

# PPG VERSAFLEX® 252

formerly sold as VersaFlex® VF502 or Full Metal Jacket (FMJ)

## DESCRIPTION

Two-component, fast set, rapid curing, flexible, hybrid polyurea spray coating

## PRINCIPAL CHARACTERISTICS

- Fast set
- Fast return to service
- Excellent adhesion to steel
- Tough, flexible, and impact resistant
- Remains flexible at lower temperatures
- Dry temperature resistance from -40°F (-40°C) to 250°F (210°C)
- Extremely tough monolithic membrane is created at a minimum thickness of 20 mils (25 µm)
- Insensitive to atmospheric moisture during application
- TYPICAL USES:
- Used where a seamless, flexible system is essential
- Pick-up truck spray-in bed liners
- Automotive service areas
- Industrial and commercial interior
- Not recommended for direct contact with extremely high or low pH chemicals

## COLOR AND GLOSS LEVEL

- Black, Tan, Light Gray, Red, Blue

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	8.7 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	60.0 - 100.0 mils (1524 - 2540 µm) per coat
Theoretical spreading rate	27 ft <sup>2</sup> /US gal for 60.0 mils (0.7 m <sup>2</sup> /l for 1524 µm) 16 ft <sup>2</sup> /US gal for 100.0 mils (16.0 m <sup>2</sup> /l for 2540 µm)
Dry to touch	4 seconds
Dry to overcoat	30 minutes
Overcoating Interval	Maximum: 3 hours
Curing time	2 hours
Shelf life	Part A: at least 12 months when stored cool and dry



# PPG VERSAFLEX® 252

formerly sold as VersaFlex® VF502 or Full Metal Jacket (FMJ)

Data for mixed product	
	Part B: at least 12 months when stored cool and dry

Notes:

- 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)
- Curing time reflects ready for service time
- May be top-coated with non-solvent based coatings after curing for 30 minutes
- See ADDITIONAL DATA – Overcoating intervals
- See ADDITIONAL DATA - Additional drying/curing details

### 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

#### Truck bed surface

- Remove the majority of the clear coat, exposing the painted surface; material will bond to paint.
- Use the following (or equivalent): DA air sander with 60-80 grit paper; electric 4" grinder with 36 grit alum oxide pad; or 80 grit nylon filament cup brush
- At perimeter, near Fiber Line tape: hand sand to edge of filament line with 120-180 grit paper
- The surface must be properly prepared, dry, clean and free of any contamination
- Blow off all prepped surface with compressed air

#### 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
- Ensure surface is dust free after blasting

#### Concrete / Masonry

- Prepare the surface in accordance with SSPC SP-13 standards
- Abrade surface to achieve a surface profile equivalent to CSP 3 to CSP 5 in accordance with ICRI 310.2R-2013
- Maximum moisture content of 3 lb / 1,000 ft<sup>2</sup>/24 hours per ASTM F1869
- Moisture content should not exceed 5%

#### Geotextile fabric

- Ensure the surface is clean, dry, and free of deleterious matter prior to the application
- Only apply to the 'ironed' side of the geotextile
- Non-woven or spun-woven geotextiles are recommended



# PPG VERSAFLEX® 252

formerly sold as VersaFlex® VF502 or Full Metal Jacket (FMJ)

## **Non-ferrous metals**

- Abrasive blast in accordance with SSPC SP-16 guidelines
  - Abrasive blast with non-metallic abrasive
- 

## **Wood**

- The surface must be properly prepared, dry, clean and free of any contamination
  - The use of primers on porous surfaces is recommended to reduce the chance of pin holing
- 

## **SYSTEM SPECIFICATION**

- Primers for Carbon Steel: PPG AQUATAPOXY® 190 Primer, PPG VERSAFLEX® 901 Primer
  - Primers for non-ferrous metals: PPG VERSAFLEX® 901 Primer
  - Primers for wood/fiberglass: PPG VERSAFLEX® 920 Primer
  - Primers for polyurea tie-in: PPG VERSAFLEX® 960 surface treatment
  - Recommended DFT for Concrete: 80-100 mils (2.0-2.5 mm)
  - Recommended DFT for Steel (Carbon): 60-80 mils (1.5-2.0 mm)
  - Recommended DFT for High Abrasion Service: 60-80 mils (1.5-2.0 mm)
- 

