FR4-45 CONDUCTIVE

Technical Data Sheet

Product Group

Surfacers

Characteristics

Product Information

Water based polyurethane bi-component surfacer for aircraft interiors.
FR4-45 Conductive shows better conductivity properties compared to standard FR4-45.
FR4-45 Conductive is intended to correct surface defects such as pinholes on composites substrates and present surface resistivity of 10^6 to 10^8 Ohms.sq.

Components

Base	FR4-45 CONDUCTIVE Base
Hardener	FR4-45 Hardener
Thinner	Water

Specifications

Qualified Product List

Airbus	AIMS 04-04-017
DIEHL	DS-M0052C

Meets the following requirements :
JAR/FAR Part 25§25.853(a)+(c/d)/Change14/Amdt 25-83

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

The substrate should be sanded with sandpaper grade suitable: P120 to P240 for Phenolic composites. It must the be cleaned with a lint free cloth soaked with an alcohol solvent such as Isopropanol.

In event of defect, the FR4-45 primer can be slightly sanded with paper grade 240 to 400, before applying the same product or a water-based to coat. The sanded surfacer must be blown dried and cleaned with a lint free cloth soaked with Isopropyl alcohol.

Instruction for Use

Spray Application (Mix Ratio)

	Weight
FR4-45 CONDUCTIVE Base	100 parts
FR4-45 Hardener	5 parts
Water	5-10 parts

MIXING PROCEDURE
Ideally, the unmixed products should be stored between 18°C and 25°C (64°F and 77°F) for 24 hours before use.

- The base must be blended under low-speed agitation (200 RPM).
- The mixture by weight is recommended.
- Mix the base and hardener until the mixture is homogeneous.
- Then add water and mix.

Note: it is recommended to sieve the diluted mixture using a 190 µm (7.5 mils) filter.

Induction Time

Not Applicable.

Initial Spraying Viscosity (20°C/68°F)

ISO 6: 30 s +/- 5 s

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1 East Water Street, Waukegan, IL 60085, USA - Phone (847) 623 4200,
Rijksstraatweg 31, 2171 AJ Sassenheim, The Netherlands - Phone (31) 71308 2905
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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 (20ºC/68ºF)	3h for 10% dilution.
Dry Film Thickness (DFT)	50 – 80 µm 2 – 3.1 mils
Wet Film Thickness (WFT)	120 – 200 µm 4.7 – 7.9 mils

Application Recommendations

Conditions	Temperature:	15 – 35 °C 59 – 95 °F
	Relative Humidity:	20 – 80 %
Conditions	FR4-45 CONDUCTIVE may be applied in conditions outside the limits shown above. However, it is recommended to be careful to ensure a satisfactory result. Please contact your local AkzoNobel Aerospace Coatings representative to determine the appropriate application techniques when environmental conditions are outside of the recommended range.	
Equipment Recommendation	Gravity spray gun - Nozzle 1.6 to 2.2 mm	
Number of Coats	Spray gun: Follow requirements above and apply the product in crossed coats, dynamic pressure 3 bar (44 psi) +/- 0.5 (7 psi) to achieve the desired thickness (approximately 2 crossed coats for 80 µm 3.1 mils dry). To get a thicker coat (>80 µm or 3.1 mils dry), let the first coat flash off 30 minutes before applying the second one (to obtain a matt appearance).	
Cleaning of Equipment	Clean the equipment with a suitable cleaning solvent such as water, then with a suitable cleaning thinner.	
Note	Spray with dry, oil-free air.	

Physical Properties

Drying Times

	23°C/73°F	60°C/140°F
Dust Free	30-40 mins	N.A.*
Dry to Handle	1hr	N.A.*
Dry to Tape	2hrs	N.A.*

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	23°C/73°F	60°C/140°F
Dry to Sand	3hrs	30 mins-1hr
Full Cure	7 days	12hrs

Note

Drying times have been determined using test pieces of thickness <2 mm.
For 50-80 µm or 2 mils to 3.1 mils dry (120 µm to 190 µm or 4.7 mils to 7.5 mils wet).
For 50 µm (2 mils), flash off 30 minutes to 1 hour at room temperature before oven curing.

N.A.* : Not applicable.

Theoretical Coverage

6 m²/kg – 360 ft²/gal for 50µm (2mils) dry (base and hardener undiluted)/ 12 m²/kg (720 ft²/kg) for 25µm (1mils) dry (base and hardener undiluted).

Dry Film Weight

1.9

Volatile Organic Compounds

30 g/ L or 0.25 lbs./gal (ISO 11890-1) and 80 g/L or 0.67 lbs./gal (ASTM D 3960).

Gloss

Matt

Color

Dark and light grey colors

Flash Point

FR4-45 CONDUCTIVE Base	>100°C (212°F)
FR4-45 Hardener	>60°C (140°F)
Water	N.A.

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 the container label for specific storage life information.

Shelf life 5 - 35°C (41 - 95°F)

FR4-45 CONDUCTIVE Base	12 months
FR4-45 Hardener	12 months
Water	N.A.

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: May 2025 (supersedes December 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

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