



# Teflon<sup>®</sup>

Nonstick & Industrial Coatings

## 851-214, 851-221, 851-224, and 851-255 Teflon<sup>®</sup> PTFE Topcoats

### Description

These Teflon<sup>®</sup> PTFE topcoats are used in industrial topcoat finishes for dry lubrication, nonstick, and high-temperature resistance.

### FDA Status

The 851-line of Teflon<sup>®</sup> PTFE topcoats does not comply with FDA regulations governing components of coatings for direct food contact.

### Application

Bring coating to room temperature, roll or agitate gently, but thoroughly. Do not mix with a propeller-type mixer because the material is shear sensitive.

Strain through muslin or 100-mesh stainless steel screen.

Use conventional industrial spray equipment.

See "Applying Teflon<sup>®</sup> Coatings" fact sheet.

### Surface Preparation

Apply primer over clean and roughened surface. See primer fact sheets for application parameters.

### Film Thickness

851-214: 13–38  $\mu\text{m}$  (0.5–1.5 mil) DFT per coat to a maximum of 76  $\mu\text{m}$  (3 mil)

### High-build topcoats:

851-221, 851-224, 851-255: 2.0–76  $\mu\text{m}$  (0.8–3.0 mil) DFT per coat to a maximum of 205  $\mu\text{m}$  (8 mil)

### Bake

All temperatures refer to metal temperature.

#### Single Topcoat

30 min. at 385°C (725°F)

5 min. at 427°C (800°F)

#### Multiple Coats

Use high-build products 851-221, 851-224, 851-255 to apply films thicker than 51–76  $\mu\text{m}$  (2–3 mil) .

Preheating the piece at 49–60°C (120–140°F) will help dry the film before baking to prevent popping or cracking.

Bake each intermediate coat at 316°C (600°F) for 5–10 min. Cool. Repeat until desired film build is reached.

Bake the last coat at 399°C (750°F) for 15 min.

### Repair

Wear a respirator at all times.

Roughen surface with #400–#600 sandpaper.

Clean surface thoroughly with xylene or alcohol; allow to dry completely.

Preheat piece to 49–60°C (120–140°F)

Apply 5–8  $\mu\text{m}$  (0.2–0.3 mil) using dry spray technique (high atomizing pressure, greater than normal gun distance from the piece).

Air dry, then bake at 400°C (750°F) 3–5 min.

**Table 1**  
**Typical Properties**

Product Code	High Build			
	851-214	851-221	851-224	851-255
Color	Green	Gray	Green	Black
% Weight Solids	42.4	47.8	44.7	43.7
% Volume Solids	23.2	27.8	26.1	27.1
Coverage, ft <sup>2</sup> /gal* (m <sup>2</sup> /L)*	372 9.1	445 10.9	419 10.3	435 10.6
Viscosity, cP	300–500	300–500	300–500	300–500
Maximum Continuous Use Temperature, °C (°F)	260 (500)	260 (500)	260 (500)	260 (500)

\*Theoretical coverage at 25  $\mu\text{m}$  (1 mil) assuming 100% spray efficiency. These figures are averages and may vary.

Teflon<sup>®</sup> is a registered trademark of DuPont.

Use of DuPont trademarks subject to License Agreement and qualification.

## Storage and Stability

Shelf life is approximately 18 months at room temperature (18°–24°C [65°–75°F]).

Do not allow product to freeze.

Material may be exposed briefly to temperatures outside the suggested temperature range without harm. In such cases, check product properties before extensive use.

## 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 house-keeping practices, keeping the residue wet, and keeping the ventilation and dust collection systems in good working order reduces this risk.

---

## For more information on *Teflon*® coatings:

DuPont  
*Teflon*® Nonstick & Industrial Coatings  
Chestnut Run Plaza  
P.O. Box 80702  
Wilmington, DE 19880-0702

**(800) 441-7515**  
**Fax: (302) 366-8602**

---

### Europe

DuPont de Nemours (Belgium)  
A. Spinostraat 6  
B-2800 Mechelen  
Belgium  
Tel.: 33-15-441188  
Fax: 33-15-441160

### Pacific

DuPont Australia, Ltd.  
254 Canterbury Road  
Bayswater, Victoria 3153  
Australia  
Tel.: 61-3-9721-5617  
Fax: 61-3-9721-5690

### Japan

DuPont K. K. (*Teflon*® Finishes)  
4th Floor, Chiyoda Honsha Building  
5-18 Sarugaku-cho, 1-chome  
Chiyoda-ku, Tokyo, 101 Japan  
Tel.: 81-3-5281-5888  
Fax: 81-3-5281-5899

---

### Asia

DuPont China, Ltd.  
Room 1122,  
New World Office Building  
(East Wing)  
Salisbury Road  
Kowloon, Hong Kong  
Tel.: 852-2734-5459  
Fax: 852-2368-3512

DuPont Korea  
4/5th Floor Asia Tower  
#726 Yeoksam-dong,  
Kangnam-ku  
Seoul, Korea  
Tel.: 82-2-2222-5385  
Fax: 82-2-2222-5478

---

The information set forth herein is furnished free of charge and is based on technical data that DuPont believes to be reliable. It is intended for use by persons having technical skill, at their own discretion and risk. The handling precaution information contained herein is given with the understanding that those using it will satisfy themselves that their particular conditions of use present no health or safety hazards. Because conditions of product use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information. As with any material, evaluation of any compound under end-use conditions prior to specification is essential. Nothing herein is to be taken as a license to operate under or a recommendation to infringe any patents.

**CAUTION:** Do not use in medical applications involving permanent implantation in the human body. For other medical applications, see "DuPont Medical Caution Statement," H-50102.



**Teflon**®  
Only by DuPont