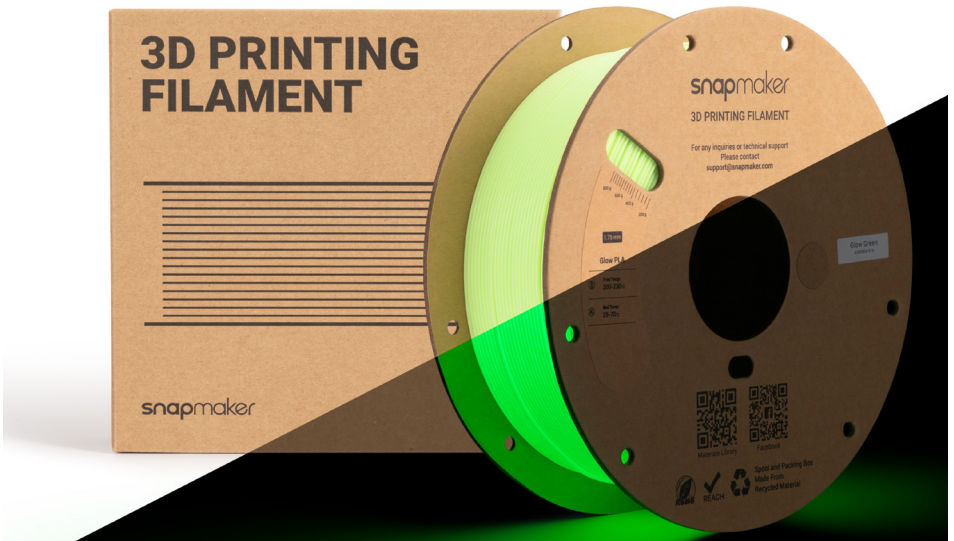


snapmaker | **PLA Glow**

Technical Data Sheet



www.snapmaker.com

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1 Filament Introduction

Snapmaker PLA Glow is a specialty filament containing luminous powder, offered in a range of fluorescent colors to deliver a distinctive glowing effect in the dark. Simply charge the prints under a bright lamp or natural light near a window for 10 minutes to activate the glow, and it can be recharged to glow again and again. It is suitable for creating desk ornaments, signs, and cosplay props, or adding glowing accents to your models. These fluorescent colors suit different models and creative styles, offering vivid tones in bright settings and a distinctive glow in low-light conditions.

2 Specifications

Subjects	Data
Diameter	1.75 mm $\pm$ 0.03 mm
Net Filament Weight	1 kg
Length	337 m
Spool Material	Cardboard Spool
Spool Size	Diameter: 200 mm; Height: 66 mm

3 Recommended Printing Settings

Subjects	Data
Drying Settings Before Printing	55°C, 8 h
Printing and Storage Humidity	< 20% RH (Sealed, with Desiccant)
Nozzle Size	0.4 / 0.6 / 0.8 mm (Hardened Steel Hot Ends) (Not Recommend: 0.2 mm)
Nozzle Temperature	200–230°C
Bed Type	Smooth PEI Plate / Textured PEI Plate / Graphic Effect Steel Plate
Bed Surface Preparation	Glue

Subjects	Data
Bed Temperature	25–70°C
Cooling Fan	80%
Printing Speed	< 200 mm/s
Retraction Length	0.4-0.8 mm
Retraction Speed	20–30 mm/s
Chamber Temperature	25–45°C
Max Overhang Angle	60°
Max Bridging Length	≤ 30 mm
Support Material	Support for PLA

Please Note

To activate the glow of PLA Glow filament or printed objects, place them under a bright desk lamp or in bright natural light near a window for about 10 minutes. After the light source is removed, the glow remains clearly visible for about 5 minutes before gradually fading, with a faint afterglow lasting up to around 40 minutes in total. To restore a more noticeable glow, expose the filament or printed object to light again. Avoid prolonged light exposure, as it may accelerate material aging.

Printing Tips

1. Drying & Storage

- **Pre-Drying:** PLA Glow filament has moderate moisture sensitivity, so drying before use is optional. However, pre-drying is recommended for optimal print results. The recommended setting is 55°C for 8 hours.

- **Storage:** Prolonged exposure to direct sunlight will cause the material to fade and become brittle. When not in use, store the filament in a dry place away from direct sunlight to maintain consistent print quality.

2. Printing

- **Hotend Selection:** Do not use hotends with nozzle diameters smaller than 0.4 mm, as the luminous powder may cause clogging.

- **Use Hardened Steel Hot Ends:** This filament may wear down stainless steel hotends. Use hardened steel hotends instead.
- **Use Manual Loading:** The luminous powder makes this filament abrasive and may accelerate wear on the printer's automatic filament feeder. To protect the feeder, **do not use the automatic feeding function. Always load and unload the filament manually.** (Note: RFID readers are located near the spool holders on both sides of the printer. During manual loading, RFID detection is available only when the spool is placed on a holder.)

