

Aerolith P27-CF Primer

Technical Data Sheet

Product Group

Polyurethane Primer

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 specially been developed for application on treated aluminum for fuselage and fuel tank protection.

Under exposure to severe service conditions, and in particular prolonged hot water stagnation, systems incorporating Aerolith® P27 CF in combination with polysulfide sealants may experience sealant softening phenomena. This phenomenon might impact the mechanical integrity and could potentially lead to premature functional performance failure. For further information, please contact our Technical Service team.

Components



Base	Aerolith P27-CF Base
Hardener	Aerolith P27-CF Hardener
Thinner	P2 Thinner
Thinner	Acetone (purity over 99%)

Specifications



Qualified Product List

Bombardier	BAMS 565-010
SAE International	AMS-C-27725, TY 1, GR 1

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



Surface Preparation/
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



Spray Application (Mix Ratio)

	Volume	Weight
Aerolith P27-CF Base	3 parts	100 parts
Aerolith P27-CF Hardener	1 part	24 parts
Thinner*	1 - 2 parts	30 - 50 parts

* Thinner options: P2 Thinner, Acetone (purity over 99%)

- 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



Induction Time

Not applicable.

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	Initial Spraying Viscosity ()	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.
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	Pot life (23°C/73°F)	8 hours for 1.5 V dilution
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	Dry Film Thickness (DFT)	15 – 30 µm 0.6 – 1.2 mils
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Application Recommendations

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

	Conditions	Aerolith P27-CF may be applied in conditions outside the limits shown above. However, it is recommended to be careful 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.
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Equipment Recommendation

Spray gun type	Product supply	Fluid Pressure	Nozzle orifice	Product flow	Dynamic air pressure at gun-inlet *
Conventional	NA	NA	1.2 – 1.6 mm	NA	1.8 – 3 bar / 26 – 44 psi
HVLP / Next Generation	NA	NA	1.0 – 1.2 mm	NA	1.4 bar / 20 psi
Air Atomizing (electrostatic)	NA	NA	1.2 – 1.5 mm	220 mL/min	2.5 – 4 bar / 36 - 58 psi
Pressure Atomizing (electrostatic)	NA	NA	0.009 inch/60° - 0.013 inch/60°	NA	NA

	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.
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	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.
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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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Cleaning of Equipment

MEK, Acetone or Thinner P2

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
Recoat	1 hour to 7 days	45 min to 16 hours	30 min to 10 hours	20 min to 4 hours
Full Cure	14 days	18 hours	12 hours	8 hours
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.			

*Substrate surface temperature

When forced cured, allow the paint 15-minute ambient flash-off time with enough air flow 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.

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 m² per liter base + hardener (undiluted) at 25 µm dry film thickness.
656 ft² per US gallon base + hardener (undiluted) at 1 mil dry film thickness.



Dry Film Weight

1.7 g/m²/µm
0.097 lbs/ft²/mil



Volatile Organic Compounds

US guidelines 615 g/L with Thinner P2. 350 g/L with 1.5 V Acetone dilution (exempt solvent) per ASTM D2960.



Gloss (60°)

Maximum 20 GU



Color

Blue

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	Flash Point	Aerolith P27-CF Base	< 23 °C (73 °C)
		Aerolith P27-CF Hardener	< 23 °C (73 °C)
		P2 Thinner	< 23 °C (73 °C)
		Acetone (purity over 99%)	< 23 °C (73 °C)
	Shelf life 5 - 35°C (41 - 95°F)	Aerolith P27-CF Base	12 months
		Aerolith P27-CF Hardener	12 months
		P2 Thinner	48 months
		Acetone (purity over 99%)	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.

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IMPORTANT NOTE

The information in this data sheet is not intended to be exhaustive and is based on the present state of our knowledge and on current laws: any person using the product for any purpose other than that specifically recommended in the technical data sheet without first obtaining written confirmation from us as to the suitability of the product for the intended purpose does so at his own risk. It is always the responsibility of the user to take all necessary steps to fulfill the demands set out in the local rules and legislation. Always read the Material Data Sheet and the Technical Data Sheet for this product if available. All advice we give or any statement made about the product by us (whether in this data sheet or otherwise) is correct to the best of our knowledge but we have no control over the quality or the condition of the substrate or the many factors affecting the use and application of the product. Therefore, unless we specifically agree in writing otherwise, we do not accept any liability whatsoever for the performance of the product or for any loss or damage arising out of the use of the product. All products supplied and technical advice given is subject to our standard terms and conditions of sale. You should request a copy of this document and review it carefully. The information contained in this data sheet is subject to modification from time to time in the light of experience and our policy of continuous development. It is the user's responsibility to verify that this data sheet is current prior to using the product. Brand names mentioned in this data sheet are trademarks of or are licensed to AkzoNobel