

Data Sheet

Luminex™ 990 (Mac-M0994S)

Description

A high-purity porous magnesia ceramic of typical composition **99.4% MgO** with **0.6% CaO**, **0.05% Al₂O₃** and **0.05% SiO₂**. *Maximum* levels of other components are **0.05% Fe₂O₃** and **0.001% B+Cd**.

Prime Features:

- Maintains high electrical resistance at temperatures up to 1100C
- Particle size distribution, porosity and crushability can be tailored to customer requirements
- Becomes excellent thermal conductor at elevated temperatures
- Very low boron and cadmium levels for low neutron capture on nuclear applications
- Made from 100 per cent electrofused magnesium oxide

Typical Applications:

- Industrial and domestic electrical equipment
- Crushable bushes for electrical insulation at high temperature
- Sheath and high wattage cartridge heaters
- High temperature cabling
- Insulating materials for thermocouples

Specifications

- Quality Assurance to ISO 9002

Production Capabilities:

- Wide variety of single and multihole forms
- Extrusions to tight tolerances

Physical Properties

Colour	White	
Bulk Density (fired)	2.2-2.7 Mg/m ³ (tailorable)	
Porosity (open)	24-38 % (tailorable)	
Compressive Strength	12-190 MPa (tailorable)	
Flexural Strength (3-point)	7-85 MPa @20C	
Thermal Conductivity @20-900C	8-32 W/m.K	
Thermal Expansion Coefficient 10 ⁻⁶ /C	@20-1000C	14.8
	@200-500C	14.2
Maximum operating temperature	1200 C	
Volume resistivity	@600C	3.2 × 10 ¹⁰
	@700C	2.0 × 10 ⁹
	@800C	2.2 × 10 ⁸
	@900C	3.6 × 10 ⁷
	@1000C	7.7 × 10 ⁶

Please note that all values quoted are based on test pieces and may vary according to component design. These values are not guaranteed in anyway whatsoever and should only be treated as indicative and for guidance only.

Morgan Advanced Materials is a global materials engineering company which designs and manufactures a wide range of high specification products with extraordinary properties, across multiple sectors and geographies. From an extensive range of advanced materials we produce components, assemblies and systems that deliver significantly enhanced performance for our customers' products and processes. Our engineered solutions are produced to high tolerances and many are designed for use in extreme environments.

We design and manufacture products for demanding applications in a variety of markets using a comprehensive range of advanced ceramic, glass, precious metal, piezoelectric and dielectric materials. We utilise core competences of applications engineering and superior materials technology, together with state of the art fully integrated manufacturing processes to offer precision ceramic components, ceramic-to-metal assemblies and special coatings for use in a variety of applications.