

Bedrock 3D Standard Black ABS Plus Black

Material Engineering Report
MaterialID MAT0246

3DPiceland Engineering Platform
3DPiceland Labs

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IMPACT-METHODOLOGY - Izod and Charpy Methodology
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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.

RIGID TEST COVERAGE

Complete; 5/5 score families; Izod/Charpy 2/2 measured, 2/2 scored; Overall eligible; policy engineering-score-v70-1

ENGINEERING AXES

7/8

PUBLIC MSRP

\$31.81 USD/kg

Material identity

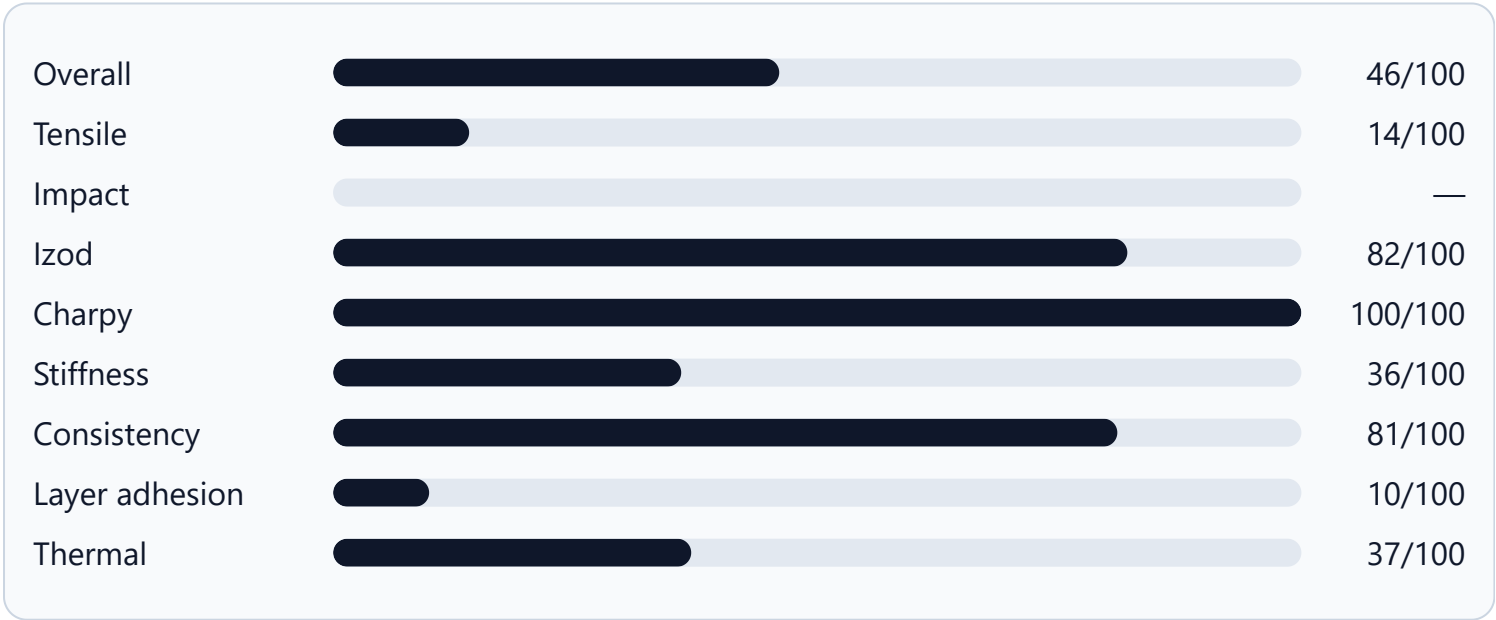
MaterialID	MAT0246
Material	Bedrock 3D Standard Black ABS Plus Black
Manufacturer	Bedrock 3D
Product line	Standard
Base material	ABS
Category	Engineering
Variant / finish	Plus
Reinforcement	—

Color	Black
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Governed engineering profile

Overall	46/100
Tensile	14/100
Impact	—
Izod	82/100
Charpy	100/100
Stiffness	36/100
Consistency	81/100
Layer adhesion	10/100
Thermal	37/100
Best available axis	Charpy impact resistance

