FR89 Low VOC Epoxy Filler

TECHNICAL DATA SHEET

Product Description

FR89 is a two pack, pigmented low VOC epoxy filler designed as a ground coat to enhance the appearance of either epoxy or polyurethane topcoats used on the external structure of aircraft.

- Chemical resistant
- Sandable
- Direct adhesion to composites
- Meets requirement of Def Stan 00-80

Components

Mix Ratio (by volume)

- FR89 (Base) 3 parts
- ACT205 (Activator) 1 part

Specifications

FR89 is qualified to:

- Def Stan 80-216

Product Compatibility

FR89 is compatible with the following primer/topcoat specifications:

- BS2X33A+B
- BS2X34A+B
- Def Stan 80-161

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

Surface Preparation and Pretreatment

Ensure surface is clean, dry and intact, using a high performance cleaner - DeSoto® CN20 or Desoclean™ 45 solvent cleaners are recommended.
FR89 Low VOC Epoxy Filler

Instructions for Use

Thoroughly stir base to ensure all components are adequately dispersed. Add activator while stirring.

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.

Induction Time:
Not required

Viscosity: (23°C/73°F)
- AFNOR4 19 - 28 seconds
- BSB3 35 - 55 seconds
- FORD4 17 - 24 seconds
- ISO4 34 - 53 seconds
- ZAHN2 22 - 34 seconds

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

Pot Life:
3 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 1-2 double track coats to achieve the recommended dry film thickness of 30-40µm

Theoretical Coverage: (ready for use)
16 m²/Lt @ 35 µm dry film thickness
640 ft²/US gal @ 1.4 mil dry film thickness

Recommended Dry Film Thickness:
30-40 µm
1.2-1.6 mil
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Dry Film Density:
1.87 g/cm³
15.6 lbs/US gal

Dry Film Weight:
66 g/m² @ 35 μm dry film thickness
0.013 lbs/ft² @ 1.4 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: FR89 is compatible with all current types of spray equipment.

<table>
<thead>
<tr>
<th>Equipment Type</th>
<th>Tip Size</th>
<th>Material Pressure</th>
<th>Pot Pressure</th>
<th>Atomisation Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Airmix</td>
<td>609 to 611</td>
<td>29 to 44 psi</td>
<td>43 to 58 psi</td>
<td>43 to 58 psi (2 to 3 bar)</td>
</tr>
<tr>
<td>HVLP Airspray</td>
<td>1.4 to 1.8</td>
<td>29 psi</td>
<td>29 psi</td>
<td>29 psi (2 bar)</td>
</tr>
<tr>
<td>Pressure Pot</td>
<td>1.0 to 1.2</td>
<td>10 psi (0.7 bar)</td>
<td>29 psi</td>
<td>29 psi (2 bar)</td>
</tr>
<tr>
<td>Airless</td>
<td>609 to 611</td>
<td>29 to 44 psi</td>
<td>29 to 44 psi</td>
<td>29 to 44 psi (2 to 3 bar)</td>
</tr>
<tr>
<td>Air Assisted Electro</td>
<td>609 to 611</td>
<td>44 psi (3 bar)</td>
<td>58 to 73 psi</td>
<td>58 to 73 psi (4 to 5 bar)</td>
</tr>
<tr>
<td>Low Pressure Electro</td>
<td>1.0 to 1.2</td>
<td>15 to 29 psi (1 to 2 bar)</td>
<td>44 to 73 psi (4 to 5 bar)</td>
<td></td>
</tr>
</tbody>
</table>

Physical Properties

Colour: White

Gloss:
≤ 25 units with a 60° gloss meter
FR89 Low VOC Epoxy Filler

<table>
<thead>
<tr>
<th>Drying Times @ 50 % R.H.</th>
<th>23°C (73°F)</th>
<th>70°C (158°F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dry to Sand</td>
<td>8 hours</td>
<td></td>
</tr>
<tr>
<td>Hard Dry</td>
<td>6 hours</td>
<td>1 hours</td>
</tr>
<tr>
<td>Dry to Overcoat (without sanding)</td>
<td>8 to 48 hours</td>
<td></td>
</tr>
<tr>
<td>Full Cure</td>
<td>7 days</td>
<td>3 hours</td>
</tr>
</tbody>
</table>

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

Flash Off Time:
N/A

VOC: (ASTM)
Mixed ready for use: 365 g/Lt
FR89 Base Component: 380 g/Lt
ACT205 Activator: 330 g/Lt

Flash Point:
FR89 Base Component: -11°C (12°F)
ACT205 Activator: 23°C (73°F)

Shelf Life:
FR89 Base Component: 24 months in original unopened container
ACT205 Activator: 24 months 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 above 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.
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

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

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