

Siraya Tech Fiberheart Black PETG Pro CF Black

Material Engineering Report
MaterialID MAT0198

3DPiceland Engineering Platform
3DPiceland Labs
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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

\$26.39 USD/kg

Material identity

MaterialID	MAT0198
Material	Siraya Tech Fiberheart Black PETG Pro CF Black
Manufacturer	Siraya Tech
Product line	Fiberheart
Base material	PETG
Category	Standard
Variant / finish	Pro
Reinforcement	CF
Color	Black

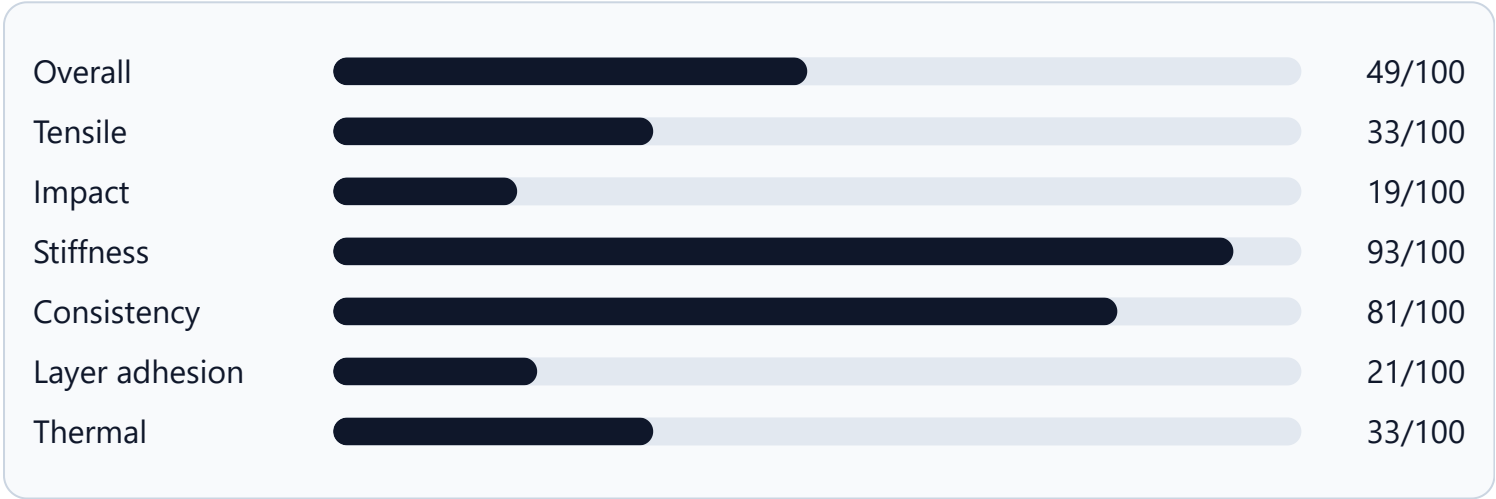
Governed engineering profile

Overall

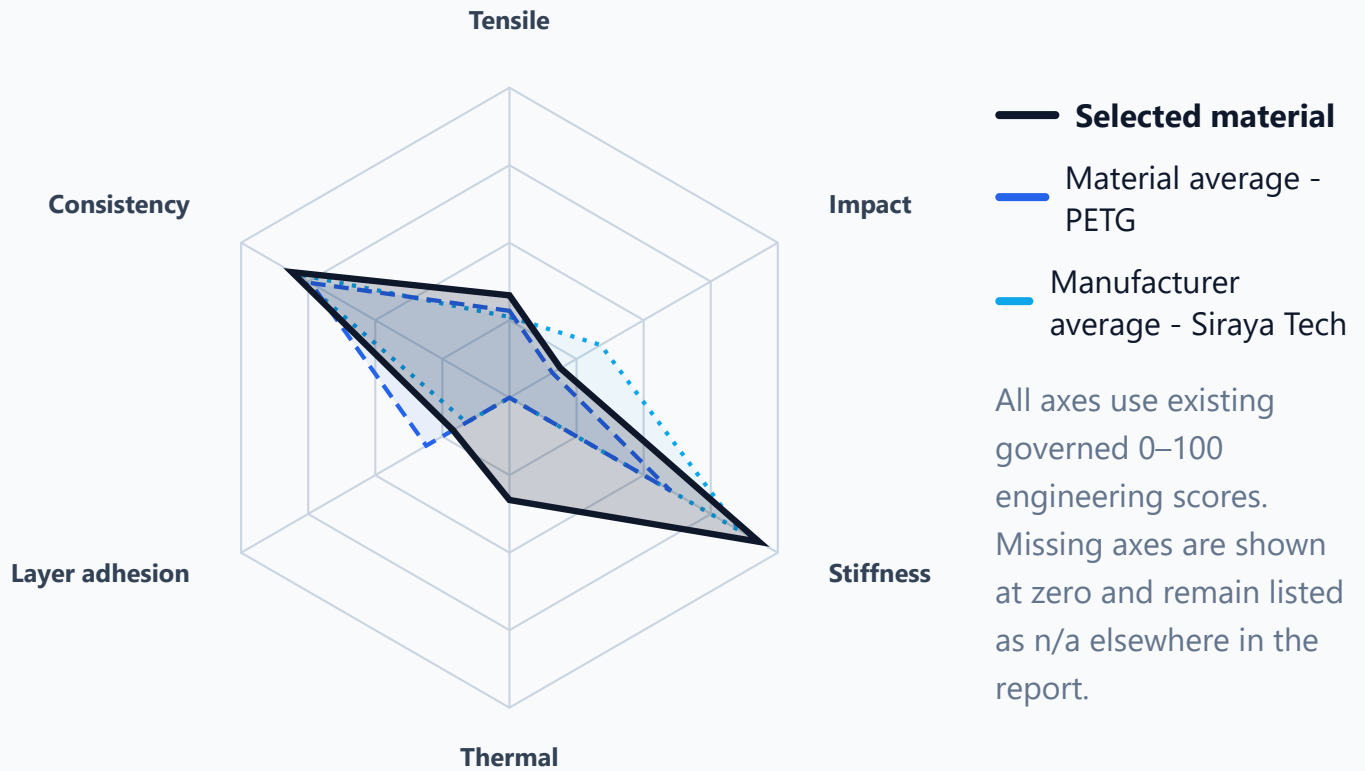
49/100

Tensile	33/100
Impact	19/100
Stiffness	93/100
Consistency	81/100
Layer adhesion	21/100
Thermal	33/100
Best available axis	stiffness

Engineering score profile



Engineering radar



Fixture thermal result

66 °C · score 33/100 · 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	49/100	42/100	48/100
Tensile	33/100	28/100	26/100
Impact	19/100	16/100	34/100
Stiffness	93/100	60/100	86/100
Consistency	81/100	74/100	80/100
Layer adhesion	21/100	31/100	16/100
Thermal	33/100	—	—

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	9.336 MPa	4.91 MPa	52.6%	10	10/10
Tensile flat	43.682 MPa	4.969 MPa	11.4%	10	10/10
Impact upright	150.198 kJ/m ²	5.408 kJ/m ²	3.6%	10	10/10
Impact flat	223.105 kJ/m ²	21.447 kJ/m ²	9.6%	10	10/10
Stiffness modulus	2795.64 MPa	—	—	—	—
Stiffness deflection	1.941 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: Siraya Tech Fiberheart Black PETG Pro CF Black has a specialized or limited engineering profile. It is above its material-family average by 7,3 points and above its manufacturer average by 1,9 points. Its strongest measured axis is Stiffness, while the weakest axis is Impact.

Data-driven review: Siraya Tech Fiberheart Black PETG Pro CF 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 62% overall, is above the material-family average by 7,3 points, and is roughly aligned with the manufacturer average. Its strongest engineering signal is Stiffness, while Impact is the main limitation to consider before using it for demanding applications.

