



Ultrafuse® PC/ABS FR

Easy to print flame retardant filament

Ultrafuse® PC/ABS FR is a V-0 flame retardant blend of Polycarbonate and Acrylonitrile Butadiene Styrene, two of the most used thermoplastics for engineering & electrical applications. The combination of these two materials results in a premium material with a mix of the excellent mechanical properties of PC and the comparably low printing temperature of ABS. Combined with a halogen free flame retardant, parts printed with Ultrafuse® PC/ABS FR feature great tensile and impact strength, higher thermal resistance than ABS and can fulfill the requirements of the UL94 V-0 standard.

Benefits at a Glance

- Fulfills flame retardancy according to UL 94 V-0 (for 1.5 & 3.0 mm thickness)
- Outstanding aesthetics
- Strong layer adhesion
- High print speeds possible

Example Applications

Applications which require flame retardancy like

- Housing for Raspberry pi
- Sockets and plugs
- Housing for handheld devices or powertools
- Automotive components

Material Properties

| Flammability according to UL94 | VO @ 1.5 mm and 3.0 mm thickness |
|--------------------------------|--|
| Glow wire test (GWEPT) | 725 °C 1.5 mm thickness 960 °C 3.0 mm thickness |
| HDT at 1.8 MPa | 79 °C |
| HDT at 0.45 MPa | 86 °C |
| Flexural Strength | 27.4 (ZX), 90.6 (XZ), 88.1 (XY) MPa |
| Tensile Strength | 17.3 (ZX), 50.1 (XY) |
| Impact Strength Izod | (unnotched) 3.0 (ZX), 87.9 (XZ), 57.0 (XY) kJ/m ² |
| Elongation at break | 0.8 (ZX), 10.7 (XY)% |

Printing Profiles

| Ultrafuse® PC/ABS FR | |
|---------------------------|----------------------------------|
| Nozzle Temperature | 230-280 °C |
| Nozzle Diameter | ≥ 0.4 mm |
| Bed Temperature | 80-100 °C |
| Bed Modification | Glass plate + adhesive |
| Print Speed | 30-90 mm/s |
| Build Chamber Temperature | Passively heated, closed chamber |

Drying Recommendations

The filament is delivered in a printable condition. To achieve best print results, please dry the filament at 60°C for at least 4 hours (vacuum oven preferred over a hot air dryer) and keep the filament dry in for instance a dry box.

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**Electronics housing*

