PRIMER SP350

Technical Data Sheet

Product Group

Epoxy Primer

Characteristics

Product Information

Chromate free high solid epoxy primer three component used for corrosion protection, SP350 is used to protect aircraft metallic parts. This product has good adhesion and chemical resistance properties, especially on aluminium alloys. SP350 can be used with AkzoNobel high solid polyurethane topcoat XS420.

Components

Base	SP350 Base
Hardener	SP350 Hardener
Thinner	SP350 PLUS Thinner

Specifications

Qualified Product List

Safran Aircraft Engines	DMR74-130
Safran Landing Systems	IFC30-125-06
Safran Nacelles	HMRC0149A

Product specifications are constantly changing, to ensure the most accurate information regarding specifications, please check our online qualified product list (QPL) at aerospace.akzonobel.com/products.

Surface Conditions

Surface Preparation/ Cleaning

SP350 primer should be applied on aluminium alloys with following surface treatments :
– MIL-DTL-5541 : Cr6 conversion
– CAA: Chromic Acid Anodizing sealed or unsealed
– SAA: Anodic Sulfuric Chromic sealed or unsealed
– TSA: Tartric Sulphuric Anodizing sealed or unsealed
For Open time information and cleaning process prior to paint application, please contact your quality department
Contact us for information on uses on other substrate or surface treatments.

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

Instruction for Use

Spray Application (Mix Ratio)

	Volume	Weight
SP350 Base	8 parts	100 parts
SP350 Hardener	1 part	11 parts
SP350 PLUS Thinner	0-1 part	0-10 parts

MIXING PROCEDURE
The use of SP350 Plus thinner is highly recommended.
Ideally, the unmixed products should be stored between 18°C (64°F) and 25°C (77°F) for 24 hours before use.

- The SP350 base should be stirred for 5 minutes in a pneumatic or oscillating mixer before use.
- Mix the base and hardener until the mixture is completely homogeneous.
- Then add the thinner SP350 Plus to the desired dilution.
- The mixture must be made at a temperature between 15°C (59°F) and 35°C (95°F).
- Sieve the paint through a 120-150 µm (4.7-6 mils) filter.

We recommend use of ratio by weight for mixing.
Every opened can has a limited life. Packaging must be well closed and stored in suitable conditions.

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Induction Time

Not Applicable.

Initial Spraying Viscosity (20°C/68°F)

With Dilution - Ratio 8V/1V/1V
23 ± 3°C (73 ± 40F)
CA 4 ISO 4
15 ± 3s 20 ± 4s

Note

Viscosities mentioned above correspond to the recommended range of viscosity to ensure compliant application. The range of dilution can be used to adjust viscosity to the desired level. ISO 4 cup is the reference cup. The others are given for information purposes.

Viscosity measurements are provided as guidelines only and are not to be used as quality control parameters. Certified information is provided by certification documentation available on request.

Pot life (20ºC/68ºF)

3 hours between 15°C (59°F) and 30°C (86°F)
1 hour between 30°C (86°F) and 35° (95°F)

Note

To prevent drying on the surface of the mixed pot, cover it for the duration of the pot life.

Dry Film Thickness (DFT)

15 – 35 µm
0.6 – 1.4 mils

Wet Film Thickness (WFT)

20 – 50 µm
0.8 – 2 mils

Brush Application (Mix Ratio)

	Volume	Weight
SP350 Base	8 parts	100 parts
SP350 Hardener	1 part	11 parts

MIXING PROCEDURE
Remove the safety ring and press down on the cap to release the SP350 hardener. Shake the container for approximately 1 min. Remove the cap to be able to apply the SP350 primer with a suitable brush. If the material is not homogenous after 1 min shaking, please use a stick for further mixing (around 1 min) until the material is homogeneous.

Do not hermetically close TUKS after mixing base and hardener.

Note

Not Applicable.

