

Electric Conductive Ceramics(for ESD-control)



Property

Physicality	Insulating material		Conducting material				
	Alumina	Zirconia	Conductive Zirconia LPEX	BZTA ceramics [®]			
				A-1	A-2	A-3	
Bulk density [g/cm ³]	3.99	6.06	5.89	5.64	4.59	4.58	4.56
bending strength [MPa]	300 ~ 400	1050	900	600	800 ~ 950	950 ~ 1050	650 ~ 700
Young's modulus [GPa]	350	210	200	160	320	300	280
Vickers Hardness [HV]	1600	1200	1200	500	1440	1400	1300
Thermal conductivity [W/(m·K)]	25 ~ 35	3 ~ 5	3 ~ 5	3 ~ 5	20 ~ 30	20 ~ 30	15 ~ 25
Volume resistivity [Ω·cm]	10 ¹⁴ ~ 10 ¹⁵	10 ¹² ~ 10 ¹³	10 ⁸ ~ 10 ⁹	10 ⁴ ~ 10 ⁵	10 ⁶ ~ 10 ⁷	10 ⁴ ~ 10 ⁵	10 ³ ~ 10 ⁴
Fracture toughness [MPa·m ^{1/2}]	4.0	7.0	7.0	6.0	5.6	5.0	4.6
Color	white ivory	white black	black	black	black	black	black