

Philadelphia Coatings LLC

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Product Data Sheet

“PHILADUR PHE 06/06”

High Solid Multipurpose

Product Information

Excellent chemical and mechanical resistance, high solid, two-pack epoxy amine, surface tolerant, excellent abrasion resistance. Specifically formulated for a wide variety of heat sensitive applications, requiring a low substrate temperature during the curing process, from -8°C to atmospheric heat service in marine and industrial environments. In control of solvent emissions (VOC) compliant with EU Solvent Emissions Directive (Council Directive 1999/3/EC.). Abrasion resistance giving excellent long term of anticorrosive protection specifically for immersion / underwater areas, ballast tanks, on dump areas with forced ventilation, cargo holds, and crude oil tank. Excellent adherence to variety of substrates, such as steel, aluminum, stainless steel, concrete and various pre-coated surface with a broad range of A/C and A/F bottom systems. In application to hydro-blasted surfaces or other well-treated surfaces, needs to follow various cathodic protection systems and the incidental food contact according to the FDA section 21, chapter 175.300. PhilaDur PHE 06/06 displays very good compatibility with various well-known producers.

Recommended Purpose

Providing universal primer performance in harsh environments and protection of steel structures and other offshore navigation. Surface tolerant, and easy to apply.

Winter type is available.

For lower surface preparation with hydroblasting method on underwater areas, PhilaDur PHE 06/06 Reddish Platinum is highly recommended.

Physical Properties

Sheen: Semi-Gloss

Colors: Aluminum, Platinum, Red Brown, Gray, Oxide Red, Green, Black, White

Volume Solids (%): 82 ± 2

Theoretical Coverage: 5.50 m²/Lit at 150 microns dry / 179 microns wet

Recommended Film Thickness: Over 250 microns dry by 2 coats.

Flashpoint: Mixed product >37°C (98.6°F)

VOC: 217.00g/Lit (material as into the container)

ASTM D412 for Elongation and Tensile Strength

ASTM D4060 for Abrasion Resistance

Application Data

Mixing Ratio: Basis 4 part per/volume, Curing Agent 1 part/volume.

Thinner: The material is ready for use, under special conditions use thinner for epoxy 300, max 5% by volume.

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Painting Method: airless spraying is recommended. brush and spray follow. Tip range 0.48mm-0.66mm (21 thou), blowing pressure shouldn't less than 141kg/cm² (2000psi). Additional thinner may be required.

Use the proper equipment. Actual safety measures and precautions are very important from the selected method and environment work. Emergency Contact Numbers are available World Wide upon any request.

Curing Agent B: To enhance the efficacy of the advanced formulated polydiamine adduct (Curing Agent), designed specifically for high solids and solvent-free epoxies tailored for optimal corrosion protection in heavy-duty applications, consider the following process:

- 1) In cases of elevated or high viscosity, in order to improve processability, add thinner for epoxy PH 300, max 10% by volume in component B Curing Agent. Stir well and subsequently mix with Base A.
- 2) For the ready mixed product A+B, adjust final viscosity as necessary by adding thinner for epoxy PH 300 max 5% by volume, if needed.

Cleaning: Power tool cleaning and Cleaners with Thinner for epoxy PH 300.

Readiness Time: 15 minutes in a proper temperature.

Pot Life: 6 hours at 5°C, 5 hours at 15°C, 3 hours at 30°C

Curing Time: Within 4 days at 23°C (fully cured).

Drying and Over-Coating Conditions

Temperature of basis material	5°C	23°C	30°C
Touch Dry	12 hours	5 hours	3 hours
Hard Dry	18 hours	10 hours	8 hours
Repainting interval (Min)	12 hours	8 hours	5 hours
Repainting interval (Max)	Always under 30 days, depending from environment temperature, best period between 2 days- 7 days		

Coating Specification

Long overcoat period, if local climate, temperatures around to freezing point, proper selection of the systems, coating application procedures, proper surface preparation, as per actual existing film esp. over coated epoxy layer. Try to test design factors, statements and specific recommendations in a controlled laboratory. Always factor in the conditions and consult with Philadelphia Coatings LLC Technical Department before and throughout testing.

Surface Preparation

Surfaces must be clean, dry, and in sound condition. Employ adequate methods to remove oil, dust, grease, dirt, loose rust, and all other contaminants that could interfere with adhesion of the coating in accordance with SSPC-SP 1.

Remove weld spatter and smooth weld seams and sharp edges as applicable.

Spot abrasive sandblasting to min. Sa 2 (ISO 8501-2) / SP 6 (SSPC).

Water blasting to min. HB 2 (ISO 8501-4). May be applied on water/sand blasting SB2.

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Minor areas to be hand or power tool cleaned min. ISO-St3. Please follow the guidelines below:

For outside hull and other areas, PhilaDur PHE 06/06 may be applied onto well-prepared clean surfaces from existing aged coatings, as per Ultra High Pressure hydroblasting Standard HB2 where the flash rusted should not be worse than HB2M.

