

Siraya Tech Fiberheart Brown PET GF Brown

Material Engineering Report
MaterialID MAT0206

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

\$28.04 USD/kg

Material identity

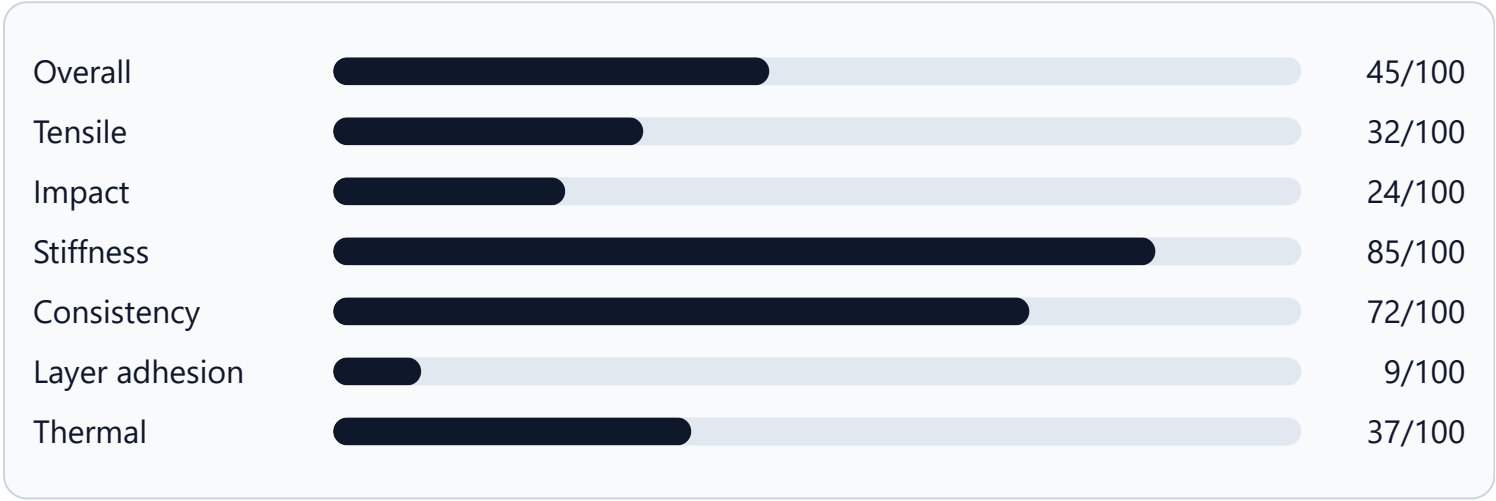
MaterialID	MAT0206
Material	Siraya Tech Fiberheart Brown PET GF Brown
Manufacturer	Siraya Tech
Product line	Fiberheart
Base material	PET
Category	Engineering
Variant / finish	—
Reinforcement	GF
Color	Brown

