

683-3-2, 683-3-20

Clear Polyurethane Topcoat

Technical Data Sheet

Product Group

Polyurethane topcoat

Characteristics



Product
Information

- Chemically cured two-component clear polyurethane topcoat with two dry options designed to provide maximum protection of various substrates from various chemicals, hydraulic fluids, aviation fuels and phosphate ester fluids.

Components



Curing Solution
Thinner

Curing Solution X-310A
Thinner TL-59

Specifications



Qualified
Product List

683-3-2

Air France	SMI 70 093-1
Boeing	BAC 5710, Ty 41
Boeing Long Beach	DPM 5557
Embraer	MEP 10-058
Goodrich	RPS 13.99

683-3-20

Boeing	BAC 5710, Ty 41 & BMS10-152
Rolls Royce (Omat)	7/187

For most recent up-date or missing specifications please check the qualified product list (QPL) on www.akzonobel.com/aerospace

Surface Conditions



Cleaning

Surface pretreatment is an essential part of the painting process.

683-3-2, 683-3-20 Clear Polyurethane Topcoat

Instruction for Use



Mixing Ratio
(volume)

2 parts	Base 683-3-2 or 683-3-20
1 part	Curing Solution X-310A
0-0.3 parts for spray application	Thinner TL-59

Do not add thinner for brush application

- Stir or Shake until all pigment is uniformly dispersed before adding curing solution.
- Stir the catalyzed mixture thoroughly.



Induction Time

Not Required



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

20 – 27 seconds signature Zahn-Cup #2



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)

683-3-2	4 hours
683-3-20	30 minutes



Dry Film
Thickness
(DFT)

25 – 51 micron (μm)
1 – 2 mils

683-3-2, 683-3-20 Clear Polyurethane Topcoat

Application Recommendations



Conditions

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



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 in order to identify the best equipment settings to be used in optimizing the performance and appearance of the coating.



Equipment

Air Fluid tip 1.4 mm (0.055")
Atomizing air pressure 45-65 psi
Fluid pressure 6-8 psi

Airless Nozzle orifice
0.279 mm (0.011") 60° angle
0.330 mm (0.013") 80° angle



Number of
Coats

Spray or brush apply one full wet coat.










Cleaning of
Equipment

MEK

683-3-2, 683-3-20

Clear Polyurethane Topcoat

Physical Properties

	<p>Drying Times (25 +/- 2°C / 77 +/- 2°F, 55 +/- 5% RH)</p>	<table> <tr> <td>Dry to touch 683-3-2</td> <td>4 hours</td> </tr> <tr> <td>Dry to touch 683-3-20</td> <td>30 minutes</td> </tr> <tr> <td>Full cure</td> <td>7 days</td> </tr> </table>	Dry to touch 683-3-2	4 hours	Dry to touch 683-3-20	30 minutes	Full cure	7 days		
Dry to touch 683-3-2	4 hours									
Dry to touch 683-3-20	30 minutes									
Full cure	7 days									
	<p>Theoretical Coverage</p>	<p>4 – 9 m² per liter ready to apply at 25 µm dry film thickness 180 – 370 ft² per US gallon ready to apply at 1 mil dry film thickness</p> <p>based on 50% transfer efficiency</p>								
	<p>Dry Film Weight</p>	<p>30 g/m²/micron .006 lbs/ft²/mil</p>								
	<p>Volatile Organic Compounds</p>	<p>Max 518 g/l admixed Max 4.3 lb/gal admixed</p> <p>Max 550 g/l admixed with reducer Max 4.5 lb/gal admixed with reducer</p>								
	<p>Gloss (60°)</p>	<p>90 minimum GU</p>								
	<p>Color</p>	<p>Clear</p>								
	<p>Flash-point</p>	<table> <tr> <td>683-3-2</td> <td><33.9°C / 93°F</td> </tr> <tr> <td>683-3-20</td> <td>>38.9°C / 102°F</td> </tr> <tr> <td>X-310A</td> <td><32.8°C / 91°F</td> </tr> <tr> <td>TL-59</td> <td><-4.1°C / 25°F</td> </tr> </table>	683-3-2	<33.9°C / 93°F	683-3-20	>38.9°C / 102°F	X-310A	<32.8°C / 91°F	TL-59	<-4.1°C / 25°F
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Storage

Store the product dry and at a temperature between 5 and 38°C / 40 and 100°F per AkzoNobel Aerospace Coatings specification. Store in the original unopened containers. Storage temperature may vary per OEM specification requirements. Refer to container label for specific storage life information.

Shelf life
5 - 38°C
(40 - 100°F)

12 months per AkzoNobel Aerospace Coatings commercial specification for 683-3 base and X-310A curing solution, 24 for TL-59. Shelf life may vary due to OEM specification requirements. Refer to container label for specific shelf life information.

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.

Issue date: October 2021 (supersedes February 2015) - 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.

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