

Product Data Sheet

AkzoNobel Powder Coatings

Interpon Redox Plus AL113D

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.

Qualicoat:
P-0740 for Aluminium substrate

Powder Properties	Chemical type	Thermosetting epoxy
	Appearance	Smooth, high gloss
	Gloss level (60°)	75-85 units
	Color	Grey (cca RAL 7039)
	Recommended Film Thickness (µm)	60 - 80 µm
	Density (g/cm³)	1,47 - 1,48 g/cm ³
	Application	Electrostatic
	Storage	Under dry, cool (≤ 25°C) conditions
	Shelf life	At least 24 months from production date
	Curing schedule	See section curing bellow

Test Conditions The results shown below are based on mechanical and chemical tests which (unless otherwise indicated) have been carried out under laboratory conditions and are given for guidance only. Actual product performance will depend upon the circumstances under which the product is used.

Substrate	Steel
Pretreatment	Iron Phosphate
Primer Thickness	70-90 microns
Curing Schedule (with topcoat)	10 minutes at 200°C (Object Temperature) Topcoat: Interpon D1036 / D2525 Ral 9010 60-80 microns

Mechanical Tests	Bending test (Cylindrical Mandrel)	ISO 1519	Pass 5mm (Primer) Pass 5mm (System)
	Adhesion	ISO 2409 (2mm crosshatch)	Class 0 (Primer) Class 0 (System)
	Erichsen Cupping	ISO 1520	Pass 8 mm (Primer) Pass 6 mm (System)

Impact ISO 6272 Pass 0.4 kg·m (Primer)
Pass 0.3 kg·m (System)

Corrosion Tests
Mild Steel 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.

Neutral Salt Spray ISO 9227 Results are detailed in Table 1 of Appendix

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

Substrate	Mechanical pretreatment	Chemical pretreatment
Mild steel	Grit Blasting Sa 2.5 in accordance with ISO NF EN 8501-1. Roughness: Rz 42-84 µm / Ra 6-12 µm.	Degreasing & phosphating (or equivalent) followed by passivation, DW rinsing and drying.
Cast steel		
Electro Zinc steel	Sweeping with a maximum zinc layer thickness reduction of 5 to 10 µm depending on the initial zinc thickness.	Degreasing by phosphating & passivation or primary wash using liquid primer Cromadex 903 (can be substituted by chemical passivation with Cromadex MC245).
Hot dip galvanized steel		
Aluminium	Sweeping	Follow QUALICOAT (16th edition) recommendations for pre-treatment methods.
Zinc sprayed (gas flame/electrical deposition)	Grit Blasting Sa 3 in accordance with ISO NF EN 8501-1. Roughness: Rz 42-84 µm / Ra 6-12 µm	Banned

For more details look on technical datasheets of Cromadex 903 and MC245.

Application Interpon Redox Plus is suitable for corona electrostatic spraying.

Recommended film thickness 60-80 µm A good protection is linked with the recommended film thickness.

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

Curing

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

Object temperature	Green curing		Full curing	
	Min	Max	Min	Max
130°C	15'	60'		
140°C	10'	40'		
150°C				
160°C			10'	40'
170°C			6'	35'
180°C			2'	30'

When the primer I to be immediately over-coated with a powder topcoat we recommend the green cure conditions to achieve the best adhesion intercoat adhesion.

Interpon Redox Plus should be cured in a convection oven, optionally with infra-red heaters, but in either case air temperature must not exceed 180°C.

For use as anti-gassing primer, a full curing must be required.

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.

Damage repair

Any damage of the Interpon Redox Plus coating system must be repaired as soon as possible

Surface preparation

Damaged areas must be clean and free of grease or rust. Dry-sand the area with 600 grade paper down to the substrate. The area must be completely free of dust and cleaned with a non-aggressive solvent before proceeding.

Application

For repairs a PU (2K or 1K) liquid paint is recommended.

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

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 1:

Table 1: Neutral Salt Spray Test

Coating System		Interpon Redox Plus AL113D + Interpon D1036			
Conditions	Substrate	Steel 2 mm			
	Pretreatment	Grit blasting SA 2.5 – Ra 6-10µm			
	Primer thickness	60 - 70 µm			
	Topcoat thickness	70 - 80 µm			
	Adhesion on surface before test	Class 0			
Neutral Salt Spray ISO 9227	Time	Quotation	Corrosion	Blistering	Adhesion
	1000 hours	Scribe	Weak	Few Blistering 2 mm	Loss 1.5 mm
		Surface	Ri 0	None	Class 0
	1522 hours	Scribe	Weak	Medium Blistering < 8 mm	Loss 2 mm
		Surface	Ri 0	None	Class 0

Table 2: 3C Cycle Test (Renault ME D17 1686)

Coating System		Interpon Redox Plus AL113D + Interpon D1036			
Conditions	Substrate	Steel 2 mm			
	Pretreatment	Grit blasting SA 2.5 – Ra 6-10µm			
	Primer thickness	70 - 80 µm			
	Topcoat thickness	80 - 90 µm			
	Adhesion on surface before test	Class 0			
3C Cycle Renault method ME D17 1686	Time	Quotation	Corrosion	Blistering	Adhesion
	3 Cycles	Scribe	X	Size 4 Degree 4	Loss 2 mm
		Surface	Ri 0	None	Class 0
	6 Cycles	Scribe	X	Size 4 Degree 4	Loss 4 mm
		Surface	Ri 0	None	Class 0
	9 Cycles	Scribe	X/XX	Size 4 Degree 5	Loss 5 mm
		Surface	Ri 0	None	Class 0

One cycle description:

-24h salt spray-4x24h (8h humidchamber 40°C- 98%RH ; 16h normalchamber 20°C- 73%RH)- 48h drying chamber 20°C-63%RH