

# Prusa3D

## Prusament PP CF

### Black

Material Engineering Report  
MaterialID MAT0036

3DP Iceland Engineering Platform  
3DP Iceland Labs

Generated with 3DP Iceland Engineering Platform v60.0.6 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

**\$109.54 USD/kg**

## Material identity

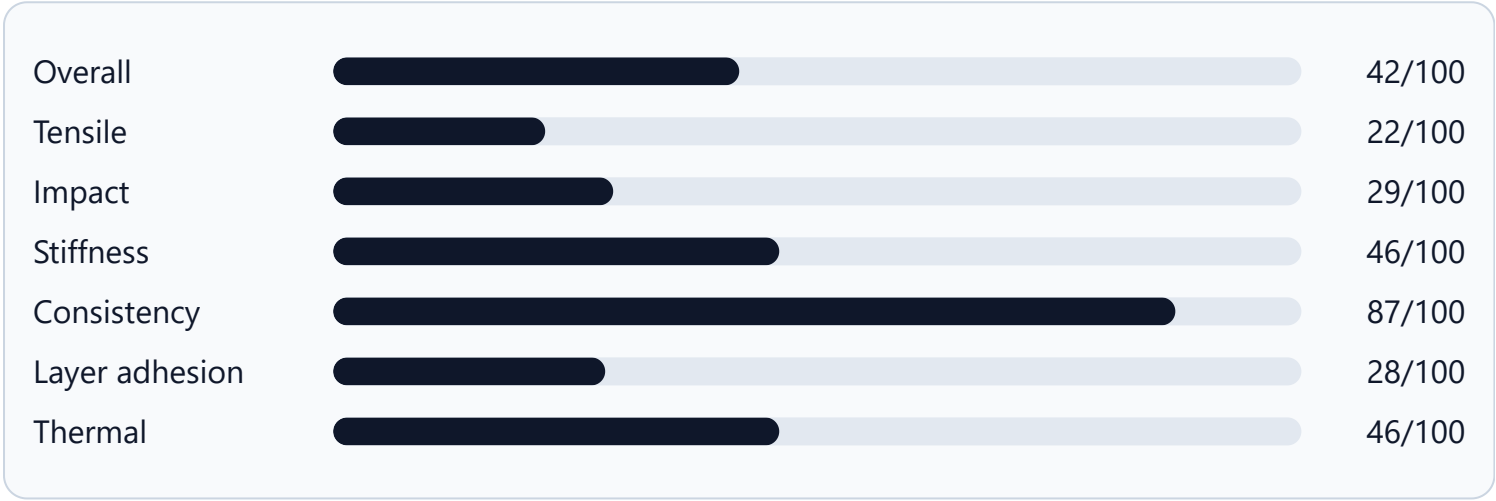
|                  |                               |
|------------------|-------------------------------|
| MaterialID       | MAT0036                       |
| Material         | Prusa3D Prusament PP CF Black |
| Manufacturer     | Prusa3D                       |
| Product line     | Prusament                     |
| Base material    | PP                            |
| Category         | Engineering                   |
| Variant / finish | —                             |
| Reinforcement    | CF                            |
| Color            | Black                         |

## Governed engineering profile

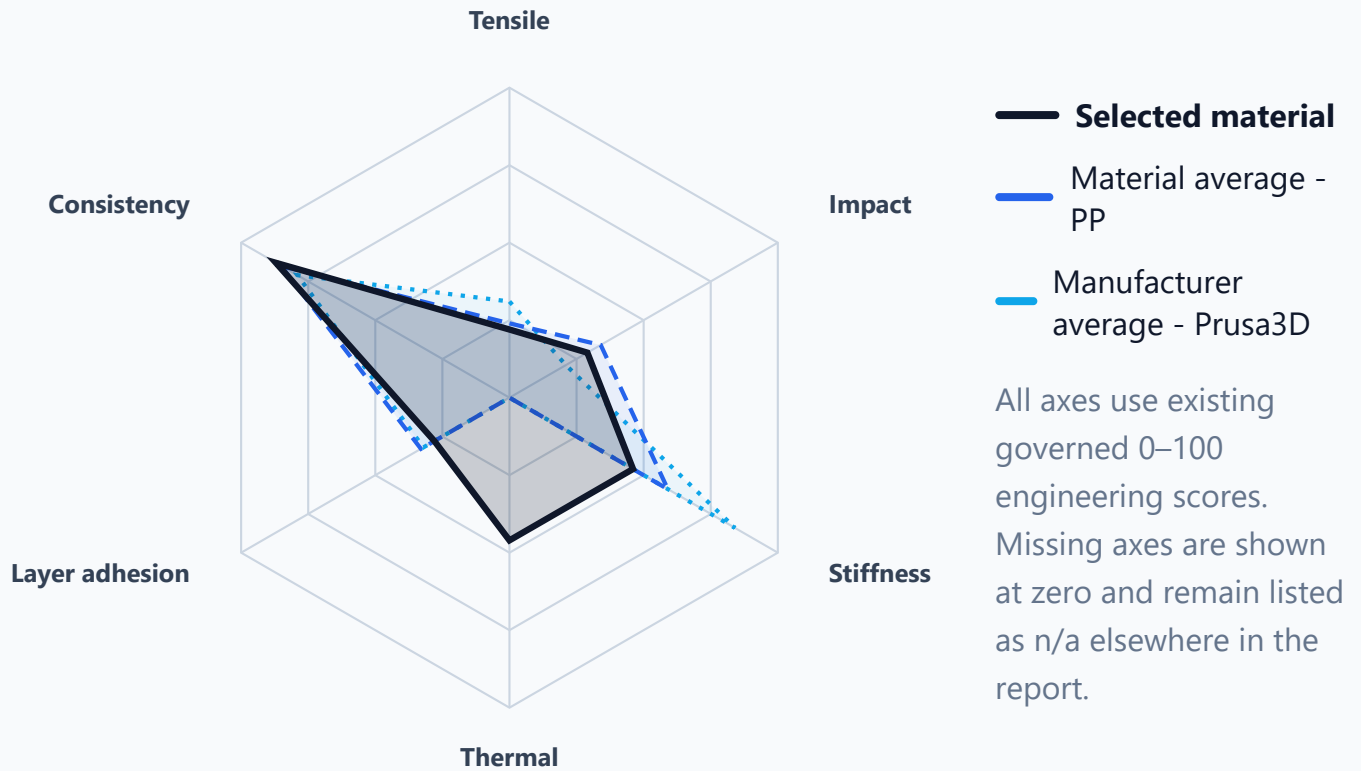
|         |        |
|---------|--------|
| Overall | 42/100 |
| Tensile | 22/100 |

