



Zinc rich primer
69/90350 Dryzinc®

**A zinc rich primer as part of the two coat system
 TIGER SHIELD for a superior corrosion protection
 of steel.**

Based on Epoxy

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Typical applications

- Heavy corrosion protection
- Steel constructions
- Stadium seating
- Agricultural machinery
- Industrial equipment
- Fixtures
- Fences
- Bike mounts

Features

- ▶ Zinc rich primer
- ▶ Especially suited for blasted substrates
- ▶ Good intercoat-adhesion
- ▶ Very Good Corrosion Protection
- ▶ Very Good Mechanical Properties
- ▶ Good Chemical Resistance
- ▶ Good Storage Stability
- ▶ Very Good Edge Coverage

Finish | Colors

- ▶ Smooth flow – glossy surface, approx. 75 ± 5*
- ▶ Grey

TIGER SHIELD

TIGER SHIELD is a two coat system comprising a corrosion protective primer, TIGER Dryzinc® 69/90350 or, TIGER Dryprotector® 69/70000 as a base coat and an opaque weather resistant TIGER Drylac® Powder Coating.

Standard Packaging

44 [lb] boxes
and 5.0 [lb] Minipack

20 [kg] cartons
and 2,5 [kg] Minipack

Specific Gravity (ASTM D792)

approx. 2.2

Theoretical Coverage

at specific gravity 2.2 and film thickness of 3.5 [mils] / 80 [µm]:

24 [sq ft/lb] / 4.0 [m²/kg]

(also please refer to data sheets # 4001 & 4002 in the latest edition)

Storage Stability

6 months
at no more than 77 °F / 25 °C]

*Gloss level acc. to ASTM 523 / 60° angle.



Pretreatment (alternatives)

The following two methods of pretreatment have been tested: Prerequisite for inclusion in the TIGER SHIELD processing is the quality of the steel substrate defined as an alloy-treated steel, class ST 37, ST 52 or any other equally suited steel that can be coated (stainless steel alloys, any derivatives thereof as well as galvanized work pieces are explicitly excluded for use within a TIGER SHIELD application). The following means of pre-treatment and metal preparation respectively have been tested in accordance with the requirements as set forth in EN ISO 12944 and have been approved.

I.) Zinc Phosphating

Conversion coating weight shall be a minimum of $2,5 \pm 1,0 \text{ [g/m}^2\text{]}$.

II.) Blasting

The raw steel surface needs to be blasted using sharp and edged mineral or cast iron pellets. The tolerances for a blasted steel surface thereby need to correspond to the comparison specimen standard G 201 (lower tolerance segment 2, upper tolerance segment 3 = medium grade) and to the surface preparation class of minimum Sa 2.5 acc. to ISO 8503-1 and ISO 8503-2 with the surface depth between a minimum of $R_z 50 - 70 \mu\text{m}$ and a maximum of $R_{\text{max}} 100 \mu\text{m}$ acc. to ISO 8501 and a peak amount $Pc10 \mu\text{m}$ of 20 measured with perthometer (Mahr). Blasting must ensure, that a minimum of 95 [%] of the total area to be blasted is reached.

To avoid any corrosion, the powder coating has to take place immediately after the blasting stage.

Processing

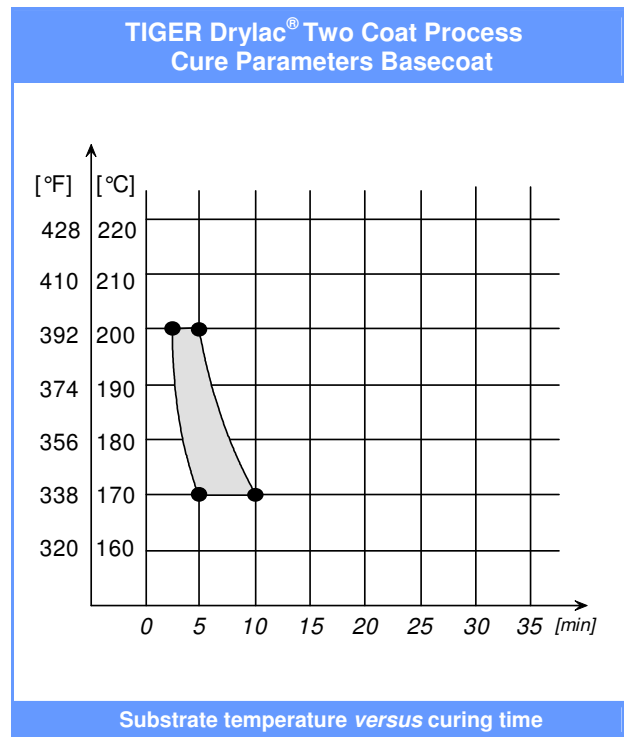
Corona

Tribo

For Tribo / Airstatic Powders please confirm before ordering. Suitability of metallic effects for tribo processing must be verified prior to application. Please consult with the appropriate data sheets in the latest edition.

