

Extrudr DuraPro PA6 GF Black

Material Engineering Report
MaterialID MAT0025

3DPiceland Engineering Platform
3DPiceland Labs
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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

\$39.63 USD/kg

Material identity

MaterialID	MAT0025
Material	Extrudr DuraPro PA6 GF Black
Manufacturer	Extrudr
Product line	DuraPro
Base material	PA6
Category	Engineering
Variant / finish	—
Reinforcement	GF
Color	Black

Governed engineering profile

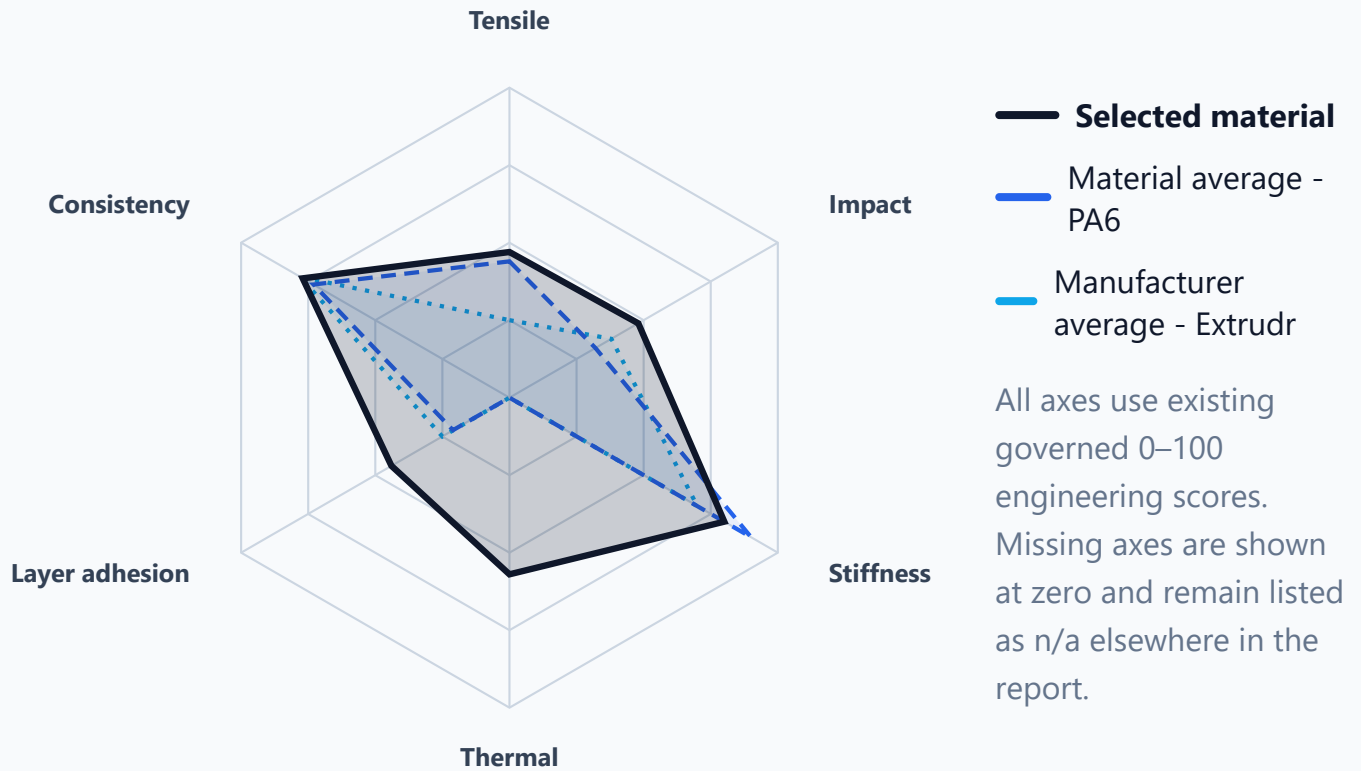
Overall	59/100
Tensile	47/100

Impact	48/100
Stiffness	80/100
Consistency	77/100
Layer adhesion	44/100
Thermal	57/100
Best available axis	stiffness

