

Properties of Thermal Conductive PC (Electrically-conductive types)

Properties	Test Method	Terms	Units	TPN1125	TPN1124	TPN1122	TCF1140	TPN1022	GPN2030DF
				21W Dark Gray	13W Black	8W Dark Gray	3W Black	13W Dark Gray	GF 30% (for ref.)
Density	ISO 1183	-	g/cm ³	1.49	1.42	1.46	1.39	1.37	1.42
Spiral Flow (2mmt, 150MPa)		320°C	mm	195	240	283	272	280	389
Molding Shrinkage (3mmt)		MD	%	0.1	0.1	0.1	0.1	0.2	0.1
		TD	%	0.3	0.3	0.3	0.2	0.4	0.2
Tensile Modulus	ISO 527-1,2	-	MPa	11,600	12,700	18,000	11,800	7,200	7,500
Stress at Break			MPa	44	57	80	108	48	72
Strain at Break			%	1	1	1	3	1	2
Flexural Strength	ISO 178	-	MPa	79	85	115	166	70	140
Flexural Modulus			MPa	12,700	12,100	18,200	11,900	7,900	7,700
Charpy Impact Strength (23°C)	ISO 179-1,2	Un-notched	kJ/m ²	7	10	13	33	7	23
		Notched	kJ/m ²	4	3	5	9	3	4
Temperature of Deflection under Load	ISO 75-1,2	1.8MPa	°C	129	130	115	140	107	118
Coefficient of Linear Thermal Expansion	ISO 11359-2	MD	1/°C	1E-05	2E-05	2E-05	1E-05	2E-05	3E-05
		TD	1/°C	6E-05	7E-05	7E-05	6E-05	4E-05	3E-05
Flammability	UL94	-	-	V-0 equiv. (1.5mm)	V-0 equiv. (1.5mm)	V-0 equiv. (1.5mm)	HB (0.4mm) V-1 (1.5mm)	V-0 equiv. (1.5mm)	V-0 (1.6mm)
Volume Resistivity	IEC 60093	-	Ω·m	2E+06	3E+06	3E+06	6E+07	3E+06	5E+14
Surface Resistivity			Ω	2E+06	3E+06	3E+06	7E+07	3E+06	5E+14
Thermal Conductivity (30°C)	ISO 22007-3 (temp. wave analysis)	MD	W/m/K	21.3	14.4	8.8	3.3	13.2	0.3
		Thickness	W/m/K	3.5	2.8	0.5	0.7	0.6	0.2
Note				Under Develop.	Under Develop.	Under Develop.	Self-Tap available	Under Develop.	Self-Tap available

* The values described are typical values only.

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