

QD05-0001, Revision 01

FKC-LAKE SHORE PAINT SPECIFICATION TYPICAL & HEAVY APPLICATIONS

Rev.	Description	Date	Revised	Approved
00	Issued for Use	05/08/2015	B. Yang	S. Collins
01	Changed to PPG paint only, provided paint color mixing codes, combined QD05-0001 and QD05-0002, Changed Primer for Typical paint application.	10/16/17	K. Dartt	C. Vogel

COMMENTS OR SPECIAL NOTICES:

PPG specifications are provided as follows. Equivalent options may be submitted for consideration. Color selection is noted below. Primer color varies depending on top coat color.

Steel Fabrication Preparation and Paint Process

TYPICAL SERVICE APPLICATION

Surface Preparation

Hot Rolled Steel	SSPC-SP6
Rusted and Pitted Steel	SSPC-SP10

Coatings

- Primer/Base
 - AMERCOAT 370 3.0 – 4.0 mils.
- Top Coat
 - DURETHANE DTM Urethane Mastic 95-3300 3.0 – 5.0 mils.

HEAVY SERVICE APPLICATION

Surface Preparation

Hot Rolled Steel	SSPC-SP6
Rusted and Pitted Steel	SSPC-SP10

Coatings

- Zinc Primer/Base
 - PMC Amercoat 68HS Zinc Rich Epoxy Primer 2.0 – 5.0 mils.
- Primer/Base
 - PMC Amercoat 240 Universal Amine Epoxy 4.0 – 6.0 mils.
- Top Coat
 - PMC PSX 700 Engineered Siloxane 3.0 – 7.0 mils.

Color Selection

** If no color selection is made, color is to be confirmed with the Project Manager.

- | | | |
|---|--|--------------------------------------|
| ☐ FK Light Stone | ☐ FK Willow Green | ☐ Other _____ |
| ☐ FK Safety Yellow | ☐ FK Tower Gray | ☐ Other _____ |
| ☐ FK Vermillion Red | ☐ FK Aztec Blue | ☐ Other _____ |
| ☐ FK Dark Machine Gray | ☐ Mint Green – RAL 6029 | ☐ Other _____ |

**** Primer color for Safety Yellow must be WHITE. Primer color for all other colors must be GRAY.**

Additional supporting documentation, if not attached, is available upon request. For questions related to the above specification, or questions related to other project matters, please contact the Project Manager. As always, we appreciate your efforts.



LAKE SHORE

A DIVISION OF FRONTIER-KEMPER CONSTRUCTORS, INC.

A **TutorPerini** Company

FK Dark Machine Gray



PPG Color# 911899000000108

Product: 95-3300/01

Formula:

HB-2Y+37

HC-4

HE-30

HW-2Y+22

FK Tower Gray



PPG Color# 911899000000107

Product: 95-3301/01

Formula:

HB-6Y+26

HC-34

HD-1

HG-40

FK Aztec Blue



PPG Color# 911899000000111

Product: 95-3300/01

Formula:

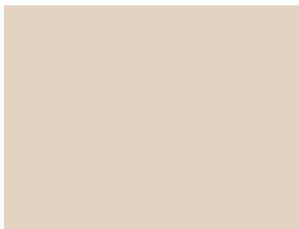
HE-7Y

HF-1Y+26

HO-1Y+30

HW-8Y

FK Light Stone



PPG Color# 911899000000110

Product: 95-3301/01

Formula:

HB-15

HC-1Y+8

HF-4

FK Vermillion Red



PPG Color# 911802000001473

Product: 95-3300/01

Formula:

HC-4Y+39

HN-13Y+42

HO-3Y+23

HW-14

FK Safety Yellow



PPG Color# 911899000000106

Product: 95-3302/01

Formula:

HC-32

HO-2

HW-4Y+16



PPG Protective &
Marine Coatings

SURFACE PREPARATION STANDARDS

Your coatings supplier will always designate the degree of surface preparation required for the materials you are using. The basic standards for preparing metal substrates are a joint effort between the Society for Protective Coatings (SSPC) and the National Association of Corrosion Engineers International (NACE).

SSPC-SP1 Solvent Cleaning

Removal of all visible oil, grease, soil, drawing and cutting compounds, and other soluble contaminants from steel surfaces with solvent, vapor, cleaning compound, alkali, emulsifying agent, or steam.

SSPC-SP2 Hand Tool Cleaning

Removes all loose mill scale, loose rust, loose paint, and other loose detrimental foreign matter by hand chipping, scraping, sanding, and wire brushing.

SSPC-SP3 Power Tool Cleaning

Removes all loose mill scale, loose rust, loose paint, and other loose detrimental foreign matter by power wire brushing, power sanding, power grinding, power tool chipping, and power tool descaling.

SSPC-SP5 / NACE 1 White Metal Blast Cleaning

When viewed without magnification, the surface shall be free of all visible oil, grease, dust, dirt, mill scale, rust, coating, oxides, corrosion products and other foreign matter.

SSPC-SP6 / NACE 3 Commercial Blast Cleaning

When viewed without magnification, the surface shall be free of all visible oil, grease, dust, dirt, mill scale, rust, coating, oxides, corrosion products and other foreign matter of at least 66-2/3% of unit area, which shall be a square 3 in. x 3 in. (9 sq. in.). Light shadows, slight streaks, or minor discolorations caused by stains of rust, stains of mill scale, or stains of previously applied coating in less than 33-1/3% of the unit area is acceptable.

SSPC-SP7 / NACE 4 Brush-Off Blast Cleaning

When viewed without magnification, the surface shall be free of all visible oil, grease, dirt, dust, loose mill scale, loose rust, and loose coating. Tightly adherent mill scale, rust, and coating may remain on the surface. Mill scale, rust, and coating are considered tightly adherent if they cannot be removed by lifting with a dull putty knife.

SSPC-SP10 / NACE 2 Near-White Blast Cleaning

When viewed without magnification shall be free of all visible oil, grease, dust, dirt, mill scale, rust, coating, oxides, corrosion products and other foreign matter of at least 95% of each unit area. Staining shall be limited to no more than 5 percent of each unit area, and may consist of light shadows, slight streaks, or minor discolorations caused by stains of rust, stains of mill scale, or stains of previously applied coatings. Unit area shall be approximately 3 in. x 3 in. (9 sq. in.).

SSPC-SP11 Power Tool Cleaning to Bare Metal

When viewed without magnification, the surface shall be free of all visible oil, grease, dirt, dust, mill scale, rust, paint, oxides, corrosion products, and other foreign matter. Slight residues of rust and paint may be left in the lower portion of pits if the original surface is pitted. The surface profile shall not be less than 1 mil (25 microns).

SURFACE PREPARATION STANDARDS

SSPC-SP12 / NACE 5 Surface Preparation and Cleaning of Steel and Other Hard Materials by High- and Ultra High- Pressure Water Jetting Prior to Recoating

This standard requires water jetting at high- or ultra high-pressure to prepare a surface for recoating using pressure above 10,000 psi. Water jetting will not produce a profile; rather, it exposes the original abrasive-blasted surface profile. Water jetting shall be performed to meet four conditions: WJ-1, WJ-2, WJ-3, and WJ-4, and a minimum acceptable surface shall have all loose rust, loose mill scale, and loose coatings uniformly removed.

