Aerodur 5000
Military Aircraft Camouflage Topcoat

Technical Data Sheet

Product Group

Defense Coating

Characteristics

Product Information

Aerodur 5000 (ECM-F Series) is a 2-component polyurethane military aircraft camouflage finish for exterior use.

- Excellent durability and weathering
- Superior combination of fluid resistance and flexibility
- Excellent cleanability
- Unique curing mechanism which allows a 24 hrs fly-away time for the aircraft*

*When cured at 70°F (21°C) – 77°F (25°C) and defined as resistance to 25 double rubs MEK.

Components

Curing Solution
Thinner /
Activator

Curing Solution: PC-404

Specifications

Qualified Product List

AkzoNobel Aerospace Coatings	Certification
Airbus	AIMS 04.04.036 (when applied with Aviox CF Primer 37124 as part of the Airbus Chromate Free External Paint System)
Embraer	MEP 10-117, TY II
German Army (WIWEB)	TL8010-0046
Hawker Beechcraft	BS22455
Italian Air Force	AER(EP)_M_P_001
US Military	MIL-PRF-85285, TY IV, Class H

For most recent up-date or missing specifications please check the qualified product list (QPL) on **www.akzonobel.com/aerospace**.

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Surface Conditions

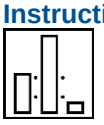
Cleaning

Surface cleaning or pretreatment is an essential part of the painting process.

- Observe the recoat time parameters of the relevant primer and applicable specifications.
- Remove oil, grease and other contaminants prior to application of the finish.
- Recondition aged primers or topcoats with Scotch-Brite® type A, very fine, achieving a uniform matt surface.
- Remove dust with tack rags prior to application of the finish.

- The product Aerodur 5000 is compatible with the following primers:
  10P20-13, MIL-PRF-23377, TY I, Class C
  10P20-14, MIL-PRF-23377, TY II, Class C
  10P20-12, DMS 2104
  Aviox CF Primer 37124, AIMS 04-04-036

Instruction for Use



Mixing Ratio (volume)

3 parts	Aerodur 5000 (ECM-F-XXXX)
1 part	Curing Solution PC-404

- Stir or Shake Aerodur 5000 base until all pigment is uniformly dispersed before adding curing solution.
- Add PC-404 curing solution and stir the catalyzed mixture thoroughly.

Note

At low temperatures, the cure rate may be accelerated by adding one fluid ounce (30 ml) of AC-5000 per one mixed gallon of Aerodur 5000.
Note: The use of AC-5000 is not recommended at temperatures of 70°F and above.

Note

The use of AC–5000 accelerator is not recommended under normal painting conditions since the material as supplied represents the optimum balance of application, pot life, and curing characteristics at temperatures of 70°F (21°C) and above.

Note

The application and mixing characteristics of high solid products differ from conventional products. Mix base and curing solution thoroughly for at least 2 minutes. A 30 minute induction time is recommended prior to application. In application, rapid film build may take place due to the high solid nature of the formulation.

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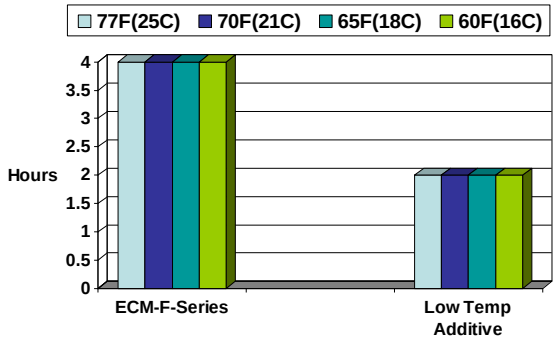
Induction Time	30 minutes.

	(21ºC/70ºF)	(25ºC/77ºF)
Initial Spraying Viscosity (25ºC/77ºF)	40 – 80 seconds ISO-Cup 4	40 – 70 seconds ISO-Cup 4
	24 – 38 seconds Gardener Signature Zahn-Cup #2	24 – 32 seconds Gardener Signature Zahn-Cup #2
	22 – 32 seconds Ford Cup #4	22 – 27 seconds Ford Cup #4

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 (25ºC/77ºF)	4 hours. 2 hours with AC-5000 Accelerator. **Note:** **Pot life profile as supplied or with addition of low temperature Accelerator AC-5000.** (1 fluid ounce, 30 ml, AC-5000 per one gallon kit Aerodur 5000)
Pot life (25ºC/77ºF) Continued	
Dry Film Thickness (DFT)	43 – 58 micron (µm) or 1.7 – 2.3 mils for MIL-PRF-85285, TY IV, Class H 60 – 75 micron (µm) or 2.4 – 3.0 mils for AIMS 04.04.036 **Note:** Some colors may require increased film thickness (3 or more coats) to achieve acceptable hide.

