APSOplast® POM-C bio

Angst+Pfister

Engineering plastics technology
Technical Data Sheet

Application purpose and characteristics
Conveyor technology, mechanical engineering, automotive industry, precision engineering, food-, packaging- and paper industry, fixture construction
High stiffness, strength and toughness, good chemical resistance, difficult to bond, good slide and wear properties, good machinability. Produced by bio-based / biomass-balanced raw material.

Material name, short description	POM-C
Material name, based on technical standards	Polyoxymethylene copolymer
Density	1.41 g/cm³
Color	natural (white)
Compound code	POM-C bio.002-01
Remarks	-44% Carbon Footprint CO2 emissions compared to the counterpart POM-C 00.002-00

Thermal attributes

Max. operating temperature long term	100 °C
Max. operating temperature short term	140 °C
Coefficient of linear thermal expansion 1	13 10^-5 K^-1 DIN EN ISO 11359-1,-2 23-60°C, long.
Coefficient of linear thermal expansion 2	14 10^-5 K^-1 DIN EN ISO 11359-1,-2 23-100°C, long.
Crystalline melting point	166 °C DIN EN ISO 11357
Glass transition temperature	-60 °C DIN EN ISO 11357
Specific heat capacity	1.4 J/(g·K) ISO 22007-4 2008
Thermal conductivity	0.39 W/(m·K) ISO 22007-4 2008

Electrical attributes

Comparative tracking index	600 CTI DIN EN 60112 Platin electrode, 23°C, 50% r.h., solven
Dielectric strength 1	49 kV/mm ISO 60243-1 23°C, 50% r.h.
Surface resistivity	10^14 Ω DIN IEC 60093 Silver electrode, 23°C, 12% r.h.
Volume resistivity	10^14 Ω*cm DIN IEC 60093 Silver electrode, 23°C, 12% r.h.

Mechanical properties

Modulus of elasticity & tension 1	2800 N/mm² DIN EN ISO 527-2 1mm/min
Tensile strength	67 N/mm² DIN EN ISO 527-2 50mm/min
Yield stress	91 N/mm² DIN EN ISO 178 2mm/min, 10 N
Elongation at break	32 % DIN EN ISO 527-2 50mm/min
Elongation at yield	9 % DIN EN ISO 527-2 50mm/min
Flexural modulus of elasticity	2600 N/mm² DIN EN ISO 178 2mm/min, 10 N
Modulus of pressure	2300 N/mm² 5mm/min, 10 N
Bending strength 1	67 N/mm² DIN EN ISO 527-2 50mm/min
Compressive strength 1	20 N/mm² EN ISO 604 1% 5mm/min, 10 N
Compressive strength 2	35 N/mm² EN ISO 604 2% 5mm/min, 10 N
Compressive strength 3	68 N/mm² EN ISO 604 5% 5mm/min, 10 N
Hardness nominal value	82 Shore D DIN EN ISO 868
Impact strength	0 no break DIN EN ISO 179-1eU max. 7,5J
Notch impact strength	8.00 kJ/m² DIN EN ISO 179-1eA max. 7,5J

Other attributes

Water absorption	0.05 % DIN EN ISO 62 24h (23°C)
Water absorption 2	0.1 % DIN EN ISO 62 96h (23°C)

Approvals / Compliance

Flammability	UL 94 HB
Food & Beverage	FDA CFR 21 - 177.2470 "Polyoxymethylene copolymer" for all food types up to 65°C, except those containing more than 15% alcohol.
	EC No. 1935/2004 incl. last amendments
	EC No. 2023/2006 "Good Manufacturing Practics, GMP"
	Regulation EU 10/2011 incl. last amendments