Governed engineering profile

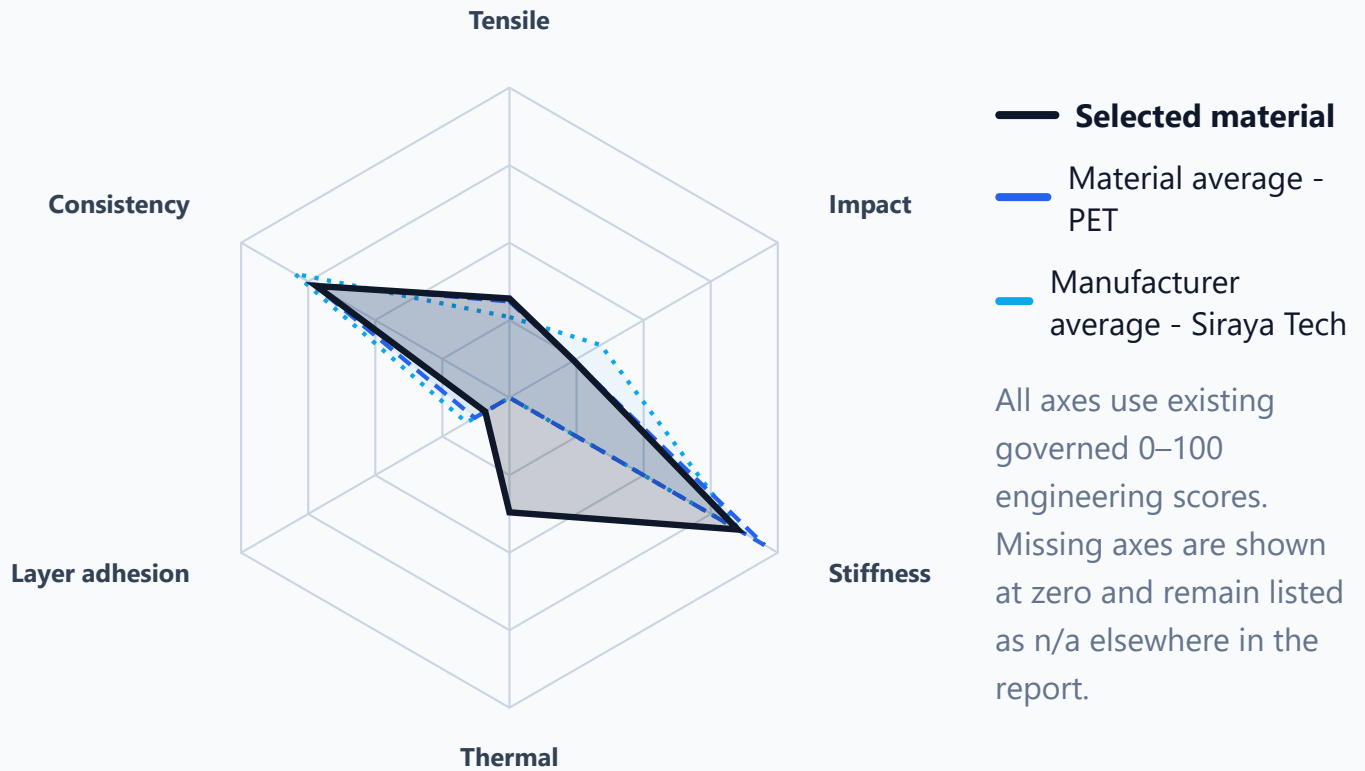
Overall	45/100
Tensile	32/100

Impact	24/100
Stiffness	85/100
Consistency	72/100
Layer adhesion	9/100
Thermal	37/100
Best available axis	stiffness

Engineering score profile



Engineering radar



Fixture thermal result

74 °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	45/100	47/100	48/100
Tensile	32/100	31/100	26/100
Impact	24/100	24/100	34/100
Stiffness	85/100	95/100	86/100
Consistency	72/100	73/100	80/100
Layer adhesion	9/100	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	4.26 MPa	2.167 MPa	50.9%	10	10/10
Tensile flat	47.711 MPa	10.396 MPa	21.8%	10	10/10
Impact upright	101.697 kJ/m ²	31.892 kJ/m ²	31.4%	10	10/10
Impact flat	376.548 kJ/m ²	23.353 kJ/m ²	6.2%	10	10/10
Stiffness modulus	2562.67 MPa	—	—	—	—
Stiffness deflection	2.118 mm	—	—	—	—

Measurement provenance

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

Module	Measured date
Tensile	2026-07-30
Impact	2026-07-30
Stiffness	2026-07-30
Thermal	Not recorded

Engineering interpretation

Summary: Siraya Tech Fiberheart Brown PET GF Brown has a specialized or limited engineering profile. It is below its material-family average by 2,6 points and below its manufacturer average by 2,9 points. Its strongest measured axis is Stiffness, while the weakest axis is Layer Adhesion.

Data-driven review: Siraya Tech Fiberheart Brown PET GF Brown 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 38% overall, is roughly aligned with the material-family average, and is roughly aligned with the manufacturer average. Its strongest engineering signal is Stiffness, while Layer Adhesion is the main limitation to consider before using it for demanding applications.

BEST FEATURE

Stiffness

MAIN LIMITATION

Layer Adhesion

DATASET POSITION

Better than 38%
147 / 234

Strengths

- Consistency: 72/100. Repeatability is one of the stronger signals in this material profile.
- Stiffness: 85/100. Stiffness is a relative advantage in this comparison group.

Limitations

- Tensile: 32/100. Avoid using this as the primary choice for tensile-loaded parts.
- Impact: 24/100. Avoid high impact or shock-loaded components without additional validation.
- Layer adhesion: 9/100. 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	45/100	147 / 234	Better than 38%
Tensile	32/100	74 / 226	Better than 68%
Impact	24/100	96 / 226	Better than 58%
Stiffness	85/100	94 / 223	Better than 58%
Consistency	72/100	184 / 231	Better than 21%
Layer adhesion	9/100	217 / 226	Better than 4%
Thermal	37/100	62 / 209	Better than 71%

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
MAT0195	Siraya Tech Fiberheart Black PET CF Black	Siraya Tech	51/100	35/100	27/100

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
MAT0195	Siraya Tech Fiberheart Black PET CF Black	Siraya Tech	51/100	35/100	27/100
MAT0166	BambuLab Basic PET CF Black	BambuLab	46/100	25/100	21/100

Public links

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](#)