

Bedrock 3D Standard Black PA6 HighTemp CF Black

MaterialID MAT0248

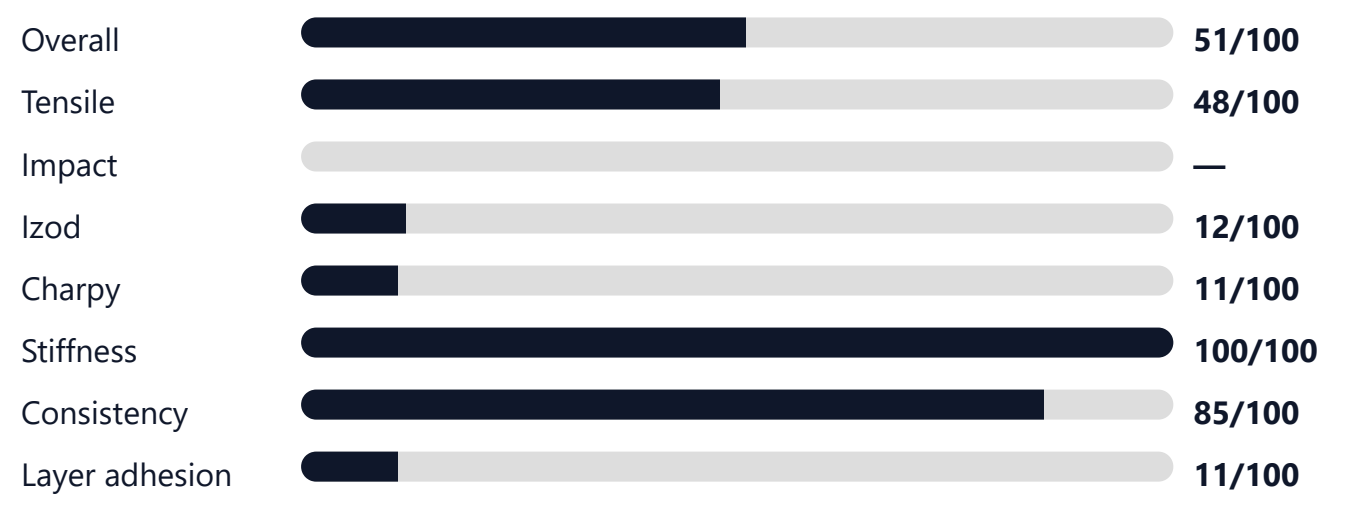


3DP Iceland Labs
Generated with 3DP Iceland Engineering Platform v70.0.4
DIRECT-IMPACT-METHODOLOGY - Izod and Charpy
Methodology
2026-10-04 18:12:06

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 51/100	Engineering axes 7/8	Public rank 11 / 80	MSRP USD/kg 109.49
-------------------	-------------------------	------------------------	-----------------------

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 impact components

Measured strengths

- Consistency: 85/100. Repeatability is one of the stronger signals in this material profile.
- Stiffness: 100/100. Stiffness is a relative advantage in this comparison group.

Limitations

- Izod/Charpy impact family: 11/100. Validate impact or shock-loaded components against their application requirements.
- Layer adhesion: 11/100. Z-axis performance should be treated with caution.

Engineering trade-offs

- Stiffness is useful for shape stability, but impact tolerance is a separate limitation.

Base-material printing guidance

Guidance	Minimum	Recommended	Maximum	Unit
Nozzle temperature	280	280	295	°C
Bed temperature	105	110	110	°C
Print speed	11	65	65	mm/s
Cooling	10	10	15	%
Guidance	Value		Unit	
Cooling guidance	Low			
Drying temperature	100		°C	
Drying time	12		hours	
Enclosure	Required			
Printer / G-code reference	PrusaCoreOneL			
Slicer profile reference	Yasin PA6			

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.

- Engineering/high-temperature family: confirm enclosure, ventilation, warping control and material-specific drying requirements.
- Layer-adhesion evidence is weak; avoid critical Z-axis loading without additional validation.

Decision guidance

- Use this material for moderate requirements after checking the weakest axis.
- 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
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 · 2026-09-29
Instrument readings in kJ/m²
Mean 8.43 kJ/m²; Std. Dev 0.595 kJ/m²; CV 7.053%; Samples 10; Confidence 10
No break 0; invalid 0; excluded 0.
Comparative measurements; standard conformity unverified.

Izod Impact Strength · 2026-09-29
Instrument readings in kJ/m²
Mean 9.935 kJ/m²; Std. Dev 0.655 kJ/m²; CV 6.594%; Samples 10; Confidence 10
No break 0; invalid 0; excluded 0.
Comparative measurements; standard conformity unverified.

reports/printing-recommendations/MAT0248/

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.