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HIGH TEMPERATURE CERAMIC ADHESIVES

Accumet Materials' ceramic adhesives are used for bonding metals and ceramics in high temperature applications to 3200 °F. These materials are easy to use and contain no volatile organic compounds, are non-flammable and environmentally safe. REFRACTOBOND adhesives offer excellent electrical, thermal and chemical resistance and unlike organic materials will not outgas under vacuum.

- **REFRACTOBOND ALP** is a single component aluminum oxide based ceramic adhesive exhibiting temperature resistance to 3000 °F. When fully cured the ALP bonds glass, and dense ceramics.
- **REFRACTOBOND ALS** is a single component aluminum oxide based ceramic adhesive similar to the ALP and withstands temperatures up to 3000 °F. REFRACTOBOND ALS bonds well to ceramics and low expansion metals.
- **REFRACTOBOND MGS** is a two component magnesium oxide based ceramic adhesive exhibiting temperature resistance to 3200 °F. This material exhibits a high thermal coefficient of expansion making it suitable for bonding metals and high expansion ceramics used in high temperature applications. REFRACTOBOND MGS can also be used to pot very small cavities or parts.
- **REFRACTOBOND TLS** is an excellent thread locking single component metallic oxide based ceramic adhesive. Accumet's REFRACTOBOND TLS is designed to bond ceramics to steel, iron and other ferrous metals because of its high coefficient of thermal expansion, 7.3 in/in-°F.



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Material Properties

	REFRACTOBOND ALP	REFRACTOBOND ALS	REFRACTOBOND MGS	REFRACTOBOND TLS
Major Constituent	Alumina	Alumina	Magnesia	Metallic Oxides
Max. Temp. °F (°C)	3000 (1650)	3000 (1650)	3200 (1760)	3000 (1650)
Number of Components	1	1	2	1
Relative Viscosity, cps	43,000	62,000	60,000	84,000
C.T.E. In/in-°F x 10 ⁻⁶	4.0	4.3	6.5	7.3
Dielectric strength (volts/mil @ room temperature)	253	250	255	250
Volume Resistivity ohm-cm @ RT (at 1000 °F)	10 ⁹ (10 ⁵)	10 ⁸ (10 ⁴)	10 ⁹ (10 ⁵)	10 ⁸ (10 ⁴)
Torque strength, ft-lbs	5.6	6.7	20	24
Moisture Resistance	Good	Excellent	Excellent	Excellent
Oxidation Resistance	Excellent	Excellent	Excellent	Excellent
Alkali Resistance	Fair	Good	Good	Excellent
Acid Resistance	Excellent	Good	Good	Fair
Solvent Resistance	Excellent	Excellent	Excellent	Excellent
Shelf Life, months	6	6	6	6
Color	White	White	Beige	White

See instruction sheet for application and curing instructions.