Interpon APP120

Product Description

Interpon **APP120** is a powder coating primer that is designed to give enhanced corrosion protection of mild steel. Interpon **APP120** is formulated to be over coated with powder topcoats such as Interpon **TC**, Interpon **D1094**, Interpon **D1036**, Interpon **D2525** or Interpon **D2000**. In this data sheet, the Interpon **APP120** primer over coated with a finish is termed the "Interpon **APP120** system".

Powder Properties

Chemical type	Epoxy polyester hybrid
Appearance	Light grey satin (other colours available)
Particle size	suitable for electrostatic spray
Specific gravity	1.65-1.75 g/cm^3
Storage	Dry, cool conditions below 30^{o}C
Stoving schedule (object temperature)	10-60 minutes at 130°C (green cure) 10-60 minutes at 160°C 8-50 minutes at 170°C 7-40 minutes at 180°C 5-30 minutes at 200°C 3-10 minutes at 220°C (maximum)

Test Conditions

The results shown below are based on mechanical and corrosion tests which (unless otherwise indicated) have been carried out under laboratory conditions using a complete coating system and are given for guidance only. Actual product performance will depend upon the circumstances under which the product is used.

Mechanical Tests:

Substrate	Steel, Bonderite 1000,0.8mm
Pretreatment	iron phosphate with chromate passivation
Film Thickness	70±10 microns
Curing	2 minutes at 200^{o}C (as primer for complete system)
Powder Topcoat	Interpon **D1036** (RAL9010)
Film Thickness	70±10 microns

Corrosion Tests:

Curing	10 minutes at 200^{o}C (object temperature)
Substrate	Steel, 0.8mm thick (pretreated panels)
Pretreatment	As detailed in results tables in Appendix (page 3)
Film Thickness	As detailed in results tables in Appendix (page 3)
Curing	As detailed in results tables in Appendix (page 3)

Mechanical tests

Adhesion	ISO2409 (2mm Crosshatch)	0 (APP120 alone) 0 (APP120 + topcoat))
Erichsen Cupping	ISO1520	Pass 7mm (APP120 alone) Pass 6mm (APP120 + topcoat)
Impact	ISO6272	Pass 2mm
Flexibility	ISO6860 (Conical Mandrel)	Pass 3mm (APP120 alone) Pass 3mm (APP120 + topcoat)

Corrosion tests

The Interpon **APP120** system provides excellent protection against corrosion on the surface to which it is applied. However the efficiency of this protection depends upon the surface, its preparation before coating and the topcoat applied. If there is penetrating damage to the coating system, 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 **APP120** considerably limits the extent of spread of corrosion in the event of coating damage

Hot Neutral Salt Spray	ISO9227 (ASTM B117)	3000 hours Results are detailed in Table 1 and Table 2 of the Appendix (page 3)
GM Cyclic	General Motors GME 60203	15 cycles Results are detailed in Table 1 of the Appendix (page 3)
Natural Exposure	ISO 12944	Results are detailed in Table 1 of the Appendix (page 3)

