Aeroflex HS 113F01
Technical Data Sheet

Product Group

Polyurethane topcoat

Characteristics

Product Information

Aeroflex HS 113F01 is a low VOC 3-component isocyanate cured polyurethane coating with excellent flexibility for exterior use on the upper surface (in-spar) of the wing box and horizontal stabilizers.

- Low VOC due to High Solids technology
- Highly flexible - Low surface roughness
- Applicable over various high solid, conventional and wash primers

Components

Base material	Aeroflex HS 113F01
Curing Solution	Hardener 90121
Activator / Thinner	Activator 99330 or Activator 99322 (for large surfaces or temperature >26°C / 79°F)

Specifications

Qualified Product List

Airbus	AIMS 04-04-034
Irkut	741.140/21-00-00-0038-0T04/0A

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

Cleaning

<u>Surface preparation for OEM</u>

- Observe the overcoat limits of the relevant primer / topcoat.
- Remove oil, grease and other contaminants prior to the application of Aeroflex HS 113F01.
- Recondition aged primers or topcoats with grade P320 sandpaper or an aluminum oxide non-woven abrasive pad to a uniform matt surface.
- Remove dust with e.g. tack rags prior to the application of Aeroflex HS 113F01.

<u>Surface preparation for MRO (maintenance)</u>

Application over aged Aeroflex HS 113F01

- Clean surface with cleaning solvent 98068.

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- Partially remove aged Aeroflex HS 113F01 by sanding (finish with grade P320 sandpaper grit type).
- Pay particular attention to properly treating surfaces in high erosion areas.
- When sanding through the topcoat (or primer) repair locally with appropriate primer (and pre-treatment) before applying Aeroflex HS 113F01.
- Thoroughly clean the surface with cleaning solvent 98068 before applying a fresh layer of Aeroflex HS 113F01.
- Apply fresh layer of Aeroflex HS 113F01 within 24 hours after sanding/ activation of the aged Aeroflex HS 113F01 layer.

Application over aged Aeroflex Finish G12E25

- Totally remove old layers of Aeroflex Finish G12E25 till the primer layer by sanding or wash down using Solvent Cleaning C 28/15.
- Reactivate the aged primer with grade P320 sandpaper or an aluminum oxide non-woven abrasive pad to a uniform matt surface.
- Apply refresh primer Aerodur HS 2121 according to the corresponding TDS.
- Observe the overcoat limits of the relevant primer.

Instruction for Use

Mixing Ratio (volume)

	Volume (v/v)	White and Grey Weight (w/w)
Aeroflex HS 113F01	4 parts	100 parts
Hardener 90121	1 part	25 parts
Activator 99330 or Activator 99322	1 part	19 parts

- Allow products to acclimatize to room temperature before use.
- Stir or shake Aeroflex HS 113F01 till all pigment is uniformly dispersed before adding hardener.
- Add hardener 90121 and stir the catalyzed mixture thoroughly.
- Add Activator 99330 or 99322 and stir again to achieve a homogeneous mixture.

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.

Induction Time

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

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Initial Spraying Viscosity (23ºC/73ºF)	All colors, except: Black	36 – 46 seconds ISO-Cup #4 18 – 22 seconds Gardco Signature Zahn-Cup #2
	Black	39 – 49 seconds ISO-Cup #4 19 – 23 seconds Gardco 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 (23ºC/73ºF)	1 hour in combination with Activator 99330. 1½ hours in combination with Activator 99322.	
Dry Film Thickness (DFT)	30 – 50 µm 1.2 – 2.0 mils	

Application Recommendations

Conditions	Temperature:	15 - 35°C 59 - 95°F
	Relative Humidity:	35 - 75%
Note	Aeroflex HS 113F01 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

Spray gun type	Nozzle orifice	Product flow[1]	Dynamic air pressure at gun-inlet[2]
Conventional	1.2 – 1.5 mm	280 – 320 mL/min	4 – 4.5 bar / 58 – 65 psi

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HVLP / next generation	1.2 – 1.5 mm	280 – 320 mL/min	2 – 2.5 bar / 29 – 36 psi[3]
Air atomizing (electrostatic)	1.2 – 1.5 mm	280 – 320 mL/min	4 – 4.5 bar / 58 – 65 psi
Pressure atomizing (electrostatic)	0.009 inch/60°	65 – 75 bar/1.02 kpsi	4 – 4.5 bar / 58 – 65 psi
	0.013 inch/60°	25 – 35 bar/0.43 kpsi	

[1]Product Flow not applicable when using gravity / suction feed guns.
[2]Dynamic Air Pressure at 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

Number of Coats

Spray-apply a homogeneous, wet and closed coat in order to achieve a dry film thickness of 30 – 40 µm / 1.2 – 1.6 mils.

Cleaning of Equipment

Solvent Cleaning C 28/15 or Solvent Cleaning 98068.

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 (23ºC / 73ºF, 55% RH)

Dry to touch	1 hour
Dry to tape	2 hours
Dry to step	3 hours
Maximum recoat (at standard conditions with no reactivation required)	48 hours

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If the overcoat time of 48 hours is exceeded, recondition the aged wing coating with aluminum oxide non-woven abrasive, type very fine or grade P320 sanding paper, clean and tack surface, and re-apply Aeroflex HS 113F01.

Theoretical Coverage	17 m^2 per liter base material at 30 µm dry film thickness. 705 ft^2 per US gallon base material at 1.2 mils dry film thickness.
Dry Film Weight	White and Grey 1.4 g/m^2/µm 0.0071 lbs./ft^2/mil
Volatile Organic Compounds	Maximum 420 g/l Maximum 3.5 lbs/gal
Gloss (60º)	40 – 85 GU
Color	White M8002 Grey M9004 Grey 704199 Black

Flash-point		
	Aeroflex HS 113F01	>21ºC / 70ºF
	Hardener 90121	>21ºC / 70ºF
	Activator 99330	<21ºC / 70ºF
	Activator 99322	<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 container label for specific storage life information.

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Shelf life	Aeroflex HS 113F01	24 months
5 - 35°C	Hardener 90121	24 months
(41 - 95°F)	Activator 99330	36 months
	Activator 99322	36 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.

Issue date: December 2022 (supersedes December 2021)- FOR PROFESSIONAL USE ONLY

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