# PPG VERSAFLEX® 878

## previously sold as RAVEN® 580 and HMVK

### DESCRIPTION

100% Solids, high strength, hand mix pure polyurea with extended pot life

### PRINCIPAL CHARACTERISTICS

- Hand mixed
- 100% solids
- Adheres well to previously applied polyurea coatings
- Withstands high humidity conditions with minimal bubbling or loss of adhesion
- Can be applied to concrete, steel or geotextile fabric substrates
- Suitable for many secondary containment applications
- Designed for trowel application
- TYPICAL USES:
- Can be used as a patch kit for previously applied polyurea coatings
- Clean rooms
- Blast mitigation
- Electrical potting
- Industrial and commercial areas
- Concrete waterproofing

### COLOR AND GLOSS LEVEL

- Gray
- Black
- Clear

### BASIC DATA AT 77°F (25°C)

| Data for mixed product | |
|---|---|
| **Number of components** | Two |
| **Mass density** | 8.6 lb/US gal (1.0 kg/l) |
| **Volume solids** | 100 ± 2% |
| **VOC (Supplied)** | EPA Method 24: 0.0 lb/US gal (0.0 g/l) |
| **Recommended dry film thickness** | 60 - 100 mils (1524 to 2540 µm) |
| **Theoretical spreading rate** | 27 $ft^2$/US gal for 60.0 mils (0.7 $m^2$/l for 1524 µm)<br>16 $ft^2$/US gal for 100.0 mils (16.0 $m^2$/l for 2540 µm) |
| **Dry to touch** | 30 minutes |
| **Overcoating Interval** | Maximum: 3 days |
| **Curing time** | 12 hours |
| **Shelf life** | Part A: at least 6 months when stored cool and dry<br>Part B: at least 6 months when stored cool and dry |

Notes:

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- Material should be stored in dry conditions, out of direct sunlight, and in unopened original factory containers, at temperatures above 60°F (16°C) and below 90°F (32°C)
- Complete polymerization to achieve final strength may take up to several days or weeks depending on application conditions.
- See ADDITIONAL DATA – Curing time

### RECOMMENDED SUBSTRATE CONDITIONS AND TEMPERATURES

- Surface must be clean, dry, and in sound condition. Remove all oil, dust, grease, dirt, loose rust, and other foreign material to ensure adequate adhesion.

#### Concrete / Masonry

- Abrade surface to achieve a surface profile equivalent to CSP 3 to CSP 5 in accordance with ICRI 310.2R-2013

#### Steel (immersion service)

- Remove all rust, dirt, moisture, grease or other contaminants from the surface in accordance with SSPC SP-1
- Steel: blast cleaned to SSPC-SP10/NACE No. 2 (near white metal), blasting profile 2.5 – 5.0 mils (64 – 125 µm)

#### Steel (atmospheric/non-immersion service)

- Remove all rust, dirt, moisture, grease or other contaminants from the surface in accordance with SSPC SP-1
- Steel: blast cleaned to SSPC-SP6/NACE No. 3 (commercial), blasting profile 2.5 – 4.0 mils (64 – 100 µm)

#### Ductile iron pipe (atmospheric and immersion service)

- All oils, small deposits of asphalt, paint, and grease shall be removed by solvent cleaning per NAPF 500-03-01
- Abrasive blast in accordance with NAPF 500-03-04

#### Galvanized steel

- Remove all rust, dirt, moisture, grease or other contaminants from the surface in accordance with SSPC SP-1
- Abrasive blast in accordance with SSPC SP-16 guidelines

### SYSTEM SPECIFICATION

- Primer for concrete: PPG RAVEN® 175 Primer, PPG RAVEN® 171FS Primer, PPG VF20 Primer
- Primer for Carbon Steel (optional): PPG AMERLOCK 2

Note:

- Contact PPG Tech Services for primer recommendations

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**Service Temperatures**

- -30°F to 250°F (-34°C to 121°C)

**Recommended DFTs**

- Recommended DFT for Concrete: 80-100 mils (2.0-2.5 mm)
- Recommended DFT for Geotextile fabrics: 60-80 mils (1.5-2.0 mm)
- Recommended DFT for Steel (Carbon): 80-100 mils (2.0-2.5 mm)

