Protective & Marine Coatings
PRODUCT DATA SHEET

EPO-PHEN™ FF

TANK LINING AND HIGH TEMP COATING

Revised 04/2025 Issue 9

PRODUCT DESCRIPTION

A flake filled epoxy phenolic novolac lining for protection from corrosion under insulation.

RECOMMENDED USE

External lining for steel and stainless steel tanks, pipes and process vessels under thermal insulation at elevated temperatures and/or cryogenic service. May be used as an API 652 compliant thin film lining for immersion service in crude/water service at elevated temperatures.

PRODUCT TECHNICAL DATA

Volume Solids: 70 ± 2 % (ASTM-D2697)

Weight Solids: 85 ± 2 %

VOC: < 250 g/l according to EPA Method 24

Colours: Limited Range

Flash Point: Base: 13°C, Hardener: 93°C

Cleanser/Thinner: Cleanser/Thinner No.50 for cleaning.
Cleanser/Thinner No.5 for thinning with max. 10% volume to adapt the viscosity.
Thinning will affect VOC compliance, sag tolerance and dry film thicknesses.

Pack Size: A two component material supplied in separate containers to be mixed prior to use:
20 litre (36 kg) units when mixed
Weight will vary with colours and density.

Mixing Ratio: 4 parts base to 1 part additive by volume
100 parts base to 13.8 parts hardener by weight

Density: 1.8 kg/l (may vary with colours)

Shelf Life: 24 months from date of manufacture, stored in originally sealed containers in a cool and dry environment

Recommended Application Methods:
Airless Spray, Conventional Spray, Brush and Roller

Typical Thickness:

Recommended Spreading Rate Per Coat

	Typical	Maximum
Dry	175 µm	225 µm
Wet	250 µm	325 µm
Theoretical Consumption*	0.450 kg/m² 0.250 l/m²	
Theoretical Coverage*	2.22 m²/kg 4.00 m²/l	

*This figure makes no allowance for surface profile, uneven application, overspray or losses in containers and equipment.

Film thickness will vary depending on actual use and specification.

Pot Life:

+ 10°C	+ 25°C	+ 40°C
4 hours	2 hours	1 hour

Pot life is dependent on temperature and volume.

AVERAGE DRYING TIMES

For 210 µm Dry Film Thickness

	+ 10°C	+ 25°C	+ 40°C
To touch	6 hours	3 hours	1 hours
To handle	18 hours	8 hours	2 hours
To recoat	24 hours	16 hours	6 hours

Maximum recoat time is 30 days. Prior to further applications all contamination must be removed. In the case of extended recoating times, mechanically abrade the surface and remove contamination prior to application of additional coats.

Heat cure: 8 hours at ambient then 16 hours at + 60ºC.

These figures are given as a guide only. Factors such as air movement, film thickness and humidity must also be considered.

SURFACE PREPARATION

Ensure surfaces to be coated are clean, dry and free from all surface contamination such as oil, grease, dirt and corrosion products to achieve satisfactory adhesion.
Steel surfaces shall be blast-cleaned to Sa 2½ according to ISO 8501-1 (ISO 12944-4), using angular grit. Average surface profile Rz ≥ 75 microns.

MIXING

Stir component A very thoroughly using a mechanical paint mixer (start slowly, then increase up to approx. 300 rpm). Add component B carefully and mix both components very thoroughly (including sides and bottom of the container). Mix for at least 3 minutes until a homogeneous mixture is achieved. We recommend to fill the mixed material into a clean container and mix again shortly as described above to avoid incorrect mixing. During mixing and handling of the materials always wear protective goggles, suitable gloves and other protective clothing.

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APPLICATION CONDITIONS

Substrate temperature shall be above + 5°C and at least + 3ºC above the dew point.

Material temperature shall be above + 10°C.

Relative air humidity shall be below 85%.

APPLICATION EQUIPMENT

Changes in pressures and tip sizes may be needed for satisfactory application characteristics. Always purge spray equipment before use with listed cleaner. Any reduction must be compliant with existing VOC regulations and compatible with the existing environmental and application conditions.

Airless Spray

Unit:	Efficient airless equipment
Tip Size:	0.48 - 0.53 mm (0.019 - 0.021 inch)
Fan Angle:	45° - 60°
Operating Pressure:	min. 250 bar (3600 psi)

The airless spray details given above are intended as a guide only.

Details such as fluid hose length and diameter, paint temperature and job shape and size all have an effect on the spray tip and operating pressure chosen.

As conditions will vary from job to job, it is the applicators responsibility to ensure that the equipment in use has been set up to give the best results.

If in doubt consult Sherwin-Williams customer service.

Brush and Roller

The coating is suitable for brush and roller application. Application of more than one coat may be necessary to give equivalent dry film thickness to a single spray applied coat.

RECOMMENDED SYSTEMS

Steel, Stainless Steel, high temperature resistance up to 230°C
1 x 175 - 225 µm EPO-PHEN FF
or
2 x 87 - 112 µm EPO-PHEN FF

Steel, Stainless Steel, high temperature resistance up to 150°C
2 x 125 - 200 µm EPO-PHEN FF

Steel, Stainless Steel, immersion / tank lining
2 x 125 - 200 µm EPO-PHEN FF

Do not apply over 310 µm total dft for service above 150°C. For all other services, EPO-PHEN FF may be applied up to 400 µm total dft, depending on application conditions. Consult your Sherwin-Williams representative for additional information.
The systems listed above are representative of the product's use, other systems may be appropriate.

ADDITIONAL NOTES

When using spray application, use a 50% overlap with each pass of the gun to avoid holidays, bare areas, and pinholes. If necessary, cross-coat spray at a right angle.

Spreading rates are calculated on volume solids and do not include an application loss factor due to surface profile, roughness or porosity of the surface, skill and technique of the applicator, method of application, various surface irregularities, material lost during mixing, spillage, overthinning, climatic conditions, and excessive film build.

Stripe coat all crevices, welds, and sharp angles to prevent early failure in these areas.

Do not mix previously catalyzed material with new.

HEALTH & SAFETY

Consult Product Health and Safety Data Sheet for information on safe storage, handling and application of this product.

WARRANTY

Whilst all statements made about our products (whether in this data sheet or otherwise) are correct and accurate to the best of our knowledge, we have no control over the quality or the condition of the substrate, the application conditions or the many other factors affecting your use and application of our product.

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