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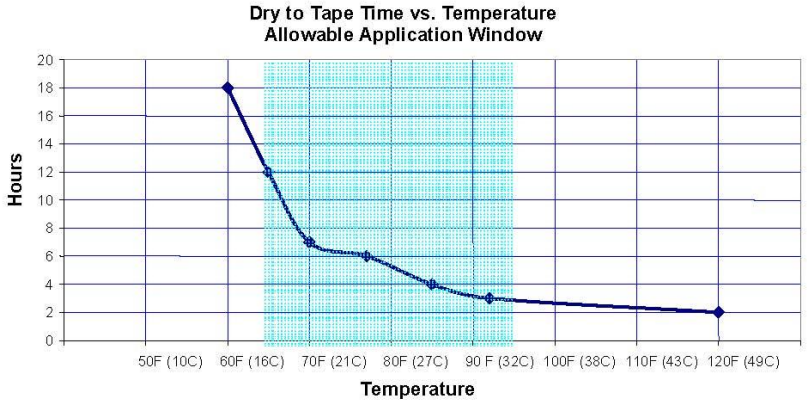
Application Recommendations

Conditions

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

Dry to Tape Time vs. Temperature Allowable Application Window



Stencil Window

Stencil Window
Maximum time (without reactivation): 48 hours within recommended application window.

Note

Aerodur 5000 may be applied in conditions outside of the limits shown above. Care must be excercised to ensure a satisfactory result. Please contact your local AkzoNobel Aerospace Coatings representative to determine the proper application techniques when environmental conditions fall outside of the recommended range.

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

Equipment

Conventional	1.4 – 1.8 mm (0.055 – 0.070 in) nozzle orifice
HVLP	1.4 – 1.8 mm (0.055 – 0.070 in) nozzle orifice
Airless Electrostatic	0.013 – 0.015 inch (0.33 – 0.38 mm) tip size

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Number of Coats

Aerodur 5000 may be applied in one of two ways using 50% overlap technique:

1. A first wet coat, followed after 30 minutes flash-off time by a second wet coat.
2. With a single uniform medium wet cross coat to the required film thickness.

Note: For colors requiring additional film thickness to achieve optimal hide, Option 1. should be used to apply the number of coats necessary.

Cleaning of Equipment

TR-19, TR-36, C28/15, or 98068 cleaning solvent options.

Physical Properties

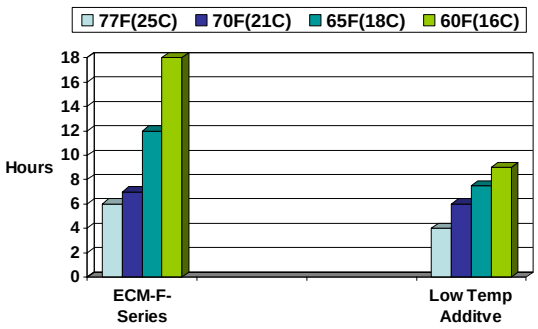
Drying Times (25 +/- 2ºC / 77 +/- 2ºF, 55 +/- 5% RH)

	(21ºC/70ºF)	(25ºC/77ºF)
Set To Touch	4 hours	3-4 hours
Dry to Tape	7 hours	6 hours
Fly away time*	24 hours	24 hours

Fly away time*

*When cured at 70°F (21°C) – 77°F (25°C) and defined as resistance to 25 double rubs MEK.

Dry-to-Tape Time vs. Temperature



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Drying Times (25 +/- 2ºC / 77 +/- 2ºF, 55 +/- 5% RH) Continued	Minimum recoat time: 30 minutes Maximum recoat time: 48 hour maximum (with no reactivation) - Aerodur 5000 may be recoated with an additional application of Aerodur 5000 within 48 hrs with no reactivation. - If a drying time of 48 hrs is exceeded, reactivate with e.g. Scotch-Brite® Type A very fine. - Aerodur 5000 may be recoated up to 7 days when reactivated with sanding paper P220 and properly cleaned and degreased. **Note: The use of AC-5000 at temperatures above 70ºF may reduce the recoat window.**
Alternate Force Cure	There are two force cure conditions possible. 1. To determine sufficient cure to be able to reduce dry to tape and handle components: a. Induct mixed topcoat for 30 minutes b. Apply c. Air dry for one hour at 75°F (24°C) d. Force cure for 2 hours at 120°F(49°C) The cure required will vary due to the efficiency of the oven being used (evacuating the solvent heavy air) and the amount of air movement in the oven. The customer should run tests to verify the required cure schedule. 2. To determine sufficient cure to test the product for full cure properties a. Induct mixed topcoat for 30 minutes b. Apply c. Air dry for 24 hours at 75°F (24°C) d. Force cure for 24 hours at 150°F(65°C) Allow parts to return to cool completely before testing.
Dry Film Weight	1.30 g/m^2/µm 0.0067 lbs/ft^2/mil May vary by color
Volatile Organic Compounds	Max 420 g/l Max 3.5 lb/gal
Gloss (60º)	< 5 GU @ 60° and <9 GU at 85°

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	Color	As specified
	Flash-point	Aerodur 5000 (ECM-F-XXXX) 7ºC / 46ºF PC-404 7ºC / 46ºF AC-5000 39ºC / 102ºF
	Storage	Store the product dry and at a temperature between 5 and 38ºC / 40 and 100ºF per AkzoNobel Aerospace Coatings specification. Store in the original unopened containers. Storage temperature may vary per OEM specification requirements. Refer to container label for specific storage life information.
	Shelf life 5 - 38°C (40 - 100°F)	18 months per AkzoNobel Aerospace Coatings commercial specification. Shelf life may vary due to OEM specification requirements. Refer to container label for specific shelf life information.
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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