

DuPont 7314

SILVER CONDUCTOR: SCREEN PRINT

Technical Data Sheet

Product Description

DuPont 7314 is designed for use with titanate bodies. It is used for high frequency ceramic resonator filters and other similar components. It is particularly useful for screen printing of fine top patterns and I/O pads.

Product Benefits

- Dense fired film
- Fine line printing
- Sprint® vehicle, permitting long production runs and high squeegee speeds
- Low Resistivity
- Excellent adhesion
- Excellent solderability

Processing

Printing

DuPont 7314 prints easily using 200-325 mesh stainless steel screens with 0.4-0.5 mil emulsion, at printing speeds of 10-20 cm/sec (4 - 8 in/sec).

Drying

Allow parts to level 5 - 10 minute at room temperature, followed by drying 15 minutes at 150°C in a well ventilated oven or belt dryer.

Firing

Dried parts should be fired in a well ventilated belt or conveyor furnace. A total cycle time of 1-2 hours with 10 minutes at a peak temperature of 900°C is recommended.

Typical Physical Properties

Test	Properties
Viscosity (Pa.S) (Brookfield 2XHA, SC4-14/6R, 10 rpm, 25°C)	200-300
Solids (750°C) (%)	82.5-84.5
Fired Thickness [µm]	10-14
Thinner	DuPont 4553
Resistivity (mΩ/sq) (@12 microns)	≤ 2.2
Adhesion ¹ Initial (N) Aged 48 hr (N) @ 150°C	≥22 ≥22
Solder Acceptance (%) ² (62Sn/36Pb/2Ag)	≥90 wetting
Shrinkage (%) Dry to Fired	50
Coverage (cm ² /g) [Based on 12 microns fired film]	70
<small>¹ DuPont peel adhesion test fired at 850°C on alumina substrate. ² After 5 seconds dip in 62Sn/36Pb/2Ag solder at 220°C using mildly activated flux</small>	

This table shows anticipated typical physical properties for DuPont 7314 based on specific controlled experiments in our labs and are not intended to represent the product specifications, details of which are available upon request.

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 7314 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>