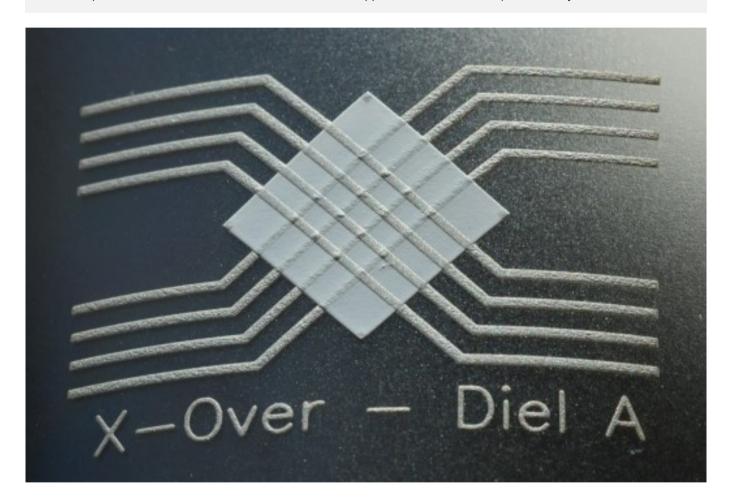


## **Electronic Inks and Pastes**

#### **Crossover Dielectric**

Micromax<sup>TM</sup> ME779 is a part of the Micromax<sup>TM</sup> suite of materials developed for In-Mold Electronic applications. Micromax<sup>TM</sup> ME779 is a solvent based crossover dielectric designed to be used in complex, stretchable multilayer circuits. It performs well in thermoformed and over-molded applications due to its unique chemistry.



## **Product benefits**

- Excellent printability with minimal pin-holing
- High dielectric insulation properties with 2-3 printed layers
- · High breakdown voltage
- High elongation with minimal/no cracking after thermoforming

Printed: 2023-09-21 Page: 1 of 5

Revised: 2023-06-26 Source: Celanese Materials Database



#### **Electronic Inks and Pastes**

#### **Product information**

[1]: 150°C

### Rheological properties

Viscosity 50 - 70<sup>[2]</sup> Pa.s

[2]: Brookfield RVT, #14 spindle, 10 rpm, 25°C

#### Application technique

 $\begin{array}{cccc} \text{Mask mesh} & 280^{[3]} \\ \text{Mask emulsion} & 30 & \mu\text{m} \\ \text{Drying time} & 20^{[4]} & \text{min} \\ \text{Drying temperature} & 120^{[4]} & ^{\circ}\text{C} \\ \text{Theoretical coverage} & 290^{[5]} & \text{cm}^2\text{/g} \\ \text{Recommended film thickness, dried} & 7 - 10^{[6]} & \mu\text{m} \\ \end{array}$ 

[3]: Screen Types: Stainless steel

[4]: box oven

[5]: at 10µm thickness, based on printing with a 280-030 (0.0012 wire diameter) stainless steel screen

[6]: per layer, recommended 2-3 layers

#### Typical mechanical properties

Adhesion, cross hatch 5B<sup>[7]</sup> class

[7]: Polycarbonate Scotch Tape #600, ASTM D3359-78.

