



## ESL ELECTROSCIENCE

CERAMIC TAPES &  
THICK-FILM MATERIALS

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### MULTILAYER DIELECTRIC COMPOSITION

### 4612-B

### RoHS Compliant\* Dielectric Composition

ESL 4612-B is an alkali and lead free crystallizing dielectric material designed to match the T.C.E. of 96% alumina. It is similar to ESL 4612 but may be used where fine lines and good via retention are required.

#### PASTE DATA

<b>RHEOLOGY:</b>	Thixotropic, screen-printable paste
<b>VISCOSITY:</b> (Brookfield RVT, ABZ Spindle, 10 rpm, 25.5°C±0.5°C)	400±35 Pa·s
<b>COLOR:</b>	green
<b>SHELF LIFE:</b> (25°C)	6 months

#### PROCESSING

<b>SCREEN MESH/EMULSION:</b>	200-325/38µm
<b>LEVELING TIME:</b>	5-10 minutes
<b>DRYING AT 125°C:</b>	10-15 minutes
<b>RATE OF ASCENT/DESCENT:</b>	50°C-60°C/minute
<b>FIRING TEMPERATURE RANGE:</b>	850°C-930°C
<b>CALIBRATION TEMPERATURE:</b>	850°C
<b>SUBSTRATE FOR CALIBRATION:</b>	96% alumina
<b>THINNER:</b>	ESL 401

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See Caution and Disclaimer on other side.

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**\*Complies with RoHS, ELV, regulations.**

**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 warranty is 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, direct or 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, before using it. 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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