

## Smile Ceramic Material SPEC

MATERIAL	UNIT	Aluminum Oxide				Zirconia Oxide		Titania		Silicon Carbide	Silicon Nitride	Microporous Ceramic
Item		S-95	S-99	S-995	S-997	ZD	ZW	TY	TD	SC	SN	MC
Color		White/Ivory	White	Ivory	Ivory	Black	White	Yellow	Black	Black	Black	Brown/Gray
Component	%	95	99	99.5	99.7	---	---	---	---	---	---	---
Density	g/cm <sup>3</sup>	3.65	3.8	3.92	3.94	6.0	6.0	3.9	3.9	3.2	3.3	2.3
Hardness	G pa	12	15	16	17	12.3	12	8.5	8.5	22	14	5
Flexural Strength	M Pa	340	350	370	380	1000	1000	320	320	450	550	---
Compressive Strength	M Pa	2300	2300	2350	2350	---	---	---	---	---	---	600
Coefficient of Linear Thermal Expansion	40-400°C * 10 <sup>-6</sup>	6.5	6.8	7.0	7.0	10	10	11.5	11.5	2.5	3.5	---
Thermal Conductivity	W/MK	17	26	30	32	3	3	4	4	60	27	---
Max Useable Temperature	°C	1600	1600	1650	1650							
Dielectric Strength	KV/mm	10	12	14	15	11	11	---	---	---	12	---
Volume Resistivity	ohm.cm	>10 <sup>14</sup>	>10 <sup>14</sup>	>10 <sup>14</sup>	>10 <sup>14</sup>	>10 <sup>13</sup>	>10 <sup>13</sup>	>10 <sup>12</sup>	>10 <sup>12</sup>	>10 <sup>8</sup>	>10 <sup>14</sup>	---