APSOplast® PAI SL PLUS



Engineering plastics technology Technical Data Sheet

Application purpose and characteristics

PAI SL PLUS offers excellent dimensional stability over a wide temperature range. Very well suited for components with heavy wear such as nonlubricated bearings, seals, bearing cages and parts for lifting movements. For semi finished parts with bigger sizes the material can be produced by compression moslding.

PAI SL PLUS is a very more rigid plastic with extremely low creep and high mechanical resistance at very high temperatures with excellent sliding and wear. The addition of PTFE and graphite provides higher wear resistance and lower coefficient of friction

Material name, short description	PAI
Material name, based on technical standards	Polyamide imide
Density	1.45 g/cm ³
Color	black
Compound code	PAI SL PLUS.004-00

Mechanical properties

Modulus of elasticity & tension 1	5500 N/mm² ISO 527-1,-2
Tensile strength	110 N/mm² ISO 527-1,-2
Yield stress	110 N/mm² ISO 527-1,-2
Compressive strength 1	39 N/mm² ISO 604 1 % nominal strain
Compressive strength 2	130 N/mm ² ISO 604 5 % nominal strain
Hardness test value	106 Rockwell M ISO 2039-2
Ball indentation hardness	200 N/mm² ISO 2039-1
Impact strength	#ErrorkJ/m² ISO 179-1/1eU Charpy
Notch impact strength	4.00 kJ/m² ISO 179-1/1eA Charpy

Other attributes

Moisture absorption0.3 %
ISO 62
24 h, 23 °CMoisture absorption 20.55 %
ISO 62
96 h, 23 °CWater absorption3.8 %
after immersion in water of 23 °C

Thermal attributes

Min. operating temperature	-20 °C
Max. operating temperature long term	250 °C min. 20000 h
Max. operating temperature short term	270 °C
Coefficient of linear thermal expansion 1	35 * 10⁻⁰ m/(m*K) 23 °C - 150 °C
Glass transition temperature	280 °C ISO 11357-1,-3 DSC 20 °C/min
Heat deflection temperature 1	280 °C ISO 75-1,-2 methode A, 1.8 N/mm ²
Thermal conductivity	0.54 W/(m⋅K) at 23 °C

Electrical attributes

Comparative tracking index	175 CTI IEC 60112
Dielectric dissipation factor 1	0.037 IEC 60250 at 100 Hz
Dielectric dissipation factor 2	0.042 IEC 60250 1 MHz
Surface resistivity	≥10 ¹³ 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.