

# TOPCOAT FR2-55 SEMI-GLOSS

## FIRE RETARDANT FINISHES FOR CABIN INTERIORS

### Technical Data Sheet

#### Product Group

#### Polyurethane Top Coat

#### Characteristics

Three-component water-based semi gloss polyurethane topcoat for aircraft interiors. FR2-55 can be applied with cabin interior primers FR1-55, FR4-45, FR-P1K or FRS30. Available gloss levels are 8-12 GU and 12-18 GU.



#### Components

Base	FR2-55
Hardener / Catalyst	FR2-55 (for 12-18 GU) FRC (for FR2-55 Fast 8-12 GU)
Water	



#### Specifications

Airbus Helicopters	ECS 2066
Airbus Industries	ABS-5650B
Airbus Industries	AIMS 04-08-002
Airbus Industries	CML 04-JMD9
Airbus Industries	CML 16-047B
Bombardier	DHMS C4.22
Safran Cabin	CDM 240-00
Safran Cabin	CDM 240-01
Embraer	MEP 10-073 FACC
FMS	5550 Class 2



For most recent up-to-date or missing specifications please check the qualified product list (QPL) on [aerospace.akzonobel.com](http://aerospace.akzonobel.com)

#### Surface Conditions

Can be applied on phenolic, plastic composites and on aluminum. For surfaces that require surface preparation, the use of FR1-55, FR4-45, FR-P1K or FRS30 filler is recommended.



Application on a composite substrate (new or reworked):  
FR1-55 (or FR4-45 or FR-P1K or FRS30) is used as a filler/surfacer (see surface treatment preparation datasheet). FR1-55 (or FR4-45 or FR-P1K or FRS30) should be sanded with a P240 to P400 grade abrasive paper and cleaned with isopropyl alcohol.

Application on a plastic substrate (new or reworked):  
Except where there are surface defects, FR2-55 can be applied directly onto plastics. The substrate should be sanded with P240 to P400 grade paper. Then it should be blown and cleaned with isopropyl alcohol.

Application on aluminum:  
FR2-55 should be applied on a system composed of:  
- Surface treatment (anodizing, conversion)  
- Epoxy corrosion resistant primer (F69 type from Mapaero). Dry 1 hour at 60°C (140°F) before applying the top coat.

All recommendations mentioned above are given for information.  
In the event of a defect, contact your Quality Department.

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### Instruction For Use



Mixing Ratio (volume)

Base FR2-55  
Hardener / Catalyst  
Water

#### Spray Application

	Base FR2- 55	Hardener FR2-55 (for 12-18 GU) FRC (for FR2-55 Fast 8-12 GU)	Water
Mixing ratio by weight	100 parts	20 parts	15-25 parts
Mixing ratio by volume	4 parts	1 part	0.5-1.2 parts

MIXING PROCEDURE - Ideally, the unmixed products should be stored between 18°C and 25°C (64°F and 77°F) for 24 hours before use. The base must be blended 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 120-150 µm (4.7-6 mils) filter. Mixing ratio in weight is highly recommended for an optimal accuracy. Uncertainties linked to mixing in volume can lead to variation of the aspect (while keeping all physical and chemical properties). This phenomenon is emphasized with mixing of small quantities.

#### Brush Application

	Base FR2-55	Hardener FR2-55 (for 12-18 GU) Hardener FRC (for FR2-55 Fast 8-12 GU)	Water
Mixing ratio by weight	100 parts	20 parts	5-15 parts
Mixing ratio by volume	4 parts	1 part	0.25 to 0.5 part

MIXING PROCEDURE - Ideally, unmixed products will be stored 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 (4.7-5.9 mils) filter.












Induction Time

Not Applicable.