SSPC-SP13 / NACE 6 Surface Preparation of Concrete

Provides requirements for surface preparation of concrete by mechanical, chemical, or thermal methods prior to the application of bonded protective coating or lining systems.

SSPC-SP14 / NACE 8 Industrial Blast Cleaning

Removal of all visible oil, grease, dust and dirt, when viewed without magnification. Traces of tightly adherent mill scale, rust, and coating residues are permitted to remain on 10% of each unit area of the surface if they are evenly distributed. Shadows, streaks, and discoloration caused by stains of rust, stains of mill scale, and stains of previously applied coating may be present on the remainder of the surface.

SURFACE PREPARATION STANDARDS

WATER JETTING STANDARDS

SSPC-SP12 / NACE 5

Surface Preparation and Cleaning of Steel and Other Hard Materials by High- and Ultra High- Pressure Water Jetting Prior to Recoating

This standard requires water jetting at high- or ultra high-pressure to prepare a surface for recoating using pressure above 10,000 psi. Water jetting will not produce a profile; rather, it exposes the original abrasive-blasted surface profile. The specifier shall use one of the visual surface preparation definitions (WJ-1 to WJ-4) and one of the non-visual surface preparation definitions (SC-1 to SC-3) to specify the degree of visible and non-visible surface matter to be removed.

Pressure Categorization

Low-Pressure Water Cleaning (LP WC)

Cleaning performed at pressures
less than 34 Mpa (5,000 psi)

High-Pressure Water Cleaning (HP WC)

Cleaning performed at pressures
from 34 to 70 Mpa (5,000 to 10,000 psi)

High-Pressure Water Jetting (HP WJ)

Cleaning performed at pressures
from 70 to 170 Mpa (10,000 to 25,000 psi)

Ultrahigh-Pressure Water Jetting (UHP WJ)

Cleaning performed at pressures
above 170 Mpa (25,000 psi)

Visual Conditions of Surface Cleanliness

WJ-1

Surface shall be free of all previously existing
visible rust, coatings, mill scale, and foreign matter and
have a matte metal finish

WJ-2

Surface shall be cleaned to a matte finish with at least
95% of the surface area free of all previously existing
visible residues and the remaining 5% containing only
randomly dispersed stains of rust, coatings, and foreign
matter

WJ-3

Surface shall be cleaned to a matte finish with at least
two-thirds of the surface area free of all previously
existing visible residues (except mill scale), and the
remaining one-third containing only randomly dispersed
stains of previously existing rust, coatings, and foreign
matter

WJ-4

Surface shall have all loose rust, loose mill scale, and
loose coatings uniformly removed

Non-Visual Conditions of Surface Cleanliness

SC-1

Surface shall be free of all detectable levels of
contaminants as determined using available field test
equipment with sensitivity approximating laboratory test
equipment. For purposes of this standard, contaminants
are water-soluble chlorides, iron-soluble salts, and
sulfates

SC-2

Surface shall have less than 7 µg/cm² chloride
contaminants, less than 10 µg/cm² of soluble ferrous ion
levels, and less than 17 µg /cm² of sulfate contaminants
as verified by field or laboratory analysis using reliable,
reproducible test equipment

SC-3

Surface shall have less than 50 µg/cm² chloride and
sulfate contaminants as verified by field or laboratory analysis
using reliable, reproducible test equipment

AMERCOAT® 370

DESCRIPTION

Two-component, fast dry multi-purpose epoxy coating

PRINCIPAL CHARACTERISTICS

- Multi-purpose high build epoxy
- Application over a wide range of surface temperatures
- Suitable for immersion in fresh and salt water
- Class A slip resistance for high strength bolted connections

COLOR AND GLOSS LEVEL

- White, Black, Oxide Red, Light Buff, Pearl Gray
- Flat

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	66 ± 2%
VOC (Supplied)	max. 2.5 lb/US gal (approx. 300 g/l)
Temperature resistance (Continuous)	To 200°F (93°C)
Temperature resistance (Intermittent)	To 250°F (121°C)
Recommended dry film thickness	4.0 - 6.0 mils (100 - 150 µm) depending on system
Theoretical spreading rate	212 ft²/US gal for 5.0 mils (5.3 m²/l for 125 µm)
Shelf life	Base: at least 36 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
- Intermittent temperature resistance should be less than 5% of the time, and maximum 24 hours
- Color will drift at elevated temperatures



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RECOMMENDED SUBSTRATE CONDITIONS AND TEMPERATURES

- Coating performance is, in general, proportional to the degree of surface preparation
- Abrasive blasting is usually the most effective and economical method. When this is impossible or impractical, coating can be applied over mechanically cleaned surfaces
- All surfaces must be clean, dry and free of all contaminants, including salt deposits. Contact PPG for maximum allowable salt containment levels

Mild steel

- Remove all loose rust, dirt, grease or other contaminants by one of the following depending on the degree of cleanliness required: SSPC SP-2, 3, 6, 7 or 10 (ISO 8501-1 St-2, St-3, Sa 1, Sa 2.5). These minimum surface preparation standards apply to steel that has been previously abrasive blasted. The choice of surface preparation will depend on the system selected and end-use service conditions
- For more severe service and immersion, clean to SSPC SP-10 (ISO8501-1 Sa 2.5). Blast to achieve an anchor profile of 2.0 – 4.0 mils (50 – 100 µm) as indicted by a Keane-Tator Surface profile Comparator or Testex Tape. Previously blasted steel may be ultra-high pressure water jetted to SSPC SP WJ-2(L) / NACE WJ-2(L). The wet surface can be dried by blowing with dry compressed air giving special attention to horizontal surfaces and recesses

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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Aged coatings

- All surfaces must be clean, dry, tightly bonded and free of all loose paint, corrosion products or chalky residue
- Abrade surface, or clean with PREP 88. This product is compatible over most types of properly applied and tightly adhering coatings, however, a test patch is recommended to confirm compatibility

Repair

- Prepare damaged areas to original surface preparation specifications, feathering edges of intact coating. Thoroughly remove dust or abrasive residue before touch-up.

