Technical Datasheet

Interpon Redox Active

FL002E

Robust primer with wide curing window

Product description

Interpon Redox Active is a powder coating primer, totally free from Zinc. It is designed to give enhanced corrosion protection of mild steel and is an epoxy-polyester primer including active anticorrosive pigments.

The addition of these pigments provides a steel passivation effect to protect the substrate enhancing the performance when compared to other non-active systems. **Interpon Redox Active** must be over-coated with an Interpon powder or a Cromadex PU liquid topcoat. Interpon Redox Active could be used as holding primer with a maximum waiting delay of 6 weeks.

Approvals

Qualisteelcoat Approval	PE-0184: Coating system: ST2, Pre-treatment: Chemical, Corrosivity Category: C4H PE-0185: Coating system: ST2, Pre-treatment: Mechanical, Corrosivity Category: C4H

Powder properties

	Typical value
Chemical Type	Epoxy-polyester
Color	Grey
Density	1.59 - 1.65 g/cm³
Gloss (60°)	75 - 85 GU
Recommended film thickness	60 - 80µm
Shelf life	24 months below 25 °C
Storage Conditions	Under dry, cool (≤ 25°C) conditions (open boxes must be resealed)
Curing schedule	10-20 min at 160°C 7-14 min at 180°C 5-10 min at 200°C Curing schedule temperature = object temperature. Green curing: 130°C 10-60 minutes (object temperature) Interpon Redox Active shows a wide curing range must allowing application on substrates of different nature and thicknesses. For best adhesion between the topcoat and primer we recommend green cure of primer followed by immediate powder topcoat application. The primer should be cured in a convection oven, optionally with infra-red heaters, with air temperature not exceeding 220˚C. Note: Failure to comply with the recommended curing conditions may affect the adhesion of the topcoat and cause degradation of the coating properties of the system. Parts coated with Interpon Redox Active should be handled carefully avoiding any surface contamination.

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Pre-treatment

Surface preparation depends upon the metal, the type of surface, its conditions and the required performance.

Substrate: Mild/steel, Cast steel
Mechanical pretreatment: Grit Blasting Sa 2.5 in accordance with ISO NF EN 8501-1. Roughness: Rz 42-84 µm / Ra 6-12 µm
Chemical pretreatment: Degreasing & phosphating (or equivalent) followed by passivation, DW rinsing and drying.*

Electro Zinc steel, Hot dip galvanized steel
Mechanical pretreatment: Sweeping with a maximum zinc layer thickness reduction of 5 to 10 µm depending on the initial zinc thickness
Chemical pretreatment: Degreasing by phosphating and passivation or primary wash Cromadex 903, which can be substituted by a chemical passivating with the Cromadex MC245.

Zinc sprayed (gas flame/electrical deposition)
Mechanical pretreatment: Grit Blasting Sa 3 in accordance with ISO NF EN 8501-1. Roughness: Rz 42-84 µm / Ra 6-12 µm
Chemical pretreatment: Banned

* Also applicable for Electro Zinc steel substrate

Application

Powders can be applied by manual or automatic electrostatic spray equipment.
All powders can show small color differences from batch to batch, this is normal and unavoidable.
Products with different codes should not be mixed even if same colour and gloss.
Different substrates (aluminium, steel, galvanized steel…), use of primer, and big changes in film thickness may give a different aspect.
A good protection is linked with the recommended film thickness.
It is recommended that for consistent application and appearance product be fluidized during application.
Clearcoats including tinted clearcoats cannot be applied directly on primers. Only fully opaque shades are suitable for application over primer.

For marine applications, related to cycles approved RINA / DM, the thickness of the metal support must be ≥ 0.6mm, and the thickness of the coating film must respect the value of 80µ ± 10%.

Application Method	Electrostatic

Test conditions

The results are based on mechanical and chemical tests which (unless otherwise indicated) have been carried out under laboratory conditions and are given for guidance only
Testing has been determined under laboratory conditions using the following application properties and is for guidance only.