#### Electrical properties

Dielectric Constant 18
Breakdown Voltage ≥2500 V

[8]: 1mm traces at 90 degrees with ≥25µm dielectric

#### Storage and stability

Shelf life 6<sup>[9]</sup> months

[9]: in unopened containers, from date of shipment, at temperature <25°C

#### Additional information

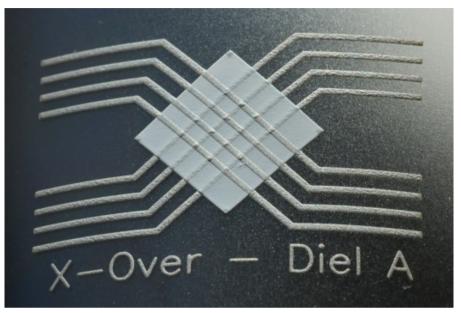
How to use

Printed: 2023-09-21 Page: 2 of 5

Revised: 2023-06-26 Source: Celanese Materials Database



## **Electronic Inks and Pastes**



### **Processing**

- Substrates
  - · Polycarbonate, surface-treated polyester
- Screen types
  - · Polyester, stainless steel
- Printing
  - Reel-to-reel, semi-automatic or manual
- Typical layer thickness
  - ∘ 7 ~ 10 µm per layer
  - Printed with a 280-030 (0.0012" wire diameter) stainless steel screen or 77- 48 (threads/cm - wire diameter) PET Screen.
- Recommended total crossover thickness
  - ∘ > 25 µm
- Work life
  - ∘ > 1 hour
- Clean-up solvent
  - Ethylene glycol diacetate
- Drying
  - ∘ Box oven : 120 °C for 20 minutes in a well-ventilated oven
  - Reel-to-reel: 120°C for 4 minutes in a well-ventilated tunnel dryer

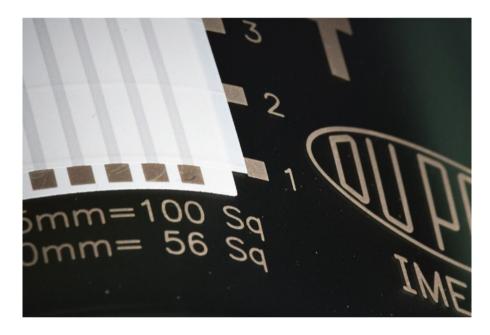
## **Properties**

Printed: 2023-09-21 Page: 3 of 5



## **Electronic Inks and Pastes**

 Information in this datasheet shows anticipated typical physical properties for Micromax™ ME779 based on specific controlled experiments in our labs and are not intended to represent the product specifications, details of which are available upon request. Coverage value based on printing with a 280-030 (0.0012" wire diameter) stainless steel screen.



#### 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 Safety Data Sheet (SDS).

Printed: 2023-09-21 Page: 4 of 5



**Electronic Inks and Pastes** 

Printed: 2023-09-21 Page: 5 of 5

Revised: 2023-06-26 Source: Celanese Materials Database

NOTICE TO USERS: Values shown are based on testing of laboratory test specimens and represent data that fall within the standard range of properties for natural material. These values alone do not represent a sufficient basis for any part design and are not intended for use in establishing maximum, minimum, or ranges of values for specification purposes. Colourants or other additives may cause significant variations in data values. Properties of moulded parts can be influenced by a wide variety of factors including, but not limited to, material selection, additives, part design, processing conditions and environmental exposure. Other than those products expressly identified as medical grade (including by MT® product designation or otherwise), Celanese's products are not intended for use in medical or dental implants. Regardless of any such product designation, any determination of the suitability of a particular material and part design for any use contemplated by the users and the manner of such use is the sole responsibility of the users, who must assure themselves that the material as subsequently processed meets the needs of their particular product or use. To the best of our knowledge, the information contained in this publication is accurate; however, we do not assume any liability whatsoever for the accuracy and completeness of such information. The information contained in this publication should not be construed as a promise or guarantee of specific properties of our products. It is the sole responsibility of the users to investigate whether any existing patents are infringed by the use of the materials mentioned in this publication. Moreover, there is a need to reduce human exposure to many materials to the lowest practical limits in view of possible adverse effects. To the extent that any hazards may have been mentioned in this publication, we neither suggest nor guarantee that such hazards are the only ones that exist. We recommend that persons intending to rely on any recommendation or to use any e

© 2023 Celanese or its affiliates. All rights reserved. Celanese®, registered C-ball design and all other trademarks identified herein with ®, TM, SM, unless otherwise noted, are trademarks of Celanese or its affiliates. Fortron is a registered trademark of Fortron Industries LLC. KEPITAL is a registered trademark of Korea Engineering Plastics Company, Ltd.