PPG Protective & Marine Coatings

Amercoat 240, Phenylalkylamine Epoxy Anti-corrosive / Tank Lining

PRODUCT DESIGNATIONS

Amercoat 240

MIL-PRF-23236
MIL-PRF-24647
MIL-PRF-32584
MIL-PRF-32171

If this product is to be applied as part of a coating system, all components of the system must be as listed on the QPL.

This NAVSEA-REVIEWED ASTM F-718 data sheet is the only data sheet approved for use when utilizing this coating for U.S. Navy preservation projects. NAVSEA's review covers only the application process for the material. The review does not denote the material as a qualified product, nor does it constitute an approval for purchase/procurement of the material. For products on the Qualified Products List (QPL) for this MILSPEC, please refer to https://qpldocs.dla.mil/search/default.aspx.

Questions regarding modifications or updates of this ASTM F-718 shall be directed toward:

NSWCPD

NSWCPD_ASTM_F718.fct@navy.mil

I. GENERIC TYPE AND DESCRIPTION: Phenylalkylamine Epoxy Anti-corrosive / Tank Lining Date: 15 Sep 2022
Specification Number: MIL-PRF-23236, MIL-PRF-24647, MIL-PRF-32584, MIL-PRF-32171
NOTE: For Type/Grade/Class/Application information see QPD-23236, QPD-24647, QPD-32584, QPD-32171

II. MANUFACTURERS DATA:

(a) MANUFACTURER: PPG Protective & Marine Coatings 11605 Vimy Ridge Road, Alexander, AR 72002

(b) PRODUCT DESIGNATION: **Amercoat 240**

(c) COLOR(S): Oxide Red, Haze Gray (26270), Light Gray, Dark Gray, Pastel Green (24585), Tank Primer Green (with OAP pigment), Black (27038), Off White, Buff, Ocean Gray

(d) USES: Underwater hull, above water shipboard surfaces, ballast tanks, fuel tanks, bilge, AFFF decks

(e) TECHNICAL SERVICE REPRESENTATIVE: James McCarthy (404) 580-8046 James.McCarthy@ppg.com

III. PROPERTIES:

(a) PERCENT VOLUME SOLIDS (ASTM D2697): 87 ± 3 %

(b) PERCENT WEIGHT SOLIDS (ASTM D2369): 90 ± 3 %

(c) FLASH POINT (ASTM Test Method D93):

COMPONENT A: 122 °F (50 °C)

COMPONENT B: 138 °F (59 °C)

MIXED: 122 °F (50 °C)

(d) WEIGHT PER VOLUME (ASTM D1475):

COMPONENT A: 12.34 - 15.45 lb/gal (1479 - 1851 g/L)

COMPONENT B: 7.39 - 9.21 lb/gal (886 - 1103 g/L)

MIXED: 11.35 - 14.2 lb/gal (1360 - 1702 g/L)

(e) PERCENT EDGE RETENTION, IF REQUIRED BY APPLICABLE SPECIFICATION (MIL-PRF-23236 Appendix A): > 70 %

(f) SHELF LIFE: 36 Months

(g) VISCOSITY (ASTM D 562):

COMPONENT A : 80 - 120 KU (paste paddle) @ 25 °C (77 °F)

COMPONENT B : 60 - 110 KU (regular paddle) @ 25 °C (77 °F)

MIXED : 100 -135 KU (regular paddle) @ 25 °C (77 °F)

(h) PACKAGING: 1 gallon kits (0.8 gal part A + 0.2 gal part B), 5 gallon kits (4 gal part A and 1-gal part B) and 4:1 ratio cartridges

(i) NUMBER OF COMPONENTS: 2

(j) GLOSS (ASTM D523): 35-65 GU

(k) STORAGE REQUIREMENTS: TEMPERATURE: 40 °F (4 °C) MIN. 100 °F (38 °C) MAX.

ADDITIONAL PAINT STORAGE REQUIREMENTS: Product temperatures must be 70°F - 90°F during mixing and application.

(l) VOLATILE ORGANIC COMPOUNDS (VOCS- EPA TEST METHOD 24): 1.2 lb/gal (140 g/L)

(m) WEIGHT PER AREA OF DRY FILM AT 1 MIL THICKNESS: 0.0079 ± 3% lb/sq. ft. (38.57 ± 3% g/m²)

(n) SPECIAL PROPERTIES: Edge Retentive, Tank Primer Green color contains OAP

IV. SURFACE PREPARATION MINIMUM REQUIREMENTS:

(a) INITIAL CLEANLINESS: Abrasive Blast to SSPC-SP 10/NACE 2 or SSPC-SP WJ-2/NACE WJ-2 (L) Flash Rust when the surface has been previously prepared by abrasive blasting and a uniform, and dense 2.0 - 6.0 mil anchor profile exists.

