PEI

POLYETHERIMIDE

Material description

PEI is an amorphous thermoplastic and belongs to the group of high-performance plastics. With a very high tensile strength and an extremely low coefficient of thermal expansion for plastics, PEI is excellently suited for very precise and thermally and mechanically highly stressed components. PEI has a high dielectric strength and high flame resistance. PEI is resistant to hydrolysis and appears amber to brown translucent.

Conformities

RoHS, REACH

Physical properties	Test method	Value	Unit
Density	DIN EN ISO 1183-1	1.27	g/cm3
Water absorbtion	DIN EN ISO 62	0.5	%
Sliding friction		◔	
Abrasion resistance		◔	

Mechanical properties	Test method	Value	Unit
Yield stress	DIN EN ISO 527	110	MPa
Elongation at break	DIN EN ISO 527	12	%
Tensile modulus of elasticity	DIN EN ISO 527	3100	MPa
Notched impact strength	DIN EN ISO 179	4	kJ/m2
Shore Hardness D	DIN EN ISO 868	86	

Thermal properties	Test method	Value	Unit
Thermal conductivity	DIN 52612-2	0.24	W/(m*K)
Heat capacity	DIN 52612-1	1.1	kJ/(kg*K)
Coefficient of thermal expansion	DIN 53752	45	10^{-6*K}-1
Operating temperature short term		210	°C
Operating temperature long term		-50 bis 170	°C
Heat deflection temperature	DIN EN ISO 75 / A	200	°C
Flammability	UL 94, 3 mm	V0	

Electrical properties	Test method	Value	Unit
Volume resistivity	IEC 60093	10^{15}	Ω * cm
Surface resistivity	IEC 60093	10^{15}	Ω * cm
Dielectric strength	IEC 60243	30	kV/mm
Comparative tracking index (CTI)	IEC 60112	150	CTI

These technical data have been determined as average values by our suppliers from many individual measurements. In all measurements, the test specimens were tested in the dry state. We pass on the data with reservation. The table does not claim to be complete or correct. Material technology is subject to constant further development. No rights or guarantees can be derived from it. Own tests are necessary because the environmental and operating conditions (humidity, temperature, mechanical forces, radiation and chemicals, etc.) set limits in the application.

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