

U-FINE LD-301

Monofunctional Urethane Acrylate Oligomer

LD-301 is a high molecular weight monofunctional urethane acrylate oligomer that provides unique characteristics for 3D printing resins. This oligomer is ideal for formulating resins where low shrinkage, low glass transition temperature (T_g), and high elongation are required. Formulating with this oligomer with monomer $\geq 35\text{wt.}\%$, should result in a low viscosity resin (<1000 cP).

Features

- Rapid cure speed
- Low shrinkage
- Relatively low viscosity
- Low glass transition temperature
- High elongation
- High flexibility and softness
- Non-yellowing
- No plasticizers used

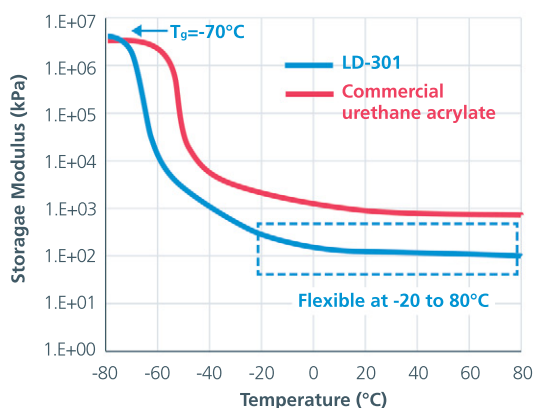
Suggested Applications

- Consumer goods prototyping
- Anatomical models

Properties and Typical Values

Typical Properties	
Appearance	Light yellow, Liquid
Viscosity, mPA.s (25°C)	5,500~10,000
Storage Modulus, kPa	20
Color, APHA	≤ 50
Refractive Index (25°C)	1.45
Density, g/cm ³ (25°C)	1.00
Glass Transition (T_g)	-70°C

Temperature Dependency of Storage Modulus



3D Printing Resin Properties (using LD-301)

Properties	LD-301, 50wt. %	LD-301, 67wt. %	LD-301, 72wt. %
Durometer Hardness	80A	50A	10A
Tensile Strength, MPa	6.3	4.0	0.6
Elongation at Break, %	160	145	210
Tear Strength, kN/m	26	12	NT
Shrinkage Rate, %	3	2	1
Glass Transition (T_g)	-66°C	-64°C	-64°C

*3D Printer: Mutoh ML-100 (DLP)

Disclaimer: Suggestions made concerning uses and data in this bulletin are based on our laboratory tests and users should make their own tests to determine the suitability of these products for their own purposes. However, AGC Inc. makes no warranty of any kind, express or implied, regarding the accuracy of these results to be obtained from the use thereof. Statements concerning the use of the products or formulations described herein are not to be construed as recommending the infringement of any patent and no liability for infringement arising out of any such use is assumed.

AGC Chemicals Americas, Inc.

55 E. Uwchlan Avenue, Suite 201
Exton, PA 19341
United States of America

Telephone: +1 610-423-4300
Toll Free (US only): 800-424-7833
Fax: +1 610-423-4305

www.agcchem.com

Visit our website for compliance information and industry certifications.

