

454-4-1 / 454-4-5

Integral Fuel Tank Coating

Technical Data Sheet

Product Group

Fuel tank coating

Characteristics



Product
Information

- Chemically cured two component epoxy coating
- Provides protection from various chemicals, hydraulic fluids, aviation fuels, phosphate ester (Skydrol®) fluids, and corrosion causing media for aircraft fuel tanks.
- Compliant to VOC requirements for SCAQMD Rule 1124
- 454-4-5 is specifically designed for electrostatic spray.

Components



Curing Solution
Thinner

Curing Solution CA-109
Curing Solution X-395
Thinner TL-52

Specifications



Qualified
Product List

Avic Aviation	AMMS2512
Boeing	BMS 10-20 Type II, Class A, Gr A
Boeing	BMS 10-20 Type II, Class B, Gr A
Cessna	CMFS029, TY I
Comac	CMS-CT-221, TY I CL 1, GRA
Bombardier / Lear	LES 1079, 4.1.1, 4.1.4
Eclipse Aviation	Eclipse Aviation
LearJet	LES 1079
MHI	MM1259, Grade A (454-4-1)
Textron	TM 3403, Type I, Class C

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.
- Alodine 1200 (per MIL-C-5441) or chromic acid anodized (per BAC 5019). See Section 8.2 of BMS 10-20.

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Instruction for Use



Mixing Ratio
(volume)

Conventional:

3 parts Base 454-4-1
1 part Curing Solution CA-109
0 - 0.25 part Thinner TL-52 (optional)

Electrostatic:

3 parts Base 454-4-5
1 part Curing Solution X-395

- Stir or shake base till all pigment is uniformly dispersed before adding curing solution
- Stir the catalyzed mixture thoroughly
- Thinner is not normally required.



Induction Time

60 minutes*

* Induction can vary by process specification used (please refer to process specification you are following for required induction).



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

10 – 40 seconds ISO Cup # 4
10 – 20 seconds Signature Zahn Cup # 2
10 – 20 seconds Ford Cup # 4

The uses of Signature Zahn Cups for viscosity are requirements of the referenced specifications, and the ISO Cup measurement is provided only as a reference for field application. They are not provided as quality control values.



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)

8 hours.



Dry Film
Thickness
(DFT)

8 – 20 microns (μm)
0.3 – 0.8 mils

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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

Conventional Air 1.4 mm (.055 inch) nozzle orifice
Air assist airless .28 mm (.011 inch) nozzle - 60° angle
Electrostatic .33 mm (.013 inch) nozzle - 80° angle



Number of
Coats

Spray a single wet coat.



Cleaning of
Equipment

Use TR-36 or MEK

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Physical Properties



Drying Times
(25 +/- 2°C / 77
+/- 2°F, 55 +/-
5% RH)

Dust-free at RT	30 minutes maximum
Tack-free at RT	3 hours maximum
Dry Hard at RT	12 hours maximum
Force cure (recommended)	30 minutes ambient flash, followed by 1 hour at 71°C/160°F.



Theoretical
Coverage

454-4-1 Admixed (unreduced):
8.9 m²/liter ready to apply at 25.4 µm dry film thickness
363 ft²/US gallon ready to apply at 1 mil dry film thickness

454-4-5 Admixed (unreduced):
8.9 m²/liter ready to apply at 25.4 µm dry film thickness
363 ft²/US gallon ready to apply at 1 mil dry film thickness



Dry Film Weight

454-4-1 Admixed:
43.59 g/m² at 25.4 microns
.0089 lbs/ft² at 1 mil

454-4-5 Admixed:
43.72 g/m² at 25.4 microns
.0090 lbs/ft² at 1 mil



Volatile Organic
Compounds

454-4-1:
Max. 652 g/l (5.4 lbs/gal) with no thinner per ASTM D3960.
Max. 663 g/l (5.5 lbs/gal) with 0.25 parts TL-52

454-4-5:
Max. 672 g/l (5.6 lbs/gal) with no thinner per ASTM D3960



Gloss (60°)

10 maximum GU

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Color

Yellow



Flash-point

454-4-1	-5°C / 23°F
454-4-5	7°C / 45°F
CA-109	-5°C / 23°F
X-395	7°C / 45°F
TL-52	-4°C / 25°F



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 454-4-1, 454-4-5, CA-109, and X-395. 24 months for TL-52. 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.

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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.

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