

PCTFE



POLYCHLOROTRIFLUOROETHYLENE

Material description

PCTFE is a semi-crystalline thermoplastic and belongs to the group of fluoroplastics. PCTFE can be used over a wide temperature range. With the exception of impact strength, its mechanical values are higher than those of PTFE. Like all fluoroplastics, PCTFE is extremely resistant to a wide range of chemical substances and has excellent radiation resistance (UV stability). PCTFE is non-flammable and also has high dimensional stability (even at -255°C) and enormous ageing resistance. Particularly noteworthy is its impermeability to water and water vapour (lowest water vapour permeability of all plastics). PCTFE is also known for its ability to form biological barriers.

Conformities

RoHS, REACH

Physical properties	Test method	Value	Unit
Density	DIN EN ISO 1183-1	2.13	g/cm ³
Water absorption	DIN EN ISO 62	0.01	%
Sliding friction			
Abrasion resistance			

Mechanical properties	Test method	Value	Unit
Yield stress	DIN EN ISO 527	40	MPa
Elongation at break	DIN EN ISO 527	>50	%
Notched impact strength	DIN EN ISO 527	75	kJ/m ²
Ball indentation hardness	DIN EN ISO 2039-1	60	MPa

Thermal properties	Test method	Value	Unit
Thermal conductivity	DIN 52612-2	0.35	W/(m*K)
Heat capacity	DIN 52612-1	0.9	kJ/(kg*K)
Coefficient of thermal expansion	DIN 53752	40-80	10 ⁻⁶ *K ⁻¹
Operating temperature short term		180	°C
Operating temperature long term		-250 bis +150	°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 ¹⁶	Ω * cm
Dielectric strength	IEC 60243	21	kV/mm

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.