



## Industrial Grade 3D Printing

In addition to CNC machining, PartsBadger offers industrial grade 3D printing as a manufacturing service. Additional fiber reinforcement can be added to drastically increase strength and other properties of the part.

|                                |   |
|--------------------------------|---|
| <b>Materials</b>               | <b>Onyx</b> / A high strength nylon & carbon fiber composite thermoplastic                |
|                                | <b>White Nylon</b> / A non-abrasive, engineering grade thermoplastic                      |
| <b>Fiber Reinforcement</b>     | <b>Carbon Fiber</b> / Increases stiffness and strength, highest strength-to-weight ratio  |
|                                | <b>Kevlar</b> / Lowest density of all fibers with increased impact resistance             |
|                                | <b>HSHT Fiberglass</b> / High strength, high temperature                                  |
|                                | <b>Fiberglass</b> / Lowest cost fiber, 11x more rigid than PLA, 26x more rigid than Nylon |
| <b>Post Printing Processes</b> | <b>Support Removal</b> / Done as a standard on all parts                                  |
|                                | <b>Internal Threads</b> / Added via heat-set threaded inserts after printing.             |

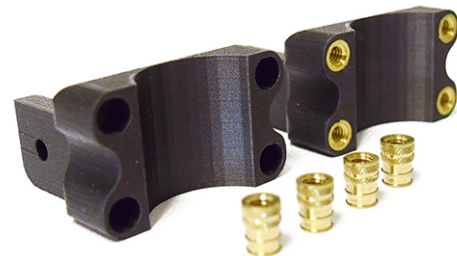
## More Information

Fiber Reinforcement



Fiber reinforcement can be added in 10%, 25%, 50% or 75% of total part volume. It can be focused on specific part features if required. Refer to the material datasheet for specifications on available fiber.

Threaded Inserts



For parts with interior threads called out, heat-set threaded inserts will be added post printing. The part files will need to be modified to accept these inserts. The design of certain parts may inhibit this.

### Size Restrictions

**Max** 12.9" x 10.5" x 7.8"  
(330 x 270 x 200 mm)

### File Types

**3D Files** .STP .STEP .STL  
**2D Files** .PDF or .DWG

### Lead Time

**Standard** 7 business days

### Tolerances

**Standard** ± 0.0197"  
(± 0.5 mm)