(b) TOUCH-UP CLEANLINESS: Power tool clean to bare metal as per SSPC-SP 11.

(c) PROFILE (ASTM D 4417 Method B or C): 2 mils MIN. 5 mils MAX.

(d) SPECIAL INSTRUCTIONS: NA

(e) PRIMER REQUIREMENTS: Self-priming

(f) MAXIMUM ALLOWABLE CONDUCTIVITY (ISO 8502-6 BRESLE PATCH METHOD):

30 µS /cm for immersed areas, 70 µS /cm for non-immersed areas in accordance with NAVSEA Standard Item 009-32.

(g) MAXIMUM DEGREE OF FLASH RUSTING ALLOWED: Where specification allows for UHP water jetting: SSPC WJ-2 (L) for immersed areas and SSPC WJ-2 (M) for non-immersed areas as allowed by specification or as required by NAVSEA Standard Item 009-32.

SPECIAL SAFETY PRECAUTIONS:
Refer to Safety Data Sheets (SDS) for Each Component

V. MIXING PROCEDURES

(a) MIXING RATIOS BY WEIGHT: NA
BY VOLUME: 4 parts component A : 1 part component B

(b) INDUCTION TIME: 45 Minutes at 44°F or below, 30 minutes at 45° to 59°F, 15 minutes at 60°F to 79°F; >79°F 0 Minutes

(c) RECOMMENDED CLEANING SOLVENT (NO THINNING ALLOWED): T-10 solvent or Amercoat 12 Cleaner

(d) POT LIFE:

3 Hr(s) @ 50 °F (10 °C)
1.5 Hr(s) @ 70 °F (21 °C)
0.7 Hr(s) @ 86 °F (30 °C)
0.5 Hr(s) @ 100 °F (38 °C)

Graphs included on page: 9

(e) SPECIAL INSTRUCTIONS: The component A (epoxy) can have a false body which can be broken down with mechanical agitation. Thoroughly mix Part A with mechanical agitation (Jiffy-type power mixer) for at least 1 minute prior to mixing with Part B. Ensure the Part A Resin is uniform. Pour all of Part B into the pre-mixed Part A Resin. Mix with power agitation equipment until uniform and thoroughly combined.

VI. APPLICATION:

(a) ENVIRONMENTAL LIMITATIONS:

SUBSTRATE TEMPERATURE: 20°F (-7°C) MIN. 122°F (50°C) MAX.
AMBIENT TEMPERATURE: 20°F (-7°C) MIN. 110°F (43°C) MAX.
DIFFERENCE ABOVE THE DEW POINT: 5 °F (3 °C)
MAXIMUM PERCENT RELATIVE HUMIDITY: 85 %

(b) FILM THICKNESS (SSPC PA2-73T): PER COAT:

5 mils WET MIN. 15 mils WET MAX.
4 mils DRY MIN. 12 mils DRY MAX.

TOTAL SYSTEM:

4 mils DRY MIN. 24 mils DRY MAX.

(c) DRY TIMES (ASTM D1640):

Minimum Overcoat Window:

8 Hr(s) @ 50 °F (10°C)
5 Hr(s) @ 70 °F (21°C)
2 Hr(s) @ 90 °F (32°C)

Maximum Overcoat Window:

4320 Hr(s) @ 50 °F (10°C)
1440 Hr(s) @ 70 °F (21°C)
720 Hr(s) @ 90 °F (32°C)

Dry to Handle:

16 Hr(s) @ 50 °F (10°C)
10 Hr(s) @ 70 °F (21°C)
8 Hr(s) @ 90 °F (32°C)

Dry to Service:

