

Product Data Sheet

AkzoNobel Powder Coatings

Interpon Redox One Coat

Product Description

Interpon Redox One Coat is a polyester based powder coatings, formulated without the use of TGIC to corrosion protection with only 1 single layer. It isolates the steel from its environment with a water and airtight barrier to block direct contact with oxygen and other corrosive agents and prevent corrosion.

Interpon Redox One Coat provide single layer corrosion protection up to C4 Medium over steel substrates.

Interpon Redox One Coat provide better corrosion protection than conventional polyester powder coating. Its easy to apply and provide good edge coverage. Can be formulated in smooth, fine texture in several levels of gloss.

Powder Properties	Chemical type	Polyester TGIC Free	
	Specific gravity	1.2 – 1.9 g/cm ³ depending on colour	
	Particle Size	Suitable for electrostatic spray	
	Storage	Dry cool conditions below 30°C (<i>open boxes must be resealed</i>)	
	Shelf life	24 months below 30°C 12 months below 35°C	
	Curing schedule (at object temperature)	15-35 minutes at 180°C 12-25 minutes at 190°C 10-20 minutes at 200°C	
Test Conditions	Testing has been determined under laboratory conditions using the following application properties and is for guidance only.		
	Substrate	Gardobond A4976/6800/OC panels	
	Pre-treatment	Iron phosphating	
	Film thickness	70 – 90 microns	
	Cure schedule	15 minutes at 200°C (object temperature)	
	Actual film performance will depend on the individual circumstances in which the product is used.		
Mechanical Tests	Flexibility	ISO 1519 (cylindrical Mandrel)	Pass 5mm
	Adhesion	ISO 2409 (2mm crosshatch)	Gt0
	Erichsen cupping	ISO 1520	Pass ≥ 5 mm
	Impact resistance	ISO 6272-2	Pass 2,5 Joules (reverse & direct (20 in lb)
	Buchholz Hardness	ISO 2815	> 80
	Constant humidity	ASTM D2247	No blistering (1000 hours)
	Sulphur Dioxide	ISO 22479	Pass 24 cycles – no

		blistering, gloss loss or discoloration
Chemical Resistance	Generally good resistance to acid, alkalis and oil at room temperatures	
Accelerated Weathering	ISO16474-2 (1000 hrs) ISO11507 QUV B 313 (300 hrs)	Gloss retention $\geq 50\%$
Exterior durability	Suitable for outdoor environment.	

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	See Appendix 1
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Pre-treatment

For maximum protection it is essential to pretreat components prior to the application of **Interpon Redox One Coat**.

Substrate	Mechanical pre-treatment	Chemical pre-treatment
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		
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 One Coat can be applied by manual or automatic electrostatic spray or tribo-charging equipment. For solid shades, unused powder can be reclaimed up to a maximum of 30% using suitable equipment and recycled through the system. Please consult AkzoNobel for further details as to the correct mixing ratio for virgin/reclaim powder.

Interpon Redox One Coat powders should be applied at minimum 60 μm . All powders can show small color differences from batch to batch, this is normal and unavoidable. 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.

Bonded products have better application properties than blended products (more stable) but attention should still be paid to line settings in order to avoid "marble effect" and changes in aspect after recycling. A constant ratio between virgin and recycled powders should be fixed by the coater in order to achieve a consistent effect. For more details it is

suggested to read the **“Metallic Application Guideline”**.

Different substrates (Aluminium, steel, galvanized steel...), use of primer, and big changes in film thickness may give a different aspect. Products with different codes should not be mixed even if same colour and gloss.

Post Application	For specific advice on the suitability of post coating processes such as bending or the use of sealants, adhesives, thermal break, cleaning etc, please consult AkzoNobel.
Maintenance	For specific advice on Cleaning and Maintenance please consult the Interpon D series <i>Cleaning and Maintenance Guidelines</i> available from AkzoNobel.
Safety Precautions	Please consult the Material Safety Datasheet (MSDS)
Damage Repair	Any damage of the Interpon Redox OneCoat 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.

Disclaimer	<p>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.</p> <p>Therefore, unless we specifically agree in writing otherwise, we do not accept any liability whatsoever for the performance of the product or for any loss or damage arising out of the use of the product. All products supplied and technical advices given are subject to our standard terms and conditions of sale. You should request a copy of this document and review it carefully. The information contained in this data sheet is subject to modification from time to time in the light of experience and our policy of continuous development. It is the user's responsibility to verify that this data sheet is current prior to using the product.</p> <p>Brand names mentioned in this data sheet are trademarks of or are licensed to AkzoNobel</p>
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Appendix 1: Neutral Salt Spray Test

Coating System		Interpon Redox One Coat	
Conditions	Substrate	Cold rolled steel panel (Gardobond A4976/6800/OC panels) 105mm x 190mm x 0,8 mm	
	Pretreatment	Iron Phosphating	
	Film thickness	70 - 90 μ m	
	Adhesion on surface before test	Class 0	
Neutral Salt Spray ISO 9227:2017	Time	Average corrosion from the scribe (mm)	Defects
	480 hours	< 2 mm	No blistering Brown oxidation along the scribe
	Using a 0,5 mm diagonal scribe		

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 9227

<http://www.interpon.com/contact-us/>

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