

Siraya Tech Fiberheart

Black ABS CF Black



MaterialID MAT0199

3DPiceland Labs  
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WORKFLOW-RELIABILITY - Bug Fixes and Workflow  
Reliability  
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**Guidance boundary:** values below are shared base-material guidance resolved only through the canonical BaseMaterialId link. They are not manufacturer-, spool- or printer-specific validated settings. Missing fields remain Not recorded.

|                   |                         |                          |                      |
|-------------------|-------------------------|--------------------------|----------------------|
| Overall<br>44/100 | Engineering axes<br>6/5 | Public rank<br>160 / 234 | MSRP USD/kg<br>32.39 |
|-------------------|-------------------------|--------------------------|----------------------|

Engineering profile



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
- Avoid high impact components

Measured strengths

- Consistency: 80/100. Repeatability is one of the stronger signals in this material profile.
- Stiffness: 84/100. Stiffness is a relative advantage in this comparison group.

## Limitations

- Tensile: 22/100. Avoid using this as the primary choice for tensile-loaded parts.
- Impact: 24/100. Avoid high impact or shock-loaded components without additional validation.
- Layer adhesion: 10/100. Z-axis performance should be treated with caution.

## Engineering trade-offs

- Good repeatability does not compensate for low tensile capability in load-bearing designs.
- Stiffness is useful for shape stability, but impact tolerance is a separate limitation.
- The report should be read as a suitability warning rather than a general-purpose recommendation.

## Base-material printing guidance

| Guidance                   | Minimum           | Recommended | Maximum | Unit  |
|----------------------------|-------------------|-------------|---------|-------|
| Nozzle temperature         | 250               | 255         | 265     | °C    |
| Bed temperature            | 110               | 110         | 110     | °C    |
| Print speed                | 55                | 165         | 165     | mm/s  |
| Cooling                    | 15                | 20          | 20      | %     |
| Guidance                   | Value             |             |         | Unit  |
| Cooling guidance           | Low               |             |         |       |
| Drying temperature         | 75                |             |         | °C    |
| Drying time                | 6                 |             |         | hours |
| Enclosure                  | Required          |             |         |       |
| Printer / G-code reference | PrusaCoreOneL     |             |         |       |
| Slicer profile reference   | Prusa Buddy3D ABS |             |         |       |

## Print workflow checks

- Confirm nozzle temperature, bed temperature, speed, cooling and drying requirements from the manufacturer profile or spool label.
- Print a small validation part before committing to a long, costly or safety-relevant print.
- Orient the part so the governing load does not rely on an unverified or weak engineering axis.
- Reinforced filament: confirm an abrasion-resistant nozzle and manufacturer drying/storage requirements.

- Engineering/high-temperature family: confirm enclosure, ventilation, warping control and material-specific drying requirements.
- Layer-adhesion evidence is weak; avoid critical Z-axis loading without additional validation.

## 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.

## Stronger same-family alternatives

| 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 |

Confirm exact settings against the manufacturer profile, spool label and actual printer/material combination. Results do not replace application-specific validation.

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reports/printing-recommendations/MAT0199/