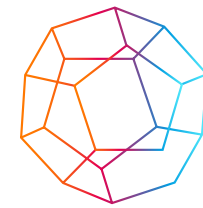




Liquid Crystal OPUS

HIGH PERFORMANCE MATERIALS



MATERIALS



SPECIALIST DENTAL RESINS

Dental Model *Beige, grey and white*

Our Photocentric dental model resins have been formulated to create detailed, high resolution dental models on the LC Opus printer. The resins have been developed in conjunction with Dental Technologists to ensure an optimal colour, feel, and working characteristics. These materials are ideal for orthodontic, study and working models.



HIGH PERFORMANCE RESINS

Durable UV80 *Black*

Tough, durable, and long lasting. Simulating the strength and stiffness of ABS. With a high definition and a smooth surface finish. This resin is ideal for jigs and fixtures requiring minimal deflection, cover-plates and enclosures, fastenings, tools and couplings. Also suitable for the production of end-use parts.



PHOTOCENTRIC & BASF

ST45B *Black*

Is a medium-viscous, highly reactive photopolymer for stereolithography applications resulting in tough multipurpose parts. It can be used to produce high performance functional parts.

DLP Castable *Violet*

For creating highly accurate jewellery parts for investment casting. Printed parts display high accuracy and detail which shows in the smooth, crisp finish on the cast parts. Virtually no ash or residue, no expansion, producing highly detailed parts.

Crystal Clear *Clear*

Our UV Crystal Clear 3D Printing resin is ideal for making clear strong objects with only minimal shrinkage. UV Crystal Clear has been specifically developed to allow the fabrication of extremely clear objects with a smooth, shiny surface finish.

EL150 *Clear*

A versatile reactive urethane photopolymer for highly elastic applications that delivers medium softness. It provides an optimal combination of high torsional strength, good elongation at break, and long-term rebound.

DLP Poliglass *Clear*

Poliglass has been formulated to resemble glass. Objects printed in Poliglass have a smooth surface finish and high transparency mimicking glass objects.

RG35 *Black*

Is a medium viscous, highly reactive photopolymer for stereolithography applications resulting in rigid multipurpose parts. It can be used to produce high performance functional parts. Parts produced with this resin show no water uptake.

DLP High Tensile Grey *Grey*

Our High Tensile UV DLP photopolymer is ideal for making objects with a high tensile strength and hardness. Objects cannot be bent or compressed easily and remain strong over long periods of time.

RG50 *Clear*

A medium-viscosity, highly reactive urethane photopolymer for rigid applications, delivering very high print accuracy, low cure shrinkage and good temperature stability

DLP Hard *Black, grey and white*

Rigid prototyping resin with crisp details, high stiffness and hardness. Parts printed with this resin won't deform when pressure is applied.

ST80 *Black*

Is a multipurpose, reactive urethane photopolymer targeting the lowest cost per part. Suitable for high performance prototype prints, fully functional end-use parts, and fluid flow models.

FL300 *Clear*

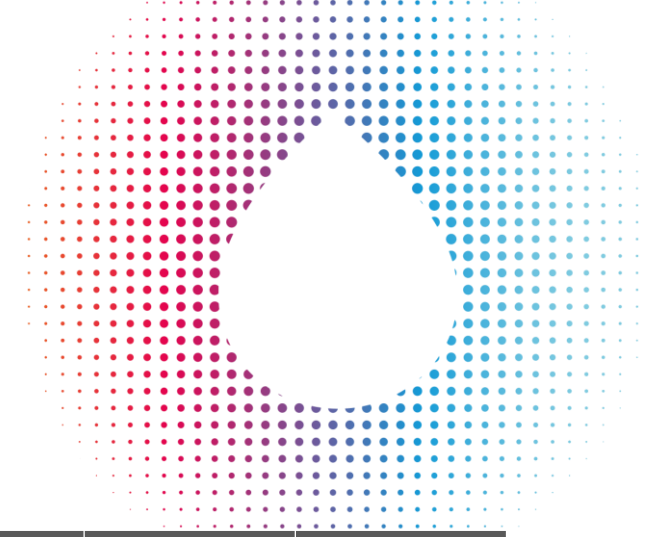
Is a well-balanced reactive urethane photopolymer for flexible applications that delivers exceptional torsional flexibility with high tear strength. It provides very high softness, superior elongation at break, and consistent rebound.





