Product Data Sheet

AkzoNobel Powder Coatings
Interpon BPP330
AL113D
Barrier Primer

Product Description

Interpon BPP 330 is a barrier protective powder primer that is designed to give enhanced corrosion protection of mild steel and hot dip galvanized steel. Interpon BPP 330 is a pure epoxy primer showing a high cross-linking degree and reinforced with barrier effect agents to provide the best barrier protection. Interpon BPP 330 must be over-coated with a powder or a PU liquid topcoat. Interpon BPP330 could be used as holding primer with a maximum waiting delay of 1 week.

Powder Properties

Chemical type	Thermosetting epoxy
Particle Size	Suitable for electrostatic spray
Specific gravity	1.43-1.49 g/cm³
Storage	Dry cool conditions below 25°C (open boxes must be resealed)
Shelf life	12 months
Stoving schedule (object temperature)	See Curing Section below
Aspect	Grey, Smooth
Gloss	65-75 units

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
Film Thickness	60 – 80 microns
Stoving Schedule (AL113D)	10 minutes at 160°C (object temperature)
Stoving Schedule (With topcoat)	10 minutes at 180°C (system) (Topcoat - Interpon D1036 Ral 9010 60-80 microns)

Mechanical Tests

Flexibility	ISO 1519 (Cylindrical Mandrel)	Pass 5 mm (AL113D mono-coat) Pass 5 mm (System)
Adhesion	BS EN ISO 2409 (2mm Crosshatch)	Gt0 (AL113D mono-coat) Gt0 (System)
Erichsen Cupping	ISO 1520	Pass 8 mm (AL113D mono-coat) Pass 6 mm (System)
Impact	ISO 6272 (1993)	Pass 0.5 kg.m (AL113D mono-coat) Pass 0.5 kg.m (System)

Corrosion Tests on 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 Detailed in Table 1 of Appendix
Cycle 3 C	Renault D17 1686	Results Detailed in Table 2 of Appendix

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Corrosion Tests on Hot Dip Galvanised Stee

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.

Substrate	Hot Dip Galvanised Steel	
Pre-Treatment	Sweep blasting	
Primer Thickness	60 – 100 microns	
Stoving Schedule (AL113D)	10 minutes at 160°C	
Powder Topcoat	Interpon D1036 Ral 6005	
Topcoat Thickness	60 -80 microns	
Stoving Schedule (System)	10 minutes at 200°C	
Neutral Salt Spray	ISO 9227	After 720h of Salt Spray exposure, the adhesion (following ISO 2409) is Class 0 Class 1 on the surface

Pre-treatment

For maximum protection it is essential to ensure that Interpon BPP330 AL113D is applied to clean, dry oxide-free surfaces. It is therefore, necessary to carry out mechanical and/or chemical pre-treatment prior to application of AL113D which should then be over-coated with the recommended Interpon topcoat. Surface preparation depends upon the metal, the type of surface, its condition and the required performance. For good protection against corrosion the following is recommended:

Mild Steel

- 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 – 65 µm; Ra 6 – 10 µm) using Rutogest n°3 LCA-CEA, in accordance with NFE 05051 (1981) and/or
- Degreasing & Phosphating followed by passivation, DI water rinsing and drying.

Galvanised Steel

- Sweeping with a maximum zinc layer thickness reduction of 5 to 10 µ depending on the initial zinc thickness or
- Degreasing & Chromating or Zn/Zn-Ni Phosphating.

A degassing operation before coating reduces the bubbling phenomenon

Application

AL113D is suitable for corona electrostatic spray and for tribo depending on the tribo equipment

Recommended film thickness	60-100 µm. 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.

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Curing

AL113D must be cured following the conditions below. These condition vary depending on if it is immediately over-coated or used as a holding primer. The conditions depend also on the topcoat type: liquid or powder.

AL113D over-coated immediately

System		Interpon BPP330 + Powder topcoat		Interpon BPP330 + Liquid PU topcoat	
Primer to bake		Interpon BPP		Interpon BPP	
Object minimum temp.		130°C		160°C	
Object maximum temp.		180°C		180°C	
Maximum oven temp.		No peak above 190°C		No peak above 190°C	
Stoving Schedule	Object temp.	Min	Max	Min	Max
	130°C	15 min (green cure)	60 min (green cure)	Not applicable	Not applicable
	160°C	10 min	40 min	20 min	40 min
	170°C	6 min	35 min	10 min	35 min
	180°C	2 min	30 min (maximum)	6 min	30 min (maximum)

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

AL113D used as holding primer

System		Interpon BPP330 + Powder topcoat		Interpon BPP330 + Liquid PU topcoat	
Primer to bake		Interpon BPP		Interpon BPP	
Object minimum temp.		160°C		160°C	
Object maximum temp.		180°C		180°C	
maximum oven temp.		No peak above 190°C		No peak above 190°C	
Stoving Schedule	Object temp.	Min	Max	Min	Max
	160°C	10 min	40 min	20 min	40 min
	170°C	6 min	35 min	10 min	35 min
	180°C	2 min	30 min (maximum)	6 min	30 min (maximum)

The primer should be cured in a convection oven, Infra-red emitters may also be used, but in either case air temperature must not exceed 190^{o}C.
Note: Failure to comply with the recommended curing conditions may affect the adhesion of the topcoat and cause degradation of the coating system properties. Parts coated with AL113D should be handled carefully avoiding any surface contamination.

Top Coat Application

Interpon BPP330, AL113D, should ideally be over-coated within 24 hours of application. However, the over-coating time can be extended to 1 week after application, preliminary cleaning before application of the topcoat may be required in this case. To ensure good intercoat-adhesion, and optimum performance, of the complete Interpon BPP330 powder system, the whole system must be cured in accordance with the recommended curing conditions of the powder topcoat.

When used as a holding primer, the primer must be cleaned before application of the topcoat. This can be achieved by removal of dust by blowing with clean dry air and/or brush with a soft brush.

For over-coating with a liquid PU topcoat Interpon BPP330 must first undergo a slight dry sanding with 800 grade sandpaper.

Damage Repair

Any damage to the Interpon BPP330 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

Please consult the Material Safety Datasheet (MSDS)

Disclaimer

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