

SURFACER FR4-45

FIRE RETARDANT FINISHES FOR CABIN INTERIORS

AkzoNobel

Product information



Three-components water-based polyurethane surfacer for aircraft interiors with quick drying. FR4-45 is intended to correct surface defects such as pin holes on composite and thermoplastic substrates. Recommended for use in combination with Mapaero water-based topcoat FR2-55, FR6-55, FRC or DI-TEX(see TDS).

Components



Base FR4-45
Hardener / Catalyst FR4-45
Thinner Water

Specifications



Qualified in accordance with:
Airbus: AIMS 04-08-001, ABS5650 A, CML 16-046, CML-04-BAM6
BMS 10-83 Type IX and Type IV
FMS 5520 class 2
C&D ZODIAC : CDM240-00, CDM240-01
Bombardier : DHMS C4.22
EMBRAER : MEP 10-132, MEP 10-075
Pilatus : PMS0600-52-02

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.

Physical properties



THEORETICAL COVERAGE

6 m²/kg (360 sq.ft/gal) for 50 µm (2 mils) dry (base and hardener undiluted) 12 m²/kg (720 sq.ft/gal) to 25 µm (1 mils) dry (base and hardener undiluted)

DRY FILM WEIGHT

2

VOC

20 g/L or 0.17 lbs/gal (ISO 11890-1) and 40 g/L or 0.33 lbs/gal (ASTM D 3960)

COLOR

Sandy beige, cream, stone grey

SHELF LIFE / STORAGE

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

GLOSS LEVEL

Matt (lower than 10 GU at 60°)

NOTES

Flash point : > 100°C (212°F) base and > 60°C (140°F) hardener/catalyst

Gloss levels have been determined using glossmeter with an angle of incidence of 60°.

The theorical consumption value doesn't take into account the transfer efficiency for spray application.

Surface preparation



The substrate should be sanded with sandpaper grade suitable:

- 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 as Isopropanol (plastic or phenolic substrate) or cetonic such as acetone or MEK (only for phenolic substrates).

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	15 V
Hardener / Catalyst	5	1 V
Water	5 to 15	1.1 V to 3.5 V

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.

INDUCTION TIME

None

Spraying viscosity at 20°C / 68°F

Dilution rate by weight	ISO 6
5-10%	20s ± 5s

POT LIFE

3 hours for a 10% dilution.

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. 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.

Instructions for use



BRUSH APPLICATION

	Mixing ratio by weight	Mixing ratio by volume
Base	100	15 V
Hardener / Catalyst	5	1 V
Water	0 to 5	0 V to 1.1 V

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 120-150µm (4.7-5.9 mils) filter.

INDUCTION TIME

None

POT LIFE

45 minutes at 23°C (73°F) for an undiluted mixture

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Application recommendations



CONDITIONS

Temperature 15°C to 35 °C (59°F to 95°F)

Relative humidity 20% to 80 %

EQUIPMENT

Gravity compressed air gun Nozzle Nozzle 1.6 mm to 2.2 mm

DRY / WET FILM THICKNESS

For 20-80 µm or (0.8 to 3.1 mils) dry/ 50 µm to 190 µm (2 to 7.5 mils) wet

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 3.1 mils dry). To get a thicker coat (>80 µm or 3.1 mils dry), let the first coat flash off 30 minutes before applying the second one (to obtain a matt appearance).

With a brush (fine hairs) :

1 coat.

EQUIPMENT CLEANING

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

NOTE

Spray with dry, oil-free air.

Drying times



Dust free

Dry to sand

Fully Cured

23°C (73°F)

30 minutes

3 hours

7 days

40°C (104°F)

NA*

1 hour

3 days

60°C (140°F)

NA*

30 minutes

12 hours

80°C (176°F)

NA*

15 minutes

4 hours

NOTE

Drying times have been determined using tests pieces of a thickness < 2mm for 65µm (2.6mils)

For 50 µm (2mils), flash off 30 minutes to 1 hour at room temperature before oven curing.

* NA: Not applicable

Defects & corrections



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

In event of a defect, the FR4-45 primer can be slightly sanded with paper grade 240 to 400, before applying the same product or a water-based top coat. The sanded top coat must be blown dried and cleaned with a lint free cloth dampened with isopropyl alcohol.

Health & Safety



See the product Safety Data Sheets.

The MSDS are available through our website www.mapaero.com

Packing



The base FR4-45 is available in 1 gallon, 1 kg and 5 kg.

The hardener FR4-45 is available in 0.25kg, 1 kg and 5 kg.

These products are not subject to IATA regulations for air transport.

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.