Aerodur 5500 Semi-Gloss

Technical Data Sheet

Product Group

Polyurethane Top Coat

Characteristics

Product Information

Aerodur 5500 Semi-Gloss is a two-component high solids polyurethane finish formulated for application to military aircraft and is designed to provide superior chemical, heat, and stain resistance, and flexibility.

Components

Base	Aerodur 5500-SG
Curing Solution	Curing Solution PC-233

Specifications

Qualified Product List

US Military	MIL-PRF-85285, Type IV, Class H, Form M, Grade P

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

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 5500 Semi-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.

Aerodur 5500 Semi-Gloss is compatible with a variety of primers:
- 10P20-13, MIL-PRF-23377 Type I Class C2
- 10P8-11, MIL-PRF-23377 Type I Class C2
- 10P20-14, MIL-PRF-23377 Type II Class C2
- Aerodur HS2118 CF, MIL-PRF-32239

Instruction for Use

Spray Application (Mix Ratio)

	Volume
Aerodur 5500-SG	4 parts
Curing Solution PC-233	1 part

-Allow products to acclimate to room temperature before use.
-Stir or shake the base component thoroughly until all pigment is uniformly dispersed before adding the curing solution.
-Add the curing solution PC-233 and stir the catalyzed mixture thoroughly.

Induction Time

30 minutes, in accordance with MIL-PRF-85285.

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

16 – 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.

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Pot life (25ºC/77ºF)	4 hours
Note	Pot life may be impacted by temperature and environmental conditions.
Dry Film Thickness (DFT)	43 – 58 µm 1.7 – 2.3 mils Some colors may require increased film thickness to achieve acceptable hide.

Application Recommendations

Conditions

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

Note

Aerodur 5500 Semi-Gloss topcoat 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

*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 Aerodur 5500 Semi-Gloss topcoat in two full wet coat applications to a recommended dry film thickness of 43-58 µm (1.7-2.3 mils). Apply a single wet coat. Allow 30-45 minutes flash-off time between coats at ambient conditions. Apply a second wet coat. Repeat this if additional coats are needed.

Some colors may require a higher film thickness to achieve opacity (e.g., certain reds, yellows, and oranges). A foundation 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

Solvent Cleaning C28/15 or TR-15 (electrostatic equipment) Solvent Cleaning C28/15 or TR-19 for other spray equipment.

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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Physical Properties

Drying Times

	25°C/77°F, 50% RH
Dry to Touch	3-4 hours
Dry to Tape	6-8 hours

Aerodur 5500 Semi-Gloss topcoat may be recoated within 24 hours with no reactivation. If a drying time of 24 hours is exceeded, reactivate with P320 grade sandpaper or an aluminum oxide non-woven abrasive pad.

Note

When sanding of Aerodur 5500 Semi-Gloss topcoat is required, it is recommended that a fresh coat of primer is applied over the sanded area to prevent the chances of a mottled appearance and to improve the adhesion of the upper layer of the topcoat. Clean sanded areas with AkzoNobel Ultra Prep Surface Cleaner or isopropyl alcohol prior to reapplying the topcoat.

When doing rework, it is recommended to spray entire panels using the same application method as the original application.

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

22m² per liter ready to apply at 25 µm dry film thickness.
900ft² per US gallon ready to apply at 1 mil dry film thickness.

Dry Film Weight

1.57 g/m²/µm
0.0082 lbs./ft²/mil

Note

For white and off-white color scheme. Other colors available upon request.

Volatile Organic Compounds

Maximum 420 g/l
Maximum 3.5 lbs./gal

Gloss (60°)

15 – 45 GU

Color

As required.

Flash Point

Aerodur 5500-SG	25ºC / 77ºF
Curing Solution PC-233	166ºC / 330.8ºF

Storage

Store the product dry and at a temperature between 5 and 38ºC / 41 and 100ºF per AkzoNobel Aerospace Coatings specification. Store in the original unopened containers. Storage temperature and shelf life may vary per OEM specification requirements. Refer to the container label for specific storage life information.

Shelf life 5 - 38°C (41 - 100°F)

Aerodur 5500-SG	24 months
Curing Solution PC-233	24 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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