APSOplast® PA 6 G bio

Angst+Pfister

Engineering plastics technology
Technical Data Sheet

Application purpose and characteristics
Mechanical engineering, conveyor industry, bottling industry
Excellent sliding and abrasion resistance properties, high mechanical strength, high impact strength. Produced by bio-based / biomass-balanced raw material.

Material name, short description	PA 6 G
Material name, based on technical standards	Polyamide 6 cast
Density	1.15 g/cm³
Color	natural (ivory)
Compound code	PA 6 G bio.002-01
Remarks	-88% CO2 emissions compared to standard PA6G

Mechanical properties

Modulus of elasticity & tension 1	3500 N/mm² DIN EN ISO 527-2 1mm/min
Tensile strength	83 N/mm² DIN EN ISO 527-2 50mm/min
Yield stress	109 N/mm² DIN EN ISO 178 2mm/min, 10 N
Elongation at break	40 % DIN EN ISO 527-2 50mm/min
Elongation at yield	4 % DIN EN ISO 527-2 50mm/min
Flexural modulus of elasticity	3200 N/mm² DIN EN ISO 178 2mm/min, 10 N
Modulus of pressure	2900 N/mm² 5mm/min, 10 N
Bending strength 1	80 N/mm² DIN EN ISO 527-2 50mm/min
Compressive strength 1	19 N/mm² EN ISO 604 1% 5mm/min, 10 N
Compressive strength 2	36 N/mm² EN ISO 604 2% 5mm/min, 10 N
Compressive strength 3	83 N/mm² EN ISO 604 5% 5mm/min, 10 N
Hardness nominal value	83 Shore D DIN EN ISO 868
Impact strength	0 no break DIN EN ISO 179-1eU max. 7,5J
Notch impact strength	4.00 kJ/m² DIN EN ISO 179-1eA max. 7,5J

Thermal attributes

Max. operating temperature long term	100 °C
Max. operating temperature short term	170 °C
Coefficient of linear thermal expansion 1	12 10^-5 K^-1 DIN EN ISO 11359-1,-2 23-60°C, long.
Coefficient of linear thermal expansion 2	12 10^-5 K^-1 DIN EN ISO 11359-1,-2 23-100°C, long.
Crystalline melting point	215 °C DIN EN ISO 11357
Glass transition temperature	40 °C DIN EN ISO 11357
Specific heat capacity	1.7 J/(g·K) ISO 22007-4 2008
Thermal conductivity	0.38 W/(m·K) ISO 22007-4 2008

Electrical attributes

Surface resistivity	10^14 Ω DIN IEC 60093
Volume resistivity	10^14 Ω*cm DIN IEC 60093

Other attributes

Water absorption	0.2 % DIN EN ISO 62 24h (23°C)
Water absorption 2	0.4 % DIN EN ISO 62 96h (23°C)

Approvals / Compliance

Flammability	UL 94 HB
Food & Beverage	FDA CFR 21 - 177.1500 "Nylon resins" a) to f)
	EC No. 1935/2004
	EC No. 2023/2006 "Good Manufacturing Practics, GMP"
	Regulation EU 10/2011 incl. last amendments