

Raven 512 is available in 5-gallon pails, 55-gallon drums and 275 gallon totes.

SHELF LIFE AND STORAGE

The product can be stored for six months in factory delivered, unopened drums. Keep away from extreme heat, freezing, and moisture. Proper storage temperature is between 60ºF and 80ºF. Ideal material storage temperature is between 60ºF and 95ºF. It is recommended to warm the material to in the drum to 80ºF prior to spraying.

SAFETY

Consult the Safety Data Sheet for this product concerning health and safety information before using. Strictly follow all notices on the Safety Data Sheet and container label. If you do not fully understand the notices and procedures provided on the SDS or if you cannot strictly comply with them, do not use this product. Actual safety measures are dependent on application methods and work environment. Contact Raven Lining Systems to obtain a copy of the Safety Data Sheet at 800-324-2810 or visit www.ravenlining.com

TYPICAL PROPERTIES

Test Method ASTM D 3912 M 24 Hour Spot

Chemical	Result (25ºC)
Acetone	C
Brake Fluid (DOT3)	RC
Clorox© (10%) Water	R
Diesel Fuel	R
Gasoline	R
Hydraulic Fluid (oil)	RC
Methyl Ethyl Ketone (M.E.K.)	N
Motor Oil	R
Muriatic Acid (31.45%)	R
NaCl/Water (10%)	R
Potassium Hydroxide (10%)	R
Sodium Hydroxide (10%)	R
Sodium Bicarbonate	R
Sugar/Water (10%)	R
Sulfuric Acid (10%)	R, Dis
Sulfuric Acid (<22%)	R
Sodium Hydroxide w/w (30%)	R
Transmission Fluid	R
Vinegar (5%)/Water	R
Water	R
Xylene	RC
UV Light (Sunlight)	Dis

R = Recommend = Little or no Visible Damage
RC = Recommend Conditional = Some Effect-Swelling
C = Conditional = Poss. Cracking Wash Down Within 1 Hour
NR = Not Recommended
Dis = Discoloration Only

Warranty and Disclaimer: Raven Lining Systems, Inc. ("Raven") warrants its products to be free of manufacturing defects in accord with applicable Raven quality control procedures and that they meet the formulation standards of Raven. To the best of our knowledge the technical data contained herein is true and accurate on the date of publication and is subject to change without prior notice. If, within one year from purchase, any product is proven defective, Raven, at its sole option, will either replace the defective product or refund the purchase price. This warranty is void if the product is used contrary to Raven's written directions.

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