|                     |             |
|---------------------|-------------|
| Impact              | 29/100      |
| Stiffness           | 46/100      |
| Consistency         | 87/100      |
| Layer adhesion      | 28/100      |
| Thermal             | 46/100      |
| Best available axis | consistency |

## Engineering score profile



## Engineering radar



## Fixture thermal result

**91 °C** · score 46/100 · 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        | 42/100            | 46/100           | 49/100               |
| Tensile        | 22/100            | 24/100           | 31/100               |
| Impact         | 29/100            | 34/100           | 21/100               |
| Stiffness      | 46/100            | 59/100           | 84/100               |
| Consistency    | 87/100            | 85/100           | 79/100               |
| Layer adhesion | 28/100            | 33/100           | 32/100               |
| Thermal        | 46/100            | —                | —                    |

## 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      | 7.644 MPa                 | 0.992 MPa                | 13%   | 10      | 10/10      |
| Tensile flat         | 27.224 MPa                | 3.859 MPa                | 14.2% | 10      | 10/10      |
| Impact upright       | 151.09 kJ/m <sup>2</sup>  | 28.068 kJ/m <sup>2</sup> | 18.6% | 10      | 10/10      |
| Impact flat          | 424.845 kJ/m <sup>2</sup> | 29.928 kJ/m <sup>2</sup> | 7%    | 10      | 10/10      |
| Stiffness modulus    | 1387.31 MPa               | —                        | —     | —       | —          |
| Stiffness deflection | 3.912 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:** Prusa3D Prusament PP CF Black has a specialized or limited engineering profile. It is below its material-family average by 4 points and below its manufacturer average by 7 points. Its strongest measured axis is Consistency, while the weakest axis is Tensile.

**Data-driven review:** Prusa3D Prusament PP CF Black 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 24% overall, is below the material-family average by 4 points, and is below the manufacturer average by 7 points. Its strongest engineering signal is Consistency, while Tensile is the main limitation to consider before using it for demanding applications.

BEST FEATURE

**Consistency**

MAIN LIMITATION

**Tensile**

DATASET POSITION

**Better than 24%**  
178 / 234

## Strengths

- Consistency: 87/100. Repeatability is one of the stronger signals in this material profile.

## Limitations

- Tensile: 22/100. Avoid using this as the primary choice for tensile-loaded parts.
- Impact: 29/100. Avoid high impact or shock-loaded components without additional validation.
- Stiffness: 46/100. Expect less shape stability than the stronger materials in the same family.
- Layer adhesion: 28/100. 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

- Repeatable print jobs and production-style batches
- 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        | 42/100 | 178 / 234 | Better than 24% |
| Tensile        | 22/100 | 167 / 226 | Better than 27% |
| Impact         | 29/100 | 69 / 226  | Better than 70% |
| Stiffness      | 46/100 | 208 / 223 | Better than 7%  |
| Consistency    | 87/100 | 10 / 231  | Better than 96% |
| Layer adhesion | 28/100 | 94 / 226  | Better than 59% |
| Thermal        | 46/100 | 21 / 209  | Better than 90% |

## 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 |
|------------|---------------------------------------|--------------|---------|---------|--------|
| MAT0194    | Eryone Standard White PP White        | Eryone       | 49/100  | 15/100  | 41/100 |
| MAT0037    | Prusa3D Prusament Natural PP GF White | Prusa3D      | 48/100  | 36/100  | 33/100 |

## 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 |
|------------|---------------------------------------|--------------|---------|---------|--------|
| MAT0194    | Eryone Standard White PP White        | Eryone       | 49/100  | 15/100  | 41/100 |
| MAT0037    | Prusa3D Prusament Natural PP GF White | Prusa3D      | 48/100  | 36/100  | 33/100 |

## 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](#)