SERIES 69 - FBE Marine Protect

FUSION BONDED EPOXY POWDER COATING FOR HIGHLY CORROSIVE AND MARINE ENVIRONMENTS

Typical applications

- Metal Railings
- Structural Metal Fabrications
- Pump Housings
- Marine Equipment
- Boat Docks
- Metal Pipe and Tubing

Product details

Standard packaging	in original 20 kg (44 lb) boxes
Specific gravity (ASTM D792)	approximately 1.2-1.8 g/cm³ depending on pigmentation
Theoretical coverage	at 4.0mils (100 µm) film thickness: **7.1 m²/kg (34.5 ft²/lb)**. Refer also to "Theoretic Powder Coating Coverage Chart" version 00-1001 (imperial) version 00-1000 (metric)
Storage stability	6 months at no more than 25 °C (77 °C) avoid direct and extended exposure to heat

Features

- Excellent Mechanical Properties
- Excellent Chemical Resistance
- Excellent Resistance to Corrosion
- Good Flow Properties
- Excellent Coverage
- Good Storage Stability

Finish

finish	gloss
smooth semi-gloss	35-70*

* *Gloss level according to ASTM 523 at 60° angle (doesn't apply to metallic effect powder coatings). The measured gloss level of effect powder coatings can diverge from the details given in this Product Data Sheet. The creation of tolerance samples is recommended.*

Available as a custom product made to order (minimum order quantity applies).

Pretreatment

The following table reflects the common methods of pre-treatment with regards to various substrates and applications. In selecting the proper type of pretreatment, the suitability of the type of powder coating for a desired application according to the guidelines on this page should be observed.

	Aluminum			Galvanized Steel				Steel		
Degreasing	○			○				○		
[1] Chromating	○	○	○	○	○	○	○			
[2] Pre-Anodizing	○	○	○							
[2] Chrome free	○	○	○	○	○					
Iron Phosphating								○	○	
Zinc Phosphating				○	○	○	○	○	○	○
Blasting								○	○	○
[3] Sweeping				○	○	○	○			
	I	E	A	I	E	A	S	I	E	S[4]

Application: I = interior; E = exterior; A = architectural; S = steel

1) according to ASTM B 449
2) according to GSB quality and test regulations.
3) only for zinc coated parts >1.8 mils (>45 µm)
4) for a two-coat process/TIGER Shield

Processing

Corona*

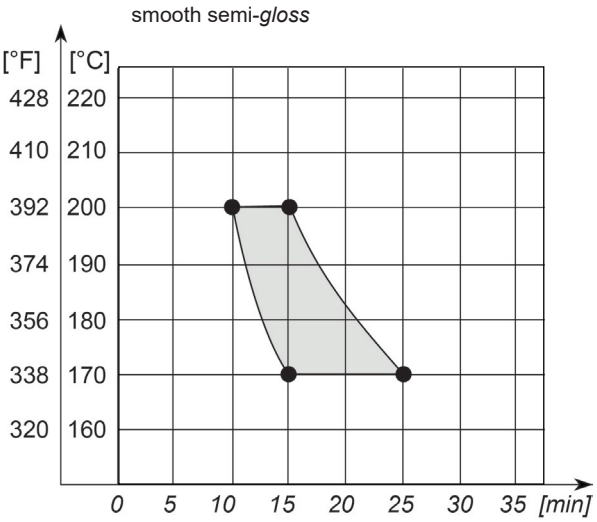
** Since not all powder coatings are suitable for recycling/reclaim, please verify before ordering.*

If Tribostatic application is required a custom formulation may be needed, please contact your Sales Representative.

Product data sheet

Cure parameters

(substrate temperature versus curing time)



substrate temp.	min. curing time	max. curing time
170 °C (338 °F)	15 minutes	25 minutes
200 °C (392 °F)	10 minutes	15 minutes

Cure parameters must be closely observed since mechanical properties will develop before full cross-linking.

Test results

Checked under laboratory conditions on iron phosphated steel test panels Bonderite B-1000 or equivalent, unless otherwise noted**. Cure conditions are according to the cure curves. Actual product performance may vary due to product-specific properties such as gloss, color, effect and finish as well as application-related and environmental influences.

test method	test	Series 69 smooth *semi-gloss*
ISO 2360	**recommended film thickness**	4-10 mils (100-250 µm)
ASTM D523	**gloss - 60°**	35-70
ASTM D3359 method B	**cross cut tape test** 1mm cutting distance	5B
ASTM D2794	**ball impact test** cracking of coating	60 in/lb no appearance of cracks down to the substrate
ASTM D3363	**pencil hardness**	2H minimum
ASTM G8 modified** (hot rolled, mild steel panels blasted to SSPC SP10)	**cathodic protection**	no peeling, flaking, or blistering; ½" diameter; 3 months
ASTM D4541 **(hot rolled, mild steel panels blasted to SSPC SP10)	**resistance to condensing water**	pass 2,000 hours
ASTM D1141 ** (hot rolled, mild steel panels blasted to SSPC SP10)	**seawater immersion**	pass 50 cycles
FED STD-141, Method 3011.3	**condition in container**	pass 22 °C (72 °F), <50% Relative humidity

Cleaning recommendations: refer to the latest edition of TIGER "Cleaning Recommendations" information sheet, Version 00-1005.

Please note

Epoxy powder coatings have a tendency to color shift and gloss variations due to changes in curing conditions. It is recommended to closely observe the curing parameters.

For metallic finishes, it is recommended to observe the guidelines published in the latest edition of TIGER Drylac® "Application guidelines for metallic effect powder coatings".

Please consult the manufacturer before applying any 2-coat systems that feature (i) a primer or e-coat as base coat and (ii) a metallic effect powder coating as a top coat.

Top coating with a clear exterior grade powder coating over an interior grade powder coating does not result into a weather resistant coating system.

Post-bending properties of any part must be verified prior to application. Minor cracks in the coated surface may lead to corrosion.

In general, colors in the red, orange and yellow range may require an increased film thickness to achieve full hiding.

Please read and understand the Safety Data Sheet (SDS) before use.

Chemical resistance

The required chemical resistance of a powder coating depends, among other things, on its formulation. Chemical resistance requirements must be considered according to processing conditions and final use of the finished product. This is best established during the product specification process. Agreement between all parties involved must be reached about the requirements for such chemical resistance as well as the test method, which may be performed in accordance with PCI test method #8 "Solvent Cure Test". Furthermore, the test duration and concentration of the test media need to be agreed upon.

Disclaimer

TIGER's verbal and written recommendations for the use of its products are based upon experience and in accordance with current technological standards. These are provided in order to support the buyer or user. They are non-committal and do not create any additional commitments to the purchase agreement. They do not release the buyer from verifying the suitability of TIGER products for the intended application. TIGER warrants that its products are free of flaws and defects to the extent stipulated in the Terms of Delivery and Payment.

As part of TIGER product information program, each Product Data Sheet is updated periodically. The latest version shall prevail. It is recommended to always check for the latest editions on TIGER's website download area www.tiger-coatings.com to make sure you have the most current version of this Product Data Sheet. The information on TIGER's Product Data Sheets are subject to change without notification.

This Product Data Sheet supersedes and replaces all previous Product Data Sheet versions and notes to customers published in relation to this product and is only intended to provide a general overview on the product.

Latest versions of Technical Information Sheets and Terms of Delivery and Payment are downloadable from www.tiger-coatings.com and form an integral part of this Product Data Sheet.

Series 69

Certified according to ISO 9001 | 14001

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