

Technical Data Sheet



ALCOM WP POM 5020 TF 18029

Base Polymer	Polyoxymethylene Copolymer
Filler/Additive System	20 % PTFE/Aramid
Special Features	improved sliding / wear
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 100-110 °C for 2-3 h in an air circulating dryer 100-110 °C for 3-5 h dependant on moisture content
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Processing Injection Moulding	melt temperature 190-230 °C mould temperature 60-120 °C
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Storage	dry, protected from light
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Properties	Value	Dimension	Test Norm
Mechanical Properties			
Flexural Modulus	2600	MPa	ISO 178
Flexural Stress (3.5% Strain)	64	MPa	ISO 178
Tensile Modulus	2500	MPa	ISO 527
Tensile Strength at Break	42	MPa	ISO 527
Tensile Elongation at Break	8	%	ISO 527
Impact Strength (Charpy, 23°C)	31	kJ/m ²	ISO 179/1eU
Impact Strength (Charpy, -40°C)	31	kJ/m ²	ISO 179/1eU
Notched Impact Strength (Charpy, 23°C)	3	kJ/m ²	ISO 179/1eA
Notched Impact Strength (Charpy, -40°C)	2.5	kJ/m ²	ISO 179/1eA
Thermal Properties			
Vicat B50	148	°C	ISO 306
HDT / A (1,8 MPa)	103	°C	ISO 75-1/-2
DSC (Melt Point)	167	°C	ISO 11357
Rheological Properties			
Melt Index (MVR)	3.5	cm ³ /10min	ISO 1133
MVR temperature	190	°C	-
MVR load	2.16	kg	-
Shrinkage (lengthwise, 24h)	2 - 2.4	%	ISO 294-4
Shrinkage (lateral, 24h)	1.4 - 1.8	%	ISO 294-4
Physical Properties			
Density	1450	kg/m ³	ISO 1183

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Tribologic Properties

Coefficient of Sliding Friction μ ($p_v = 5 \cdot 1 \text{ MPa} \cdot \text{m/s}$)	0.27	-	ASTM G 137
Coefficient of Sliding Friction μ_H ($p_v = 5 \cdot 1 \text{ MPa} \cdot \text{m/s}$)	0.18	-	ASTM G 137
Specific Wear Rate w_s ($p_v = 5 \cdot 1 \text{ MPa} \cdot \text{m/s}$)	0.25	E-6 mm^3/Nm	ASTM G 137
Linear Wear Rate w ($p_v = 5 \cdot 1 \text{ MPa} \cdot \text{m/s}$)	4.5	$\mu\text{m/h}$	ASTM G 137