

Polymaker

PolySonic PLA Pro

Blue

Material Engineering Report
MaterialID MAT0080

3DPiceland Engineering Platform
3DPiceland Labs

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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

5/6

PUBLIC MSRP

\$33.03 USD/kg

Material identity

MaterialID	MAT0080
Material	Polymaker PolySonic PLA Pro Blue
Manufacturer	Polymaker
Product line	PolySonic
Base material	PLA
Category	Standard
Variant / finish	Pro
Reinforcement	—
Color	Blue

Governed engineering profile

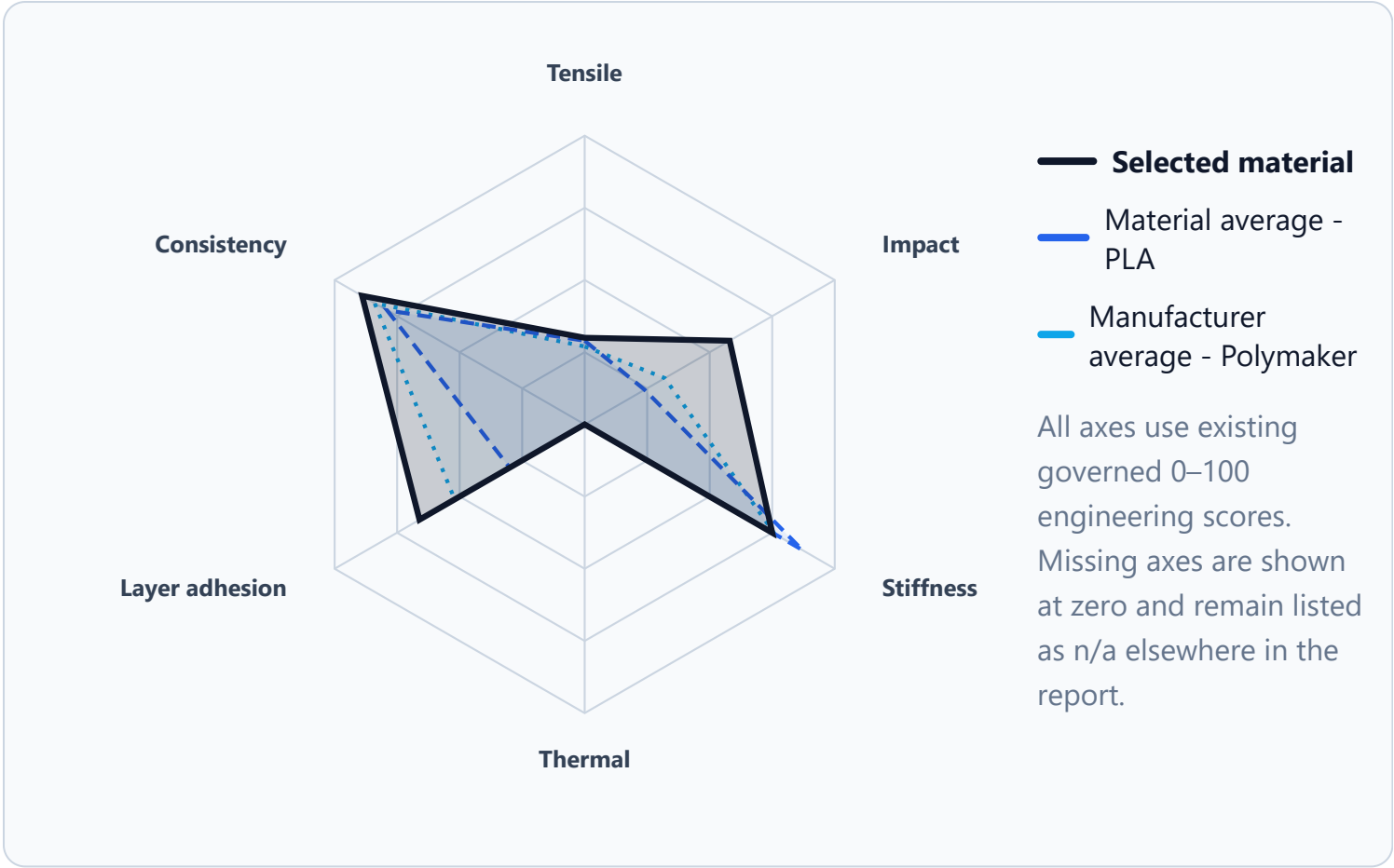
Overall	64/100
Tensile	30/100

Impact	58/100
Stiffness	75/100
Consistency	89/100
Layer adhesion	66/100
Thermal	—
Best available axis	consistency

