

## 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/cm <sup>3</sup>
Color	natural (ivory)
Compound code	PA 6 G bio.002-01
Remarks	-88% CO <sub>2</sub> emissions compared to standard PA6G

## Mechanical properties

Modulus of elasticity & tension 1	3500 N/mm <sup>2</sup> DIN EN ISO 527-2 1mm/min
Tensile strength	83 N/mm <sup>2</sup> DIN EN ISO 527-2 50mm/min
Yield stress	109 N/mm <sup>2</sup> 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/mm <sup>2</sup> DIN EN ISO 178 2mm/min, 10 N
Modulus of pressure	2900 N/mm <sup>2</sup> 5mm/min, 10 N
Bending strength 1	80 N/mm <sup>2</sup> DIN EN ISO 527-2 50mm/min
Compressive strength 1	19 N/mm <sup>2</sup> EN ISO 604 1% 5mm/min, 10 N
Compressive strength 2	36 N/mm <sup>2</sup> EN ISO 604 2% 5mm/min, 10 N
Compressive strength 3	83 N/mm <sup>2</sup> 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/m <sup>2</sup> 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 <sup>-5</sup> K <sup>-1</sup> DIN EN ISO 11359-1,-2 23-60°C, long.
Coefficient of linear thermal expansion 2	12 · 10 <sup>-5</sup> K <sup>-1</sup> 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 <sup>14</sup> Ω DIN IEC 60093
Volume resistivity	10 <sup>14</sup> 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)

In compliance with EU REACH regulation and EU ROHS directives. The information about compliance are intended to provide guidance on the use of our material. The document does not replace a declaration of conformity and does not relieve the user to require information on specific approval. 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.

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 Practices, GMP"
	Regulation EU 10/2011 incl. last amendments



EC No.1935:2004



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