



# Electro-Science Laboratories, Inc.

416 East Church Road • King of Prussia, PA 19406-2625, U.S.A  
610-272-8000 • Fax: 610-272-6759 • www.ElectroScience.com • Sales@ElectroScience.com

## TUNGSTEN CONDUCTOR

## 2170-B

ESL 2170-B is a screen-printable Tungsten paste designed for use on refractory ceramic green tapes for use as a via fill. Firing temperatures range from 1500°C to 1650°C in either wet cracked ammonia atmospheres or wet hydrogen atmospheres. ESL 2170-B exhibits excellent printability and is recommended for screen printing using either a 200 mesh or 325 mesh stainless steel screen with 12.5 to 25 micrometers emulsion thickness. ESL 2170-B contains a substantial amount of glass/ceramic binders.

### PASTE DATA

|  |                                     |
|--|-------------------------------------|
| <b>RHEOLOGY:</b>   | Thixotropic, screen printable paste |
| <b>SOLIDS:</b>   | 85%-90%                             |
| <b>VISCOSITY:</b><br>(Brookfield RVT, ABZ Spindle, 10 rpm, 25.5°C±0.5°C) | 200±25 Pa·s                         |
| <b>SHELF LIFE:</b> (at 20°C)   | 6 months                            |

### PROCESSING

|                                  |                                     |
|----------------------------------|-------------------------------------|
| <b>SCREEN MESH/EMULSION:</b>     | 200-325 mesh / 12.5-25.0 µm         |
| <b>LEVELING TIME:</b> (25° C):   | 5-10 minutes                        |
| <b>DRYING AT 125°C:</b>          | 10-15 minutes                       |
| <b>FIRING ATMOSPHERE:</b>        | Wet hydrogen or wet cracked ammonia |
| <b>FIRING TEMPERATURE RANGE:</b> | 1500°C-1650°C                       |
| <b>SUBSTRATE OF CALIBRATION:</b> | Green tape                          |
| <b>THINNER:</b>                  | ESL 413                             |

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#### ESL Affiliates

Japan: ESL-Nippon Company, Ltd. • Sukegawa Bldg. • 6<sup>th</sup> floor • 3-4 Yanagibashi 1-chome • Taito-ku • Tokyo 111, Japan • Tel: (011-81)-3-3864-8521 • Fax: (011-81)-3-3864-9270  
NipponSales@ESLNippon.com

China: Shanghai Agmet Electro-Science Laboratory Ltd. • Second Floor Bldg. 12A1 • #223 North Fe Te Road • Waigaoqiao Free Trade Zone • Shanghai, China  
Tel: (011-86)-21-5866-0497 • Fax: (011-86)-21-5866-0497 • ShanghaiSales@ShanghaiESL.com

Europe: Agmet, Ltd. • 8 Commercial Road • Reading, Berkshire, England RG2 0QZ • Tel: (011-44)-118-987-3139 • Fax: (011-44)-118-986-7331 • Sales@ESLEurope.co.uk

See Caution and Disclaimer on other side.

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**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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