Somos® QuickGen 500

Digital light processing (DLP) and
liquid crystal display (LCD) 3D printing

covestro

Somos® QuickGen 500 is a fast-printing, general purpose resin for digital light processing 3D printing.

Digital light processing (DLP) 3D printing technology generally boasts faster print speeds and lower capital investment. Combined with **Somos® QuickGen 500,** companies looking to manufacture locally can more quickly and easily adopt 3D printing.

Somos® QuickGen 500 is a fast-printing DLP material with a print speed 2× faster than similar materials. It offers accurate printing for general and functional prototypes.

Somos® QuickGen 500 has unique flexibility; it is more flexible than other resins, but stiffer than elastomers, offering both flexibility and spring back. The material has substantial elongation and a lower modulus with no significant strain rate dependence on elongation at break. This results in consistent performance independent of how quickly force or strain are applied. Many flexible materials show greater influence from the rate of applied force. An economical resin, **Somos® QuickGen 500** can quickly produce high volumes due to its high printing speeds and fast post-processing.

Key Benefits

- Fast printing
- Economical
- Balance of flexibility and stiffness
- Accurate
- Near colorless

Ideal Applications

- General and functional prototypes
- Semi-flexible applications
- Applications with detailed features
- Fluid flow analysis

Preliminary Data

Liquid Properties		Optical Properties		
Appearance	Opaque	E_C	4.85 mJ/cm²	[critical exposure]
Viscosity	1,375–1,450 cp	D_P	0.160 mils	[slope of cure-depth vs. ln (E) curve]
Density	1,093 g/cc	E_{10}	22 mJ/cm²	[exposure that gives 0.254 mm (.010 inch) thickness]

385 nm DLP, 5 mW/cm² measured intensity

Layer Thickness (mm)	Time to Cure (s)	Energy to Cure (mJ/cm²)
0.05	1.5	7.5
0.1	2.44	12.2
0.15	3.8	19
0.2	5.84	29.2

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Mechanical Properties*		UV and Thermal Postcure	
ASTM Method	**Property Description**	**Metric**	**Imperial**
D638M	Tensile Modulus	465 MPa	67.4 ksi
D638M	Tensile Strength	20.4 Mpa	3 ksi
D638M	Tensile Elongation at Yield	5%	
D638M	Tensile Elongation at Break	42%	
D638M	Tensile Yield Strength	12 Mpa	1.7 ksi
D790M	Flexural Modulus	408 Mpa	59.2 ksi
D790M	Flexural Yield Stress	15.9 Mpa	2.3 ksi
D790M	Flexural Elongation at Yield	7.7%	
D256	IZOD Impact, Notched	70 J/m	1.3 ft-lb/in
D624	Tear Strength	95 kN/m	542 lb/in
D570-98	Water Absorption	0.57/0.89%	
DMTA	E' (25°C, 37°C)	770/423 Mpa	112/61 ksi

*5 mm/min

Thermal/Electrical Properties		UV and Thermal Postcure	
ASTM Method	**Property Description**	**Metric**	**Imperial**
DMTA	Glass Transition, Tan Delta	62.1°C	143.8°F

These values may vary and depend on individual machine processing and post-curing practices.

More information at am.covestro.com

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Edition: March 2022 · Printed in Germany