240 Hr(s) @ 50 °F (10°C)
144 Hr(s) @ 70 °F (21°C)
72 Hr(s) @ 90 °F (32°C)

Graphs included on page 5-8 or additional information included on page 10

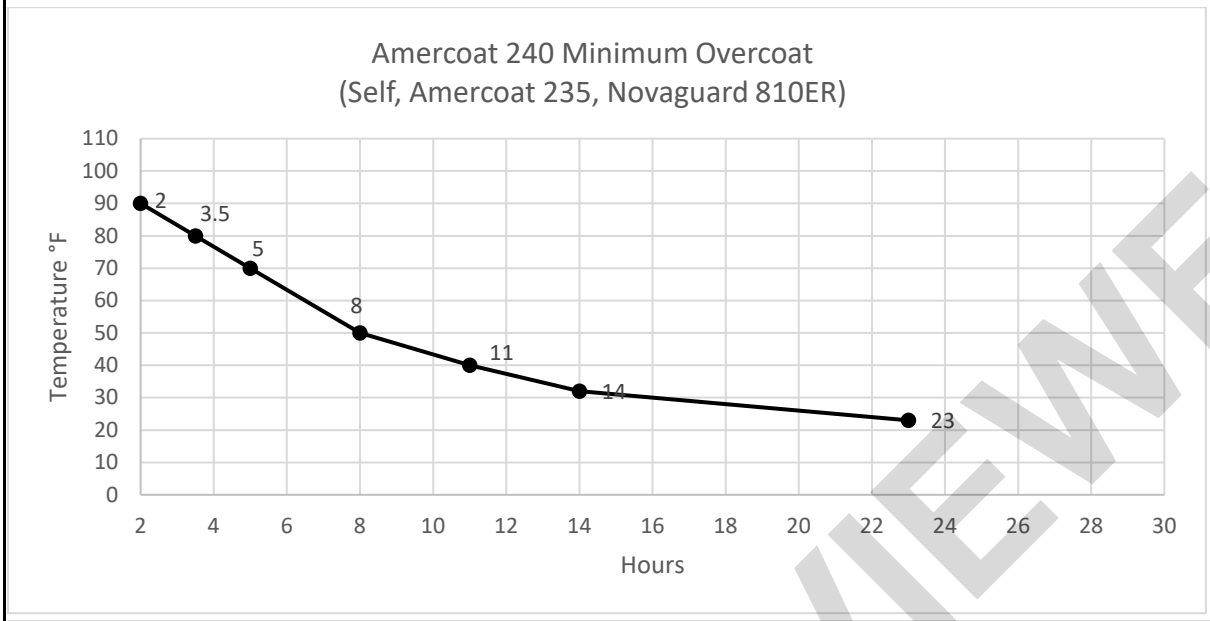
(d) EQUIPMENT REQUIREMENTS:
Airless – Heavy duty airless pump, 0.017" – 0.021" tip, 2500-3500 psi, keep fluid lines as short as possible.
Air – Fluid tip 0.070" – 0.086", Air cap #64
Solvent resistant, high quality brush or roller.
Heated plural component equipment may be used for application (though not required). The material temperature at the static mixer must be 100-120°F. The environmental conditions must be < 50% relative humidity and > 50°F for plural component application.

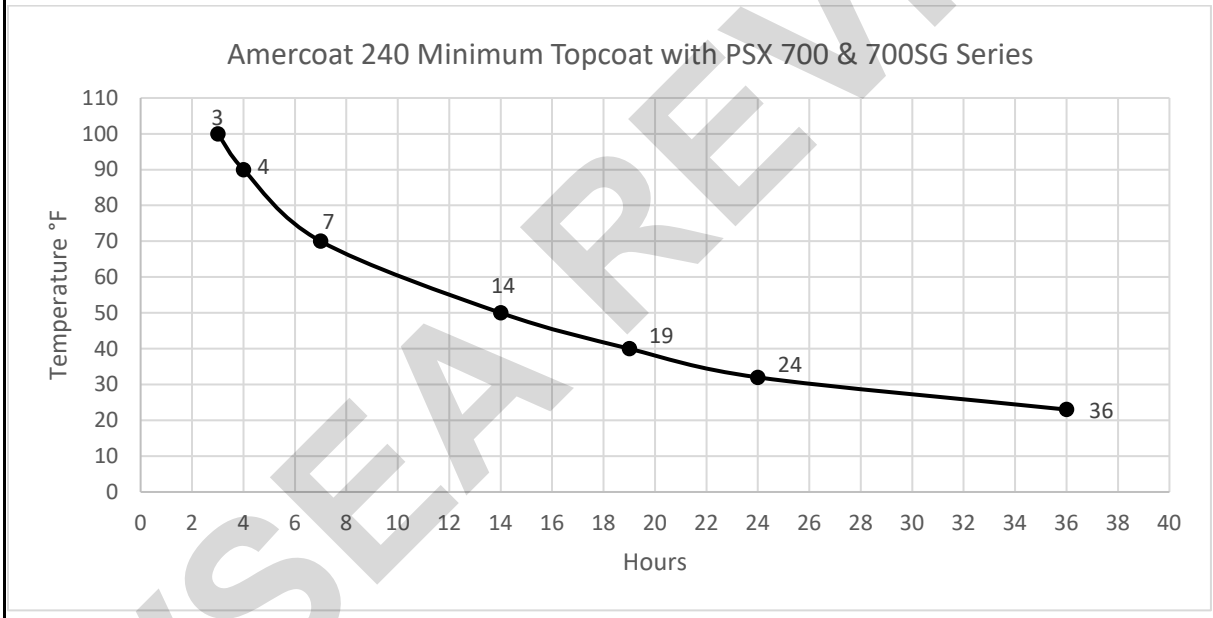
(e) SPECIAL INSTRUCTIONS: Minimum Total System Film Thickness of 4 mils dft is based upon a single coat. If two coats are required, then the minimum Total System Film Thickness is 8 mils dft. Consult PPG Technical Service Representative for additional recommendations for airless or plural equipment application.