Substrate temperature and application conditions

- Surface temperature during application should be between 20°F (-7°C) and 120°F (49°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 20°F (-7°C) and 120°F (49°C)
- Relative humidity during application should not exceed 85%

SYSTEM SPECIFICATION

- Primers: Direct to substrate; DIMETCOTE- Series Primers, AMERCOAT 68HS, AMERCOAT 68MCZ
- Topcoats: AMERCOAT 450-Series Polyurethanes, AMERSHIELD, PSX 700, AMERCOAT 229T, PITTHANE Polyurethanes

INSTRUCTIONS FOR USE

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

- 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

Pot life

4 hours at 70°F (21°C)

Note: See ADDITIONAL DATA – Pot life



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Application

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

Material temperature

Material temperature during application should be between 40°F (4°C) and 90°F (32°C)

Air spray

- Use standard conventional equipment

Recommended thinner

THINNER 21-06 (AMERCOAT 65) (xylene)), THINNER 21-25 (AMERCOAT 101) (recommended for > 90°F (32°C))

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

THINNER 21-06 (AMERCOAT 65) (xylene)), THINNER 21-25 (AMERCOAT 101) (recommended for > 90°F (32°C))

Nozzle orifice

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

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 65 (xylene), AMERCOAT 101 (recommended for > 90°F (32°C))

Cleaning solvent

Amercoat 12 Cleaner (Thinner 90-58) or Amercoat 65 Thinner (Thinner 21-06)

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ADDITIONAL DATA

Overcoating interval for DFT up to 4.0 mils (100 µm)						
Overcoating with...	Interval	20°F (-7°C)	32°F (0°C)	50°F (10°C)	70°F (21°C)	90°F (32°C)
urethane and PSX	Minimum	3 hours	2 hours	1.5 hours	45 minutes	30 minutes
	Maximum	2 months	1.5 months	1.5 months	30 days	14 days

Notes:

- 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.
- 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

Overcoating interval for DFT up to 4.0 mils (100 µm)						
Overcoating with...	Interval	20°F (-7°C)	32°F (0°C)	50°F (10°C)	70°F (21°C)	90°F (32°C)
itself	Minimum	3 hours	2 hours	1.5 hours	45 minutes	30 minutes
	Maximum - immersion	3 months	2 months	30 days	30 days	30 days
	Maximum - non-immersion	6 months	6 months	6 months	6 months	6 months

Notes:

- 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.
- If the surface is uniformly and freely chalking after 6 months of exterior weathering, the surface is recoatable with itself after thorough cleaning.
- 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 4.0 mils (100 µm)			
Substrate temperature	Dry to touch	Dry to handle	Service- water immersion
20°F (-7°C)	2 hours	20 hours	N/A
32°F (0°C)	1.5 hours	9 hours	7 days
50°F (10°C)	45 minutes	4.5 hours	48 hours
70°F (21°C)	30 minutes	1.5 hours	24 hours
90°F (32°C)	20 minutes	75 minutes	12 hours

Note: Adequate ventilation must be maintained during application and curing



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Pot life (at application viscosity)	
Mixed product temperature	Pot life
50°F (10°C)	6 hours
70°F (21°C)	4 hours
90°F (32°C)	2 hours

Product Qualifications

- ANSI / NSF Standard 61 for drinking water (valves only). For NSF application instructions, please visit our website at: www.ppgamercoatus.ppgpmc.com/NSF/
- AWWA C550-06
- Compliant with USDA Incidental Food Contact Requirements
- Qualified for Class A Slip Resistance per the Research Council on Structural Connections, Appendix A

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

- | | | |
|--|-------------------|------|
| • 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 |

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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LIMITATIONS OF LIABILITY

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Packaging: Available in 1-gallon and 5-gallon kits; (1-gallon kits have 0.8 gallons of base and 0.2 gallons of hardener; 5 gallon kits have 4-gallons of base and 1-gallon of hardener)

Product code	Description
AT370-112	Light Buff Base
AT370-3	White Base
AT370-9	Black Base
AT370-23	Pearl Gray Base
AT370-72	Oxide Red Base
AT370-B	Hardener

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DURETHANE™ DTM | 95-3300 SERIES

DESCRIPTION

Two-component, DTM urethane mastic

PRINCIPAL CHARACTERISTICS

- Direct-to-metal application, including tightly adhering rust
- Low VOC
- Excellent color and gloss retention
- Easy to apply by spray, roller and brush
- Infinite color capability
- Meets SSPC Paint 36 Level 3
- Contains no organic HAPs

COLOR AND GLOSS LEVEL

- Standard Color Offering, Safety Colors, Custom Colors
- Gloss

BASIC DATA AT 68°F (20°C)

Data for mixed product	
Number of components	Two
Volume solids	65 ± 2%
VOC (Supplied)	max. 2.0 lb/US gal (approx. 241 g/l)
Recommended dry film thickness	3.0 - 5.0 mils (75 - 125 µm) depending on system
Theoretical spreading rate	348 ft ² /US gal for 3.0 mils (8.7 m ² /l for 75 µm)
Shelf life	Base: at least 36 months when stored cool and dry Hardener: at least 36 months when stored cool and dry

Notes:

- See ADDITIONAL DATA – Overcoating intervals
- See ADDITIONAL DATA – Curing time
- Certain colors may be offered for specifications which require 4.0 – 6.0 mils (100 – 150 µm) dry film thickness. Please contact your PPG representative for details

RECOMMENDED SUBSTRATE CONDITIONS AND TEMPERATURES

- Coating performance is proportional to the degree of surface preparation. Refer to the application instructions for specific primers and intermediate coats for application and curing procedures. Ensure epoxies are free from amine blush prior to overcoating. All previous coats must dry and free of contaminants. Adhere to all minimum and maximum topcoat times for specific primers and intermediate coats. Aged epoxy coatings require abrading prior to applying the product. A test patch over unknown coatings is recommended.



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DURETHANE™ DTM | 95-3300 SERIES

Steel

- Remove weld spatter, protrusions, and laminations in steel
 - 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 SP-10 cleanliness for optimum performance. Achieve a surface profile of 1.5 – 3.0 mils (38 – 75 µm)
 - 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).
 - Apply an epoxy or zinc rich primer for aggressive service environments
-

Concrete

- Remove all surface contaminants such as oil, grease, and embedded chemicals
 - Abrade the surface per ASTM D4259 to remove all chalk and surface glaze or laitance
 - Use a suitable epoxy to prime the concrete. Refer to primer data sheet for further surface preparation details
-

Non-ferrous metals

- Lightly abrasive blast or mechanically abrade in accordance with SSPC SP-16 to achieve a uniform and dense 1.5 – 4.0 mil anchor profile
 - Apply an epoxy primer for aggressive environments
-

Stainless steel

- Abrasive blast with a hard angular abrasive to achieve a uniform and dense anchor profile of 1.5 – 3.0 mils (38 – 75 µm)
 - Apply an epoxy primer for aggressive environments
-

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
 - Alternately, PREP 88 may be used to prepare some existing coatings. Please refer to PREP 88 data sheet for details
 - Feather the edges of tightly adhered, intact coatings at the perimeter of repair areas
 - Power tool clean the existing steel in accordance with SSPC SP-3 (atmospheric service)
-

Substrate temperature and application conditions

- Surface temperature during application should be between 40°F (4°C) and 130°F (54°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 40°F (4°C) and 100°F (38°C)
 - Relative humidity during application and curing should not exceed 85%
-



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DURETHANE™ DTM | 95-3300 SERIES