Engineering score profile



Engineering radar

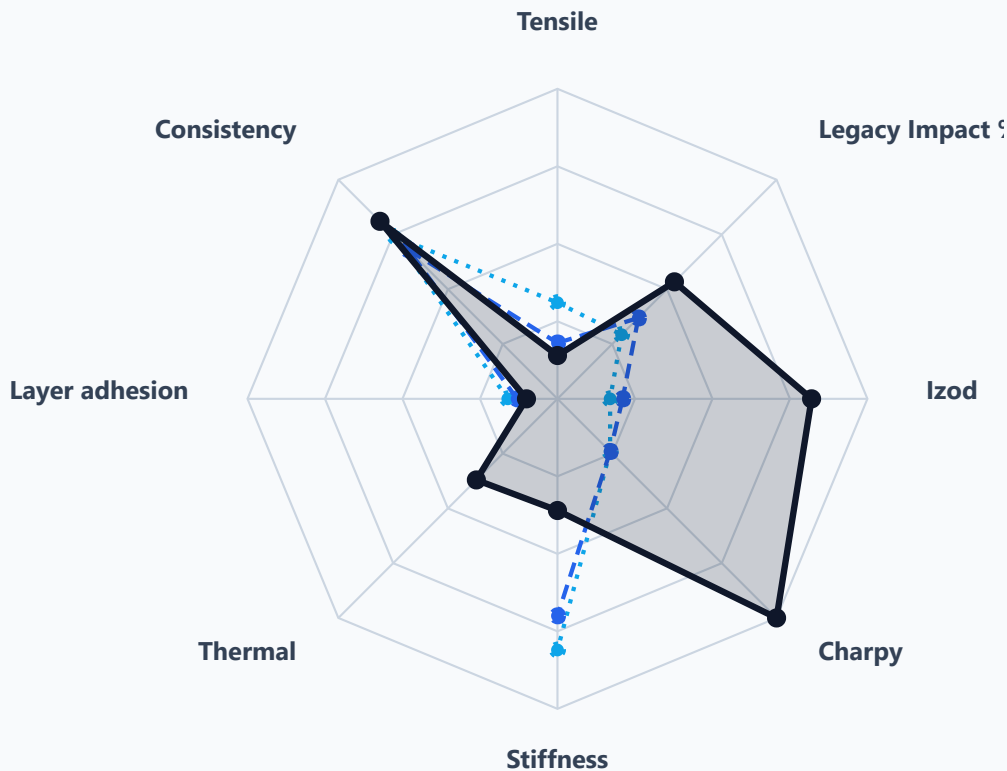
— **Selected material**

— Material average -
ABS

— Manufacturer
average - Bedrock
3D

Legacy Impact radar:
53.419 % of legacy rig
capacity. This historical
visual reference is the
mean corrected
Flat/Upright result
divided by the matching
rig capacity; it is not a
modern engineering
score.

Izod and Charpy use
versioned method
references and together
form one equally
weighted impact family.
Overall requires all five
families and both
calibrated methods;
incomplete profiles are
not ranked. Legacy
Impact and thermal are
outside Overall. Missing
axes have gaps with no
marker or filled polygon;
measured zero retains a
centre marker.



Fixture thermal result

73 °C · score 37/100 · 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	46/100	—	—
Tensile	14/100	18/100	31/100
Impact	—	—	—
Izod	82/100	21/100	17/100
Charpy	100/100	24/100	24/100
Stiffness	36/100	70/100	81/100
Consistency	81/100	68/100	74/100
Layer adhesion	10/100	13/100	16/100
Thermal	37/100	—	—

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	2.102 MPa	0.581 MPa	27.6%	6	6/10
Tensile flat	20.841 MPa	4.139 MPa	19.9%	10	10/10
Impact upright	5.593 kJ/m ²	1.359 kJ/m ²	24.3%	10	10/10
Impact flat	55.276 kJ/m ²	3.658 kJ/m ²	6.6%	10	10/10
Izod	65.708 kJ/m ²	9.686 kJ/m ²	14.7%	9	9/10
Charpy	123.714 kJ/m ²	9.88 kJ/m ²	8%	10	10/10
Stiffness modulus	1091.788 MPa	—	—	—	—
Stiffness deflection	4.97 mm	—	—	—	—

