

IC3D Standard PETG Clear

Material Engineering Report
MaterialID MAT0053

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

5/6

PUBLIC MSRP

\$39.00 USD/kg

Material identity

MaterialID	MAT0053
Material	IC3D Standard PETG Clear
Manufacturer	IC3D
Product line	Standard
Base material	PETG
Category	Standard
Variant / finish	—
Reinforcement	—
Color	Clear

Governed engineering profile

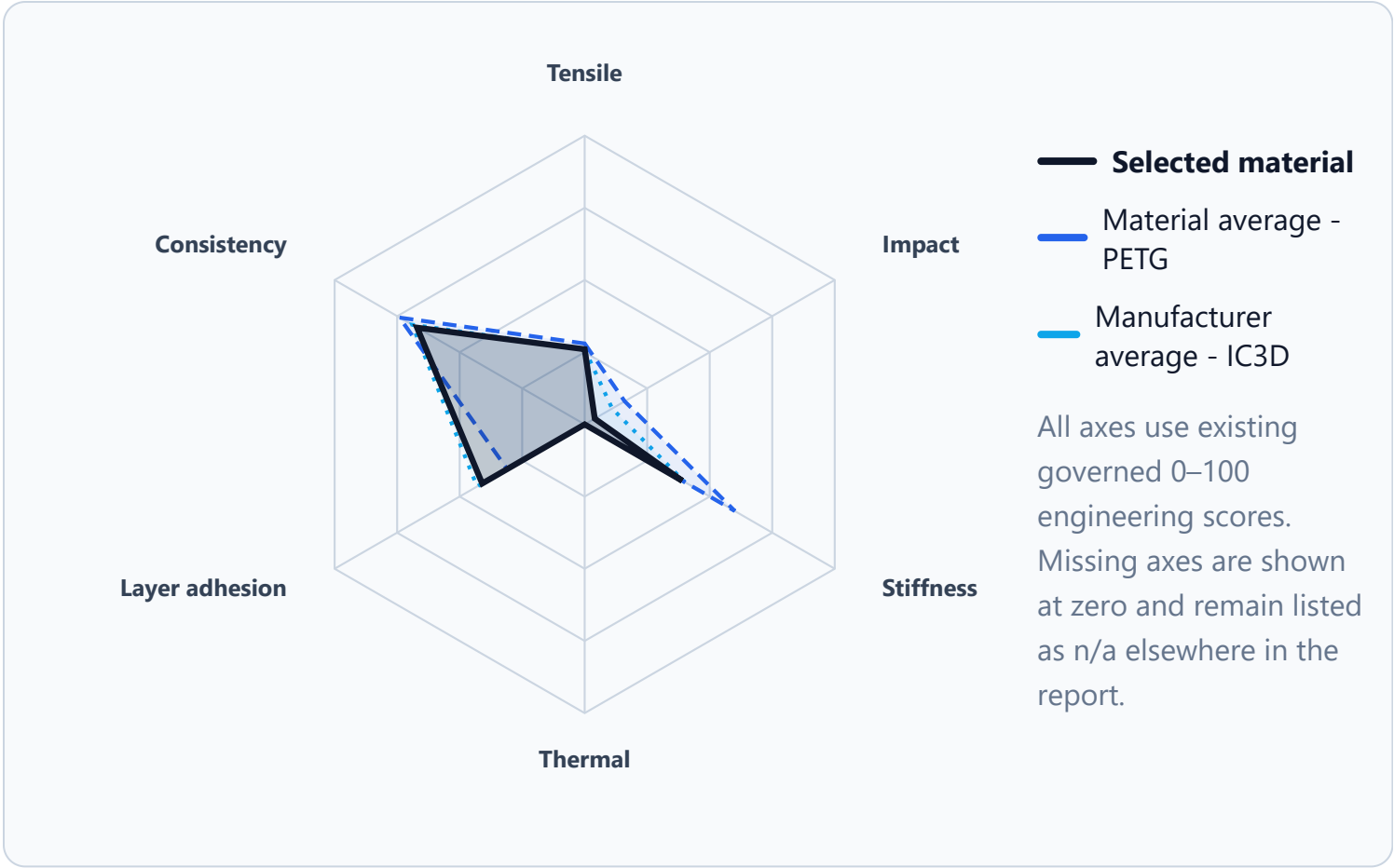
Overall	35/100
Tensile	26/100

Impact	4/100
Stiffness	39/100
Consistency	67/100
Layer adhesion	41/100
Thermal	—
Best available axis	consistency

