

## FE103 Flexible Polyurethane Topcoat Matt

### Product Description

FE103 is a two pack flexible polyurethane matt topcoat, designed for use as external protection for aircraft.

- Excellent durability and adhesion characteristics
- Resistance to aircraft fluids including phosphate ester hydraulic oils
- Good flexibility
- Also available in military grades - separate TDS available on request

### Components



#### **Mix Ratio (by volume)**

- Base: FE103 2 parts
- Activator: ACT85 1 part
- Thinner: T609 (large scale) to viscosity  
or
- Thinner: T115 (detail & repair) to viscosity

### Specifications



FE103 is qualified to:

- BS2X34B
- MM0114 (specific colours only)

*Note: PPG Aerospace recommends you check the most recent specification QPLs for updated information.*

#### **Product Compatibility**

FE103 is compatible with the following primer specification:

- BS2X33

### Surface Preparation and Pretreatment



Ensure surface is clean, dry and intact using a high performance solvent cleaner - DeSoto® CN20 or Desoclean™ 45 solvent cleaner are recommended. Observe recommended overcoating windows.

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## Instructions for Use



Stir or shake the base material to ensure adequate dispersion. Add activator to base component and stir thoroughly. Add required thinner to viscosity. To ensure a workable pot life for large scale aircraft applications, a minimum of half volume of thinner(s) should be added. Always re-stir after standing, before and during use.

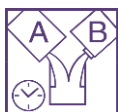
*Note: All products and components should be placed in ambient conditions of 15-30°C (59-86°F) for at least 24 hours prior to mixing and application.*



**Viscosity:** ( 23°C/73°F)

- |          |                 |
|----------|-----------------|
| • AFNOR4 | 15 - 16 seconds |
| • BSB3   | 28 - 30 seconds |
| • FORD4  | 14 - 15 seconds |
| • ISO3   | 44 - 50 seconds |
| • ZAHN2  | 17 - 20 seconds |

*Note: Viscosities quoted are typical ranges obtained when using specified mix ratio.*



**Pot Life:**

Maximum 8 hours @ 21 - 25°C (70 - 77°F)

## Application Guidelines

### **Recommended Application Conditions:**

Temperature	15 - 30°C (59 - 86°F)
Relative Humidity	30 - 80%

### **Application:**

Apply one wet even double track coat to achieve recommended dry film thickness of 35-45µm. When applying camouflage colours or disruptive patterns, two or more colours may be applied at the same time, spraying simultaneously to overlap at a wet edge in order to obtain a smooth surface at the demarcation. Always use the darkest colour on the overlap, cut in the camouflage pattern.

Avoid heavy application on the overlap as this can increase the gloss levels outside specification requirements. Do not try to define the pattern too tightly, normal allowance for overspray is approximately 10 cm.



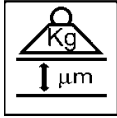
**Theoretical Coverage:** (mixed unthinned)

10 m<sup>2</sup>/Lt @ 40 µm dry film thickness  
400 ft<sup>2</sup>/US gal @ 1.6 mil dry film thickness

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## Recommended Dry Film Thickness:

35-45  $\mu\text{m}$   
1.4-1.8 mil



## Dry Film Density:

1.72 g/cm<sup>3</sup>  
14.4 lbs/US gal

## Dry Film Weight:

69 g/m<sup>2</sup> @ 40  $\mu\text{m}$  dry film thickness  
0.014 lbs/ft<sup>2</sup> @ 1.6 mil dry film thickness

*Note: These application guidelines represent PPG's best advice for usage in standard conditions. Some parameters will be influenced by environmental conditions, equipment settings, and other variables.*

**Equipment:** FE103 is compatible with all current forms of spray equipment.



Equipment Type	Tip Size	Pressure
Airmix	9 to 11 thou	725 to 870 psi (50 to 60 bar)
HVLP Air Spray	1.2 mm	22 to 29 psi (1.5 to 2 bar)
Conventional	1.5 mm	43 to 58 psi (3 to 4 bar)
Airless	9 to 11 thou	58 to 87 psi (4 to 6 bar)
Air-assisted Airless	609 to 611	725 to 870 psi (50 to 60 bar)
Low Pressure Electrostatic	1.2 to 1.5 mm	72 to 87 psi (5 to 6 bar)

## Equipment Cleaning:

Clean spray equipment before use and as soon as possible after use. DeSoto<sup>®</sup> CN20 or Desoclean<sup>™</sup> 45 solvent cleaners are recommended.

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## Physical Properties

**Colour:**

Wide colour range available

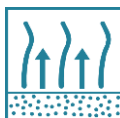
**Gloss:**

≤ 5 units with a 60° gloss meter



<b>DRYING TIMES @ 50% RH</b>	<b>23°C (73°F)</b>	<b>70°C (158°F)</b>
Dry to Mask	8 hours	30 minutes
Recoatable	2 - 72 hours	
Dry to Fly	48 hours	
Full Cure	7 days	3 hours

*Note: Drying times listed above are dependent upon film thickness applied, air flow conditions and application technique.*

**Flash Off Time:**

30 minutes before force dry

**VOC: (ASTM)**

Mixed ready for use	≤ 650 g/Lt
FE103 Base Component	535 g/Lt
ACT85 Activator	610 g/Lt
T115 Thinner	870 g/Lt
T609 Thinner	880 g/Lt

**Flash Point:**

FE103 Base Component	-18°C (0°F)
ACT85 Activator	23°C (73°F)
T115 Thinner	-4°C (25°F)
T609 Thinner	-5°C (23°F)

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## Shelf Life:

FE103 Base Component	24 months in original unopened container
ACT85 Activator	24 months in original unopened container
T115 Thinner	10 years in original unopened container
T609 Thinner	10 years in original unopened container

*Note: Shelf life may vary due to OEM specification requirements. Refer to container label for specific shelf life information.*

*Note: The application and performance property values are typical for the material, but not intended for use in specifications or for acceptance inspection criteria because of variations in testing methods, conditions and configurations.*

## Storage Recommendations



Inspect the condition of the container to ensure compliance. The material should be stored at temperatures between 5°C to 35°C (41°F to 95°F) to ensure shelf life.

*Note: When procuring to a qualified material specification, follow those storage instructions.*

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## Health Precautions

This product is safe to use and apply when recommended precautions are followed. Before using this product, read and understand the Safety Data Sheet (SDS), which provides information on health, physical and environmental hazards, handling precautions and first aid recommendations. An SDS is available on request. Avoid overexposure. Obtain medical care in case of extreme overexposure.

**For industrial use only. Keep away from children.**

**Additional information can be found at: [www.ppgaerospace.com](http://www.ppgaerospace.com)**

**For sales and ordering information call the local PPG office at the numbers listed below:**

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### **Americas**

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PPG Aerospace  
Sealants and Coatings  
Darlington Road  
Shildon, Co Durham UK  
DL4 2QP

[www.ppgaerospace.com](http://www.ppgaerospace.com)

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