

SERIES 139 - interior and exterior applications

POLYESTER TGIC-FREE WEATHER RESISTANT POWDER COATING FOR INTERIOR AND EXTERIOR APPLICATIONS

Typical applications

- residential windows and doors
- lawn mowers and garden equipment
- patio furniture
- automotive accessories
- bicycles and motorcycles
- agricultural machinery
- sporting goods

Product details

Standard packaging in original 22 & 44 lb (10 & 20) boxes and 5 lb (2.5 kg) minipack

Specific gravity (ASTM D792) approximately 1.2-1.8 g/cm³ depending on pigmentation

Theoretical coverage at 2.5 mils (60 µm) film thickness:
64.4 ft²/lb (13.2 m²/kg) – 42.9 ft²/lb (8.8 m²/kg). Refer also to "Theoretic Powder Coating Coverage Chart" version 00-1001 (imperial) version 00-1000 (metric)

Storage stability 12 months at no more than 77 °F (25 °C).
 Avoid direct and extended exposure to heat.

Features

- good weather resistance
- good mechanical properties
- good flow
- good coverage
- good storage stability
- Underwriter Laboratories recognized component (UL approved)



Underwriters Laboratories Inc., (UL) Recognition.

Finish

finish	gloss*
smooth <i>glossy</i>	80-95+
smooth <i>semi-gloss</i>	55-65
smooth <i>satín</i>	26-35
smooth <i>matte</i>	16-25
fine texture <i>flat matte</i>	0-15

* 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 stock product in a selection of colors and finishes (see color charts). It can be made to order in other colors (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. The suitability of this type of pretreatment needs to be established through a boiling water test and subsequent cross-hatch adhesion and adhesive tape removal test
- 3) only for zinc coated parts >1.8 mils (>45 µm)
- 4) for a two-coat process TIGER Shield

Processing

Corona*

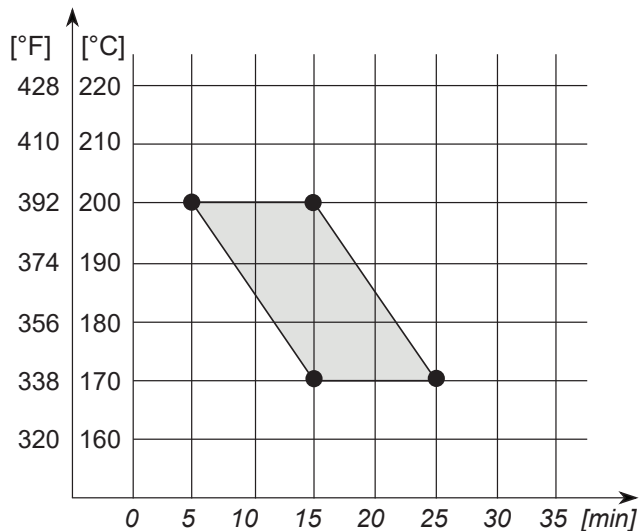
* Since not all powder coatings are suitable for recycling/reclaim, please verify before ordering.

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

Cure parameters

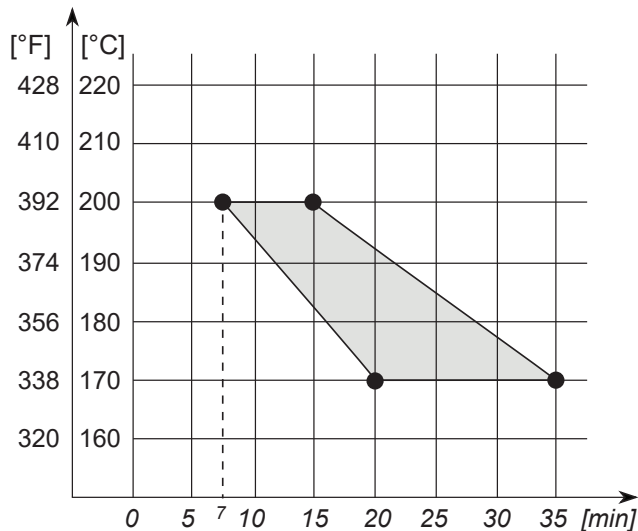
(substrate temperature versus curing time)

smooth glossy | smooth semi-gloss | fine texture flat matte



substrate temp.	min. curing time	max. curing time
170 °C (338 °F)	15 minutes	25 minutes
200 °C (392 °F)	5 minutes	15 minutes

smooth satin | smooth matte



substrate temp.	min. curing time	max. curing time
170 °C (338 °F)	20 minutes	35 minutes
200 °C (392 °F)	7 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. 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. Results may vary based on substrate used. When used as a two-coat system, the increase in film thickness will result in a decrease of mechanical properties.

test method	test	Series 139 smooth glossy smooth semi-gloss	Series 139 smooth satin matte	Series 139 fine texture flat matte
ISO 2360	recommended film thickness	2.5-3.5 mils (60-80 µm)	2.5-3.5 mils (60-80 µm)	3.0 - 4.0 mils (75-100 µm)
ASTM D523	gloss - 60°	80-95+ 55-65	26-35 16-25	0-15
ASTM D3359 method B	cross cut tape test 1mm cutting distance	5B	5B	5B
ASTM D522	mandrel bending test cracking of coating	≤1/8 inch (≤3 mm)	≤3/16 inch (≤5 mm)	≤1/8 inch (≤3 mm)
ASTM D2794	ball impact test cracking of coating	up to 80 in/lb no appearance of cracks down to the substrate	up to 80 in/lb no appearance of cracks down to the substrate	up to 80 in/lb no appearance of cracks down to the substrate
ASTM D3363	pencil hardness	H-2H	H-2H	H-2H
ASTM D2247	determination of resistance to humidity 500 hours	maximum undercutting 1/32 inch (1 mm), no blistering	maximum undercutting 1/32 inch (1 mm), no blistering	maximum undercutting 1/32 inch (1 mm), no blistering
ASTM B117	salt spray resistance 500 hours	maximum undercutting 1/32 inch (1 mm), no blistering	maximum undercutting 1/32 inch (1 mm), no blistering	maximum undercutting 1/32 inch (1 mm), no blistering

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

Please note

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.

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Joint sealants and any other auxiliary products, such as glazing aids, gliding waxes, drilling and cutting lubricants, which come in contact with the coated surface, must be pH-neutral and free of substances that may damage the finish. Therefore, a suitability test at the applicator's end, prior to coating, is highly recommended.

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.

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