

Ägare / Owner: Cristian Eriksson	Titel / Title: Material Datasheet Ceramics	Dokument id / Document id: N/A
Status / Status: <b>Approved</b>	Ämne / Subject: Material specification	Utgåva / Issue: <b>0a</b>
Godkänd av / Approved by: PrS		Godkänd datum / Approval date: 2009-04-23

## Material data sheet for Silicon Carbide (SiC) and Zirconium Oxide (ZrO<sub>2</sub>)

Material		Silicon carbide SiC	Zirconium Oxide ZrO <sub>2</sub>
	Unit	Value	
<b>Structural properties:</b>			
Density	(g/cm <sup>3</sup> )	3.1	5.7-5.8
Open porosity	(%)	< 1	0
Grain size	(µm)	-	50
<b>Mechanical properties:</b>			
Hardness	(Knoop) (N/mm <sup>2</sup> ) (MPa)	21 000	17 000
Compressive strength	(N/mm <sup>2</sup> ) (MPa)	1 200	2 000
Bending strength	(N/mm <sup>2</sup> ) (MPa)	350	500
Weibull modulus		>10	>20
E-modulus E	(GPa)	330	200
Poisson ratio v		0.20	0.30
<b>Thermal properties</b>			
Max. operating temperature	(°C)	1 400	900
Specific heat 20°C	(J/kgK)	900	400
Thermal conductivity 100°C	(W/mK)	90	2.5
Coefficient expansion 20-1000°C	(10 <sup>-6</sup> /K)	4.4	10
Colour		Black	Yellow

*End of document*