Aerolith P27-CF
Technical Data Sheet

Product Group

Polyurethane Primer (Isocyanate Cured)

Characteristics

Product Information

Aerolith P27-CF is a chromate free anti corrosive 3-component polyurethane (isocyanate cured epoxy) primer with excellent flexibility and acidic resistance.

This product has especially been developed for application on treated aluminum for fuselage and fuel tank protection.

Components

Base material	Aerolith P27-CF Base
Curing Solution	Aerolith P27-CF Hardener
Thinner	Thinner P2, Acetone (purity over 99%) or Aerolith P27-CF Thinner

Specifications

SAE International AMS-C-27725, Type III grade 1,2

Qualified Product List

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

Surface Conditions

Cleaning

- Excellent adhesion, flexibility, acidic resistance and anticorrosive properties on aluminum alloys treated such as anodization and conversion coating.
- Observe the recoating time between the surface treatment and painting. This may vary depending on the treatment and industrial instructions.
- Contact us for information on uses on other metallic structures, surface treatments or paints.
- All recommendations mentioned above are given for information.

Instruction for Use

Mixing Ratio

	Volume (v/v)	Weight (w/w)
Aerolith P27-CF Base	3 parts	100 parts
Aerolith P27-CF Hardener	1 part	24 parts
Thinner P2, Acetone (purity over 99%) or Aerolith P27-CF Thinner	1 - 2 parts	30 - 50 parts

- Ideally, the unmixed products should be stored between 18°C (64°F) and 25°C (77°F) for 24 hours before use.
- Stir or shake the Aerolith P27-CF Base till all pigment is uniformly dispersed before adding the hardener.
- Add Aerolith P27-CF Hardener and stir the catalyzed mixture thoroughly.
- Add thinner and stir again till a homogeneous mixture.
- Sieve the paint through a 120-150 µm (4.7-5.9 mils) filter.
- Mixture resistivity: 5MΩ.cm

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Induction Time	Not applicable.	

Initial Spray Viscosity (23ºC/73ºF)	ISO 4 Cup	FORD 4 Cup
Thinner P2 (1V Dilution)	29 ± 6s	17 ± 4s
Thinner P2 (1.5 V Dilution)	26 ± 6s	16 ± 4s
Thinner P2 (2 V Dilution)	24 ± 6s	14 ± 4s
Aerolith P27-CF Thinner or Acetone (1V Dilution)	19 ± 6s	14 ± 4s
Aerolith P27-CF Thinner or Acetone (1.5 V Dilution)	18 ± 6s	14 ± 4s

Note	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 (23ºC/73ºF)	8 hours for 1.5 V dilution.
Dry Film Thickness (DFT)	15-30 µm 0.6 to 1.2 mil

Application Recommendations

Conditions	Temperature:	15 – 35°C 59 – 95°F
	Relative Humidity (RH):	35 – 75%

Note	Aerolith P27-CF may be applied in conditions outside the limits shown above. Care must be exercised to ensure a satisfactory result. Please contact your local AkzoNobel Aerospace Coatings representative to determine the appropriate application techniques when environmental conditions fall outside of the recommended range.

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Equipment

Spray gun type	Nozzle orifice	Product Flow[1]	Dynamic Air Pressure at gun-inlet[2]
Conventional	1.2 – 1.6 mm	NA	1.8 – 3 bar / 26 – 44 psi
HVLP / next generation	1.0 – 1.2 mm	NA	1.4 bar / 20 psi[3]
Air atomizing (electrostatic)	1.2 – 1.5 mm	220 mL/min	2.5 – 4 bar / 36 - 58 psi
Pressure atomizing (electrostatic)	0.009 inch/60°	NA	NA
	0.013 inch/60°	NA	

[1] Product Flow not applicable when using gravity / suction feed guns.
[2] Dynamic Air Pressure at gun-inlet measured with an open trigger.
[3] General advice to meet the HVLP / next generation spray gun requirements, please validate with your local authorities.

Number of Coats

- Apply two layers (preferentially crossed) in order to obtain 15 to 30µm (0.6 mil to 1.2 mils).
- For plural mixing with a 3K mixing machine, investigations are ongoing.

Cleaning of Equipment

MEK, Acetone or Thinner.P2.

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 to identify the best equipment settings to be used in optimizing the performance and appearance of the coating.

Rework application :

- Stir or shake the Aerolith P27-CF Base till all pigment is uniformly dispersed before adding the hardener.
- Add Aerolith P27-CF Hardener and stir the catalyzed mixture thoroughly
- Apply the paint with a brush or a roller on a clean abraded surface (P400)
- 3 hours Potlife
- For more information, please contact your local technical support.

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Physical Properties

Drying Times

	23°C (73°F)*	45°C (113°F)*	60°C (140°F)*	80°C (176°F)*
Dust free	20 min	10 min	5 min	5 min
Dry to handle	4 hours	1 hour 15 min	40 min	25 min
Dry to tape	6 hours	5 hours	3 hours	1 hour
Recoatable time	1 hour to 7 days	45 min to 16 hours	30 min to 10 hours	20 min to 4 hours
Fully Cured	14 days	18 hours	12 hours	8 hours

*Substrate surface temperature

When forced cured, allow the paint 15-minute ambient flash-off time with enough air movement before entering the component into the oven in order to obtain the best results.

- Drying times have been determined using test pieces of a thickness <1mm, for 30 µm (1.2 mils) of dry film, sufficient air flow and with P2 thinner or Acetone.
- Temperatures mentioned above are the substrate surface temperatures.
- To recoat Aerolith P27-CF, XS4201 topcoat is recommended. Other AkzoNobel topcoats are also compatible. For more information, please contact your local technical support.

Recoat maximum* — If the maximum recoatable time is exceeded, recondition the surface with grade P320 sandpaper or an aluminum oxide non-woven abrasive pad to a uniform matt surface before applying the subsequent layer.

Note

Curing of solvent- and water-based products depends on temperature, relative humidity and air flow. Increased temperatures, low RH and efficient airflow can decrease the drying times significantly.

Theoretical Coverage

16 m^2 per liter base + hardener (undiluted) at 25 µm dry film thickness.
656 ft^2 per US gallon base + hardener (undiluted) at 1 mil dry film thickness.

Dry film weight

1.7 g/m^2/µm
0.097 lbs/ft^2/mil

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Gloss (60º)	Maximum 20 GU.	
Volatile Organic Compounds	615 g/L with Thinner P2. 350 g/L with 1.5 V Acetone dilution (exempt solvent). per ASTM D2960.	
Color (visual match)	Blue	
Flashpoint	Aerolith P27-CF Base	<21ºC / 70ºF
	Aerolith P27-CF Hardener	>21ºC / 70ºF
	Thinner P2	>21ºC / 70ºF
	Acetone	<21ºC / 70ºF
	Aerolith P27-CF Thinner	<21ºC / 70ºF
Storage	Store the product dry and at a temperature between 5 – 35ºC / 41 – 95ºF. Store in the original unopened containers. Periodical short time exposure (max. 48 hrs at a time) to higher temperatures (max. 40ºC / 104ºF) will not negatively influence the shelf life of the products.	
Shelf life 5-35°C / 41-95°F	Aerolith P27-CF Base	12 months
	Aerolith P27-CF Hardener	12 months
	Thinner P2	48 months
	Acetone	48 months
	Aerolith P27-CF Thinner	48 months

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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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