



ESL Electro-Science

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MAGNETIC TAPE

40012

Lo-Fire Tape for Multilayer and High Frequency Applications Requiring > 400 Permeability

ESL 40012 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 14 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

LAMINATING:	14 MPa at 70°C
FIRING TEMPERATURE:	885°C
TIME AT PEAK TEMPERATURE:	180 minutes

TAPE CHARACTERISTICS

TAPE THICKNESS:	65-75 µm
COLOR:	brown
SHELF LIFE:	6 months

40012 0402-B

ESL Affiliates

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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) ≥ 450

INSULATION RESISTANCE:

(100 VDC) ≥ 10⁸ Ω

Thermal Coefficient of Expansion:

(25°C to 300°C) 9.4 ppm/°C

BREAKDOWN VOLTAGE:

> 1000 V/25 μm

FIRED SHRINKAGE:

(Using recommended processing parameters)

X and Y

17.0%±1.0%

Z

16.5%±1.0%

FIRED DENSITY:

(Theoretical)

5.35 g/cm³

COMPATIBLE CONDUCTORS:

ESL 903-A, 903-B, 902

40012 0402-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.

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