

TECATOR 5031 PVX - Stock Shapes

Chemical Designation

PAI (Polyamidimide)

Colour

black opaque

Density

1.46 g/cm³

Fillers

graphite, PTFE

Main features

- good chemical resistance
- high creep resistance
- high thermal and mechanical capacity
- easily machinable to tight tolerance
- good slide and wear properties
- high toughness
- good wear properties
- resistance against high energy radiation

Target Industries

- electrical engineering
- precision engineering
- mechanical engineering
- vacuum technology
- aircraft and aerospace technology
- semiconductor technology

Mechanical properties	parameter	value	unit	norm	comment
Modulus of elasticity (tensile test)	50 mm/min	5900	MPa	DIN EN ISO 527-2	1) (1) For tensile test: specimen type 1b
Tensile strength	50 mm/min	135	MPa	DIN EN ISO 527-2	(2) For Charpy test: support span 64mm, norm specimen.
Tensile strength at yield	50 mm/min	135	MPa	DIN EN ISO 527-2	(3) Specimen in 4mm thickness
Elongation at break	50 mm/min	7	%	DIN EN ISO 527-2	
Modulus of elasticity (flexural test)	2 mm/min, 10 N	6200	MPa	DIN EN ISO 178	
Impact strength (Charpy)	max. 7.5 J	87	kJ/m ²	DIN EN ISO 179-1eU	2)
Notched impact strength (Charpy)	2 J	5.6	kJ/m ²	DIN EN ISO 179-1eA	
Ball indentation hardness		228	MPa	ISO 2039-1	3)
Thermal properties	parameter	value	unit	norm	comment
Glass transition temperature		280	°C	DIN 53765	1) (1) Found in public sources.
Melting temperature		n.a.	°C	DIN 53765	2) (2) n.a. = not applicable
Heat distortion temperature	1.82 MPa	279	°C	ASTM D 648	3) (3) Found in public sources. Individual testing regarding application conditions is mandatory.
Service temperature	short term	270	°C	-	3)
Service temperature	long term	250	°C	-	
Thermal expansion (CLTE)	23-55°C, long.	2.5	10 ⁻⁵ K ⁻¹	ASTM D 696	
Thermal conductivity		0.60	W/(K*m)	ASTM E1530	
Electrical properties	parameter	value	unit	norm	comment
Specific surface resistance		10 ¹⁷	Ω	ASTM D 257	1) (1) Found in public sources.
Specific volume resistance		10 ¹³	Ω*cm	ASTM D 257	2) (2) Found in public sources.
Other properties	parameter	value	unit	norm	comment
Moisture absorption in normal climates	23 °C, 50% rel. air humidity	1.9	%	DIN EN ISO 62	(1) Corresponding means no listing at UL (yellow card). The information might be taken from resin, stock shape or estimation. Individual testing regarding application conditions is mandatory.
Resistance to hot water/ bases		-		-	
Flammability (UL94)	corresponding to	V0		DIN IEC 60695-11-10;	1)

TECATOR has a high water uptake. Parts have to be pre-dried before fast heating to above 200 °C (drying process: 24 h per 3 mm wall thickness at 150 °C).

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