

# DuPont 5402S

PLATABLE C2 EDGE TERMINATION FOR CHIP RESISTOR APPLICATIONS

## Technical Data Sheet

### Product Description

Especially developed for chip resistor applications, DuPont 5402S is a platable silver C2 edge termination that meets the needs of low cost and high performance.

### Product Benefits

- Low temperature firing
- Excellent dipping performance
- Excellent cosmetics
- Excellent post-plating adhesion
- High acid resistance
- Cadmium free\*

\*Cadmium "free" as used herein means that this is not intentionally added to the referenced product. Trace amounts however may be present.

### Processing

#### Substrates

Reported properties are based on tests with 96% alumina substrates. Substrates of other compositions may yield variations in performance properties.

#### Dipping

Paste rheology of DuPont 5402S has been optimized for dipping of the chip resistor edges after the alumina substrate has been broken into strip form. While thinning is not normally recommended, DuPont 9245 thinner may be used for minor adjustments.

#### Drying

After dipping, parts should be allowed to level at room temperature for 5-10 minutes and then dried at 150°C for 10 minutes.

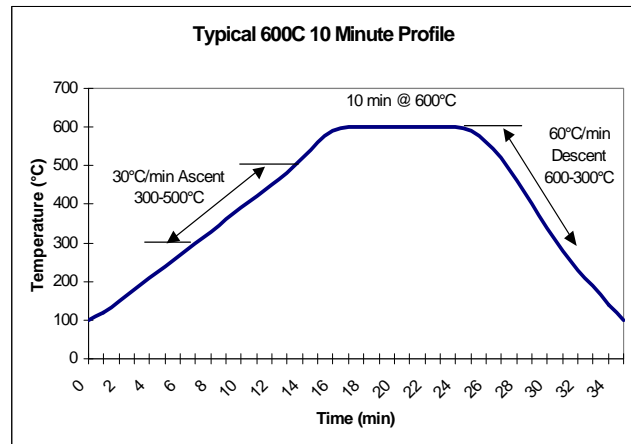
### Composition Properties

Test	Properties
Solids (%)	70.0 - 72.0
Viscosity (Pa.S) (Brookfield RVT, UC&S, 10 rpm)	38 - 48
Thinner	DuPont 9245

This table shows anticipated typical physical properties for DuPont 5402S based on specific controlled experiments in our labs and are not intended to represent the product specifications, details of which are available upon request.

### Firing

Fire to peak temperature of 600 - 620°C for 10 minutes at peak with a total firing cycle of 30 minutes. Allow adequate time (10 minutes) during heating cycle to avoid entrapment of organics in the fired film.



## Storage and Shelf Life

Containers should be stored, tightly sealed, in a clean, stable environment at room temperature (<25°C). Shelf life of material in unopened containers is six months from date of shipment. Some settling of solids may occur and compositions should be thoroughly mixed prior to use.

## Safety and Handling

For Safety and Handling information pertaining to this product, read the Material Safety Data Sheet (MSDS).

Copyright © 2009 DuPont. All rights reserved. The DuPont Oval, DuPont™, The miracles of science™, Green Tape™ and all products or words denoted with © or ™ are registered trademarks or trademarks of E. I. du Pont de Nemours and Company or its affiliates ("DuPont"). 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.

Caution: Do not use in medical applications involving implantation in the human body or contact with internal body fluids or tissue unless the product is provided by DuPont under a formal written contract consistent with the DuPont Policy Regarding Medical Applications of DuPont Materials H-50103-2 ("Medical Applications Policy") and which expressly acknowledges the contemplated use. For additional information, please request a copy of DuPont Medical Caution Statement H-50102-2 and the DuPont Medical Applications Policy.

The information provided herein is offered for the product user's consideration and examination. While the information is based on data believed to be reliable, DuPont makes no warranties, expressed or implied as to the data's accuracy or reliability and assumes no liability arising out of its use. The data shown are the result of DuPont laboratory experiments and are intended to illustrate potential product performance within a given experimental design under specific, controlled laboratory conditions. While the data provided herein falls within anticipated normal range of product properties based on such experiments, it should not be used to establish specification limits or used alone as the basis of design. It is the product user's responsibility to satisfy itself that the product is suitable for the user's intended use. Because DuPont neither controls nor can anticipate the many different end-uses and end-use and processing conditions under which this information and/or the product described herein may be used, DuPont does not guarantee the usefulness of the information or the suitability of its products in any given application. Users should conduct their own tests to determine the appropriateness of the products for their particular purpose.

The product user must decide what measures are necessary to safely use the product, either alone or in combination with other products, also taking into consideration the conditions of its facilities, processes, operations, and its environmental, health and safety compliance obligations under any applicable laws.

This information may be subject to revision as new knowledge and experience become available. This publication is not to be taken as a license to operate under, or recommendation to infringe any patent.



*The miracles of science™*

For more information on DuPont 5402S or other DuPont Microcircuit Materials products, please contact your local representative:

### Americas

DuPont Microcircuit Materials  
14 T.W. Alexander Drive  
Research Triangle Park, NC 27709  
Tel.: 800-284-3382

### Europe

Du Pont (U.K.) Limited  
Coldharbour Lane  
Bristol BS16 1QD  
U.K.  
Tel.: 44-117-931-3191

### Asia

DuPont Kabushiki Kaisha  
Sanno Park Tower, 11-1  
Nagata-cho 2-chome  
Chiyoda-ku, Tokyo 100-611  
Japan  
Tel.: 81-3-5521-8650

DuPont Taiwan Ltd  
45, Hsing-Pont Road,  
Taoyuan, Taiwan 330  
Tel.: 886-3-377-3616

DuPont China Holding Co. Ltd  
Bldg 11, 399 Keyuan Rd., Zhangji Hi-Tech Park,  
Pudong New District, Shanghai 201203, China  
Tel.: 86-21-6386-6366 ext.2202

DuPont Korea Inc.  
3~5th Floor, Asia tower #726,  
Yeoksam-dong, Gangnam-gu  
Seoul 135-719, Korea  
Tel.: 82-10-6385-5399

E. I. DuPont India Private Limited  
7th Floor, Tower C, DLF Cyber Greens,  
Sector-25A, DLF City, Phase-III,  
Gurgaon 122 002 Haryana, India  
Tel.: 91-124-4091818

Du Pont Company (Singapore) Pte Ltd  
1 HarbourFront Place, #11-01  
HarbourFront Tower One,  
Singapore 098633  
Tel.: 65-6586-3022

<http://mcm.dupont.com>