

SERIES 44 - interior and exterior applications

POLYURETHANE 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 44 lb (20 kg) box and 5 lb (2.5 kg) minipack
Specific gravity (ATSM D792)	approximately 1.2-1.8 g/cm ³ depending on pigmentation
Theoretical coverage	at 2.5 mils (60 µm) film thickness: 51.5 ft²/lb (11.1 m²/kg) . Refer also to the latest edition of "Theoretic Powder Coating Coverage Chart" version 00-1001 (imperial) version 00-1000 (metric)
Storage stability	6 months at no more than 77 °F (25 °C) avoid direct and extended exposure to heat

Finish

finish	gloss
smooth <i>glossy</i>	80-95+*
smooth <i>semi-gloss</i>	50-70*
smooth <i>matte</i>	20-30*
smooth <i>flat matte</i>	05-10*

* 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 colours and finishes (see following table and colour charts)

product description	product ID
Millennium Black Semi Gloss	44/90051
Millennium Black Matte	44/90052
Millennium Black Flat Matte	44/90053
Solar Black Flat Matte	44/80060
Black Magic Flat Matte	44/80066

Features

- good weather resistance
- good mechanical properties
- good flow
- good coverage
- good storage stability

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	S	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

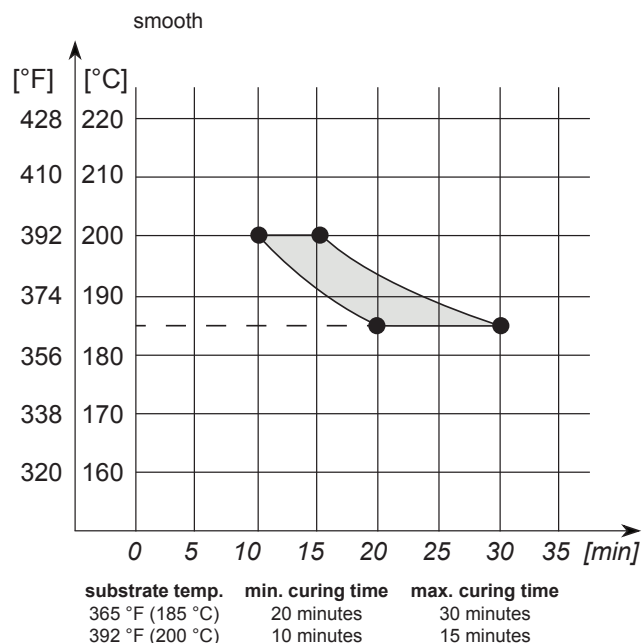
Corona and Tribostatic*

* For Tribostatic powder coatings, confirm before ordering. Suitability of metallic effects for Tribostatic processing must be verified prior to actual application. Please refer to the latest edition of the relevant application guidelines for metallic effect powder coatings

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

Cure parameters

(substrate temperature versus curing time)



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. Cure conditions are according to the cure curves. Actual product performance may vary due to product-specific properties such as gloss, colour, effect and finish as well as application-related and environmental influences. When used as a two-coat system, the increase in film thickness will result in a decrease of mechanical properties.

test method	test	Series 44 smooth <i>glossy</i>	Series 44 smooth <i>semi-gloss</i>	Series 44 smooth <i>matte</i>	Series 44 smooth <i>flat matte</i>
ISO 2360	recommended film thickness	2.5-3.5 mils (60-80 µm)	2.5-3.5 mils (60-80 µm)	2.5-3.5 mils (60-80 µm)	2.5-3.5 mils (60-80 µm)
ASTM D523	gloss - 60°	80-95+	55-70	25-40	05-10
ASTM D3359 method B	cross cut tape test 1mm cutting distance	5B	5B	5B	5B
ASTM D522	mandrel bending test cracking of coating	≤1/8 inch (≤3 mm)	≤1/8 inch (≤3 mm)	≤1/8 inch (≤3 mm)	≤1/8 inch (≤3 mm)
ASTM D2794	ball impact test cracking of coating	80 in/lb no appearance of cracks down to the substrate	80 in/lb no appearance of cracks down to the substrate	80 in/lb no appearance of cracks down to the substrate	80 in/lb no appearance of cracks down to the substrate
ASTM D3363	pencil hardness	H minimum	H minimum	H minimum	H minimum
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	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	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.

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, colours 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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