LUVOCOM® 20-0778/BK

LUVOCOM®
High-performance compounds

Polyphthalamid
with glass fibers and PTFE, black

Physical properties		Test method	Specimen	Units	Typical value
Specific gravity		ISO 1183-3		g/cm³	1,56
Water absorption	23°C / 24h	ISO 62	MPTS ISO 3167 A	%	<0,3
Linear mould shrinkage		DIN 16742	MPTS ISO 3167 A	%	0,2-0,6
Mechanical properties at 23°C / 50% rh					
Tensile strength	dry, @50 mm/min	ISO 527	MPTS ISO 3167 A	MPa	195
Elongation at maximum force	dry, @50 mm/min	ISO 527	MPTS ISO 3167 A	%	2
Modulus of elasticity	dry, @1 mm/min	ISO 527	MPTS ISO 3167 A	GPa	12
Flexural strength	dry, @10 mm/min	ISO 178	MPTS ISO 3167 A	MPa	275
Flexural elongation at max. force	dry, @10 mm/min	ISO 178	MPTS ISO 3167 A	%	2,5
Flexural modulus	dry, @2 mm/min	ISO 178	MPTS ISO 3167 A	GPa	10
Charpy impact strength	dry		80x10x4mm	kJ/m²	45
Charpy Impact Strength	dry	ISO 179 1fU	80x10x4mm	kJ/m²	45
Charpy impact strength	-30°C	ISO 179 1fU	80x10x4mm	kJ/m²	40
Thermal properties					
Vicat softening temp	VST A	DIN ISO 306	MPTS ISO 3167 A	°C	295
Heat distortion temperature	HDT A	ISO 75	molded sample	°C	270
Continuous service temperature	20.000 h	IEC 60216	MPTS ISO 3167 A	°C	165
Service temperature	during lifetime max. 200h		MPTS ISO 3167 A	°C	195
Electrical properties					
Insulation resistance strip electrode	R25	DIN IEC 60167	MPTS ISO 3167 A	Ω	$>10^{12}$

Main features

TRIBOLOGICAL

Improved friction and wear behaviour. Optimised for dry running operations. Very strong and stiff parts; low coefficient of thermal expansion. Low influence from moisture and temperature to measures and electrical properties, compared with PA66 Suitable for metal inserts.

2019121306242

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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	80	16 - >16
Vacuum Dryer	105	4 - 5
Processing		
Zone 1	°C	320 - 340
Zone 2	°C	320 - 345
Zone 3	°C	325 - 350
Nozzle	°C	320 - 330
Mold	°C	135 - 160
Melt temperature	°C	330

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. Processing temperatures above 350°C may very rapidly cause thermal damage and should therefore be avoided. 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. High-temperature polymers place increased demands on the tool steels employed. Please contact us for further information.

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