Public engineering report

BambuLab Standard Oxide Green Metalic PLA Metal Green

Material Engineering Report
MaterialID MAT0174

3DP Iceland Labs

3DPIceland Engineering Platform
3DPIceland Labs
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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	ENGINEERING AXES	PUBLIC MSRP
Complete	**6/6**	**$39.92 USD/kg**

Material identity

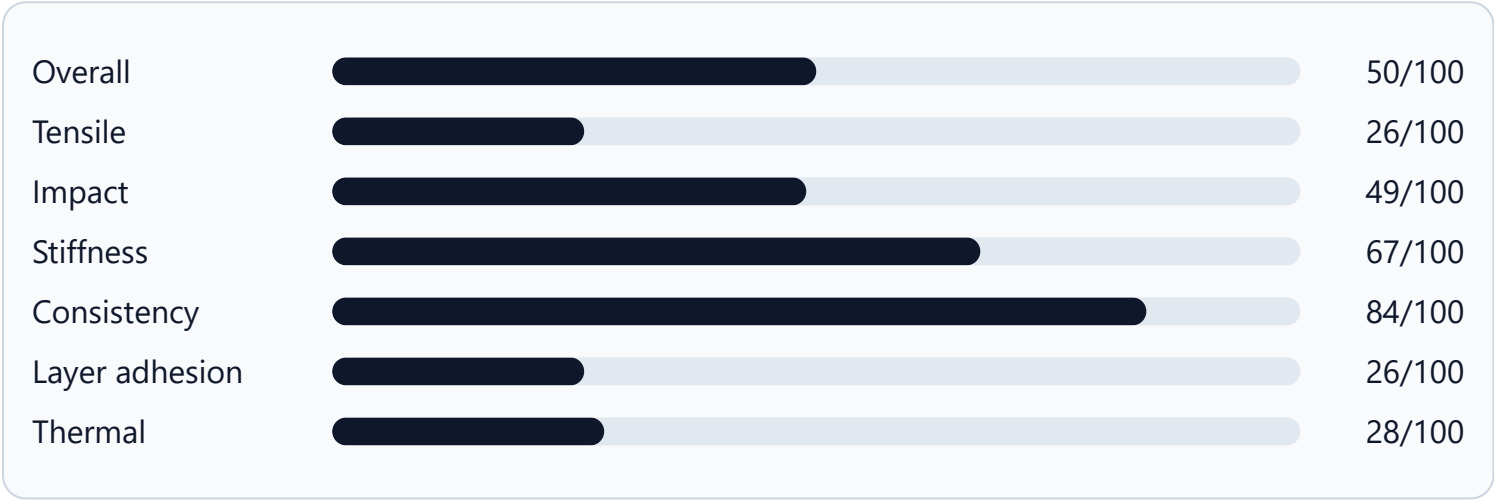
MaterialID	MAT0174
Material	BambuLab Standard Oxide Green Metalic PLA Metal Green
Manufacturer	BambuLab
Product line	Standard
Base material	PLA
Category	Standard
Variant / finish	Metal
Reinforcement	—
Color	Green

