Properties of Hi-dielectric PC resin

Properties	Test Method	Terms	Units	PCR140045 (under development) Base Resin: PC	PCR140084 (under development) Base Resin: PC	PCR140085 (under development) Base Resin: PC
Physical Properties						
Density	ISO 1183			1.31	1.35	1.39
Rheological Properties						
Melt Mass-flow Rate	ISO 1133	300°C, 1.2kg	g/10min	11.8	9.1	6.8
Melt Volume-flow Rate			cm^3/10min	10.0	7.4	5.9
Moulding Shrinkage (2mmt)		MD	%	0.3 - 0.5	0.3 - 0.5	0.3 - 0.5
		TD		0.3 - 0.5	0.3 - 0.5	0.3 - 0.5
Bar Flow Length (1mmt, 150MPa)		320°C	mm	62	50	39
Mechanical Properties						
Stress at Break	ISO 527-1 , 527-2		MPa	64	66	66
Strain at Break			%	11	4	4
Flexural Strength	ISO 178	-	MPa	110	111	110
Flexural Modulus				3200	3700	4300
Charpy Impact Strength	ISO 179-1 , 179-2	23°C	kJ/m^2	130	87	28
Charpy Notched Impact Strength		23°C	kJ/m^2	2	2	1
Thermal Properties						
Temperature of Deflection Under Load	ISO 75-1, 75-2	1.80MPa	°C	133	133	134
Flammability	UL94			V-2 equiv. (1.5mm)	HB equiv. (1.5mm)	HB equiv. (1.5mm)
Electrical Properties						
Relative Permittivity	IEC 62562	1GHz	MD / TD	4.9 / 5.5	6.4 / 7.0	8.1 / 8.9
		2.45GHz	MD / TD	4.9 / 5.5	6.4 / 7.0	8.2 / 8.9
Dissipation Factor		1GHz	MD / TD	0.007 / 0.007	0.008 / 0.008	0.011 / 0.011
		2.45GHz	MD / TD	0.006 / 0.006	0.007 / 0.007	0.011 / 0.012

FYR: A typical PC has a relative permittivity of 2.7 and a dissipation factor of 0.007.

* The values described are typical values only.