

Eryone Standard Black PA12 CF Black

Material Engineering Report
MaterialID MAT0214

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

\$58.13 USD/kg

Material identity

MaterialID	MAT0214
Material	Eryone Standard Black PA12 CF Black
Manufacturer	Eryone
Product line	Standard
Base material	PA12
Category	Engineering
Variant / finish	—
Reinforcement	CF
Color	Black

Governed engineering profile

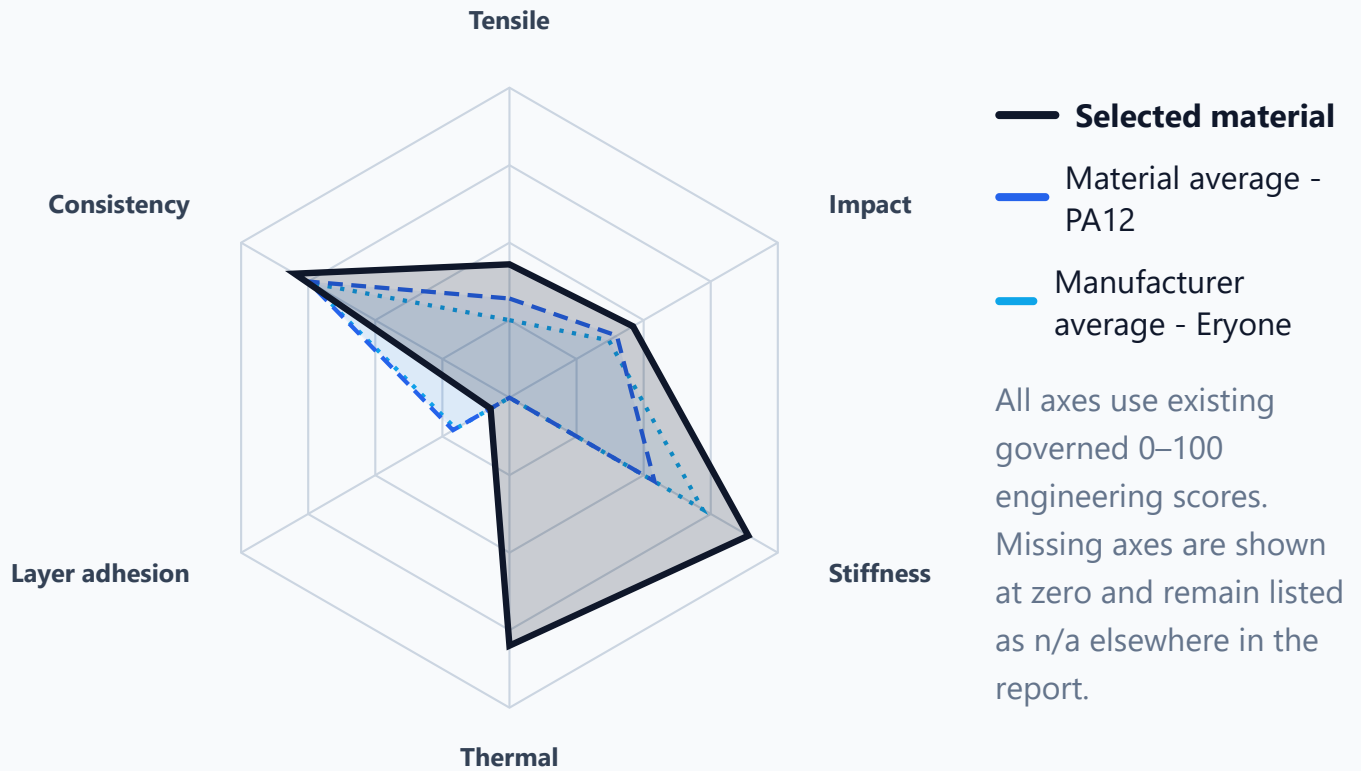
Overall	53/100
Tensile	43/100

Impact	46/100
Stiffness	89/100
Consistency	80/100
Layer adhesion	7/100
Thermal	80/100
Best available axis	stiffness

Engineering score profile



Engineering radar



Fixture thermal result

160 °C · score 80/100 · 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	53/100	45/100	46/100
Tensile	43/100	32/100	25/100
Impact	46/100	40/100	37/100
Stiffness	89/100	54/100	72/100
Consistency	80/100	75/100	74/100
Layer adhesion	7/100	21/100	20/100
Thermal	80/100	—	—

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	4.337 MPa	2.458 MPa	56.7%	10	10/10
Tensile flat	64.323 MPa	6.022 MPa	9.4%	10	10/10
Impact upright	161.328 kJ/m ²	14.235 kJ/m ²	8.8%	10	10/10
Impact flat	749.286 kJ/m ²	37.669 kJ/m ²	5%	10	10/10
Stiffness modulus	2674.09 MPa	—	—	—	—
Stiffness deflection	2.029 mm	—	—	—	—

Measurement provenance

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

Module	Measured date
Tensile	2026-08-01
Impact	2026-08-01
Stiffness	2026-08-01
Thermal	Not recorded

Engineering interpretation

Summary: Eryone Standard Black PA12 CF Black has a specialized or limited engineering profile. It is above its material-family average by 8,3 points and above its manufacturer average by 6,5 points. Its strongest measured axis is Stiffness, while the weakest axis is Layer Adhesion.

Data-driven review: Eryone Standard Black PA12 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 79% overall, is above the material-family average by 8,3 points, and is above the manufacturer average by 6,5 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 79%
51 / 234

Strengths

- Consistency: 80/100. Repeatability is one of the stronger signals in this material profile.
- Impact: 46/100. Impact behavior is competitive against the material-family context.
- Tensile: 43/100. Tensile behavior is competitive against the material-family context.
- Stiffness: 89/100. Stiffness is a relative advantage in this comparison group.

Limitations

- Layer adhesion: 7/100. Z-axis performance should be treated with caution.

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
- Cosmetic parts, concept models or low-load prototypes

Metric rankings and percentiles

Metric	Score	Rank	Percentile
Overall	53/100	51 / 234	Better than 79%
Tensile	43/100	4 / 226	Better than 99%
Impact	46/100	38 / 226	Better than 84%
Stiffness	89/100	77 / 223	Better than 66%
Consistency	80/100	81 / 231	Better than 65%
Layer adhesion	7/100	223 / 226	Better than 2%
Thermal	80/100	3 / 209	Better than 99%

Decision guidance

- Use this material for moderate requirements after checking the weakest axis.

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
MAT0167	BambuLab Basic PA12 PAHT CF Black	BambuLab	51/100	39/100	41/100
MAT0020	Extrudr DuraPro PA12 Black	Extrudr	50/100	34/100	50/100
MAT0209	Eryone Standard Black PA12 GF Black	Eryone	49/100	33/100	67/100
MAT0022	Fillamentum FX256 PA12 Clear	Fillamentum	45/100	28/100	47/100
MAT0019	MatterHackers NylonX PA12 CF Black	MatterHackers	42/100	32/100	22/100
MAT0239	Yasin Standard Black PA12 CF Black	Yasin	41/100	33/100	25/100

MaterialID	Material	Manufacturer	Overall	Tensile	Impact
MAT0196	Extrudr DuraPro Black PA12 CF Black	Extrudr	40/100	28/100	44/100
MAT0021	Yasin Standard Black PA12 Black	Yasin	31/100	22/100	13/100

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](#)