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Industrial Application Condition	**Pretreatment:**	For maximum protection, it is essential that αβχδ **APP120** is applied to a clean, dry, oxide-free ferrous metal surface, followed by a recommended αβχδ topcoat. Surface preparation depends upon the type of surface, its condition and the required performance. For good protection against corrosion the following is recommended: ***Degreasing & phosphating*** followed by passivation, rinsing with demineralised water and drying. Follow the procedural advice of the pretreatment supplier **and/or** ***Blast clean*** to at least SA 2.5 in accordance with ISO8501.1, 1988 (F), or Swedish standard S15 05.09.00. with a sharp angular surface profile of 50 -75 microns in accordance with ISO 8503/1 for grit (R_a = 6-12 microns)
	Recommended film thickness	60-90 microns A good protection is linked to the recommended film thickness
	Application	αβχδ **APP120** is suitable for corona electrostatic spray and for tribo depending on the tribo equipment.
	Recycling	Unused powder can be reclaimed using suitable equipment and recycled through the coating system, but a minimum of 70% new powder should always be used.
	Curing	Interpon APP 120 should be partially or fully cured using the recommended stoving schedules before application of the topcoat. For an immediate covering of the primer with the powder topcoat and to provide the best adhesion between them we recommend to prefer the green cure conditions of the primer. For a use as holding primer, Interpon APP 120 must be baked at 10 min/160℃ or 7 min/180℃ or 5 min/200℃. The primer should be cured in a convection oven, optionally with/or infra-red heaters, with air temperature not exceeding 220℃. ***Note*** *: Failure to comply with the recommended curing conditions may affect the adhesion of the topcoat and cause degradation of the coating properties of the system. Parts coated with Interpon APP 120 should be handled carefully avoiding any surface contamination.*
	Topcoat Application	Interpon APP 120 should ideally be overcoated within 24 hours of application. However the overcoating could be done until 6 weeks after application and if needed with a preliminary cleaning. To ensure the integrity of the **Interpon** APP 120 powder system, as well as optimum performance, the whole system must be cured in accordance with the recommended curing conditions for the topcoat. For overcoating with a PU liquid topcoat, the primers must first undergo a slight dry sanding with a 800 sandpaper.
	Damage Repair:	Any damage to the αβχδ **APP120** system must be repaired as soon as possible. ***Surface preparation*** Damaged areas must be clean and free of grease or rust. Using 600 grade paper dry-sand the area down to 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 Cromadex is recommended: **1st Coat:** two-pack acid etch primer. **2nd Coat:** two-pack polyurethane topcoat **Interthane 990 or Cromadex 600** *Product Data Sheets for these products can be obtained from International Protective Coatings at Felling (Tel: +44 (0) 191 469 6111) or the local office. For your nearest Cromadex centre, visit cromadex.com.*
Safety Precautions		When using do not eat, drink or smoke. Do not breathe the dust. In case of insufficient ventilation wear suitable respiratory equipment. For further information please refer to the specific product Material Safety Data Sheet (MSDS)
Disclaimer:		The information given in this sheet is not intended to be exhaustive and any person using the product for any purpose other than that specifically recommended in this 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. Whilst we endeavour to ensure that all advice we give about the product (whether in this sheet or otherwise) is correct we have no control over either the quality or condition of the substrate or the many factors affecting the use and application of the product. Therefore, unless we specifically agree in writing to do so, we do not accept any liability whatsoever or howsoever arising for the performance of the product or for any loss or damage (other than death or personal injury resulting from our negligence) arising out of the use of the product. The information contained in this sheet is liable to modification from time to time in the light of experience and our policy of continuous product development.

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Table 1:**Varying preparation/pre-treatment methods and resultant test data.**

Film Thickness:		αβχδ **APP120**: 60-80µ Interpon **D36**: 60-80µ					
Curing Times:		(Object temp @200ºC) - Interpon**APP120:** 2 minutes					
Pre-treatment:		Solvent degrease Blast clean to SA2½ Profile: 50-75µ, (Ra 6-12µ)		Alkaline degrease Zinc Phosphate Water rinse and dry		Alkaline degrease Iron Phosphate Chromate passivation Water rinse and dry	
		Ave. Creep	***Max Creep***	***Ave. Creep***	***Max Creep***	**Ave. Creep**	**Max Creep**
HNSS	- 3000 hours	5.0mm	9.0mm	0.5mm	1.0mm	2.0mm	3.0mm
	- 5000 hours	8.0mm	17.0mm	3.5mm	7.0mm	---	---
GM *	- 10 cycles*	0.5mm		0mm	0.5mm	1.0mm	2.5mm
Cyclic	- 15 cycles*	1.5mm	3.0mm	1.5mm	3.0mm	---	---
Natural †	- 10 months	---	---	2.5mm	4.0mm	---	---
Exposure	- 18 months	2.0mm	3.0mm	---	---	---	---

*GM Cyclic testing according to GME 60206 consists of the following:

Hot Neutral Salt Spray (5% Na Cl) @ 35ºC According to ASTM B117: 24 hours)
Humidity - 40ºC, 100% RH: 96 hours) – 1 cycle
Ambient - 23ºC, 50% RH: 48 hours)

† Natural Exposure tested according to ISO 12944,Classification C5-M.

Table 2: Additional test data – HNSS result over blasted steel with iron phosphate pre-treatment.

Film thickness:		Interpon**APP120:** 60 - 80µ Interpon**D36:** 60 - 80µ	
Curing times: (Object temp @ 200ºC)		Interpon**APP120:** 2 minutes Interpon**D36;** 10 minutes	
Pre-treatment:		Solvent degrease Blast clean to SA2½ Profile: 50-75um, (Ra 6-12µ) Iron Phosphate Water rinse and dry	
		Ave. Creep	**Max Creep**
HNSS	- 1000 hours	1.0mm	2.0mm
	- 3000 hours	2.0mm	3.0mm