PEEK-SGM701AT3
Polyetheretherketone (PEEK)

TECHNICAL DATA SHEET

Description

Sciengy® PEEK-SGM701AT3 is a 70% mineral filled PEEK composite material with extremely low CTE and excellent dimensional stability.

Extremely Low CTE

Series	Special Functional
ISO Designation	>PEEK-MD70<
Process Method	Injection molding

Properties

Physical	**Value**	**Units**	**Test Standard**
Density	1.82	g/cm³	ISO 1183
Mold Shrinkage (Machine Direction)	0.30	%	GB/T 15585
Mold Shrinkage (Transverse Direction)	0.35	%	GB/T 15585
Water Absorption (24h @23°C)	0.03	%	ISO 62
Flammability(1.6 mm)	V-0		IEC60695
Mechanical	**Value**	**Units**	**Test Standard**
Tensile Stress at Break (5 mm/min)	105	MPa	ISO 527
Tensile Modulus at Break (1 mm/min)	16.0	GPa	ISO 527
Elongation at Break (23℃)	1.2	%	ISO 527
Flexural Modulus at Break (23℃)	15.0	GPa	ISO 178
Flexural Strength at Break (23℃)	190	MPa	ISO 178
Notched Izod Impact Strength @23℃ (V-notched)	4.0	kJ/m²	ISO 180
Thermal	**Value**	**Units**	**Test Standard**
Melting Temperature (10°C/min)	343	°C	ISO 11357
Heat Deflection Temp. High Load (1.8 MPa)	249	°C	ISO 75
Coeff. of Linear Them. Expansion (-50~-20℃) TD/MD	8.9/9.5	ppm/℃	ISO 11359-2
Coeff. of Linear Them. Expansion (-20~0℃) TD/MD	15.0/14.9	ppm/℃	ISO 11359-2
Coeff. of Linear Them. Expansion (0~23℃) TD/MD	16.2/16.0	ppm/℃	ISO 11359-2

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Coeff. of Linear Them. Expansion (23~50℃) TD/MD	16.9/16.8	ppm/℃	ISO 11359-2
Coeff. of Linear Them. Expansion (50~70℃) TD/MD	17.4/17.2	ppm/℃	ISO 11359-2
Coeff. of Linear Them. Expansion (70~100℃) TD/MD	18.1/18.0	ppm/℃	ISO 11359-2
Coeff. of Linear Them. Expansion (100~120℃) TD/MD	19.6/19.1	ppm/℃	ISO 11359-2
Coeff. of Linear Them. Expansion (120~140℃) TD/MD	24.7/24.5	ppm/℃	ISO 11359-2
Glass Transition (Tg)	148	°C	ISO 11357
Electrical Properties	**Value**	**Units**	**Test Standard**
Dielectric Strength (60*60*1mm³)	25	KV/mm	IEC 60243
Relative Permittivity (100Hz&1MHz)	3.2	/	IEC 60250
Dissipation Factor (100Hz&1MHz)	0.005	/	IEC 60250
Volume Resistivity	10^16	Ω·cm	IEC 60093
Surface Resistivity	10^16	Ω	IEC 60093
CTI	200	V	IEC 60112
Typical Processing Conditions	**Value**	**Units**	**Test Standard**
Drying Temp. / Time	150℃&3h or 120℃&5h(residual moisture<0.02%)		
Injection Molding Melt Temp.	170℃~200℃		
Temperature Settings	370-410℃		
Hopper Temperature	Not greater than 100℃		
Gate	>2mm or 0.5*part thickness		

Disclaimer

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Please refer to Material Safety Data before using this product, The information contained in this data sheet is based on tests of research of Sciengy New Materials Co,.Ltd(Sciengy). The user is advised and cautioned to make its own determination and assessment of the safety and suitability of the product for the specific use in question and is further advised against relying on the information contained herein as it may relate to any specific use or application. It is the ultimate responsibility of the user to ensure that the product is suited and the information is applicable to the users specific application. Sciengy no warranty is given concerning the accuracy or completeness thereof.