DATA SHEET

Luminex 970
Magnesium Oxide

Description
A very high-purity porous magnesia ceramic of typical composition >99.0% MgO and 0.35% CaO. Other components are 0.12% SiO₂, and 0.05% Fe₂O₃ with less than 0.23% Al₂O₃ and 0.002% B+Cd.

Prime Features
• Consistent electrical performance at high temperatures.
• 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/°C
20-1000°C 13.0
200-500°C 11.7

Maximum operating temperature, °C 2240

Volume resistivity, ohm.cm @
600°C 1.3 x 10¹⁰
700°C 8.4 x 10⁸
800°C 9.3 x 10⁷
900°C 1.5 x 10⁷
1000°C 3.2 x 10⁶