Measurement provenance

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

Module	Measured date
Tensile	2026-09-05
Impact	2026-09-11
Izod	2026-09-29
Charpy	2026-09-29
Stiffness	2026-09-05
Thermal	2026-09-07

Engineering interpretation

Summary: Bedrock 3D Standard Black ABS Plus Black has a specialized or limited engineering profile. It is without enough material-family average context and without enough manufacturer average context. Its strongest measured axis is Charpy, while the weakest axis is Layer Adhesion.

Data-driven review: Bedrock 3D Standard Black ABS Plus 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 66% overall, is missing enough context for the material-family average, and is missing enough context for the manufacturer average. Its strongest engineering signal is Charpy, while Layer Adhesion is the main limitation to consider before using it for demanding applications.

BEST FEATURE

Charpy

MAIN LIMITATION

Layer Adhesion

DATASET POSITION

Better than 66%
28 / 80

Strengths

- Consistency: 81/100. Repeatability is one of the stronger signals in this material profile.
- Izod/Charpy impact family: 91/100. The two-method impact score is competitive against the material-family context.

Limitations

- Tensile: 14/100. Avoid using this as the primary choice for tensile-loaded parts.
- Stiffness: 36/100. Expect less shape stability than the stronger materials in the same family.
- Layer adhesion: 10/100. 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

- Impact-aware parts where toughness matters
- 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	46/100	28 / 80	Better than 66%
Tensile	14/100	235 / 243	Better than 4%
Impact	—	—	—
Izod	82/100	1 / 83	Better than 100%
Charpy	100/100	1 / 82	Better than 100%
Stiffness	36/100	237 / 240	Better than 2%
Consistency	81/100	74 / 243	Better than 70%
Layer adhesion	10/100	220 / 243	Better than 10%

Metric	Score	Rank	Percentile
Thermal	37/100	68 / 226	Better than 70%

Decision guidance

- Use this material mainly for low-load, visual or experimental parts.
- Do not choose it as a tensile-strength benchmark material.

Better alternatives

MaterialID	Material	Manufacturer	Overall	Tensile	Impact	Izod	Charpy
No stronger same-base-material alternatives were identified in the current governed dataset.							

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	Izod	Charpy
MAT0207	Siraya Tech Fiberheart Black ABS Core CF Black	Siraya Tech	46/100	24/100	—	n/a	n/a
MAT0199	Siraya Tech Fiberheart Black ABS CF Black	Siraya Tech	41/100	22/100	—	n/a	n/a
MAT0180	BambuLab Standard White ABS GF White	BambuLab	40/100	18/100	—	n/a	n/a
MAT0201	Siraya Tech Fiberheart Gray ABS GF Gray	Siraya Tech	38/100	17/100	—	n/a	n/a
MAT0002	Extrudr DuraPro ABS CF Black	Extrudr	37/100	5/100	—	n/a	n/a
MAT0181	BambuLab Standard Blue ABS Blue	BambuLab	—	19/100	—	n/a	n/a
MAT0208	Eryone Standard White ABS White	Eryone	—	—	—	n/a	n/a

MaterialID	Material	Manufacturer	Overall	Tensile	Impact	Izod	Charpy
MAT0005	Extrudr DuraPro ABS Blue	Extrudr	—	16/100	—	n/a	n/a

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](#)

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Izod and Charpy Impact Strength

Izod Impact Strength · 2026-09-29
Instrument readings in kJ/m²
Mean 65.708 kJ/m²; Std. Dev 9.686 kJ/m²; CV 14.741%; Samples 9; Confidence 9
No break 0; invalid 0; excluded 0.
Comparative measurements; standard conformity unverified.

Charpy Impact Strength · 2026-09-29
Instrument readings in kJ/m²
Mean 123.714 kJ/m²; Std. Dev 9.88 kJ/m²; CV 7.986%; Samples 10; Confidence 10
No break 0; invalid 0; excluded 0.
Comparative measurements; standard conformity unverified.