

# DuPont™ 532-1003 Powder Black One Coat / Primer

## Industrial Nonstick Coatings

### Product Information

DuPont™ 532-1003 Powder Coating, Flat Black, is a unique blend of fluoropolymers and other resins such that each individual particle contains the proper blend of ingredients.

532-1003 has superior toughness, coupled with properties from our tough liquid coatings: excellent corrosion resistance and good dry lubrication properties. A major advantage of the powder form is that it has no VOC emissions.

### Property Data

Product Code	532-1003
<b>Properties<sup>1</sup></b>	
Color	Black
Coverage, <sup>2</sup> ft <sup>2</sup> /lb, (m <sup>2</sup> /kg)	142 ( 29.1 )
Particle Size Range, μm	30 - 35
Bulk Density, g/100cc	50
Maximum In-Use Temperature, °C (°F)	Continuous: 150°C (300°F) Intermittent: 177°C (350°F)
Food Contact <sup>4</sup>	No

<sup>1</sup> Physical constants are averages only and are not to be used as product specifications. They may vary up to 5% of the values shown

<sup>2</sup> Theoretical coverage at dry film thickness (DFT) of 1.0 mils (25μ) based on 100% application efficiency. It does not take normal production losses into account

<sup>3</sup> Brookfield RVT (Measured with spindle 2 at 20 RPM/25 °C)

<sup>4</sup> See Food Contact section



*The miracles of science™*

## Application Method

Coating Preparation and Application	<p>Screen powder through 60 mesh screen before use.</p> <p>Use conventional industrial electrostatic powder spray equipment with a voltage between 60-80 KV, or enough to maintain particle charge yet prevent excess film builds. Excessive powder builds may lead to blistering or yield rough films after baking. 532-1003 fluidizes easily and flows smoothly.</p> <p>532-1003 was not designed for fluidized bed application. However, for a specific kind of part, and with some experimentation, fluidized bed can be a viable technique. Preheat part to 260-300°F (127-150°C). Higher temperatures will result in rough films.</p> <p>"Hot flocking" can also be used to apply 532-1003, as long as the part to be coated is sufficiently massive to hold heat. Use of same preheat temperatures as above. Use adequate ventilation.</p>
Surface Preparation	<p>Apply over clean surface. Any residual oil on the surface can adversely affect adhesion. No primer is needed. Grit blasting will improve adhesion. Zinc phosphate pre-treatment of ferrous substrates will substantially improve corrosion resistance.</p>
Film Thickness	<p>Film builds per coat depend on equipment and application procedures. Under normal electrostatic spray application conditions the average film thickness range is 0.8-1.5 mils (20-38 microns). Greater than 2 mils per coat increases the likelihood of pinholes in the coating, which are visible under magnification. 532-1003 can be re-coated. Heavier film builds can be obtained in multiple coats.</p>
Cure	<p>All bake schedules refer to time at metal temperature. Too high or too low bake temperature/time results in significant change in surface profile, gloss and solvent rub (100 double strokes with MEK).</p>
One Coat	<p>The recommended bake for this product is 10 minutes at 400°F (204°C). At 400°F (204°C), the binder is crosslinked. Do not exceed 550°F (288°C) bake temperature or film decomposition begins.</p> <p>Staged baking at 300°F (150°C) for 10 minutes then 400°F (204°C) for 10 minutes has been shown to improve smoothness.</p> <p>To repair surface imperfections due to contamination or blistering, use sandpaper to smooth out the imperfection and touch up with a spray of 532-1003 powder. Bake 10 minutes at 400°F (260°C).</p>

All recommendations are based upon best knowledge.

## Handling and Storage

- Teflon® coatings may be stored at normal room temperature 65°–75°F (18°–24°C).
- Seal package to avoid excessive humidity or contamination.
- Storage life is 18 months
- Follow normal industrial safety practices for handling and applying powder coatings. For normal operations, a filter mask capable of excluding 0.3 micron particulates should be used
- For medical application and development, please consult DuPont.

For detailed information on health and safety, refer to the Material Safety Data Sheet and the latest edition of “The Guide to the Safe Handling of Fluoropolymer Resins,” published by The Society of the Plastics Industry, Inc. ([www.fluoropolymers.org](http://www.fluoropolymers.org)) or by PlasticsEurope ([www.plasticseurope.org](http://www.plasticseurope.org)).

## Food Contact

532-1003 does not comply with FDA regulations in 21 CFR governing components of coatings for direct food contact.

## Disposal and Other Considerations

**Please follow these disposal guidelines as outlined in “The Guide to the Safe Handling of Fluoropolymer Resins,” (available at [www.fluoropolymers.org](http://www.fluoropolymers.org) for download):**

- All treatment, storage, transportation, and disposal of this product and/or container must be in accordance with applicable national and local regulations.
- Do not discharge aqueous dispersions to lakes, streams or waterways.

- Separate solids from liquid by precipitation and decanting or filtering. Dispose of dry solids in a landfill that is permit–ted, licensed or registered to manage industrial solid waste. Discharge liquid filtrate to a wastewater treatment system.
- Incinerate only if incinerator operates at 800 °C or higher and is capable of scrubbing out hydrogen fluoride and other acidic combustion products.
- Industrial fluoropolymer waste containing additives such as solvents, primers or thinners must be regarded as special waste. Companies should contact their local waste disposal authorities for details of the relevant waste disposal regulations.
- Empty containers should preferably be cleaned and recycled. If this is not possible, the containers should be punctured or otherwise destroyed before disposal



**For additional information**

[info@ecs-ww.com](mailto:info@ecs-ww.com)

PHONE: 816.381.9900  
TOLL FREE: 844.379.3688

Copyright© 2012 DuPont or its affiliates. All rights reserved. The DuPont Oval Logo, DuPont™, The miracles of science™, and Teflon® are registered trademarks or trademarks of E.I. duPont de Nemours and Company or its affiliates. K-25838 (05/12)

Teflon® is a registered trademark of E.I. du Pont de Nemours, only available under license and subject to qualification.

NO PART OF THIS MATERIAL MAY BE REPRODUCED, STORED IN A RETRIEVAL SYSTEM OR TRANSMITTED IN ANY FORM OR BY ANY MEANS ELECTRONIC, MECHANICAL, PHOTOCOPYING, RECORDING OR OTHERWISE WITHOUT THE PRIOR WRITTEN PERMISSION OF DUPONT.

All technical advice, recommendations and services are rendered by Seller free of charge. They are based on technical data which the Seller believes to be reliable, and are intended for use by persons having skill and know-how, at their own discretion and risk. Seller assumes no responsibility for results obtained or damages incurred from their use by Buyer in whole or in part. Such recommendations and technical advice or services are not to be taken as a license to operate under or intended to suggest infringement of any existing patent. All coverage figures are based on 100% application efficiency. These calculations do not take into account normal losses due to production conditions.

CAUTION: Do not use DuPont materials in medical applications involving implantation in the human body or contact with internal body fluids or tissues unless the material has been provided from DuPont under a written contract that is consistent with DuPont policy regarding medical applications and expressly acknowledges the contemplated use. For further information, please contact your DuPont representative. You may also download a copy of the DuPont POLICY Regarding Medical Applications H-50103 and DuPont CAUTION Regarding Medical Applications H-50102 at [www.teflon.com/industrial](http://www.teflon.com/industrial).



*The miracles of science™*