

SERIES 59 SD - interior and exterior applications

POLYESTER TGIC-FREE WEATHER RESISTANCE POWDER COATINGS FORMULATED WITH SUPER DURABLE RESINS 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 <i>glossy</i>	80-95+*
smooth <i>semi-gloss</i>	60±5*
smooth <i>matte</i>	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 colours and finishes (see colour charts). It can be made-to-order in limited colours depending upon super durable pigments availability (minimum order quantity and colour 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

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

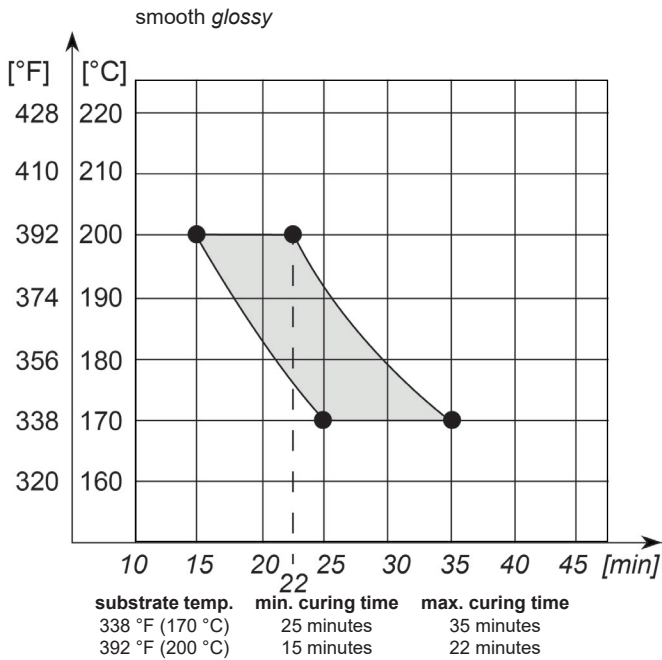
Corona*

* 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)



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, 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 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
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.

Please note

Due to the limited availability of super durable pigments, bright yellow and orange colours can be prone to limited hiding properties and over bake stability. The minimum recommended film thickness for those colours is 4.0 mils (102 µm). In general, colours 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

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