

Advanced Photopolymer

Flame Retardant Black (Arkema FR512)



This material is a flame-retardant resin that achieves a UL-94 rating of V-0 at 0.031 in. (0.8mm) while maintaining good print accuracy with fine feature parts.

Applications

Electrical connectors, flame retardant materials

Key Product Benefits

- High strength and heat deflection temperature (HDT)
- Liquid at room temperature
- Robust printing and processing

Tolerances

For well-designed parts, tolerances in the X/Y dimension of ± 0.002 in. (0.05mm) for first inch plus 0.1% of nominal length. (0.001mm/mm), and Z dimension tolerances of ± 0.005 in. (0.127mm) for first inch plus 0.1% of nominal length, are typically achieved. Note that tolerances may change depending on part geometry.

Properties

Normal resolution: 0.004 in. (0.100mm)
High resolution: 0.002 in. (0.050mm)

Feature Sizes

- Structural wall thickness: 0.020 in. (0.5mm)
- Supported walls (ribs, bosses, etc.): 0.010 in. (0.25mm)
- Positive features: 0.010 in. (0.25mm)
- Negative features/holes: 0.020 in. (0.5mm)

Property	Test Method	Value
Color	—	Black
E-module*	ASTM D638, test speed 5mm/min	4500 MPa
Tensile strength*	ASTM D638, test speed 5mm/min	42 MPa
Elongation at break*	ASTM D638, test speed 5mm/min	4.20%
Heat deflection temperature @ 0.46 MPa*	ASTM D648	338 F (170 C)
Heat deflection temperature @ 1.82 MPa*	ASTM D648	201 F (94 C)
Flammability*	UL94	V0 @ 0.8 mm

*From supplier data sheet