



ESL ELECTRO-SCIENCE

CERAMIC TAPES &
THICK-FILM MATERIALS

416 EAST CHURCH ROAD
KING OF PRUSSIA, PA 19406-2625 USA

T: 610.272.8000
F: 610.272.6759

www.electroscience.com

ELECTROLYTE TAPE

42400

High Temperature 8 mol% YSZ Tape for use in SOFC and other Fuel Cells, Gas Sensors and Pressure Sensors

The ESL42400 is an 8 mol% yttria stabilized zirconia (YSZ) ceramic layer prepared by casting on a polyester carrier film, which is coated with a release agent.

Typical applications for this tape are fabrication of SOFC and other fuel cells, high-temperature ceramic gas sensors and pressure sensors. In these applications, this electrolyte is designed to be an excellent ionic conductor and a poor electronic conductor at operating temperatures.

STABILIZING AGENT:	8 mol% Y ₂ O ₃
GREEN TAPE THICKNESS:	15 μm ± 5 μm
GREEN TAPE COLOR:	off-white
LAMINATING:	21 MPa @ 70°C
TYPICAL SINTERING CYCLE:	0.7°C/minute ramp to 650°C 2.5°C/minute ramp to 1450 to 1550°C 2-hour soak at peak temperature to achieve full density
FIRED DENSITY: (1450°C for 30 minutes)	> 98% of theoretical

42400 0511-B

ESL Affiliates

ESL China • Rm#1707, Tower A • City Center of Shanghai • 100 Zunyi Road • Shanghai, China 200051 Tel: (011-86)-21-62370336 • Fax: (011-86)-21-62370338 • eslchina@eslshanghai.net

ESL Europe • 8 Commercial Road • Reading, Berkshire, England RG2 0QZ • Tel: (011-44)-118-918-2400 • Fax: (011-44)-118-986-7331 • Sales@ESLEurope.co.uk

ESL Nippon • Sukegawa Bldg • 6th floor • 3-4 Yanagibashi 1-chome • Taito-ku • Tokyo 111, Japan • Tel: (011-81)-3-3864-8521 • Fax: (011-81)-3-3864-9270 • Sales@ESL-Nippon.co.jp

See Caution and Disclaimer on other side.

BLANK

42400 0511-B

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.
