

## Application purpose and characteristics

Because of its intrinsic high temperature resistance, high dimension stability and good machinability, this extruded PAI type is very popular for precision parts in high-tech equipment. In addition, its good electrical insulating ability provides numerous possibilities in the field of electrical components. For semi finished parts with bigger sizes the material can be produced by compression molding.

This compound offers the best toughness and impact strength of all Polyamides and it is suitable for very high temperatures. Excellent retention of mechanical strength, stiffness and creep resistance over a wide temperature range. Excellent UV resistance,

Material name, short description	PAI
Material name, based on technical standards	Polyamide imide
Density	1.41 g/cm <sup>3</sup>
Color	yellow-ochre
Compound code	PAI SL.004-00

## Mechanical properties

Modulus of elasticity & tension 1	4200 N/mm <sup>2</sup> ISO 527-1,-2
Tensile strength	150 N/mm <sup>2</sup> ISO 527-1,-2
Yield stress	150 N/mm <sup>2</sup> ISO 527-1,-2
Compressive strength 1	34 N/mm <sup>2</sup> ISO 604 at 1 % nominal strain
Compressive strength 2	135 N/mm <sup>2</sup> ISO 604 at 5 % nominal strain
Compressive strength 3	135 N/mm <sup>2</sup> ISO 604 bei 1% zul. Verformung
Hardness test value	80 Rockwell E ISO 2039-2
Ball indentation hardness	200 N/mm <sup>2</sup> ISO 2039-1
Impact strength	no break ISO 179-1/1eU
Notch impact strength	15.00 kJ/m <sup>2</sup> ISO 179/1eA Charpy

## Other attributes

Moisture absorption	0.35 % ISO 62 24 h, 23 °C
Moisture absorption 2	67 % ISO 62 96 h, 23 °C
Water absorption	4.4 % after immersion in water at 23 °C

## Thermal attributes

Min. operating temperature	-50 °C
Max. operating temperature long term	250 °C min. 20000 h
Max. operating temperature short term	270 °C
Coefficient of linear thermal expansion 1	40 * 10 <sup>-6</sup> 23 - 150 °C
Glass transition temperature	280 °C ISO 11357-1,-2 DSC 20 °C/min
Heat deflection temperature 1	280 °C ISO 75-1,-2 method A:1.8 N/mm <sup>2</sup>
Thermal conductivity	0.26 W/(m·K)

## Electrical attributes

Comparative tracking index	175 CTI IEC 60112
Dielectric dissipation factor 1	0.026 IEC 60250 at 100 Hz
Dielectric dissipation factor 2	0.031 IEC 60250 1 MHz
Dielectric strength 1	24 kV/mm IEC 60243-1
Surface resistivity	≥10 <sup>13</sup> /sq. Ω ANSI/ESD STM 11.11

In compliance with **RoHS** and **REACH** directives.

This information is based on our available data. These values are measured on standard test specimens and are within the normal tolerance range of material properties and do not represent guaranteed property values. Therefore they shall not be used for specification purposes. The customer is solely responsible for quality and suitability of material for his application. He has to test usage and processing prior to use. Angst+Pfister makes no guarantees for the suitability of the material for any given application and assumes no obligation or liability in connection with the information provided above.