

LUVOTECH[®] eco PBT GF20 BK

Polybutylene terephthalate
with glass fibers, black

Physical properties		Test method		Units	Typical value
Specific gravity		ISO 1183		g/cm³	1,42
Water absorption	23°C / 24h	ISO 62		%	<0,3
Mechanical properties at 23°C / 50% rh					
Stress at break	dry, @5 mm/min	ISO 527-1/2		MPa	85
Strain at break	dry, @5 mm/min	ISO 527-1/2		%	3,2
Tensile Modulus	dry, @1 mm/min	ISO 527-1/2		MPa	6000
Flexural strength	dry, @10 mm/min	ISO 178		MPa	140
Flexural elongation @Fmax.	dry, @10 mm/min	ISO 178		%	4,2
Flexural modulus	dry, @2 mm/min	ISO 178		GPa	5,0
Impact strength	dry	ISO 179 1eU		kJ/m²	40
Impact strength, notched	dry	ISO 179 1eA		kJ/m²	4
Electrical properties					
Insulation resistance	bar electrode R25	ref. to DIN EN 62631-3-3		Ω	>10 ¹²
Surface resistance		ref. to DIN EN 62631-3-2		Ω	>10 ¹²
Other properties					
Carbon footprint		DIN EN ISO 14040/44 DIN EN ISO 14067		kg CO2 eq/kg	0,39

Main features

Strong, stiff parts.

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Recommended processing parameters

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.

Predrying

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

Dryer type	Temperature °C	Drying time in h
Dehumidifying dryer	120	4 - 6
Vacuum Dryer	80	6 - 8

Recommended processing parameters

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!

Mold	Melt temperature	Nozzle	Zone 3	Zone 2	Zone 1
60 - 120 °C	250 °C	250 - 265 °C	250 - 270 °C	260 - 280 °C	240 - 260 °C

Additional information

During processing the moisture level should not exceed 0.02%, otherwise molecular degradation and surface defects (e.g. smearing) may occur. Processing temperatures above 270°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. Please contact us for further information.

The Carbon footprint was calculated using established, science-based methods and the Life Cycle Assessment (LCA) software GaBi. The calculation was conducted based on the international LCA standards DIN EN ISO 14040, DIN EN ISO 14044 and the standard DIN EN ISO 14067 "Carbon footprint of products".

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