

Property	Units	C-TUFF™ Grade		Alumina (99.5%)	Zirconia (TZP)	Tungsten Carbide (with 6% Co)
		CT-8	HA9S			
Density	g/cm ³	3.87	3.72	3.89	6.07	14.5
Flexural Strength (4 pt bend)	MPa	450 - 500	550 - 700	380	1350	2400
Young's Modulus	GPa	385	400	360	205	610
Vickers Hardness	GPa	18.3	20.7	17.0	13.5	20
Fracture Toughness (Indentation)	MPa·m ^{1/2}	4.5 - 5	7 - 9	4.0	8.5	15
Thermal Conductivity	W / m·K	26	35	25	2.2	94
Coefficient of Thermal Expansion	10 ⁻⁶ / °C	7.2	6.8	7.6	10.0	5.0
Thermal Shock Resistance (ΔT)	°C	400	1000	200	350	-
Impact Resistance	-	Fair	Excellent	Poor	Poor	Fair