

Yasin Standard Black PA12 Black

Material Engineering Report
MaterialID MAT0021

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

\$53.12 USD/kg

Material identity

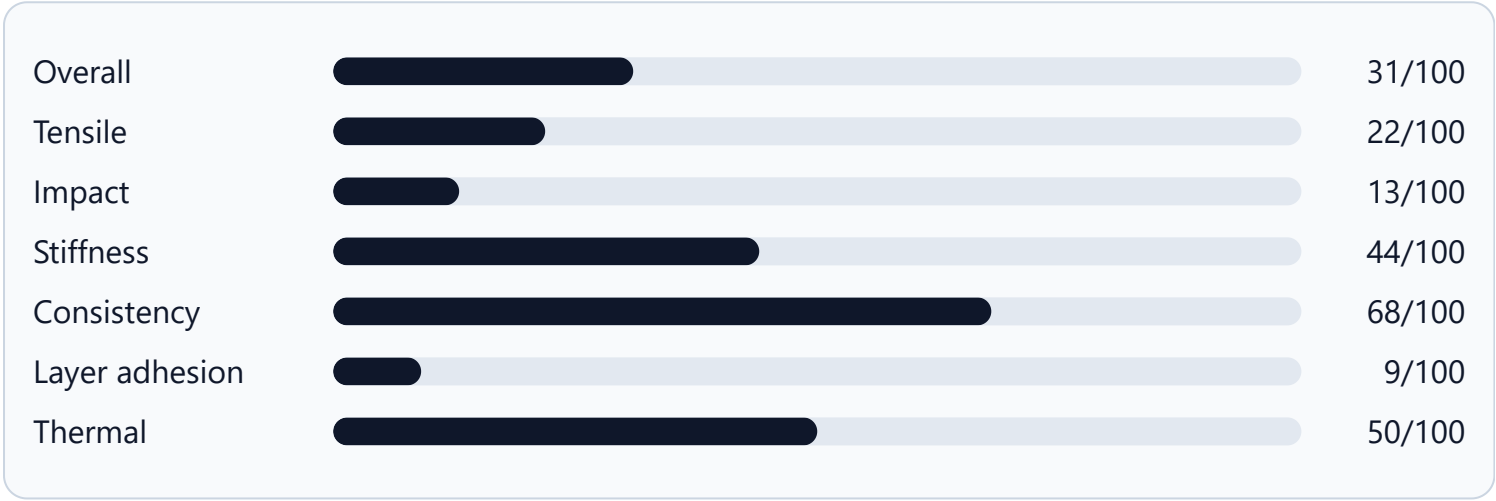
MaterialID	MAT0021
Material	Yasin Standard Black PA12 Black
Manufacturer	Yasin
Product line	Standard
Base material	PA12
Category	Engineering
Variant / finish	—
Reinforcement	—
Color	Black

