

Technical Datasheet

Interpon 610 Low-E AM

Low cure polyester powder coating with antimicrobial technology



Product description

Interpon 610 Low-E AM is a range of polyester based powder coatings, formulated without the use of TGIC with specific antimicrobial activity. This range is designed for either interior or exterior environment, offering excellent light and weather resistance on a variety of substrates. The products in the range are engineered to minimize the formation defects such as pinholes caused by air bubbles in the paint film due to gas release in porous substrates during curing*. The cured coating shows no blooming effect. They are also easy to apply and can be cured from 150-170°C thereby offering potential energy reductions during the cure process.

Additionally, **Interpon 610 Low-E AM** uses antimicrobial technology to reduce the number of microbes such as bacteria and mold. Test results have proven a reduction of bacteria and mold up to 99.9%.

Approvals

Resistance to Fire Approval A2,s1,d0 with film thickness up to 120 µm (generic polyester 600) according to EN13501-1

Powder properties

	Typical value
Chemical Type	Polyester – TGIC Free
Density	1.2 - 1.9 g/cm ³ , depending on colour and effect
Recommended film thickness	60 - 110µm
Shelf life	24 months below 25 °C
Storage Conditions	Under dry, cool (≤ 25°C) conditions (open boxes must be resealed)
Curing schedule	23-35 min at 150°C 12-30 min at 160°C 8-20 min at 170°C 5-10 min at 180°C (at object temperature)

Pre-treatment

Galvanised steel requires surface preparation by either multi-stage pretreatment using either zinc phosphate or chromate conversion or controlled sweep blasting. Depending on the type of galvanizing, degassing or use of anti-bubbling additives may be required – follow the procedural advice of the pretreatment supplier.

Iron phosphate and particularly Zinc phosphating of ferrous metals improves corrosion resistance. Aluminium substrates may require a chromate conversion coating.

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Application

Powders can be applied by manual or automatic electrostatic spray equipment. A good protection is linked with the recommended film thickness. All powders can show small color differences from batch to batch, this is normal and unavoidable. 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. 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. It is recommended that for consistent application and appearance product be fluidized during application.

Application Method	Electrostatic
Recycling	Please consult AkzoNobel for further details as to the correct mixing ratio for virgin/reclaim powder. Unused powder can be reclaimed using suitable equipment and recycled through the coating system, but a minimum of 70% virgin powder should be used. For solid shades, unused powder can be reclaimed

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. Contact, even for a short duration with certain household products and chemicals, can cause irreversible changes in the gloss and appearance. We recommend that a test is carried out on a non-visible area before using these types of products on this coating.

Test conditions

Actual product performance will depend upon the circumstances under which the product is used. Testing has been determined under laboratory conditions using the following application properties and is for guidance only.

Pre-treatment	Zinc Phosphate
Substrate	Polished steel
Curing schedule	25 min at 160°C
Film Thickness	60 - 80µm

Mechanical tests

	Typical value	Method/standard
Adhesion	Class 0	ISO 2409 (2 mm Crosshatch)
Erichsen cupping	Pass 5 mm	ISO 1520
Flexibility	Pass 5 mm	ISO 1519
Hardness	Pass - no penetration to substrate	ISO 1518-1 (2000g)
Impact resistance	Pass 2,5 Joules reverse & direct (20 in lb)	ISO 6272-2 (d/r)

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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
Chemical Resistance	Generally good resistance to acid, alkalis and oil at room temperatures.	
Salt spray test	Pass, no corrosion creep more than 3 mm from scribe, 500 h	ISO 9227

Environmental and durability tests

	Typical value	Method/standard
Humidity	Pass - no blistering or loss of gloss, 1000 h	ISO 6270-2 CH (Constant humidity)
Exterior durability	Suitable for outdoor use	

Maintenance

For specific advice on Cleaning and Maintenance, please follow Powder Coatings: Cleaning & Maintenance of Surfaces for Industrial use available from AkzoNobel.

Repair

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. Any damage of the coating system must be repaired as soon as possible.
Application	For repairs a PU (2K or 1K) liquid paint is recommended.

