

# Bedrock 3D Standard Black TPU 64D Black

Material Engineering Report  
MaterialID MAT0253

3DPiceland Engineering Platform  
3DPiceland Labs

Generated with 3DPiceland Engineering Platform v70.0.4 DIRECT-  
IMPACT-METHODOLOGY - Izod and Charpy Methodology  
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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.

## RIGID TEST COVERAGE

**No native results;  
0/5 score families;  
Izod/Charpy 0/2  
measured, 0/2  
scored; Overall  
unavailable: missing  
measurements or  
references; policy  
engineering-score-  
v70-1**

## ENGINEERING AXES

**0/8**

## PUBLIC MSRP

**\$42.39 USD/kg**

## Material identity

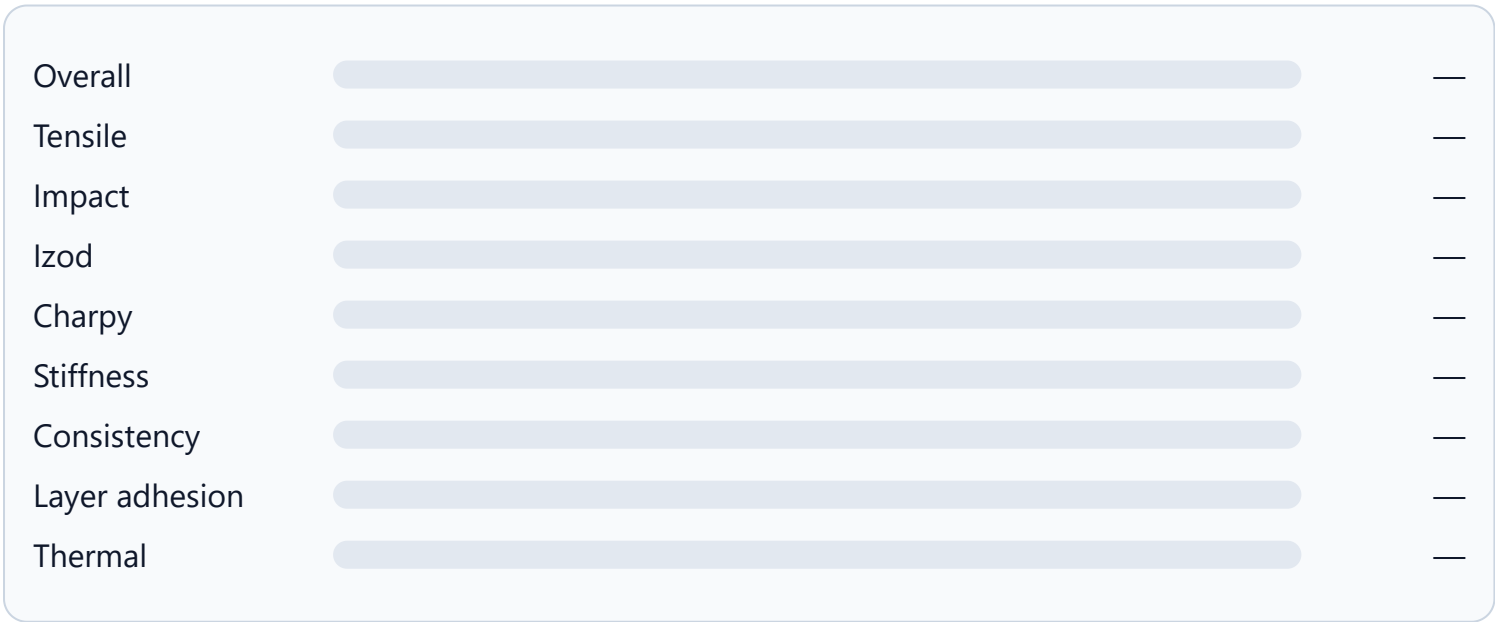
|                  |                                         |
|------------------|-----------------------------------------|
| MaterialID       | MAT0253                                 |
| Material         | Bedrock 3D Standard Black TPU 64D Black |
| Manufacturer     | Bedrock 3D                              |
| Product line     | Standard                                |
| Base material    | TPU                                     |
| Category         | Flexible                                |
| Variant / finish | 64D                                     |

|               |       |
|---------------|-------|
| Reinforcement | —     |
| Color         | Black |