Pot life (20ºC/68ºF)

3 hours between 15°C (59°F) and 30°C (86°F)
1 hour between 30°C (86°F) and 35° (95°F)

Dry Film Thickness (DFT)

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Application Recommendations

Conditions

Temperature:	15 – 59 °C 35 – 95 °F
Relative Humidity:	30 – 85 %

Conditions

PRIMER SP350 may be applied in conditions outside of the limits shown above. Application must be done carefully to ensure a satisfactory result. Please contact your local AkzoNobel Aerospace Coatings representative to determine the appropriate application techniques when environmental conditions are outside of the recommended range.

Equipment Recommendation

Gravity compressed air gun - Nozzle 0.8 mm to 1.8 mm.

Number of Coats

With air spray gun, apply 1 wet coat to achieve 15 µm to 35 µm (0.6 to 1.4 mils) dry thickness. The number of coats depends on the size and the shape of the part on which it is being applied. The recommended dynamic air pressure is 1.5 bar to 4 bar (22 to 58 psi).

Note

If the thickness is too low:
Apply a thin coat to obtain the desired thickness while respecting the recoating time. If the recoating time is exceeded, reactivate with an abrasive pad such as Scotch-Brite type A.

If the thickness is too high:
See your quality department.

For micro-bubbles, runs or fish-eyes (depending on instructions given and type of part):
Reactivate the surface using an abrasive paper grade 220 to 320, remove the dust and clean the surface using an approved cleaning solvent, apply a thin coat.

In case of big default, non-conformity:
Strip the part with an approved paint stripper (only on simple part) or strip by sand blasting (in this case, the surface treatment must be repeated).

Cleaning of Equipment

Clean equipment with a suitable solvent such as Mapaero D713 or D760. Dispose of waste in accordance with regulations.

Note

Spray with dry and oil-free air.
The use of thinner SP350 Plus is highly recommended.

Physical Properties

Drying Times

	23°C(73°F) ± 2°C/35°F**	40°C (104°F)	60°C (140°F)	80°C (176°F)	InfraRed
Dry to handle	6 hrs	2-3 hrs	1-1.5 hrs	30-45 mins	25±5 mins
Dry to tape	6-7 hrs	2-3 hrs	1.5-2 hrs	45-60 mins	30±10 mins
Recoatable	N.A.**	1.5-8 hrs	30 mins-2.5 hrs	15-75 mins	10±35 mins
Fully Cured	7 days	4 days	3 hrs	1.5 hrs	40±10 mins

Note

**SP350 primer must be cured at minimum 40°C (104°F) before applying XS420 Topcoat
Drying times have been determined using test plates 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.
The "recoatable" time is determined with XS420 top coat.
To recoat SP350 with other waterborne or solvent-based paints, contact us.
The qualification test was performed at 23°C (73°F) ± 2°C/35°F for fully cured in 7 days.
*N.A. : Not applicable

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Theoretical Coverage	25 m²/L (1019 sq.ft/gal) for 25 µm (1 mil) dry undiluted. The theorical consumption value doesn't take into account the transfer efficiency for spray application.
Dry Film Weight	1.4
Volatile Organic Compounds	285 g/L (2.4 lbs./gal) (ISO11890-1 and ASTM D3960) Base and Hardener undiluted.
Gloss (60°)	20 – 80 GU
Note	Gloss levels have been determined using glossmeter with an angle of incidence of 60°.
Color	Beige
Flash Point	SP350 Base: N.A. SP350 Hardener: N.A. SP350 PLUS Thinner: N.A.
Storage	Store the product dry and at a temperature between 5 and 35ºC / 41 and 95ºF per AkzoNobel Aerospace Coatings specification. Store in the original unopened containers. Storage temperature and shelf life may vary per OEM specification requirements. Refer to the container label for specific storage life information.
Shelf life 5 - 35°C (41 - 95°F)	SP350 Base: 12 months SP350 Hardener: 12 months SP350 PLUS Thinner: 48 months

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.

Revision date: July 2025 (supersedes August 2022) - FOR PROFESSIONAL USE ONLY

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