

Public printing recommendation

Bedrock 3D Standard Black PET CF Black

MaterialID MAT0251



3DP Iceland Labs
Generated with 3DP Iceland Engineering Platform v70.0.4
DIRECT-IMPACT-METHODOLOGY - Izod and Charpy
Methodology
2026-10-04 18:12:06

Guidance boundary: values below are shared base-material guidance resolved only through the canonical BaseMaterialId link. They are not manufacturer-, spool- or printer-specific validated settings. Missing fields remain Not recorded.

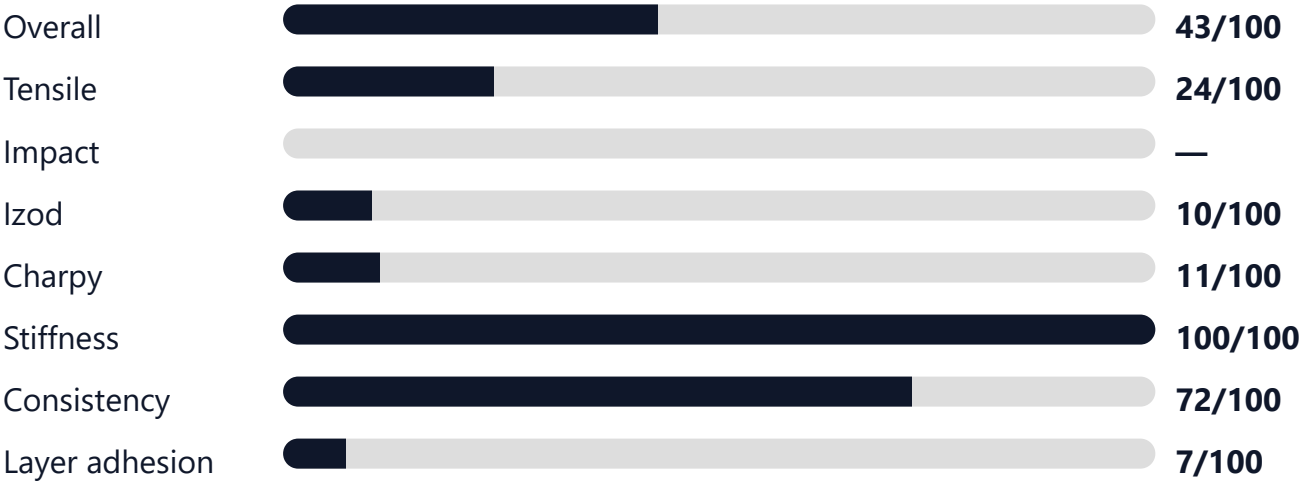
Overall
43/100

Engineering axes
7/8

Public rank
42 / 80

MSRP USD/kg
97.31

Engineering profile



Recommended applications

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

Measured strengths

- Consistency: 72/100. Repeatability is one of the stronger signals in this material profile.
- Stiffness: 100/100. Stiffness is a relative advantage in this comparison group.

- Avoid high impact components

Limitations

- Tensile: 24/100. Avoid using this as the primary choice for tensile-loaded parts.
- Izod/Charpy impact family: 10/100. Validate impact or shock-loaded components against their application requirements.
- Layer adhesion: 7/100. Z-axis performance should be treated with caution.

Engineering trade-offs

- Good repeatability does not compensate for low tensile capability in load-bearing designs.
- Stiffness is useful for shape stability, but impact tolerance is a separate limitation.
- The report should be read as a suitability warning rather than a general-purpose recommendation.

Base-material printing guidance

Guidance	Minimum	Recommended	Maximum	Unit
Nozzle temperature	290	290	300	°C
Bed temperature	110	110	120	°C
Print speed	11	67	67	mm/s
Cooling	10	10	15	%
Guidance	Value			Unit
Cooling guidance	Low			
Drying temperature	65			°C
Drying time	6			hours
Enclosure	Required			
Printer / G-code reference	PrusaCoreOneL			
Slicer profile reference	Siraya Tech PET			

Print workflow checks

- Confirm nozzle temperature, bed temperature, speed, cooling and drying requirements from the manufacturer profile or spool label.
- Print a small validation part before committing to a long, costly or safety-relevant print.

- Orient the part so the governing load does not rely on an unverified or weak engineering axis.
- Reinforced filament: confirm an abrasion-resistant nozzle and manufacturer drying/storage requirements.
- Layer-adhesion evidence is weak; avoid critical Z-axis loading without additional validation.

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.
- Validate impact-focused or shock-loaded designs against the measured Izod/Charpy results.

Stronger same-family alternatives

MaterialID	Material	Manufacturer	Overall	Tensile	Impact	Izod	Charpy
MAT0195	Siraya Tech Fiberheart Black PET CF Black	Siraya Tech	50/100	35/100	—	n/a	n/a

Confirm exact settings against the manufacturer profile, spool label and actual printer/material combination. Results do not replace application-specific validation.

[Testing methodology](#) · [Download PDF](#)

Izod and Charpy Impact Strength

Charpy Impact Strength · 2026-09-28
Instrument readings in kJ/m²
Mean 8.932 kJ/m²; Std. Dev 1.51 kJ/m²; CV 16.904%; Samples 9; Confidence 9
No break 0; invalid 0; excluded 0.
Comparative measurements; standard conformity unverified.

Izod Impact Strength · 2026-09-29
Instrument readings in kJ/m²
Mean 7.8 kJ/m²; Std. Dev 1.24 kJ/m²; CV 15.892%; Samples 10; Confidence 10
No break 0; invalid 0; excluded 0.
Comparative measurements; standard conformity unverified.

reports/printing-recommendations/MAT0251/

Score policy engineering-score-v70-1: Overall requires tensile, stiffness, consistency, layer adhesion and the Izod/Charpy impact family, each with equal weight. Both impact methods and configured versioned references are required. Missing results and unconfigured scores remain

n/a. Legacy Impact is historical only; thermal remains separate. Engineering-axis counts describe displayed evidence, not Overall completeness.

