



Product Data Sheet

“PHILAGARD PHE 06/04”

Tank, Cargo Coating

Product Information

High solids epoxy barrier surface tolerant coating, with excellent anti-corrosive properties, strong impact and abrasion resistance. It forms a hard and tough coating with good wetting properties and low temperature curing. As PhilaGard is self-primed, it can be coated as a primer and as a finished coating in a heavy-duty paint system, when low VOC and high film build is required. It can also be used for maintenance in cargo holds and ballast tanks, on dump areas with forced ventilation. Among other properties, it has strong adhesion to ST3 prepared steel substrates and is compatible with most aged coatings. It can be re-coated with various PhilaCoatings finishing systems. Tested for non-contamination of grain cargo. Complies with section 175.300 of the quote of Federal Regulation (FDA) in respect to carriage of dry food stuffs in space with an internal surface area larger than 10,750 sqft.

PhilaGard PHE 06/04 displays very good compatibility with various well known producers.

Recommended Purpose

Applicable on ballast tanks, cargo holds, especially when a level of abrasion resistance is required. High gloss durable finish. Chemical & abrasion resistance. Outstanding adhesion. Can be used on various existing epoxy coatings. Quick drying.

Physical Properties

Sheen: Semi-Gloss

Colors: Red Brown, Oxide Red, Gray, others

Volume Solids (%): 80 ± 2

Theoretical Coverage: 6.40 m²/Lit at 125 microns dry / 160 microns wet

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

Flash Point: Mixed product >36°C (96.8°F)

Specific gravity: 1.35 g/Lit

VOC: 194.00 g/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.

Readiness Time: 15 minutes in a proper temperature.

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

Painting Method: Airless spraying is our recommendation, Brush, Spray follows. Tip range 0.48mm-0.66mm (21 thou), blowing pressure shouldn't less than 141kg/cm² (2000psi). Additional thinner maybe required. Use proper equipment. Actual safety measures and precautions are very important from the selected method and environment work.

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Emergency Contact Numbers are available World Wide upon any request.

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

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.

Pot Life: 10°C: 4 hours, 23°C: 2 hours, 30°C: 1 hour

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

Optimal Application Conditions: The temperature of the substrate should be at least 3°C above the dew point of the air. Temperature and relative humidity should be measured in the vicinity of the substrate. The maximum recommended surface temperature is approx. 40°C. Higher steel temperatures are acceptable provided dry-spray is avoided by proper spray application and extra thinning if required. In extreme cases it may be necessary to reduce film thickness in order to avoid sagging. When applying the paint in confined spaces, provide adequate ventilation during application and drying. The temperature of the mixed paint should be at least 15°C, otherwise extra solvent may be required to obtain a proper application viscosity.

Drying and Over coating Conditions

Temperature of basis material	5°C	23°C	30°C
Touch Dry	12 hours	2 hours	1 hour
Hard Dry	18 hours	16 hours	6 hours
Repainting interval (Min)	12 hours	16 hours	8 hours
Repainting interval (Max)	Always under 30 days, depend from environment temperature, best period between 2 days- 7 days		

Coating Specification

Long overcoat period if temperatures are around freezing point. Proper selection of the systems, coating application procedures and surface preparation are made depending on actual existing film. Best specific design factors and conditions are tested in a controlled laboratory. Consult with Philadelphia Coatings LLC Technical Department before and throughout testing process.



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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.

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.

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.

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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, 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.