Machinable ceramics Shapal Hi Msoft (Typical Data)

15. Sept. 2011

***The following datas are not guaranteed values.**

Property		Test Conditions	Shapal Hi Msoft	Units
GENERAL	Density	Corrected to 4℃	2.88	g/cm^3
	Porosity	25℃	0	%
ELECTRICAL	Volume Resistivity	25℃, DC	1.0×10^{15}	Ωcm
	Dissipation Factor (tan δ)	25℃, 1MHz	10×10^{-4}	
	Dielectric Constant (ε)	25℃, 1MHz	6.8	
	Dielectric Strength		65	kV/mm
THERMAL	Thermal Expansion Coefficient	RT～400℃	4.8×10^{-6}	/℃
		RT～600℃	4.9×10^{-6}	/℃
		RT～800℃	5.0×10^{-6}	/℃
	Thermal Conductivity	25℃	92	W/m・K
	Maximum Use Temp.	in air	1,000	℃
		in nonoxidizing atmosphere	1,900	℃
	Thermal Shock Resistance Δt	water quench	400	℃
MECHANICAL	Bending Strength	25℃	300	MPa
	Compressive Strength	25℃	100	kg/mm^2
	Young's Modules	25℃	1.8×10^4	kg/mm^2
	Poisson's Ratio	25℃	0.31	
	Vickers Hardness (Hv)	25℃, 300g	380	kg/mm^2
CHEMICAL	Resistance to Acid	10%HCl 24Hrs, 25℃	0.2	mg/cm^2 wt.loss
	Resistance to Base	10%NaOH 24Hrs, 25℃	60	mg/cm^2 wt.loss
PURITY	O	—	0.9	%
	Ca	—	1,300	ppm
	C	—	300	ppm
	Cr	—	1	ppm
	Mg	—	1	ppm
	Ni	—	2	ppm
	Fe	—	8	ppm
	Si	—	40	ppm
	Ti	—	20	ppm