BEST FEATURE

Stiffness

MAIN LIMITATION

Impact

DATASET POSITION

Better than 62%
89 / 234

Strengths

- Consistency: 81/100. Repeatability is one of the stronger signals in this material profile.
- Stiffness: 93/100. Stiffness is a relative advantage in this comparison group.

Limitations

- Tensile: 33/100. Avoid using this as the primary choice for tensile-loaded parts.
- Impact: 19/100. Avoid high impact or shock-loaded components without additional validation.
- Layer adhesion: 21/100. 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.

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
- Avoid high impact components

Metric rankings and percentiles

Metric	Score	Rank	Percentile
Overall	49/100	89 / 234	Better than 62%
Tensile	33/100	68 / 226	Better than 70%
Impact	19/100	150 / 226	Better than 34%
Stiffness	93/100	59 / 223	Better than 74%
Consistency	81/100	70 / 231	Better than 70%
Layer adhesion	21/100	132 / 226	Better than 42%
Thermal	33/100	71 / 209	Better than 67%

Decision guidance

- Use this material mainly for low-load, visual or experimental parts.
- Do not choose it as a tensile-strength benchmark material.
- Avoid selecting it for impact-focused testing or shock-loaded designs.

Better alternatives

MaterialID	Material	Manufacturer	Overall	Tensile	Impact
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
MAT0236	Yasin Standard Black PETG CF Black	Yasin	50/100	30/100	20/100
MAT0060	ColorFabb XT PETG Pink	ColorFabb	48/100	—	—
MAT0062	IC3D Standard PETG Green-Yellow	IC3D	48/100	26/100	—
MAT0165	Winkle Standard Ash Gray PETG Gray	Winkle	46/100	30/100	14/100

MaterialID	Material	Manufacturer	Overall	Tensile	Impact
MAT0225	Spectrum Premium Iceland Blue PETG Blue	Spectrum	46/100	33/100	17/100
MAT0063	IC3D Standard PETG Yellow	IC3D	46/100	26/100	—
MAT0235	Yasin Standard Black PETG GF Black	Yasin	45/100	27/100	21/100
MAT0171	BambuLab Basic Gray PETG Gray	BambuLab	45/100	34/100	14/100

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](#)