



## Liqcreate Strong-X

An extremely strong and easy to print Stereolithography (SLA) and Digital Light Processing (DLP) resin which is perfect for industrial applications.

### Product description

Liqcreate Strong-X is one of the strongest materials available in the market. Its flexural strength of 135MPa is comparable to industry's leading dual-cure cyanate ester resins. Liqcreate Strong-X is easy to use on all open source SLA and DLP 3D-printers in the range of 385 - 405nm and only requires UV post-curing. This material has excellent features like high strength, high stiffness and high temperature resistance which makes it ideal for injection molding and heavy duty applications.

### Key benefits

- High strength
- High temperature resistance
- Low odor
- Low shrinkage

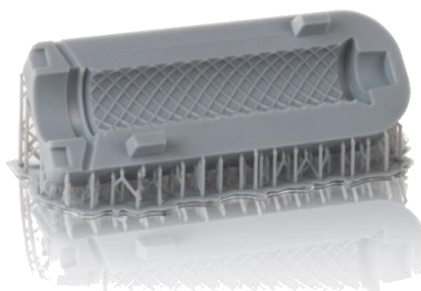
### 3D-Printer compatibility

- Moonray S & D
- Miicraft 125
- Form2
- Asiga Max
- Cubicon Lux HD
- Anycubic Photon
- Wanhao Duplicator 7
- Phrozen Shuffle
- All open source 385 - 405nm SLA and DLP 3D-printers

### Order information

Order directly at the [Liqcreate store](http://liqcreate.com) or send your inquiry to [order@liqcreate.com](mailto:order@liqcreate.com) with the following order numbers.

|                    |         |                       |
|--------------------|---------|-----------------------|
| Liqcreate Strong-X | 250gram | Order number LSX00250 |
| Liqcreate Strong-X | 1 kg    | Order number LSX01000 |





## Liqcreate Strong-X Technical Data

| Liquid properties |                        |                         |                         |
|-------------------|------------------------|-------------------------|-------------------------|
| Appearance        | Opaque Grey liquid     | E <sub>c</sub>          | 9.88 mJ/cm <sup>2</sup> |
| Viscosity         | 550 cps at 25 °C       | D <sub>p</sub> metric   | 0.20 mm                 |
| Density           | 1.12 g/cm <sup>2</sup> | D <sub>p</sub> imperial | 7.87 mils               |

| Polymer properties    |             |                                      |               |
|-----------------------|-------------|--------------------------------------|---------------|
| Mechanical properties |             | 30 minutes high power mercury curing |               |
| Description           | ASTM Method | Metric                               | Imperial      |
| Tensile Strength      | D638M       | 91 MPa                               | 13.2 ksi      |
| Tensile Modulus       | D638M       | 2.5 GPa                              | 363 ksi       |
| Elongation at break   | D638M       | 8%                                   |               |
| Flexural Strength     | D790M       | 135 MPa                              | 19.6 ksi      |
| Flexural modulus      | D2240       | 3.25 GPa                             | 471 ksi       |
| IZOD Impact (notched) | D256A       | 20 J/m                               | 0.33 ft-lb/in |
| Shore D Hardness      | D2240       | 87                                   |               |
| Water sorption        | D570-98     | 0.45%                                |               |
| T <sub>g</sub>        | D7028       | 128 °C                               | 262 °F        |

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

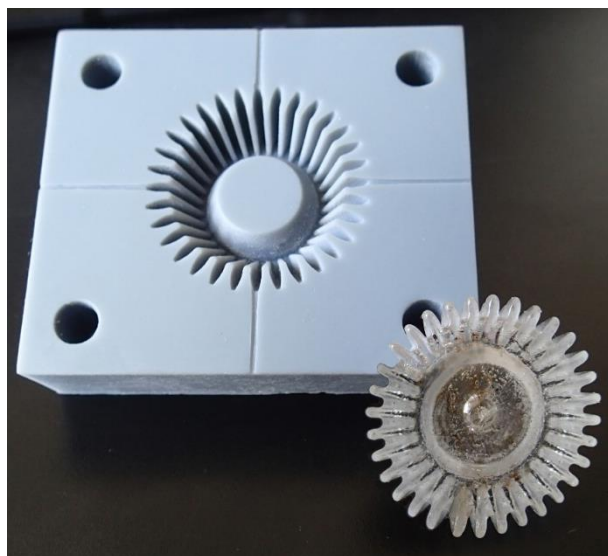
Visit [www.liqcreate.com](http://www.liqcreate.com) for more information about this product.



## Liqcreate Strong-X for injection molding

Liqcreate Strong-X is the ideal material for low-volume injection molding. A wide range of thermoplastic polymers have been tested on compatibility with molds made from Liqcreate Strong-X. The focus of this study was on temperature resistance of the 3D-printed molds and on adhesion of the thermoplastic polymer to the mold.

The tested polymers are listed in the table below and include PP, PE, HDPE, ABS, PETG, PA6 and PA12 co-polymer, injected at temperatures between 230 and 280°C (446 - 536°F). All materials were injected without any mold release agents.



Thermal degradation of the 3D-printed mold has not been observed in any of the tests. Polymers like ABS, PA6 and PA12 show adhesion to the mold, while other polymers like PP, PE, HDPE and PETG release easily from the mold and are compatible with Strong-X 3D-printed molds. The test results were obtained with the use of two three-dimensional molds from Strong-X, and therefore a mirror plate is not used. Over 100 injections were successfully done with HDPE, PE and PP.

### Injection molding results\*\*

| Polymer | Injection temperature | Temperature resistance of mold | Polymer adhesion to mold |
|---------|-----------------------|--------------------------------|--------------------------|
| PP*     | 230°C / 446°F         | Excellent                      | No adhesion              |
| PE      | 240°C / 464°F         | Excellent                      | No adhesion              |
| HDPE    | 240°C / 464°F         | Excellent                      | No adhesion              |
| ABS     | 260°C / 500°F         | Excellent                      | Medium adhesion          |
| PETG    | 260°C / 500°F         | Excellent                      | No adhesion              |
| PA6     | 280°C / 536°F         | Excellent                      | Medium adhesion          |
| PA12*   | 280°C / 536°F         | Excellent                      | Medium adhesion          |

Visit [www.liqcreate.com](http://www.liqcreate.com) for more information about this product.

\*Tested by industrial partner CompriseTec GmbH

\*\*The results may vary and depending on post-curing, choice of polymer, mold design, and machine processing.