Warning

Removal of old paint by sanding, scraping or other means may generate dust or fumes which contain lead. EXPOSURE TO LEAD DUST OR FUMES MAY CAUSE ADVERSE HEALTH EFFECTS, ESPECIALLY IN CHILDREN OR PREGNANT WOMEN. Controlling exposure to lead or other hazardous substances requires the use of proper protective equipment, such as a properly fitted and approved (e.g., NIOSH approved) respirator and proper containment and cleanup. For additional information, contact the USEPA/Lead Information Hotline at 1-800-424-LEAD or the regional Health Canada office

INSTRUCTIONS FOR USE**Mixing ratio by volume: base to hardener 83:17**

- 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

Pot life

3 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
- Protect from moisture until dry through time is reached

Material temperature

Material temperature during application should be between 40°F (4°C) and 90°F (32°C)

Air spray

- A moisture and oil trap in the main line is essential. Product is sensitive to moisture contamination

Volume of thinner

0 - 10%

Nozzle orifice

Approx. 0.070 in (1.8 mm)



**PPG Protective &
Marine Coatings**

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DURETHANE™ DTM | 95-3300 SERIES

Airless spray

- 28:1 pump or larger

Volume of thinner

0 - 10%

Nozzle orifice

0.013 – 0.015 in (approx. 0.33 – 0.38 mm)

Nozzle pressure

10.3 - 17.2 MPa (approx. 104 - 173 bar; 1500 - 2500 p.s.i.)

Brush/roller

- Use a high quality natural bristle brush and/or solvent resistant, 1/4" or 3/8" nap roller. Ensure brush/roller is well loaded to avoid air entrainment. Multiple coats may be necessary to achieve adequate film-build
- AMERCOAT 851 flow control additive can be used to for enhanced flow and leveling with brush and roll application

Recommended thinner

PPG THINNER 21-85 (97-739) (to maintain less than 250 g/L), PPG THINNER 50-48 (97-735) (normal brush, roll, or spray), PPG THINNER 91-30 (97-730) or PPG THINNER 21-06 (97-727) (spray), PPG THINNER 91-31 (97-734) (brush and roll); use PPG THINNER 50-63 (97-736) with PPG THINNER 50-48 (97-735) for increased conductivity

Volume of thinner

0 – 5%

Cleaning solvent

PPG THINNER 90-58 (AMERCOAT 12 CLEANER)

ADDITIONAL DATA

Overcoating interval with 97-722 accelerator for DFT up to 3.0 mils (75 µm)					
Overcoating with...	Interval	40°F (4°C)	50°F (10°C)	70°F (21°C)	90°F (32°C)
itself	Minimum	4 hours	2 hours	1 hour	less than 1 hour
	Maximum	Unlimited	Unlimited	Unlimited	Unlimited

Overcoating interval for DFT up to 3.0 mils (75 µm)				
Overcoating with...	Interval	50°F (10°C)	70°F (21°C)	90°F (32°C)
itself	Minimum	18 hours	9 hours	4 hours
	Maximum	Unlimited	Unlimited	Unlimited



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Curing time for DFT up to 3.0 mils (75 µm)

Substrate temperature	Dry to touch	Dry to handle
50°F (10°C)	3 hours	18 hours
70°F (21°C)	2 hours	9 hours
90°F (32°C)	1 hour	4 hours

Curing time with 97-722 accelerator for DFT up to 3.0 mils (75 µm)

Substrate temperature	Dry to touch	Dry to handle
40°F (4°C)	1 hour	4 hours
50°F (10°C)	less than 1 hour	2 hours
70°F (21°C)	less than 1 hour	1 hour
90°F (32°C)	15 minutes	less than 1 hour

Pot life (at application viscosity)

Mixed product temperature	Pot life
50°F (10°C)	5 hours
70°F (21°C)	3 hours
90°F (32°C)	1.5 hours

Pot life (at application viscosity): with 97-722 accelerator

Mixed product temperature	Pot life
50°F (10°C)	1.5 hours
70°F (21°C)	1 hour
90°F (32°C)	30 minutes

Product Qualifications

- SSPC Paint 36 Level 3 Performance

DISCLAIMER

- For industrial or professional use only



DURETHANE™ DTM | 95-3300 SERIES

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

Danger

Rags, steel wool or waste soaked with this product may spontaneously catch fire if improperly discarded. Immediately after use, place rags, steel wool or waste in a sealed water-filled metal container. Refer to www.pittsburghpaints.com, Spontaneous Combustion Advisory for additional information.

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
• SAFETY INDICATIONS	INFORMATION SHEET	1430
• SAFETY IN CONFINED SPACES AND HEALTH SAFETY, EXPLOSION HAZARD – TOXIC HAZARD	INFORMATION SHEET	1431

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.

LIMITATIONS OF LIABILITY

IN NO EVENT WILL PPG BE LIABLE UNDER ANY THEORY OF RECOVERY (WHETHER BASED ON NEGLIGENCE OF ANY KIND, STRICT LIABILITY OR TORT) FOR ANY INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES IN ANY WAY RELATED TO, ARISING FROM, OR RESULTING FROM ANY USE MADE OF THE PRODUCT. The information in this sheet is intended for guidance only and is based upon laboratory tests that PPG believes to be reliable. PPG may modify the information contained herein at any time as a result of practical experience and continuous product development. All recommendations or suggestions relating to the use of the PPG product, whether in technical documentation, or in response to a specific inquiry, or otherwise, are based on data, which to the best of PPG's knowledge, is reliable. The product and related information is designed for users having the requisite knowledge and industrial skills in the industry and it is the end-user's responsibility to determine the suitability of the product for its own particular use and it shall be deemed that Buyer has done so, as its sole discretion and risk. PPG has no control over either the quality or condition of the substrate, or the many factors affecting the use and application of the product. Therefore, PPG does not accept any liability arising from any loss, injury or damage resulting from such use or the contents of this information (unless there are written agreements stating otherwise). Variations in the application environment, changes in procedures of use, or extrapolation of data may cause unsatisfactory results. This sheet supersedes all previous versions and it is the Buyer's responsibility to ensure that this information is current prior to using the product. Current sheets for all PPG Protective & Marine Coatings Products are maintained at www.ppgpmc.com. The English text of this sheet shall prevail over any translation thereof.

