DuPont™ Teflon®

Industrial Coatings

Teflon® Primer for Powder Coatings 420-703

Description

Teflon® 420-703 solvent-based primer offers superior intercoat adhesion with PFA and FEP powders. This primer is *not* recommended as a one coat. Refer to **Table 1** for physical property data.

FDA Status

Teflon® 420-703 complies with FDA regulations in 21 CFR governing components of coatings for direct food contact when applied according to Fact Sheet instructions. Topcoats must also comply for the system to be FDA conforming.

Table 1
***Teflon*® Primer for Powder Coatings**
Typical Properties

	420-703
Color	Black
Weight Solids, %	30.6
Volume Solids, %	17.9
Density, lb/gal	9.5
kg/L	1.14
Coverage, m^2/L*	7.1
ft^2/gal*	287
Viscosity, cP	800–1600
Maximum Use Temperature	**

Note: These figures are averages and may vary.

*Theoretical coverage at 25 µm (1 mil) assuming 100% spray efficiency.

** Dependent upon Topcoat. Refer to Fact Sheet on Topcoat.

Substrates

Teflon® 420-703 primer can be used on carbon steel, stainless steel, and aluminum substrates. Substrates must be free of contamination and thoroughly cleaned. To obtain maximum adhesion, grit-blasting is recommended to a profile of 4–8 µm (0.2–0.3 mil). The primer should be applied immediately after blasting on carbon steel to minimize flash rusting. Refer to the Fact Sheet on Application.

Topcoats

Teflon® 420-703 is the recommended primer for 532-5nnn, 532-7nnn, 532-8nnn, 856-Line and 857-210.

Application

1. Bring material to room temperature.
2. Mix thoroughly and filter the material through a 100-mesh stainless steel screen (0.146 mm openings).
3. The primer is supplied ready to spray. If further reduction is required TN-8595, a 50:50 mixture of NMP:MIBK, may be used up to 1–2% by volume.

   Use conventional industrial spray equipment.
4. Apply at dry film thickness of 10–15 µm (0.4–0.6 mil). On carbon steel, cover blast profile for best results.

Bake

As primer for powder topcoats:

1. Spray powder directly onto wet primer, *or* force dry then apply powder topcoats.
2. Bake as recommended by the Fact Sheet on Topcoat. **Note:** Optimum adhesion with PFA powder requires an initial bake of 400°C (750°F) metal temperature.

As primer for liquid topcoats:

1. Force dry at 220°C (430°F) for 10 min.

2. Apply topcoat and bake as recommended by the Fact Sheet on Topcoat. No problems are encountered if the *primer* is sprayed onto warm (40–60°C [100–140°F]) metal.

Storage and Stability

Teflon® 420-703 has a shelf life of at least 18 months when stored at normal room temperature, 18–24°C (65–75°F).

Safety

Follow normal industrial safety practices for handling and applying *Teflon*® products. Industrial experience has clearly shown *Teflon*® materials can be processed and used at elevated temperatures without hazard providing adequate ventilation is used. Ventilation should be available at baking temperatures of 275°C (525°F) and above. Before using *Teflon*®, read the Material Safety Data Sheet (MSDS) and the detailed information in the "Guide to the Safe Handling of Fluoropolymer Resins," latest edition, published by the Fluoropolymers Division of The Society of the Plastics Industry.

When grit-blasting *Teflon*® finishes off aluminum or magnesium surfaces, the possibility of explosion exists if the fines are allowed to heat up. Good housekeeping practices, keeping the residue wet, and keeping the ventilation and dust collection systems in good working order reduces this risk.

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