

Public printing recommendation

MatterHackers

NylonX PA12 CF Black

MaterialID MAT0019



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 42/100	Engineering axes 6/5	Public rank 188 / 234	MSRP USD/kg 126.00
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Engineering profile



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

Measured strengths

- Layer adhesion: 33/100. Z-axis bonding is better than the material-family context.
- Consistency: 71/100. Repeatability is one of the stronger signals in this material profile.

Limitations

- Tensile: 32/100. Avoid using this as the primary choice for tensile-loaded parts.
- Impact: 22/100. Avoid high impact or shock-loaded components without additional validation.
- Layer adhesion: 33/100. 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.

Base-material printing guidance

Guidance	Minimum	Recommended	Maximum	Unit
Nozzle temperature	260	265	270	°C
Bed temperature	105	110	110	°C
Print speed	11	65	65	mm/s
Cooling	10	10	15	%
Guidance	Value			Unit
Cooling guidance	Low			
Drying temperature	80			°C
Drying time	12			hours
Enclosure	Required			
Printer / G-code reference	PrusaCoreOneL			
Slicer profile reference	Fiberlogy Nylon PA12			

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
MAT0214	Eryone Standard Black PA12 CF Black	Eryone	53/100	43/100	46/100
MAT0167	BambuLab Basic PA12 PAHT CF Black	BambuLab	51/100	39/100	41/100
MAT0020	Extrudr DuraPro PA12 Black	Extrudr	50/100	34/100	50/100

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

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

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