## Governed engineering profile

|                     |                    |
|---------------------|--------------------|
| Overall             | —                  |
| Tensile             | —                  |
| Impact              | —                  |
| Izod                | —                  |
| Charpy              | —                  |
| Stiffness           | —                  |
| Consistency         | —                  |
| Layer adhesion      | —                  |
| Thermal             | —                  |
| Best available axis | mechanical profile |

## Engineering score profile



## Engineering radar



## Fixture thermal result

— · score — · method —  
—

## Material and manufacturer context

| Metric         | Selected material | Material average | Manufacturer average |
|----------------|-------------------|------------------|----------------------|
| Overall        | —                 | —                | —                    |
| Tensile        | —                 | 27/100           | 31/100               |
| Impact         | —                 | —                | —                    |
| Izod           | —                 | 48/100           | 17/100               |
| Charpy         | —                 | 47/100           | 24/100               |
| Stiffness      | —                 | —                | 81/100               |
| Consistency    | —                 | 92/100           | 74/100               |
| Layer adhesion | —                 | 25/100           | 16/100               |
| 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      | —       | —              | —  | —       | —          |
| Tensile flat         | —       | —              | —  | —       | —          |
| Impact upright       | —       | —              | —  | —       | —          |
| Impact flat          | —       | —              | —  | —       | —          |
| Izod                 | —       | —              | —  | —       | —          |
| Charpy               | —       | —              | —  | —       | —          |
| Stiffness modulus    | —       | —              | —  | —       | —          |
| Stiffness deflection | —       | —              | —  | —       | —          |

## 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  |
| Izod      | Not recorded  |
| Charpy    | Not recorded  |
| Stiffness | Not recorded  |
| Thermal   | Not recorded  |

## Engineering interpretation

**Summary:** Bedrock 3D Standard Black TPU 64D Black has a profile awaiting complete scoring evidence. It is without enough material-family average context and without enough manufacturer average context. Its strongest measured axis is No scored metric, while the weakest axis is No scored metric.

**Data-driven review:** Bedrock 3D Standard Black TPU 64D Black has incomplete scoring evidence or pending method references. Overall suitability and ranking are unavailable. Available scored axes can be inspected separately; missing scores do not establish weak material performance.

BEST FEATURE

No scored metric

MAIN LIMITATION

No scored metric

DATASET POSITION

Strengths

- No scored strength is available yet.

Limitations

- No scored limitation can be established from the available evidence.

## Engineering trade-offs

- Complete scoring evidence and approved method references are required before assessing an overall balance of properties.

## Recommended applications

- Application guidance awaits sufficient measured evidence and approved score references

## Metric rankings and percentiles

| Metric         | Score | Rank | Percentile |
|----------------|-------|------|------------|
| Overall        | —     | —    | —          |
| Tensile        | —     | —    | —          |
| Impact         | —     | —    | —          |
| Izod           | —     | —    | —          |
| Charpy         | —     | —    | —          |
| Stiffness      | —     | —    | —          |
| Consistency    | —     | —    | —          |
| Layer adhesion | —     | —    | —          |
| Thermal        | —     | —    | —          |

## Decision guidance

- Overall suitability is unavailable until the required measurements and method references are complete.

