

**Polyamide 66****with carbon fibers and PTFE, heat stabilized, natural color (black)**

Physical properties		Test method	Specimen	Units	Typical value
Specific gravity		ISO 1183-3		g/cm <sup>3</sup>	1,26
Water absorption	23°C / 24h	ISO 62	MPTS ISO 3167 A	%	<1,0
Linear mould shrinkage		DIN 16742	MPTS ISO 3167 A	%	0,2-0,5
Mechanical properties at 23°C / 50% rh					
Tensile strength	dry, @50 mm/min	ISO 527	MPTS ISO 3167 A	MPa	200
Tensile strength	cond 23°C / 50%rh, @50 mm/min	ISO 527	MPTS ISO 3167 A	MPa	145
Elongation at maximum force	dry, @50 mm/min	ISO 527	MPTS ISO 3167 A	%	2,7
Elongation at maximum force	cond 23°C / 50%rh, @50 mm/min	ISO 527	MPTS ISO 3167 A	%	2,9
Modulus of elasticity	dry, @1 mm/min	ISO 527	MPTS ISO 3167 A	GPa	14
Modulus of elasticity	cond 23°C / 50%rh, @1 mm/min	ISO 527	MPTS ISO 3167 A	GPa	10
Flexural strength	dry, @10 mm/min	ISO 178	MPTS ISO 3167 A	MPa	295
Flexural strength	cond 23°C / 50%rh, @10 mm/min	ISO 178	MPTS ISO 3167 A	MPa	235
Flexural elongation at max. force	dry, @10 mm/min	ISO 178	MPTS ISO 3167 A	%	3,6
Flexural elongation at max. force	cond 23°C / 50%rh, @10 mm/min	ISO 178	MPTS ISO 3167 A	%	4
Flexural modulus	dry, @2 mm/min	ISO 178	MPTS ISO 3167 A	GPa	12
Flexural modulus	cond 23°C / 50%rh, @2 mm/min	ISO 178	MPTS ISO 3167 A	GPa	9
Charpy impact strength	dry	ISO 179 1eU	80x10x4mm	kJ/m <sup>2</sup>	60
Charpy impact strength	dry		80x10x4mm	kJ/m <sup>2</sup>	60
Charpy impact strength	cond 23°C / 50%rh	ISO 179 1eU	80x10x4mm	kJ/m <sup>2</sup>	68
Charpy impact strength, notched	dry	ISO 179 1eA	80x10x4mm	kJ/m <sup>2</sup>	7
Thermal properties					
Continuous service temperature	20.000 h	IEC 60216	MPTS ISO 3167 A	°C	120
Service temperature	during lifetime max. 200h		MPTS ISO 3167 A	°C	160
Coefficient of thermal expansion		ISO 11359	10x8x4 mm	10 <sup>-5</sup> /K	1,8
Electrical properties					
Insulation resistance strip electrode R25		DIN IEC 60167	MPTS ISO 3167 A	Ω	<10 <sup>5</sup>
Surface resistance	ROB	DIN IEC 60093	Ronde 60x4mm	Ω	<10 <sup>4</sup>

**Main features**

STRUCTURAL



TRIBOLOGICAL



REGULATORY

Very strong and stiff parts; low coefficient of thermal expansion. Improved friction and wear behaviour. Optimised for dry running operations. Electrically conductive, suitable for continuous discharging of statically-generated electricity. Low warpage.

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**Recommended processing parameters****Predrying**

It is advisable to predry the granulate with a suitable dryer immediately before processing. The granulate may absorb moisture from the environment.

Dryer type	Temperature °C	Drying time in h
Dehumidifying dryer	75	6 - >16
Vacuum Dryer	105	4 - 6

**Processing**

Zone 1	°C	290 - 310
Zone 2	°C	290 - 310
Zone 3	°C	290 - 310
Nozzle	°C	280 - 300
Mold	°C	90 - 120
Melt temperature	°C	290

In general this product can be processed on conventional injection moulding machines while observing the usual technical guidelines. Any added fibrous materials or fillers may have an abrasive effect. In this case the cylinder and screw should be protected against wear as is usual in the processing of reinforced thermoplastic materials. Lengthy dwell times for the melts in the cylinder should be avoided. Lower the temperatures during interruptions!

**Delivery form & storage**

Unless indicated otherwise, the material is delivered as 3mm long pellets in sealed bags on pallets. Preferably storage should be effected in dry and normally temperatured rooms.

**Additional information**

During processing the moisture level should not exceed 0.05%, otherwise molecular degradation and surface defects (e.g. smearing) may occur. Excessively high predrying temperatures may cause discoloration. The processing notes provided merely represent a recommendation for general use. Due to the large variety of machines, geometries and volumes of parts, etc., it may be necessary to employ different settings according to the specific application. Please contact us for further information.

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