Technical Data Sheet

Issue 1

Product Name: Chemical Resistant Intumescent Coating

Product Number: IP9189 A/B

Product Description:

Two component intumescent coating for use on Aero engine and aerospace components manufactured from GRP, titanium, aluminium or other substrates that require protection from the effects of fire. Suitable for application by spray or brush. Will air dry or can be force cured.

The coating thickness can be as little as 1/10th of alternative coatings, providing weight savings particularly on composite parts. Designed to be more resistant to high air movement and adhesive coat after being burned.

Usually applied as a system of primer/sealer (substrate dependent), intumescent coat and 2 component epoxy or polyurethane topcoat.

Approvals/Specifications:

- MSRR 1055: Rolls Royce OEM
- Omat 7/28B: Rolls Royce overhaul
- ECS 7029: Airbus Helicopters Deutschland
- WHPS402: Agusta-Westland
- BAMS 565-ICFC: Bombardier Montreal
- BSX37
- Complies with FAA 5 minutes fire resistance test, being reviewed against 15 minutes FAA fireproof test
- Technical Specification: AIMS04-32-000
- Material Specification: AIMS04-32-004
- Individual Product Specification: IPS04-32-004-01
- Semi-finished Part Specification: ABS5941 A1

Supersedes/Replaces PL161

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Registered in England: 1376995

Performance:

Used on parts and sub-assemblies of Airbus for doors of the A320 and A340 aircraft and also on Airbus Helicopters EC135.

Recently approved on components on Airbus A350.

Additonally components used on Rolls Royce engines inclduing control boxes actuators etc. Chemical resistance tested when over-coated with Epoxy or Polyurethane Sealcoat.

Adhesion (2mm x hatch): minimum rating 1

Heat Resistance: 100 hours @ 180°C (360°F) sealed with 2 component epoxy finish

Skydrol Resistance: 3 hours at 70°C

Typical performance to exposure to 1100°C flame:
Two 0.62 metre panels of 4mm anodised aluminium, one coated with IP9189 @ 300 micron film thickness and the other left un-coated. Both are pressurised to 5 psi. An SAE 15cm diameter propane burner (116350 BTU) is positioned 10 cm from the centre of each panel.

Results analysed in following table:

Test Time	Effect of 1100°C Burner	
	Uncoated Panel	**Panel Coated with IP9189**
1 minute	Panel distorted outwards	Panel & Coating intact
2 minutes	Deterioration rapidly increasing	Intumescent barrier formed with adhesion to substrate
2+ minutes	Explosion; panel split, centre blows out	Intumescent barrier formed with adhesion to substrate
5 minutes	Panel completely melted	Condition satisfactory; internal pressure maintained

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Components:

Base: IP9189A

Catalyst: IP9189B

Thinner: IP9064-Thin, IP9151, IP985-Reducer, IP3-Reducer, 665-550-025

IP9064-Thin, IP985-REDUCER, IP3-Reducer and 665-550-025 are preferred. IP9151 is still approved for use but is no longer a preferred solvent as it triggers risk phrase R40. Other solvents may be suitable in certain circumstances

Application:

Surface Preparation:

Ensure that surfaces are clean and dirt free. Dependent upon substrate, apply primer coat or sealer coat:

- Metals: Apply 1 coat IP9064-6362 chromate primer or IP9064-6500 chrome free primer.
- Composites: Apply 1 coat IP2439 green tinted sealer for composites

Paint Preparation:

Stir thoroughly before use.

Mix in the ratio 8 parts by volume base IP9189A to 1 part by volume catalyst IP9189B. Allow 15 minutes induction time and re-stir before use. Mixed material can be applied at this viscosity; can be thinned as required with IP9064-thin thinners to a maximum of 15% by volume.

Application Method:

Spray; compliant gun technology recommended. Refer to gun manufacturers data regarding atomising pressures etc.

1. Apply 2 cross coats; allow to flash off for 40 minutes, then apply further 2 cross coats
2. Allow to air dry for minimum 16 hours or allow 40 minutes flash off then force cure for 90 minutes @ 80°C
3. Repeat states 1 and 2 to achieve required film thickness. Once film thickness allow coating 16-24 hours air drying or force cure for 90 minutes @ 80°C before over-coating with finish
4. Apply either 1 coat IP9064 quality epoxy or IP6 quality polyurethane finish, dependent upon end usage of component.

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Application Specification: Indestructible applicator Instruction sheet IPAS47

Drying Curing:

Refer to drying/curing details in application method

Air Dry:

- *Touch Dry:* 40 minutes
- *Through Dry:* 16-24 hours

Heat Cure:

- *Flash off:* 40 minutes
- *Force Cure:* 90 minutes @ 80°C

Technical Properties:

Viscosity:	IP9189A Base: 2800-3200cps
Solids:	IP9189A Base: 60.6% w/w IP9189B Catalyst: 68.4% w/w Mixed for use: 61.3% w/w
Flash Point:	≥22°C; ≤32°C
VOC Content:	IP9189A Base: 468 g/litre IP9189B Catalyst: 293 g/litre Mixed for use: 448 g/litre
Colour:	White
Mixing Ratio:	8 parts pbv base 1 part pbv catalyst
Pack Size:	IP9189A Base: 4 litre IP9189B Catalyst: 500ml
Density:	IP9189A Base: 1.19kg/l IP9189B Catalyst: 0.93kg/l Mixed for use: 1.16kg/l
Gloss Level:	Matt
Thinner:	IP9064-Thin, IP9151, IP985-Reducer, IP3-Reducer, 665-550-025 **IP9064-Thin, IP985-REDUCER, IP3-Reducer and 665-550-025 are**

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Solvent/Clean Up:	40006 Gunwash or IP9064 Thin
Film Thickness:	**Standard:** 300-600 microns dependent upon required resistance May be applied up to 1100 microns for special applications.
Theoretical Coverage:	0.98m^2/mixed litre @ 500µ DFT

Storage:

Highly flammable liquid; store and use in accordance with the flammable liquid regulations.

Shelf Life: 12 months temperate; 6 months tropical

Before Use Please Refer to Safety Data Sheets

Disclaimer:

Safety Data Sheets:

For Safety Data Sheets please contact our Sales Department:

Tel: +44(0)121 702 2485

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