



## ESL ELECTRO-SCIENCE

CERAMIC TAPES &  
THICK-FILM MATERIALS

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# DIELECTRIC COMPOSITION

# 4031-B

## RoHS Compliant\* Sealing Glass

ESL 4031-B glass paste is designed for low temperature sealing of ceramic (alumina) substrates. When properly fired, ESL 4031-B produces transparent seals that can be used in a variety of packaging and hermetic sealing applications.

### PASTE DATA

**RHEOLOGY:** Thixotropic, screen printable paste

**VISCOSITY:**

(Brookfield RVT, ABZ spindle, 10 RPM, 25°C – 26°C) 225±50Pa•s

**COLOR:** Blue

**SHELF LIFE:** (5°C) 6 months

### PROCESSING

**SCREEN MESH/EMULSION:** 200/18-38 µm

**LEVELING TIME:** (25°C) 5-10 minutes

**DRYING AT 125°C:** 10-15 minutes

**FIRING TEMPERATURE:**

BURN OFF CYCLE: (30 minutes at peak temperature) 25°C to 375-400°C Rate - 40°C/minute

SINTERING CYCLE: (30 minutes at peak temperature) 400°C to 450-550°C Rate - 40°C/minute

SEALING CYCLE: (30 minutes at peak temperature) 25°C to 530-580°C Rate - 20°C/minute

**SUBSTRATE OF CALIBRATION:** 96% alumina

**THINNER:** ESL401

**FIRED THICKNESS:** 30-40 µm

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See Caution and Disclaimer on other side.

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\* Complies with RoHS ELV, WEEE, and CHP 3 EC directives.

**CAUTION:** Proper industrial safety precautions should be exercised in using these products. Use with adequate ventilation. Avoid prolonged contact with skin or inhalation of any vapors emitted during use or heating of these compositions. The use of safety eye goggles, gloves or hand protection creams is recommended. Wash hands or skin thoroughly with soap and water after using these products. Do not eat or smoke in areas where these materials are used. Refer to appropriate MSDS sheet.

**DISCLAIMER:** The product information and recommendations contained herein are based on data obtained by tests we believe to be accurate, but the accuracy and completeness thereof is not guaranteed. No expressed or implied regarding the accuracy of these data, the results obtained from the use hereof, or that any such use will not infringe any patent. Electro-Science assumes no liability for any injury, loss, or damage consequential arising out of its use by others. This information is furnished upon the condition that the person receiving it shall make their own tests to determine the suitability thereof for their particular use, be User assumes all risk and liability whatsoever in connection with their intended use. Electro-Science's only obligation shall be to replace such quantity of the product proved defective.

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