

Technical Datasheet

Interpon Redox Plus

AL258F Grey

Protective barrier primer designed to give enhanced corrosion protection of mild steel



Product description

Interpon Redox Plus is a powder primer protective barrier designed to give enhanced corrosion protection of mild steel, hot dip galvanized steel and Zinc sprayed (gas flame/electrical deposition) and Aluminium. **Interpon Redox Plus** is a pure epoxy primer showing a high cross-linking degree reinforced with barrier effect agents to provide the best barrier protection. Interpon Redox Plus must be over-coated with an Interpon powder or a Cromadex PU liquid topcoat. **Interpon Redox Plus** could be used as holding primer with a maximum waiting delay of 3 weeks.

Key benefits: wide curing range, good mechanical properties, excellent edge coverage, good anti gassing properties, good over coating capacity.

This barrier-effect powder coating can be used on multiple substrates, and on surfaces with chemical or mechanical pre-treatment. The two-layer system comprises a pure epoxy primer and a topcoat (powder or liquid) to deliver greater protection against corrosion and rust (up to level C5). Easy to apply and with a smooth finish, **Interpon Redox Plus** has a high resistance to damage and is available for use on both porous and non-porous metal substrates.

Approvals

Qualicoat Approval	P-0740 (FR) for Aluminium substrate
Qualisteelcoat Approval	PE-0020: Coating system: ST2, Pre-treatment: Chemical, Corrosivity Category: C4H PE-0021: Coating system: ST2, Pre-treatment: Mechanical, Corrosivity Category: C4H PE-0031: Coating system: HD2, Pre-treatment: Mechanical, Corrosivity Category: C5H PE-0033: Coating system: MS2, Pre-treatment: None, Corrosivity Category: C5H PE-0121: Coating system: SZ2, Pre-treatment: Chemical, Corrosivity Category: C4H PE-0123: Coating system: HD2, Pre-treatment: Chemical, Corrosivity Category: C5H PE-0138: Coating system: SZ3, Pre-treatment: Chemical, Corrosivity Category: C5H PE-0139: Coating system: STEC3, Pre-treatment: Chemical, Corrosivity Category: C5H
GSB Approval	901b for galvanized steel

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Powder properties

	Typical value
Chemical Type	Epoxy
Color	Grey (about RAL 7032)
Density	1.5 - 1.6 g/cm ³ , depending on colour and effect
Gloss (60°)	5 - 15 GU
Finish Effect	Solid
Recommended film thickness	60 - 80µm
Shelf life	12 months below 25 °C
Storage Conditions	Under dry, cool ($\leq 25^{\circ}\text{C}$) conditions (open boxes must be resealed)

Curing schedule

Interpon Redox Plus shows a wide curing range must allowing application on substrates of different nature and thicknesses.

Green curing:

130°C 10-20'

140°C 6-14'

150°C 4-11'

160°C 3-10'

170°C 2-8'

Full curing:

150°C 19-36'

160°C 12-30'

170°C 11-28'

180°C 10-25'

200°C 4-15'

Temperature = Object temperature. For use as anti-gassing primer, a full curing must be required.

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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.

Aluminium

Mechanical pretreatment: Sweeping

Chemical pretreatment: Follow Qualicoat (16 edition) recommendations for pre-treatment methods.

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.

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.

Applicators and fabricators are advised to use a single batch for parts that will be assembled together. Differences are more likely with special effect powders.

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.

Application Method	Electrostatic
Recycling	Unused powder can be reclaimed using suitable equipment and recycled through the coating system, but a minimum of 70% virgin powder should be used.

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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
Substrate	Steel
Curing schedule	10 min at 200°C (object temperature) Topcoat: Interpon D1036 / D2525 Ral 9010
Film Thickness	60 - 80µm

Mechanical tests

	Typical value	Method/standard
Adhesion	Class 0 (system), Class 0 (primer)	ISO 2409 (2 mm Crosshatch)
Erichsen cupping	Pass 4 mm (system), Pass 6 mm (primer)	ISO 1520
Flexibility	Pass 5 mm (Primer), Pass 5 mm (system)	ISO 1519
Hardness	Pass - no penetration to substrate	ISO 1518-1 (2000g)
Impact resistance	Pass 0.2 kg·m (primer), Pass 0.5 kg·m (system)	ISO 6272-2 (d/r)

Chemical and durability tests

Whilst maintaining the general protective and anti-corrosive properties of powder coatings, aluminum and copper/bronze metallic finishes, when submitted to the listed tests, may rapidly show a loss of metallic aspect. The results shown are based on tests which (unless otherwise indicated) have been carried out under laboratory conditions and are given for advice only, actual performance depends upon the circumstances under which the product is used.

	Typical value	Method/standard
Salt spray test	Pass, no corrosion creep more than 1,5 mm from scribe, 720 h See testing details in the dedicated section additional info below.	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.	

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Topcoat application

Interpon Redox Plus 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 3 weeks. A preliminary cleaning is strongly recommended before application of the top coat.

To ensure the cohesion of the **Interpon Redox Plus** 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 Plus 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 Plus must first undergo a slight dry sanding with a 800 sandpaper. The product has to be fully cured according to the liquid PU topcoat stoving recommendations.

Repair

Surface preparation	Sanding + Air cleaning Any damage of the Interpon Redox Plus coating system must be repaired as soon as possible
Application	For repairs a PU (2K or 1K) liquid paint is recommended.