Governed engineering profile

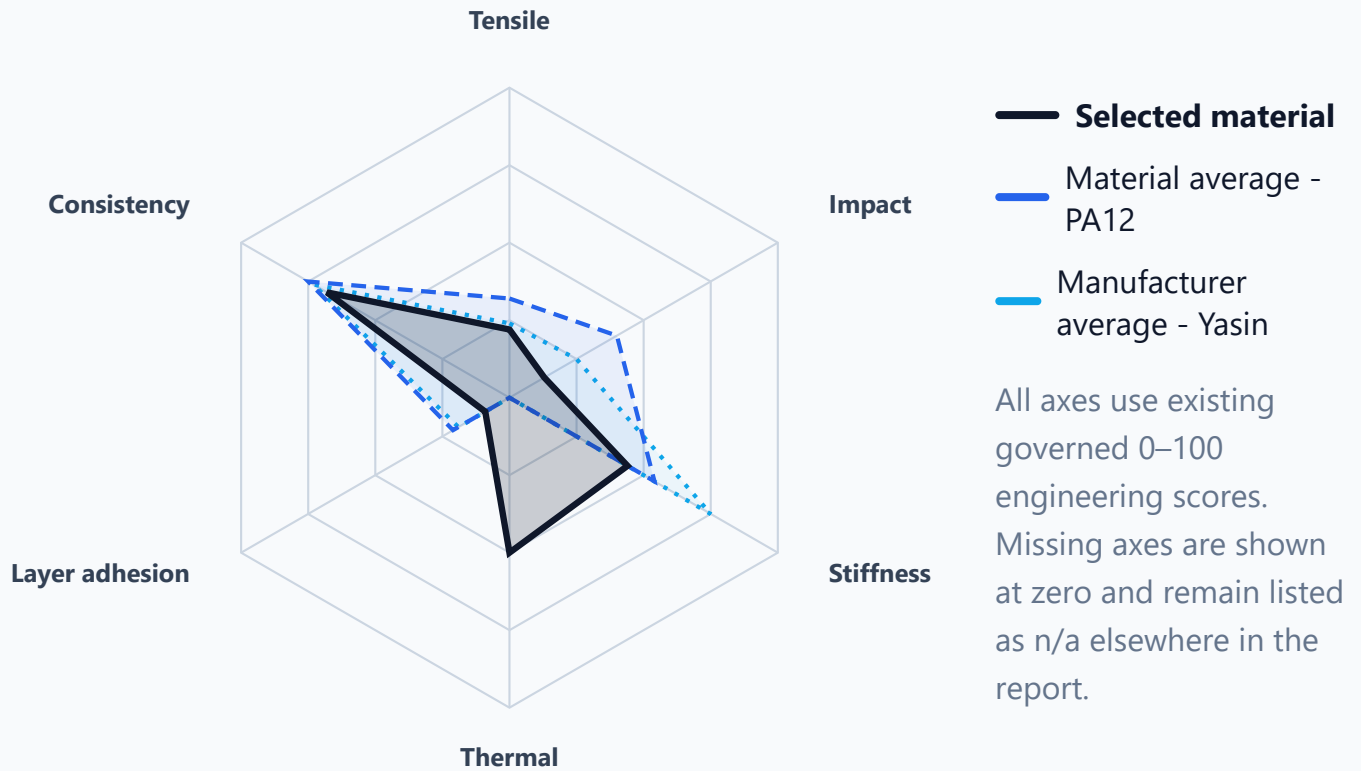
Overall	31/100
Tensile	22/100

Impact	13/100
Stiffness	44/100
Consistency	68/100
Layer adhesion	9/100
Thermal	50/100
Best available axis	consistency

Engineering score profile



Engineering radar



Fixture thermal result

99 °C · score 50/100 · method 3dp-thermal-deflection-fixture-v1
Nearby BlueDOT probe-indicated fixture temperature from a non-standard comparative 3DPlceland 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	31/100	45/100	43/100
Tensile	22/100	32/100	24/100
Impact	13/100	40/100	25/100
Stiffness	44/100	54/100	75/100
Consistency	68/100	75/100	73/100
Layer adhesion	9/100	21/100	19/100
Thermal	50/100	—	—

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	2.905 MPa	1.007 MPa	34.7%	9	9/10
Tensile flat	32.078 MPa	9.206 MPa	28.7%	9	9/10
Impact upright	78.005 kJ/m ²	33.732 kJ/m ²	43.2%	10	10/10
Impact flat	189.64 kJ/m ²	34.347 kJ/m ²	18.1%	10	10/10
Stiffness modulus	1322.668 MPa	—	—	—	—
Stiffness deflection	4.103 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: Yasin Standard Black PA12 Black has a low engineering profile. It is below its material-family average by 13,2 points and below its manufacturer average by 11,7 points. Its strongest measured axis is Consistency, while the weakest axis is Layer Adhesion.

Data-driven review: Yasin Standard Black PA12 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 1% overall, is below the material-family average by 13,2 points, and is below the manufacturer average by 11,7 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 1%
232 / 234

Strengths

- Best available signal: Consistency at 68/100.

Limitations

- Tensile: 22/100. Avoid using this as the primary choice for tensile-loaded parts.
- Impact: 13/100. Avoid high impact or shock-loaded components without additional validation.
- Stiffness: 44/100. Expect less shape stability than the stronger materials in the same family.
- 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.
- The report should be read as a suitability warning rather than a general-purpose recommendation.

Recommended applications

- 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	31/100	232 / 234	Better than 1%
Tensile	22/100	166 / 226	Better than 27%
Impact	13/100	198 / 226	Better than 13%
Stiffness	44/100	209 / 223	Better than 7%
Consistency	68/100	207 / 231	Better than 11%
Layer adhesion	9/100	214 / 226	Better than 6%
Thermal	50/100	16 / 209	Better than 93%

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
MAT0214	Eryone Standard Black PA12 CF Black	Eryone	53/100	43/100	46/100
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

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
MAT0214	Eryone Standard Black PA12 CF Black	Eryone	53/100	43/100	46/100
MAT0167	BambuLab Basic PA12 PAHT CF Black	BambuLab	51/100	39/100	41/100

MaterialID	Material	Manufacturer	Overall	Tensile	Impact
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
MAT0196	Extrudr DuraPro Black PA12 CF Black	Extrudr	40/100	28/100	44/100

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](#)