

Technical Datasheet

Interpon Redox PZ

ALZ90F

High performing powder primer for corrosion protection over blasted steel



Product description

Interpon Redox PZ is a powder coating primer containing zinc which is designed to give enhanced corrosion protection of mild steel. This duplex system combines cathodic protection and barrier effect. It consists of a two-layer system with a zinc rich primer **Interpon Redox PZ** overcoated with a Interpon powder topcoat or Cromadex PU liquid topcoat.

Dedicated to steel protection with a surface pre-treatment obtained by grit/shot. **Interpon Redox PZ** is based on a specific epoxy zinc rich formulation that brings conductivity to enable the cathodic protection. Interpon Redox PZ includes a specific anticorrosive function which improves the protection in case of scratch.

Approvals

Qualisteelcoat Approval PE-0097: Coating system: ST2, Pre-treatment: Mechanical, Corrosivity Category: C4H

Powder properties

	Typical value
Chemical Type	Epoxy
Color	Grey (about RAL 7012)
Density	2.0 - 2.2 g/cm ³
Gloss (60°)	45 - 65 GU
Recommended film thickness	70 - 120µm
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	12-23 min at 160°C 8-17 min at 170°C 6-13 min at 180°C Curing schedule Temperature = object temperature. Interpon Redox PZ shows a wide curing range must allowing application on substrates of different nature and thicknesses. <u>Green curing</u> 110°C 15-40 minutes 130°C 12-30 minutes Primer should be cured, or at least gelled, using the recommended curing schedules, before application of the topcoat. The object temperature must not be below 110°C or above 180°C. The primer should be cured in a convection oven, optionally with infra-red heaters, with air temperature not exceeding 180°C.

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Pre-treatment

Surface preparation depends upon the metal, the type of surface, its conditions and the required performance. See our recommendation for pretreatment to be used with Interpon Redox PZ.

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: Banned

Electro Zinc steel, Hot dip galvanized steel, Zinc sprayed (gas flame/electrical deposition)

Mechanical pretreatment: Banned

Chemical pretreatment: Banned

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.

While AkzoNobel take every precaution to minimize visible differences, this cannot be guaranteed.

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 constant ratio between virgin and recycled powders should be fixed by the coater in order to achieve a consistent effect following the AkzoNobel rules.

A good protection is linked with the recommended film thickness.

Clearcoats including tinted clearcoats cannot be applied directly on primers. Only fully opaque shades are suitable for application over primer.

Application settings

Fluidizing air pressure: 1.5kg/cm² initially then 1kg/cm²

Transport air pressure: 0.5 to 0.8 kg/cm

Recommended voltage: 65 to 70kV

Note: Failure to comply with the recommended curing conditions may affect the adhesion of the topcoat and cause degradation of the system performance properties. Parts coated with Interpon Redox PZ should not be handled if possible. If handling is unavoidable, clean lint-free gloves must be worn.

Application Method	Electrostatic
Recycling	Trials, with suitable recycling equipment, must be carried out before commencing production. Attention should be paid to the ratio of new powder, a minimum of 70% must be used. Gun nozzles must be cleaned every 30 minutes.

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.

Topcoat: Interpon D1036 / D2525 Ral 9010

Pre-treatment	Shot blasting
Substrate	Steel
Curing schedule	8 min at 200°C (object temperature)

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Mechanical tests

	Typical value	Method/standard
Adhesion	Class 0 (system), Class 0 (primer)	ISO 2409 (2 mm Crosshatch)
Erichsen cupping	Pass 6 mm (system), Pass 8 mm (primer)	ISO 1520
Flexibility	Pass 4 mm, Pass 5 mm (system)	ISO 1519
Impact resistance	Pass 0.2 kg·m (primer), Pass 0.3 kg·m (system)	ISO 6272-2 (d/r)

Chemical and durability tests

	Typical value	Method/standard
Salt spray test	See testing details in dedicated section additional info below.	ISO 9227

Topcoat application

Primer should be over-coated on the same site within 12 hours of applying the primer. If the delay exceeds 12 hours the parts should be heated for 10 minutes at 120-150°C. (object temperature). The delay must not exceed 24 hours.

Refer to the Product Data Sheet for the powder topcoat for application parameters.

To ensure the integrity of the system, as well as optimum performance, the whole system must be cured in accordance with the recommended curing conditions for the topcoat. Curing should be carried out in a convection oven, optionally with infra-red heaters. There must be a uniform heat distribution inside the oven.

Note: Failure to comply with the recommended final curing conditions may cause variations in color and gloss and cause degradation of the coating properties of the system. A detailed protocol for applying Interpon Redox PZ system is available on request.

Repair

Surface preparation	Sanding + Air cleaning
Application	Any damage of the Interpon Redox PZ coating system must be repaired as soon as possible. For repairs the following two-coat liquid paint system from International Protective Coatings is recommended: 1st Coat: two-pack zinc-rich epoxy primer, Interzinc 72 2nd Coat: two-pack polyurethane topcoat, Interthane 990

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

Performance tables Neutral Salt Spray & 3C Cycle Renault method ME D17 1686

Coating System		Interpon Redox PZ / ALZ90F + Interpon D1036			
Conditions	Substrate	Steel 2mm			
	Pretreatment	Grit blasting SA 2.5 – Ra 6-12µm			
	Primer thickness	60 - 80 µm			
	Topcoat thickness	80 - 110 µm			
	Adhesion on surface before test	Class 0			
Neutral Salt Spray ISO 9227	Time	Quotation	Corrosion	Blistering	Adhesion
	2 000 hours	Scribe	XXX	Size: 3 Degree: 2-3	Loss 4 mm
		Surface	Ri 0	None	Class 0
	3 000 hours	Scribe	XXX	Size: 2 & 4 Degree: some blisters	Loss 4 mm
		Surface	Ri 0	None	Class 0

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	Primer thickness	60 - 80 µm			
	Topcoat thickness	80 - 110 µm			
	Adhesion on surface before test	Class 0			
3C Cycle Renault method ME D17 1686	Time	Quotation	Corrosion	Blistering	Adhesion
	6 cycles	Scribe	X	Size: 2 & 3 Degree: 3	Loss 3 mm
		Surface	Ri 0	None	Class 0
	10 cycles	Scribe	X	Size: 2 – 4 Degree: 5	Loss 3 mm
		Surface	Ri 0	None	Class 0
	15 cycles	Scribe	XX	Size: 2 – 5 Degree: 6	Loss 4 mm
		Surface	Ri 0	None	Class 0

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