

Fiberforge Carbon/Nylon Cross-Ply Blank

Representative Material Data

Material	Fiber	Carbon
	Matrix	PA6
	Laminate Orientation	[0/90]_s

Property	Test Standard	Units	Quantity
Fiber Content by Weight	ASTM D 3171	%	65
Arial Weight.....		g/m ²	720
Density.....	ASTM D 3173	g/cm ³	1.5
Minimum Blank Thickness.....		mm	0.5

Mechanical	Tested in the 0° direction.		
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Property	Test Standard	Units	Quantity
Tensile			
Strength	ASTM D 3039	MPa	800
Modulus		GPa	54
Elongation at Break	ASTM D 3039	%	1.5
Flexural			
Strength	ASTM D 790	MPa	1.100
Modulus.....	ASTM D 790	GPa	74
Compressive			
Strength	ASTM D 6641	MPa	530
Modulus.....	ASTM D 6641	GPa	51
Poisson's Ratio (calculated).....		—	0.03

Thermal			
Property	Test Standard	Units	Quantity

Heat Deflection Temperature @ 0.45 MPa.....	ASTM D 648	°C	220±10
Coefficient of Thermal Expansion (calculated)		µm/m°C	-0.34
Processing Temperature		°C	235±15

This data sheet lists common material, mechanical, and thermal characteristics of only one possible anisotropic tailored blank. Blanks can be made:

- thicker by adding plies
- to a desired shape, including cut-outs, to reduce scrap on final forming
- with different and/or additional ply-angles to change the anisotropic nature of the material
- with variable thickness/number of lamina.

Materials available off-the shelf or by special order.

Fiber:	Matrix:
Carbon	PA
Glass	PBT
Aramid	PEKK
	PE
	PPS
	PEEK
	PET
	TPU
	PP
	Others

This representative data was tested, measured, or calculated using standard methods and is subject to change without notice; it should be used for informational purposes only. Fiberforge makes no warranties and assumes no liability in connection with the use of this information. This data is not intended to substitute for your own testing to determine suitability for your particular application. The data listed here should not be used to establish specification limits. Nothing in this publication is to be construed as a license to operate under or a recommendation to infringe upon any intellectual property right. Fiberforge's Relay™ Station and Tailored Blanks™ are protected by US patents #6,607,626; 6,939,423; 7,235,149, and patents pending.

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