

# PPG VERSAFLEX® 250 DM

formerly sold as VersaFlex® FSS 50DM Plus

## DESCRIPTION

Two-component, fast set, polyurea elastomer spray coating

## PRINCIPAL CHARACTERISTICS

- 100% solids
- Excellent adhesion to concrete and steel
- Tough, resilient, elastomeric membrane
- Abrasion and impact resistant
- Fast return to service
- Can be applied horizontally, vertically and overhead
- Dry exposure range of -20°F (-29°C) to 250°F (121°C)
- TYPICAL USES:
- Waterproofing membranes
- Food and beverage processing facilities
- Mining facilities
- Steel, galvanized and tin secondary containment structures
- Wastewater structures

## COLOR AND GLOSS LEVEL

- Black, Tan, Dark Gray and Light Gray
- Part A can vary in color from Clear to Amber

Note:

- Color changes can occur under UV-exposure without negative impact on the product performance

## BASIC DATA AT 72°F (22°C)

| Data for mixed product         |                                                                                                             |
|--------------------------------|-------------------------------------------------------------------------------------------------------------|
| Number of components           | Two                                                                                                         |
| Mass density                   | 8.8 lb/US gal (1.1 kg/l)                                                                                    |
| Volume solids                  | 100%                                                                                                        |
| VOC (Supplied)                 | EPA Method 24: 0.0 lb/US gal (0.0 g/l)                                                                      |
| Recommended dry film thickness | 60 - 125 mils (1524 to 3175 µm)                                                                             |
| Theoretical spreading rate     | 27 ft²/US gal for 60.0 mils (0.7 m²/l for 1524 µm)<br>12.8 ft²/US gal for 125.0 mils (0.3 m²/l for 3175 µm) |
| Dry to touch                   | 7 seconds                                                                                                   |
| Dry to walk on                 | 1 hour                                                                                                      |
| Overcoating Interval           | Minimum: 30 minutes<br>Maximum: 24 hours                                                                    |
| Curing time                    | 2 hours                                                                                                     |



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## Data for mixed product

### Shelf life

Part A: at least 12 months when stored cool and dry  
Part B: at least 12 months when stored cool and dry

### Notes:

- Curing time reflects ready for service time
- If overcoat time is exceeded, abrade and clean surface before recoating. Then treat with PPG VERSAFLEX® 960, or a solvent such as MEK, to promote adhesion.
- 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 95°F (35°C)
- The spreading rate is depending on the roughness of the substrate
- See ADDITIONAL DATA – Curing time
- Complete polymerization to achieve final strength may take up to several days or weeks depending on application conditions.
- Contact PPG Technical Services to determine whether this product will meet your chemical resistance requirements

## RECOMMENDED SUBSTRATE CONDITIONS AND TEMPERATURES

- Substrate temperature during application and curing should be above -20°F (-29°C)
- Substrate temperature during application and curing should be at least 5°F (3°C) above dew point
- Do not install over damp, wet, or saturated substrates
- All surfaces must be sound, dry, clean, free of oil, grease, dirt, mildew, curing compounds, loose and flaking paint, and other foreign substances

### Concrete / Masonry

- New concrete must cure a minimum of 28 days prior to application of this product
- Prepare in accordance with SSPC-SP13 guidelines to achieve a surface profile equivalent to CSP 3 to CSP 5 in accordance with ICRI 310.2R-2013
- Moisture content should not exceed 5%
- Maximum moisture content of 3 lb / 1,000 ft<sup>2</sup>/24 hours per ASTM F1869

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

- Remove all surface contaminants, oil and grease in accordance with SSPC-SP 1
- Abrasive blast with an angular abrasive to an SSPC-SP 6 cleanliness or higher. Achieve a surface profile of 3.0 mils (76 µm) or higher

### Non-ferrous metals

- Abrasive blast in accordance with SSPC-SP 16 guidelines
- Use only non-metallic blast media

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## SYSTEM SPECIFICATION

### Primer

- Primers for concrete/masonry: PPG RAVEN® 175 Primer, PPG RAVEN® 171FS Primer, PPG VERSAFLEX® 915 Primer, or PPG VERSAFLEX® 920 Primer
- Primer for Carbon Steel: PPG AQUATAPOXY® 190 Primer
- Primer for non-ferrous metals: PPG VERSAFLEX® 901 Primer
- Primers for wood/fiberglass: PPG VERSAFLEX® 920 Primer, PPG VERSAFLEX® 915 Primer

Note:

- Recommended DFTs are general guidelines only. Product thickness is highly dependent on service conditions. Contact your PPG sales representative to determine appropriate product thickness for your specific application.

