AMERCOAT® 133

DESCRIPTION

Solvent Free Cycloaliphatic Amine Tank Lining

PRINCIPAL CHARACTERISTICS

- Excellent chemical, solvent, and water immersion resistance
- Meets NSF/ANSI Standard 61 for potable water when applied and used as described on www.http://www.nsf.org/
- Can be applied up to 1/2" on horizontal surfaces
- Available with optically active pigment to facilitate inspection of holidays

COLOR AND GLOSS LEVEL

- White, Oxide Red, Tank Primer Green (optically active pigment)
- Gloss

Note: Epoxies will chalk and change color with exterior exposure. Colors are approximately and will tend to change over time.

BASIC DATA AT 68°F (20°C)

Data for mixed product	
Number of components	Two
Volume solids	98 ± 2%
VOC (Supplied)	max. 0.6 lb/US gal (approx. 72 g/l)
Recommended dry film thickness	6.0 - 20.0 mils (150 - 500 µm) depending on system
Theoretical spreading rate	262 ft^2/US gal for 6.0 mils (6.5 m^2/l for 150 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

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RECOMMENDED SUBSTRATE CONDITIONS AND TEMPERATURES

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 with an angular abrasive to an SSPC SP-10 cleanliness or higher. Achieve a surface profile of 2.0 – 4.0 mils (50 – 100 µm)
- Amercoat 884 fumed silica addtiive may be mixed into the Amercoat 133 at a rate of 0.5 lbs per mixed gallon to create a trowelable pit fillller. Use only enough Amercoat 884 additive to achieve the required workability and sag resistance. Wearing the proper NIOSH dust respirator, sift Amercoat 884 into the Amercoat 133 under mechanical agitation until uniformly mixed. Apply to pitted steel using a spatula, putty knife, or trowel. Refer to the Amercoat 884 data sheet for further details.
- AMERCOAT 114 A may be used as a pit filler for certain applications. Check with PPG Technical Service for guidance on chemical resistance
- Check with PPG technical service for the maximum allowable soluble salt level for water immersion service. This will vary based on the water chemistry and service temperatures

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
- Fill voids as necessary with AMERCOAT 114 A epoxy filler

Galvanized steel

- Remove oil or soap film with detergent or emulsion cleaner
- Lightly abrasive blast with a fine abrasive in accordance with SSPC SP-16 guidelines to achieve a profile of 1.5 – 3.0 mils (38 – 75 µm). When light abrasive blasting is not possible, galvanizing can be treated with a suitable zinc phosphate conversion coating.
- Galvanizing that has at least 12 months of exterior weathering and has a rough surface with white rust present may be over-coated after power washing and cleaning to remove white rust and other contaminants
- The surface must have a measurable profile
- A test patch is recommended to determine compatibility and adhesion
- Not recommended over chromate sealed galvanizing without blasting to thoroughly remove chromates. Adhesion problems may occur

Non-ferrous metals and stainless steel

- Abrasive blast in accordance with SSPC SP-16 guidelines to achieve a uniform and dense 1.5-4.0 mil anchor profile. Size and hardness of abrasive should be adjusted as necessary based on the hardness of the substrate
- Aluminum may be treated with a surface treatment compliant with Mil-DTL-5541 or equivalent (non-immersion applications only).

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Substrate temperature and application conditions

- Surface temperature during application should be between 50°F (10°C) and 100°F (38°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 100°F (38°C)
- Relative humidity during application should be between 0% and 85%

INSTRUCTIONS FOR USE

Mixing ratio by volume: base to hardener 80:20 (4:1)

- Pre-mix pigmented components 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

Mixed product induction time	
Mixed product temperature	**Induction time**
50°F (10°C)	15 minutes
60°F (16°C)	10 minutes
Above 70°F (21°C)	None

Pot life

2 hours at 70°F (21°C)

Note: See ADDITIONAL DATA – Pot life

Application

- Area should be sheltered from airborne particulates and pollutants
- Avoid combustion gases or other sources of carbon dioxide that may promote amine blush.
- Ensure good ventilation during application and curing
- For tank lining, dehumidification equipment is highly recommended
- Provide shelter to prevent wind from affecting spray patterns
- Bulletin #1489 for further information on prevention, detection, and removal of amine blush
- Refer to INFORMATION SHEET 1434 for more details on ventilation requirements for tank lining applications

Material temperature

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

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Airless spray

- Use a 64:1 or 72:1 pump or larger with a maximum of 50 feet of 3/8" fluid hose and 10 feet of 3/8" whip. Heated and insulated lines may be required in cold weather
- Material temperature at the gun should be 75-95°F

Recommended thinner
No thinner should be added

Nozzle orifice
0.017 – 0.021 in (approx. 0.43 – 0.53 mm)

Nozzle pressure
24.1 - 27.6 MPa (approx. 242 - 276 bar; 3500 - 4000 p.s.i.)