AVAILABILITY

Packaging

1-gallon and 5-gallon kits



**PPG Protective &
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Product codes	Description
95-3300	Neutral base*
95-3301	White base*
95-3302	Yellow base*
95-3303	Red base*
95-3314	Black**
95-339	Hardener

Notes:

- * Tintable with PERFORMACOLOR 4257-line tints
- ** Do not tint

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AMERCOAT 68HS

Two Pack Epoxy Zinc Rich Primer

Data Sheet No: 68 HS

Supersedes: 09/07

Revised: 05/08

Composition	Epoxy resin heavily pigmented with zinc dust pigment, polyamide cured.			
Approvals	Complies with SSPC Paint specification No. 20, Type II AISC – specification for structural joints using ASTM A325 or A490 Bolts RCSC specification for structural joints table 3 class B. Slip coefficient 0.59.			
Uses and Properties	AMERCOAT 68HS is an organic zinc rich primer with excellent adhesion to prepared steel. The high zinc content of the dry film offers cathodic protection. The epoxy resin confers moisture and abrasion resistance and ability to retain many heavy-duty topcoats. AMERCOAT 68HS primes steel in the field or is used in the yard as an excellent primer for multi-coat systems. May be left for extended time without topcoating in non-acidic conditions. AMERCOAT 68HS may be topcoated with a wide variety of coatings, including epoxy, iso-free, polyurethane and PSX 700 engineered polysiloxane.			
Typical Applications	Steel industry - Paper industry - Shipping industry - Oil industry - Chemical industry – Mining industry - Rolling stock - Food and beverage Industry - Marine and industrial environment -Repair to galvanizing			
Typical Systems	Substrate	Surface Preparation	Typical Systems	DFT μm
	Steel Atmospheric Service ②	For long life in severe or very severe environment, blast clean to AS 1627.4 Class 2½ ①	AS/NZS 2312-System EHB4 1st Coat: AMERCOAT 68HS 2nd/3rd Coats: AMERLOCK 2K MIO	75 200
		For long life service in severe marine or tropical environments blast clean to AS1627.4 Class 2 ½	AS/NZS 2312-System PSL1 1 st Coat: AMERCOAT 68HS 2 nd Coat: PSX 700	75 125
		For medium life in severe environment blast to AS1627.4 Class 2 or better, acid descale to AS 1627.5 or power tool clean to AS1627.2 (thorough).	AS/NZS 2312-System PUR4 1st Coat: AMERCOAT 68HS 2nd Coat: AMERCOAT 385 3rd Coat: AMERCOAT 450K	75 100 50
	Post-fabrication ③	Grind welds, scrub and wash, then power tool clean to AS1627.2 (thorough). Abrasive blast cleaning does give superior life. Spot prime with AMERCOAT 68HS.	Further coat AMERCOAT 68HS Subsequent coats of selected system	50
① Coating performance, in general is proportional to the degree of surface preparation. Surface must be clean, dry and free of all contaminants. Apply Amercoat 68HS as soon as possible to prevent blasted surface from rusting. ② This phrase and the terms relating to "Life" and "environment" are as defined in AS 2312 "Protection of Iron and Steel against Atmospheric Corrosion". ③ That is after welding or gas cutting has burnt the pre-fab primer.				
Finish Colour	Matt			
Weathering	Metallic Grey			
Chemical Resistance	Excellent			
Immersion	Good. Consult PPG Protective and Marine Coatings for specific information. Not resistant to acids or alkalis			
Abrasion Resistance	Not recommended.			
Temperature Range	Good			
Topcoating	Up to 200°C (dry heat)			
Shelf Life	May be top coated with AMERCOAT 385, AMERCOAT 370, AMERLOCK 400 / 2K, AMERSHIELD and PSX 700. AMERCOAT 68HS may be used to repair itself, inorganic zinc primers or galvanizing.			
	12 months from date of shipment if stored indoors between 4 to 38°C for both the Base and Hardener.			

AMERCOAT 68HS

Application Data					
Volume Solids	70% ± 3% (ASTM D2697 modified)				
Theoretical Coverage	8.8 m ² per litre at 75 µm DFT. Material losses during mixing and application will vary and must be considered when estimating requirements.				
Pot Life (hours)		32 °C	21 °C	10 °C	
	Non-accelerated	8	16	24	
	Accelerated	5	9	16	
Environmental	Air	0 to 49 °C			
	Surface	0 to 60 °C			
	Material (minimum)	10 °C			
	Base and Hardener must be a minimum of 10 °C before mixing. For satisfactory cure, air and surface temperatures must be above 10 °C. Use AMERCOAT 861 Accelerator when air and surface temperatures are below 10 °C. Surface temperatures must be a minimum of 3 °C above the dew point to prevent condensation.				
Drying Time (hours) (ASTM D1640)		32 °C	21 °C	10 °C	0 °C
	Non-accelerated - Touch	¼	½	1	NR (1)
	Through	4	8	36	NR
	Topcoat (minimum)	1	2	6	NR
	Topcoat (maximum months)	6	6	6	
	Accelerated (2) - Touch	-	⅓	½	2
	Through	1 ½	4	16	96
	Topcoat (minimum)	¾	1½	4	24
	Topcoat (maximum months)	6	6	6	6
	(1) NR = Not Recommended. (2) Accelerated using Amercoat 861 at 30 mL per 5 L of mixed material.				
The figures quoted for pot life and drying / curing times are not definitive. They are dependent on site conditions, such as volume of material mixed, ambient and steel temperatures, weather and ventilation.					
Mixing	Stir each component separately, then mix the Hardener into the Base and power mix until uniform. Allow material to digest for 15 minutes before thinning and use. Only use an air or explosion proof electric motor.				
Mixing Ratio	4 Parts Base to 1 part Hardener by volume.				
Thinners	Thin up to 10% by volume using THINNER 737. Use THINNER 304 for clean up.				
Equipment	The following is a guide; suitable equipment from other manufacturers may be used. Changes in pressure, hose and tip size may be needed for proper spray characteristics.				
Conventional Spray	Industrial equipment such as DeVilbiss MBC or JGA. A moisture and oil trap in the main air supply, mechanical pot agitator, separate regulators for air and fluid pressure are recommended.				
Airless Spray	Standard equipment such as Graco Bulldog Hydra-Spray or larger with a 0.017-inch tip with pre-orifice or fine finish tip.				
	Notes: (1) Maintain slow agitation during application to ensure the material remains uniformly blended. (2) Typical DFT is 75 µm in one coat, however, DFT up to 150 µm in one coat is acceptable. Do not exceed 175 µm in one coat as excess dry film thickness may result in increased mechanical damage during handling or shipping. (3) If AMERCOAT 68HS is not overcoated for some time, it is important that surface be washed and scrubbed with a nylon brush prior to topcoating to remove deposits and white rust.				
Safety Precautions	Always read the label and Material Safety Data Sheet before use. When applying by brush or roller, provide adequate ventilation. When applying by spray, users must comply with relevant spray painting regulations and wear appropriate respirator to avoid inhaling vapours and spray mist.				

Technical information given verbally or in writing is based on knowledge and research, given in good faith and believed to be reliable, but no guarantee of accuracy is made or implied. Since methods and conditions of use are beyond our control, all merchandise is sold and received subject to the condition that our liability whether express or implied for any defect in quality, or for any lack of fitness for the specified use thereof, is limited to the return of the purchase price if written claim is made within 14 days from date of delivery. It is recommended that the user makes his or her own tests to determine the suitability of the product for his own requirements. Freedom from patent restrictions is not implied.