## INSTRUCTIONS FOR USE

**Mixing ratio by volume: Part A to Part B 1:4**

- Add Part A to Part B in the prescribed ratio
- Mix Part A and Part B using a stir stick. Scrape sides and bottoms of containers
- Do not whip or mix with an electric mixer

Notes:

- Product is best processed at 80°F (27°C).
- Only mix at temperatures between between 80-100°F (27-38°C)
- Processing product at temperatures below 75°F (24°C) will cause the polymer to become very viscous and negatively impact the ability to mix well.
- Processing product at temperatures above 90°F (32°C) will reduce viscosity but speed up the reaction and shorten the pot life.

**Application**

- Immediately after mixing, pour the mixture onto the substrate in a figure-eight pattern to allow for even distribution.
- Spread quickly with a notched-type trowel.

Note:

- Porous substrates will likely create “outgas” bubbles. Heating the substrate may help mitigate this.

**Pot life**

20 minutes at 70°F (21°C)

12 minutes at 80°F (27°C)

**Cleaning procedure**

- All application equipment must be cleaned immediately after use

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### ADDITIONAL DATA

**Viscosity at 77°F (25°C)**

- A-Side: 110 +/- 20 cPs
- B-Side: 4840 +/- 500 cPs

| Physical data of cured material | |
|---|---|
| **Characteristic** | **Value** |
| Tensile Strength (ASTM D412/D638) | 3,077 psi (21.2 MPa) |
| Tensile Elongation (ASTM D412/D638) | 388% |
| 100% Modulus (ASTM D412/D638) | 1,391 psi (9.6 MPa) |
| 300% Modulus (ASTM D412/D638) | 2,046 psi (14.1 MPa) |
| Tear Strength (Die C, ASTM D624) | 495 PLI |
| Hardness, Shore A (ASTM D2240) | 95 ± 5 |
| Hardness, Shore D (ASTM D2240) | 44 ± 5 |

Note:

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

| Curing Time | | | |
|---|---|---|---|
| **Substrate temperature** | **Gel time** | **Tack free time** | **Dry to service** |
| 77°F (25°C) | 26 minutes | 30 minutes | 12 hours |

Note:

- Dry times are dependent on air and surface temperatures, as well as film thickness, ventilation, and relative humidity.

**Product Qualifications**

- Compliant with USDA Incidental Food Contact Requirements

### DISCLAIMER

- For industrial or professional use only
- This product is specifically suitable for use on the substrates mentioned in this document. For application on any other substrates, please always contact your distributor or PPG representative for specific instructions and in order to make sure that the product performance can be maintained.

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### SAFETY PRECAUTIONS

- Read all label and Safety Data Sheet (SDS) information prior to use

### WORLDWIDE AVAILABILITY

It is always the aim of PPG Protective & Marine Coatings to supply the same product on a worldwide basis. However, slight modification of the product is sometimes necessary to comply with local or national rules/circumstances. Under these circumstances an alternative product data sheet is used.

### WARRANTY

**PPG warrants (i) its title to the product, (ii) that the quality of the product conforms to PPG's specifications for such product in effect at the time of manufacture and (iii) that the product shall be delivered free of the rightful claim of any third person for infringement of any U.S. patent covering the product. THESE ARE THE ONLY WARRANTIES THAT PPG MAKES AND ALL OTHER EXPRESS OR IMPLIED WARRANTIES, UNDER STATUTE OR ARISING OTHERWISE IN LAW, FROM A COURSE OF DEALING OR USAGE OF TRADE, INCLUDING WITHOUT LIMITATION, ANY OTHER WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE OR USE, ARE DISCLAIMED BY PPG. Any claim under this warranty must be made by Buyer to PPG in writing within five (5) days of Buyer's discovery of the claimed defect, but in no event later than the expiration of the applicable shelf life of the product, or one year from the date of the delivery of the product to the Buyer, whichever is earlier. Buyer's failure to notify PPG of such non-conformance as required herein shall bar Buyer from recovery under this warranty.**

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### AVAILABILITY OF PACKAGING

**Packaging**

- 1-gallon and 5-gallon kits