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	Initial Spraying Viscosity	Spraying viscosity at 20°C / 68°F:		
		<b>Dilution rate by weight</b>	<b>ISO 6 Cup</b>	<b>AFNOR 4 Cup</b>
		15-25%	22s ± 5s	40s ± 5s
	Note	The viscosity ranges mentioned above are recommended to ensure compliant application. The amount of water used for dilution should be adjusted if needed, to reach the recommended viscosity. ISO 6 cup is the reference cup; other ones are provided as guidelines only and not to be used as quality control parameters. Water based paints show thixotropic behavior, which means that the flow cup efflux time can vary as a result of way and intensity of mixing. Also the amount of dilution, temperature and the time between mixing and measurement will influence the outcome.		
	Pot life (25°C/77°F)	SPRAY APPLICATION - 3 hours BRUSH APPLICATION - 1 hour for a 5% dilution		
	Dry Film Thickness (DFT)	30-90 µm dry (1.2-1.3 mils) 75-225 µm wet (3-8.8 mils)		
<b>Application Recommendations</b>				
	Conditions	Temperature:	15 – 35°C 60 – 95°F	
		Relative Humidity:	20 – 70%	
	Note	The quality of the application of all coatings will be influenced by the spray equipment chosen and the temperature, humidity, and air flow of the paint application area. When applying the product for the first time, it is recommended that test panels be prepared in order to identify the best equipment settings to be used in optimizing the performance and appearance of the coating.		
	Equipment Recommendation	Gravity Feed Spray Gun	Nozzle 1.4 mm-1.8 mm	
		Follow recommendations above and apply the product in crossed coats, pressure 2-3 bars (44 psi) ± 0.5 (7psi) dynamic to achieve the desired thickness (approximately 2 crossed coats for 60 µm dry or 2.4 mils).		
		<ul style="list-style-type: none"> <li>- Smooth surface: Apply 1 or 2 crossed coats.</li> <li>- Textured surface: Dilute the first coat at 20 %, wait 1 hour until the film becomes semi-glossy.</li> <li>- Fine texture: decrease the air pressure down to 0.7-0.9 bar dynamic or 10-13 psi and apply at 50 cm from the surface.</li> <li>- Coarse texture: decrease the air pressure down to 0.4-0.7 bar dynamic or 6-10 psi and apply at 20 cm from the surface.</li> </ul>		
		Note: Spray with dry, oil-free air. The pressures as indicated in order to achieve the textures are provided for guidance and will need to be adjusted according to the conditions of application (e.g. type of gun).		
	Hiding	Some colors may require a higher film thickness to achieve full hide.		
	Cleaning Of Equipment	Clean equipment with water, then with a suitable cleaning thinner.		

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### Physical Properties



#### Drying Times

	<b>23°C (73°F)</b>	<b>40°C (104°F)</b>	<b>60°C/140°F*</b>
Dust Free	60 min	N/A	N/A
NOTE: If FRC hardener is used, dry times are as follows:			
	<b>23°C/73°F</b>	<b>60°C/140°F*</b>	<b>80°C/176°F*</b>
Dust Free	30 min	N/A	N/A
	<b>23°C (73°F)</b>	<b>40°C (104°F)</b>	<b>60°C/140°F*</b>
Dry to handle	5 hours	2.5 hours	1 hour
NOTE: If FRC hardener is used, dry times are as follows:			
	<b>23°C/73°F</b>	<b>60°C/140°F*</b>	<b>80°C/176°F*</b>
Dry to handle	2 hours	1 hour	30 min
	<b>23°C/70°F</b>	<b>60°C/140°F*</b>	<b>80°C/176°F*</b>
Recoat FR2-55	4 hours to 24 hours	1 hour to 8 hours	30 min to 4 hours
	<b>23°C (73°F)</b>	<b>40°C (104°F)</b>	<b>60°C/140°F*</b>
Fully Cured			
Hardener FR2-55	7 days	3 days	12 hours
Hardener FRC	7 days	3 days	12 hours

\*At 23°C, we assume that the relative humidity is 50% and the air flow is sufficient. Before forced cure in oven allow the paint to dry for 1 hour at 23°C (73°F). Drying times were determined using a substrate thickness <2mm and for 45 µm (1.8 mils) of dry film.



#### Theoretical Coverage

9 m<sup>2</sup>/kg (510 ft<sup>2</sup>/gal) for 40 µm (1.6 mils) dry (base and hardener undiluted).  
The theoretical consumption value doesn't take into account the transfer efficiency for spray application.

Note: May vary according to color.




#### Dry Film Weight

1.5 g/m<sup>2</sup>/µm for white colors.  
0.0078 lbs/ft<sup>2</sup>/mil  
Other color DFW available upon request.

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	Volatile Organic Compounds	50 g/L or 0.42 lbs/gal (ISO 11890-1) and 140 g/L or 1.17 lbs/gal (ASTM D3960).	
	Gloss	12-18 GU (smooth), 7-11 GU (textured) with FR2-55 hardener; 8-12 GU (smooth) with FRC hardener. Gloss levels have been determined using a glossmeter with an angle of incidence of 60°.	
	Flash Point	Base FR2-55	> 100°C (212°F)
		Hardener / Catalyst	23°C-60°C (73.4°F-140°F)
	Storage	Store the product dry and at a temperature between 5°C and 35°C / 40°F and 95°F per AkzoNobel Aerospace Coatings specification. Store in the original unopened containers. Storage temperature may vary per OEM specification requirements. Refer to container label for specific storage life information.	
	Shelf life 5°C – 35°C (40°F – 95°F)	Base FR2-55	12 months - stored between 5°C and 35°C (40°F and 95°F) in full and sealed original packaging. Note: The base FR2-55 is available in 3.5 kg, 1 kg and 5 kg. These products are not subjected to IATA regulations for air transport.
		Hardener / Catalyst	12 months for hardener - stored between 5°C and 35°C (40°F and 95°F) in full and sealed original packaging. Note: The hardener FR2-55 is available in 700g, 1 kg and 5 kg.

**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.

Issue date: 2020-12-14 - FOR PROFESSIONAL USE ONLY

### 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.

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