Note: Length of hoses should be as short as possible

Airless spray: Plural component

- Use a 3/8", 24-element static mixer and maintain 95-115°F at the gun. Use insulated 1/2" lines for greater than 50'

Recommended thinner
No thinner should be added

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

Nozzle pressure
24.1 - 27.6 MPa (approx. 242 - 276 bar; 3500 - 4000 p.s.i.)

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
- Spray application is required for tank linings with the exception of stripe coating and application for small repair areas

Recommended thinner
No thinner should be added

Cleaning solvent
Amercoat 12 Cleaner (Thinner 90-58)

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ADDITIONAL DATA

Spreading rate and film thickness	
DFT	**Theoretical spreading rate**
1.0 mils (25 µm)	1600 ft²/US gal (31.2 m²/l)
16.0 mils (400 µm)	100 ft²/US gal (2.0 m²/l)

Overcoating interval for DFT up to 12.0 mils (300 µm)					
Overcoating with...	**Interval**	**50°F (10°C)**	**70°F (21°C)**	**90°F (32°C)**	**120°F (49°C)**
itself	Minimum	26 hours	10 hours	6 hours	2 hours
	Maximum	30 days	30 days	7 days	48 hours

Notes:

- 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
- Surface must be clean and dry. Any contamination must be identified and removed. A detergent wash with PREP 88 or equivalent is required prior to application of topcoats after 30 days of exposure. However, particular attention must be paid to surfaces exposed to sunlight where chalking may be present. In those situations, a further degree of cleaning may be required. PPG Technical Service can advise on suitable cleaning methods. If maximum recoat/topcoat time is exceeded, then roughen surface.

Curing time for DFT up to 12.0 mils (300 µm)		
Substrate temperature	**Dry hard**	**Dry to service**
50°F (10°C)	36 hours	14 days
60°F (16°C)	30 hours	10 days
70°F (21°C)	24 hours	7 days
90°F (32°C)	14 hours	4 days
95°F (35°C)	12 hours	3.5 days
100°F (38°C)	10 hours	48 hours

Note: For curing requirements for NSF potable water certification, please see up-to-date listing at www.nsf.org .

Pot life (at application viscosity)	
Mixed product temperature	**Pot life**
50°F (10°C)	4 hours
70°F (21°C)	2 hours
90°F (32°C)	1 hour

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Heat cure procedures

- Allow the final coat of the lining to achieve a dry hard condition prior to heating above 120°F (49°C)
- Do not heat cure until after holiday detection has been accomplished (when specified)
- Ramp heat at a rate of no greater than 2°F (1.5°C) per minute until the target steel temperature is reached
- Surface temperatures must be measured at various elevations from top to bottom and in each cardinal direction. The lowest surface temperature must meet the minimum time/temperature requirements of the heat cure schedule. Record all temperatures

Force Cure Schedule Based on Steel Temperature Readings	
Temperature	**Cure to service**
110°F (43°C)	60 hours
120°F (49°C)	48 hours
130°F (54°C)	36 hours
140°F (60°C)	24 hours
150°F (66°C)	18 hours
160°F (71°C)	12 hours

Product Qualifications

- Mil-PRF-23236 (D) Type VII, Classes 5,7, and 9, Grade C
- Qualified for ANSI/NSF Standard 61 (potable water). For NSF application instructions, please visit the following website: http://www.nsf.org/certified-products-systems/
- AWWA D102-06

SAFETY PRECAUTIONS

- For paint and recommended thinners see INFORMATION SHEETS 1430, 1431 and relevant Material Safety Data Sheets

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

• CONVERSION TABLES	INFORMATION SHEET	1410
• EXPLANATION TO PRODUCT DATA SHEETS	INFORMATION SHEET	1411

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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.

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Packaging: Available in 1-gallon and 5-gallon kits

Product code	Description
AT133-5	Tank Primer Green
AT133-3	White
AT133-72	Oxide Red
AT133-B	Hardener
AT884	Thixotropic additive

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