

PPG RAVEN® 405 UFS Epoxy

DESCRIPTION

Two-component, 100% solids high-build epoxy formulated to minimize downtime

PRINCIPAL CHARACTERISTICS

- Ultra-high build characteristics
- Fast set
- Typically allows lateral flow to the invert area 15 minutes after application
- Excellent chemical resistance
- Bonds to dry and damp concrete
- Acceptable for both new and existing structures
- TYPICAL USES:
- Rehabilitation of deteriorated manhole benches and inverts

COLOR AND GLOSS LEVEL

- Light blue
- Part A is White, Part B is Blue; Mixed product is Light Blue
- Semi-gloss

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	10.0 lb/US gal (1.2 kg/l)
Volume solids	100%
VOC (Supplied)	EPA Method 24: 0.0 lb/US gal (0.5 g/l)
Recommended dry film thickness	30.0 - 250.0 mils (762 - 6350 µm) per coat
Theoretical spreading rate	54 ft ² /US gal for 30.0 mils (1.3 m ² /l for 750 µm) 6 ft ² /US gal for 250.0 mils (0.2 m ² /l for 6250 µm)
Dry to touch	8 minutes
Overcoating Interval	Minimum: Coating should no longer leave residue when touched with a gloved finger Maximum: 1 Hour
Curing time	15 minutes
Shelf life	Part A: at least 12 months when stored cool and dry Part B: at least 12 months when stored cool and dry



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Notes:

- Recommended dry film thickness dependent on substrate and service conditions
- If overcoat time is exceeded, abrade and clean surface before recoating
- Curing time reflects ready for service time
- 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 80°F (27°C).

RECOMMENDED SUBSTRATE CONDITIONS AND TEMPERATURES

Concrete / Masonry

- 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.
- 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

Substrate temperature and application conditions

- Substrate temperature during application should be between 50°F (10°C) and 120°F (49°C)

INSTRUCTIONS FOR USE

Mixing ratio by volume: Part A to Part B 3:2

- Product is sold in pre-measured containers at the required ratio
- Mix Part A and Part B separately to ensure uniformity. Then thoroughly mix the entire contents of both parts of the kit together
- Pour Part B into Part A container and mix 30-45 seconds with a mechanical jiffy-type mixer or large paint stir stick, until homogeneous
- Properly mixed material will be a uniform color without light or dark spots
- The temperature of the unmixed material should not be above 120°F (48°C)

Application

- When coating inverts and benches in manholes, stop the water flow and allow concrete to dry as much as possible

Pot life

3.5 minutes at 72°F (22°C)

Notes:

- Listed pot life is for one US gallon (3.8 L) quantity
- When applying to cool concrete substrates, the work life may be extended if the material is mixed and immediately emptied out of the containers
- Longer pot life is possible by mixing smaller amounts and in order to prevent material waste

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Trowel

- Pour mixed material on the substrate and spread and trowel to the desired finish using typical concrete finishing tools

Recommended thinner

No thinner should be added

Cleaning solvent

- MEK, acetone, or xylene

ADDITIONAL DATA

Physical data of cured material	
Characteristic	Value
Tensile Strength (ASTM D638)	>7,600 psi (>52 MPa)
Tensile Elongation (ASTM D638)	1.5%
Compressive Strength (ASTM D695)	>16,000 psi (>110 MPa)
Flexural Strength (ASTM D790)	>13,000 psi (>89 MPa)
Hardness, Shore D (ASTM D2240)	88
Adhesion to Concrete (ASTM D7234)	To substrate failure

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 for Parts A, B & C	
DFT	Theoretical spreading rate
30.0 mils (762 µm)	53 ft ² /US gal (1.3 m ² /l)
80.0 mils (2032 µm)	20 ft ² /US gal (0.5 m ² /l)
100.0 mils (2540 µm)	16 ft ² /US gal (0.4 m ² /l)
125.0 mils (3175 µm)	13 ft ² /US gal (0.3 m ² /l)
250.0 mils (6350 µm)	6 ft ² /US gal (0.2 m ² /l)



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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 PMC representative for specific instructions and in order to make sure that the product performance can be safeguarded.
- For industrial or professional use only
- 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

- 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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