

FR1-55 Surfacer

Technical Data Sheet

Product Group

Characteristics



Product Information

Components



Specifications



Qualified Product List

Surface Conditions



Surface Preparation/
Cleaning

Instruction for Use



Spray Application (Mix Ratio)



Induction Time

Surfacers

Three-component water-based polyurethane surfacer for aircraft interiors. FR1-55 is intended to correct surface defects such as pin holes on composite and thermoplastic substrates.

Base	FR1-55 Base
Hardener	FR1-55 Hardener
Thinner	Water

Airbus	ABS 5650A
Airbus	AIMS 04-08-001
Airbus	CML 04-BAM6
Airbus	CML16-046B
FACC FMS	FMS5520 Class 2

Meets the following requirements:
JAR/FAR Part 25 §25.853 (a) + (c/d)/Change 14/Amdt. 25-83.

Product specifications change constantly, to ensure the most accurate information regarding specifications, please check our online qualified product list (QPL) at aerospace.akzonobel.com/products

The substrate should be sanded with appropriate sandpaper grade:
P240 to P400 for thermoplastics
P100 to P180 for phenolic composites
It must then be cleaned with a lint free cloth and an alcohol based cleaner such Isopropanol. All recommendations mentioned above are given for information.

	Weight
FR1-55 Base	100 parts
FR1-55 Hardener	5 parts
Water	5 - 15 parts

Ideally, unmixed products will be stored between 18°C (64°F) and 25°C (77°F) for 24 hours.
The base must be blended again under low-speed agitation (200 RPM).

The mixture by weight is recommended.
- Mix the base and hardener until the mixture is homogeneous.
- Then add water and mix.

Note : it is recommended to sieve the diluted mixture using a 120-150µm (4.7-6 mils) filter.

Not Applicable.

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	Initial Spraying Viscosity (20°C/68°F)	Spraying viscosity at 20°C / 68°F Dilution rate by weight ISO 6 5-10% 20s ± 5s								
	Note	Viscosities mentioned above are corresponding to the recommended range of viscosity to ensure compliant application. The range of dilution must be used to adjust viscosity to reach the recommended one. Viscosity measurements are provided as guidelines only and are not to be used as quality control parameters. Certified information is provided by certification documentation available on request.								
	Pot life (23°C/73°F)	3 hours for a 10% dilution.								
	Note	Water based paints show a thixotropic behaviour. This implies that efflux time can vary according different parameters such as: type of mixing, mixing quantity, dilution, temperature, time between mixing and viscosity measurement.								
	Dry Film Thickness (DFT)	20 – 100 µm 0.8 – 4 mils								
	Wet Film Thickness (WFT)	50 – 230 µm 2 – 9 mils								
	Brush Application (Mix Ratio)	<table><tr><th></th><th>Weight</th></tr><tr><td>FR1-55 Base</td><td>100 part</td></tr><tr><td>FR1-55 Hardener</td><td>5 parts</td></tr><tr><td>Water</td><td>0 to 5 parts</td></tr></table>		Weight	FR1-55 Base	100 part	FR1-55 Hardener	5 parts	Water	0 to 5 parts
	Weight									
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Water	0 to 5 parts									
		Ideally, unmixed products will be stored at between 18°C (64°F) and 25°C (77°F) for 24 hours. The base should be blended again under low-speed agitation (200 RPM). Mixing by weight is recommended. - Mix the base and hardener until the mixture is homogeneous. - Then add up to 5% water. Note : it is recommended to sieve the diluted mixture using a 120-150 µm (4.7-6 mils) filter.								
	Pot life (23°C/73°F)	45 minutes at 23°C (73°F) for an undiluted mixture.								
	Dry Film Thickness (DFT)	100 – 200 µm 4 – 8 mils								
	Wet Film Thickness (WFT)	230 – 460 µm 9.1 – 18.1 mils								

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Application Recommendations

	Conditions	Temperature: 15 – 35 °C 59 – 95 °F Relative Humidity: 20 – 70 %
	Conditions	SURFACER FR1-55 may be applied in conditions outside of the limits shown above. However, it is recommended to be careful to ensure a satisfactory result. Please contact your local AkzoNobel Aerospace Coatings representative to determine the proper application techniques when environmental conditions are outside of the recommended range.
	Equipment Recommendation	1. Gravity compressed air gun - Nozzle 1.8 mm to 2.2 mm 2. Brush
	Number of Coats	Spray gun: Follow requirements above and apply the product in crossed coats, pressure 3 bars (44 psi) +/- 0.5 (7 psi) dynamic to achieve the desired thickness (approximately 2 crossed coats for 80 µm or 3 mils dry) to achieve the required thickness (>80 µm or 3 mils dry), let the first coat dry before applying the second one (to obtain a matt appearance). With a brush (fine hairs) : 1 coat.
	Cleaning of Equipment	Clean equipment with water, then with a suitable cleaning thinner.
	Note	Spray with dry, oil-free air.

Physical Properties

	Drying Times		23°C/73°F	40°C/104°F	60°C/140°F	80°C/176°F
		Dust Free	40 minutes	NA*	NA*	NA*
		Dry to Sand	4 hours	2 hours	1hour	30minutes
		Recoatable	2 hours to 24 hours	1 hour to 8hours	45 minutes to 4 hours	30 minutes to 2 hours
		Full Cure	7 days	NA*	12 hours	8 hours
	Note	Drying times have been determined using tests pieces of a thickness < 2mm for 60µm (2.4 mils). * NA: Not applicable				
	Theoretical Coverage	6 m²/kg (360 ft/gal) for 50 µm (2 mils) dry (base and hardener undiluted). The theoretical consumption value doesn't take into account the transfer efficiency for spray application.				
	Dry Film Weight	2				
	Volatile Organic Compounds	25 g/L or 0.21 lbs./gal (ISO 11890-1) and 50 g/L or 0.42 lbs./gal (ASTM D3960).				

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	Gloss	Matt (10GU at 60°).	
	Color	Sandy beige, stone grey, white.	
	Flash Point	FR1-55 Base	> 93°C (200 °F)
		FR1-55 Hardener	Between 60 °C (140 °F) and 93 °C (200 °F)
		Water	N.A.
	Storage	Store the product dry and at a temperature between 5 and 35°C / 41 and 95°F per AkzoNobel Aerospace Coatings specification. Store in the original unopened containers. Storage temperature and shelf life may vary per OEM specification requirements. Refer to the container label for specific storage life information.	
	Shelf life 5 - 35°C (41 - 95°F)	FR1-55 Base	12 months
		FR1-55 Hardener	12 months
		Water	N.A.

Safety Precautions	Comply with all local safety, disposal and transportation regulations. Check the Material Safety Data Sheet (MSDS) and label of the individual products carefully before using the products. The MSDS's are available on request.
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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. Therefore, unless we specifically agree in writing otherwise, we do not accept any liability whatsoever for the performance of the product or for any loss or damage arising out of the use of the product. All products supplied and technical advice given is subject to our standard terms and conditions of sale. You should request a copy of this document and review it carefully. The information contained in this data sheet is subject to modification from time to time in the light of experience and our policy of continuous development. It is the user's responsibility to verify that this data sheet is current prior to using the product. Brand names mentioned in this data sheet are trademarks of or are licensed to AkzoNobel