Governed engineering profile

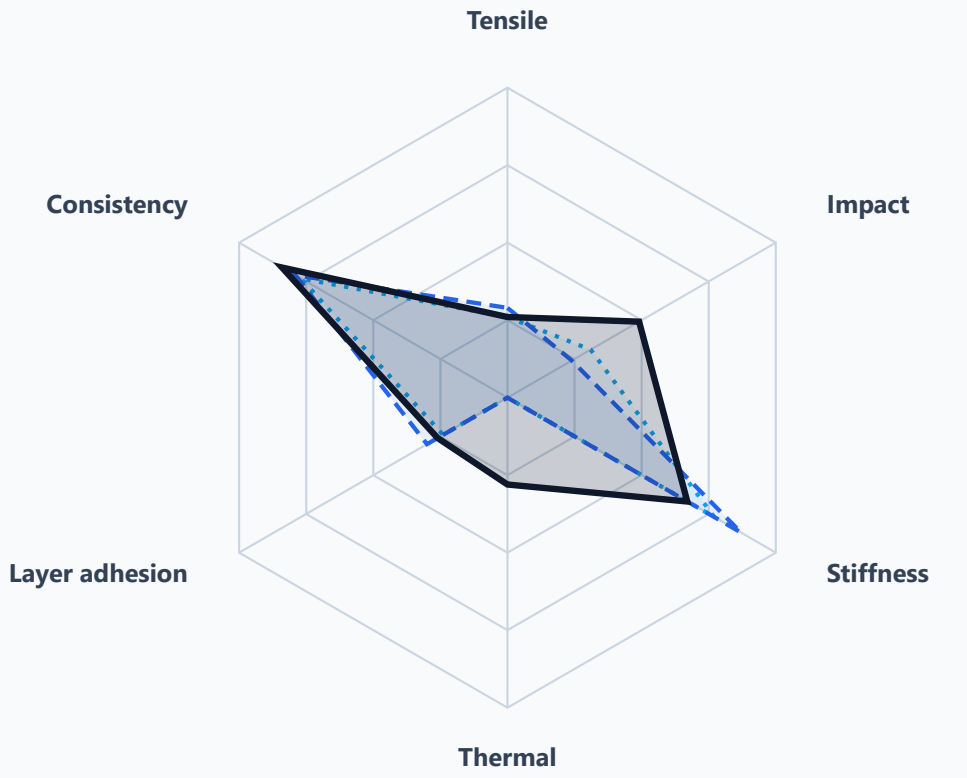
Overall	50/100

Tensile	26/100
Impact	49/100
Stiffness	67/100
Consistency	84/100
Layer adhesion	26/100
Thermal	28/100
Best available axis	consistency

Engineering score profile



Engineering radar



All axes use existing governed 0–100 engineering scores. Missing axes are shown at zero and remain listed as n/a elsewhere in the report.

Fixture thermal result

56 °C · score 28/100 · method 3dp-thermal-deflection-fixture-v1
Nearby BlueDOT probe-indicated fixture temperature from a non-standard comparative 3DPIceland 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	50/100	50/100	47/100
Tensile	26/100	29/100	26/100
Impact	49/100	24/100	31/100
Stiffness	67/100	87/100	77/100
Consistency	84/100	79/100	77/100
Layer adhesion	26/100	30/100	24/100
Thermal	28/100	—	—

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	8.752 MPa	3.413 MPa	39%	10	10/10
Tensile flat	33.269 MPa	3.808 MPa	11.4%	10	10/10
Impact upright	99.081 kJ/m²	10.433 kJ/m²	10.5%	10	10/10
Impact flat	872.788 kJ/m²	16.252 kJ/m²	1.9%	10	10/10
Stiffness modulus	2005.568 MPa	—	—	—	—
Stiffness deflection	2.706 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 Standard Oxide Green Metalic PLA Metal Green has a specialized or limited engineering profile. It is above its material-family average by 0,4 points and above its manufacturer average by 3,5 points. Its strongest measured axis is Consistency, while the weakest axis is Tensile.

Data-driven review: BambuLab Standard Oxide Green Metalic PLA Metal Green 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 66% overall, is roughly aligned with the material-family average, and is above the manufacturer average by 3,5 points. 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 66%
80 / 234

Strengths

- Consistency: 84/100. Repeatability is one of the stronger signals in this material profile.
- Impact: 49/100. Impact behavior is competitive against the material-family context.

Limitations

- Tensile: 26/100. Avoid using this as the primary choice for tensile-loaded parts.
- Stiffness: 67/100. Expect less shape stability than the stronger materials in the same family.
- Layer adhesion: 26/100. Z-axis performance should be treated with caution.

Engineering trade-offs

- Good repeatability does not compensate for low tensile capability in load-bearing designs.

Recommended applications

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

Metric rankings and percentiles

Metric	Score	Rank	Percentile
Overall	50/100	80 / 234	Better than 66%

Metric	Score	Rank	Percentile
Tensile	26/100	134 / 226	Better than 41%
Impact	49/100	30 / 226	Better than 87%
Stiffness	67/100	162 / 223	Better than 28%
Consistency	84/100	29 / 231	Better than 88%
Layer adhesion	26/100	98 / 226	Better than 57%
Thermal	28/100	107 / 209	Better than 49%

Decision guidance

- Use this material for moderate requirements after checking the weakest axis.
- Review the listed alternatives if the application needs stronger overall performance.
- Do not choose it as a tensile-strength benchmark material.

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	—	—
MAT0079	Polymaker PolyLight PLA Pro Black	Polymaker	65/100	35/100	52/100

MaterialID	Material	Manufacturer	Overall	Tensile	Impact
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 3DPIceland 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