Ultra High Pressure Hydroblasting, should operate at output pressures over 2.000 bar.

Steel:

Immersion: NACE No. 2/SSPC-SP 10 with a 2.0-3.0 mil (50-75 microns) surface profile.

Non-Immersion: NACE No. 3/SSPC-SP 6 with a 2.0-3.0 mil (50-75 microns) surface profile for maximum protection.

SSPC-SP 2, SSPC-SP 3, NACE No. 4/SSPC-SP 7, NACE/SSPC WJ-1 to WJ-4, or SSPC-SP 14 are also acceptable methods.

Major Refurbishment:

PhilaDur PHE 06/06 may be applied using a wash/blast/wash surface preparation method:

- High pressure (minimum 300 bar) fresh water wash
- Abrasive blast cleaning min. Sa2 (ISO 8501-1:2007)
- Carry out a second high pressure (minimum 300 bar) fresh water wash
- Chloride tested after H.P.W.W. should be under 10mg/cm²
- Visual standard of flash rusting must correspond to no worse than HB2M

Please note that better surface preparation always results in longer lifetime expectations.

Galvanized Steel:

For optimum performance clean and abrade in accordance with SSPC-SP 16.

Previously Painted Surfaces:

Clean and lightly sand or abrade to roughen and degloss the surface. Existing coating must attain a minimum 3A rating in accordance with ASTM D3359 adhesion test.

Concrete:

Low pressure water washing to a rough, clean, dry and laitance free surface.

Minimum 4 weeks curing. Moisture content maximum 5 %. Prepare the surface by means of enclosed blast shot or diamond grinding and other appropriate means to abrade the surrounding concrete and to remove laitance.

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PERFORMANCE DATA

Test Method	System	Results
ASTM 4060 Taber Abrasion	1 ct. CM15	130 mg loss; 1000 cycles using CS 17 wheel and 1000 gm load,
ASTM B117 Salt Spray	Rusted Steel 1 ct. CM 15	No blistering, rusting, or softening No rust creep from scribe
ASTM D1735 Water Fog	Rusted Steel 1ct CM 15	No blistering or softening, No creep from scribe
ASTM D522 Flexibility	Blasted steel 1 ct. CM15	A) Conical - crack 0.38", actual elongation 48.57% B) Cylindrical- no cracking observed
ASTM G 14 Impact Resistance	A) Blasted Steel 1 ct. CM 15, B) Rusted Steel 1 ct. CM 15	Area Damaged A) 1/4 inch (0.25") B) 1/4 - 9/16 inch (0.44")

Optimum performance, including adhesion, corrosion protection, heat resistance and chemical resistance is achieved with recommended surface preparation. For other surface treatments, please consult with Philadelphia Coatings LLC.

Storage

Circa 24 months at 20°C, stored in a dry, shaded and ventilated condition. The container/paint must be kept sealed and away from heat and ignition.

In some markets commercial shelf life can be dictated shorter by local legislation. The above is minimum shelf life, thereafter the paint quality is subject to re-inspection.

Color Variation

When applicable, products primarily intended for use as primers or antifoulings may have slight color variations from batch to batch. Such products may fade and chalk when exposed to sunlight and weathering. Color and gloss retention on topcoats/finish coats may vary depending on type of color, exposure environment such as temperature, UV intensity etc., and application quality. For further information, please consult with Philadelphia Coatings LLC.

Pack Size

Basis 4 Gal. (16 Lit) drum, agent 1 Gal (3,785 Lit) drum. If other packing specifications are needed, please consult with Philadelphia Coatings LLC.

Shipping weight

Basis 4 Gal. (16 Lit) 65.44 lb drum, agent 1 Gal (3,785 Lit) 4.2 lb drum.

Health and Safety

Prior to use, obtain, consult and follow the Material Safety Data Sheet for this product concerning health and safety information. Read carefully and conform to precautions on MSDS and packing vessels. To avoid eye and skin contact,

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tools such as gloves, goggles and face mask etc. should be used during work with product (proper safety measures should be taken according to construction methods and circumstances). All work with the product must be carried out according to all relevant national health, safety and environment standards and codes. This product is for professional use only.

Limitation of liability

All information is given for guidance only and is subject to regional variation depending upon local climate and environmental condition. An excessive film thickness delays the final curing and creates sagging. Over coating interval will increase with the number of paint layers and the thickness of the paint film. For recommended paints at special circumstances, please consult with Philadelphia Coatings LLC. Apply in good weather. The relative humidity must not exceed 80% temperature of the surface to be coated must be at least 3°C above the dew point. All data from the tests is obtained under lab conditions, so Philadelphia Coatings LLC won't bear any liabilities from the condition whether the data could reflect the objective status of the actual application circumstance or not.

Disclaimer

The information in the product manual is based on our experiences from tests and practice. For the application without our knowledge, we could only make sure that our products themselves are warranted. We may modify the data in this product manual according to our continuous development and experience accumulation without advanced notice.