

AMERLOCK® 400 NT

DESCRIPTION

High Solids Epoxy Coating

PRINCIPAL CHARACTERISTICS

- Suitable for nuclear environments that require radiation tolerance and decontaminable surfaces
- Tested in accordance with ANSI N101.2, ANSI N5.12, ASTM D5144, ASTM D3911 and the specific requirements of Westinghouse AP 1000
- Qualified for various nuclear Level 1 applications on steel and concrete
- Qualified repair coating for various nuclear qualified systems
- VOC compliant

COLOR AND GLOSS LEVEL

- White, Pearl Gray, Safety Colors, Select RAL Colors
- Semi-gloss

Note: Epoxy coatings will characteristically chalk and fade upon exposure to sunlight. Light colors are prone to ambering to some extent

BASIC DATA AT 68°F (20°C)

Data for mixed product	
Number of components	Two
Volume solids	75 ± 4%
VOC (Supplied)	max. 1.5 lb/US gal (approx. 180 g/l)
Temperature resistance (Continuous)	To 200°F (93°C)
Temperature resistance (Intermittent)	To 350°F (177°C)
Recommended dry film thickness	4.0 - 8.0 mils (100 - 200 µm) depending on system
Theoretical spreading rate	301 ft ² /US gal for 4.0 mils (7.4 m ² /l for 100 µm)
Shelf life	Base: at least 24 months when stored cool and dry Hardener: at least 24 months when stored cool and dry

Notes:

- See ADDITIONAL DATA - Overcoating intervals
- See ADDITIONAL DATA - Curing time
- Color will drift at elevated temperatures
- Intermittent temperature resistance should be less than 5% of the time, and maximum 24 hours

RECOMMENDED SUBSTRATE CONDITIONS AND TEMPERATURES

- Coating performance is, in general, proportional to the degree of surface preparation
- Refer to specific qualification tests for approved surface preparation methods for particular applications



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Steel

- Remove weld spatter, protrusions, and laminations in steel. Grind welds smooth in accordance with NACE RP-0178
- Remove all surface contaminants, oil and grease in accordance with SSPC SP-1
- Abrasive blast clean to SSPC-SP10 (ISO8501-1 Sa 2.5). Blast with an angular abrasive to achieve an anchor profile of 1.5 – 4.0 mils (38 – 100 µm) as indicted by a Keane-Tator Surface profile Comparator or Testex Tape
- For atmospheric service, abrasive blast to SSPC SP-6 standards
- For maintenance and repair in atmospheric service, the product can be applied over surfaces prepared in accordance with SSPC SP-2 or SSPC SP-3 (hand and power tool cleaning).

Concrete

- Prepare in accordance with SSPC SP-13 guidelines
- Abrade surface per ASTM D-4259 to remove all efflorescence and laitance, to expose subsurface voids, and to provide a surface roughness equivalent of 60 grit sandpaper or coarser
- Test for moisture by conducting a plastic sheet test in accordance with ASTM D4263
- For slabs on grade, test for moisture in accordance with ASTM F1869 (calcium chloride test)
- Slabs on grade should have a maximum moisture content of 3 lbs / 1,000 ft²/24 hours when measured by calcium chloride test
- Surface should be free from moisture in accordance with ASTM D4263. Refer to Information Sheet # 1496ACUS for further details regarding moisture measurements

Aged coatings and repairs

- Ensure the coating system is sound and well adhered
- Do not apply over acrylic coatings or coatings that exhibit poor solvent resistance
- A test patch is recommended to determine compatibility and adhesion
- Sweep blast or otherwise thoroughly abrade the existing coating in accordance with SSPC SP-7
- Feather the edges of tightly adhered, in-tact coatings at the perimeter of repair areas
- Power tool clean the existing steel in accordance with SSPC SP-3 (atmospheric service) or SSPC SP-11 (immersion service)

Substrate temperature and application conditions

- Surface temperature during application should be between 50°F (10°C) and 122°F (50°C)
- Surface temperature during application should be at least 5°F (3°C) above dew point
- Ambient temperature during application and curing should be between 50°F (10°C) and 122°F (50°C)
- Relative humidity during application should be above 0% and below 85%

INSTRUCTIONS FOR USE

Mixing ratio by volume: base to hardener 50:50 (1:1)

