

# Eclipse Clearcoat

## Technical Data Sheet

### Product Group

### Polyurethane Top Coat

### Characteristics

Eclipse Clearcoat is a 3-component, low VOC (High Solids) 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-2
Base	ECL-G-7
Base	ECL-GC-6
Curing Solution	Curing Solution PC-233
Thinner	Thinner TR-113
Thinner	Thinner TR-109
Thinner	Thinner TR-111
Thinner	Thinner TR-112
Thinner	Thinner TR-141

### Surface Conditions



Surface Preparation/  
Cleaning

Eclipse Clear topcoat is designed to be used over Eclipse Special Effects topcoat.

Minimum overcoat time of Eclipse Special Effects topcoat with Eclipse Clear topcoat is 1 hour.

Ensure the special effect layer is free from contamination from layout, scuffing, and masking by cleaning the surface. Use an appropriate mild cleaning solvent such as Akzo Nobel Ultra Prep Surface Cleaner or isopropyl alcohol.

Remove dust and debris with a clean tack rag or equivalent just prior to the application of Eclipse Clear topcoat.

### Instruction for Use



Spray Application (Mix Ratio)

	Volume
ECL-G-2	2 parts
ECL-G-7	2 parts
ECL-GC-6	2 parts
Curing Solution PC-233	1 part
Thinner*	1 part

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

-ECL-G-2 meets the performance of BMS 10-72. ECL-G-7 is the qualified clear for BMS 10-72 Type IX.

-ECL-G-2 meets BAMS 565-002. ECL-G-7 meets BAMS 565-009.

-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-GC-6 is formulated for roller application and no additional thinner is needed.

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	Induction Time	Not Applicable.
	Initial Spraying Viscosity (25°C/77°F)	30 – 50 seconds ISO Cup #4 17 – 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)	ECL-G-2 and ECL-G-7 4 hours ECL-GC-6 1 hour
	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


## Application Recommendations

	Conditions	Temperature: 15 – 35 °C 59 – 95 °F
		Relative Humidity: 35 – 75 %
	Note	Eclipse Clear 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																															
		<table border="1"> <thead> <tr> <th>Spray gun type</th> <th>Product supply</th> <th>Fluid Pressure</th> <th>Nozzle orifice</th> <th>Product flow</th> <th>Dynamic air pressure at gun-inlet *</th> </tr> </thead> <tbody> <tr> <td>Conventional</td> <td>N/A</td> <td>N/A</td> <td>1.2-1.4mm</td> <td>N/A</td> <td>3-5 bar / 43-73 psi</td> </tr> <tr> <td>HVLP / Next Generation</td> <td>N/A</td> <td>N/A</td> <td>1.2-1.4mm</td> <td>N/A</td> <td>2-2.5 bar / 29-36 psi**</td> </tr> <tr> <td>Air Atomizing (electrostatic)</td> <td>N/A</td> <td>N/A</td> <td>1.2-1.5mm</td> <td>230-250 ml/min</td> <td>4-5 bar / 58-73 psi</td> </tr> <tr> <td>Pressure Atomizing (electrostatic)</td> <td>N/A</td> <td>75-90 bar / 1-1.3k psi</td> <td>0.009-0.013 in / 60°</td> <td>260-300 ml/min</td> <td>4-4.5 bar / 58-65 psi</td> </tr> </tbody> </table>	Spray gun type	Product supply	Fluid Pressure	Nozzle orifice	Product flow	Dynamic air pressure at gun-inlet *	Conventional	N/A	N/A	1.2-1.4mm	N/A	3-5 bar / 43-73 psi	HVLP / Next Generation	N/A	N/A	1.2-1.4mm	N/A	2-2.5 bar / 29-36 psi**	Air Atomizing (electrostatic)	N/A	N/A	1.2-1.5mm	230-250 ml/min	4-5 bar / 58-73 psi	Pressure Atomizing (electrostatic)	N/A	75-90 bar / 1-1.3k psi	0.009-0.013 in / 60°	260-300 ml/min	4-4.5 bar / 58-65 psi
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\*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 Clear 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


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 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	
				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.





ECL-GC-6 has a dry to tape time of 3 hours at standard temperature and humidity conditions.

 Note Eclipse Clear 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 P400 grade sandpaper or an aluminum oxide non-woven abrasive pad, type very fine to a uniform matt surface. Clean sanded areas with AkzoNobel Ultra Prep Surface Cleaner or isopropyl alcohol prior to reapplying the topcoat.

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

 Theoretical Coverage 16.5 m<sup>2</sup> per liter ready to apply at 25 µm dry film thickness.  
672 ft<sup>2</sup> per gallon ready to apply at 1 mil dry film thickness.

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	Dry Film Weight	1.16 g/m <sup>2</sup> /μm 0.0060 lbs/ft <sup>2</sup> /mil	
	Volatile Organic Compounds	US guidelines	ECL-G-2 503g/l (4.2 lbs/gal) ECL-G-7 496g/l (4.1 lbs/gal) ECL-GC-6 420g/l (3.5 lbs/gal)
	Gloss (60°)	Minimum 90 GU	
	Flash Point	ECL-G-2	25°C / 77°F
		ECL-G-7	25°C / 77°F
		ECL-GC-6	27°C / 80.6°F
		Curing Solution PC-233	166°C / 330.8°F
		Thinner TR-113	34°C / 93.2°F
		Thinner TR-109	36°C / 96.8°F
		Thinner TR-111	36°C / 96.8°F
		Thinner TR-112	34°C / 93.2°F
		Thinner TR-141	34°C / 93.2°F
	Shelf life 5 - 38°C (41 - 100°F)	ECL-G-2	24 months
		ECL-G-7	24 months
		ECL-GC-6	24 months
		Curing Solution PC-233	24 months
		Thinner TR-113	24 months
		Thinner TR-109	24 months
		Thinner TR-111	24 months
		Thinner TR-112	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.

**Revision date: August 2024 (supersedes February 2024) - 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

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