

CHAMPION 466F

FDA LINER

DESCRIPTION

FDA Epoxy Liner

PRINCIPAL CHARACTERISTICS

- Two component, modified epoxy formulated for use as a protective lining for tank and hopper cars for areas requiring compliance for direct contact with food or food commodity.
- Excellent adhesion, flexibility, and chemical resistance.
- Formulated with special additives to facilitate in unloading of products and ease of cleaning substrates.
- Meets the requirements of 21 CFR 175.300, Types, I, II, and III for direct food contact surfaces.
- Recommended for products such as Corn Syrup, T.E.A., D.E.A., Propylene Glycol, and dry bulk cargoes.

COLOR AND GLOSS LEVEL

- White primer, Blue or Gray Finish Coat
- Semi-gloss

Note:

- Epoxy coatings will chalk and fade upon exposure to sunlight, elevated temperatures, or chemical exposure. Discoloration and normal chalking do not impact performance. Light colors will darken over time. Some batch-to-batch variation in color is to be expected. Color matches are approximate.

BASIC DATA AT 20°C (68°F)

Data for mixed product	
Number of components	Two
Volume solids	53 ± 2%
VOC (Supplied)	max. 3.4 lb/US gal (approx. 408 g/l)
Temperature resistance (Continuous)	To 200°F (93°C)
Temperature resistance (Intermittent)	To 250°F (121°C)
Recommended dry film thickness	4.0 - 5.0 mils (100 - 125 µm) per coat
Theoretical spreading rate	170 ft ² /US gal for 5.0 mils (4.2 m ² /l for 125 µm)
Shelf life	Base: at least 24 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
- Temperature resistance is based on dry temperature resistance and may be limited by the specific cargo.
- 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

Mild steel

- Remove all surface contaminants, oil and grease in accordance with SSPC SP-1
 - Abrasive blast to achieve an SSPC SP-10 Cleanliness or higher. Achieve a surface profile of 2.0-3.5 mils.
 - Contact PPG for maximum allowable salt containment levels
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Repair

- Remove all rust, loose paint, grease or other contaminants preferably by spot abrasive blast from damaged areas abraded to bare steel. For smaller areas, abrade the steel in accordance with SSPC SP-11 standards to create a uniform and dense anchor profile
 - Taper abrade the perimeter of the repair area to a feathered edge extending 1 – 3 inches from the steel
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Substrate temperature and application conditions

- Surface temperature during application should be between 50°F (10°C) and 100°F (38°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 50°F (10°C) and 100°F (38°C)
 - Relative humidity during application should be above 0% and below 85%
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INSTRUCTIONS FOR USE

Mixing ratio by volume: base to hardener 4:1

- Pre-mix each 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
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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
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Material temperature

- Material temperature during application should be between 50°F (10°C) and 100°F (38°C)
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Table of Induction time

Mixed product induction time	
Mixed product temperature	Induction time
50°F (10°C)	1 hour
70°F (21°C)	30 minutes

Pot life

5 hours at 70°F (21°C)

Note:

- See ADDITIONAL DATA – Pot life

Air spray

- Separate air and fluid pressure regulators and a moisture and oil trap in the main air supply line are recommended.
- DeVilbiss MBC gun, 704 or 777 air cap with "E" or "F" tip and needle or equivalent equipment. Atomization Pressure: 30-60 psi

Recommended thinner

THINNER 90-53

Volume of thinner

5 - 10%

Nozzle orifice

Approx. 0.070 in (1.8 mm)

Airless spray

- 30:1 pump or larger

Recommended thinner

THINNER 90-53

Volume of thinner

5 - 10%

Nozzle orifice

0.015 – 0.019 in (approx. 0.38 – 0.48 mm)



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Brush/roller

- Use a high quality natural bristle brush. Ensure brush is well loaded to avoid air entrainment. Brush application is limited to small touch up areas of a few square inches

Recommended thinner

THINNER 21-06 (AMERCOAT 65)

Cleaning solvent

- THINNER 90-58 (AMERCOAT 12)

ADDITIONAL DATA

Overcoating interval for DFT up to 5.0 mils (125 µm)				
Overcoating with...	Interval	50°F (10°C)	70°F (21°C)	90°F (32°C)
itself	Minimum	32 hours	20 hours	16 hours
	Maximum	3 days	3 days	3 days

Notes:

- The surface must always be uniformly abraded after heat curing.
- Clean and roughen when maximum is exceeded

Curing Time				
Substrate temperature	Dry to touch	Dry to handle	Full cure	Cure for Food Service
50°F (10°C)	8 hours	32 hours	14 days	N/A
70°F (21°C)	5 hours	20 hours	7 days	N/A
90°F (32°C)	3 hours	16 hours	5 days	N/A
190°F (88°C)	N/A	N/A	3 hours	11 hours
240°F (116°C)	N/A	N/A	1 hour	6 hours

Notes:

- For food grade service, the lining must be heat cured at 190 °F to 250 °F.
- Adequate ventilation must be maintained during application and curing
- Above 140 °F, the surface temperatures must be ramped at a rate of not greater than 2 °F per minute until the target surface temperature is reached.



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Curing time for solvent-free application (Shore D=25)			
Substrate temperature	Dry to touch	Dry to handle	Full cure
50°F (10°C)	8 hours	32 hours	14 days
70°F (21°C)	5 hours	20 hours	7 days
90°F (32°C)	3 hours	16 hours	5 days
220°F (100°C)	N/A	N/A	1 hour

Notes:

- For food grade service, the lining must be heat cured at 220 °F to 250 °F.
- Above 140 °F, the surface temperatures must be ramped at a rate of not greater than 2 °F per minute until the target surface temperature is reached.
- Adequate ventilation must be maintained during application and curing

Pot life (at application viscosity)	
Mixed product temperature	Pot life
50°F (10°C)	8 hours
70°F (21°C)	5 hours
90°F (32°C)	2.5 hours

SAFETY PRECAUTIONS

- Read all label and Safety Data Sheet (SDS) information prior to use

WORLDWIDE AVAILABILITY

It is always the aim of PPG Protective & 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

- Information sheet | Explanation of product data sheets

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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AVAILABILITY OF PACKAGING

Depending on specific country of application the following versions are available:

Product	Color
CM466F-B	Hardener
CM466F-3	Gray Base
CM466F-3	White Primer Base

