

Prusa3D Buddy3D

ABS Black

Material Engineering Report
MaterialID MAT0003

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

\$25.60 USD/kg

Material identity

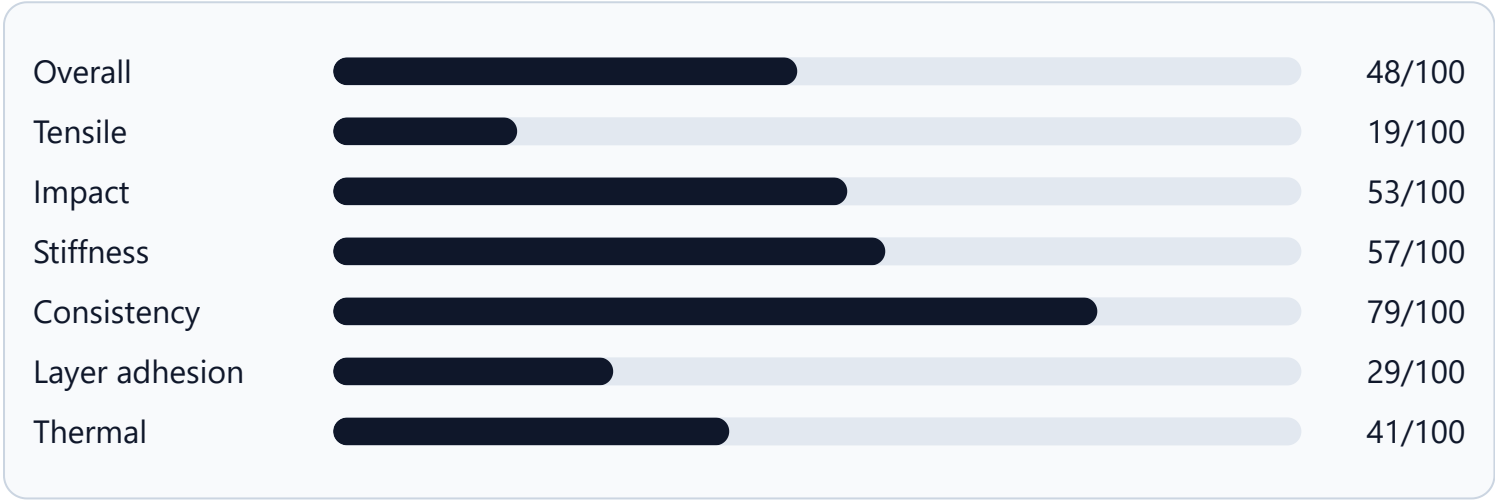
MaterialID	MAT0003
Material	Prusa3D Buddy3D ABS Black
Manufacturer	Prusa3D
Product line	Buddy3D
Base material	ABS
Category	Engineering
Variant / finish	—
Reinforcement	—
Color	Black

