SERIES 59 SD - interior and exterior applications

POLYESTER TGIC-FREE WEATHER RESISTANCE POWDER COATINGS FORMULATED WITH SUPER DURABLE RESINS AND PIGMENTS FOR HIGH PERFORMANCE 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 (ASTM D792)	approximately 1.2-1.8 g/cm³ depending on pigmentation
Theoretical coverage	at 2.5 mils (60 µm) film thickness: **51.5 ft²/lb (11.1 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

- TGIC-free
- excellent weather resistance
- excellent UV-light resistance
- very smooth flow
- good storage stability
- good yellowing stability

Finish

finish	gloss
smooth *glossy*	80-95+*
smooth *semi-gloss*	60±5*
smooth *matte*	15-25*
metallic and other special effects	visual

* *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 limited selection of colors and finishes (see color charts). It can be made-to-order in limited colors depending upon super durable pigments availability (minimum order quantity and color limitations apply).

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	S⁴

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*

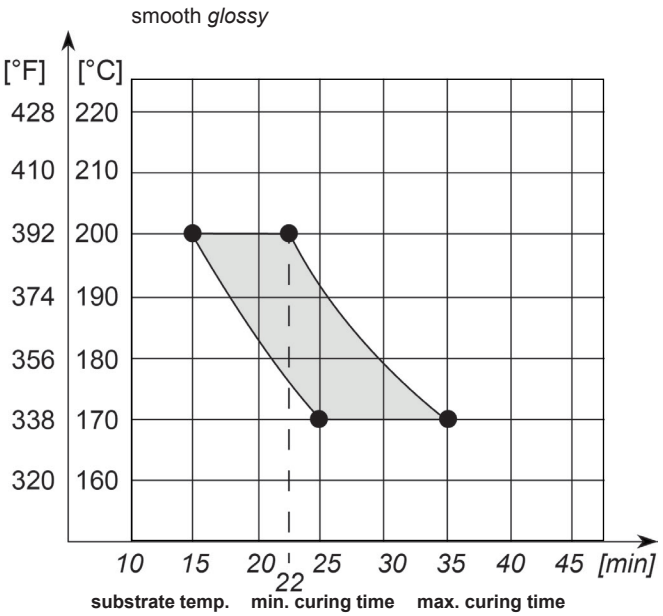
** For Tribostatic powder coatings, confirm before ordering. Suitability of metallic effects for Tribostatic processing must be verified prior to actual application. Please refer to the latest edition of the relevant application guidelines for metallic effect powder coatings.*

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

Product data sheet

Cure parameters

(substrate temperature versus curing time)



substrate temp.	min. curing time	max. curing time
338 °F (170 °C)	25 minutes	35 minutes
392 °F (200 °C)	15 minutes	22 minutes

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

Test results

Checked under laboratory conditions on 1/64 inch (0.7 mm) thick yellow chromated aluminum test panel. 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. When used as a two-coat system, the increase in film thickness will result in a decrease of mechanical properties.

test method	test	**Series 59 SD** smooth *glossy*
ISO 2360	**recommended film thickness**	2.5-3.5 mils (60-80 µm)
ASTM D523	**gloss - 60°**	80-95+
ASTM D3359 method B	**cross cut tape test** 1mm cutting distance	5B
ASTM D522	**mandrel bending test** cracking of coating	1/8 inch (3 mm)
ASTM D2794	**ball impact test** cracking of coating	up to 80 in/lb cracking at the perimeter of the concave area but no cracking pick off
ASTM D3363	**pencil hardness**	2H minimum
EN 20105 - A02	**weathering**	≥4
EC ISO 105 - B02	**light fastness**	≥grade 7
ASTM D2247	**determination of resistance to humidity** 1,000 hours	maximum undercutting 1/32 inch (1 mm)
ASTM G85 annex A5	**acid salt spray resistance** 2,000 hours	maximum undercutting 1/32 inch (1 mm)

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

Series 59 SD

Please note

Due to the limited availability of super durable pigments, bright yellow and orange colors can be prone to limited hiding properties and over bake stability. The minimum recommended film thickness for those colors is 4.0 mils (102 µm). In general, colors in the red, orange and yellow range may require an increased film thickness to achieve full hiding.

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.

Any post-mechanical processing of already coated parts, such as sawing, drilling, milling, cutting and bending will result in damage of the coated surface and will subsequently weaken the corrosion protection.

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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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 59 SD

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