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Additional Information

*not applicable for coarse texture finish

Interpon 610 Low-E AM has been tested for antimicrobial efficacy in accordance with ISO 22196: 2011 and exhibited a minimum of 95% and up to 99.99% reduction in the population of Escherichia coli and Methicillin-Resistant Staphylococcus aureus (MRSA).

Testing was carried out by an independent laboratory and is classified as 'microbiological results satisfactory'. Silver ion technology has been proven effective against the following bacteria in laboratory conditions:

Multi Drug Resistant Bacteria

ESBL Escherichia coli
CRE Klebsiella pneumoniae
MRSA Methicillin Resistant Staphylococcus aureus
VRE Vancomycin Resistant Enterococcus

Bacteria

Acinetobacter baumannii
Bacillus subtilis
Campylobacter spp.
Clostridium difficile (excluding spore form)
Escherichia coli O157
Enterobacter aerogenes
Enterococcus faecalis
Legionella spp.
Listeria monocytogenes
Pseudomonas aeruginosa
Salmonella Enteritidis
Salmonella Typhimurium
Shigella spp.
Staphylococcus aureus
Staphylococcus epidermidis

Interpon 610 Low-E AM contains silver phosphate glass antimicrobial technology to preserve the coating surface and prevent degradation caused by microbial growth once applied to the intended substrate.

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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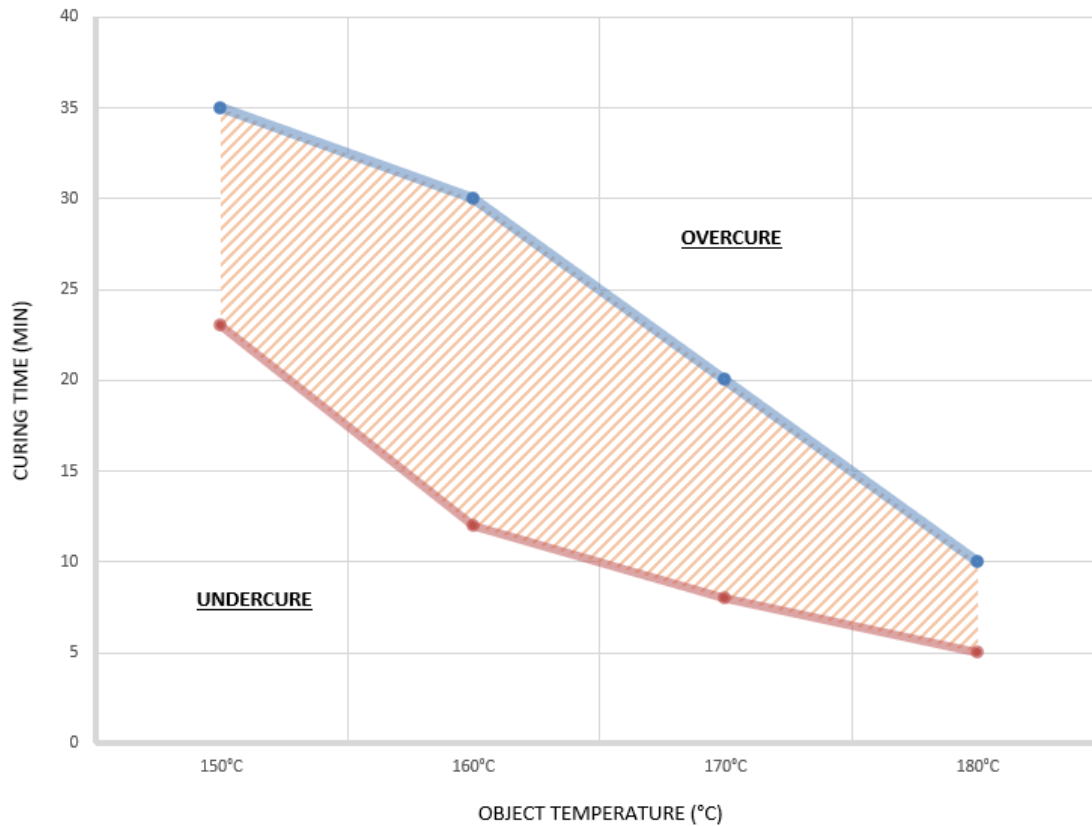
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Appendix

Curing window Interpon 610 Low-E AM



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

- Minimum cure
- Maximum cure

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