

Properties of Thermal Conductive PC (Electrically-insulative types)

Properties	Test Method	Terms	Units	TPN2131	TPN2140	TPN2354	TPN2560	GPN2030DF
				5W Gray	3W Black	2W White	1W White	GF 30% (for ref.)
Density	ISO 1183	-	g/cm ³	1.38	1.49	1.53	1.53	1.42
Spiral Flow (2mmt, 150MPa)		320 °C	mm	204	452	332	392	389
Molding Shrinkage (3mmt)		MD	%	0.1	0.1	0.1	0.1	0.1
		TD	%	0.3	0.3	0.3	0.3	0.2
Tensile Modulus	ISO 527-1,2	-	MPa	14,700	14,000	6,200	7,000	7,500
Stress at Break			MPa	81	65	46	53	72
Strain at Break			%	2	1	2	3	2
Flexural Strength	ISO 178	-	MPa	121	92	81	93	140
Flexural Modulus			MPa	13,800	11,300	5,700	7,100	7,700
Charpy Impact Strength (23°C)	ISO 179-1,2	Un-notched	kJ/m ²	15	14	23	60	23
		Notched	kJ/m ²	5	4	7	10	4
Coefficient of Linear Thermal Expansion	ISO 11359-2	MD	1/°C	1E-05	5E-05	2E-05	2E-05	3E-05
		TD	1/°C	6E-05	7E-05	6E-05	6E-05	3E-05
Temperature of Deflection under Load	ISO 75-1,2	1.8 MPa	°C	112	104	128	124	118
Flammability	UL94	-	-	V-0 equiv. (1.5mm)	V-0 equiv. (1.5mm)	HB (0.4mm)	HB equiv. (0.4mm)	V-0 (1.6mm)
Volume Resistivity	IEC 60093	-	Ω·m	2x10 ¹⁴	5x10 ¹⁴	2x10 ¹⁴	2x10 ¹⁴	5x10 ¹⁴
Surface Resistivity			Ω	2x10 ¹⁴	6x10 ¹⁴	1x10 ¹⁴	2x10 ¹⁴	5x10 ¹⁴
Relative Permittivity	IEC 62562	1.0 GHz/ 2.45 GHz	-			3.3 / 3.3	3.2 / 3.2	3.3 / 3.1
Dissipation Factor						0.008 / 0.007	0.004 / 0.004	0.007 / 0.007
Thermal Conductivity (30°C)	ISO 22007-3 (temp. wave analysis)	MD	W/m/K	4.9	3.3	1.7	1.1	0.3
		Thickness	W/m/K	0.6	0.4	0.7	0.6	0.2
Note				Under Develop.	Self-Tap available		Self-Tap available Under Develop.	Self-Tap available

* The values described are typical values only.

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