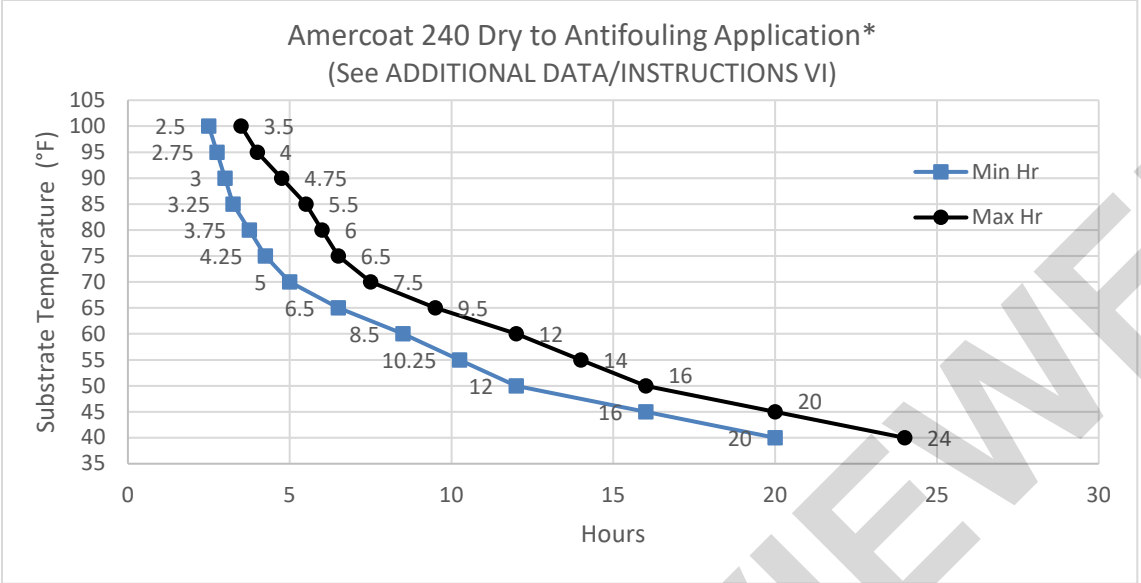
IF OVERCOAT WINDOW HAS BEEN EXCEEDED FOR CRITICAL APPLICATIONS: The surface should be mechanically abraded to produce a uniform and dense profile pattern in the film. Power or hand sand with medium grit sandpaper or sweep blast using an extra fine abrasive per SSPC-SP 7 guidelines. Clean the surface to remove any ambient contamination and particulates from abrading. Surface temperatures should be considered when determining maximum recoat periods. Dry times are guidelines. Excessive film thickness, poor ventilation, and excessive humidity can cause deviation.

IF OVERCOAT WINDOW HAS BEEN EXCEEDED FOR NON-CRITICAL APPLICATIONS: The surface should be mechanically abraded to produce a uniform and dense profile pattern in the film. Power or hand sand with medium grit sandpaper or sweep blast using an extra fine abrasive per SSPC-SP 7 guidelines. Clean the surface to remove any ambient contamination and particulates from abrading.

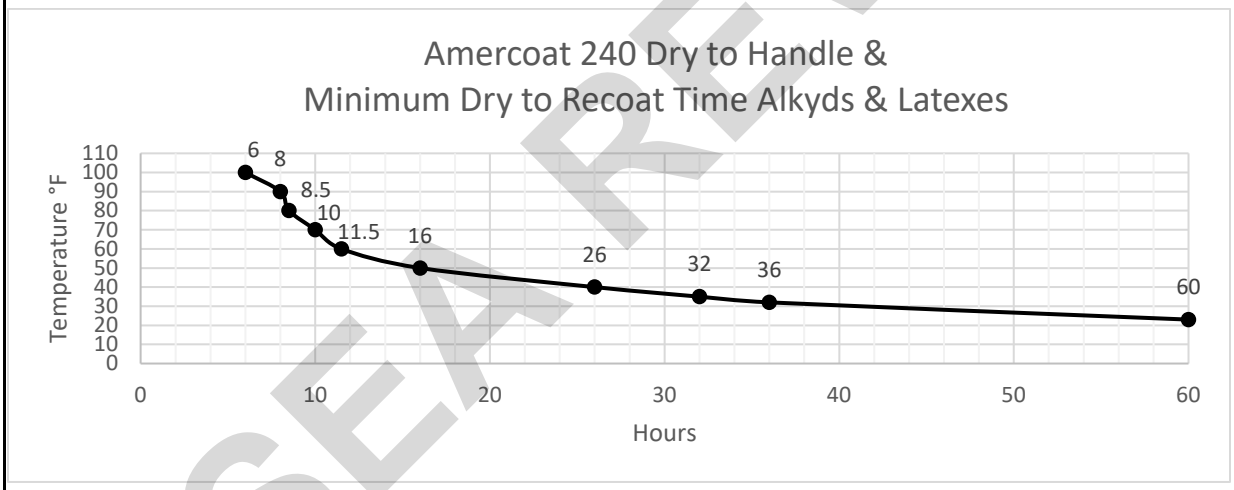
GRAPHS FOR POT LIFE AND CURE TIMES:

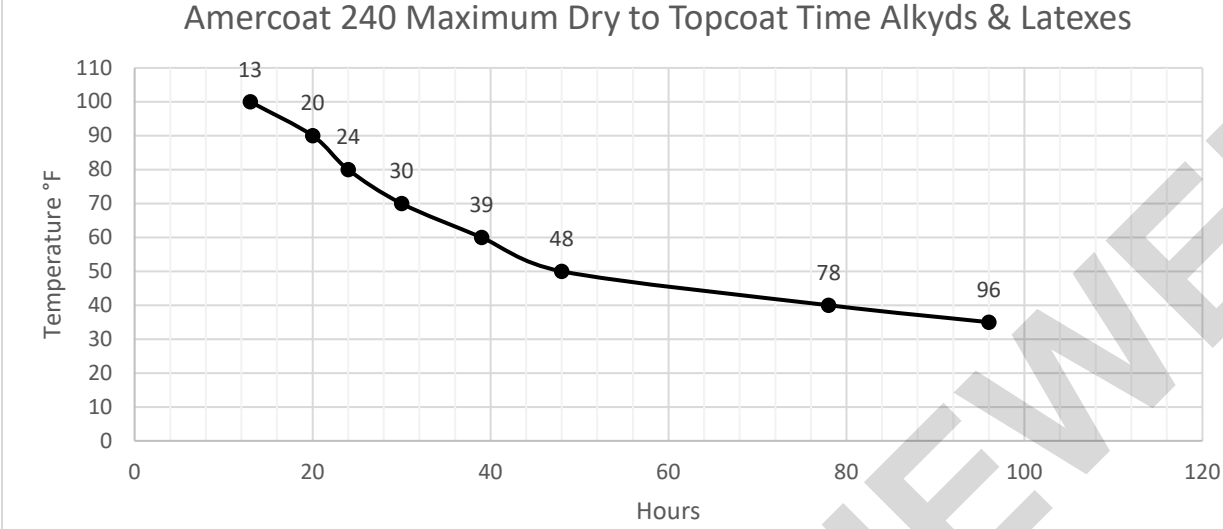


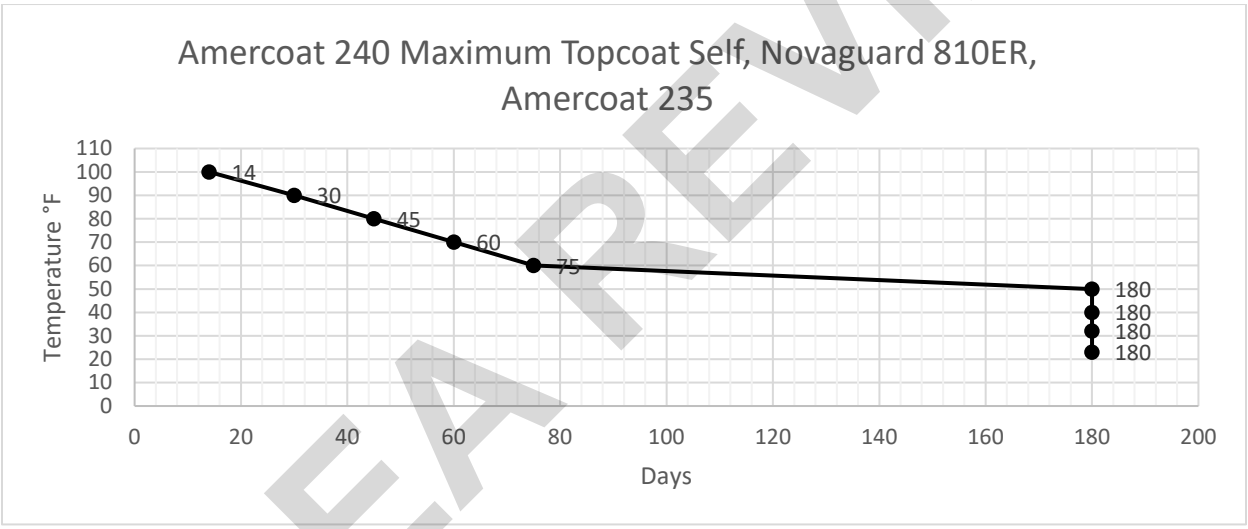


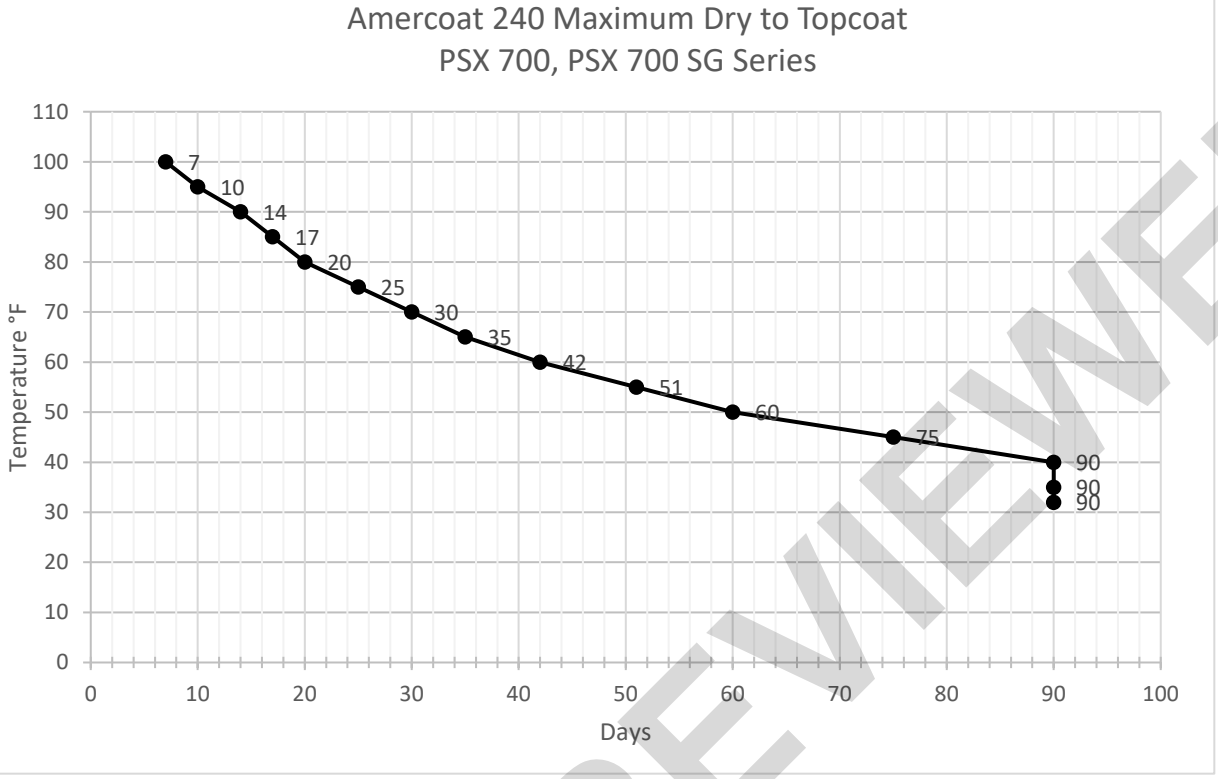


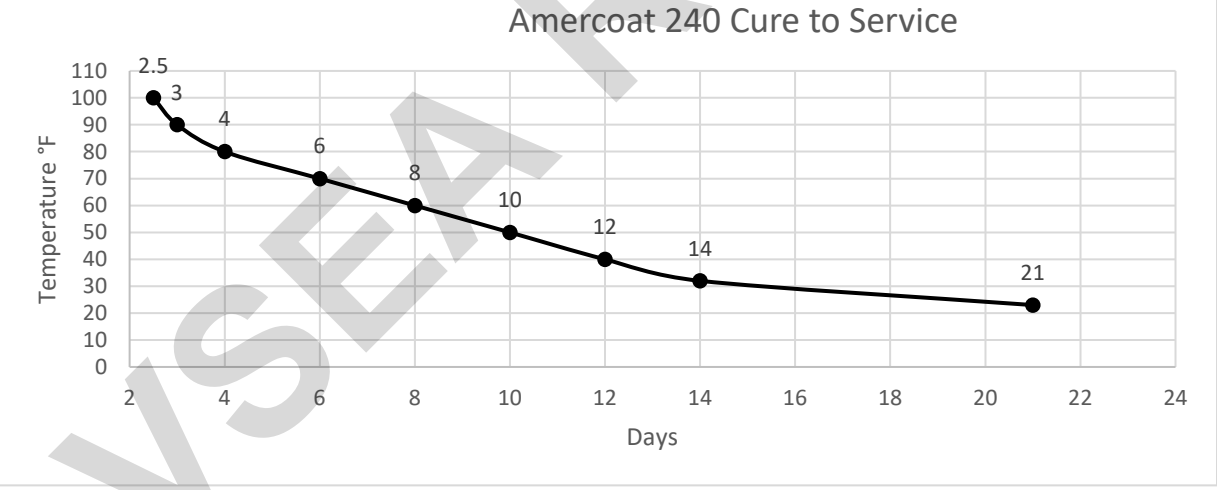
*Note that the final coat of Amercoat 240 should be tack free, but still impressionable with moderate fingertip pressure when applying the first coat of antifouling. This chart is presented as a guideline, but the coating should be inspected to ensure the dry state is sufficient for application of the antifouling according to these instructions.

