PES

POLYETHERSULFONE

Material description

PES is an amorphous thermoplastic and belongs to the group of high-performance plastics. Its high mechanical property level over a temperature range of -50 °C to 180 ° C, as well as its high chemical and hydrolysis resistance, open up a wide range of applications for this material. PES can be sterilised in many cases and has favourable fire behaviour. Negative properties include high notch sensitivity and a tendency to stress cracking. PES has an amber-coloured transparent appearance.

Conformities

RoHS, REACH

Physical properties	Test method	Value	Unit
Density	DIN EN ISO 1183-1	1.37	g/cm3
Water absorbtion	DIN EN ISO 62	0.7	%
Sliding friction		◔	
Abrasion resistance		◯	

Mechanical properties	Test method	Value	Unit
Yield stress	DIN EN ISO 527	90	MPa
Elongation at break	DIN EN ISO 527	15	%
Tensile modulus of elasticity	DIN EN ISO 527	2700	MPa
Notched impact strength	DIN EN ISO 179	7	kJ/m2
Shore Hardness D	DIN EN ISO 868	85	

Thermal properties	Test method	Value	Unit
Thermal conductivity	DIN 52612-2	0.18	W/(m*K)
Heat capacity	DIN 52612-1	1.1	kJ/(kg*K)
Coefficient of thermal expansion	DIN 53752	55	10^{-6*K}-1
Operating temperature short term		220	°C
Operating temperature long term		-50 bis 180	°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^{18}	Ω * cm
Surface resistivity	IEC 60093	10^{14}	Ω * cm
Dielectric strength	IEC 60243	25	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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