

PLA for 3D Printing

881N

The next generation Biopolymer

- Ideal for tooling, prototyping and general industrial applications
- Ideal material to replace ABS (odourless)
- Machinable
- High mechanical and impact resistance
- Consistent diameter and extremely round
- Reduced breakage for longer printing performance
- High temperature resistance (180°C melting point after annealing)

Size Specifications ^[a]		Units	Test Method
Nominal Diameter	1.75 / 2.85	mm	-
Diameter Tolerances	±0.05 / ±0.15	mm	-
Mechanical Properties		Units	Test Method
Tensile Modulus	1549 ± 75	MPa	ISO 527-1
Tensile Stress at Yield	28 ± 1	MPa	ISO 527-1
Tensile Stress at Break	22 ± 1	MPa	ISO 527-1
Tensile Strain at Yield	2.6 ± 0.2	%	ISO 527-1
Tensile Strain at Break	8.3 ± 1.4	%	ISO 527-1
Flexural Strength	53 ± 1	MPa	ISO 178
Flexural Modulus	2326 ± 26	MPa	ISO 178
Izod Impact Strength, notched	11.4 ± 0.9	kJ/m ²	ISO 180
Izod Impact Strength, unnotched	6.8 ± 1.0	kJ/m ²	ISO 180
Charpy Impact Strength	6.0 ± 1.0	kJ/m ²	ISO 179
Hardness [Penetration of the ball in 1/100 of a mm]	4.4 ± 0.6	-	ISO 48

^[a]Property measured using the filament. All remaining properties are measured using 3D test specimens.



Thermal Properties		Units	Test Method
Melt Mass-Flow Rate	13 ± 2	g/10min	ISO 1133
Heat Deflection (HDT) at 0.455 MPa	57 ± 2	°C	ISO 75
Heat Deflection (HDT) at 1.820 MPa	54 ± 3	°C	ISO 75
Glass Transition, 1Hz	66 – 67	°C	ISO 6721
Coefficient of Thermal Expansion	8 x 10 ⁻⁵	m/m°C	-
Melting Temperature ^[a]	175 – 185	°C	ISO 11357
VICAT Softening Temperature	57 ± 2	°C	ISO 306
Printer Settings ^[b]		Units	Test Method
Extruder Temperature	200 – 215	°C	-
Plate Temperature	60	°C	-
Ventilation	0 – 50	%	-

^[b]Recommended settings. For the best results when printing with Filkemp filaments, carefully read the 3D printer manufacturer's instructions manual.

Additional Information

Regulatory Compliance: REACH / RoHs

Spool Weight: 1kg (2.2lbs)

All filaments are supplied in vacuum-sealed packaging containing a desiccant bag

Other sizes, spool weight and packaging are available upon request

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Disclaimer:

This information is based on our current knowledge of raw materials and the manufacturing process and refers to the above mentioned products when leaving Filkemp. It is solely the customer's responsibility to determine if the product and information in this document are appropriate for the customer's end use. Responsibility for the use, storage, handling and disposal of the products herein is that of the purchaser or end user.