## **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
- 

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

- Prior to mixing, the temperature of Part A and Part B should each be at least 70°F (21°C)
  - Mixer diameter should be 1/3 of the diameter of the container
  - 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
  - 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.
- 

## **Application**

- Apply in a uniform manner to desired thickness
  - Application thickness is determined by spray gun configuration and speed of application
-

# PPG VERSAFLEX® 252

formerly sold as VersaFlex® VF502 or Full Metal Jacket (FMJ)

### 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
- Processing equipment should be capable of maintaining set temperatures and pressure at rest and during operation
- Heated hose temperature: 160 (71°C)
- Part A should be maintained at temperature of 160°F (71°C) - Part B should be maintained at temperature of 160°F (71°C)
- Processing equipment should be capable of maintaining set temperatures and pressure at rest and during operation

### Recommended thinner

Do not thin

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)	2,814 psi (19.4 MPa)
Tensile Elongation (ASTM D638)	0.73%
Tear Strength (Die C, ASTM D624)	276 pli
Hardness, Shore D (ASTM D2240)	146%
100% Modulus (ASTM D638)	55

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.

Spreading rate and film thickness	
DFT	Theoretical spreading rate
60.0 mils (1524 µm)	27 ft <sup>2</sup> /US gal (0.7 m <sup>2</sup> /l)
80.0 mils (2032 µm)	20 ft <sup>2</sup> /US gal (0.5 m <sup>2</sup> /l)
100.0 mils (2540 µm)	16 ft <sup>2</sup> /US gal (0.4 m <sup>2</sup> /l)



# PPG VERSAFLEX® 252

formerly sold as VersaFlex® VF502 or Full Metal Jacket (FMJ)

Overcoating interval		
Overcoating with...	Interval	72°F (22°C)
itself	Minimum	4 seconds
	Maximum	3 hours
Non-solvent based coatings	Minimum	30 minutes
	Maximum	3 hours

Notes:

- When overcoating with itself, product can be overcoated as soon as it has gelled or when it no longer leaves residue with touched with a gloved finger.
- If overcoat time is exceeded, ensure that surface is clean, dry and free from all deleterious material. Then treat with PPG VERSAFLEX® 960 surface activator as a reactivating adhesion promoter

Additional drying/curing details			
Substrate temperature	Gel time	Tack free time	Open to Foot Traffic
72°F (22°C)	3 seconds	4 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 distributor or 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.

**REFERENCES**

- Information sheet | Explanation of product data sheets



# PPG VERSAFLEX® 252

formerly sold as VersaFlex® VF502 or Full Metal Jacket (FMJ)

## 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

IN NO EVENT WILL PPG BE LIABLE UNDER ANY THEORY OF RECOVERY (WHETHER BASED ON NEGLIGENCE OF ANY KIND, STRICT LIABILITY OR TORT) FOR ANY INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES IN ANY WAY RELATED TO, ARISING FROM, OR RESULTING FROM ANY USE MADE OF THE PRODUCT. The information in this sheet is intended for guidance only and is based upon laboratory tests that PPG believes to be reliable. PPG may modify the information contained herein at any time as a result of practical experience and continuous product development. All recommendations or suggestions relating to the use of the PPG product, whether in technical documentation, or in response to a specific inquiry, or otherwise, are based on data, which to the best of PPG's knowledge, is reliable. The product and related information is designed for users having the requisite knowledge and industrial skills in the industry and it is the end-user's responsibility to determine the suitability of the product for its own particular use and it shall be deemed that Buyer has done so, as its sole discretion and risk. PPG has no control over either the quality or condition of the substrate, or the many factors affecting the use and application of the product. Therefore, PPG does not accept any liability arising from any loss, injury or damage resulting from such use or the contents of this information (unless there are written agreements stating otherwise). Variations in the application environment, changes in procedures of use, or extrapolation of data may cause unsatisfactory results. This sheet supersedes all previous versions and it is the Buyer's responsibility to ensure that this information is current prior to using the product. Current sheets for all PPG Protective & Marine Coatings Products are maintained at [www.ppgpmc.com](http://www.ppgpmc.com). The English text of this sheet shall prevail over any translation thereof.

The PPG logo, and all other PPG marks are property of the PPG group of companies. All other third-party marks are property of their respective owners.

