



Accumet Materials, Co.

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HIGH TEMPERATURE CRUCIBLES

Accumet Materials, Co. offers a wide range of ceramics, graphite, quartz and corrosion resistant metals used to produce crucibles, trays, lids, furnace furniture and lab-ware for use in extremely corrosive laboratory environments to 2000 ° C.

Accumet's materials provide exceptional performance during heat treating, calcining, metal processing, glass processing, electron beam liners and other high temperature processes found in laboratories and industry. These dense, pore-free ceramics are gas tight and extremely resistant to high temperatures in both oxidizing and reducing atmospheres.

A broad range of ceramic materials are available in standard circular dishes, combustion boats, rectangular trays, lids, crucibles and rods. Accumet has many sizes already tooled which will reduce cost and delivery time.

MATERIAL PROPERTIES

	MAX. TEMP(°C)	THERMAL CONDUCTIVITY W/m-K @ R.T.	THERMAL SHOCK RESISTANCE ΔT (°C)	TENSILE STRENGTH MPa @ R.T.	Electrical Resistivity Ω-cm @ R.T.	RESISTANCE TO ACIDS, ALKALIS AND SALTS	Description
ALUMINA	1950	29-23 (20-100 °C)	200	260-300	$>10^{14}$	Excellent	Exhibits dimensional strength, temperature, chemical and wear resistance
ALUMINA-TITANIA	1900	33-28 (20-100 °C)	>1000 cycles	225		Very good	Exhibits excellent thermal shock resistance because of its low thermal expansion and good mechanical strength.
ALUMINA-ZIRCONIA	2000	26-18 (20-100 °C)	1000 cycles	260		Very Good	Exhibits high fracture toughness, excellent wear and erosion resistance
CORDIERITE	1000	3.0	500	25.5	10^{14}	Very Good	Excellent chemical, and good thermal shock resistance
GRAPHITE	3650 (inert atm)	24	200-250	4.8	7×10^{-3}	Very Good	High temperature resistance in inert atmosphere
MAGNESIA	2000	8-32	400			Very good	Good thermal conductivity
MULLITE	1700	3.5	300	103.5	10^{13}	Good	Good thermal shock resistance, good mechanical strength at high temperatures
QUARTZ	1200	1.4	>1400	48	6×10^{10}	Good	Excellent thermal shock resistance
Clay-Bonded SiC	1400		Good	44			Excellent thermal shock resistance
ZIRCONIA	2000	2.7	280-360	248	$>10^{13}$	Very Good	Excellent mechanical and high temperature resistance

In addition to our standard line, Accumet can supply custom size crucibles and other forms to customer specifications. For a prompt quotation, call, fax, e-mail or write your requests and include dimensions, tolerances and description of the application. Our engineers will recommend the material best suited for your application.

Accumet Materials also offers standard and fabricated metal crucibles, including platinum and tantalum. Graphite EB Crucibles also available – contact us for additional information.