PPG AQUATAFLEX® 505

DESCRIPTION

100% solids epoxy/polyurethane/polyurea hybrid coating designed for fast curing and high chemical resistance

PRINCIPAL CHARACTERISTICS

- USDA BioPreferred® certified bio-based product
- Meets NSF/ANSI Standard 61 for potable water tanks and pipes
- Excellent chemical resistance
- Meets the requirements of AWWA C222
- USDA/FSIS acceptable
- Surface tolerant and hydrophobic
- TYPICAL USES:
- Wastewater structures, buried pipelines, tanks and other corrosive environments
- Potable water tanks, reservoirs, basins and pipes
- Primary or secondary containment applications

COLOR AND GLOSS LEVEL

- Tan
- Semi-gloss

Notes:

- Color changes can occur under UV-exposure without negative impact on the product performance
- Listed colors are standard available colors for finished product.

BASIC DATA AT 72°F (22°C)

Data for mixed product	
Number of components	Two
Mass density	10.1 lb/US gal (1.2 kg/l)
Volume solids	100 ± 2%
VOC (Supplied)	EPA Method 24: 0.0 lb/US gal (4.7 g/l)
Recommended dry film thickness	20.0 - 300.0 mils (508 - 7620 µm) per coat
Theoretical spreading rate	81 ft^2/US gal for 20.0 mils (2.0 m^2/l for 508 µm) 5 ft^2/US gal for 300.0 mils (0.1 m^2/l for 7620 µm)
Dry to touch	3 minutes
Overcoating Interval	Minimum: Not applicable Maximum: 12 hours
Curing time	24 hours
Full cure after	14 days

Notes:

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- See ADDITIONAL DATA – Spreading rate and film thickness
- If overcoat time is exceeded, abrade and clean surface before recoating
- Curing time reflects ready for service time
- The shelf life for the unmixed components (Part A and Part B) for this product is 6 months at 70°F (21°C).
- 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)

RECOMMENDED SUBSTRATE CONDITIONS AND TEMPERATURES

Steel (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-10 cleanliness or higher. Achieve a surface profile of 3.0 – 5.0 mils (75 – 125 µm)
- Ensure surface is dust free after blasting

Steel (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 or higher. Achieve a surface profile of 2.5 – 4.0 mils (65 – 100 µm)
- Ensure surface is dust free after blasting

Concrete / Masonry

- All surfaces must be sound, dry, clean, free of oil, grease, dirt, mildew, curing compounds, loose and flaking paint, and other foreign substances
- Abrade surface to achieve a surface profile equivalent to CSP 3 to CSP 5 in accordance with ICRI 310.2R-2013
- Prepare in accordance with SSPC SP-13 guidelines
- Concrete pH must be 7.0 or higher
- Existing pipelines may have to be cleaned first by scraper pigs and solvents

Ductile iron

- 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

Substrate temperature and application conditions

- Substrate temperature during application should be between 40°F (4°C) and 140°F (60°C)
- Relative humidity should not exceed 90%

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SYSTEM SPECIFICATION

- Primer for concrete: PPG RAVEN® 175 Primer, PPG RAVEN® 171FS Primer, PPG VF20 Primer
- Primer for Carbon Steel: PPG AQUATAPOXY® 190 Primer*
- Primer for non-ferrous metals: PPG AQUATAPOXY® 190 Primer*
- Tie-Coat: PPG RAVEN® 161 Primer
- Recommended DFT for Steel (Immersion): 20-40 mils (0.5-1.0 mm)

Note:

- *Do not use this primer if immersion temperatures will exceed 140°F (60°C)

INSTRUCTIONS FOR USE

Mixing ratio by volume: Part A to Part B 1:3

- Material requires heated plural component airless spray set-up
- Part A does not require pre-mixing.
- Part B component must be thoroughly mixed 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
- Mix for at least 30 minutes prior to processing
- Properly mixed material will be a uniform color without light or dark spots

Airless spray – Plural component

- 3:1 Heated Plural Component Spray system is recommended
- Material and equipment temperatures must be kept at 70°F (21°C) or above
- A drum mixer is required for Part B component
- Limit fluid hose length to 30 feet (9 meters)
- Recommended tip size: 531-535

Recommended thinner

No thinner should be added

Nozzle orifice

Approx. 0.031 in – 0.035 in (0.78 – 0.89 mm)

Note:

- Prior to spraying, drums need to be pre-heated to a minimum of: Part A 80°F (27°C); Part B 120°F (49°C)

Cleaning solvent

- MEK

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ADDITIONAL DATA

Physical data of cured material	
Characteristic	**Value**
Tensile Strength (ASTM D638)	>2,000 psi (>13.8 MPa)
Tensile Elongation (ASTM D638)	>50%
Hardness, Shore A (ASTM D2240)	95
Hardness, Shore D (ASTM D2240)	>60
Moisture Vapor Transmission (ASTM D1653)	25 g/m²
Adhesion to Steel (ASTM D4541)	>1,500 psi (>10.3 MPa)
Taber Abrasion (ASTM D4060, CS-17 Wheel, 1 kg load, 1,000 cycles)	46 mg loss
Tear Strength (Die C, ASTM D624)	175 pli
Pickle Jar (Greenbook 211-2)	Pass
SWAT - Severe Wastewater Analysis Test (ASTM G210)	Pass
Water Absorption (ASTM D570)	0.17%
Shrinkage	0.5%

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.

Spreading rate and film thickness	
DFT	**Theoretical spreading rate**
20.0 mils (508 µm)	81 ft²/US gal (2.0 m²/l)
60.0 mils (1524 µm)	27 ft²/US gal (0.7 m²/l)
80.0 mils (2032 µm)	20 ft²/US gal (0.5 m²/l)
100.0 mils (2540 µm)	16 ft²/US gal (0.4 m²/l)
125.0 mils (3175 µm)	13 ft²/US gal (0.3 m²/l)
300.0 mils (7620 µm)	5 ft²/US gal (0.1 m²/l)

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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.
- PPG Protective & Marine Coatings does not accept any responsibility or liability for any odor, taste or contamination imparted to the drinking water from the coatings or products retained in the coating

SAFETY PRECAUTIONS

- Although this is a solvent-free paint, care should be taken to avoid inhalation of spray mist, as well as contact between the wet paint and exposed skin or eyes
- 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

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