

Technical Data Sheet



ALCOM PBT 700/1 GF30 PTFE15

Base Polymer	Polybutylene Terephthalate
Filler/Additive System	30 % glass fibres, 15 % PTFE
Special Features	improved sliding / wear, high stiffness
Market Segment	Automotive, Machinery
Application Area	gear wheels, roller bearings
Typical Applications	functional components, bearings and sliding elements

Pre-Drying Conditions	in a dry air (dessiccant) dryer 100-120 °C for 2-4 h in an air circulating dryer 100-120 °C for 4-8 h dependant on moisture content
Processing Injection Moulding	melt temperature 250-270 °C mould temperature 80-120 °C
Storage	dry, protected from light

Properties	Value	Dimension	Test Norm
Mechanical Properties			
Flexural Modulus	9300	MPa	ISO 178
Flexural Strength	200	MPa	ISO 178
Tensile Modulus	10400	MPa	ISO 527
Tensile Strength at Break	125	MPa	ISO 527
Tensile Elongation at Break	2.8	%	ISO 527
Impact Strength (Charpy, 23°C)	60	kJ/m ²	ISO 179/1eU
Impact Strength (Charpy, -40°C)	70	kJ/m ²	ISO 179/1eU
Notched Impact Strength (Charpy, 23°C)	9	kJ/m ²	ISO 179/1eA
Notched Impact Strength (Charpy, -40°C)	8.5	kJ/m ²	ISO 179/1eA
Thermal Properties			
Vicat B50	214	°C	ISO 306
HDT / A (1,8 MPa)	210	°C	ISO 75-1/-2
DSC (Melt Point)	225	°C	ISO 11357
Rheological Properties			
Melt Index (MVR)	8	cm ³ /10min	ISO 1133
MVR temperature	260	°C	-
MVR load	2.16	kg	-
Shrinkage (lengthwise, 24h)	0.1 - 0.3	%	ISO 294-4
Shrinkage (lateral, 24h)	0.8 - 1	%	ISO 294-4
Physical Properties			
Density	1650	kg/m ³	ISO 1183

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Tribologic Properties

Coefficient of Sliding Friction μ ($p_v = 5 \cdot 1 \text{ MPa} \cdot \text{m/s}$)	0.3	-	ASTM G 137
Coefficient of Sliding Friction μ_H ($p_v = 5 \cdot 1 \text{ MPa} \cdot \text{m/s}$)	0.23	-	ASTM G 137
Specific Wear Rate w_s ($p_v = 5 \cdot 1 \text{ MPa} \cdot \text{m/s}$)	1.5	E-6 mm^3/Nm	ASTM G 137
Linear Wear Rate w ($p_v = 5 \cdot 1 \text{ MPa} \cdot \text{m/s}$)	27	$\mu\text{m/h}$	ASTM G 137