

BambuLab Matte Lillac Purple PLA Matte Purple

Material Engineering Report
MaterialID MAT0073

3DPiceland Engineering Platform
3DPiceland Labs
Generated with 3DPiceland Engineering Platform v60.0.6
WORKFLOW-RELIABILITY - Bug Fixes and Workflow
Reliability
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Public-data contract: This static report contains only allowlisted material identity, public links, canonical MSRP and existing Verified Material Summary / governed score outputs. It excludes raw specimen rows and non-public operational data.

TEST COVERAGE
Complete

ENGINEERING AXES
6/6

PUBLIC MSRP
\$43.92 USD/kg

Material identity

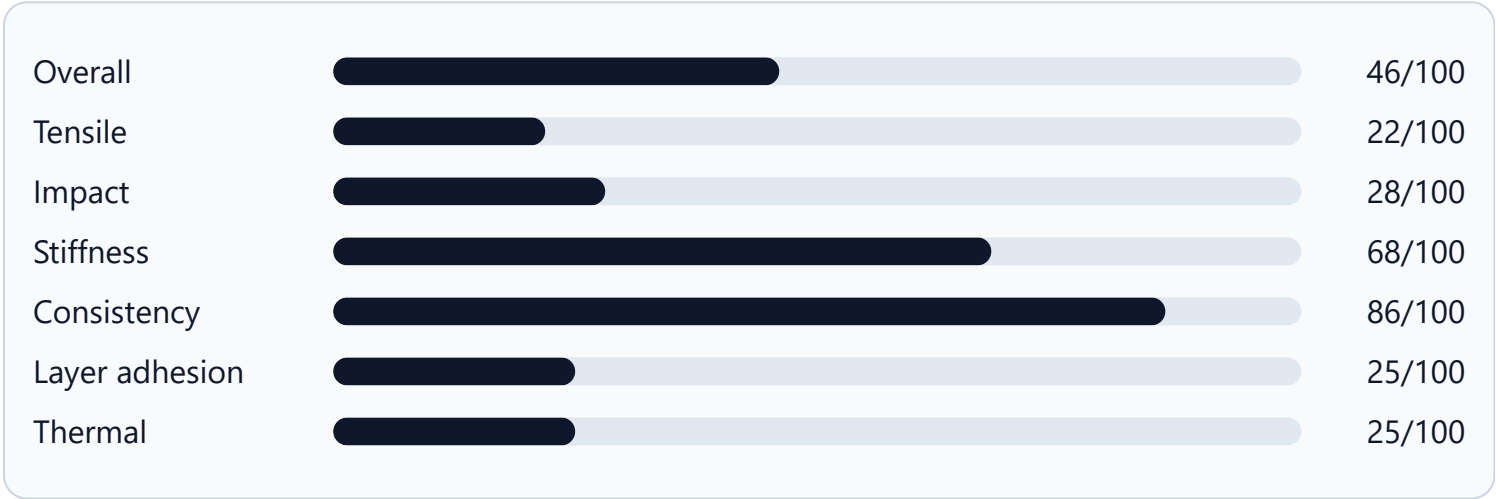
MaterialID	MAT0073
Material	BambuLab Matte Lillac Purple PLA Matte Purple
Manufacturer	BambuLab
Product line	Matte
Base material	PLA
Category	Standard
Variant / finish	Matte
Reinforcement	—
Color	Purple

