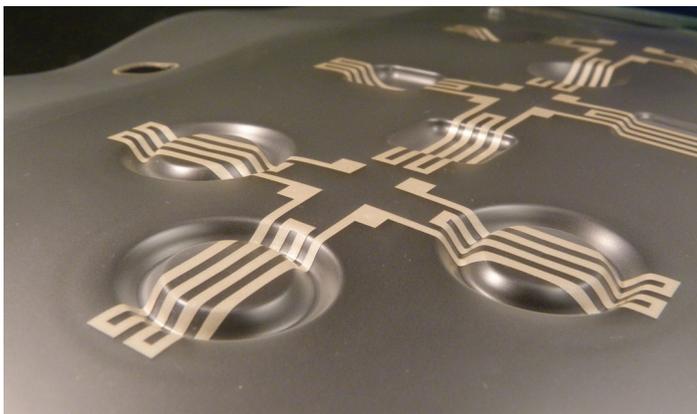


DuPont™ ME602

Silver Conductor

Product Description

DuPont™ ME602 is part of the DuPont suite of materials developed for In Mold Electronic applications. DuPont™ ME602 is a stretchable silver conductor capable of withstanding thermoforming and overmolding temperatures. This composition can be used for capacitive switch applications and interconnecting circuitry enabling fully integrated 3-dimensional functional electronic devices.



Product Benefits

- Excellent adhesion directly on polycarbonate and graphic inks
- Excellent performance after thermoforming and injection molding

Processing Conditions

Substrates

Polycarbonate, surface-treated polyester

Screen Printing Equipment

Reel-to-reel, semi-automatic or manual

Ink Residence Time on Screen

>1 Hour

Screen Types

Polyester, stainless steel

Typical Drying Conditions

Box oven: 120°C for 20 minutes

Reel-to-reel: 120°C for 4 minutes

Typical Circuit Line Thickness

8 – 12 Microns

Printed with SD 56/36 (280mesh) stainless steel or 77 – 48 PET Screen

Clean-Up Solvent

Ethylene glycol diacetate

Table 1 - Composition Properties

Test	Properties
Solids (%) @ 150°C	49.0 – 53.0
Viscosity (Pa.s) [Brookfield 0.5 x RVT, #14 Spindle 10 RPM, 25°C]	15 - 35
Thinner	DuPont™ 8260

Table 2 - Typical Physical Properties

Test	Properties
Resistivity on PC (mΩ/sq/mil)	≤45
Resistivity after Thermoforming (mΩ/sq/mil)	≤300*
Coverage (cm²/g) [using screen type 325 mesh polyester]	200
Abrasion Resistance (H) [ASTM pencil hardness]	≥H
Adhesion (B) [ASTM x-hatch, no material removal]	5

*Results can vary some depending upon the degree of elongation after thermoforming.

Tables 1 and 2 show anticipated typical physical properties for DuPont™ ME602 based on specific controlled experiments in our labs and are not intended to represent the product specifications, details of which are available upon request.

Drying

After printing, DuPont™ ME602 will interact with polycarbonate if left wet for extended periods. It is therefore recommended to dry as soon as possible after printing.

Drying is a critical processing step and in order to achieve optimum performance, sufficient temperature/time should be allowed to ensure complete removal of solvent.

Thermoforming

Thermoforming performance of DuPont™ ME602 can vary depending on the build structure, processing conditions, thermoforming technique, and equipment used. As such, parameters need to be assessed and optimized.

If more precision is needed with printed symbols and structures, high pressure forming has shown to give more accuracy as it ensures more even stretch. Forming temperatures around 160°C can be used. Stretchability >50% can be achieved.

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.

Safety and Handling

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



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For more information on DuPont™ ME602 or other DuPont products, please visit our website.

The information provided in this data sheet corresponds to our knowledge on the subject at the date of its publication. It may be subject to revision as new knowledge and experience becomes available. This information is not intended to substitute for any testing you may need to conduct to determine for yourself the suitability of our products for your particular purposes. Since we cannot anticipate all variations in end-use and disposal conditions, DuPont makes no warranties and assumes no liability in connection with any use of this information. It is intended for use by persons having technical skill, at their own discretion and risk. 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 and "DuPont Policy Regarding Medical Applications" H-50103-5.

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