Liquid Crystal
OPUS

Resin specifications

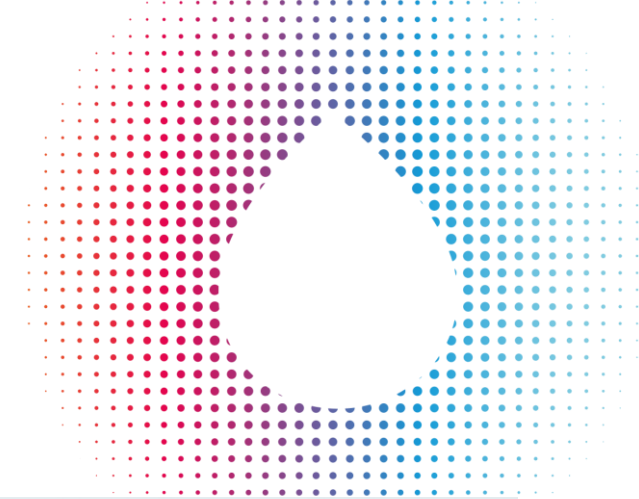


	UV LCD Dental Model (White, Grey, Beige)	UV 80 Durable	UV DLP Poliglass	UV DLP Crystal Clear	UV DLP High Tensile	UV LCD Hard	UV DLP Hard (Black, Grey, White)	UV DLP Castable
Ultimate Tensile Strength (Mpa) ASTM D638	70	46	40	65	65	35	35	80
Elongation % ASTM D638	4	13	4	6	6	<1.5	4	2-3
Tensile Modulus (Mpa) ASTM D638	2800	1940	2100	2800	1910	2000	2060	1380
Hardness (Shore D) ASTM D638	90	84	85	90	80	77	77	75
Flexural Strength (MPa)	85	28	40	17				22
Impact Properties - notched Izod (kJ/m²)	3.9	8.1		4.4				1.2
Heat Deflection (°C)		65	60	230	63		60	
Biocompatibility Cytotoxicity ISO 10993-5								



Liquid Crystal
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Resin specifications



Ultracur3D[®] – Material Properties Overview

UV-Range

	Ultracur3D [®]									
	FL 300	FL 60	EL 60	EL 150	ST 45	ST 80	RG 35	RG 50	RG 1100	RG 1206
	Flexible and Elastomeric				Tough, multi-purpose		Rigid, high-performance			
Young's Modulus	8 MPa	15 MPa	50 MPa	25 MPa	2300 MPa	1500 MPa	2600 MPa	2300 MPa	3080 MPa	1850 MPa
Tensile Strength	5 MPa	2 MPa	5 MPa	6 MPa	60 MPa	35 MPa	80 MPa	63 MPa	71 MPa	41 MPa
Elongation at break	245%	70%	70%	150%	25%	20%	6%	4%	5%	5%
Hardness	40 A	60 A	70 A	80 A	81 D	82 D	87 D	83 D	85 D	80 D
Impact strength (Izod notched)					20 J/m	17 J/m	11 J/m	11 J/m	16 J/m	14 J/m
HDT (0.45 MPa)					73 °C	46 °C	83 °C	66 °C	116 °C	>253 °C
HDT (1.82 MPa)					61 °C	42 °C	64 °C	55 °C	84 °C	68 °C
Viscosity (30 °C)	160 mPas	400 mPas	3400 mPas	90 mPas	220 mPas	420 mPas	600 mPas	65 mPas	200 mPas	440 mPas
Available color(s)	Clear	Clear	Clear	Clear	Clear, black	Clear, grey, black, white	Clear	Clear	Clear	Black
Biocompatibility data - Skin contact					available	available	available			
Compatible technologies*	DLP, LCD	DLP, LCD	DLP, LCD	DLP, LCD	DLP, LCD	DLP, LCD	SLA, DLP, LCD	DLP, LCD	DLP, LCD	DLP, LCD