



## ESL ELECTROSCIENCE

CERAMIC TAPES &  
THICK-FILM MATERIALS

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# INSULATING COMPOSITION

# 4925-A

HOS Heaters on Steel<sup>®</sup> • COS Circuits on Steel<sup>®</sup> • TFOS Thick Film on Steel<sup>®</sup>

RoHS Compliant\*

ESL 4925-A is a dielectric composition designed for use as a buffer layer between 4924 and ESL resistor materials. These materials are also useful in other TFOS Thick Film on Steel<sup>®</sup> applications.

## PASTE DATA

<b>Rheology:</b>	Thixotropic, screen-printable paste
<b>Viscosity:</b> (Brookfield RVT, 10 rpm, ABZ spindle, 25.5 ± 0.5 °C)	220 ± 50 Pa•s
<b>Color:</b>	Dark blue
<b>Shelf Life (25 °C):</b>	6 months

## PROCESSING

<b>Screen Mesh, Emulsion:</b>	Small area	200 / 37 ± 5 µm
	Large area	165 / 0 µm
<b>Levelling Time (at 20°C):</b>		5 - 10 min.
<b>Drying Time (at 125°C):</b> (Depending on substrate volume)		> 15 min.
<b>Firing Temperature Range:</b>		850 - 930°C
	Optimum:	850 °C
	Time at peak:	10 - 12 min.
<b>Rate of Ascent/Descent:</b>		50°C – 60°C/min.
<b>Substrate for Calibration:</b>		Type 430 stainless steel
<b>Thinner:</b>		ESL 401

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See Caution and Disclaimer on other side.

## TYPICAL PROPERTIES

<b>Fired Thickness:</b>	> 80 $\mu\text{m}$
<b>Breakdown Voltage:</b>	> 1,000 VAC
<b>Approximate Coverage:</b> (at 40 $\mu\text{m}$ fired thickness)	80 $\text{cm}^2/\text{g}$
<b>Insulation Resistance:</b> (at 25°C, 100 VDC)	$\geq 10^9 \Omega$
<b>Dielectric Constant (K):</b>	11 - 14
<b>Dissipation Factor:</b>	$\leq 0.5\%$

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\*None of the six substances referred to in the RoHS Directive (2002/95/EC) are used in the formulation of this product.

**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 vapours 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. ElectroScience 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 his own tests to determine the suitability thereof for his particular use, before using it. User assumes all risk and liability whatsoever in connection with his intended use. ElectroScience's only obligation shall be to replace such quantity of the product proved defective.

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