Governed engineering profile

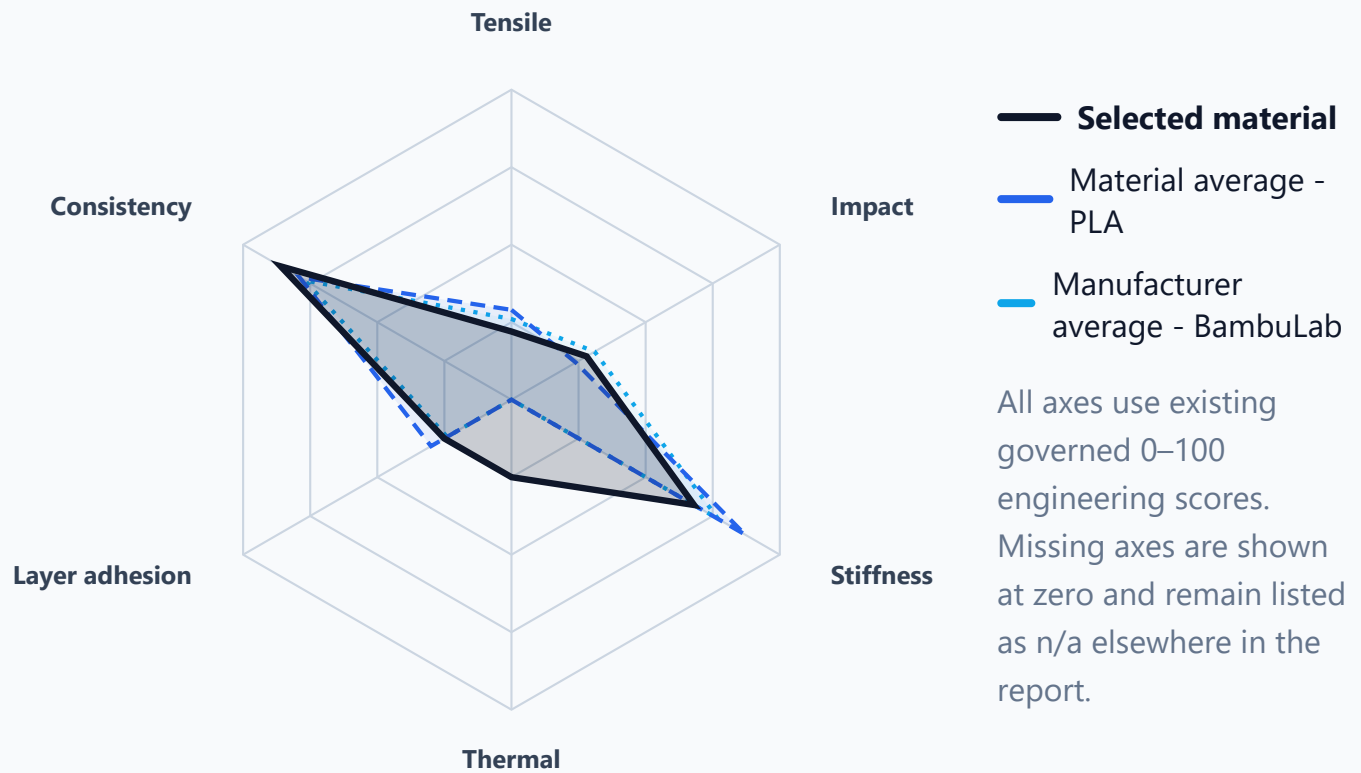
Overall46/100

Tensile	22/100
Impact	28/100
Stiffness	68/100
Consistency	86/100
Layer adhesion	25/100
Thermal	25/100
Best available axis	consistency

Engineering score profile



Engineering radar



Fixture thermal result

49 °C · score 25/100 · method 3dp-thermal-deflection-fixture-v1

Nearby BlueDOT probe-indicated fixture temperature from a non-standard comparative 3DPlceland method; not ASTM D648, ISO 75, specimen temperature, certified HDT or a manufacturer limit.

Material and manufacturer context

Metric	Selected material	Material average	Manufacturer average
Overall	46/100	50/100	47/100
Tensile	22/100	29/100	26/100
Impact	28/100	24/100	31/100
Stiffness	68/100	87/100	77/100
Consistency	86/100	79/100	77/100
Layer adhesion	25/100	30/100	24/100
Thermal	25/100	—	—

Verified measurement results

Existing Verified Material Summary outputs. The public renderer does not read raw specimen rows or recalculate these values.

Measurement	Average	Std. deviation	CV	Samples	Confidence
Tensile upright	7.044 MPa	2.326 MPa	33%	10	10/10
Tensile flat	28.178 MPa	1.777 MPa	6.3%	10	10/10
Impact upright	154.491 kJ/m ²	18.92 kJ/m ²	12.2%	10	10/10
Impact flat	408.806 kJ/m ²	25.247 kJ/m ²	6.2%	10	10/10
Stiffness modulus	2027.607 MPa	—	—	—	—
Stiffness deflection	2.676 mm	—	—	—	—

Measurement provenance

Canonical per-module measured dates from SQLite, shown in unambiguous ISO format. Missing dates are not inferred.