4 Properties

Physical Properties

Subjects	Testing Methods	Data
Density	ISO 1183, GB/T 1033	1.26 g/cm ³
Melt Index	210°C, 2.16 kg	23.3 ± 2.4 g/10 min
Melting Temperature	DSC, 10°C/min	155°C
Glass Transition Temperature	DSC, 10°C/min	55°C
Decomposition Temperature	TGA, 20°C/min	N/A
Crystallization Temperature	DSC, 10°C/min	N/A
Vicat Softening Temperature	ISO 306, GB/T 1633	56°C
Heat Deflection Temperature	ISO 75, 1.8 MPa	52°C
Heat Deflection Temperature	ISO 75, 0.45 MPa	55°C
Saturated Water Absorption Rate	23°C, 70% RH	0.46%

Mechanical Properties

Subjects	Testing Methods	Data
Young's Modulus (X-Y)	ISO 527, GB/T 1040	2015 ± 150 MPa
Young's Modulus (Z)	ISO 527, GB/T 1040	1800 ± 120 MPa
Tensile Strength (X-Y)	ISO 527, GB/T 1040	30 ± 4.1 MPa
Tensile Strength (Z)	ISO 527, GB/T 1040	25.3 ± 0.7 MPa
Breaking Elongation Rate (X-Y)	ISO 527, GB/T 1040	8.1 ± 1.5 %
Breaking Elongation Rate (Z)	ISO 527, GB/T 1040	7.2 ± 0.9 %
Bending Modulus (X-Y)	ISO 178, GB/T 9341	2710 ± 80 MPa
Bending Modulus (Z)	ISO 178, GB/T 9341	2320 ± 229.3 MPa
Bending Strength (X-Y)	ISO 178, GB/T 9341	78.9 ± 3.2 MPa
Bending Strength (Z)	ISO 178, GB/T 9341	62 ± 4.6 MPa

(continued)

Impact Strength (X-Y)	ISO 179, GB/T 1043	$30.1 \pm 1.2 \text{ kJ/m}^2$
Impact Strength (Z)	ISO 179, GB/T 1043	$18.3 \pm 0.9 \text{ kJ/m}^2$

Other Physical and Chemical Properties

Subjects	Data
Odor	Odorless
Composition	Polylactic Acid (PLA), Luminous Powder
Skin Hazards	No Hazard
Chemical Stability	Stable under Normal Storage and Handling Condition
Solubility	Insoluble in Water
Resistance to Acid	Non-Resistant
Resistance to Alkali	Non-Resistant
Resistance to Organic Solvent	Non-Resistant to Some Organic Solvents
Resistance to Oil and Grease	Resistant to Most Kinds of Oil and Grease
Flammability	Flammable
Combustion Products	Water, Carbon Oxides
Odor of Combustion Products	Odorless

5 Specimen Test

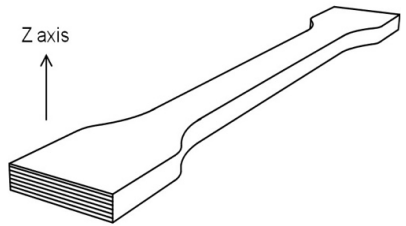
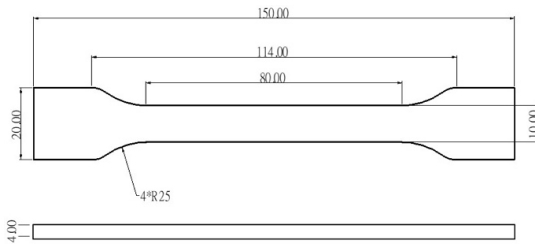
Specimen Printing Conditions

Subjects	Data
Nozzle Temperature	190–230°C
Bed Temperature	35–45°C
Printing Speed	< 250 mm/s
Infill Density	100%



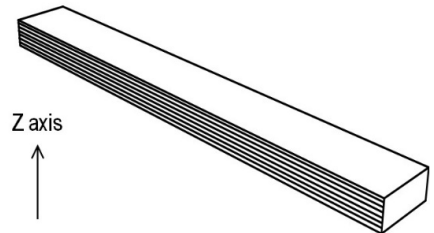
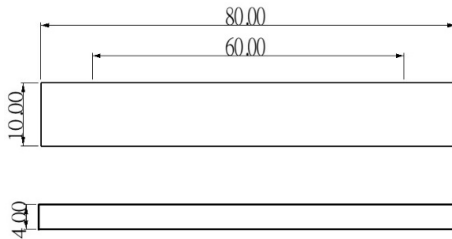
Based on 0.4 mm nozzle. Printing conditions may vary with different nozzle diameters.

Tensile Testing Specimen



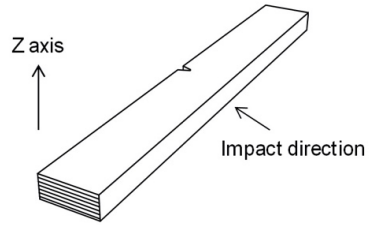
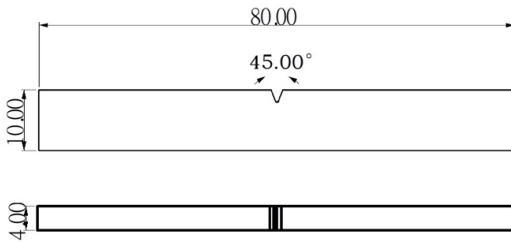
ISO 527, GB/T 1040

Flexural Testing Specimen



ISO 178, GB/T 9341

Impact Testing Specimen



ISO 179, GB/T 1043

6 Disclaimer

The performance and printing parameters of the aforementioned filaments are obtained by Snapmaker through testing filament samples with sample 3D printers. All data provided is for reference and comparison purposes only, and does not constitute design specifications or any warranty of quality. Actual 3D printing quality and final part performance are subject to various factors including, but not limited to, printer equipment, model design, environmental conditions, and printing parameters. Users shall independently evaluate the compliance and safety of printed models and finished parts, including legal compliance, application safety, and structural reliability. Snapmaker shall not be held liable for any direct or indirect losses arising from the use of the aforementioned filaments, including equipment damage, print failure, personal injury, and property damage.

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