Product Data Sheet

AkzoNobel Powder Coatings
Interpon PZ790
ALZ90F
Zinc-rich Primer

Product Description

ALZ90F is a powder coating primer containing zinc which is designed to give enhanced corrosion protection of mild steel. It has been designed to be over-coated with Interpon D1000, Interpon D2000, Interpon 600 and Interpon 800 series powder topcoats. In this data sheet ALZ90F over-coated with a topcoat is termed the "Interpon PZ790 system".

Powder Properties

Chemical type	Thermosetting epoxy, rich in zinc	
Appearance	Grey Metallic, Slightly granular film	
Particle Size	Suitable for electrostatic spray	
Specific gravity	1.80-2.20 g/cm³	
Storage	Dry cool conditions below 30°C	
Shelf life	12 months	
Stoving schedule [(a)] (object temperature)	Primer Green Cure	15 – 40 minutes at 110°C 12 – 30 minutes at 130°C
	Final Full Cure	12 – 23 minutes at 160°C 8 – 17 minutes at 170°C 2 – 8 minutes at 200°C 1.5 – 5.5 minutes at 220°C

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	0.5mm Steel
Pretreatment	Cold trichloroethylene degreasing
Film Thickness	60 – 80 microns
Stoving Schedule	8 minutes at 200°C (Interpon ALZ90F primer alone) 2 minutes at 200°C (when used as a primer for Interpon PZ790 system)
Powder Topcoat	Interpon D1036 (Ral 9010)

Mechanical Tests

Flexibility	ISO 1519 (Cylindrical Mandrel) ISO 6860 (Conical Mandrel)	Pass 4 mm (ALZ90F mono-coat) Pas 5 mm (Interpon PZ 790 System) No Cracking (ALZ90F mono-coat) No Cracking (System)
Adhesion	ISO 2409 (2mm Crosshatch)	Gt0 (ALZ90F mono-coat) Gt0 (Interpon PZ 790 System)
Erichsen Cupping	ISO1520	Pass 8 mm (ALZ90F mono-coat) Pass 6 mm (Interpon PZ 790 System)
Impact	ISO 6272	Pass 0.5 kg.m (ALZ90F mono-coat) Pass 0.5 kg.m (Interpon PZ 790 System)

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Corrosion Tests on Mild Steel

The Interpon PZ790 system provides excellent protection against corrosion on the surface to which it is applied. However, the efficiency of this protection depends on the surface, its preparation before coating and the topcoat applied. If there is penetrating damage through the coating system to the substrate, there may be localised signs of corrosion where damage has occurred but this will not affect the adhesion of the film to the adjacent surface. Interpon PZ790 considerably limits the extent of spread of corrosion in the event of coating damage.

Coating System			**Interpon PZ790, ALZ90F Interpon D1036**		
Conditions	Substrate		Steel 2mm		
	Pretreatment		Solvent degrease Blast Clean SA2½ Profile: 50-75 µm (Ra 6-12 µm)		
	ALZ90F thickness		60-80µm		
	Interpon D 1036 thickness		80-110µm		
Neutral Salt Spray ISO 9227	Time	Location	Corrosion	Blistering	Adhesion
	2000 hours	Scribe	XXX	Size: 3 Degree: 2-3	Loss 4mm
		Surface	Ri 0	None	Class 0
	3000 hours	Scribe	XXX	Size: 2 & 4 Degree: some blisters	Loss 4mm
		Surface	Ri 0	None	Class 0

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3C Cycle Renault method ME D17 1686	Time	Location	Corrosion	Blistering	Adhesion
	6 cycles	Scribe	X	Size: 2 & 3 Degree: 3	Loss 3mm
		Surface	Ri 0	None	Class 0
	10 cycles	Scribe	X	Size: 2 - 4 Degree: 5	Loss 3mm
		Surface	Ri 0	None	Class 0
	10 cycles	Scribe	XX	Size: 2 - 5 Degree: 6	Loss 4mm
		Surface	Ri 0	None	Class 0

Pre-treatment

For maximum protection it is essential that ALZ90F is applied to a clean, dry, oxide-free ferrous metal surface, followed by an Interpon topcoat. Surface preparation depends upon the type of surface, its condition and the required performance. For good protection against corrosion the following is recommended:

Grit blasting

- To at least SA 2.5 in accordance with ISO 8501.1, 1998 (F)
- roughness equivalent to B9a, B10b, or B10a (Rz 35-65µm; Ra 6 – 10µm) using Rutogest nº3 LCACEA, in accordance with NFE 05051 (1981)

and/or

Degreasing & Phosphating

- Followed by passivation, rinsing with demineralized water and drying.
- Follow the procedural advice of the pretreatment supplier.

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Application

ALZ90F can be applied by manual or automatic, electrostatic spray equipment.
Tribo application is not recommended.
The application conditions given below are for information only:

Fluidising air pressure: 1.5kg/cm2 initially then 1kg/cm^2
Transport air pressure: 0.5 to 0.8 kg/cm
Recommended voltage: 65 to 70kV

Reclaiming Powder:
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 80% must be used. Gun nozzles must be cleaned every 30 minutes.

ALZ90F should be cured, or at least gelled, using the recommended stoving schedules, before application of the topcoat. The object temperature must not be below 110^{o}C or above 220^{o}C.
The primer should be cured in a convection oven, optionally with infra-red heaters, with air temperature not exceeding 220°C.

Note: Failure to comply with the recommended curing conditions may affect the adhesion of the topcoat and cause degradation of the Interpon PZ790 system performance properties. Parts coated with ALZ90F should not be handled if possible. If handling is unavoidable, clean lint-free gloves must be worn.

Topcoat Application

ALZ90F 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 120-150oC (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 Interpon PZ790 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 colour and gloss and cause degradation of the coating properties of the system.

A detailed protocol for applying Interpon PZ790 system is available on request.

Damage Repair

Any damage to the Interpon PZ790 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 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 Product Data Sheets for these products can be obtained from AkzoNobel Protective Coatings at Felling (Tel: +44 (0) 191 469 6111) or the local office.

Safety Precautions

Please consult the Material Safety Datasheet (MSDS)

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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 fulfill 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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