

SERIES 09 - zinc-free flex cure primer (09/74425)

EPOXY/POLYESTER HYBRID ZINC-FREE FLEX CURE PRIMER. PART OF A TWO-COAT TIGER SHIELD SYSTEM. PROVIDES SUPERIOR CORROSION PROTECTION TO ALUMINUM AND STEEL SUBSTRATES.

Typical applications

- steel/aluminium constructions
- agricultural machinery
- industrial equipment
- fixtures
- fences
- bike mount
- heavy corrosion protection

Product details

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

Specific gravity (ASTM D792) approximately 1.4 g/cm³ depending on pigmentation

Theoretical coverage at 2.5 mils (60 µm) film thickness: **55.5 ft²/lb (10.4 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

- zinc-free primer
- suited for pre-gel or full cure prior to topcoat application
- very good corrosion protection
- very good mechanical properties
- good chemical resistance
- good storage stability
- very good edge coverage

Finish

| finish | gloss |
|--------------------|--------|
| grey smooth glossy | 75-85* |

* 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.

Pretreatment

Two methods of pretreatment have been tested – Zinc phosphate and Iron phosphate.

I. Zinc phosphating

Minimum conversion coating weight 2.5±1.0 g/m².

II. Iron phosphate

Bonderite B-1000 or equivalent.

Processing

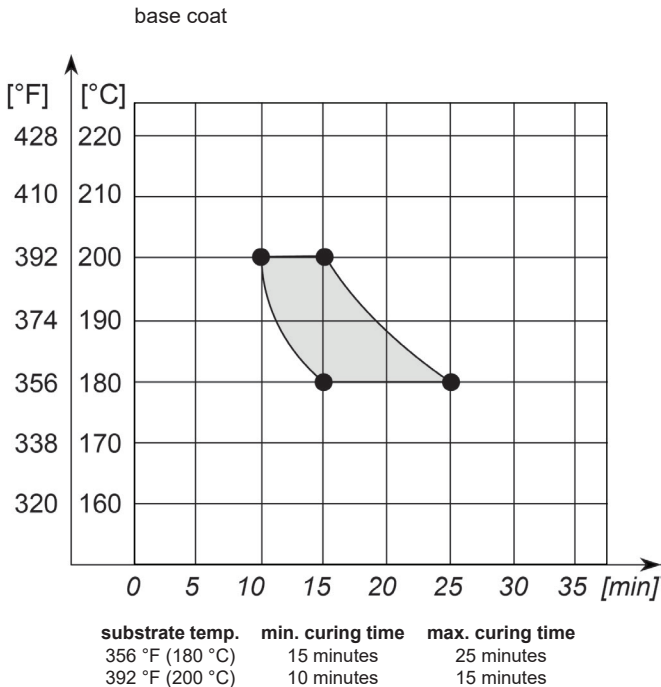
Corona and Tribostatic*

* 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.

Two-coat process

If used as a two-coat TIGER Shield system, the best intercoat adhesion is achieved by either pre-gelling the primer at 392 °F (200 °C) for 2-3 minutes or by fully curing at 392 °F (200 °C) for 10 minutes prior to applying a TIGER Drylac® powder coating topcoat.

To avoid eventual oxidation, no more than 24* hours must elapse between the application of TIGER Drylac® zinc-free 09/74425 and the subsequent spraying of any TIGER Drylac® topcoat.

* The coated object surface must be perfectly clean prior to spraying the topcoat to provide the required inter-coat adhesion & prevent delamination.

Test results

Checked under laboratory conditions on a 1/8 inch (3mm) gauge zinc phosphated steel test panel, two-coat TIGER Shield system (TIGER zinc-free primer 09/74425 and a smooth glossy finish topcoat) with a total minimum film thickness of 6.4 mils (160 µm). 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 09/74425 Zinc-free flex cure primer + TIGER Drylac® Series 38/138 |
|------------------------|---|---|
| ISO 2360 | recommended film thickness | 6.4-7.2 mils (160-180 µm) |
| ASTM D3359 method B | cross cut tape test 1mm cutting distance | 5B |
| ASTM D2247 | determination of resistance to humidity 1,000 hours | average undercutting 1/16 inch (< 2 mm), no blistering |
| ASTM B117 | salt spray resistance 3,000 hours | average undercutting 1/16 inch (< 2 mm), no blistering |
| ASTM D3258 | porosity of paint films | non-porous |

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

Film thickness

A minimum film thickness of 3.2 mils (80 µm) per layer needs to be applied. The system requires the primer to be applied at 3.2-4.0 mils (80-100 µm) and the weather resistant topcoat to be sprayed at a film thickness of 3.2-4.0 mils (80-100 µm). It is required that the total film thickness of both, the primer and the topcoat, amount to a minimum build of 6.4 mils (160 µm). In order to achieve sufficient opacity, it may become necessary to apply organic pigmented topcoats at a higher film thickness.

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 topcoat.

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

When the pre-gelling and subsequent cure is done in a directly fired gas oven, intercoat adhesion between the primer and the topcoat may suffer due to a variation in the gas supply.

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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