

Siraya Tech Fiberheart Black ASA GF Black

Material Engineering Report
MaterialID MAT0197

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

\$34.39 USD/kg

Material identity

MaterialID	MAT0197
Material	Siraya Tech Fiberheart Black ASA GF Black
Manufacturer	Siraya Tech
Product line	Fiberheart
Base material	ASA
Category	Engineering
Variant / finish	—
Reinforcement	GF
Color	Black

Governed engineering profile

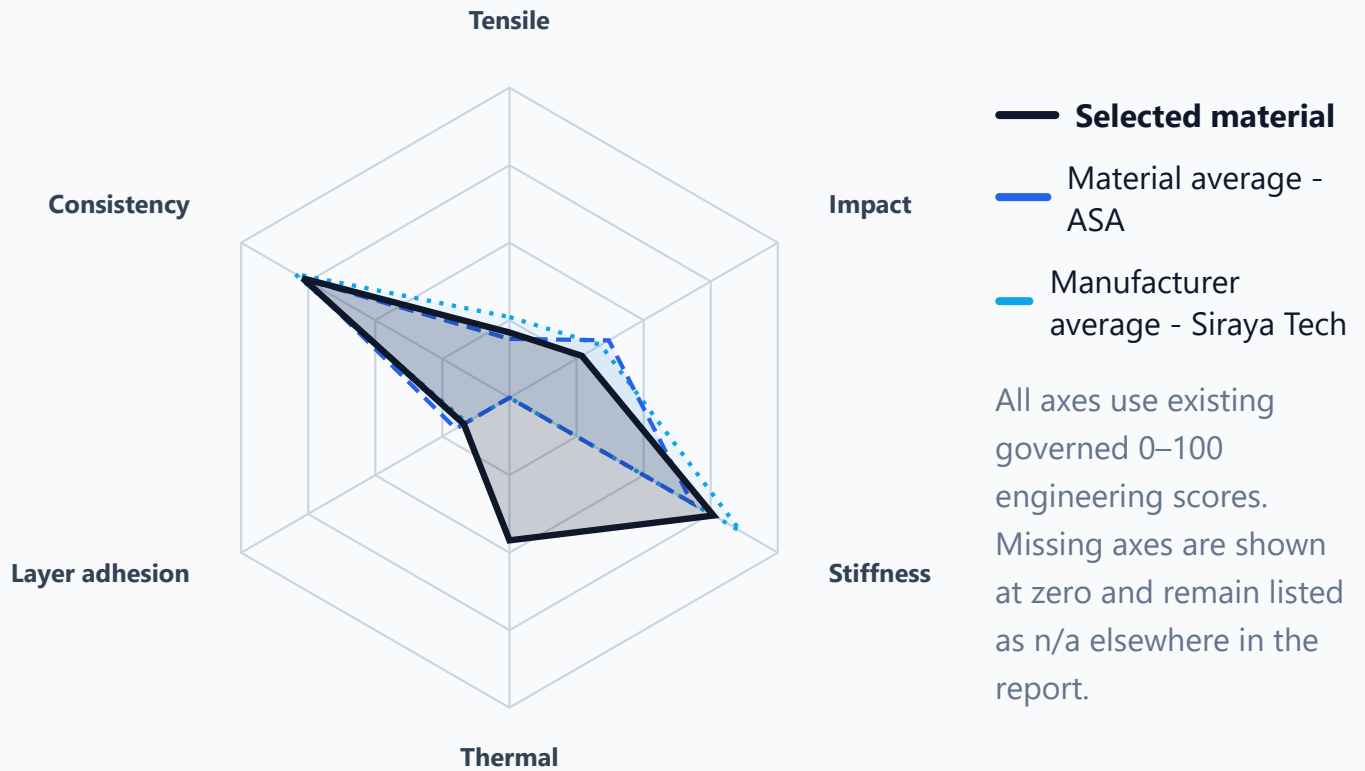
Overall	43/100
Tensile	21/100

Impact	27/100
Stiffness	76/100
Consistency	77/100
Layer adhesion	17/100
Thermal	46/100
Best available axis	consistency

Engineering score profile



Engineering radar



Fixture thermal result

91 °C · score 46/100 · 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	43/100	44/100	48/100
Tensile	21/100	19/100	26/100
Impact	27/100	37/100	34/100
Stiffness	76/100	68/100	86/100
Consistency	77/100	76/100	80/100
Layer adhesion	17/100	20/100	16/100
Thermal	46/100	—	—

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	4.903 MPa	2.562 MPa	52.3%	8	8/10
Tensile flat	29.27 MPa	5.857 MPa	20%	10	10/10
Impact upright	166.475 kJ/m ²	20.583 kJ/m ²	12.4%	10	10/10
Impact flat	369.734 kJ/m ²	22.789 kJ/m ²	6.2%	10	10/10
Stiffness modulus	2277.929 MPa	—	—	—	—
Stiffness deflection	2.382 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 ASA GF Black has a specialized or limited engineering profile. It is below its material-family average by 0,7 points and below its manufacturer average by 4 points. Its strongest measured axis is Consistency, while the weakest axis is Layer Adhesion.

Data-driven review: Siraya Tech Fiberheart Black ASA GF 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 29% overall, is roughly aligned with the material-family average, and is below the manufacturer average by 4 points. Its strongest engineering signal is Consistency, while Layer Adhesion is the main limitation to consider before using it for demanding applications.

BEST FEATURE

Consistency

MAIN LIMITATION

Layer Adhesion

DATASET POSITION

Better than 29%
168 / 234

Strengths

- Consistency: 77/100. Repeatability is one of the stronger signals in this material profile.
- Stiffness: 76/100. Stiffness is a relative advantage in this comparison group.

Limitations

- Tensile: 21/100. Avoid using this as the primary choice for tensile-loaded parts.
- Impact: 27/100. Avoid high impact or shock-loaded components without additional validation.
- Layer adhesion: 17/100. 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	43/100	168 / 234	Better than 29%
Tensile	21/100	173 / 226	Better than 24%
Impact	27/100	81 / 226	Better than 65%
Stiffness	76/100	123 / 223	Better than 45%
Consistency	77/100	142 / 231	Better than 39%
Layer adhesion	17/100	154 / 226	Better than 32%
Thermal	46/100	21 / 209	Better than 90%

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.
- Avoid selecting it for impact-focused testing or shock-loaded designs.

Better alternatives

MaterialID	Material	Manufacturer	Overall	Tensile	Impact
MAT0014	Extrudr DuraPro Emerald Green ASA Green	Extrudr	51/100	21/100	49/100
MAT0015	Prusa3D Prusament ASA Pro Green	Prusa3D	48/100	23/100	44/100
MAT0211	Eryone Standard Black ASA High Speed Black	Eryone	48/100	19/100	50/100

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
MAT0014	Extrudr DuraPro Emerald Green ASA Green	Extrudr	51/100	21/100	49/100
MAT0015	Prusa3D Prusament ASA Pro Green	Prusa3D	48/100	23/100	44/100
MAT0211	Eryone Standard Black ASA High Speed Black	Eryone	48/100	19/100	50/100
MAT0016	Extrudr DuraPro ASA Red	Extrudr	48/100	19/100	50/100
MAT0148	Thorwell Standard ASA ASA Yellow	Thorwell	46/100	22/100	56/100
MAT0216	Eryone Standard White ASA White	Eryone	46/100	23/100	51/100
MAT0017	Yasin Standard White ASA White	Yasin	46/100	21/100	51/100
MAT0179	BambuLab Standard Blue ASA Blue	BambuLab	45/100	22/100	45/100

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](#)