- Pre-mix base component with a pneumatic air mixer at moderate speeds to homogenize the container. Add hardener to base and agitate with a power mixer for 1–2 minutes until completely dispersed

Induction time

None



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Pot life

2.5 hours at 70°F (21°C)

Note: See ADDITIONAL DATA – Pot life

Application

- Area should be sheltered from airborne particulates and pollutants
- Ensure good ventilation during application and curing
- Provide shelter to prevent wind from affecting spray patterns
- Avoid combustion gases or other sources of carbon dioxide that may promote amine blush and ambering of light colors

Material temperature

Material temperature during application should be between 50°F (10°C) and 90°F (32°C)

Air spray**Recommended thinner**

Amercoat 65N

Volume of thinner

0 - 20%

Nozzle orifice

Approx. 0.070 in (1.8 mm)

Airless spray

- 45:1 pump or larger
- Can be applied with plural component equipment

Recommended thinner

Amercoat 65N

Volume of thinner

0 - 5%, depending on required thickness and application conditions

Nozzle orifice

0.017 – 0.019 in (approx. 0.43 – 0.48 mm)

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Brush/roller

- Use a high quality natural bristle brush and/or solvent resistant, 3/8" nap roller. Ensure brush/roller is well loaded to avoid air entrainment. Multiple coats may be necessary to achieve adequate film-build

Recommended thinner

Amercoat 65N

Volume of thinner

Up to 5% THINNER can be added if desired

Cleaning solvent

AMERCOAT 12 CLEANER or AMERCOAT 65 THINNER (xylene)

ADDITIONAL DATA

Overcoating interval for DFT up to 6.0 mils (150 µm)							
Overcoating with...	Interval	50°F (10°C)	60°F (16°C)	70°F (21°C)	80°F (27°C)	90°F (32°C)	100°F (38°C)
Itself and recommended topcoats	Minimum	30 hours	24 hours	16 hours	12 hours	8 hours	4 hours
	Maximum	30 days	30 days	30 days	30 days	30 days	30 days

Notes:

- The addition of Amercoat 861N epoxy accelerator to Amerlock 400NT at a level of 1 pint per 5 gallons mixed will reduce the minimum and maximum overcoat times by one half.
- Dry times are dependent on air and surface temperatures as well as film thickness, ventilation, and relative humidity. Maximum recoating time is highly dependent upon actual surface temperatures – not simply air temperatures. Surface temperatures should be monitored, especially with sun-exposed or otherwise heated surfaces. Higher surface temperatures shorten the maximum recoat window

Curing time for DFT up to 6.0 mils (150 µm)		
Substrate temperature	Dry to touch	Dry to handle
50°F (10°C)	24 hours	40 hours
70°F (21°C)	9 hours	20 hours
90°F (32°C)	4.5 hours	12 hours
100°F (38°C)	3 hours	9 hours

Notes:

- Adequate ventilation must be maintained during application and curing
- Drying times are dependent on air and steel temperature, applied film thickness, ventilation and other environmental conditions



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Pot life (at application viscosity)	
Mixed product temperature	Pot life
50°F (10°C)	4 hours
70°F (21°C)	2.5 hours
90°F (32°C)	90 minutes

SAFETY PRECAUTIONS

- For paint and recommended thinners see INFORMATION SHEETS 1430, 1431 and relevant Material Safety Data Sheets
- This is a solvent-borne paint and care should be taken to avoid inhalation of spray mist or vapor, as well as contact between the wet paint and exposed skin or eyes

WORLDWIDE AVAILABILITY

It is always the aim of PPG Protective and 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

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| • CONVERSION TABLES | INFORMATION SHEET | 1410 |
| • EXPLANATION TO PRODUCT DATA SHEETS | INFORMATION SHEET | 1411 |
| • SAFETY INDICATIONS | INFORMATION SHEET | 1430 |
| • SAFETY IN CONFINED SPACES AND HEALTH SAFETY, EXPLOSION HAZARD – TOXIC HAZARD | INFORMATION SHEET | 1431 |

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Packaging: Available in 2-gallon and 5-gallon kits; (2-gallon kits have 1 full gallon of base and 1 full gallon of hardener; 5 gallon kits have 2.5 gallons of base and 2.5 gallons of hardener)

Product code	Description
AK400N3	White Base
AK400N23	Pearl Gray Base
AK400N-B	Hardener

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