

# ePLA-CF

## Technical Data Sheet

By incorporating German-imported organic impregnated short-cut carbon fibers into PLA, we have enhanced the strength and modulus of the material. The addition of carbon fibers not only reinforces the PLA but also provides it with a matte appearance and a distinctive carbon fiber sandblasted texture. Whether used as structural components or for aesthetic purposes, ePLA-CF effortlessly excels, thanks to its outstanding attributes. Its printing performance is exceptional, making it suitable for high-speed printing.

Material Status	Mass Production	
Characteristics	<ul style="list-style-type: none"> <li>• High strength</li> <li>• Matte appearance</li> <li>• Carbon fiber frosted texture</li> </ul>	<ul style="list-style-type: none"> <li>• Excellent printability</li> <li>• High speed printing</li> </ul>
Applications	<ul style="list-style-type: none"> <li>• machine</li> <li>• chemical industry</li> <li>• Fixtures</li> <li>• Aerospace</li> </ul>	<ul style="list-style-type: none"> <li>• robot</li> <li>• drone</li> <li>• Car</li> <li>• textile</li> </ul>
Form	<ul style="list-style-type: none"> <li>• Filament</li> </ul>	
Processing method	<ul style="list-style-type: none"> <li>• 3D Print, FDM Print</li> </ul>	

	testing method	Typical value	
<b>Physical Properties</b>			
Density	GB/T 1033	1.21	g/cm <sup>3</sup>
Melt Flow Index	GB/T 3682	5.37	(190°C/2.16kg)
<b>Mechanical Properties</b>			
Tensile Strength	GB/T 1040	39	MPa
Elongation at Break	GB/T 1040	4.27	%
Flexural Strength	GB/T 9341	103	MPa
Flexural Modulus	GB/T 9341	5003	MPa
IZOD Impact Strength	GB/T 1843	5.08	kJ/m <sup>2</sup>
<b>Thermal Properties</b>			
Heat distortion Temperature	GB/T 1634	53	°C (0.45Mpa)
Continuous Service Temperature	IEC 60216	N/A	
Maximum (short term) Use Temperature		N/A	
<b>Electrical Properties</b>			
Insulation Resistance	DIN IEC 60167	N/A	
Surface Resistance	DIN IEC 60093	N/A	

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### Recommended printing parameters

Extruder Temperature	190 - 230°C
Build Platform Temperature	45-60°C
Fan Speed	100%
Printing Speed	50-300mm/s

Based on 0.4 mm nozzle and Simplify 3D v.4.1.2. Printing conditions may vary with different nozzle diameters

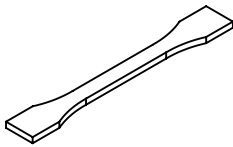
### Drying Recommendations

N/A

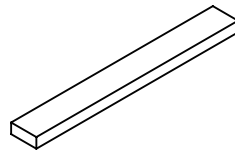
### Precautions:

When slicing, it is best to turn on the Z seam alignment and starting point alignment functions, turn off the Z-axis lift and exit, avoid passing through the shell when idling, optimize the slicing printing path, and appropriately reduce the printing speed to achieve the best printing effect.

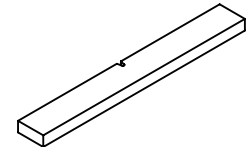
### Mechanical Properties



Tensile testing specimen GB/T 1040



Flexural testing specimen GB/T 9341



Impact testing specimen GB/T 1043

The physical properties, mechanical properties, thermal properties, and electrical properties of the filament are obtained based on the injection molding spline test.

### Print test condition:

Extruder Temperature	190-230°C
Build Platform Temperature	45°C
Outline/Perimeter Shells	4
Top/Bottom Layers	4
Infill Percentage	20%
Fan speed	100%
Printing speed	50mm/s

Based on 0.4 mm nozzle and Simplify 3D v.4.1.2.

### Notice

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