TOPCOAT FR2-55 MATT

FIRE RETARDANT FINISHES FOR CABIN INTERIORS

Technical Data Sheet

Product Group

Polyurethane Top Coat

Characteristics

Product Information

Three-component water-based matt polyurethane topcoat for aircraft interiors. FR2-55 can be applied with cabin interior primers FR1-55, FR4-45, FR-P1K or FRS30.

Components

Base
Curing Agent
Thinner

Base	FR2-55 matt (4-8 GU)
Hardener / Catalyst	FR2-55
Water	

Specifications

Qualified Product List

Airbus Helicopters	ECS 2066
Airbus Industries	ABS-5650B
Airbus Industries	AIMS 04-08-002
Airbus Industries	CML 16-047B
Bombardier	DHMS C4.22 TY VII
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
Meets the following requirements: JAR/FAR Part 25 §25.853 (a), (c/d)/Change 14/Amdt. 25-83. Product information mentioned in the technical datasheet is given for information purposes and can differ from requirements of specifications above. In that case, customer requirements are valid for your application.

Surface Conditions

Cleaning

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

Application on a composite substrate (new or reworked): FR1-55 (or FR4-45, FR-P1K or FRS30) is used as filler/ surfacer (see technical data sheet for surface preparation). FR1-55 (or FR4-45, 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 blow dried and cleaned with isopropyl alcohol.

Application on aluminum: FR2-55 should be applied on a system composed of:
- Surface treatment (anodizing, conversion coating).
- 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.

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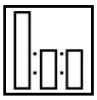
Instruction For Use



Mixing Ratio (volume)

Base	FR2-55 matt (4-8 GU)
Hardener / Catalyst	FR2-55
Water	

Spray Application

	Base FR2-55 matt (4-8 GU)	Hardener FR2-55	Water
Mixing ratio by weight	100 parts	20 parts	15-30 parts
Mixing ratio by volume	4 parts	1 part	0.5-1.5 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 again.

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 matt (4-8 GU)	Hardener FR2-55	Water
Mixing ratio by weight	100 parts	20 parts	5-15 parts
Mixing ratio by volume	4 parts	1 part	0.25-0.5 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 filter 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:

Dilution rate by weight	ISO 6 Cup	AFNOR 4 Cup
15-30%	22s ± 5	40s ± 6s

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)

2 hours at 23°C

Dry Film Thickness (DFT)

30-90 µm dry (1.2-3.5 mils)

80-240 µm wet (3.2-9.4 mils)

Application Recommendations

Conditions

Temperature:	15-35°C 59-95°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-2 mm

Follow recommendations above and apply the product in crossed coats, pressure 2-3 bars (30-44 psi) ± 0.5 (7 psi) dynamic to achieve the desired thickness (approximately 2 crossed coats for 60 µm dry or 2.4 mils).

- Smooth surface: Apply 1 or 2 crossed coats.
- Textured surface: Dilute the first coat at 25%, wait 3 minutes until the film becomes semi-glossy.
- Fine texture: Decrease the air pressure of 1.5-2 bars (0.7-0.9 bar dynamic) or 22-29 psi and apply at 50cm from the surface.
- Coarse texture: decrease the air pressure from 1.0-1.5 bars (0.4 -0.7 bar dynamic) or 15-22 psi and apply at 20 cm from the surface.

Note: Spray with dry, oil-free air. The pressures indicated to achieve the textures are provided as 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.

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Cleaning Of Equipment

Clean equipment with water, then with a suitable cleaning thinner.

Physical Properties

Drying Times

	23°C (73°F)	40°C (104°F)	60°C/140°F
Dust Free	45min to 1 hour	N/A	N/A

	23°C (73°F)	40°C (104°F)	60°C/140°F
Dry to handle	5 hours	3 hours	1 hour

	23°C (73°F)	40°C (104°F)	60°C/140°F
Fully Cured	7 days	3 days	12 hours

Note: At 23°C,we assume that the hygrometry is 50% and the air flow is sufficient. Before forced cure in an oven, allow the paint dry for 1 hour at 23°C (73°F). Drying information is determined using substrates of thickness <2 mm and for 45 µm (1.8 mils) of dry film.

Recoat Note

	23°C/73°F	60°C/140°F	80°C/176°F
Recoatable	8 hours to 12 hours	4 hours to 12 hours	1 hour to 4 hours

Theoretical Coverage

9 m^2/kg (510 ft^2/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^2/µm for white colors.
0.0078 lbs/ft^2/mil
Other color DFW available upon request.

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

4 to 8 GU. Gloss levels have been determined using a glossmeter with an angle of incidence of 60°.

Flash Point

Base FR2-55 matt 4-8 GU	> 100°C (212°F)
Hardener / Catalyst FR2-55	23°C-60°C (73.4°F-140°F)

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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 matt 4-8 GU	12 months - stored between 5°C and 35°C (40°F and 95°F) in full and sealed original packaging. Note: The base FR4-45 is available in 1 gallon, 1kg and 5kg. These products are not subjected to IATA regulations for air transport.
	Hardener / Catalyst FR2-55	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 FR4-45 is available in 700g, 1kg and 5kg.

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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