Governed engineering profile

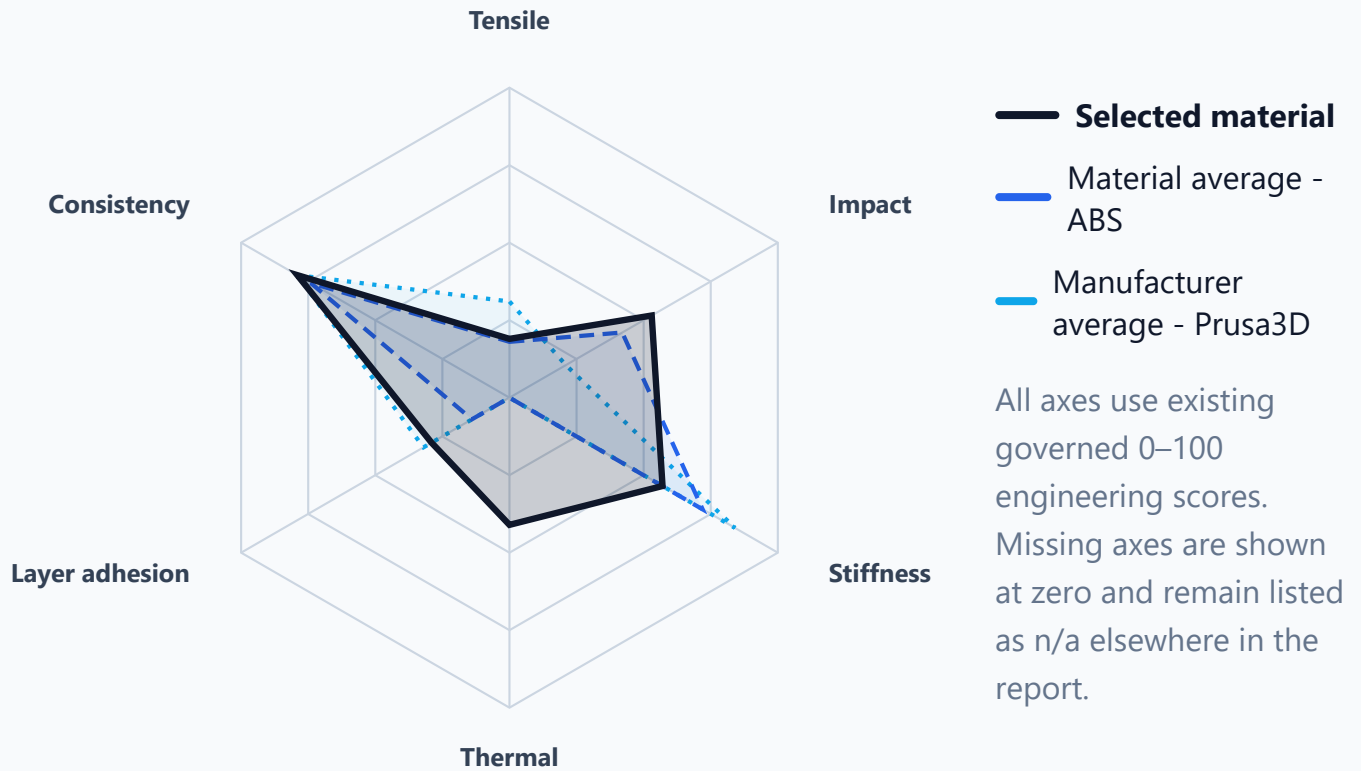
Overall	48/100
Tensile	19/100

Impact	53/100
Stiffness	57/100
Consistency	79/100
Layer adhesion	29/100
Thermal	41/100
Best available axis	consistency

Engineering score profile



Engineering radar



Fixture thermal result

81 °C · score 41/100 · 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	48/100	45/100	49/100
Tensile	19/100	18/100	31/100
Impact	53/100	42/100	21/100
Stiffness	57/100	72/100	84/100
Consistency	79/100	74/100	79/100
Layer adhesion	29/100	14/100	32/100
Thermal	41/100	—	—

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	7.018 MPa	1.302 MPa	18.6%	8	8/10
Tensile flat	24.182 MPa	3.424 MPa	14.2%	9	9/10
Impact upright	71.177 kJ/m ²	21.22 kJ/m ²	29.8%	8	8/10
Impact flat	981.585 kJ/m ²	134.006 kJ/m ²	13.7%	10	10/10
Stiffness modulus	1724.413 MPa	—	—	—	—
Stiffness deflection	3.147 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: Prusa3D Buddy3D ABS Black has a specialized or limited engineering profile. It is above its material-family average by 2,9 points and below its manufacturer average by 1,8 points. Its strongest measured axis is Consistency, while the weakest axis is Tensile.

Data-driven review: Prusa3D Buddy3D ABS Black 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 53% overall, is roughly aligned with the material-family average, 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 53%
110 / 234

Strengths

- Layer adhesion: 29/100. Z-axis bonding is better than the material-family context.
- Consistency: 79/100. Repeatability is one of the stronger signals in this material profile.
- Impact: 53/100. Impact behavior is competitive against the material-family context.

Limitations

- Tensile: 19/100. Avoid using this as the primary choice for tensile-loaded parts.
- Stiffness: 57/100. Expect less shape stability than the stronger materials in the same family.
- Layer adhesion: 29/100. 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

Metric rankings and percentiles

Metric	Score	Rank	Percentile
Overall	48/100	110 / 234	Better than 53%

Metric	Score	Rank	Percentile
Tensile	19/100	189 / 226	Better than 17%
Impact	53/100	19 / 226	Better than 92%
Stiffness	57/100	190 / 223	Better than 15%
Consistency	79/100	98 / 231	Better than 58%
Layer adhesion	29/100	89 / 226	Better than 61%
Thermal	41/100	47 / 209	Better than 78%

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.

Better alternatives

MaterialID	Material	Manufacturer	Overall	Tensile	Impact
MAT0006	Prima Creator PrimaValue Dark Gray ABS Gray	Prima Creator	52/100	24/100	54/100

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
MAT0006	Prima Creator PrimaValue Dark Gray ABS Gray	Prima Creator	52/100	24/100	54/100
MAT0202	Siraya Tech Fiberheart White ABS High Temp White	Siraya Tech	49/100	21/100	54/100
MAT0207	Siraya Tech Fiberheart Black ABS Core CF Black	Siraya Tech	49/100	24/100	27/100

MaterialID	Material	Manufacturer	Overall	Tensile	Impact
MAT0007	FilaFarm Standard ABS Orange	FilaFarm	47/100	—	41/100
MAT0152	Thorwell Standard ABS ABS Yellow	Thorwell	47/100	20/100	53/100
MAT0181	BambuLab Standard Blue ABS Blue	BambuLab	46/100	19/100	53/100
MAT0005	Extrudr DuraPro ABS Blue	Extrudr	44/100	16/100	47/100
MAT0241	Yasin Standard Blue ABS Blue	Yasin	44/100	17/100	47/100

Public links

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