

## DATA SHEET

# Luminex 998

### Magnesium Oxide

#### Description

A very high-purity porous magnesia which meets the ASTM E1652 specification as follows:

MgO- 99.4% min	CaO- 0.35% max
Al <sub>2</sub> O <sub>3</sub> - 0.15% max	Fe <sub>2</sub> O <sub>3</sub> - 0.04% max
SiO <sub>2</sub> - 0.13% max	C- 0.02% max
S- < 0.001%	B+Cd- < 0.002%

#### Prime Features

- Consistent electrical performance at temperatures up to 1100°C.
- Excellent electrical resistance across temperature range.
- Becomes excellent thermal conductor at elevated temperatures.
- Particle size distribution, porosity and crushability can be tailored.
- Minimal traces of boron and cadmium for low neutron capture.
- Made from 100 per cent electrofused magnesium oxide.

#### Typical Applications

- Special cabling for control systems in nuclear power stations where low neutron capture is of vital importance.
- Thermal processing equipment.
- Electrical control devices in industrial plant.
- Crushable bushes for electrical insulation at high temperature

#### Specification

Quality Assurance to ISO 9002

#### MTC Production Capabilities

- Wide variety of single and multi-hole precision extruded forms.
- Tolerances to customer specification.
- Prototype, batch and volume production.

#### Physical properties\*

**Bulk density (fired), Mg/m<sup>3</sup>** 2.2- 2.5 (tailorable)

**Porosity (open), % apparent** 28- 3 (tailorable)

**Compressive strength, MPa** 12- 170 (tailorable)

**Flexural strength (3-point), MPa @ 20°C** 7- 71 (tailorable)

**Thermal expansion coefficient, 10<sup>-6</sup>@**

20-1000C	13.0
200-500C	11.7

**Maximum operating temperature, °C** 2240

**Volume resistivity, ohm.cm @**

600°C	3.0 x 10 <sup>10</sup>
700°C	1.9 x 10 <sup>9</sup>
800°C	2.1 x 10 <sup>8</sup>
900°C	3.2 x 10 <sup>7</sup>
1000°C	6.8 x 10 <sup>6</sup>