

## PEEK Material Specifications

PEEK grades are recognized as having superior balance of chemical and hydrolysis resistance similar to PPS, but can operate at higher temperatures.

Physical Properties	Units	Test	Unfilled	CMF	EPM-204U-W	GF30
Density	lb/in <sup>3</sup>	D792	0.047	0.059	0.055	0.056
	g/cm <sup>3</sup>		1.31	1.64	1.51	1.54
Water Absorption, 24 hrs.	%	D570	0.10	0.04	-	0.10
Water Absorption, Saturation	%	D570	-	-	0.37	-

Mechanical Properties	Units	Test	Unfilled	CMF	EPM-204U-W	GF30
Tensile Strength	psi	D638	16,000	15,000	13,000	15,000
Tensile Modules	psi	D638	500,000	798,000	650,000	900,000
Tensile Elongation at Break	%	D638	20	4.0	> 10	3
Flexural Strength	psi	D790	25,000	-	23,000	28,000
Flexural Modulus	psi	D790	600,000	769,000	650,000	1,000,000
Compressive Strength	psi	D695	20,000	23,000	17,000	26,000
Compressive Modulus	psi	D695	500,000	565,000	-	1,000,000
Hardness Rockwell	-	D785	M100 (R126)	-	M103	M103
Izod Impact Notched	ft-lb/in	D256	1.0	-	1.0	1.4

Thermal Properties	Units	Test	Unfilled	CMF	EPM-204U-W	GF30
Coefficient of Linear Thermal Expansion	X 10 <sup>-5</sup> in./in./°F	D696	2.6	2.4	2.0	1.2
Heat Deflection Temperature	@264 psi °F/°C	D648	320 / 160	426 / 219	-	600 / 315
Melting Temperature	°F/°C	D3418	644 / 340	-	645 / 341	644 / 340
Max. Operating Temperature	°F/°C	-	480 / 249	500 / 260	-	480 / 249
Thermal Conductivity	BTU- in/ft <sup>2</sup> -hr.-°F x 10 <sup>-4</sup> cal/cm-sec-°C	C177	1.75	-	2.0	2.98
			6.03	-	.43	10.3
Flammability Rating	-	UL94	V - 0	-	-	V - 0

Electrical Properties	Units	Test	Unfilled	CMF	EPM-204U-W	GF30
Dielectric Strength	(V/mil) short time, 1/8" thick	D149	480	-	400	500
Dielectric Constant	@1 MHz / @1 KHz	D150	3.30 / -	-	- / 3.5	3.70 / -
Dissipation Factor	@1 MHz / @1 KHz	D150	0.003 / -	-	- / <0.005	-
Volume Resistivity	Ohm-cm @50% RH	-	4.9 X 10 <sup>16</sup>	> 10 <sup>14</sup>	10 <sup>15</sup>	5 X 10 <sup>16</sup>

\*\*The information provided in this table is a compilation of publicly available data. This information is provided for comparison purposes only, and is not intended to be warrantable. Further, *Technical Products, Inc.* disclaims any and all liability from errors, in accuracies, or omissions.