Additional Information

Neutral Salt Spray ISO 9227:2017

Conditions

Coating System: **Interpon Redox Plus + Interpon D2525**
Substrate: **Grit blasting**, SA 2.5 – Ra 6-12µm - Rz 40-65 µm
Primer thickness: 70 - 90 µm
Topcoat thickness: 70 - 90 µm
Adhesion on surface before test: Class 0

Neutral Salt Spray ISO 9227:2017

Time: 720 hours

Average corrosion from the scribe (mm): < 1.5 mm

Defects: No blistering, Brown oxidation along the scribe

Using a 2 mm horizontal scribe according to the ISO 12944-6 (Annex A – A.1) specification

Evaluation method

- rinse with tap water
- clean the corroded area with a sponge
- attempt to lift the coating from the scribe line with a sharp tool
- measure the average corrosion from the scribe in accordance with ISO 12944-6 (Annex A – A.2)

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.

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Disclaimer

IMPORTANT NOTE: The information in this data sheet is not intended to be exhaustive and is based on the present state of our knowledge and on current laws: any person using the product for any purpose other than that specifically recommended in the technical data sheet without first obtaining written confirmation from us as to the suitability of the product for the intended purpose does so at his own risk. It is always the responsibility of the user to take all necessary steps to fulfil the demands set out in the local rules and legislation. Always read the Material Data Sheet and the Technical Data Sheet for this product if available. All advice we give or any statement made about the product by us (whether in this data sheet or otherwise) is correct to the best of our knowledge but we have no control over the quality or the condition of the substrate or the many factors affecting the use and application of the product.

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Appendix

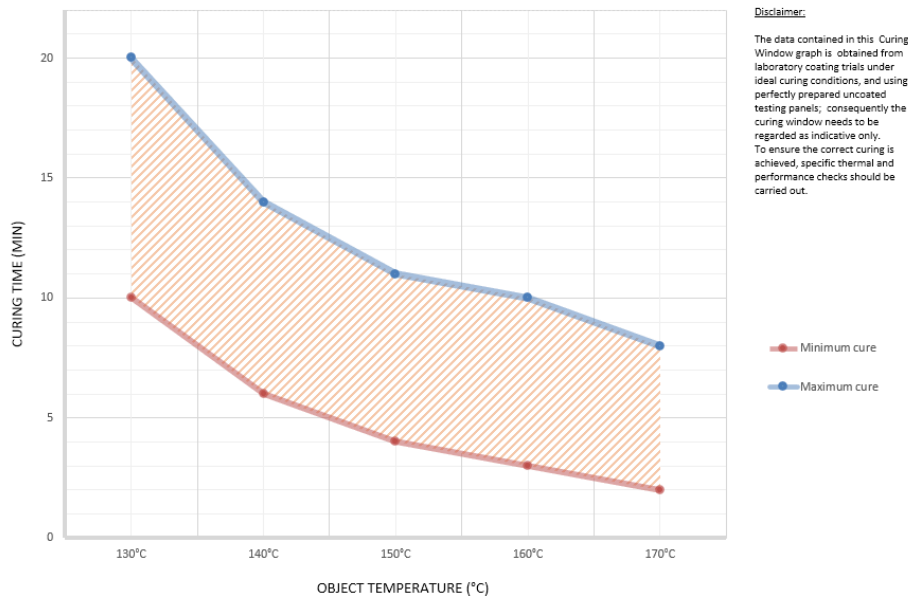
Corrosivity Classes and Durability categories based on ISO 12944:2018

ISO 12944:2018 Corrosivity classes				
Category	Low < 7 years	Medium 7 – 15 years	High 15-25 years	Very High Over 25 years
C3	120h	240h	480h	720h
C4	240h	480h	720h	1 440h
C5	480h	720h	1440h	

Average corrosion creep (mm): 1,5 mm • Neutral salt spray ISO 9227

Curing window - green cure

Interpon Redox Plus - curing window (green curing)



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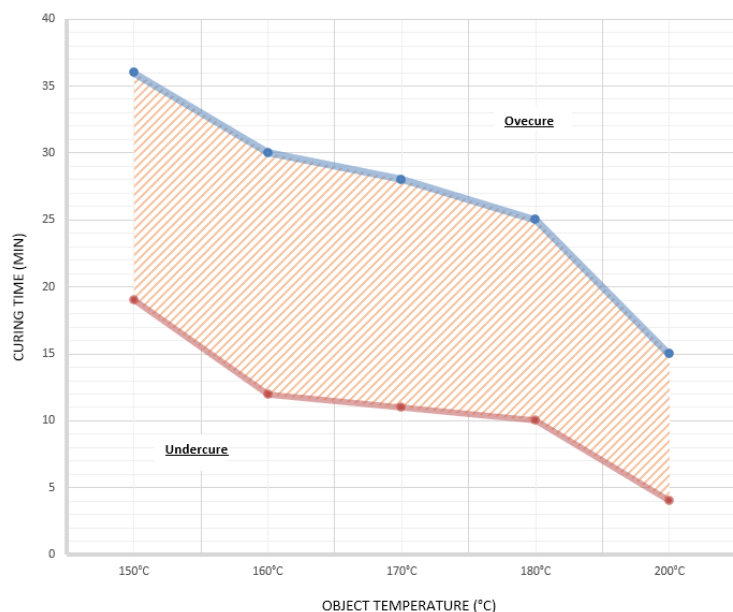
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Curing window - full cure

Interpon Redox Plus - curing window (full curing)



Disclaimer:

The data contained in this Curing Window graph is obtained from laboratory coating trials under ideal curing conditions, and using perfectly prepared uncoated testing panels; consequently the curing window needs to be regarded as indicative only. To ensure the correct curing is achieved, specific thermal and performance checks should be carried out.

- Minimum cure
- Maximum cure

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