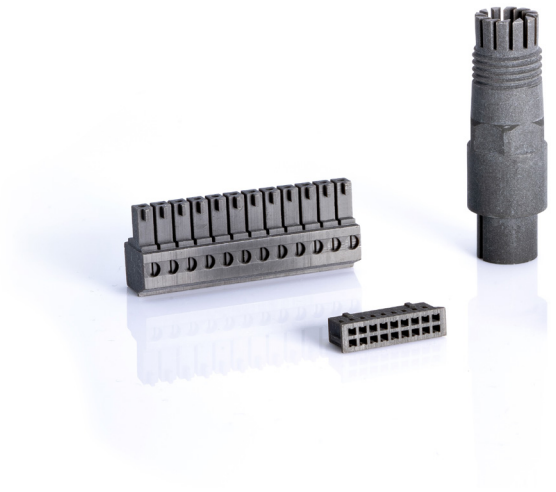
cubicure
printing performance polymers

Technical Data

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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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 1 kHz 1 MHz	4.83 4.72 3.71
Dissipation factor (tanδ)	IEC 62631-2-1	XZY	50 Hz 1 kHz 1 MHz	0.0395 0.0397 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.

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