

TOPCOAT FR2-55 SEMI-GLOSS

FIRE RETARDANT FINISHES FOR CABIN INTERIORS

AkzoNobel

Product information



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

Components



Base FR2-55
Hardener / Catalyst FR2-55 (12-18GU) or FRC (FR2-55 FAST 8-12GU)
Thinner Water

Specifications



Hardener FR2-55 (12-18GU)
Qualified in accordance with:
Airbus: AIMS 04-08-002, ABS 5650B, CML 16-047B, CML-04-JMD9
Airbus Helicopters : ECS 2066
FACC FMS 5550 class 2
C&D Zodiac : CDM240-00, CDM240-01
Bombardier : DHMS C4.22
Embraer : MEP 10-073
Pilatus : PMS0600-52-02

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.

Physical properties



THEORETICAL COVERAGE

9 m²/kg (510 ft²/gal) for 40 µm (1.6 mils) dry (base and hardener undiluted). May vary according to colors

DRY FILM WEIGHT

1.8 - May vary according to colors

VOC

50 g/L or 0.42 lb/gal (ISO 11890-1) and 140 g/L or 1.17 lb/gal (ASTM D3960)

SHELF LIFE / STORAGE

12 months for the base and hardener, and 6 months for TUK, stored between 5°C and 35°C (41°F and 95°F) in full and sealed original packaging.

GLOSS LEVEL

12-18 GU (smooth), 7-11 GU (textured) with FR2-55 hardener; 8-12 GU (smooth) with FRC hardener

NOTES

Flash point > 100°C (212°F) base and > 60°C (140°F) hardener. Compatible with polyurethane water-borne primers. Gloss levels have been determined using glossmeter with an angle of incidence of 60°. The theoretical consumption value doesn't take into account the transfer efficiency for spray application

Surface preparation



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

Application on a composite substrate (new or reworked):

FR1-55 (or FR4-45, FRS30 or FR-P1K) is used as a filler/surfacer (see surface treatment preparation datasheet). FR1-55 (or FR4-45, FRS30 or FR-P1K) 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 dried and cleaned with isopropyl alcohol.

Application on aluminium:

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.

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Instructions for use



SPRAY APPLICATION

MIXING RATIO

	Mixing ratio by weight	Mixing ratio by volume
Base	100	4 V
Hardener / Catalyst	20	1 V
Water	15 to 25	0.8 V to 1.4 V

MIXING PROCEDURE

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

Mix the base and hardener until the material is homogeneous. Then add the water.

Note : It is recommended to sieve the diluted material using a 120-150µm (4.7 - 6 mils) filter. Mixing by weight is recommended. 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.

INDUCTION TIME

None

Spraying viscosity at 20°C / 68°F

Dilution rate by weight	ISO 6 Cup	AFNOR 4 Cup
15-25%	22s ± 5s	40s ± 5s

POT LIFE

3 hours

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.

ISO 6 cup is the reference cup. The others are given for information purposes.

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

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BRUSH APPLICATION

	Mixing ratio by weight	Mixing ratio by volume
Base	100	4 V
Hardener / Catalyst	20	1 V
Water	5 to 15	0.3 V to 0.8 V

MIXING PROCEDURE

Remove the safety ring and press down on the cap to release the FR2-55 hardener. Shake the container for approximately 1 minute remove the cap to be able to apply the FR2-55 with a suitable brush. If after shaking 1 minute the material is not homogeneous please use stick for further mixing (around 1min) until the material is homogen.



Don't hermetically close TUKs after mixing base and hardener.

INDUCTION TIME

None

POT LIFE

1 hour for a 5% dilution

Application recommendations



CONDITIONS

Temperature 15°C to 35°C (60°F to 95°F)

Relative humidity 20% to 70%

EQUIPMENT

Gravity compressed air gun Nozzle 1.4 mm to 1.8 mm

DRY / WET FILM THICKNESS

30-60 µm (1.2 to 2.4 mils) dry/75 µm to 225 µm (3 to 8 mils) wet.

NUMBER OF COATS

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

For smooth surface: Apply 1 or 2 crossed coats.

For textured surface: Dilute the first coat at 20 %, wait 1 hour until the film becomes semi-glossy.

- Fine texture: decrease the air pressure down to 0.7 to 0.9 bar dynamic or 10 to 13 psi and apply at 50 cm from the surface.

- Coarse texture: decrease the air pressure down to 0.4 to 0.7 bar dynamic or 6 to 10 psi and apply at 20 cm from the surface.

EQUIPMENT CLEANING

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

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).

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 setting to be used in the optimizing the performance and appearance of the coating. Some colors may require a higher film thickness to achieve full hide

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Drying times



	23°C (73°F)	40°C (104°F)	60°C (140°F)	80°C (176°F)
Dust free	60 minutes	N.A.*	N.A.*	N.A.*
Dry to handle	5 hours	2.5 hours	1 hour	30 minutes
Recoatable	4 hours to 24 hours	1 hour to 8 hours	30 minutes to 4 hours	15 minutes to 1 hour
Fully Cured	7 days	3 days	12 hours	4 hours

NOTE

If FRC hardener is used, drying times are as follows:

	23°C (73°F)	40°C (104°F)	60°C (140°F)
Dust free	30 minutes	N.A.*	N.A.*
Dry to handle	2 hours	1 hour	30 minutes
Recoatable	2 hours to 24 hours	1 hour to 8 hours	30 minutes to 4 hours
Fully cured	7 days	3 days	12 hours

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

* N.A.: Not applicable

Defects & corrections



In the event of a defect, contact your Quality Department.

Health & Safety



See the product Safety Data Sheets.

Packing



The FR2-55 base is available in 1kg, 3.5kg and 5kg.
The FR2- 55 (12-18GU) and FRC hardener are available in 0.7kg, 1kg and 5kg.
The FR2-55 Semi-gloss Kit is available in 6kg (5kg base and 1kg hardener).

WARRANTY : We guarantee our products against hidden defaults over material and preparation. Our Responsibility is limited to the obligation of freely replacing the defective material without there being a claim for any compensation. The advice we give is based on our experience but it might not be absolutely right. Consequently this does not imply our responsibility in case of inefficiency. Furthermore our company cannot be responsible for any material or corporal damages caused due to a misuse or mishandling of our products. Any concession to these clauses, to be valid, must be an official document issued by our offices and signed by our direction.