PPG INDUSTRIES PTY. LTD. McNaughton Road, Clayton VIC 3168 – 24 hr Emergency Telephone 1800 033111
Telephone: (03) 9263 6000, Customer service: 1300 659 666

Amercoat® 240

Universal epoxy coating

Product Data/ Application Instructions

- Formulated for direct-to-metal application with excellent substrate wetting while retaining excellent edge coverage
- Exceptional corrosion protection in salt and fresh water immersion and corrosive chemical environments
- Surface tolerant, lowers the cost of surface preparation
- Excellent adhesion to tight rust
- Compatible with water jetted or hand and power tool cleaned surfaces.
- Low temperature cure down to 0°F (-18°C) without additives or alternate curing agents
- Fast dry-to-recoat and rapid handling properties
- High-build (up to 12 mils) in one coat
- Abrasion resistant

Very low solvent content meets VOC requirements, reduces the risk of pinholing and solvent entrapment at the substrate-coating interface, often a major cause of coating failure with conventional epoxies and lower solids systems.

Typical Uses

Tank Linings and Pipe Coatings

- Ballast and fuel tanks
- Bilges, wet voids and other damp areas
- Crude oil tanks

Ships, Offshore and Marine Structures

- Exterior hull above and below waterline
- Decks and superstructures, piping, and equipment
- Interior surfaces

Fabrication and New Construction

- Heavy industry, structural steelwork, bridges, tankage
- Speeds up production, even at low temperatures
- A single coat multi-purpose, surface-tolerant coating

Qualifications

- Classified by Marintek, as class B1 for use in ballast water tanks
- Tested by NOHC as being suitable as a lining for grain storage containers.
- Lloyd's Register - Provisionally recognized as acceptable for saltwater ballast tanks and double bottom tanks; Certificate Number MATS/3404/1
- NAVSEA - MIL-PRF23236(C) Class 7, Type VII, Grade C
- NAVSEA - MIL-PRF-24647
- Certified by Det Norske Veritas (DNV) to comply with IMO Resolution MSC.215(82) Performance Standard for Protective Coatings (PSPC) for seawater ballast tanks.

Physical Data

Finish	Semigloss		
Color*	Buff, Haze gray, Pastel green, Oxide red, White		
Components	2		
Curing mechanism	Solvent release and chemical reaction between components		
Volume solids (ISO 3233 modified)	87% ± 3%		
Dry film thickness (per coat)	4-12 mils (100-300 microns)		
Coats	1 or 2		
Theoretical coverage per mil (25 microns)	ft ² /gal	m ² /L	
6 mils (150 microns)	1395	33.5	
	233	5.6	
**VOC (EPA 24) mixed	lb/gal	g/L	
	1.2	145	
VOC (EC SED 1999/13/EC) g/kg	lb/gal	g/L	
	1.28	153	102
Temperature resistance	dry		
	°F	°C	
continuous	250	121	
Flash point (SETA)	°F	°C	
Amercoat 240 resin	122	50	
Amercoat 240 cure	138	59	
T-10 Thinner	80	27	
Amercoat 12	2	-17	

* Surface discoloration may occur upon exposure to sunlight, elevated temperatures or chemicals. However, this does not impact performance.

** VOC figures quoted are according to both EPA Method 24 which is practically determined and EC directive 1999/13/ EC which is theoretically determined.

Suitable for the following Cargoes:

- Crude Oil
- Sour Crude Oil
- Drilling Mud
- Aviation Fuel
- 50% Sodium Hydroxide
- Fuel Oils
- Bunker Oil
- Brine
- Dry Bulk Commodities
- Seawater
- Fresh Water

Surface Preparation

Coating performance is, in general, proportional to the degree of surface preparation. Abrasive blasting is usually the most effective and economical method. When this is impossible or impractical, Amercoat 240 can be applied over mechanically cleaned surfaces. All surfaces must be clean, dry and free of all contaminants, including salt deposits. Contact PPG for maximum allowable salt containment levels.

Steel—Remove all loose rust, dirt, grease or other contaminants by one of the following depending on the degree of cleanliness required: SSPC-SP2, 3, 6, 7 or 10 (ISO 8501-1 St-2, St-3, Sa 1, Sa 2.5). These minimum surface preparation standards apply to steel that has been previously abrasive blasted. The choice of surface preparation will depend on the system selected and end-use service conditions.

For more severe service and immersion, clean to SSPC-SP10 (ISO 8501-1 Sa 2.5). Blast to achieve an anchor profile of 2-3 mils (50-75 microns) as indicated by a Keane-Tator Surface profile Comparator or Testex Tape. Previously blasted steel may be ultra-high pressure water jetted to NACE No. 5/SSPC-SP 12 WJ-2L. The wet surface can be dried by blowing with dry compressed air giving special attention to horizontal surfaces and recesses.

Pre-primed steelwork—Amercoat 240 can be applied over steelwork shop primed with inorganic zinc silicate. Surfaces must be clean, dry and free of oil, grease, salts and other contamination by detergent washing and high pressure water washing. Specific attention should be paid to removal of white zinc salts. Weld areas, damaged and corroded areas should be blast cleaned to SSPC-SP 6 (ISO 8501-1 Sa 2.5). Overall sweep-blasting may be necessary for widespread breakdown of the zinc silicate shop primer.

Aluminum—Remove oil, grease or soap film with neutral detergent or emulsion cleaner, treat with Alodine® 1200, Alumiprep® or equivalent, or blast lightly with fine abrasive.

Galvanizing—Remove oil or soap film with detergent or emulsion cleaner, then use zinc treatment such as Galvaprep® or equivalent, or blast lightly with fine abrasive.

Concrete—Light abrasive blast per ASTM D4259 to remove all chalk, and surface glaze or laitance. If blasting is not possible, acid etch uncoated concrete per ASTM D4260 to obtain a glaze-free surface with a slightly granular texture. Rinse with clean water and allow to dry thoroughly. After blasting or acid etching, fill all small holes or voids with material such as Amercoat 114A filler compound.

Aged coatings—All surfaces must be clean, dry, tightly bonded and free of all loose paint, corrosion products or chalky residue. Abrade surface, or clean with Prep 88. Amercoat 240 is compatible over most types of properly applied and tightly adhering coatings, however, a test patch is recommended to confirm compatibility.

Repair—Prepare damaged areas to original surface preparation specifications, feathering edges of intact coating. Thoroughly remove dust or abrasive residue before touch-up.

Typical Systems

1 st coat	2 nd Coat	3 rd coat
Amercoat 240	None	None
Amercoat 240	Amercoat® 229 Series, 450 Series, Amershield, PSX® 700	None
Amercoat 240	Amercoat 240	None
Amercoat 240 ‡	Amercoat 240	PPG Antifoulings
Dimetcote® 9 Series,		
Amercoat 68 Series or Dimetcote 302H	Amercoat 240	None
Dimetcote 9 Series, Amercoat 68 Series or Dimetcote 302H	Amercoat 240	450 Series, 229 Series, PSX 700

Tank Coating System—Two coats of Amercoat 240 at 4 to 12 mils (100 to 300 microns) per coat, to give a total of 12-16mils (300-400 microns) plus stripe coating over sharp edges, cutouts and welds. Use contrasting colors for each coat and stripe coat.