## Better alternatives

| MaterialID                                                                                   | Material | Manufacturer | Overall | Tensile | Impact | Izod | Charpy |
|----------------------------------------------------------------------------------------------|----------|--------------|---------|---------|--------|------|--------|
| No stronger same-base-material alternatives were identified in the current governed dataset. |          |              |         |         |        |      |        |

## 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 | Izod | Charpy |
|------------|-----------------------------------------------|---------------|---------|---------|--------|------|--------|
| MAT0256    | Bedrock 3D Standard Black TPU Foaming Black   | Bedrock 3D    | —       | —       | —      | n/a  | n/a    |
| MAT0255    | Bedrock 3D Standard Natural TPU 85A Natural   | Bedrock 3D    | —       | —       | —      | n/a  | n/a    |
| MAT0254    | Bedrock 3D Standard White TPU 95A White       | Bedrock 3D    | —       | —       | —      | n/a  | n/a    |
| MAT0257    | Prima Creator Select Black TPU Black          | Prima Creator | —       | —       | —      | n/a  | n/a    |
| MAT0261    | Prusa3D Prusament Jet Black TPU 95A Black     | Prusa3D       | —       | —       | —      | n/a  | n/a    |
| MAT0200    | Siraya Tech Fiberheart Black TPU 67D GF Black | Siraya Tech   | —       | 27/100  | —      | n/a  | n/a    |
| MAT0260    | Thorwell Standard Blue TPU Blue               | Thorwell      | —       | —       | —      | n/a  | n/a    |

## 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](#)

## Flexible Material Testing

Comparative in-house measurements; n = independent specimens. Separate test groups; Overall unchanged.

| Method   | Result                                              | Condition                                                                           | Mean    | n | SD    | CV %  | Range         | Not reached |
|----------|-----------------------------------------------------|-------------------------------------------------------------------------------------|---------|---|-------|-------|---------------|-------------|
| eaacea91 | Apparent Compressive Stress at 20% Strain (MPa)     | 10 s hold · 2 mm displacement · cycle 1                                             | 6.885   | 9 | 0.133 | 1.934 | 6.728–7.074   | 0           |
| eaacea91 | Apparent Compressive Stress at 20% Strain (MPa)     | 30 s hold · 2 mm displacement · cycle 1                                             | 6.352   | 9 | 0.128 | 2.016 | 6.193–6.571   | 0           |
| eaacea91 | Compression Force at 20% Strain (N)                 | 10 s hold · 2 mm displacement · cycle 1                                             | 438     | 9 | 8.471 | 1.934 | 428–450       | 0           |
| eaacea91 | Compression Force at 20% Strain (N)                 | 30 s hold · 2 mm displacement · cycle 1                                             | 404.111 | 9 | 8.146 | 2.016 | 394–418       | 0           |
| eaacea91 | Force reduction from 10 s to 30 s at 20% Strain (%) | first compression only · 2 mm displacement                                          | 7.738   | 9 | 0.443 | 5.731 | 7.111–8.372   | 0           |
| eaacea91 | Force retention at 20% Strain (%)                   | 10–30 s · 2 mm displacement · cycle 1                                               | 92.262  | 9 | 0.443 | 0.481 | 91.628–92.889 | 0           |
| eaacea91 | Residual height loss after recovery (%)             | 20% compression · 30 s compressed hold · 60 s rest · 10 mm initial height · cycle 1 | 1.956   | 9 | 0.124 | 6.321 | 1.8–2.2       | 0           |
| ed381ba8 | Shore A Hardness (Shore A)                          | 10 s reading · 8 mm                                                                 | 91.9    | 1 | —     | —     | 91.9–91.9     | 0           |

## Shore location statistics

Within each specimen; specimen numbers are local to each test group. SD uses the sample formula. These readings do not increase independent n.

| Method   | Scale            | Condition           | Specimen | Readings | Mean | Location SD | Location CV % |
|----------|------------------|---------------------|----------|----------|------|-------------|---------------|
| ed381ba8 | Shore A Hardness | 10 s reading · 8 mm | 1        | 5        | 91.9 | 4.561       | 4.963         |