

# PPG VERSAFLEX® 501 Polyaspartic Top Coat

formerly known as VERSAFLEX® ClearSeal

## DESCRIPTION

Two component, heavy-duty, aliphatic polyurea topcoat

## PRINCIPAL CHARACTERISTICS

- Excellent gloss retention
- High abrasion and impact resistance
- Can be used as a topcoat for existing or new epoxy, polyurethane or polyurea
- Color stable and excellent UV weathering resistance
- Can be mixed with various aggregates to create decorative floors or anti-slip resistance
- Suitable for interior and exterior use
- Specially designed to provide excellent resistance against water and chloride intrusion
- TYPICAL USES:
- Industrial and commercial areas
- Aircraft hangars, automobile dealerships, garages
- Topcoat for new concrete or steel (such as piers, pier caps, railings, and pedestrian walkways)

## COLOR AND GLOSS LEVEL

- Clear or pigmented
- White is standard color when pigmented
- High gloss

## BASIC DATA AT 75°F (24°C)

Data for mixed product	
Number of components	Two
Volume solids	79%
VOC (Supplied)	EPA Method 24: 0.125 lb/US gal (15.0 g/l)
Recommended dry film thickness	10.0 - 16.0 mils (250 - 400 µm) per coat
Theoretical spreading rate	160 ft <sup>2</sup> /US gal for 10.0 mils (3.9 m <sup>2</sup> /l for 250 µm) 100 ft <sup>2</sup> /US gal for 16.0 mils (2.5 m <sup>2</sup> /l for 400 µm)
Dry to touch	45 minutes
Dry to overcoat	45 minutes
Overcoating Interval	Maximum: 4 hours
Curing time	3 hours
Full cure after	7 days
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:



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- Recommended dry film thickness dependent on substrate and service conditions
- Full cure after reflects maximum chemical resistance at 75°F (24°C)
- If overcoat time is exceeded, ensure that surface is clean, dry and free from all deleterious material. Then treat with PPG VERSAFLEX® 960 Primer as a reactivating adhesion promoter
- 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)
- Not to be used for constant immersion environments
- See ADDITIONAL DATA – Curing time
- See ADDITIONAL DATA - Additional drying/curing details
- Contact PPG Technical Services to determine whether this product will meet your chemical resistance requirements.

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### RECOMMENDED SUBSTRATE CONDITIONS AND TEMPERATURES

#### **Concrete**

- All surfaces must be sound, dry, clean, free of oil, grease, dirt, mildew, curing compounds, loose and flaking paint, and other foreign substances
- New concrete must cure a minimum of 28 days prior to application
- Prepare in accordance with SSPC SP-13 guidelines
- Abrade surface to achieve a surface profile equivalent to CSP 3 to CSP 5 in accordance with ICRI 310.2R-2013
- Moisture vapor transmission should be less than 20 lbs. over a 1000 sq. ft. area during a 24 hour period, measured and confirmed through a calcium chloride test per ASTM F1869 or less than 95% per ASTM F2170.
- Direct to concrete, prepare surface by mechanical means to achieve a minimum CSP of 2-3 to meet ICRI standard guideline #03732 for coating concrete.

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#### **Metal**

- Abrasive blast with an angular abrasive to an SSPC SP-10 cleanliness or higher. Achieve a surface profile of 2.0 - 3.0 mils (50 - 76 µm) or higher
- Ensure surface is dust free after blasting

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#### **Substrate temperature and application conditions**

- Ambient temperature during application and curing should be above 20°F (-6°C)
- Do not apply to frozen concrete or high moisture content substrates, as this will affect coating adhesion and long term performance
- Not used for constant immersion environments

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### SYSTEM SPECIFICATION

- Product is self priming and typically does not require an additional priming coat. In cases where primers are required, please use the recommended primers below.
- Primer for metal surfaces: PPG AQUATAPOXY® 190 Primer
- If substrate is particularly porous, one of the following primers is recommended: PPG RAVEN® 175 Primer, PPG RAVEN® 171 Primer, PPG VERSAFLEX® 915 Primer, or PPG VERSAFLEX® 920 Primer
- Moisture mitigating primers for concrete slabs: PPG Flooring 912 LV primer or PPG RAVEN® 175 primer

