

Technical Data Sheet

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Description

The three-component Gentoo F-16 Primer system promotes adhesion of the hydrophobic, abrasion resistant Gentoo F-16 topcoat to polyurethane base layers. This is an easy-to-apply primer system, suitable for use with partially cured polyurethanes. Overcoat time must be determined by experimentation.

Features

1.0 % Solids
Coating thickness < 1 µm
Room temperature application
Pot life - use within 3 hour of mixing. Filter prior to use with 1.0 µm filter (maximum).

Surface Preparation

Polyurethane should be partially cured prior to use. A fully cured polyurethane system may not yield optimal binding to Gentoo F-16. Surrounding areas should be clean and dust free to prevent particulates from landing on the primed surface. Allow primer to flash for 30 minutes prior to applying Gentoo F-16.

The Gentoo F-16 Primer must be applied 60 minutes following the application of PPG Texas' C992 polyurethane coating system, where the C992 coating flashes at room temperature during this timeframe. The C992 polyurethane will be tack-free after 60 minutes. The Gentoo F-16 Primer must then flash for 30 minutes prior to the application of Gentoo F-16 topcoat.

Handling Precautions

Primer is flammable. Do not handle or use until the material Safety Data Sheets have been read and understood. Use appropriate PPE and engineering controls. Apply in a well-ventilated area. Avoid contact with skin and eyes.

Flow Coating: If engineering ventilation controls are not available or sufficient, at a minimum, wear a partial face respirator, eye protection and nitrile gloves. A paint suit / Tyvek suit is recommended. Refer to Safety Data Sheets (SDSs) before applying the Primer

Mixing

1. Mix 3-aminopropyltriethoxysilane (APTEOS) and Alkyl Silane. Dilute with Anhydrous Isopropyl Alcohol (IPA).
2. Mix Primer Components with the following weight ratio:

<u>Primer</u>	<u>Mix Ratio</u>	<u>APTEOS</u>	<u>Alkyl Silane</u>	<u>Anhydrous IPA</u>
	By Weight	0.5	0.5	99.0

Add the Anhydrous IPA first, then add the APTEOS and Alkyl Silane to the IPA.

Primer Mixture (1.71 gal/6.5 L total):

<u>Primer</u>	<u>Mix Ratio</u>	<u>APTEOS</u>	<u>Alkyl Silane</u>	<u>Anhydrous IPA</u>
	Container	25 g	25 g	4 L + 2.5 L

Gelest supplies the 25g APTEOS, Oakwood Chemical supplies the 4L & 2.5L Anhydrous IPA, and the 25g Alkyl Silane is synthesized by PPG Texas.

3. Stir the solution for approximately 15 minutes before coating application. Cover the mixture to prevent solvent loss during stirring. A magnetic stirrer is suitable for this step. Keep stirring until ready to use. Filter immediately before use (typically performed inline).
 - a. A concentrated solution of the APTEOS, Alkyl Silane and 2.5L of Anhydrous IPA can be mixed first with a magnetic stirrer in a suitable sized container. The concentrated solution can then be transferred to a larger container and slowly thinned down with the remaining 4L of Anhydrous IPA.
4. Primer solution can be transferred to the primer application tank and begin circulating. The primer must be used within 3 hours of mixing or the solution needs to be disposed of.

A primer designated tank must be used with fresh lines from the tank to applicator. Wipe the tank with IPA prior to use. Failure to keep the primer solution clean will result in poor Gentoo F-16 adhesion to the canopy.

Coating Instructions

For best results, coat target substrates within 30 minutes of starting mix time. Primer should be flow coated. Apply in a dust free environment. Allow primer to flash for 30 minutes prior to flow coating with Gentoo F-16.

Curing

No cure required.

Storage and Waste Disposal

Store all primer components under nitrogen or argon due to moisture sensitivity. The expected shelf life of APTEOS and alkyl silane is 6-12 months from the date of production when stored unopened in the original containers at room temperature. The pot life of the mixed primer is estimated to be 3 hours, with optimal use within 1 hour.

Recommended long-term storage temperature of the Alkyl Silane is refrigerated (<40°F). APTEOS recommended storage temperature is 72°F, but refrigerated storage is also acceptable.

Clean Up

Use Isopropanol to clean up residual material and flush lines.

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