

Spectrum Premium Navy Blue PETG Blue

Material Engineering Report
MaterialID MAT0229

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

\$35.92 USD/kg

Material identity

MaterialID	MAT0229
Material	Spectrum Premium Navy Blue PETG Blue
Manufacturer	Spectrum
Product line	Premium
Base material	PETG
Category	Standard
Variant / finish	—
Reinforcement	—
Color	Blue

Governed engineering profile

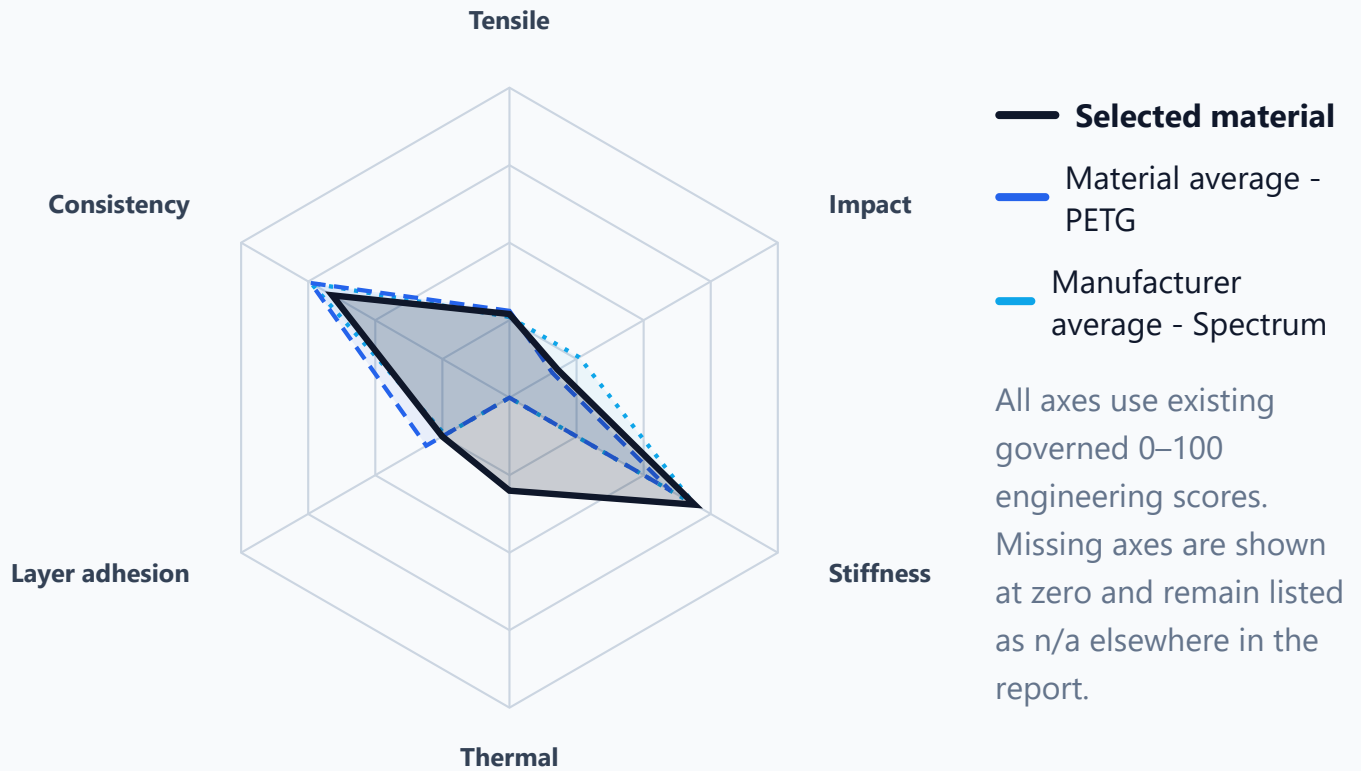
Overall	41/100
Tensile	27/100

Impact	18/100
Stiffness	69/100
Consistency	66/100
Layer adhesion	25/100
Thermal	30/100
Best available axis	stiffness

Engineering score profile



Engineering radar



Fixture thermal result

60 °C · score 30/100 · 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	41/100	42/100	44/100
Tensile	27/100	28/100	26/100
Impact	18/100	16/100	26/100
Stiffness	69/100	60/100	69/100
Consistency	66/100	74/100	74/100
Layer adhesion	25/100	31/100	24/100
Thermal	30/100	—	—

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	8.613 MPa	5.845 MPa	67.9%	10	10/10
Tensile flat	34.991 MPa	10.583 MPa	30.2%	10	10/10
Impact upright	117.794 kJ/m ²	17.013 kJ/m ²	14.4%	10	10/10
Impact flat	236.038 kJ/m ²	55.735 kJ/m ²	23.6%	10	10/10
Stiffness modulus	2073.171 MPa	—	—	—	—
Stiffness deflection	2.618 mm	—	—	—	—

Measurement provenance

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

Module	Measured date
Tensile	2026-08-15
Impact	2026-08-15
Stiffness	2026-08-15
Thermal	2026-08-15

Engineering interpretation

Summary: Spectrum Premium Navy Blue PETG Blue has a specialized or limited engineering profile. It is below its material-family average by 1,2 points and below its manufacturer average by 2,6 points. Its strongest measured axis is Stiffness, while the weakest axis is Impact.

Data-driven review: Spectrum Premium Navy Blue PETG Blue 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 18% overall, is roughly aligned with the material-family average, and is roughly aligned with the manufacturer average. Its strongest engineering signal is Stiffness, while Impact is the main limitation to consider before using it for demanding applications.

BEST FEATURE

Stiffness

MAIN LIMITATION

Impact

DATASET POSITION

Better than 18%
193 / 234

Strengths

- Stiffness: 69/100. Stiffness is a relative advantage in this comparison group.

Limitations

- Tensile: 27/100. Avoid using this as the primary choice for tensile-loaded parts.
- Impact: 18/100. Avoid high impact or shock-loaded components without additional validation.
- Layer adhesion: 25/100. 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	41/100	193 / 234	Better than 18%

Metric	Score	Rank	Percentile
Tensile	27/100	124 / 226	Better than 46%
Impact	18/100	161 / 226	Better than 29%
Stiffness	69/100	148 / 223	Better than 34%
Consistency	66/100	220 / 231	Better than 5%
Layer adhesion	25/100	108 / 226	Better than 53%
Thermal	30/100	96 / 209	Better than 55%

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

MaterialID	Material	Manufacturer	Overall	Tensile	Impact
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
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](#) [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](#)