



## TYPICAL PROPERTIES OF CERAMIC MATERIALS; ACCORDING TO EN-DIN 60672-3

CHARACTERISTICS	UNITS	C110/C120	C220/C221	C410	C530	C610	C786	C795	C799	ZIRCONIA	
		HARD PORCELAIN	STEATITE	CORDIERITE	CORDIERITE AR-SILIKAT	MULLITE	HIGH ALUMINIUM CERAMICS			STABILISED WITH Y-TZP	STABILISED WITH Mg-PSZ
Nominal composition	%	Al <sub>2</sub> O <sub>3</sub> SiO <sub>2</sub>	MgOSiO <sub>2</sub>	2MgO <sub>2</sub> Al <sub>2</sub> O <sub>3</sub> 5SiO <sub>2</sub>	78% Al <sub>2</sub> O <sub>3</sub>	62% Al <sub>2</sub> O <sub>3</sub>	92% Al <sub>2</sub> O <sub>3</sub>	95% Al <sub>2</sub> O <sub>3</sub>	99,7% Al <sub>2</sub> O <sub>3</sub>	ZrO <sub>2</sub> + Y <sub>2</sub> O <sub>3</sub>	ZrO <sub>2</sub> + MgO
Specific density	g/cm <sup>3</sup>	2,3	2,7	2,1	2,5	2,7	3,63	3,68	3,8 - 3,94	6	5,5
Water absorption	%	0	0	0,5	8-12	0	0	0	0	0	0
Hardness	Mohs				6	8	9	9	9	8-9	8
Modulus of elasticity, min.	GPa	60	110	-	-	100	240	280	300	200	200
Compressive strength	MPa	400	850	300	-	550	2000	2300	3000	2800	2500
Flexural strength	MPa	50	140	60	30	120	250	280	300	1000	350
Thermal expansion (20 - 1000C)	10 <sup>-6</sup> K <sup>-1</sup>	4-6	8	2-4	4-6	6	6-8	6-8	7-8	10-11	10
Thermal conductivity (20 - 1000C)	W/MK	1,4	2-3	1,2-2	1,5-2	3-5	14-23	17-25	20-30	2,2	3
Resistance to thermal shock	°C	150-160	100-150	250	350	150	140	140	150	210-230	180-190
Max. working temperature	°C	-	1.200	1.200	1.450	1.500	1.500	1.550	1.650	1.300-1.400	1.100-1.200
Dielectric strenght	KV/mm	20	20	10	-	17	15	15	17	9	-
Dielectric constant (20deg. 1Mhz)	-	5,5	6	5	5	6	8	8,5	9,5	15-17	-
Dissipation factor at 20 deg., 48-60Hz	10 <sup>-3</sup>	25	1,5	25	-	-	0,5	0,5	0,2	0,001-0,002	-