



686 S. Adams St.  
 Kansas City, KS. 66105  
 (913) 321-9000

# Raven® 171FS

## Technical Data Sheet

### Selection & Specification Data

#### Description

Raven® 171FS is a solvent-free 100% solids, low viscosity penetrating epoxy primer that may be applied to dry or partially damp surfaces. Designed to seal concrete and reduce off-gassing when the concrete temperature is above 40°F.

#### Typical Uses

Formulated for use as a primer on concrete, masonry or brick substrates in:

- Tunnels & Pipelines
- Digesters
- Secondary Containment
- Wastewater Facilities
- Clarifiers
- Tanks
- Manholes
- Floors & Walls

#### Color

The Part A Resin is clear; the Part B Curing Agent is a “motor oil” color. When mixed, the product dries to a dark yellow, transparent film.

#### Theoretical Coverage Rates

Apply to the concrete substrate until the surface is saturated, this typically takes 5 - 10 mils and is dependent on concrete porosity. At 10 mils wet film thickness (WFT), theoretical coverage is 160 square feet per gallon. Good painting practices suggest the application of two coats for quality assurance. This material is designed to penetrate and will be rapidly absorbed into the concrete making WFT measurement inaccurate.

#### Physical Properties (Typical)

Test	Method	Result
Tensile Strength	ASTM D638	4,900 psi
Tensile Ultimate Elongation	ASTM D638	12 %
Hardness, Shore D	ASTM D2240	74
Adhesion, Concrete	ASTM D7234	Substrate Failure
VOC's	Calculates	0.0 lbs./gal.

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.

#### Surface Preparation

##### General

Before coating, the substrate must be prepared in a manner that provides a uniform, clean, sound, neutralized surface suitable for the specified coating system. 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.

##### Concrete and Masonry

Surfaces must be sound and contaminant-free with a surface profile equivalent to a minimum CSP3 to CSP5 following 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. The pH of the concrete must be >7.

##### Temperature Resistance

Maximum recommended dry temperature: 200°F. Wet temperature resistance depends on chemical concentration and exposure time.



# Raven® 171FS

## Technical Data Sheet

Mixing	
<p><b>Components &amp; Mix Ratio</b></p> <p>Part A Resin: Part B Curing Agent mix ratio is 1:1 by volume.</p> <p><b>Do not thin with solvents.</b> If lower viscosity is needed, heat unmixed material by placing the containers in hot tap water until the desired flow properties are obtained. Unmixed material should not be heated above 120°F.</p> <p><b>Pot Life</b></p> <p>The pot life is 40 minutes for one gallon at 55°F. Longer pot life is possible by mixing smaller amounts and/or cooling down the part A &amp; B before mixing.</p>	<p><b>Hand Mixing</b></p> <p>Individually mix both Part A and Part B containers prior to measuring out 1 part of Part A to 1 part of Part B by volume into a clean disposable pail. Completely mix combined A &amp; B for a minimum of one minute before transferring contents to a clean pail. Continue mixing at least another minute, scraping the sides and bottom, to obtain a thorough mix before application. Properly mixed material will be a uniform color without light or dark spots.</p>
Application & Cure Time	
<p><b>Application</b></p> <p>Apply with ¼" to ½" nap epoxy-compatible roller or airless spray system with a 511 to 515 spray tip. Adjust pressure as needed. Do not allow mixed material to remain in hose, gun, or spray equipment. It is good working practice to flush equipment between mixed units. For best results, apply this product to concrete when its temperature is stable or falling.</p> <p><b>Substrate Temperature</b></p> <p>Minimum recommended substrate temperature: 40°F</p> <p>Maximum recommended substrate temperature: 80°F</p>	<p><b>Cure Time</b></p> <p>Thin film set time varies with substrate temperature and application thickness. Generally, the coating will be set-to touch in 4 hours at 55°F and dry-hard in about 7 hours.</p> <p><b>Recoat Time</b></p> <p>This product may be recoated as soon as it becomes tacky but does not transfer to the finger. Maximum recoat window is 2 days at 55°F substrate temperature, higher temperatures will shorten this window. Before recoating; inspect, clean and dry surface thoroughly to remove all contamination, including amine blush or condensation. If the recoat time is missed, abrade and clean surfaces prior to recoating.</p>
Cleanup & Safety	
<p><b>Cleanup</b></p> <p>To clean tools and equipment flush with water. To clean skin, wash immediately and thoroughly with soap and water. Refer to the SDS for additional information on health and safety.</p>	<p><b>Safety</b></p> <p>SDS's are available on the website, (<a href="http://www.ravenlining.com">www.ravenlining.com</a>) or upon request. 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. Keep uncured product away from children at all times.</p>



# Raven® 171FS

## Technical Data Sheet

### Packaging, Shelf Life & Storage

#### Packaging

Available in one gallon kits (2 quarts of part A in a 1-gallon pail & 2 quarts of part B in a 1-gallon pail) and 2 gallon kits (1-gallon pail of part A & 1-gallon pail of part B). Kits are supplied in the correct proportions of A & B; these two components must be mixed together before use.

#### Shelf Life

Product shelf life is 1 year from purchase date in original unopened containers, stored in sheltered area between 60°F and 80°F (15°C and 27°C).

### Warranty

**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.

**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.