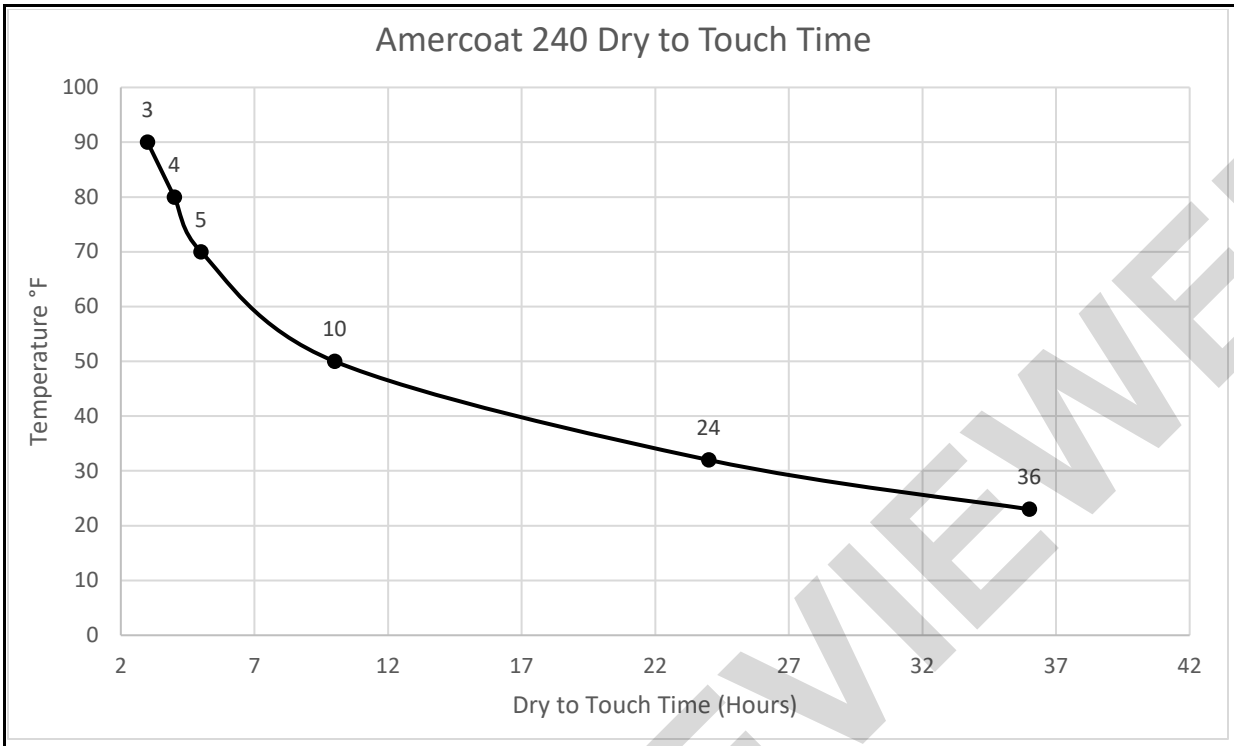


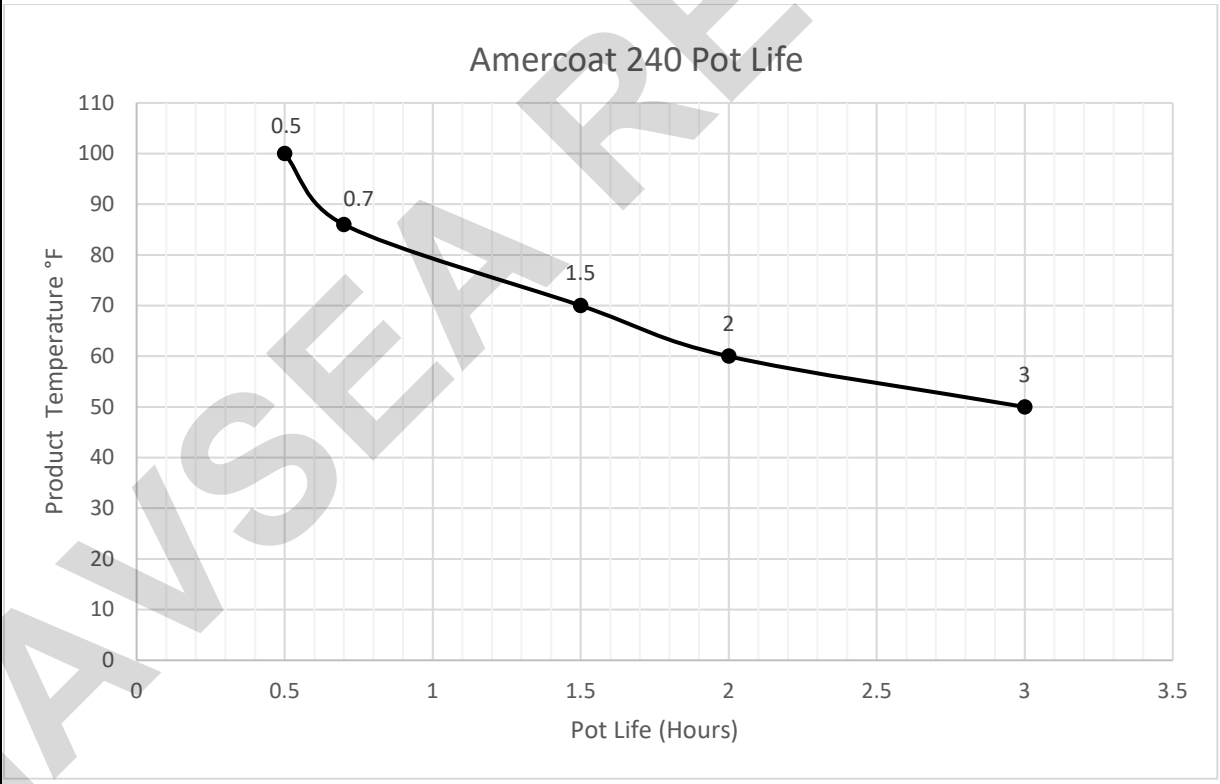












ADDITIONAL DATA/INSTRUCTIONS:

I. GENERIC TYPE AND DESCRIPTION:

II. MANUFACTURERS DATA:

III. PROPERTIES:

IV. SURFACE PREPARATION MINIMUM REQUIREMENTS:
**** For topcoating with PSX 700 / 700SG: Surface must be clean and dry prior to recoating. Any contamination must be identified and removed utilizing either Amercoat 911 solvent or a mild detergent followed by a thorough fresh water rinse. A detergent wash with Prep 88 or equivalent is required prior to application of topcoats after 30 days of exposure. Particular attention must be paid to surfaces that have been exposed to sunlight where chalking may be present. In those cases, a further degree of cleaning may be required. PPG Protective and Marine Coating Technical Service can advise on suitable cleaning methods.
Surface temperatures must be considered when determining maximum recoat periods. Dry times are guidelines. Excessive film thickness, poor ventilation, higher surface temperatures than ambient temperatures, and excessive humidity can cause deviation.
See the Safety Data Sheet and product label for complete safety and precaution requirements.
When used in accordance with the manufacturer's and the following instructions, PPG approves the use of CHLOR*RID, in conjunction with this Amercoat 240:
1. CHLOR*RID is added to wash water at appropriate level per product recommendation.
2. After water washing with CHLOR*RID, allow substrate to fully dry. All treated substrate surfaces must be abrasive blasted to an SSPC-SP10/NACE 2 Near White Metal condition post CHLOR*RID application.
