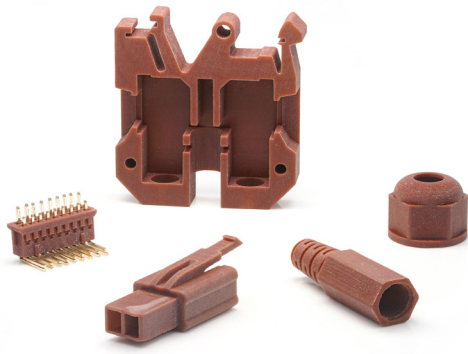


Technical Data

Evolution FR



Open up a world of potential with the first photopolymer successfully passing the vertical flammability standard with a V-0 rating. Cubicure's halogen-free Evolution FR combines excellent fire behavior with outstanding manufacturing precision. The filled, flame-retardant polymer is suitable for the production of fully functional prototypes as well as small and medium batches of flame-retardant components.

Mechanical properties

Property	Standard	Print orientation	Experimental condition	Result
Tensile strength	ISO 527 (Type 5A)	XYZ	10 mm min ⁻¹	34 MPa
Young's Modulus	ISO 527 (Type 5A)	XYZ	1 mm min ⁻¹	1250 MPa
Elongation at break	ISO 527 (Type 5A)	XYZ	10 mm min ⁻¹	17 %
Flexural strength	ISO 178	XZY	10 mm min ⁻¹	51 MPa
Flexural modulus	ISO 178	XZY	2 mm min ⁻¹	1250 MPa
Charpy unnotched	ISO 179-1/1eU	XYZ	5 J	28 kJ m ⁻²
Izod notched	ASTM D 256	XYZ	5.5 J	34 J m ⁻¹
Shore hardness	ISO 868	XYZ	D	77
HDT A	ISO75	XZY	@ 1.8 MPa	52 °C
HDT B	ISO75	XZY	@ 0.46 MPa	76 °C

Physical data

Density	ISO 1183	XYZ	-	1.22 g cm ⁻³
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Technical Data

Evolution FR

Fire resistance

Property	Standard	Print orientation	Experimental condition	Result
Flammability	UL 94	ZXY	3.0 mm	V-0
GWFI	DIN EN 60695-2	ZXY	3.0 mm	960 °C
			1.5 mm	775 °C
GWIT	DIN EN 60695-2	ZXY	3.0 mm	775 °C
			1.5 mm	775 °C

Electrical data



Dielectric constant (ϵ_r)	IEC 60250	YZX	50 Hz	5.13
			1 kHz	4.49
			1 MHz	4.75
Dissipation factor ($\tan\delta$)	IEC 60250	YZX	50 Hz	0.0686
			1 kHz	0.0676
			1 MHz	0.1200
Dielectric strength	IEC 60243-1	YZX	23°C	19 kV mm ⁻¹
Volume resistivity	IEC 62631-3-1	YZX	23°C	1*10 ¹³ Ω cm
Surface resistivity	IEC 62631-3-2	YZX	23°C	1*10 ¹⁴ Ω
Comparative Tracking Index (CTI)	IEC 60112	ZXY	23°C	600 V

Print orientation according to ASTM/ISO 52921.

The results presented in this technical data sheet were achieved on a Cubicure Caligma 200 printer (405 nm laser) after being processed and postprocessed according to Cubicure protocols. This information is based on our present state of knowledge, is provided in good faith, and is intended to provide general notes on our products and their uses. This information does not represent a warranty and Cubicure excludes any liability and responsibility for the product or any damages or loss of profit derived from the product. The assessment, testing, and selection of a product for a purpose or application as well as the compliance with third party and industrial property rights lie solely within the responsibility of the customer. Cubicure reserves the right to change any information in the technical data sheet as well as underlying protocols, processes, and formulations at any time without further notice.

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