‡ Outside the U.S., a tiecoat such as Amercoat 71TC is required. In the U.S. tie coats are typically avoided for VOC compliance.

Application Data

Applied over	Steel, concrete, aluminum, galvanizing
Surface preparation	
Steel	Abrasive blasting, manual preparation or UHP waterjetting SSPC-SP 2, SP 3, SP 7, SP6, SP10 (ISO 8501-1 St-2, St-3, Sa 1, Sa 2, Sa 2.5)
Concrete	ASTM D4259 or 4260
Aluminum	Alodine®, Alumiprep® or light abrasive blast
Galvanizing	Galvaprep® or light abrasive blast
Method	Airless or conventional spray. Brush or roller (may require additional coats).
Mixing ratio (by volume)	4 part resin to 1 part cure
Induction time (minutes)	70°F/21°C 15
Environmental conditions	
air and surface temperature	20° to 122°F (-7° to 50°C)
material temperature	50° to 80°F (10° to 27°C)
Surface temperatures must be at least 5°F (3°C) above dew point to prevent condensation. At freezing temperatures, surface must be free of ice.	
Thinner	T-10
Equipment cleaner	Thinner or Amercoat 12
Pot life	
(including induction time)	°F/°C
90/32	80/27
40 min.	70/21 40 min.

Drying time @ 6 mils (150 microns) DFT (hours)

	°F/°C				
	90/32	70/21	50/10	32/0	16/-5
dry to touch	3	5	10	24	28
dry hard	6	8	13	30	48

Cure to Immersion* - Tank Lining Service

°F/°C (days)	120/49	90/32	70/21	50/10	32/0	20/-7
	2	3	7	7	7	7

* These cure-to-immersion times refer to tanks with forced ventilation. On underwater hull systems with PPG Antifoulings, the vessel can be launched after the specified dry-to-launch period indicated in the application in the application instruction for the antifouling.

Recoat/Topcoat time @ 6 mils (150 microns) DFT

	°F/°C				
	90/32	70/21	50/10	32/0	20/-7
minimum (hours)					
Amercoat 240	3	5	10	24	28
Amercoat 229 Series, 450 Series, PSX 700	4	8	16	36	48
	°F/°C				
	90/32	70/21	50/10	32/0	20/-7
maximum (months)**					
Amercoat 240	6	6	6	6	6
Amercoat 229 Series, 450 Series, PSX 700	3	3	3	3	3

Drying 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 ambient 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 adequately 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 that have been exposed to sunlight and 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 the maximum recoat/topcoat time is exceeded, then roughen surface.

Application Equipment

The following is a guide; suitable equipment from other manufacturers may be used. Changes in pressure, hose and tip size may be needed for proper spray characteristics.

Airless spray—Standard equipment with pump ratio of 45:1 or larger, with a 0.021- to 0.025-inch fluid tip, ⅜" (9mm) ID hose with 50 ft. maximum length. Long hose runs or location of work at heights 20-30 feet (6-9m) higher than the pump location may require higher pump ratios, increase hose diameters or other adjustments. A typical arrangement for shipyard use would include a 68:1 (or higher) pump ratio with ½" (12mm) to ¾" (18mm) fluid hose.

Conventional spray—Standard conventional air spray equipment. A moisture and oil equipment trap in the main air supply line, a pressure material pot, and separate regulators for air and fluid pressure are recommended.

Power mixer—Jiffy Mixer powered by an air or explosion-proof electric motor.

Brush or roller—Additional coats may be required to attain proper thickness. (Brushing and rolling typically give about 3 mils [75 microns] dft.)

To obtain the maximum performance, adhere to all application instructions, precautions, conditions and limitations. For conditions outside the requirements or limitations described, contact your PPG representative.

Application Procedure

1. Flush all equipment with thinner or Amercoat® 12 before use. Stir resin using an explosion-proof power mixer to disperse into a homogeneous mixture.
2. Add cure to resin. Mix thoroughly until uniformly blended to a workable consistency.

Induction time (minutes)	70°F/21°C
	15
3. Do not mix more material than can be used within the expected pot life, 1.5 hours at 70°F. Higher material temperatures will shorten the pot life considerably.
4. For optimum application, material should be between 50° to 90°F (10° to 32°C).
5. Use only T-10 thinner at 10% by volume, maximum.
6. Below 50°F additional thinning may be needed and multiple coats required to achieve specified thickness.
7. To minimize orange peel appearance, adjust conventional spray equipment to obtain adequate atomization at lowest air pressure.
8. Apply a wet coat in even, parallel passes with 50 percent overlap to avoid holidays, bare areas and pinholes. If required, cross spray at right angles.
9. When applying directly over inorganic-zincs or zinc-rich primers, a mist coat/full coat technique may be required to minimize bubbling. This will depend on the age of the primer, surface roughness and conditions during curing.
10. Ventilate confined areas with clean air during application, between coats, and while curing the final coat. Prevent moisture condensation on the surface between coats.
11. Repair damaged areas by brush or spray.
12. Clean equipment with thinner or Amercoat 12 immediately after use.

Note: Consult Code of Federal Regulations Title 29, Labor, parts 1910 and 1915 concerning occupational safety and health standards and regulations, as well as any other applicable federal, state and local regulations on safe practices in coating operations.

For compliance with IMO standard for Ballast Tank Coatings, please refer to the project Ballast Tank Coatings Specification.

Shipping Data

Packaging unit-US	1 gal	5 gal
Shipping weight (approx.)	lbs/kg	lbs/kg
1-gal unit		
240 resin	11.8/5.4	5.4/2.45
240 cure	2.0/0.9	0.9/0.41
5-gal unit		
240 resin	59.0/26.80	26.8/12.20
240 cure	9.1/4.10	4.1/1.86
Packaging unit-European manufacture		
20 L unit	kg/lbs.	
240 resin (16 L)	28.2/62.0	
240 cure (4 L)	7.2/15.8	

Shelf life when stored indoors at 40° to 100°F (4° to 38°C)
resin and cure 3 years from date of manufacture.

Numerical values are subject to normal manufacturing tolerances, color and testing variances. Allow for application losses and surface irregularities.

This mixed product is photochemically reactive as defined by the South Coast Air Quality Management District's Rule 102 or equivalent regulations.

Safety Precautions

Read each component's material safety data sheet before use. Mixed material has hazards of both components. Safety precautions must be strictly followed during storage, handling, and use.

Caution – Improper use and handling of this product can be hazardous to health and cause fire or explosion.

Do not use this product without first taking all appropriate safety measures to prevent property damage and injuries. These measures may include, without limitation: implementation of proper ventilation, use of proper lamps, wearing of proper protective clothing and masks, tenting and proper separation of application areas. Consult your supervisor. Proper ventilation and protective measures must be provided during application and drying to keep solvent vapor concentrations within safe limits and to protect against toxic hazards. Necessary safety equipment must be used and ventilation requirements carefully observed, especially in confined or enclosed spaces, such as tank interiors and buildings.

