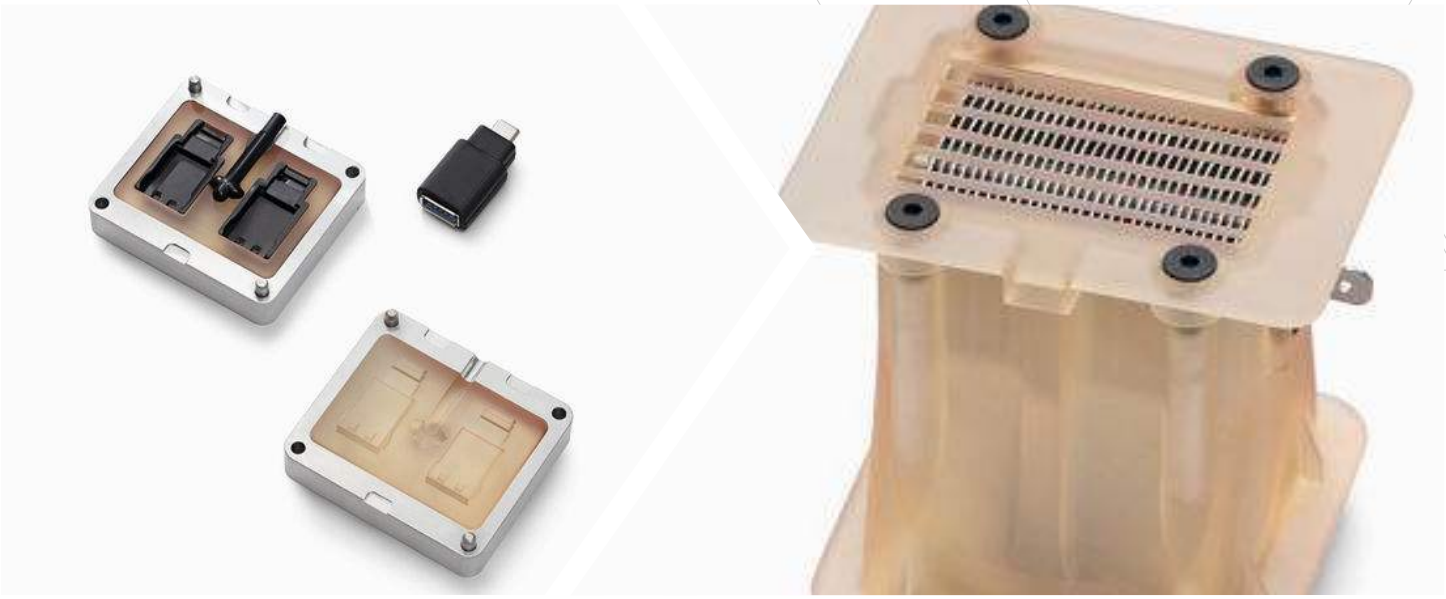
Material Data Sheet

chizel

High Temperature



Generic Data :

Technical Name	High Temp.
Process	Stereolithography (SLA)
Layer Thickness	100 µm
Accuracy	(+/-)200 µm
Maximum Build Size	145x145x175 mm

High Temperature is a resin based material compatible with desktop Stereolithography (SLA) technology. One of the highlights of this material is its high Heat Deflection Temperature (HDT) of 289˚C @ 0.45 MPa, which is incomparable with any other 3D Printing material currently available in the market.

The material has a light-yellowish color and has an inherent smooth surface finish despite support structure generation. The material is best suited for applications experiencing high temperatures with minimal loading. The material is NOT flexible, thereby it is unsuitable for applications requiring snap fits and live hinges.

Characteristics

+ High Heat deflection temperature
+ Good mechanical properties
+ Smooth surface finish

– Unsuitable for Snap-fits and live-hinges
– Support structure generation

Applications

✔ High temperature applications
✔ Electronic enclosures
✔ 3D Printed Molds with desktop injection molding
✔ Automotive, packaging industries

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Material Properties	Value	Unit	Standard Test Method
Color (Natural)	Light-Yellow	-	-
Mechanical Properties			
Ultimate Tensile Strength	51.1	MPa	ASTM D 638-14
Tensile Modulus	3600	MPa	ASTM D 638-14
Elongation at Break	2	%	ASTM D 638-14
Flexural Strength	106.9	MPa	ASTM D 790-15
Flexural Modulus	3300	MPa	ASTM D 790-15
Izod Impact (notched)	14	J/m	ASTM D 256-10
Water Absorption	0.21	%	ASTM D 570-98
Thermal Properties			
Thermal Expansion (0 – 150 °C)	87.5	µm/m/°C	ASTM E 831-13
Heat Deflection Temp. under load			
@0.45 MPa	289	˚C	ASTM D 648-16
@1.8 MPa	130	˚C	ASTM D 648-16

Source : Formlabs Ltd., Last change: 21-12-17