

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

Curing Solution: PC-404

Specifications



Qualified
Product List

AkzoNobel Aerospace Coatings
Airbus

Certification

AIMS 04.04.036 (when applied with Aviox CF
Primer 37124 as part of the Airbus Chromate Free
External Paint System)

Embraer
German Army (WIWEB)
Hawker Beechcraft
Italian Air Force
US Military

MEP 10-117, TY II
TL8010-0046
BS22455
AER(EP)_M_P_001
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
1 part

Aerodur 5000 (ECM-F-XXXX)
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.



Initial Spraying Viscosity
(25°C/77°F)

(21°C/70°F)

(25°C/77°F)

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 – 30 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
(25°C/77°F)

4 hours.

2 hours with AC-5000 Accelerator.

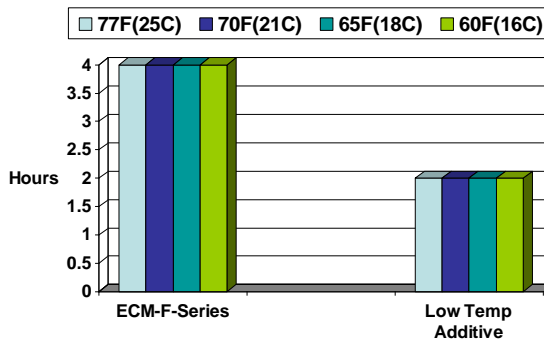
Note:

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
(25°C/77°F)
Continued



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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.

Application Recommendations

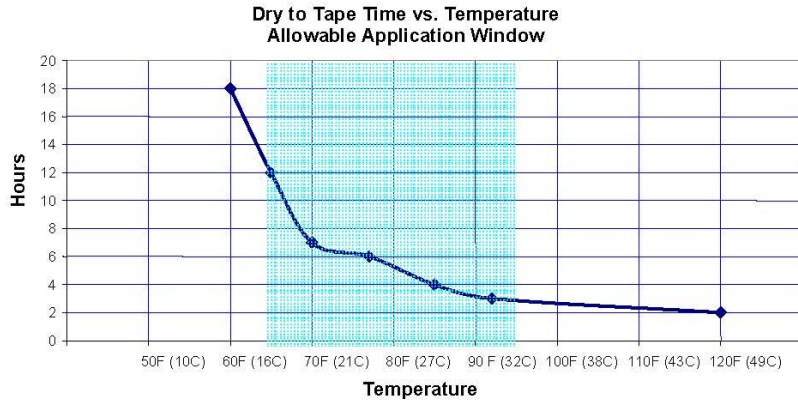


Conditions

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 exercised 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.

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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 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



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 +/- 2°C / 77
+/- 2°F, 55 +/-
5% RH)

	<u>(21°C/70°F)</u>	<u>(25°C/77°F)</u>
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*

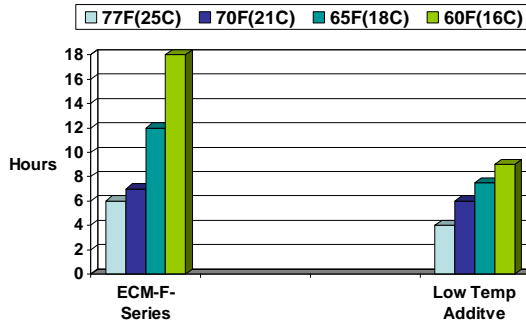
*When cured at 70°F (21°C) – 77°F (25°C) and defined as resistance to 25 double rubs MEK.

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Dry-to-Tape
Time vs.
Temperature



Drying Times
(25 +/- 2°C / 77
+/- 2°F, 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 70°F may reduce the recoat window.



Theoretical
Coverage

Ready to apply:

19.9 m² per liter at 25 µm dry film thickness

813 ft² per US gallon at 1.0 mil dry film thickness

May vary by color



Dry Film Weight

1.30 g/m²/µm

0.0067 lbs/ft²/mil

May vary by color

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Volatile Organic
Compounds

Max 439 g/l
Max 3.5 lb/gal



Gloss (60°)

< 5 GU @ 60° and <9 GU at 85°



Color

As specified



Flash-point

Aerodur 5000 (ECM-F-XXXX)	7°C / 46°F
PC-404	7°C / 46°F
AC-5000	39°C / 102°F



Storage

Store the product dry and at a temperature between 5 and 38°C / 40 and 100°F 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)

24 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.

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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.

Issue date: November 2021 (supersedes September 2020) - FOR PROFESSIONAL USE ONLY

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.

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