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

Cure parameters (substrate temperature)



Please observe cure parameters closely since mechanical properties will develop before full cross-linking.

Two Coat Process

If used as a two coat TIGER SHIELD system, best intercoat-adhesion is achieved when pre-gelling the primer at 392°F / 200°C for 2-3 [min] prior to applying a topcoat of a TIGER Drylac® powder coating, which then is to be cured applying the curing parameters as given in the relevant product data sheet for that top coat.

Please note

To avoid eventual oxidation no more than 12 hours must elapse between the application of TIGER Dryzinc® 69/90350 and the spraying of any TIGER Drylac® topcoat.

When pre-gelling and the subsequent cure are done in a directly fired gas oven inter-coat adhesion between the primer and the top coat may suffer due to a variation in the gas supply.



Film thickness

A minimum film thickness of 3.2 [mils] / 80 [µm] each needs to be applied per layer. The system requires the primer, either TIGER Dryzinc® 69/90350 or TIGER Dryprotector® 69/70111 to be applied at 3.5 - 4.5 [mils] / 80 - 100 [µm] and the weather resistant topcoat to be sprayed at a film thickness of 3.5 - 4.5 [mils] / 80 - 100 [µm]. It is required that the total film thickness of both, the primer and the top coat amount to entire film build up to 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 observe, that non-pigmented topcoats, such as clear coats or transparent effects are not suited for a TIGER SHIELD application.

Please note

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 which may damage the finish. Prior to coating a suitability test at the applicator is therefore 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.

Read and understand the Material Safety Datasheet (MSDS) before using.

Test results

Checked on a 3,0 [mm] in gauge zinc phosphated, steel panel, two coat TIGER SHIELD® system with a total film thickness of max. 6.4 [mils] / 160 [µm] and a topcoat in a smooth glossy finish. Cure conditions according to the cure curves.

Test result	Test method	Dryzinc® 69/90350 + TIGER Drylac® Series 38
Film thickness		6.4 – 7.2 [mils] 160 - 180 [µm]
Cross cut tape test 2 [mm]	ISO 2409	B5
Humidity resistance 1,000 [h]	ASTM D2247	Max. undercutting 1 [mm] No blistering
Salt spray resistance 3,000 [h]	ASTM B117	Max. undercutting 1 [mm] No blistering
Porosity of Paint films	ASTM D3258	non-porous

* Humidity Test with SO₂ addition of 0.2 [g]

Cleaning recommendations: Please see our Information Sheet latest edition.



If the metal preparation and pre-treatment are followed according to the instructions as set forth in this product data sheet, the TIGER SHIELD system will yield protection against corrosion that meets the requirements of a corrosion class C3 - I long acc. to EN ISO 12 944 part VI.

TIGER SHIELD (Pretreatment: Zinc Phosphating)

Checked on a zinc phosphated steel panel 3,0 [mm] / 1/8 [inches], with two-coated-structure with a general film thickness of max. 6.4 [mils] / 160 [µm] and smooth glossy topcoat Hardening according to relevant curing parameters.

Test results	Test method	Dryzinc® 69/90350 + TIGER Drylac® Series 38
tested corrosion resistance	EN ISO 12 944	C3 I long IKS test report PB 300/64/00*
Suitable for the application in prestressed and highly fastened bolted connections	DIN 18 800 Part 1***	unrestricted use for bolted connections ISL test report PB 10/00**

TIGER SHIELD (Metal preparation: Blasting)

Checked on a 3,0 [mm] in gauge blasted, steel panel, two coat TIGER SHIELD system with a total film thickness of max. 160 - 180 [µm] and a top coat in smooth glossy finish. Cure conditions according to the cure curves.

Test results	Test method	Dryzinc® 69/90350 + TIGER Drylac® Series 38
tested corrosion resistance	EN ISO 12 944	C3 I long IKS test report PB 300/64/00*
Suitable for the application in pre-stressed and highly fastened bolted connections	DIN 18 800 Part 1***	unrestricted use for bolted connections ISL test report PB 10/00**

* Institute for Corrosion Protection, Dresden, Germany

** Institute for Steel Construction, Leipzig, Germany

*** DIN = German Industrial Standard

Chemical resistance

The required chemical resistance of a powder coating depends among other things on its formulation. Chemical resistance requirements therefore must be considered according to processing conditions and final use of the finished product. This is best already 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 "Test Methods for Surface Resistance to Liquids". Furthermore, the test duration and concentration of the test media need to be agreed upon.

As a part of our product information program our product data sheets are periodically updated. Therefore, please check our website for the latest edition. Our verbal and written recommendations for the use of our products are based upon experience and in accordance with present technological standards. These are given 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 our products for the intended application.

This product data sheet substitutes any and all previous product data sheet and notes for customers published on this subject matter.



Member of the Powder Coating Institute

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