



# PA12 CF

## FOR STIFF AND STRONG INDUSTRIAL PARTS



BigRep's PA12 CF is a **strong** and **heat-resistant** engineering-grade filament. Stiff, durable, and with a great surface quality, PA12 CF is suitable for many professional **tooling and automotive applications**. It is perfect for **functional parts** production in a variety of industries without the extra need for chemical or mechanical post-processing. Print and use the part right away.

Being compounded with 10% chopped carbon fibers, it's ideal for functional applications usually produced of ABS, such as **jigs, fixtures, grippers** or end-of-arm parts. Its high resistance and durability make PA12 CF suitable for daily production usage under long term stress. Able to withstand high temperatures and pressure in an autoclave, PA12 CF is a perfect solution for **carbon fiber molding**. A reliable and easy-to-use engineering performance material, BigRep PA12 CF is optimized for large-format 3D printing on BigRep machines.



Stiff and Durable  
Parts



Industry-Recognized  
Performance



High Heat Deflection  
Temperature



Great Surface  
Quality and Haptics



Very Good Chemical  
Resistance



PHYSICAL PROPERTIES	TEST METHOD	VALUE
Density	ISO 1183	1.06 g/cm <sup>3</sup>
Filament Diameter	-	2.85 mm +/- 0.05
Color Availability	-	Black
Filament Net Weight	-	5 kg
MECHANICAL PROPERTIES	TEST METHOD	VALUE
Tensile Strength	ISO 527	71 MPa
Tensile Modulus	ISO 527	3300 MPa
Elongation at Break	ISO 527	3.5%
Flexural Strength	ISO 178	105 MPa
Flexural Modulus	ISO 178	3500 MPa
Charpy Unnotched Impact Strength	ISO 179	12.5 kJ/m <sup>2</sup>
THERMAL PROPERTIES	TEST METHOD	VALUE
HDT - B - 0.45 MPa	ISO 75	130 °C
HDT - A - 1.8 MPa	ISO 75	105 °C
Glass Transition Temperature (Tg)	DSC	108 °C
Melting Temperature (Tm)	DSC	165 °C
COMPLIANCE	<input checked="" type="checkbox"/> REACH Compliant <input checked="" type="checkbox"/> RoHS Certified <input type="checkbox"/> FDA Compliant	

PROPERTIES	RECOMMENDED USAGE
Nozzle Temperature	270 - 300 °C
Bed Temperature	40 - 60 °C
Printer Compatibility	BigRep PRO
Fan Speed	0 - 30%
Surface Adhesion	<ul style="list-style-type: none"> <li>Kapton (additional adhesion using glue, e.g. Magigoo)</li> <li>BigRep SWITCHPLATE</li> </ul>
Drying	PA12 CF is highly hygroscopic. Recommended drying at 80 °C for 6 - 8 hours.
Storage and Shelf Life	Keep dry, avoid sunlight, and store at room temperature. Use BigRep SHIELD for best results. When stored properly, product has a shelf life of 24 months.
Handling	Use the BigRep Keep-Dry Box for best material printability. As PA12 CF is highly abrasive, extremely wear-resistant nozzles are required.
Post-Processing	Wear gloves to avoid possible microdamage to skin. Use a dust mask and protective glasses when processing.
Support	<ul style="list-style-type: none"> <li>Breakaway</li> </ul>