Pre-treatment	Iron phosphate with passivation
Substrate	0.6mm degreased steel
Curing schedule	2 min at 200°C (object temperature) as primer for complete system - “Green- Cure”. Topcoat: Interpon D1036 / D2525 Ral 9010 60-80 microns
Film Thickness	70 - 90µm

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Mechanical tests

	Typical value	Method/standard
Adhesion	Class 0	ISO 2409 (2 mm Crosshatch)
Erichsen cupping	Pass 6 mm (system)	ISO 1520
Flexibility	Pass 3 mm	ISO 1519
Impact resistance	≥30 kg.cm	ISO 6272-2 (d/r)

Chemical and durability tests

	Typical value	Method/standard
Salt spray test	Pass, no corrosion creep more than 1,5 mm from scribe, 1000 h, Steel Panels 0,8 mm Zinc Phosphate (Alkaline degrease Zinc Phosphate Water rinse and dry)	ISO 9227

Environmental and durability tests

	Typical value	Method/standard
Exterior durability	Designed to be used as a primer under suitable powder coating or wet paint topcoats. Exterior durability will then be a function of the topcoat.	

Topcoat application

Interpon Redox Active should ideally be over coated within 24 hours of application. However, as HOLDING PRIMER (be careful with TOTAL curing), the overcoating could be done until 6 weeks. A preliminary cleaning is strongly recommended before application of the top coat.

To ensure the cohesion of the Interpon Redox Active powder system, as well as optimum performance, the whole system must be cured in accordance with the recommended curing conditions of the powder topcoat.

1) Powder: For a use as holding primer (with a fully curing conditions required), before overcoating, the Interpon Redox Active primer shall be cleaned. Remove dust by blowing with clean dry air and/or brush with a soft brush.

2) Liquid: For overcoating with a liquid PU topcoat, the Interpon Redox Active must first undergo a slight dry sanding with a 800 sandpaper. The product must be fully cured according to the liquid PU topcoat stoving recommendations.

Repair

Surface preparation	Sanding + Air cleaning Any damage of the coating system must be repaired as soon as possible.
Application	For repairs, we recommend the following two-coat liquid paint system from International Protective Coatings & Cromadex. 1st Coat: two-pack acid etch primer 2nd Coat: two-pack polyurethane topcoat Interthane 990 or Cromadex 600

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Additional Information

Neutral Salt Spray / ISO 9227

Interpon Redox Active + Interpon D1036 / D2525
Substrate: steel 2mm
Pretreatment: **Grit blasting SA 2.5** – Ra 6-12µm, Profile: 50-75µ
Primer thickness: 60-80µm, Topcoat thickness: 60-80µm
Adhesion on surface before test: Class 0

1000 hours
Scribe: adhesion loss 1.5mm, few blistering 2mm, Corrosion weak
Surface: Corrosion Ri0, Blistering none, adhesion class 0

2000 hours
Scribe: adhesion loss 1.5mm, Medium blistering <8mm, Corrosion weak
Surface: Corrosion Ri0, Blistering none, adhesion class 0

Interpon Redox Active + Interpon D1036 / D2525
Substrate: steel 2mm
Pretreatment: **Zinc Phosphate** Alkaline degrease Zinc Phosphate Water rinse and dry
Primer thickness: 60-80µm, Topcoat thickness: 60-80µm
Adhesion on surface before test: Class 0

1000 hours
Scribe: adhesion loss 1.5mm, few blistering 2mm, Corrosion weak
Surface: Corrosion Ri0, Blistering none, adhesion class 0

2000 hours
Scribe: adhesion loss 1.5mm, Medium blistering <8mm, Corrosion weak
Surface: Corrosion Ri0, Blistering none, adhesion class 0

Safety Precautions

This product is intended for use only by professional applicators in industrial environments and should not be used without reference to the relevant health and safety data sheet which Akzo Nobel has provided to its customers.

Disclaimer

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Appendix

Corrosivity Classes and Durability categories based on ISO 12944:2018

ISO 12944:2018 Corrosivity classes				
Category	**Low** **< 7 years**	**Medium** **7 – 15 years**	**High** **15-25 years**	**Very High** **25+ years**
C2 Low	-	-	-	480 h
C3 Medium	120h	240h	480h	720h
C4 High	240h	480h	720h	1 440h 1 680 h (10 cycles)
C5 Very high	480h	720h	1 440 h 1 680 h (10 cycles)	2 688h (16 cycles)
Neutral Salt Spray (ISO 9227) Cyclic Corrosion (ISO 20340)				

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