

Eclipse Flat

Technical Data Sheet

Product Group

Polyurethane Top Coat

Characteristics



Product Information

As a chemically cured, low VOC flat topcoat, Eclipse Flat has a balanced formulation to provide superior chemical and stain resistance and flexibility.

Eclipse topcoats provide a durable, long-lasting, protective and decorative finish that exceed typical OEM requirements for exterior aircraft performance.

Components



Base	ECL-F-XXX
Curing Solution	Curing Solution PC-233

Specifications



Qualified Product List

Airbus Canada	A2MS 565-009
Avic Aviation	AMMS2504
Boeing	BMS 10-125, TY II, GR D
Boeing	BMS 10-60, TYI&II CLB GRD
Boeing	BMS 10-72, TY IX
Bombardier Canadair	BAMS 565-009, TY I GR B
Comac	CMS-CT-101, TY I
Comac	CMS-CT-101, TY III
Embraer	MEP 10-069
Israel Aerospace Industries	MS100029E, CL HS
Mitsubishi	MM1276, TY I
SAE International	AMS3095B
Xian Aircraft Corp	XMS1622

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

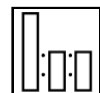


Surface Preparation/
Cleaning

- Eclipse Flat topcoat is compatible with 10P20-44, 10P20-44MNF, Aerodur 2111, Aerodur HS 2118, 10P8-11, and other AkzoNobel primers.
- 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.
- Clean and degrease the surface with an approved cleaning solvent prior to application of the pre-treatment or primer.
- Remove dust and debris with a clean tack rag or equivalent.
- Eclipse Flat topcoat must be applied over fresh primer or topcoat. Applying directly to a sanded surface may result in a mottled appearance when it cures.

Eclipse Flat

Instruction for Use



Spray Application (Mix Ratio)

Volume

ECL-F-XXX

3 parts

Curing Solution PC-233

1 part

- Allow products to acclimatize to ambient conditions before use.
- Stir or shake the base component thoroughly to a homogeneous state prior to the addition of the curing solution.
- Add curing solution PC-233 and stir the catalyzed mixture thoroughly prior to application.
- No additional thinner is needed in Eclipse Flat topcoat.



Induction Time

Not Applicable.



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

30 – 50 seconds ISO Cup #4
20 – 27 seconds Gardner Signature Zahn Cup #2
21 – 31 seconds EZ Zahn Cup #2
18 – 26 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)

Flat (all colors) 2 hours



Dry Film Thickness (DFT)

50 – 75 µm
2 – 3 mils



Note

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

Eclipse Flat 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.

Eclipse Flat



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	75-90 bar / 1-1.3k psi, 25-35 bar / 0.4-0.5k psi	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 Eclipse Flat topcoat in two to three full wet coat applications to a recommended dry film thickness of 50-75 µm (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 until opacity has been reached.

When bright transparent colors (e.g. bright orange, yellow) are applied, it is advisable to first apply Eclipse foundation color in an off-white color (e.g. BAC 70846) before application of the final bright 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.

Physical Properties



Drying Times

25°C/77°F, 50% RH

Dry to Touch 3-4 hours

Dry to Tape 6-8 hours



Note








Eclipse Flat topcoat may be recoated with an additional application of Eclipse Flat topcoat 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.

When sanding of Eclipse Flat 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.

Eclipse Flat

	Theoretical Coverage	22 m ² per liter ready to apply at 25 µm dry film thickness. 900 ft ² per US gallon ready to apply at 1 mil dry film thickness.	
	Dry Film Weight	1.57 g/m ² /µm 0.0082 lbs/ft ² /mil	
	Note	For white and off-white color schemes. Other colors are available upon request.	
	Volatile Organic Compounds	Maximum 420 g/l. Maximum 3.5 lbs/gal	
	Gloss (60°)	Maximum 5 GU	
	Color	As required	
	Flash Point	ECL-F-XXX	-4°C / 24.8°F
		Curing Solution PC-233	166°C / 330.8°F
	Shelf life 5 - 38°C (41 - 100°F)	ECL-F-XXX	24 months
		Curing Solution PC-233	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: October 2023 (supersedes March 2023) - 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