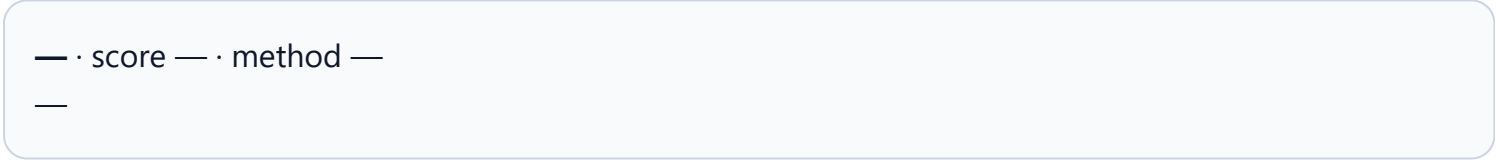
Engineering score profile



Engineering radar



Fixture thermal result



Material and manufacturer context

Metric	Selected material	Material average	Manufacturer average
Overall	64/100	50/100	54/100
Tensile	30/100	29/100	27/100
Impact	58/100	24/100	32/100
Stiffness	75/100	87/100	76/100
Consistency	89/100	79/100	84/100
Layer adhesion	66/100	30/100	52/100
Thermal	—	—	—

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	19.026 MPa	2.147 MPa	11.3%	10	10/10
Tensile flat	28.984 MPa	3.981 MPa	13.7%	9	9/10
Impact upright	211.081 kJ/m ²	26.061 kJ/m ²	12.3%	10	10/10
Impact flat	947.159 kJ/m ²	48.797 kJ/m ²	5.2%	10	10/10
Stiffness modulus	2250.149 MPa	—	—	—	—
Stiffness deflection	2.412 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: Polymaker PolySonic PLA Pro Blue has a balanced mid-range engineering profile. It is above its material-family average by 13,4 points and above its manufacturer average by 9,3 points. Its strongest measured axis is Consistency, while the weakest axis is Tensile.

Data-driven review: Polymaker PolySonic PLA Pro Blue is best understood as a balanced material for general functional prototypes. Compared with the current verified dataset, it ranks better than 98% overall, is above the material-family average by 13,4 points, and is above the manufacturer average by 9,3 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 98%
5 / 234

Strengths

- Layer adhesion: 66/100. Z-axis bonding is better than the material-family context.
- Consistency: 89/100. Repeatability is one of the stronger signals in this material profile.
- Impact: 58/100. Impact behavior is competitive against the material-family context.
- Stiffness: 75/100. Stiffness is a relative advantage in this comparison group.

Limitations

- Tensile: 30/100. Avoid using this as the primary choice for tensile-loaded parts.
- Stiffness: 75/100. Expect less shape stability than the stronger materials in the same family.

Engineering trade-offs

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

Recommended applications

- Rigid brackets, fixtures and shape-stable prototypes
- Parts where Z-axis bonding is important
- 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	64/100	5 / 234	Better than 98%
Tensile	30/100	105 / 226	Better than 54%
Impact	58/100	10 / 226	Better than 96%

Metric	Score	Rank	Percentile
Stiffness	75/100	126 / 223	Better than 44%
Consistency	89/100	7 / 231	Better than 97%
Layer adhesion	66/100	5 / 226	Better than 98%
Thermal	—	—	—

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	—	—

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
MAT0109	Polymaker PolyMax PLA Black	Polymaker	64/100	32/100	62/100
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	—

MaterialID	Material	Manufacturer	Overall	Tensile	Impact
MAT0122	Add:North Enhanced PLA Clear	Add:North	59/100	40/100	10/100
MAT0096	Prima Creator PrimaValue Light Gray PLA Plus Gray	Prima Creator	58/100	33/100	58/100

Public links

[Manufacturer website](#) [Video review](#) [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](#)