



“PHILADUR PHE 06/02 High Solids, Glasscoat”

Ice Coating

Product Information

It is a unique high solids volume epoxy aluminum shield primer (with glass flake) with excellent abrasion and corrosion resistances. It has universal coating ability at low temperatures down to -6°C. It is also suitable with controlled cathodic protection systems. It offers high quality durable protection, elasticity and impact resistances. A two component, high solid, glass flake reinforced epoxy coating.

- Applicable by one coat for C4 t/m C5 – IM3 according ISO 12944.
- Excellent barrier properties
- resistant against a wide range of chemicals
- excellent abrasion resistance
- Applicable under severe circumstances like splash zone etc
- easy to apply in high range of film thickness by one coat, up to 500 µm.

Application: in aggressive industrial and marine environment

Note: When exposed to sunlight, the coating will chalk

PHILADUR High Solid Glasscoat PHE 06/02 displays very good compatibility with various well known producers.

Recommended Purpose

PhilaDur High Solid Glasscoat PHE 06/02 is used as a universal high build primer under/above sea water line. It is used for heavy marine, industry, and offshore applications especially: Car Ferries, Garage Decks, Crude Oil Tanks, Ballast Tanks, and Cargo Holds. It is suitable for refined spirits, please consult with our technical advisor for more info.

Physical Properties

Sheen: Semi-Gloss

Color: Grayish, Reddish

Volume Solids (%): 94 ± 2

Theoretical Coverage: 6.27 m²/lit at 150 microns dry / 160 microns wet

Recommended Film Thickness: Over 150 microns dry, also suitable for 500 microns per coat

Flashpoint ISO 1523: Base 45°C, Hardener >70°C, Thinner PH 300 23°C

VOC: 122.00g/lit (material as into the container)

Dry Temperature Resistance: 120°C

ASTM D412 for Elongation and Tensile Strength

ASTM D4060 for Abrasion Resistance

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Application Data

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

Readiness Time: 15 minutes in an ample temperature.

Thinner: Not recommended. The material is ready for use, under special conditions use Thinner for Epoxy PH 300, max 5% by volume.

Optimal application circumstances: Temperature: 15 – 25°C, Humidity: 40 – 75%

Painting Method: Airless spraying is our recommendation, Brush, Airless-Spray follows. Tip range 0.48mm-0.53mm (21 thou), blowing pressure shouldn't less than 170-200kg/cm² (2000psi). Additional thinner maybe required. Use 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.

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

Pot Life: 20 liter packing appr. 90 min. at 10°C, appr. 45 min. at 20°C

Curing Time: Within 7 days at 23°C (fully cured)

| Usage information | Airless-spray | Brush/roller |
|---|--------------------------------------|----------------|
| Type of thinner | Thinner PH 300 | Thinner PH 300 |
| Recommended thinner (depending on application and equipment) | 0 – 5 vol. % | 0 – 5 vol. % |
| Nozzle orifice | 0.48 – 0.53 mm 0.019 – 0.021 inch | |
| Nozzle pressure | 170 – 200 bar | |
| Maximum attainable d.f.t. | 500 µm | 200 µm |
| Cleaning of tools | Thinner PH 300 | |

Drying/curing properties at substrate temperature:

| Temperature of basis material | 5°C | 23°C | 30°C |
|-------------------------------|--|----------|----------|
| Touch Dry | 16 hours | 6 hours | 4 hours |
| Hard Dry | 24 hours | 12 hours | 10 hours |
| Repainting interval (Min) | 18 hours | 8 hours | 6 hours |
| Repainting interval (Max) | Always less than 30 days, depending on environment temperature; best period between 2 days-7 days. | | |

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Coating Specification

If local temperatures are around freezing, there is a long overcoat period. The systems, actual existing film esp. overcoated epoxy layer, proper surface preparation, and coating application procedures should be selected, and then tested in a controlled laboratory. Design factors, statements, and specific recommendations should always be valued. Always factor in conditions and remain in touch with Philadelphia Coatings LLC Technical Department.

Surface conditions

Obtaining the highest possible quality of the applied product it is very important that the substrate is prepared carefully and correctly. The required surface roughness and a dry and clean substrate are the main parameters. Prior to application of the paint, the substrate must be examined according to the ISO standard 8504:2000.

Steel Initial: Abrasive blasting according to ISO standard 8501-1:1988 Sa 2½. Roughness profile Ra 10-12 µm Rz 50-60 µm. Surface should be clean and dry.

Repair and maintenance: Clean the surface thoroughly with a suitable cleaning preparation or by steam cleaning. Remove salts and other water-soluble impurity by spraying with clean tap-water under high pressure. Remove rust a.o. by (water) blasting Sa 2½ or derust mechanically until St. 2-3.

Apply the recommended paint system on a clean surface.

Mechanical or hand derusting gives less quality than (water) blasting and will result in less protection of the applied paint system.

Concrete: Sweep blasting in order to remove previous coating and or by etching according suppliers instructions. Wash the substrate with water. Crack etc should be filled with a suitable filler.

Surface Preparation

Surface must be clean, dry, and in sound condition. Remove all oil, dust, grease, dirt, loose rust, and other foreign material to ensure adequate adhesion.



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Minimum recommended surface preparation:

| Substrate | Minimum | Recommended |
|------------------|--|--|
| Carbon steel | St 2 (ISO 8501-1) | Sa 2 (ISO 8501-1) |
| Stainless steel | The surface shall be hand or machine abraded with non-metallic abrasives or bonded fibre machine or hand abrasive pads to impart a scratch pattern to the surface and to remove all polish from the surface. | Abrasive blast cleaning to achieve a surface profile using non-metallic abrasive media which is suitable to achieve a sharp and angular surface profile. |
| Galvanised steel | The surface shall be clean, dry and appear with a rough and dull profile. | Light brush blasting using nonmetallic abrasive leaving a clean, rough and even pattern. |
| Coated surfaces | Clean, dry and undamaged compatible coating (ISO 12944-4 6.1.4) | Clean, dry and undamaged compatible coating (ISO 12944-4 6.1.4) |
| 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. |

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.

Product Characteristics

No coating work shall be carried out when the temperature of the surface is less than 3°C above dewpoint and when the substrate temperature is below 5°C.

Due to the presence of solvents, applying this product in confined spaces, adequate ventilation must be ensured. At low temperature and under humid conditions, amine blushing can occur, which can affect the intercoat adhesion negatively. Prior to the application of the next layer, the previous layer must be checked for this phenomenon. Discoloration or loss of gloss or other surface defects, can occur during drying and curing by condensation and or early water spotting. In particular bright and "full" colors.

This coating product is based on epoxy technology. It is recommendable that it should be overcoated with a durable finish.

Maximum film build in one coat is best attained by airless spray. Application by other techniques, it may be necessary to apply multiple coats in order to achieve the total specified dry film thickness.

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Ventilation precaution

Minimum required quantity of air to comply with:

| | MAC | 10 % LEL |
|---|------------------------|-----------------------|
| PHILADUR High Solid Glasscoat PH 06/09 | 500 m ³ /L | 20 m ³ /L |
| Thinner PH 300 | 3995 m ³ /L | 160 m ³ /L |

MAC = Maximum Accepted Concentration

LEL = Lower Explosion Limit

Also consult the safety data sheets.

Storage

Circa 24 months at 20°C, stored at 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.

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, 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

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circumstances, please consult with our 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.