Module	Measured date
Tensile	Not recorded
Impact	Not recorded
Stiffness	Not recorded
Thermal	Not recorded

Engineering interpretation

Summary: BambuLab Matte Lillac Purple PLA Matte Purple has a specialized or limited engineering profile. It is below its material-family average by 4,4 points and below its manufacturer average by 1,3 points. Its strongest measured axis is Consistency, while the weakest axis is Tensile.

Data-driven review: BambuLab Matte Lillac Purple PLA Matte Purple is best understood as a repeatable material for cosmetic, concept and low-load prototype work. Compared with the current verified dataset, it ranks better than 44% overall, is below the material-family average by 4,4 points, and is roughly aligned with the manufacturer average. Its strongest engineering signal is Consistency, while Tensile is the main limitation to consider before using it for demanding applications.

BEST FEATURE

Consistency

MAIN LIMITATION

Tensile

DATASET POSITION

Better than 44%
133 / 234

Strengths

- Consistency: 86/100. Repeatability is one of the stronger signals in this material profile.

Limitations

- Tensile: 22/100. Avoid using this as the primary choice for tensile-loaded parts.
- Impact: 28/100. Avoid high impact or shock-loaded components without additional validation.
- Stiffness: 68/100. Expect less shape stability than the stronger materials in the same family.
- Layer adhesion: 25/100. Z-axis performance should be treated with caution.

Engineering trade-offs

- Good repeatability does not compensate for low tensile capability in load-bearing designs.
- The report should be read as a suitability warning rather than a general-purpose recommendation.

Recommended applications

- Repeatable print jobs and production-style batches
- Cosmetic parts, concept models or low-load prototypes
- Avoid high tensile load applications
- Avoid high impact components

Metric rankings and percentiles

Metric	Score	Rank	Percentile
Overall	46/100	133 / 234	Better than 44%
Tensile	22/100	164 / 226	Better than 28%
Impact	28/100	73 / 226	Better than 68%
Stiffness	68/100	157 / 223	Better than 30%
Consistency	86/100	19 / 231	Better than 92%
Layer adhesion	25/100	105 / 226	Better than 54%
Thermal	25/100	195 / 209	Better than 7%

Decision guidance

- Use this material mainly for low-load, visual or experimental parts.
- Review the listed alternatives if the application needs stronger overall performance.
- Do not choose it as a tensile-strength benchmark material.
- Avoid selecting it for impact-focused testing or shock-loaded designs.

Better alternatives

MaterialID	Material	Manufacturer	Overall	Tensile	Impact
MAT0069	ProtoPasta HTPLA Blood of My Enemies PLA Red	ProtoPasta	100/100	—	—
MAT0079	Polymaker PolyLight PLA Pro Black	Polymaker	65/100	35/100	52/100
MAT0109	Polymaker PolyMax PLA Black	Polymaker	64/100	32/100	62/100

Peer context

Highest-scoring same-base-material peers from the current governed dataset. This context is descriptive and is not recalculated by the public renderer.

MaterialID	Material	Manufacturer	Overall	Tensile	Impact
MAT0069	ProtoPasta HTPLA Blood of My Enemies PLA Red	ProtoPasta	100/100	—	—

MaterialID	Material	Manufacturer	Overall	Tensile	Impact
MAT0079	Polymaker PolyLight PLA Pro Black	Polymaker	65/100	35/100	52/100
MAT0109	Polymaker PolyMax PLA Black	Polymaker	64/100	32/100	62/100
MAT0080	Polymaker PolySonic PLA Pro Blue	Polymaker	64/100	30/100	58/100
MAT0076	BambuLab Tough+ PLA Tough+ Black	BambuLab	63/100	26/100	59/100
MAT0108	Polymaker PolyLight PLA Black	Polymaker	61/100	33/100	14/100
MAT0074	Winkle Matte PLA Matte Red	Winkle	60/100	34/100	—
MAT0122	Add:North Enhanced PLA Clear	Add:North	59/100	40/100	10/100

Public links

[Manufacturer website](#) [Download PDF](#)

Methodology and limitations

Results are comparative 3DPlceland measurements from home-built test equipment. Thermal is a nearby BlueDOT probe-indicated fixture temperature, not ASTM D648, ISO 75 or specimen temperature. Missing evidence remains n/a. Scores and test results are not recalculated by this publishing layer and do not replace certified manufacturer datasheets or accredited laboratory testing.

- [Testing methodology](#).
- [Engineering methodology whitepaper](#)