

Aerodur 3001E Special Effect

Technical Data Sheet

Product Group

Polyurethane Top Coat

Characteristics

Aerodur 3001E Special Effect Basecoat is part of the high solid 3-components polyurethane Aerodur 3001 Basecoat – Aerodur 3001E Special Effect – Aerodur 3002 Clearcoat system for exterior usage. This system provides uniform coverage and appearance for most colors and effects in one wet coat application.



Product Information

When used with the specified polyurethane clear topcoat (Aerodur 3002 Clearcoat) this system provides a durable long-lasting, protective and decorative finish that exceeds typical OEM requirements for exterior aircraft performance. Aerodur 3001 Basecoat Solid Colors – Aerodur 3001E Special Effect Colors – Aerodur 3002 Clear Coat provides:

- Unique appearance on aircraft livery
- Uniform sparkling effect appearance
- Repairability
- Excellent gloss/color retention
- Opacity at a low film thickness
- Short tape time
- Superior chemical and stain resistance
- Low dirt adhesion
- Sustainable and cost-efficient

Components

Base	Aerodur 3001E Special Effect
Curing Solution	Curing Solution CS6031
Activator	Activator A9005



Specifications

Boeing	BMS 10-125, TY IV, GR D
Boeing	BMS 10-125, TY VII, GR D
Boeing	BMS 10-72, TY X
Comac	CMS-CT-102
Embraer	MEP 10-125, TY II



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

- Aerodur 3001E Special Effect is compatible and applied on top of Aerodur 3001 Basecoat solid colors.
- Observe the recoatability times of the previous layer of Aerodur 3001 Basecoat.
- Apply Aerodur 3001E Special Effect on clean Aerodur 3001 Basecoat Solid color layer.
- Oil, grease, and other contamination must be removed prior to application.
- Clean basecoat with a mild cleaning solvent like isopropyl alcohol.
- Remove dust with clean tack rags just prior to application of Aerodur 3001E Special Effect.



Surface Preparation/
Cleaning

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Instruction for Use

	Spray Application (Mix Ratio)	Volume
	Aerodur 3001E Special Effect	3 parts
	Curing Solution CS6031	1 part
	Activator*	1 part

* Activator options: Activator A9005

- Allow products to acclimatize to room temperature before use.
- Stir or shake Aerodur 3001E Special Effect thoroughly to obtain a homogeneous product before adding the curing solution.
- Add curing solution CS6031 and stir the catalyzed mixture thoroughly.
- Add activator A9005 and stir the catalyzed/activated mixture thoroughly.

	Induction Time	15 minutes
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	Initial Spraying Viscosity (25°C/77°F)	18 – 26 seconds Ford Cup #4 35 – 48 seconds ISO Cup #4
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	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 (25°C/77°F)	2 hours
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	Dry Film Thickness (DFT)	20 – 30 μm 0.8 – 1.2 mils
		Aerodur 3001 Basecoat 25 – 45 μm or to complete coverage. 1.0 – 1.8 mils or to complete coverage.

Application Recommendations

	Conditions	Temperature: 15-35°C / 59-95°F Relative Humidity: 35 - 75%
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	Note	Aerodur 3001E Special Effect 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.
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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	230-300 ml/min	4-5 bar / 58-73 psi

*Measured with an open trigger.

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



Note

- All filters in the application equipment should be removed to avoid clogging.
- Do not use airless application equipment.
- Extra attention should be paid when cleaning the equipment.



Application Scheme

Step 1: Step 1: Aerodur 3001 Basecoat solid color

Observe the recoatability limits of the relevant primer.

Apply full wet coats to achieve full hide and a dry film thickness of 30-50 µm / 1.2-2.0 mils depending on the color and effect.

For more details check the technical data sheet of Aerodur 3001 Basecoat.

Step 2: Aerodur 3001E Special Effect

Apply a full wet coat to match the color standard, or a dry film thickness of 20-30 µm / 0.8-1.2 mils.

When the required color standard or dry film is not achieved after one full wet coat, an extra layer can be applied.

The extra layer is applied after 5-90 minutes of flash-off time to achieve the required dry film thickness.

Step 3: Step 3: Aerodur 3002 Clearcoat

To obtain a smooth surface, sufficient time in between coats is needed.

This is depending on the surface appearance (roughness) of the special effect layer.

Aerodur 3002 Clearcoat should be applied between 2-48 hours after the Aerodur 3001E Special Effect application.

For more details check the technical data sheet of Aerodur 3002 Clearcoat.



Cleaning of Equipment

Use Solvent Cleaning C28/15 or Solvent cleaning 98068 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 airflow 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



Drying Times

25°C/77°F, 55% RH

Dust Free	30 minutes
Dry to Tape	2 hours

Aerodur 3001E Special Effect over Aerodur 3001 Basecoat solid color

Recoat time, minimum 30 minutes

Recoat time, maximum 24 hours

Aerodur 3002 Clearcoat over Aerodur 3001E Special Effect

Recoat time, minimum 2 hours

Recoat time, maximum 48 hours

Aerodur 3001E Special Effect as such cannot be abraded if the overcoat window has exceeded or for repairs without compromising the appearance. If the overcoat window is exceeded, activate the surface with aluminum

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oxide non-woven abrasive material, type very fine, or grade P320 sanding paper before re-applying the whole Aerodur 3001E Special Effect System.

 Theoretical Coverage 20 – 22 m² per liter ready to apply at 25 µm dry film thickness.
810 – 820 ft² per US gallon ready to apply at 1 mil dry film thickness.

 Volatile Organic Compounds Maximum 420 g/l
Maximum 3.5 lbs/gal

 Gloss Not applicable

 Color As required.

 Flash Point

Aerodur 3001E Special Effect	12°C / 54°F
Curing Solution CS6031	166°C / 330°F
Activator A9005	34°C / 93°F

Shelf life 5 - 38°C (41 - 100°F)	Aerodur 3001E Special Effect	24 months
	Curing Solution CS6031	24 months
	Activator A9005	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.

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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