

Bedrock 3D Standard Natural PLA Tough Natual

MaterialID MAT0244



3DPiceland Labs
Generated with 3DPiceland Engineering Platform v70.0.4
DIRECT-IMPACT-METHODOLOGY - Izod and Charpy
Methodology
2026-10-04 18:10:39

Traceability boundary: canonical per-module measured dates are shown below. Session identifier, time of day, operator, printer/slicer profile and environmental conditions are Not recorded and are never inferred.

Measurement provenance

Canonical SQLite measured dates use ISO format; missing dates remain Not recorded.

Module	Measured date
Tensile	2026-09-05
Impact	2026-09-11
Izod	2026-09-21
Charpy	2026-09-21
Stiffness	2026-09-05

Rigid test status
Complete

Rigid result
modules
6/6

Rigid
specimen/result
records
41

Public details
Approved

Rigid specimen and result quality

Module	Orientation	Average	Std. dev.	CV	Specimens	Confidence	Validation
Tensile	Upright	15,273 MPa	4,732 MPa	0,31%	10	10/10	OK

Module	Orientation	Average	Std. dev.	CV	Specimens	Confidence	Validation
Tensile	Flat	37,898 MPa	5,933 MPa	0,157%	10	10/10	OK
Impact	Upright	8,041 kJ/m ²	0,46 kJ/m ²	0,057%	10	10/10	OK
Impact	Flat	34,726 kJ/m ²	4,205 kJ/m ²	0,121%	10	10/10	OK
Stiffness	Three-point bend	2635,889 MPa	n/a	n/a	1	Complete	OK

Recorded native inputs

Module	Input set	Recorded values
Tensile	Upright force inputs (N)	127, 73, 75, 151, 87, 54, 97, 138, 101, 90
Tensile	Flat force inputs (N)	262, 317, 236, 254, 306, 229, 225, 215, 215, 205
Impact	Upright needle inputs (%)	8,8, 10, 9,5, 10, 10, 10, 10, 11, 10, 9,5
Impact	Flat needle inputs (%)	43, 47, 47, 32, 37, 49, 42, 44, 43, 52
Stiffness	Revolutions / degrees	1 / 340

Approved test notes

Method and equipment context

Purpose-built tensile, pendulum impact and three-point bend apparatus are used with the governed Settings Manager constants consumed by ResultsService. Results are comparative and do not claim accredited-laboratory equipment.

[Testing methodology](#) · [Engineering methodology whitepaper](#) · [Download PDF](#)

Izod and Charpy Impact Strength

Izod Impact Strength · 2026-09-21
Instrument readings in kJ/m²
Mean 6.434 kJ/m²; Std. Dev 1.01 kJ/m²; CV 15.698%; Samples 10; Confidence 10
No break 0; invalid 0; excluded 0.
Comparative measurements; standard conformity unverified.

Charpy Impact Strength · 2026-09-21

Instrument readings in kJ/m^2

Mean 24.329 kJ/m^2 ; Std. Dev 16.382 kJ/m^2 ; CV 67.333%; Samples 10; Confidence 10

No break 0; invalid 0; excluded 0.

Comparative measurements; standard conformity unverified.

[reports/test-sessions/MAT0244/](#)