

Thorwell Standard ABS ABS Yellow

Material Engineering Report
MaterialID MAT0152

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

\$36.00 USD/kg

Material identity

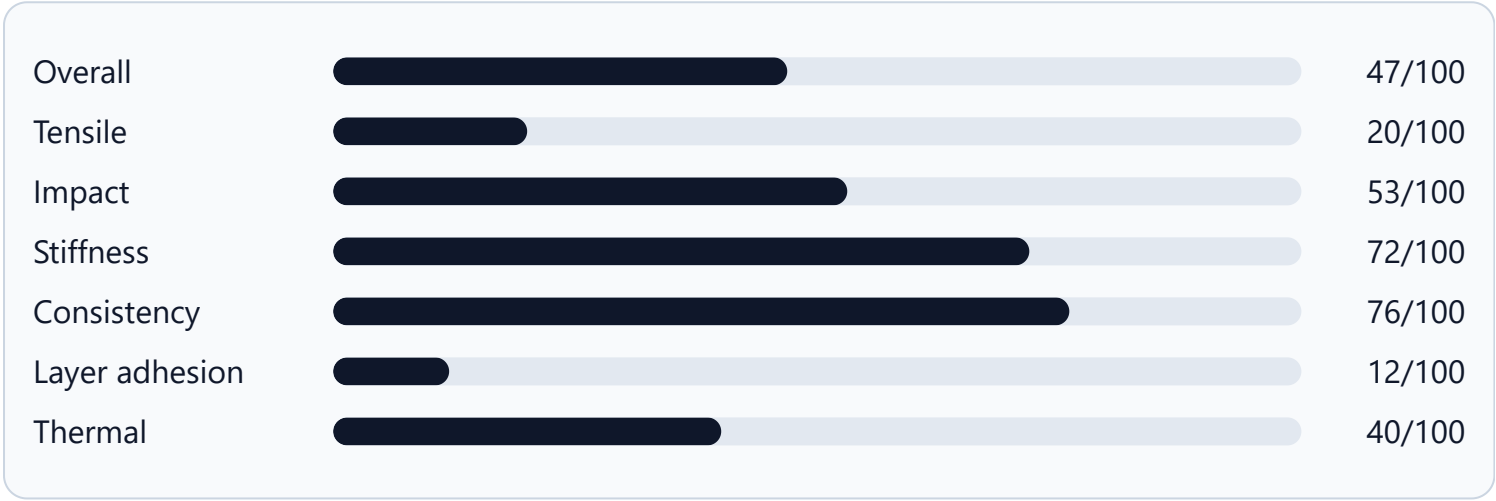
MaterialID	MAT0152
Material	Thorwell Standard ABS ABS Yellow
Manufacturer	Thorwell
Product line	Standard
Base material	ABS
Category	Engineering
Variant / finish	—
Reinforcement	—
Color	Yellow

