

Eclipse Gloss

Technical Data Sheet

Product Group

Polyurethane Top Coat

Characteristics

Eclipse Gloss is a chemically cured, low VOC topcoat designed to provide premium gloss and distinctness of image (DOI). This coating has a balanced formulation to provide superior chemical and stain resistance, and flexibility.



Product Information

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

Components



Base	ECL-G-XXX
Base	ECL-G-XXXX
Curing Solution	Curing Solution PC-233
Thinner	Thinner TR-112
Thinner	Thinner TR-109
Thinner	Thinner TR-111
Thinner	Thinner TR-113
Thinner	Thinner TR-141

Specifications



Qualified Product List

Airbus Canada	A2MS 565-009
Avic Aviation	AMMS2502
Boeing Long Beach	DPM 6502
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 565-002, GR B
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
Goodrich Corporation	LGQP 6001
Irkut	741.14021-00-00-0038-0T040A
Israel Aerospace Industries	MS100029E, CL HS
Mitsubishi	MM1276, TY I
SAE International	AMS3095B
Sikorsky	SS 8526, TY I&TY II
Xian Aircraft Corp	XMS1622
deHavilland	DHMS C4.04, TY6 CLB GRB

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.

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Surface Conditions



Surface Preparation/
Cleaning

Eclipse Gloss 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 nonwoven abrasive pad.

Clean and degrease the surface with an approved solvent prior to application of the pre-treatment or primer.

Remove dust and debris with clean tack rags or equivalent.

Instruction for Use



Spray Application (Mix Ratio)

	Volume
ECL-G-XXX	2 parts
ECL-G-XXXX	2 parts
Curing Solution PC-233	1 part
Thinner*	1 part

* Thinner options: Thinner TR-112, Thinner TR-109, Thinner TR-111, Thinner TR-113, Thinner TR-141

- 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.
- Add the thinner and stir the catalyzed mixture again thoroughly prior to application.
- ECL-G-XXXX base component is used in conjunction with Eclipse Special Effects as a foundation color.



Induction Time

Not Applicable



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

30 – 50 seconds ISO Cup #4
15 – 23 seconds Gardner Signature Zahn Cup #2
21 – 31 seconds EZ Zahn Cup #2
15 – 22 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)

Gloss White	4 hours
Gloss Colors	3 hours



Note

Pot life will be reduced by varying degrees when using the alternative thinners to TR-109. See drying chart.



Dry Film Thickness (DFT)

51 – 76 µm
2 – 3 mils



Note

Some colors may require increased film thickness to achieve acceptable hide.

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Application Recommendations



Conditions

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



Note

Eclipse 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	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 Gloss 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 sufficient flash-off time between coats at ambient conditions in accordance with the table below. Apply a second wet coat. Repeat this if additional coats are needed.

Thinner/Reducer	Recommended Flash-Off Time
TR-109	45-120 minutes
TR-111	30-60 minutes
TR-112	20-40 minutes
TR-113	15-30 minutes
TR-141	45-120 minutes

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 (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	3.25 hours	TR-109
	3.25 hours	TR-111
	1.75 hours	TR-112

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	45 minutes	TR-113
	3.25 hours	TR-141
Dry to tape	10 – 12 hours	TR-109
	7 – 8 hours	TR-111
	5 – 6 hours	TR-112
	2 – 3 hours	TR-113
	10 – 12 hours	TR-141
(32°C / 90°F, 40% RH) Dry to tape	8 – 9 hours	TR-109
	4 – 5 hours	TR-111
	2 – 3 hours	TR-112
	1 – 2 hours	TR-113
	7 – 9 hours	TR-141
(48°C / 120°F, 10% RH) Dry to tape	4 – 5 hours	TR-109
	3 – 4 hours	TR-111
	1 – 2 hours	TR-112
	<1 hours	TR-113
	4 – 6 hours	TR-141

At standard temperature and humidity conditions, TR-109 will provide the indicated dry to tape times with a wet edge time of 30-60 minutes. At standard conditions, TR-111 will provide a wet edge time of 20-40 minutes. TR-141 is formulated to optimize wet edge performance at elevated temperatures, 30°C-38°C / 85°F-100°F.

TR-112 is suggested for roller application and TR-113 is recommended for touch-up and markings only. Both are pre-adjusted to meet specific dry times. No additional accelerator should be added.

TR-109, TR-111, TR-112 and TR-113 are Boeing approved per BMS 10-72 and BMS 10-60

Eclipse Gloss topcoat may be recoated within 24 hours with no reactivation if TR-109 or TR-141 was used in the undercoat. Max recoat time with no reactivation is 12 hours if TR-111 was used in the undercoat. If the allotted drying time is exceeded, reactivate with P320 grade sandpaper or an aluminum oxide non-woven abrasive pad.

Dry times and recoat times will vary depending on combinations of temperature, humidity, and airflow.



Note



Theoretical Coverage

22 m² per liter ready to apply at 25 µm dry film thickness.
900 ft² 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°)

Minimum 90 GU

Color

As required.

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Flash Point

ECL-G-XXX	25°C / 77°F
ECL-G-XXXX	25°C / 77°F
Curing Solution PC-233	166°C / 330.8°F
Thinner TR-112	34°C / 93.2°F
Thinner TR-109	36°C / 96.8°F
Thinner TR-111	36°C / 96.8°F
Thinner TR-113	34°C / 93.2°F
Thinner TR-141	34°C / 93.2°F

Shelf life 5 - 38°C (41 - 100°F)

ECL-G-XXX	24 months
ECL-G-XXXX	24 months
Curing Solution PC-233	24 months
Thinner TR-112	24 months
Thinner TR-109	24 months
Thinner TR-111	24 months
Thinner TR-113	24 months
Thinner TR-141	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