

Materials		chemical formula	Si ₃ N ₄	Al ₂ O ₃	ZrO ₂ .MgO	SiC	SiSiC
unit		silicon nitride	alumina	zirconia	α-silicon carbide	silicon infiltrated silicon carbide	
density	g/cm ³	3,16	3,90	6,0	3,15	3,05	
colour	-	grey/black	white	white	black	black	
hardness	HV 0,5	1750	1900	1200	2800	2000	
flexural strength 4pt	MPa	>750	470	820	400	300	
E-Modules	GPa	320	380	205	430	380	
compressive strength	MPa	>2500	2400	1990	>2500		
toughness	MPa√m	6.0	4	12	4	3,6	
thermal conductivity	W/m.K	35	29	3	130	175	
electrical resistivity	Ω.cm	10 ¹²	10 ¹⁴	>10 ⁸	10 ⁸	1	
thermal expansion	mm/mK	3,5	8	10		3,3	
maximum temperature	°C	1000	1800	900	1500	1350	