

DATA SHEET

Luminex™ 993

Magnesium Oxide

Description

A very high-purity porous magnesia ceramic of typical composition 99.45% MgO and 0.25% CaO. Other components are 0.15% SiO₂, and 0.04% Fe₂O₃ with less than 0.05% Al₂O₃ and 0.001% B+Cd.

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/m³	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, 10⁻⁶@	
	20-1000°C 13.0
	200-500°C 11.7
Maximum operating temperature, °C	2240
Volume resistivity, ohm.cm @	
	600°C 3.0 x 10 ¹⁰
	700°C 1.9 x 10 ⁹
	800°C 2.1 x 10 ⁸
	900°C 3.2 x 10 ⁷
	1000°C 6.8 x 10 ⁶