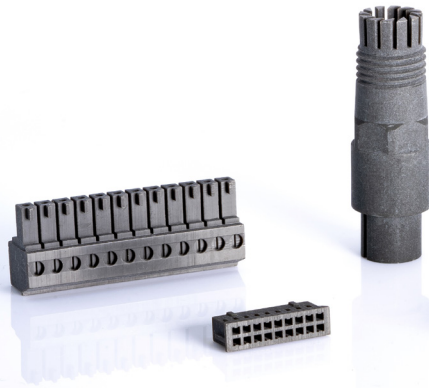


Connection FR



Revolutionize your connectors with this high-performance photopolymer. Take your designs from functional prototype to industrial production right away. Connection FR passes flammability tests with thicknesses as low as 1.5 mm and exhibits ideal electrical properties. With a dielectric strength of 31 kV/mm, a CTI of 600 V, Connection FR is especially suited for the production of connectors. This material is also a good choice for other applications in the electronics industry such as casings.

Mechanical properties

Property	Standard	Print orientation	Experimental condition	Result
Tensile strength	ISO 527 (Type 5A)	XYZ	10 mm min ⁻¹	47 MPa
Young's Modulus	ISO 527 (Type 5A)	XYZ	1 mm min ⁻¹	2700 MPa
Elongation at break	ISO 527 (Type 5A)	XYZ	10 mm min ⁻¹	5 %
Flexural strength	ISO 178	XZY	10 mm min ⁻¹	86 MPa
Flexural modulus	ISO 178	XZY	2 mm min ⁻¹	2350 MPa
Charpy unnotched	ISO 179-1/1eU	XZY	5 J	21 kJ m ⁻²
Izod notched	ASTM D 256	XYZ	5.5 J	30 J m ⁻¹
Shore hardness	ISO 868	XYZ	D	84
HDT A	ISO75	XZY	@ 1.8 MPa	80 °C
HDT B	ISO75	XZY	@ 0.46 MPa	118 °C

Physical data

Density	ISO 1183	XYZ	-	1.27 g cm ⁻³
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Technical Data

Connection FR

Fire resistance

Property	Standard	Print orientation	Experimental condition	Result
Flammability	UL 94	YZX	1.5 mm	V-0

Electrical data

Dielectric constant (ϵ_r)	IEC 62631-2-1	XZY	50 Hz	4.83
			1 kHz	4.72
			1 MHz	3.71
Dissipation factor ($\tan\delta$)	IEC 62631-2-1	XZY	50 Hz	0.0395
			1 kHz	0.0397
			1 MHz	0.0547
Dielectric strength	IEC 60243-1	XZY	23 °C	31 kV mm ⁻¹
Volume resistivity	IEC 62631-3-1	XZY	23 °C	7*10 ¹⁴ Ω cm
Surface resistivity	IEC 62631-3-2	XZY	23 °C	1*10 ¹⁶ Ω
Comparative Tracking Index (CTI)	IEC 60112	XZY	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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