

# Jabil PC 1500 FR Filament

## Technical Data Sheet

### Product Description

Jabil's PC 1500 FR is a flame-retardant, easy printing polycarbonate manufactured with FR UL V-0 material for durable parts. The material is perfect for parts that require strength, stiffness and impact resistance with flame retardancy. The PC 1500 FR testing performed in a qualified lab demonstrates V-0 burn properties on a printed part down to 1mm thickness when printed with the correct design and print parameters as outlined below.

Made from UL V-0 Yellow Card certified raw materials, Jabil's PC 1500 FR can be printed on Direct Drive and Bowden Tube 3D printers. This material, with its flame-retardant properties, is used in the aerospace and automotive industries.

Polycarbonate is an engineering material that can be challenging to print. A slurry of ABS in acetone or a PVP-based glue stick will provide strong bed adhesion during printing with clean release upon cooling.



### Advantages

Engineering-grade polycarbonate filament made from UL listed raw materials. An ISO 9001 Certificate of Analysis available upon request. Advantages of this product include excellent impact strength and ductility along with the material maintaining impact resistance while having very good flame retardancy and self-extinguishing properties. Applications for this material include housings (including battery housings), welding fixtures, brackets, motor mounts, and parts for aerospace and automotive.

### Storage and Use

Polycarbonate is highly hygroscopic, meaning it will absorb and retain moisture from the atmosphere, affecting visual quality and mechanical properties. For best results, print and store filament in a dry environment. If necessary, dry filament in an oven at 80 °C (175 °F) for 3 – 4 hours.

For the latest print profiles, search for Jabil Engineered Materials in the Cura Marketplace.

For complete copies of the Print Settings and the Printing & Drying Guide, visit our [PC 1500 FR Webpage](#).

### Properties

| Mechanical Properties <sup>1</sup> |                     |               |                   |
|------------------------------------|---------------------|---------------|-------------------|
|                                    | Test Condition      | Typical Value | Method            |
| Tensile Modulus (MPa)              | XY coupons, Ambient | 2210          | ASTM D638, Type I |
| Tensile Elongation at Break (%)    |                     | 6.0           |                   |
| Ultimate Tensile Strength (MPa)    |                     | 61            |                   |
| Flexural Modulus (MPa)             | XY coupons, Ambient | 2310          | ASTM D790         |
| Flexural Strength (MPa)            |                     | 93.9          |                   |
| Izod Impact, Notched (J/m)         | XY coupons, Ambient | 50.7          | ASTM D256         |
| Izod Impact, Un-notched (J/m)      | XY coupons, Ambient | 850           |                   |

1. Testing conducted on bars printed at 270 °C and tested at <0.20 wt% moisture. Typical values are for reference only.

### Thermal Properties

|                                   | Test Condition | Typical Value | Method |
|-----------------------------------|----------------|---------------|--------|
| Heat Deflection Temperature (°C)  | 0.455 MPa      | 131           | DMA    |
| Heat Deflection Temperature (°C)  | 1.82 MPa       | 118           |        |
| Glass Transition Temperature (°C) | 20°C/min ramp  | 143           | DSC    |

### Other Physical Properties

|                                | Test Condition | Typical Value | Method    |
|--------------------------------|----------------|---------------|-----------|
| Density (g/cm <sup>3</sup> )   | Ambient        | 1.18          | ASTM D792 |
| Moisture Absorption (weight %) | 24 hours       | 0.15          | ASTM D570 |

### Dimensional Properties

|                                  | Test Condition           | Typical Value | Method           |
|----------------------------------|--------------------------|---------------|------------------|
| Diameter: Mean, Indiv. Axis (mm) | In-line, 100% inspection | +/- 0.05      | Laser Micrometer |

**Disclaimer:** The information in this technical data sheet, including material properties, are obtained from testing representative samples under carefully controlled conditions and are provided for reference only. Material properties may be impacted by storage, handling, processing equipment/parameters, and product design, among other factors. The information is not a substitute for user testing to determine fitness for any specific use and the user is responsible for ensuring safe and lawful use of the product.

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