

LUMINEX™ - Magnesium Oxide

Chemical Analysis by Mass				
Chemical Analysis (Specified)	Units	Luminex 970	Luminex 993	Luminex 998
MgO	%	99.0 min.	99.40 min.	99.40 min.
CaO	%	0.40 max.	0.35 max.	0.35 max.
SiO <sub>2</sub>	%	0.50 max.	0.35 max.	0.13 max.
Al <sub>2</sub> O <sub>3</sub>	%	0.15 max.	0.15 max.	0.15 max.
Fe <sub>2</sub> O <sub>3</sub>	%	0.05 max.	0.04 max.	0.04 max.
B+Cd	ppm	<10	<20	<20
S	ppm	<10	<10	<10

Chemical Analysis (Typical)		Luminex 970	Luminex 993	Luminex 998
MgO	%	99.30	99.57	99.68
CaO	%	0.32	0.22	0.16
SiO <sub>2</sub>	%	0.33	0.18	0.12
Al <sub>2</sub> O <sub>3</sub>	%	<0.05	<0.05	<0.05
Fe <sub>2</sub> O <sub>3</sub>	%	0.04	0.036	0.037
B+Cd	ppm	<10	<10	<10

Mechanical Properties				
Apparent Porosity	Vol %	24 to 38	28 to 38	28 to 38
Bulk Density	gcm <sup>-3</sup>	2.20 to 2.70	2.20 to 2.49	2.20 to 2.49
Flexural Strength	Nmm <sup>-2</sup>	7 to 85	7 to 71	7 to 71
Compressive Strength	MPa	12 to 210	12 to 170	12 to 170

Thermal Properties (Typical)				
Thermal Expansion 200 - 500°C	10 <sup>-6</sup> K <sup>-1</sup>	13.0	11.7	11.7
Thermal Expansion 20 - 1000°C	10 <sup>-6</sup> K <sup>-1</sup>	13.9	13.0	13.0

Electrical Properties (Typical)				
Volume Resistance @ 600°C	Ω cm	1.3E+10	3.0E+10	1.0E+10
Volume Resistance @ 700°C	Ω cm	8.4E+08	1.9E+09	6.5E+08
Volume Resistance @ 800°C	Ω cm	9.3E+07	2.1E+08	7.2E+07
Volume Resistance @ 900°C	Ω cm	1.5E+07	3.2E+07	1.2E+07
Volume Resistance @ 1000°C	Ω cm	3.2E+06	6.8E+06	2.5E+06