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Raven® 581

Chimney Seal

Technical Data Sheet

Selection & Specification Data

Description

Raven® 581 is a 100% solids, no VOC, modified polyurethane designed for use as a maintenance hole/manhole “chimney seal.” **Raven 581** can be applied in high humidity conditions with minimal bubbling and loss of adhesion. **Raven 581** adheres well to properly prepared concrete, steel, aluminum, wood, composites, and many other substrates. Contact Raven for primer recommendations for various substrates.

Typical Uses

- Manhole Chimney Seals
- Concrete Waterproofing
- Primed or Un-Primed Steel
- Primed Aluminum
- OEM Applications
- Industrial Facilities

Color & Stability (Limitations)

Standard color: Safety Yellow. Custom colors available on request.

Raven 581 is an aromatic polyurethane. 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 product recommendations. Each user should check the product compatibility with the application requirements before use.

Physical Properties (Typical) (Post cured at 225°F for 24 hours)

Test	Method	Result
Tensile Strength	ASTM D638	>2,700psi
Tensile Elongation	ASTM D638	>600%
Taber Abrasion, CS 17, 1KG, 1K	ASTM D4060	1.8
Die “C” Tear	ASTM D624	284 pli
ANSI/NSF - 61	ASTM D624	Not Certified
Hardness, Shore A	ASTM D2240	80
Hardness, Shore D	ASTM D2240	30
Viscosity A-Side (75°F)	Brookfield	2,000 CPS
Viscosity B-Side (75°F)	Brookfield	1,250 CPS
Recommended pH Range	Application not to exceed	3 to 12
Shrinkage, % (80 mils DFT)	Internal	0.8

The value ranges stated in this Technical Data Sheet are based on system processing under controlled laboratory conditions. Equipment configuration and/or field application conditions may produce variances in the final system values.

Theoretical Coverage Rate

A 750 x 750ml kit will cover ~6 square feet of surface area, e.g., typical 24” round x 12” deep chimney at 100 mils DFT.

Surface Preparation

General

Raven 581 adheres well to properly prepared substrates such as steel, aluminum, wood, and concrete. Some substrates exhibit much better long term performance if a primer is used prior to application.

Surface Preparation (masonry portion of manhole)

Inspect the masonry portion of the manhole to receive an application of the Raven Lining Systems 581 Chimney Liner and note any leaks or areas needing repair.



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Surface Preparation (continued)	
<p>(Masonry portion of manhole), continued</p> <p>Remove any surface contaminants such as release agents, curing compounds, or any other foreign materials from the masonry surfaces by a suitable method. At a minimum, hand wire brushing must be completed, but power wire brushing, grinding, media blasting or chemical methods may also be required depending on the makeup of the surface contaminant.</p> <p>All active leaks must be stopped. All openings, cracks, or voids shall be repaired and the chimney surface profiled so that it is reasonably smooth and vertical. Repair mortar shall be one-component, quick set, high strength, non-shrink, polymer-modified cementitious patching mortar, which has been formulated for vertical or overhead use.</p> <p>Repair mortar shall not contain any chlorides, gypsums, plasters, iron particles, aluminum powder, or gas-forming agents, nor shall it promote the corrosion of any steel that it may come in contact with.</p> <p>All masonry surfaces in the area to receive an application of Raven 581 must be dry and free from voids or defects, which would inhibit the maximum adhesion of the material.</p>	<p>Surface Preparation (manhole frame casting)</p> <p>Remove any surface contaminants such as grease, oil, or any other foreign materials from the metal surfaces by a suitable method. At a minimum, hand wire brushing must be completed, but power wire brushing, grinding, media blasting or chemical methods may also be required depending on the makeup of the surface contaminant.</p> <p>All metal surfaces in the area to receive an application of the Raven 581 must be dry and free from voids or defects, which would inhibit the maximum adhesion of the material.</p> <p>Surface Preparation (final cleaning and drying)</p> <p>Before the application, wash down the surfaces of the manhole masonry and frame to remove any remaining moisture, dust or surface contaminants. An acetone wash can be used to flash dry the surface, the application of the Raven 581 may then commence.</p>
Application	
<p>Application procedures shall conform to the recommendations of Raven Lining Systems, including proper material handling and storage, mixing, safety, spray equipment, and environmental controls during application. (See SDS for specific information regarding the safe handling of this product)</p> <p>The applicator shall inspect all of the surfaces to receive the coating before the application. Anything that may interfere with the use of the product shall be noted and corrected before the commencement of the product application.</p> <p>Discharge the entire cartridge of the Raven 581 on each manhole chimney area to be lined. For best results, the cartridges should be heated to 90°-100°F. One complete cartridge kit will cover eight (8) to twelve (12) vertical inches on a twenty-four (24) inch diameter manhole at an approximate thickness of one hundred (100) mils dry film thickness.</p>	<p>Raven 581 will dry and tack-free in approximately two to three minutes, at which time the manhole cover may be replaced.</p> <p>Application Equipment</p> <p>Raven 581 is packaged in 750 ml x 750 ml cartridges and requires specialized pneumatic spray equipment capable of maintaining consistent force and pressure on the plungers. Raven recommends the use of the Sulzer MixCoat DPS 1500-01 Cartridge Spray Gun. Raven supplies one 90° angle spray tip for each cartridge set purchased.</p>



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Application, Packaging, Shelf Life & Storage	
<p>Cleanup / Disposal</p> <p>Cured product may be disposed of without restriction. The uncured 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.</p>	<p>Safety</p> <p>Consult the Safety Data Sheet (SDS) for this product concerning health and safety information before using. Strictly follow all notices on the SDS 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 SDS at 800-324-2810 or visit www.ravenlining.com.</p>
Application, Packaging, Shelf Life & Storage	
<p>Packaging</p> <p>Raven 581 is available in 750 x 750 ml spray cartridges. Six cartridges per case. One 90° angle spray tip is included per cartridge set.</p>	<p>Shelf Life and Storage</p> <p>The product can be stored for six months in factory delivered, unopened cartridges. Keep away from extreme heat, freezing, and moisture. Proper storage temperature is between 60°F and 95°F.</p>
Warranty	
<p>Limited Warranty. Company warrants its goods to be free of manufacturing defects. Goods manufactured by Company will comply with all applicable federal, state and local laws and regulations. Company makes no warranty as to any parts or equipment manufactured by others. Customer shall look solely and only to the manufacturer of such parts or equipment with respect to any warranty claims. Company hereby assigns to Customer the original manufacturer’s warranties to all such equipment and parts, to the full extent permitted. THE AFORESAID IS THE EXCLUSIVE WARRANTY AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED. SPECIFICALLY, THERE ARE NO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE.</p> <p>Limitation of Liability. COMPANY’S LIABILITY FOR DEFECTIVE OR NON-CONFORMING GOODS SHALL BE LIMITED TO, AND SHALL IN NO EVENT EXCEED, THE AMOUNT PAID BY CUSTOMER FOR SUCH DEFECTIVE OR NON-CONFORMING GOODS. UNDER NO CIRCUMSTANCES SHALL COMPANY BE LIABLE FOR ANY SPECIAL, PUNITIVE, INCIDENTAL OR CONSEQUENTIAL DAMAGES OR FOR LOST PROFITS. In no event may any claim by Customer arising from or relating to any sale of any goods or services referenced herein be brought more than one year after the date of delivery of such Goods.</p>	