



## ESL ELECTROSCIENCE

CERAMIC TAPES &  
THICK-FILM MATERIALS

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### MAGNETIC TAPE

# 40011

### RoHS Compliant\* Lo-Fire Tape for Multilayer and High Frequency Applications Requiring High Permeability

ESL 40011 is a flexible cast film of magnetic powder dispersed in an organic matrix. It is designed to be fired at 885°C to give a dense body. Multilayer parts can be formed by laminating metallized sheets of the tape into a monolithic structure prior to firing. A pressure/temperature combination of 10.5 MPa and 70°C works well for laminating this tape. Magnetic tape is provided on a silicone-coated polyester film to minimize environmental contamination, to protect it from mechanical damage, and to aid in handling. This material is useful in high frequency applications that require high permeability.

### PROCESSING PARAMETERS

<b>LAMINATING:</b>	10.3 MPa (1500 psi) at 70°C
<b>FIRING TEMPERATURE:</b>	900±15°C
<b>TIME AT PEAK TEMPERATURE:</b>	2 – 3 hours

### TAPE CHARACTERISTICS

<b>TAPE THICKNESS:</b>	65-75 µm (2.6 – 3.0 mils)
<b>COLOR:</b>	brown
<b>SHELF LIFE:</b>	12 months

ESL Europe (KOP) 40011 0611-C

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See Caution and Disclaimer on other side.

## FIRED TAPE PROPERTIES (Using co-fired ESL 903-A silver conductor)

### PERMEABILITY:

(100 KHz)  $\geq 200$

### INSULATION RESISTANCE:

(100 VDC)  $\geq 10^8 \Omega$

### Thermal Coefficient of Expansion:

(25°C to 300°C) 9.4 ppm/°C

### BREAKDOWN VOLTAGE:

> 1000 VDC/25  $\mu\text{m}$

### FIRED SHRINKAGE:

(Using recommended processing parameters) X and Y  $18 \pm 1 \%$

Z  $18 \pm 1 \%$

### FIRED DENSITY:

(Theoretical)  $5.30 \text{ g/cm}^3$

COMPATIBLE CONDUCTORS: ESL 903-A, 903-B, 902

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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.

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