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### Recommended DFTs

- Recommended DFT for Concrete: 80-100 mils (2030-2540 µm)
- Recommended DFT for Steel (Carbon): 60-80 mils (1525-2030 µm)
- Recommended DFT for High Abrasion Service: 100-125 mils (2540-3175 µm)

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### Service Temperatures

- -40°F (-40°C) to 250°F (121°C)

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## INSTRUCTIONS FOR USE

- Installation requires heated plural component set-up with direct impingement application equipment that is capable of maintaining 2,000 psi (14 MPa) dynamic spray pressure
- A and B liquid components shall be a minimum of 70°F (21°C) prior to use

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### Mixing ratio by volume: 1:1 (Part A to Part B)

- Part B component must be thoroughly agitated prior to use
- Mix Part B using three-tier, collapsible blade power mixer through the center bung hole
- Mixer diameter should be 1/3 of the diameter of the container
- Pre-mix Part B component for at least 30 minutes. When properly pre-mixed, material will have a uniform color with no dark or light spots

Note:

- This product is a part of the VERSAFLEX® 250 Series. All products in this series utilize the same Part A component, which is labeled as "VERSAFLEX® 250 A".



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## Application

- Apply in a uniform manner to desired thickness
- Application thickness is determined by spray gun configuration and speed of application
- Lower output configurations are recommended for vertical and overhead applications to avoid runs, drips, and sags.

## Airless spray - Plural component

- Material requires heated plural component spray set-up with impingement gun
- Material supply capacity should be 4 times the material output of the selected spray gun configuration
- Heated hoses are required
- Processing equipment should be capable of maintaining set temperatures and pressure at rest and during operation
- Part A should be maintained at temperature of 160°F (71°C) - Part B should be maintained at temperature of 160°F (71°C)
- Heated hose temperature: 160 (71°C)
- Recommended dynamic pressure for spray equipment: 2,000 – 2,500 psi (13.8 MPa – 17.2 MPa)

## Recommended thinner

No thinner should be added

Note:

- Contact your PPG technical services representative for equipment and set-up recommendations

## ADDITIONAL DATA

| Physical data of cured material   |                      |
|-----------------------------------|----------------------|
| Characteristic                    | Value                |
| Tensile Strength (ASTM D638)      | 3,217 psi (22.2 MPa) |
| Tensile Elongation (ASTM D638)    | 353%                 |
| 100% Modulus (ASTM D638)          | 1,245 psi (8.6 MPa)  |
| 200% Modulus (ASTM D638)          | 1,769 psi (12.2 MPa) |
| 300% Modulus (ASTM D638)          | 2,586 psi (17.8 MPa) |
| Tear Strength (Die C, ASTM D624)  | 493 pli (84.4 kN/m)  |
| Hardness, Shore A (ASTM D2240)    | 95                   |
| Hardness, Shore D (ASTM D2240)    | 50                   |
| Adhesion to Concrete (ASTM D7234) | >500 psi (>3.4 MPa)* |
| Adhesion to Steel (ASTM D4541)    | >200 psi (>1.4 MPa)  |

Notes:

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- 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.
- \* note: adhesion testing led to substrate failure before coating bond loss

## Additional drying/curing details

| Substrate temperature | Gel time  | Tack free time | Light traffic |
|-----------------------|-----------|----------------|---------------|
| 72°F (22°C)           | 5 seconds | 7 seconds      | 2 hours       |

## 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 PPG representative for specific instructions and in order to make sure that the product performance can be safeguarded.

## 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.

## LIMITATIONS OF LIABILITY

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## AVAILABILITY OF PACKAGING

### Packaging

- 10-gallon kits
  - 110-gallon kits (two 55-gallon drums filled by weight, volume is closely approximated)
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