

Aerodur 5000 Gloss

Technical Data Sheet

Product Group

Polyurethane Top Coat

Characteristics

Aerodur 5000 (ECM-G Series) is a two-component high solids polyurethane finish formulated for application to military aircraft and is designed to provide maximum protection from various chemicals, hydraulic fluids, aviation fuels, and corrosion causing media.



Product Information

Components

Base	ECM-G
Curing Solution	X-501



Specifications

US Military	MIL-PRF 85285 Type IV, Class H, Form M, Grade N
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Qualified Product List

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

- Observe the recoat time parameters of the relevant primer and applicable specifications.
- Apply Aerodur 5000 Gloss over fresh primer or properly reactivated surfaces.
- Clean aged primer or epoxy/polyurethane finishes and sand/abrade to a uniform matt finish using grade P320 sandpaper or an aluminum oxide non-woven abrasive pad.
- Remove oil, grease, and other contaminants with an approved cleaning solvent prior to application of the finish.
- Remove dust and debris with a clean tack or equivalent.



Surface Preparation/
Cleaning

Recommended primers are as follows:
10P20-13, Aerodur HS 2118 CF Primer, and Alumigrip 10P8-11.

Instruction for Use

	Volume
ECM-G	1 part
X-501	1 part



Spray Application (Mix Ratio)

- Allow products to acclimate to room temperature before use.
- Stir or shake ECM-G Base thoroughly until all pigment is uniformly dispersed before adding the curing solution.
- Add the X-501 Curing Solution and stir the mixture thoroughly.



Induction Time

10 minutes



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

15 – 30 seconds Ford Cup #4
17 – 32 seconds ISO Cup #4
25 – 75 seconds Zahn Cup #2 Signature series



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

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Dry Film Thickness (DFT) 43 – 58 μm
1.7 – 2.3 mils

Application Recommendations



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



Note Aerodur 5000 Gloss 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.



Equipment Recommendation

Spray gun type	Product supply	Fluid Pressure	Nozzle orifice	Product flow	Dynamic air pressure at gun-inlet *
Conventional	N/A	N/A	1.2-1.4 mm	N/A	3-5 bar / 43-73 psi
HVLP / Next Generation	N/A	N/A	1.2-1.4 mm	N/A	2-2.5 bar / 29-36 psi**
Air Atomizing (electrostatic)	N/A	N/A	1.2-1.5 mm	230-350 mL/min	4-5 bar / 58-73 psi
Pressure Atomizing (electrostatic)	N/A	65-75 bar / 1.02 kpsi, 25-35 bar / 0.43 kpsi	0.009 inch/60°, 0.013 inch/60°	260-300 mL/min	4-4.5 bar / 58-65 psi



Note *Measured with an open trigger.
**General advice to meet the HVLP / next-generation spray gun requirements. Please validate with your local authorities.



Number of Coats Apply a single wet coat. Allow 30-45 minutes flash-off time between coats at ambient conditions. Apply a second wet coat to achieve the required dry film thickness.

Some colors may require a higher film thickness to achieve opacity (e.g., certain reds, yellows, and oranges). A base color may need to be applied first before application of the final color. This is to reduce the number of coats necessary for industrial hiding.



Note Flash-off time refers to the elapsed time between the start of the first coat application and the start of the second coat application. Paint should have very little transfer when touched to indicate the paint is ready for application of the next coat.



Cleaning of Equipment Use TR-19, TR-36, C28/15, MEK or a VOC-compliant solvent blend.



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.

Physical Properties

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Drying Times

25°C/77°F, 55% RH

Dry to Tape	Max. 12 hours
Dry to Touch	Max. 6 hours
Recoatable Minimum	30 minutes
Recoatable Maximum	48 hours (with no reactivation)

Aerodur 5000 Gloss may be recoated with an additional application of Aerodur 5000 Gloss within 48 hours with no reactivation. If a drying time of 48 hours is exceeded, reactivate with P320 grade sandpaper or an aluminum oxide non-woven abrasive pad.

Aerodur 5000 Gloss may be recoated up to 7 days when reactivated.



Note

Flash-off times, dry times, and recoat times will vary depending on combinations of temperature, humidity, and airflow. Temperature, wet film thickness, and flash-off time can affect gloss readings, so it is recommended to adhere to the application guidelines above.



Theoretical Coverage

19.6m² per liter ready to apply at 25.4 µm dry film thickness.
800ft² per US gallon ready to apply at 1 mil dry film thickness.



Dry Film Weight

32.8 – 39.7 g/m² at 25.4 µm
0.0067 - .0082 lbs/ft² at 1.0 mil
Varies slightly with different colors.



Volatile Organic Compounds

Maximum 420 g/l
Maximum 3.5 lbs/gal



Gloss (60°)

Minimum 90 GU



Flash Point

ECM-G	25°C / 77°F
X-501	36°C / 96°F

Shelf life 5 - 38°C (41 - 100°F)

ECM-G	24 months
X-501	24 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 2024 (supersedes none) - 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. Brand names mentioned in this data sheet are trademarks of or are licensed to AkzoNobel