Governed engineering profile

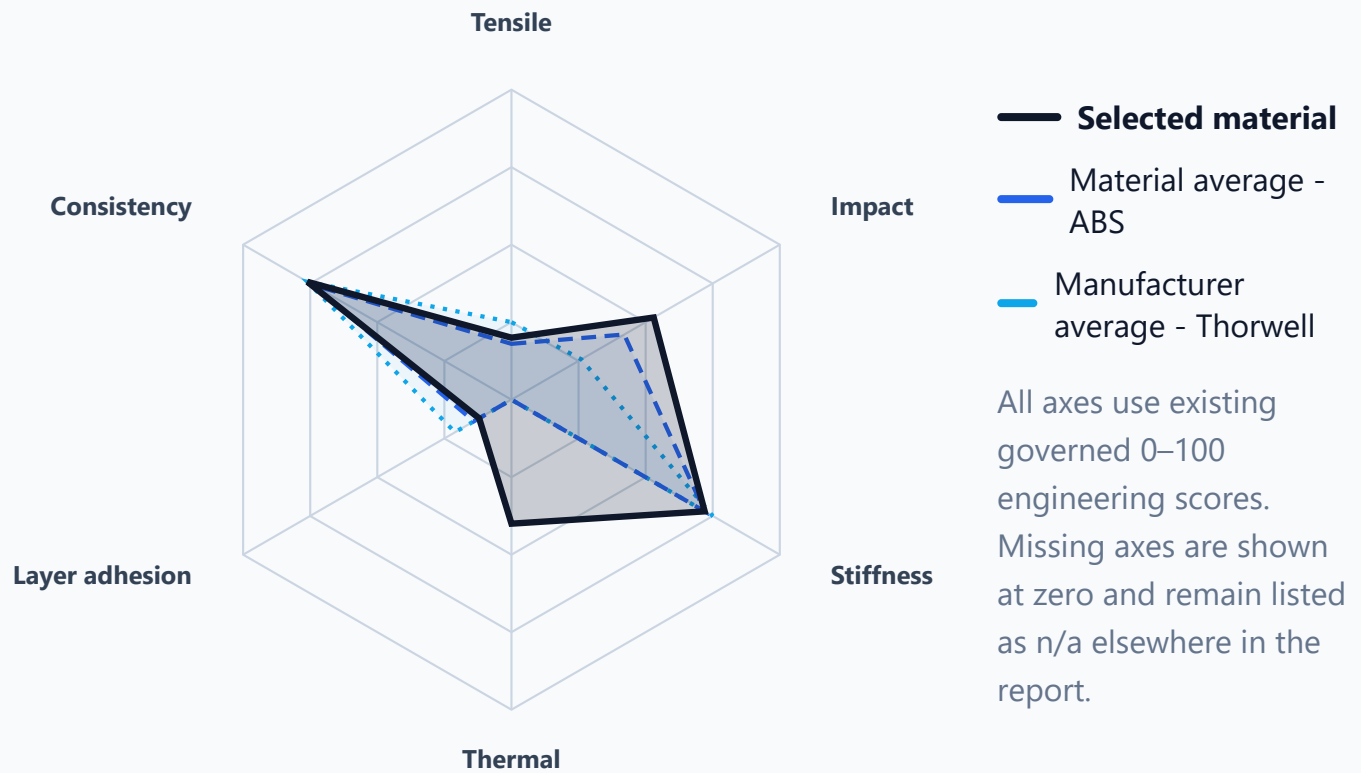
Overall	47/100
Tensile	20/100

Impact	53/100
Stiffness	72/100
Consistency	76/100
Layer adhesion	12/100
Thermal	40/100
Best available axis	consistency

Engineering score profile



Engineering radar



Fixture thermal result

80 °C · score 40/100 · 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	47/100	45/100	45/100
Tensile	20/100	18/100	25/100
Impact	53/100	42/100	26/100
Stiffness	72/100	72/100	75/100
Consistency	76/100	74/100	76/100
Layer adhesion	12/100	14/100	21/100
Thermal	40/100	—	—

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	3.461 MPa	2.103 MPa	60.8%	10	10/10
Tensile flat	28.193 MPa	6.693 MPa	23.7%	10	10/10
Impact upright	169.889 kJ/m ²	13.055 kJ/m ²	7.7%	10	10/10
Impact flat	897.738 kJ/m ²	23.404 kJ/m ²	2.6%	10	10/10
Stiffness modulus	2170.732 MPa	—	—	—	—
Stiffness deflection	2.5 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: Thorwell Standard ABS ABS Yellow has a specialized or limited engineering profile. It is above its material-family average by 2,2 points and above its manufacturer average by 2,2 points. Its strongest measured axis is Consistency, while the weakest axis is Layer Adhesion.

Data-driven review: Thorwell Standard ABS ABS Yellow 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 50% overall, is roughly aligned with the material-family average, and is roughly aligned with the manufacturer average. 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 50%
117 / 234

Strengths

- Consistency: 76/100. Repeatability is one of the stronger signals in this material profile.
- Impact: 53/100. Impact behavior is competitive against the material-family context.
- Stiffness: 72/100. Stiffness is a relative advantage in this comparison group.

Limitations

- Tensile: 20/100. Avoid using this as the primary choice for tensile-loaded parts.
- Layer adhesion: 12/100. 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

- 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

Metric rankings and percentiles

Metric	Score	Rank	Percentile
Overall	47/100	117 / 234	Better than 50%

Metric	Score	Rank	Percentile
Tensile	20/100	188 / 226	Better than 17%
Impact	53/100	16 / 226	Better than 93%
Stiffness	72/100	133 / 223	Better than 41%
Consistency	76/100	147 / 231	Better than 37%
Layer adhesion	12/100	186 / 226	Better than 18%
Thermal	40/100	51 / 209	Better than 76%

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.

Better alternatives

MaterialID	Material	Manufacturer	Overall	Tensile	Impact
MAT0006	Prima Creator PrimaValue Dark Gray ABS Gray	Prima Creator	52/100	24/100	54/100

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
MAT0006	Prima Creator PrimaValue Dark Gray ABS Gray	Prima Creator	52/100	24/100	54/100
MAT0202	Siraya Tech Fiberheart White ABS High Temp White	Siraya Tech	49/100	21/100	54/100
MAT0207	Siraya Tech Fiberheart Black ABS Core CF Black	Siraya Tech	49/100	24/100	27/100

MaterialID	Material	Manufacturer	Overall	Tensile	Impact
MAT0003	Prusa3D Buddy3D ABS Black	Prusa3D	48/100	19/100	53/100
MAT0007	FilaFarm Standard ABS Orange	FilaFarm	47/100	—	41/100
MAT0181	BambuLab Standard Blue ABS Blue	BambuLab	46/100	19/100	53/100
MAT0005	Extrudr DuraPro ABS Blue	Extrudr	44/100	16/100	47/100
MAT0241	Yasin Standard Blue ABS Blue	Yasin	44/100	17/100	47/100

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](#)