

## Data Sheet

# A950 95% Alumina

## Description

94% minimum alumina ceramic with excellent mechanical and electrical properties. Specifically designed for ceramic to metal sealing

### Prime Features:

- High mechanical strength
- High dielectric strength
- Easily metalized for brazing
- Excellent performance in extreme environments

### Typical Applications:

- Hermetic ceramic to metal brazed feedthroughs
- Implantable device feedthroughs
- Ultra high vacuum environments
- Aerospace feedthroughs

### Specifications:

- Meets ASTM D2442, Type II requirements
- Manufactured in ISO 9001 registered facility
- Manufactured in AS 9100 registered facility
- Manufactured in ISO 13485 registered facility

### Production Capabilities:

- Low and high-volume production
- Isostatic and uniaxial pressing
- High temperature clear glaze available
- Design consultation

### Physical Properties:

	Test	Value	Units	Notes
Alumina content	ISO 12677	95	%	XRF Analysis
Color	Visual	White		
Density (sintered)	ASTM C20	3.73	g/cm <sup>3</sup>	
Impermeability	MIL-STD-883, method 1014	1x10 <sup>-13</sup>	atmcc/sec He	
Compressive strength	ASTM C1424	2,655	MPa	
Flexural strength (MOR)	ASTM F417	345	MPa	ave. 3 pt bend
Elastic (Young's) Modulus	ASTM C623	324	GPa	
Poisson's ratio	ASTM C623	0.23		
Impact strength	ASTM D6110	7.5	ft-lbs	Charpy
Specific heat	ASTM E1269	0.19	Cal/gm/°C	
Thermal conductivity	ASTM C201	21	W/m K°	
Coefficient of Thermal Expansion	ASTM E228	8.0 x 10 <sup>-6</sup>	°C	ave. from 25-1000°C
Dielectric strength (DBS)	ASTM D149	20.5	average	1.0 mm thick
	ASTM D149	15.8	kV AC/mm	2.0 mm thick
	ASTM D149	12.8		3.2 mm thick
Dielectric constant	ASTM D150	9.2		@ 1MHz
	ASTM D150	9.1		@ 10 MHz
Dissipation factor	ASTM D150	0.0003		@ 1 MHz
	ASTM D150	0.0006		@ 10 MHz
Volume resistivity	ASTM D257	>10 <sup>14</sup>	Ohm-cm	@ 25°C
	ASTM D1829 Procedure A	>10 <sup>9</sup>		@ 500°C

Please note that all values above 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.

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