This product is to be used by those knowledgeable about proper application methods. PPG makes no recommendation about the types of safety measures that may need to be adopted because these depend on application and space, of which PPG is unaware and over which it has no control.

If you do not fully understand the warnings and instructions or if you cannot strictly comply with them, do not use the product.

This product is for industrial use only. Not for residential use in California.



**PPG Protective &
Marine Coatings**
www.ppgpmc.com

One PPG Place, Pittsburgh, PA 15272 • Tel: 888-9PPGPMC

PSX® 700

DESCRIPTION

Two-component, engineered siloxane coating

PRINCIPAL CHARACTERISTICS

- Unique, high gloss, engineered siloxane
- Can be applied directly over inorganic zinc
- Excellent color and gloss retention
- High solids, VOC compliant
- Applied by brush, roller or spray, without thinning
- Good resistance to splash- and spillage of chemicals

COLOR AND GLOSS LEVEL

- Full color range
- Gloss

BASIC DATA AT 20°C (68°F)

Data for mixed product	
Number of components	Two
Mass density	1.4 kg/l (11.3 lb/US gal)
Volume solids	90 ± 2%
VOC (Supplied)	Directive 1999/13/EC, SED: max. 119.0 g/kg max. 164.0 g/l (approx. 1.4 lb/US gal) EPA Method 24: 0.7 lb/US gal (84.0 g/l)
Recommended dry film thickness	75 - 175 µm (3.0 - 7.0 mils) per coat
Theoretical spreading rate	7.2 m ² /l for 125 µm (289 ft ² /US gal for 5.0 mils)
Dry to touch	2 hours
Overcoating Interval	Minimum: 3 hours Maximum: Unlimited
Shelf life	Base: at least 36 months when stored cool and dry Hardener: at least 24 months when stored cool and dry

Notes:

- See ADDITIONAL DATA – Spreading rate and film thickness
- See ADDITIONAL DATA – Overcoating intervals
- See ADDITIONAL DATA – Curing time



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RECOMMENDED SUBSTRATE CONDITIONS AND TEMPERATURES

Substrate conditions

- Compatible previous coat must be dry and free from any contamination
- Aged suitable coating must be dry and free from any contamination
- Aged coatings may require abrading prior to applying this product
- Prepare damaged areas to original surface preparation specifications, feathering edges of intact coating
- For touch-up and repair; apply additional material after removing dirt, contaminants and old loose coatings or antifoulings

Substrate temperature

- Substrate temperature during application and curing should be above 0°C (32°F)
- Substrate temperature during application and curing should be at least 3°C (5°F) above dew point
- Relative humidity during application and curing should be above 40% to obtain optimal curing properties

INSTRUCTIONS FOR USE

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

- Use a power mixer powered by an air- or explosion-proof electric motor

Induction time

None

Pot life

4 hours at 20°C (68°F)

Note: See ADDITIONAL DATA – Pot life

Airless spray

Recommended thinner

THINNER 60-12 or THINNER 21-06

Volume of thinner

0 - 10%, depending on required thickness and application conditions

Brush/roller

- The recommended DFT cannot be reached in one coat
- Natural bristle
- Maintain a wet edge
- Level any air bubbles with a bristle brush



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Cleaning solvent

THINNER 90-58

ADDITIONAL DATA

Spreading rate and film thickness	
DFT	Theoretical spreading rate
75 µm (3.0 mils)	12.0 m ² /l (481 ft ² /US gal)
125 µm (5.0 mils)	7.2 m ² /l (289 ft ² /US gal)
175 µm (7.0 mils)	5.1 m ² /l (206 ft ² /US gal)

Overcoating interval for DFT up to 175 µm (7.0 mils) at RH 40% or above					
Overcoating with...	Interval	5°C (41°F)	10°C (50°F)	20°C (68°F)	30°C (86°F)
itself	Minimum	12 hours	7 hours	3 hours	2 hours
	Maximum	Unlimited	Unlimited	Unlimited	Unlimited

Notes:

- Surface should be dry and free from any contamination before recoating
- Please contact your PPG representative for more details

Curing time for DFT up to 175 µm (7.0 mils)		
Substrate temperature	Dry to touch	Dry to handle
5°C (41°F)	7 hours	16 hours
10°C (50°F)	4.5 hours	8.5 hours
20°C (68°F)	2 hours	4.5 hours
30°C (86°F)	1 hour	3 hours

Pot life (at application viscosity)	
Mixed product temperature	Pot life
10°C (50°F)	6.5 hours
20°C (68°F)	4 hours
30°C (86°F)	1.5 hours

SAFETY PRECAUTIONS

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



PSX® 700

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
• SAFETY INDICATIONS	INFORMATION SHEET	1430
• SAFETY IN CONFINED SPACES AND HEALTH SAFETY, EXPLOSION HAZARD – TOXIC HAZARD	INFORMATION SHEET	1431
• CLEANING OF STEEL AND REMOVAL OF RUST	INFORMATION SHEET	1490
• SPECIFICATION FOR MINERAL ABRASIVES	INFORMATION SHEET	1491
• SURFACE PREPARATION OF CONCRETE (FLOORS)	INFORMATION SHEET	1496
• RELATIVE HUMIDITY – SUBSTRATE TEMPERATURE – AIR TEMPERATURE	INFORMATION SHEET	1650
• PSX® 700 SILOXANE QUALITY ASPECT APPLICATION	INFORMATION SHEET	1721

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.

LIMITATIONS OF LIABILITY

IN NO EVENT WILL PPG BE LIABLE UNDER ANY THEORY OF RECOVERY (WHETHER BASED ON NEGLIGENCE OF ANY KIND, STRICT LIABILITY OR TORT) FOR ANY INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES IN ANY WAY RELATED TO, ARISING FROM, OR RESULTING FROM ANY USE MADE OF THE PRODUCT. The information in this sheet is intended for guidance only and is based upon laboratory tests that PPG believes to be reliable. PPG may modify the information contained herein at any time as a result of practical experience and continuous product development. All recommendations or suggestions relating to the use of the PPG product, whether in technical documentation, or in response to a specific inquiry, or otherwise, are based on data, which to the best of PPG's knowledge, is reliable. The product and related information is designed for users having the requisite knowledge and industrial skills in the industry and it is the end-user's responsibility to determine the suitability of the product for its own particular use and it shall be deemed that Buyer has done so, as its sole discretion and risk. PPG has no control over either the quality or condition of the substrate, or the many factors affecting the use and application of the product. Therefore, PPG does not accept any liability arising from any loss, injury or damage resulting from such use or the contents of this information (unless there are written agreements stating otherwise). Variations in the application environment, changes in procedures of use, or extrapolation of data may cause unsatisfactory results. This sheet supersedes all previous versions and it is the Buyer's responsibility to ensure that this information is current prior to using the product. Current sheets for all PPG Protective & Marine Coatings Products are maintained at www.ppgpmc.com. The English text of this sheet shall prevail over any translation thereof.

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