

TECATOR 5031

Chemical Designation :	polyamidimide
DIN–Abbreviation:	PAI CS 12 TF 3
Colours, fillers:	black, graphite, PTFE

Main features

Preferred Fields

Applications

Properties

Mechanical	dry / moist		standard
Tensile strength at yield		MPa	
Elongation at yield		%	
Tensile strength at break	164	MPa	ASTM D 1708
Elongation at break	7	%	ASTM D 1708
Modulus of elasticity in tension	6600	MPa	ASTM D 1708
Modulus of elasticity after flexural test	6900	MPa	ASTM D 790
Hardness	72		ASTM D 785 (Rockwell)
Impact strength 23° C (Charpy)	63	KJ/m ²	notched – ASTM D 256 (Izod)
Creep rupture strength after 1000 h with static load		MPa	
Time yield limit for 1% elongation after 1000 h		MPa	

Co-efficient of friction
 $p = 0,05 \text{ N/mm}^2 v=0,6 \text{ m/s}$
on steel, hardened and ground

Wear $\mu\text{m/km}$
 $p = 0,05 \text{ N/mm}^2 v=0,6 \text{ m/s}$
on steel, hardened and ground

Thermal	dry / moist		standard
Crystalline melting point		°C	
Glass transition temperature	275	°C	
Heat distortion temperature HDT, Method A	279	°C	ASTM D 648 (1.8MPa)
Heat distortion temperature HDT, Method B		°C	
Max. service temperature			
short term	270	°C	
long term		°C	
Thermal conductivity (23° C)	0,54	W/(K·m)	ASTM C 177
Specific heat (23° C)	0,24	J/g.K	
Coefficient of thermal expansion (23–55°C)	2,5	$10^{-5} 1/K$	ASTM E 831

Properties

Electrical	dry / moist	standard
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Dielectric constant (10^6 Hz)	5,4	
Dielectric loss factor (10^6 Hz)	0,042	
Specific volume resistance	8×10^{13}	$\Omega \cdot \text{cm}$
Surface resistance	8×10^{17}	Ω
Dielectric strength		kV/mm
Resistance to tracking		

Miscellaneous	dry / moist	standard
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Density	1,46	g/cm^3	ASTM D 792
Moisture absorption (23°C/50RH)	1,9	%	ASTM D 570
Water absorption to equilibrium	3,5	%	ASTM D 570
Flammability acc. to UL standard 94	V0		

The above information corresponds with our current knowledge and indicates our products and possible applications. We cannot give a legally binding guarantee of chemical resistance, of certain properties and the suitability of our products and their applications. Our products are not destined for use in medical and dental implants. Existing commercial patents must be observed. Unless otherwise stated, these values represent averages taken from injection moulding samples, dry as moulded. We reserve the right to make technical alterations.
