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/m²**
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.

Electronics housing