



# DUPONT 5421E

## PLATABLE TERMINATION FOR CHIP RESISTORS APPLICATIONS

### PRODUCT DESCRIPTION

Specially developed for chip resistors applications, DuPont 5421E is a platable Leadfree\*, Cadmium-free\* silver/palladium C1 termination that meets the needs of low cost, high performance and green product.

### PRODUCT BENEFITS

- Lead free\*
- Cadmium free\*
- High acid resistance
- Dense fired film
- Platable
- Fast firing, 850°C/30min profile
- Cost effective, 0.5% palladium content
- Compatible with DuPont 00X0srs resistors

\*Cadmium and lead “free” as used herein means that these are not intentionally added to the referenced product. Trace amounts however may be present.

### PROCESSING

#### Substrates

Properties are based on test using 96% alumina substrates. Substrates of other compositions and from various manufacturers may result in variations in performance properties.

#### Printing

Properties are based on DuPont 5421E printed to 18±2 µm dried thickness using 325 mesh stainless steel screen with an emulsion thickness of approximately 15µm.

#### Drying

Allow the wet print to level for 10-15 minutes at room temperature. Dry for 15 minutes at 150°C.

#### Firing

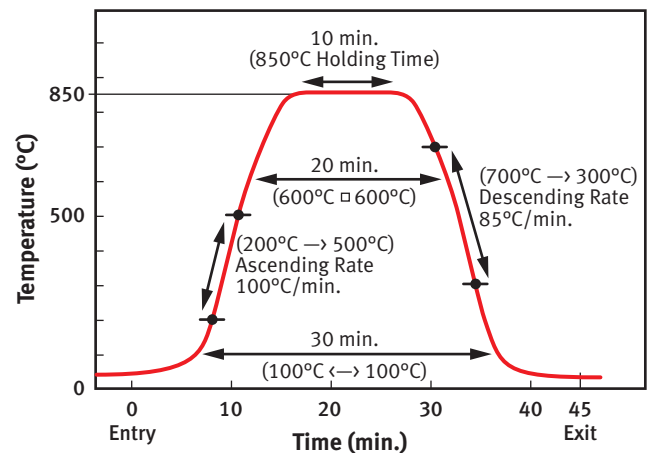
Dried prints should be fired in a belt furnace. Use a 30-minutes cycle with a peak temperature of 850°C x 10 minutes.

Table 1-Typical Fired Properties

Test	Properties
F.O.G – 4th scratch	≤20µm
F.O.G – 50% point	≤10µm
Viscosity (Pa.s) [Brookfield HBT, #14 spindle, UC&S @10 rpm, 25°C]	210 – 260
Solids (750°C ) [%]	75.6 – 77.6
Resistivity @ 12µm (mΩ/sq)	≤10
Adhesion (N)	≥18
Thinner	4553

This table shows anticipated typical physical properties for DuPont 5421E based on specific controlled experiments in our labs and are not intended to represent the product specifications, details of which are available upon request.

### DuPont Standard Profile 850°C x 10 min., 30 min.) (DuPont QA Profile)





## DUPONT 5421E PLATABLE TERMINATION FOR CHIP RESISTORS APPLICATIONS

### STORAGE

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).

### FOR MORE INFORMATION ON DUPONT 5421E OR OTHER DUPONT MICROCIRCUIT MATERIALS, PLEASE CONTACT YOUR LOCAL REPRESENTATIVE:

#### Americas

DuPont Microcircuit Materials  
14 TW Alexander Drive  
Research Triangle Park, NC 27709  
USA  
Tel +1 800 284 3382 (calls within USA)  
Tel +1 919 248 5188 (calls outside USA)

#### Europe, Middle East & Africa

Du Pont (UK) Ltd  
Coldharbour Lane  
Bristol BS16 1QD  
UK  
Tel +44 117 931 3191

#### Asia

Du Pont Kubushiki Kaisha  
MCM Technical Lab  
DuPont Electronics Center  
KSP R&D B213  
2-1, Sakado 3-chom, Takatsu-ku,  
Kawasaki-shi, Kanagawa, 213-0012  
Japan  
Tel +81 44 820 7575

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

DuPont China Holding Company Ltd  
Bldg. 11, 399 Keyuan Road  
Zhangjiang Hi-Tech Park  
Pudong New District  
Shanghai 201203  
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 +91 124 409 1818

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

[mcm.dupont.com](http://mcm.dupont.com)

Copyright © 2014 DuPont. All rights reserved. The DuPont Oval Logo, DuPont™, and all DuPont products denoted with ® or ™ are registered trademarks or trademarks of E. I. du Pont de Nemours and Company or its affiliates.

This information corresponds to our current knowledge on the subject. It is offered solely to provide possible suggestions for your own experiments. It is not intended, however, to substitute for any testing you may need to conduct to determine for yourself the suitability of our products for your particular purposes. This information may be subject to revision as new knowledge and experience becomes available. Since we cannot anticipate all variations in end-use conditions, DuPont makes no warranties, and assumes no liability in connection with any use of this information. Nothing in this publication is to be considered as a license to operate under or a recommendation to infringe any patent right.

CAUTION: Do not use in medical applications involving permanent implantation in the human body. For other medical applications, see "DuPont Medical Caution Statement," H-50102-5 K-28748 (11/14)