Aerobase Special Effects

Technical Data Sheet

Product Group

Polyurethane Top Coat

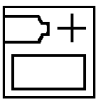
Characteristics

Product Information

Aerobase Special Effects is a VOC compliant isocyanate cured polyurethane special effect coating and is part of the coatings system consisting of Aerobase - Aerobase Special Effects - Aviox Clearcoat UVR system for exterior application of commercial aircraft.

This system provides uniform coverage and appearance in one coat application for most of the colors and effects. When used with Aviox Clearcoat UVR this system provides a durable, long lasting, protective and decorative finish that exceeds typical OEM requirements for exterior aircraft performance.
The main benefits of our leading Aerobase - Aerobase Special Effects - Aviox Clearcoat UVR system are:
- Unique and uniform sparkling effect appearance on aircraft livery
- Repairability
- Excellent gloss- and color- retention
- Opacity at low film thickness
- Short tape time
- Superior chemical and stain resistance
- Low dirt adhesion

Components



Base	Aerobase Special Effects
Curing Solution	Aerobase Curing Solution
Activator	Aerobase Standard Activator

Specifications

Qualified Product List

Airbus	AIMS 04-04-025
SAE International	AMS3095A

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

Cleaning

- Aerobase Special Effects is compatible with and applied on top of Aerobase.
- Observe the recoat times of the previous layer of Aerobase.
- Apply Aerobase base color on clean primer, sealer or Aerobase layer. Remove oil, grease and other contamination prior to application.
- Recondition aged primers or topcoats with grade P320 sanding paper or aluminum oxide non-woven abrasive pad to a uniform matt surface.
- Remove dust with clean tack rags just prior to application of Aerobase.

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Aerobase Special Effects

Instruction for Use

Mixing Ratio

	Volume	Weight
Aerobase Special Effects	5 parts	100 parts
Aerobase Curing Solution	1 parts	18 parts
Activator*	1 part	14 parts

* Activator options: Aerobase Standard Activator

- Allow products to acclimatize to room temperature before use.
- Stir or shake Aerobase Special Effects thoroughly until all pigments are uniformly dispersed before adding the Aerobase Curing Solution.
- Add Aerobase Curing Solution and stir the catalyzed mixture thoroughly.
- Add Aerobase Standard Activator and stir the catalyzed mixture again thoroughly.

Induction Time

Not applicable. The product is ready for use immediately after mixing.

Initial Spraying Viscosity (23°C/73°F)

30 – 55 seconds ISO Cup #4 for all colors
16 – 24 seconds Gardner Signature Zahn Cup #2 for all colors

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 (23ºC/73ºF)

2 hours

Dry Film Thickness (DFT)

Depending on the color/effect to apply:
40 – 70 µm
1.6 – 2.8 mils

Note

The application and mixing characteristics of High Solid products differ from conventional products. Mix base and hardener for at least 2 minutes thoroughly. The high solid content causes a rapid film build-up.

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Aerobase Special Effects

Application Recommendations

Conditions

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

Note

Aerobase Special Effects may be applied in conditions outside of the 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.

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 - 1.5mm	340 - 360mL/min[1]	4 - 4.5 bar/58 - 65 psi[2]
HVLP / Next Generation	N/A	N/A	1.2 - 1.5mm	340 - 360mL/min[1]	2 - 2.5 bar/29 - 36 psi[3]
Air Atomizing (electrostatic)	N/A	N/A	1.2 - 1.5mm	340 - 360mL/min	4 - 4.5 bar/58 - 65 psi[2]

1 Product Flow is not applicable when using gravity/suction feed guns.
2 Dynamic Air Pressure at the gun-inlet measured with an open trigger.
3 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. Depending on the type of special effect pigment used, the use of pressure atomizing spray equipment (airless or air assisted) is not advised. Please consult your AkzoNobel representative if you are not sure. Extra attention should be paid when cleaning the equipment.

Application Scheme

Step 1: Aerobase (base color)
Observe the recoat limits of the relevant primer.

Apply a homogeneous and wet coat to achieve a dry film thickness of 30 to 50 µm / 1.2 to 2.0 mils depending on the color and effect. For more details check the technical data sheet of Aerobase.

Step 2: Aerobase Special Effects
Respect the overcoat window of Aerobase (2 – 168 hours).

Apply a homogeneous and wet coat to achieve a dry film thickness of 40 to 60 µm / 1.6 to 2.4 mils depending on the color and effect.

When the effect is not achieved after one cross-coat, an extra layer can be applied after 15 to 90 minutes flash-off time.

Step 3: Aviox Clearcoat UVR
Respect flash-off time over Aerobase Special Effects (2 – 168 hours).

To obtain a smooth surface, apply Aviox Clearcoat UVR in 1 or 2 coats with 60 minutes of solvent flash-off time in between, depending on the surface appearance (roughness) of the special effect layer.

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Aerobase Special Effects

For more details check the technical data sheet of Aviox Clearcoat UVR.

Cleaning of Equipment

Solvent Cleaning C28/15 or Solvent Cleaning 98068.
Because Aerobase Special Effects is a fast-drying base coat, it is important to clean the equipment as soon as possible after completion of the paint job.

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

Drying Times

	23°C/73°F, 55% RH
Surface Dry	1.5 – 2 hours
Dry to Tape	2 – 3 hours
Recoatable Maximum	168 hours

Taping directly on a special effect coating may result in rough edges after tape removal. To obtain the best results when taping it is advised to apply one layer of Aviox Clearcoat UVR after a minimum 4 hours of drying time. In this case, the dry-to-tape times of the Aviox Clearcoat UVR will be applicable.

Aerobase 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 grade P320 sanding paper or aluminum oxide non-woven abrasive pad before re-applying the Aerobase Special Effect System.

If the overcoat window of Aerobase Special Effect will be exceeded, we advise applying locally one layer of Aviox Clearcoat UVR within the overcoat window (2 – 168 hours). The Aviox Clearcoat UVR coat can be activated after it exceeds the recoat window without compromising the appearance of the special effect.

Theoretical Coverage

12 m² per liter ready to apply material at 40 µm dry film thickness.
510 ft² per US gallon ready to apply material at 1.6 mils dry film thickness.

Dry Film Weight

1.43 – 1.56 g/m²/µm
0.0071 – 0.0081 lbs/ft²/mil

Volatile Organic Compounds

Maximum 420 g/l
Maximum 3.5 lbs/gal

Gloss

Not applicable.

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Aerobase Special Effects

Color

Any special effect color for any aircraft livery

Flash Point

Aerobase Special Effects	>21ºC /70ºF
Aerobase Curing Solution	>21ºC /70ºF
Aerobase Standard Activator	>21ºC /70ºF

Storage

Store the product dry and at a temperature between 5 and 35ºC / 41 and 95ºF 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 - 35°C (41 - 95°F)

Aerobase Special Effects	18 months
Aerobase Curing Solution	24 months
Aerobase Standard Activator	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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