

## TECATOR 5013 - Stock Shapes

### Chemical Designation

PAI (Polyamidimide)

### Colour

yellow-brown opaque

### Density

1.4 g/cm<sup>3</sup>

### Main features

- good impact strength
- high pressure resistance
- very good electrical insulation
- stiff
- high creep resistant
- high strength
- good wear resistance
- good thermal stability

### Target Industries

- cryogenic engineering
- electrical engineering
- precision engineering
- mechanical engineering
- medical technology
- vacuum technology
- aircraft and aerospace technology
- semiconductor technology
- automotive industry

Mechanical properties	parameter	value	unit	norm	comment
Modulus of elasticity (tensile test)	1 mm/min	3800	MPa	DIN EN ISO 527-2	1)
Tensile strength	50 mm/min	151	MPa	DIN EN ISO 527-2	
Tensile strength at yield	50 mm/min	151	MPa	DIN EN ISO 527-2	
Elongation at break	50 mm/min	21	%	DIN EN ISO 527-2	
Modulus of elasticity (flexural test)	2mm/min, 10 N	3900	MPa	DIN EN ISO 178	
Impact strength (Charpy)	max. 7,5J	142	kJ/m <sup>2</sup>	DIN EN ISO 179-1eU	2)
Notched impact strength (Charpy)	max. 7,5J	13.2	kJ/m <sup>2</sup>	DIN EN ISO 179-1eU	
Ball indentation hardness		240	MPa	ISO 2039-1	
Thermal properties	parameter	value	unit	norm	comment
Glass transition temperature		280	°C	DIN 53765	1)
Melting temperature		n.a.	°C	DIN 53765	2)
Heat distortion temperature	HDT, Method A	278	°C	ISO-R 75 Method A	
Service temperature	short term	270	°C		3)
Service temperature	long term	250	°C		
Thermal expansion (CLTE)	23-55°C, long.	3.1	10 <sup>-5</sup> *K <sup>-1</sup>	ASTM E 831	
Thermal conductivity		0.29	W/(K*m)	ISO 22007-4:2008	
Electrical properties	parameter	value	unit	norm	comment
Surface resistance		10 <sup>18</sup>	Ω	DIN IEC 60093	
Specific volume resistance		10 <sup>15</sup>	Ω*cm	DIN IEC 60093	
Dielectric strength		23	kV/mm	DIN 53483-1	
Other properties	parameter	value	unit	norm	comment
Resistance to hot water/ bases		+			(1) Ø ca. 50mm, h=13mm
Resistance to weathering		-			(2) 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.
Flammability (UL94)	corresponding to	V0		DIN IEC 60695-11-10;	1)

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