Engineering score profile



Engineering radar



Fixture thermal result

113 °C · score 57/100 · 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	59/100	53/100	47/100
Tensile	47/100	44/100	25/100
Impact	48/100	32/100	38/100
Stiffness	80/100	90/100	70/100
Consistency	77/100	73/100	78/100
Layer adhesion	44/100	21/100	25/100
Thermal	57/100	—	—

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	23.225 MPa	6.22 MPa	26.8%	9	9/10
Tensile flat	52.679 MPa	12.074 MPa	22.9%	10	10/10
Impact upright	283.255 kJ/m ²	32.159 kJ/m ²	11.4%	10	10/10
Impact flat	682.929 kJ/m ²	213.371 kJ/m ²	31.2%	10	10/10
Stiffness modulus	2396.263 MPa	—	—	—	—
Stiffness deflection	2.265 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: Extrudr DuraPro PA6 GF Black has a balanced mid-range engineering profile. It is above its material-family average by 6,5 points and above its manufacturer average by 12,1 points. Its strongest measured axis is Stiffness, while the weakest axis is Layer Adhesion.

Data-driven review: Extrudr DuraPro PA6 GF Black is best understood as a balanced material for general functional prototypes. Compared with the current verified dataset, it ranks better than 96% overall, is above the material-family average by 6,5 points, and is above the manufacturer average by 12,1 points. 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 96%
11 / 234

Strengths

- Layer adhesion: 44/100. Z-axis bonding is better than the material-family context.
- Consistency: 77/100. Repeatability is one of the stronger signals in this material profile.
- Impact: 48/100. Impact behavior is competitive against the material-family context.
- Stiffness: 80/100. Stiffness is a relative advantage in this comparison group.

Limitations

- Stiffness: 80/100. Expect less shape stability than the stronger materials in the same family.

Engineering trade-offs

- The score profile is balanced enough that final material choice should depend on printability, finish, cost and environment.

Recommended applications

- Rigid brackets, fixtures and shape-stable prototypes
- Repeatable print jobs and production-style batches

Metric rankings and percentiles

Metric	Score	Rank	Percentile
Overall	59/100	11 / 234	Better than 96%

Metric	Score	Rank	Percentile
Tensile	47/100	2 / 226	Better than 100%
Impact	48/100	31 / 226	Better than 87%
Stiffness	80/100	115 / 223	Better than 49%
Consistency	77/100	141 / 231	Better than 39%
Layer adhesion	44/100	38 / 226	Better than 84%
Thermal	57/100	11 / 209	Better than 95%

Decision guidance

- Use this material for moderate requirements after checking the weakest axis.
- Review the listed alternatives if the application needs stronger overall performance.

Better alternatives

MaterialID	Material	Manufacturer	Overall	Tensile	Impact
MAT0210	Eryone Standard Black PA6 GF Black	Eryone	72/100	—	40/100

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
MAT0210	Eryone Standard Black PA6 GF Black	Eryone	72/100	—	40/100
MAT0023	Extrudr DuraPro PA6 CF Black	Extrudr	54/100	52/100	27/100
MAT0026	Yasin Standard Black PA6 GF Black	Yasin	51/100	44/100	21/100
MAT0024	Yasin Standard Black PA6 CF Black	Yasin	51/100	41/100	24/100
MAT0027	Yasin Standard Clear PA6 Clear	Yasin	48/100	42/100	30/100
MAT0212	Eryone Standard Black PA6 CF Black	Eryone	34/100	39/100	—

Public links

[Manufacturer website](#) [Download PDF](#)

Methodology and limitations

Results are comparative 3DPlceland 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](#)