Technical Specification Sheets

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Chemical Designation
PAI (Polyamide-imide)

Colour
black-green opaque

Density
1.46 g/cm^3

Fillers
graphite, PTFE

production process: compression moulding

Main features
- excellent chemical resistance
- excellent wear properties
- very good thermal stability
- excellent dimensional stability
- good machinability

Target Industries
- oil and gas industry
- chemical and refinery industry
- chemical plant engineering
- process engineering
- aircraft and aerospace technology

Mechanical properties	parameter	value	unit	norm		comment
Modulus of elasticity (tensile test)	1mm/min	4300	MPa	DIN EN ISO 527-2	1)	(1) For tensile test: specimen type 1b (2) For flexural test: support span 64mm, norm specimen. (3) Specimen 10x10x10mm (4) For Charpy test: support span 64mm, norm specimen. (5) Specimen in 4mm thickness
Tensile strength at break	5mm/min	82	MPa	DIN EN ISO 527-2		
Elongation at break (tensile test)	5mm/min	4,7	%	DIN EN ISO 527-2		
Flexural strength	2mm/min, 10 N	134	MPa	DIN EN ISO 178	2)	
Modulus of elasticity (flexural test)	2mm/min, 10 N	4000	MPa	DIN EN ISO 178		
Compression strength	1% / 2% / 5%	13/33/87	MPa	EN ISO 604	3)	
Impact strength (Charpy)	max. 7,5J	34	kJ/m^2	DIN EN ISO 179-1eU	4)	
Ball indentation hardness		193	MPa	ISO 2039-1	5)	
Shore hardness	D scale	88		DIN EN ISO 868		

Thermal properties	parameter	value	unit	norm	comment
Glass transition temperature		283	°C	DIN EN ISO 11357	
Thermal expansion (CLTE)	23-60°C, longitudinal	3,5	10^{-5} K^{-1}	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	23-100°C, longitudinal	3,5	10^{-5} K^{-1}	DIN EN ISO 11359-1;2	

Other properties	parameter	value	unit	norm	comment
Moisture absorption	24h / 96h (23°C)	0,3 / 0,5	%	DIN EN ISO 62	
Flammability (UL94)	3,3 mm	V0		-	