

## Technical Data Sheet

### THICK FILM MATERIALS

**Product Type:** LTCC Materials

**Product Name:** TO2002

#### Co-fireable Solder Mask for HL2000

##### Description

TO2002 is a screen printable dielectric that can be cofired with HL2000 to act as a solder mask.

TO2002 has excellent adhesion to HL2000 and is impervious to most solvents, moisture and soldering.

##### Key Benefits

- Solder mask for HL2000 tape
- Impervious to most solvents, moisture and solder

##### Typical Properties

###### Viscosity:

35 – 45 Kcps, Brookfield HBT viscometer, SC4-14 spindle with 6R utility cup at 10rpm, 25 °C

###### Insulation Resistance:

> 10<sup>11</sup> Ω at 100 V DC

###### Breakdown Voltage:

> 1,000 V DC per mil

###### Solids:

75.0 % ± 2 %

###### Colour:

Blue

##### Recommended Processing Guidelines

###### Printing:

200 – 325 mesh stainless steel screen  
0.5 – 1.0 mil emulsion

Allow wet prints to level at room temperature for 5 – 10 minutes before drying

###### Drying:

150 °C for 10 – 20 minutes

###### Burnout and Firing:

Co-fire with HL2000

Burnout and firing profile in a box oven.

Ramp at 3 °C/min to 100 °C for start of burnout

Burnout: ramp at 2 °C/min to 450°C (typically no holds are required during burnout)

Ramp at 8.0 to 10 °C/min to 865 °C

Firing peak: 865 °C for 20 to 30 minutes

Cool at 10 °C/min to room temperature

###### Thickness:

Wet: 38 – 42 µm

Fired: 18 – 22 µm

###### Thinner:

Heraeus RV-507

###### Warranty:

Material guaranteed to meet specifications for 6 months from date of shipment.

###### Storage:

Store in a dry location at 5 – 25 °C

###### DO NOT REFRIGERATE

Allow paste to come to room temperature prior to opening. Spatulate well before using, as settling may occur during storage.

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