

TOPCOAT F69

COATINGS FOR AIRCRAFT STRUCTURE PROTECTION

AkzoNobel

Product information



Chromate-free epoxy topcoat three component, water reducible with direct adhesion. The F69 topcoat offers good corrosion protection and excellent chemical resistance.

It is used to protect mountings and sealants, and as a corrosion resistant primer for certain structural parts.

Components



Base F69

Hardener / Catalyst F69

Thinner Water (AIMS 09-00-003 Grade C)

Specifications



Qualified in accordance with:

Airbus: AIMS 04-04-009, AIMS 04-04-018, AIMS 04-04-043, AIMS 04-04-047, ABP 4-2128, PQ10050-055-04 (blue), PQ10050-053-03 (grey), CML 16-021, CML 04QAB2, 80-T-35-5218, A2MS 565-007 Ty E class2 Semi-Gloss (White FS 27875 and Dark grey FS 26473)

Aircelle: HMRC0131A

Bombardier : BAMS 565-007 rev B Typ E class2 Semi-Gloss (White FS 27875, Dark Grey FS 26473)

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

29.5 m²/l for 20 µm (0.8 mils) dry (base and hardener undiluted)

DRY FILM WEIGHT

1,7

VOC

160 g/l (ISO11890-1) and 340 g/l (ASTM D3960)

COLOR

Available in BAC 707 grey (M9001), FS26251 grey, FS36251 grey, RAL6021 green, blue, RAL3000 red, RAL9004 black, RAL9010 white, FS27875 white, FS26473 grey and BS627 grey

SHELF LIFE / STORAGE

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

12 months in Touch-Up Kits, stored between 5°C and 35°C (41°F and 95°F) in full and sealed original packaging.

GLOSS LEVEL

Below 80 GU under 60°

NOTES

Gloss levels have been determined using glossmeter with an angle of incidence of 60°C. The theoretical consumption value doesn't take into account the transfer efficiency for spray application

Surface preparation



The F69 direct adhesion top coat is used:

On various aircraft assemblies: Make sure that the surface is clean and free from contaminants. Reactivation using an abrasive pad may be necessary, followed by cleaning with an approved solvent. F69 can be applied on all types of assemblies (aluminium alloys, titanium, etc.).

On sealants and on structural primers and finishes: contact us for compatible materials.

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	2 V
Hardener / Catalyst	37	1 V
Water	90 to 110	2,7 V to 3,3 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 F69 base should be mixed for 10 minutes in a pneumatic or oscillating mixer before use.

Mix the base and hardener until the mixture is homogenous before adding water in two stages.

The mixture must be made at a temperature between 15°C and 35°C (59°F to 95°F).

Sieve the paint through a 80-150 µm (3.1-5.9 mils) filter.

Never add additional water once the paint mixture has been made.

INDUCTION TIME

None

Spraying viscosity at 20°C / 68°F

CA 4	ISO 4	Zahn 2
3,3 V	3,3 V	3,3 V
17 ± 3s	28 ± 4s	19 ± 3s

POT LIFE

8 hours (3.3 V dilution).

NOTE

Pot life depends on the dilution ratio.

The paint viscosity may vary depending on the temperature and increases over the pot life.

Depending on the material used and the application temperature, the dilution may vary between 2.7 V and 3.3 V of water.

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

ISO 4 cup is the reference cup. The others are given for information purposes.

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BRUSH APPLICATION

	Mixing ratio by weight	Mixing ratio by volume
Base	100	2 V
Hardener / Catalyst	37	1 V
Water	0 V or from 35 to 50	0 or from 1 V to 1,5 V

MIXING PROCEDURE

Remove the safety ring and press down on the cap to release the F69 topcoat. Shake the container for approximately 1 minute. Remove the cap to be able to apply the F69 topcoat with a suitable brush. If the material after shaking 1 min is not homogenous please use a stick for further mixing (around 1 minute) until the material is homogen.



Do not hermetically close TUKs after mixing base and hardener.

INDUCTION TIME

When diluting, it is recommended to wait 3 minutes before adding demineralised water (not applicable for automatic mixing devices)

POT LIFE

2 hours undiluted

Application recommendations



CONDITIONS

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

Relative humidity 20 to 85%

EQUIPMENT

Gravity compressed air gun Nozzle 0.8 to 1.8 mm

DRY / WET FILM THICKNESS

20 to 30 µm (0.8 to 1.2 mils) dry / 70 to 100 µm (2.8 to 3.9 mils) wet

NUMBER OF COATS

Apply several coats to achieve 20 µm to 30 µm (0.8 to 1.2 mils) dry thickness.

The number of coats depends on the size and the shape of the part to which it is being applied.

The recommended dynamic air pressure is 1.5 bar to 4 bar (22 to 58 psi).

EQUIPMENT CLEANING

Clean the equipment with a suitable cleaning solvent such as Mapaero D760. Mapaero D770-B aqueous cleaning solvent can also be used for cleaning the ready-to-use mixture.

NOTE

Spray with dry, oil-free air

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Drying times



	23°C (73°F)	60°C (140°F)	80°C (176°F)
Dust free	15 minutes	N.A.*	N.A.*
Recoatable	25 minutes to 168 hours	5 minutes to 2 hours	5 minutes to 35 minutes
Fully Cured	3 days	2 hours	35 minutes

NOTE

Drying times have been determined using test pieces of a thickness < 2 mm and for 20 µm (0.8 mils) of dry film. Before accelerated drying 70°C (158°F), leave to flash off for at least 15 minutes at room temperature. For the F69 infrared drying top coat, contact us.

*N.A. : Non applicable

Defects & corrections



In the event of a defect, contact your Quality Department. **In case of low thickness:**

Apply a thin coat of the F69 to achieve the required thickness. If the above recommended recoating time is exceeded, reactivate with an abrasive pad.

For thick coats:

Contact your Quality Department.

If there are micro-bubbles, running, rejects or numerous inclusions:

Reactivate the surface using an abrasive paper (grade 220 to 320), remove the dust then clean the surface using an approved cleaning product. Apply a thin coat of F69 to achieve the required thickness.

If there are significant defects:

Remove the F69 with an approved chemical paint remover or remove using a plastic medium (in this case, the surface treatment has to be repeated).

Health & Safety



See the product Safety Data Sheets.

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

Packing



The F69 base is available in 4 L and 200 L.

The F69 hardener is available in 2 L and 200 L.

F69 kits are also available:

- 4 L kits: 1.4 l F69 Base + 0.7 L F69 Hardener;
- 45 mL Touch-Up kits (TUK) (30 mL F69 Base + 15 mL F69 Hardener);
- 12 mL Mini Touch-Up kits (Mini TUK) (8 mL F69 Base + 4 mL F69 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.