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## INSTRUCTIONS FOR USE

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

- Mix Part A and Part B together using a paint paddle or low speed drill mixer, without leaving air bubbles
  - If pigment was ordered separately, add to Part B and mix thoroughly before adding to Part A
  - Properly mixed material will be a uniform color without light or dark spots
  - Apply immediately after mixing
  - Mix Part A and Part B together using a paint paddle or low speed drill mixer, without leaving air bubbles
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### **Application**

- Apply by airless spray or roller application
- Product working time is 10 - 12 minutes at 70°F (21°C)
- Within overcoating time, apply an additional coat at 10 mils (250 µm)
- Optional: A third coat may be applied at 10 mils (250 µm) for additional UV-protection
- If a non-slip surface is desired, apply a 10 mils (250 µm) coat of product and then broadcast with aggregate, as required
- Alternatively, a suitable fine aggregate may be broadcast onto the topcoat and back-rolled to provide a more anti-slip profile
- Product should be applied in multi-directional (north-south, east-west) motion to ensure proper coating thickness

### Notes:

- Minimum surface and air temperature for application is 20°F (-7°C)
  - Do not apply to frozen concrete substrates with high moisture content, as will affect coating adhesion and long-term performance
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### **Pot life**

15 minutes at 70°F (21°C)

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**Airless spray**

- 7/8 HP/min

**Recommended thinner**

Acetone

**Volume of thinner**

5 - 15%

**Nozzle angle**

30° - 45°

**Nozzle orifice**

0.017 - 0.021 in (approx. 0.43 - 0.53 mm)

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**Brush/roller**

- Use a lint-free 1/4 or 3/8 in (6.4 - 9.5 mm) nap depending on surface texture
- Use a napless, phenolic core roller with a long handle and roll evenly in one direction
- Pour mixed material out in a ribbon
- Spread with a notch- or smooth-blade squeegee (depending on floor texture)
- Roll with 1/4 or 3/8 inch (6.4 - 9.5 mm) nap roller in two directions for even application

**Recommended thinner**

Acetone

**Volume of thinner**

5 - 15%

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**Cleaning solvent**

- MEK
  - Acetone
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**Cleaning procedure**

- Cured component material (Part A and Part B) may be disposed without restriction
  - Excess component material (Part A and Part B) should be mixed together and disposed in a normal manner
  - Product containers that are 'drip free' may be disposed according to local, state and federal laws
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## ADDITIONAL DATA

Additional drying/curing details	
Characteristic	Value
Gel time at 72°F (22°C)	20 - 30 minutes
Tack free time at 72°F (22°C)	45 - 75 minutes

Physical data of cured material	
Characteristic	Value
Tensile Strength (ASTM D638)	3500 psi (24.1 MPa)
Tensile Elongation (ASTM D638)	5%
Hardness, Shore D (ASTM D2240)	60
Tear Strength (Die C, ASTM D624)	400 pli
Taber Abrasion (ASTM D4060, H-18 wheel, 1 kg load, 1,000 cycles)	350
Taber Abrasion (ASTM D4060, CS-17 Wheel, 1 kg load, 1,000 cycles)	20

Spreading rate and film thickness	
DFT	Theoretical spreading rate
10.0 mils	160 ft <sup>2</sup> /US gal (49m <sup>2</sup> /l)
16.0 mils	100 ft <sup>2</sup> /US gal (30 m <sup>2</sup> /l)

Curing Time		
Substrate temperature	Light traffic	Heavy traffic
72°F (22°C)	3 hours	7 days

## DISCLAIMER

- 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.
- For industrial or professional use only
- Chemical resistance properties shown on the data sheet are for general information only. Always check with PPG PMC Technical Support to verify resistance to the specific chemical exposure for the service being considered.



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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.

### REFERENCES

- Information sheet | Explanation of product data sheets

### 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.

### AVAILABILITY OF PACKAGING

#### Packaging

- 2-gallon kits
- 10-gallon kits