3. Failure to reblast all treated surfaces, regardless of their condition post CHLOR*RID application, voids these instructions and subsequent implied or direct warranties.
4. Accomplish surface conductivity checks as required by contract after SSPC-SP10/NACE 2 Near White Metal re-blast. Follow pass/fail criteria established by contract including additional remedial steps as necessary.
FOR NON-CRITICAL SURFACES: Amercoat 240 is a surface tolerant epoxy. Where allowed by specification, Commercial blast to SSPC-SP 6/NACE 3, Power-Tool Clean to SSPC-SP 3, or Hand Tool Clean to SSPC-SP 2.

V. MIXING PROCEDURES:

VI. APPLICATION:
* Antifouling should be applied before Amercoat 240 has cured hard. The film must be tack free, but still soft to fingertip pressure.
** For underwater hull applications, it is acceptable to launch based on the dry time-to-launch of the Antifouling Product.
Amercoat 240 may be applied at air and surface temperatures down to 20°F for atmospheric service conditions, but curing time will be increased. Consult with PPG Technical Service regarding applications where temperature are expected to be below 40°F.
Minimum and Maximum Dry Times Listed in Section VI (c) are for overcoating with itself, Amercoat 235 or Novaguard 810ER.
Other Minimum and Maximum Dry Times are listed in graphs on pages 5 to 9. Surface temperatures must considered when determining maximum recoat periods. Dry times are guidelines. Excessive film thickness, poor ventilation, higher surface temperatures than ambient temperatures, and excessive humidity can cause deviation. :
Substrate temperature during application and curing should be at least 5°F (3°C) above dew point.