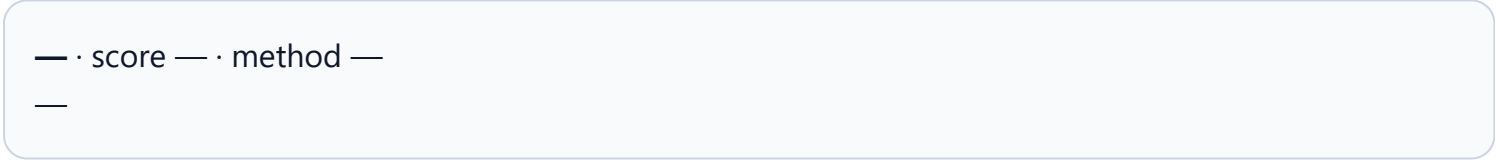
Engineering score profile



Engineering radar



Fixture thermal result



Material and manufacturer context

Metric	Selected material	Material average	Manufacturer average
Overall	35/100	42/100	41/100
Tensile	26/100	28/100	26/100
Impact	4/100	16/100	11/100
Stiffness	39/100	60/100	40/100
Consistency	67/100	74/100	69/100
Layer adhesion	41/100	31/100	43/100
Thermal	—	—	—

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	12.107 MPa	4.155 MPa	34.3%	7	7/10
Tensile flat	29.885 MPa	1.837 MPa	6.1%	10	10/10
Impact upright	20.795 kJ/m ²	9.024 kJ/m ²	43.4%	10	10/10
Impact flat	64.471 kJ/m ²	29.265 kJ/m ²	45.4%	10	10/10
Stiffness modulus	1175.237 MPa	—	—	—	—
Stiffness deflection	4.617 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: IC3D Standard PETG Clear has a specialized or limited engineering profile. It is below its material-family average by 6,8 points and below its manufacturer average by 6 points. Its strongest measured axis is Consistency, while the weakest axis is Impact.

Data-driven review: IC3D Standard PETG Clear 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 3% overall, is below the material-family average by 6,8 points, and is below the manufacturer average by 6 points. Its strongest engineering signal is Consistency, while Impact is the main limitation to consider before using it for demanding applications.

BEST FEATURE

Consistency

MAIN LIMITATION

Impact

DATASET POSITION

Better than 3%
228 / 234

Strengths

- Layer adhesion: 41/100. Z-axis bonding is better than the material-family context.

Limitations

- Tensile: 26/100. Avoid using this as the primary choice for tensile-loaded parts.
- Impact: 4/100. Avoid high impact or shock-loaded components without additional validation.
- Stiffness: 39/100. Expect less shape stability than the stronger materials in the same family.

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	35/100	228 / 234	Better than 3%
Tensile	26/100	135 / 226	Better than 41%
Impact	4/100	225 / 226	Better than 1%
Stiffness	39/100	218 / 223	Better than 3%
Consistency	67/100	216 / 231	Better than 7%
Layer adhesion	41/100	47 / 226	Better than 80%

Metric	Score	Rank	Percentile
Thermal	—	—	—

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
MAT0236	Yasin Standard Black PETG CF Black	Yasin	50/100	30/100	20/100
MAT0198	Siraya Tech Fiberheart Black PETG Pro CF Black	Siraya Tech	49/100	33/100	19/100
MAT0060	ColorFabb XT PETG Pink	ColorFabb	48/100	—	—

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
MAT0236	Yasin Standard Black PETG CF Black	Yasin	50/100	30/100	20/100
MAT0198	Siraya Tech Fiberheart Black PETG Pro CF Black	Siraya Tech	49/100	33/100	19/100
MAT0060	ColorFabb XT PETG Pink	ColorFabb	48/100	—	—
MAT0062	IC3D Standard PETG Green-Yellow	IC3D	48/100	26/100	—
MAT0165	Winkle Standard Ash Gray PETG Gray	Winkle	46/100	30/100	14/100
MAT0225	Spectrum Premium Iceland Blue PETG Blue	Spectrum	46/100	33/100	17/100

MaterialID	Material	Manufacturer	Overall	Tensile	Impact
MAT0063	IC3D Standard PETG Yellow	IC3D	46/100	26/100	—
MAT0235	Yasin Standard Black PETG GF Black	Yasin	45/100	27/100	21/100

Public links

[Manufacturer website](#) [Video review](#) [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](#)