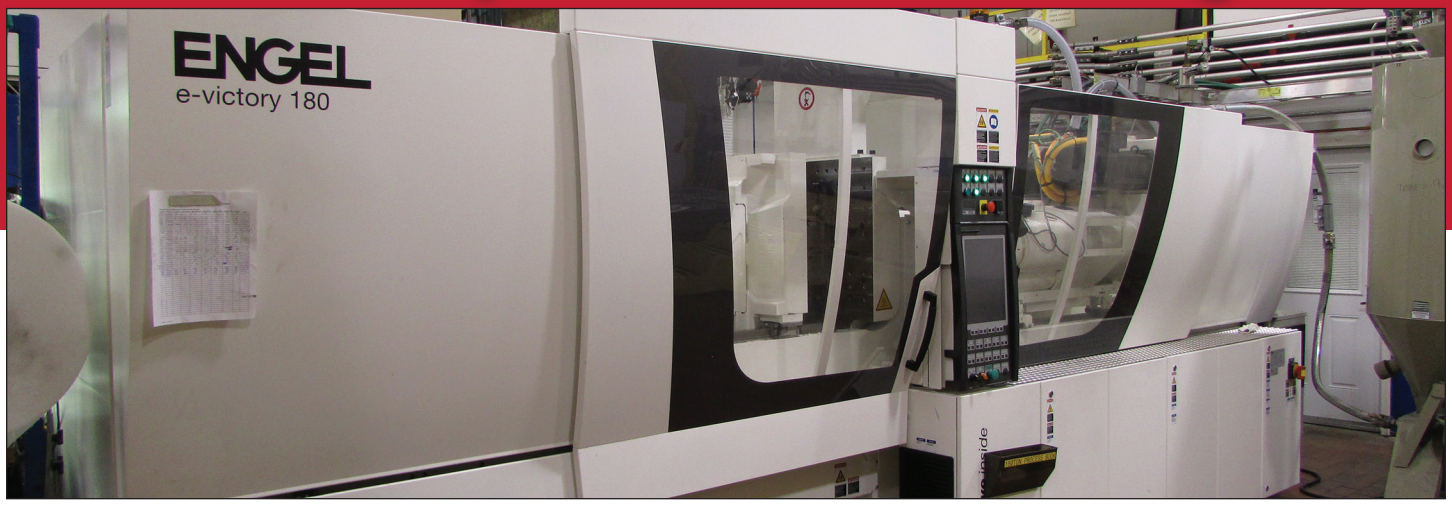
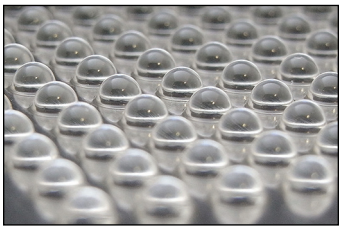
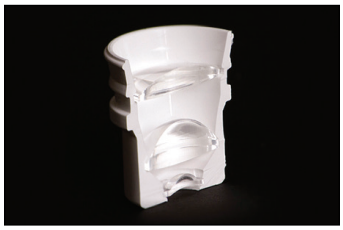
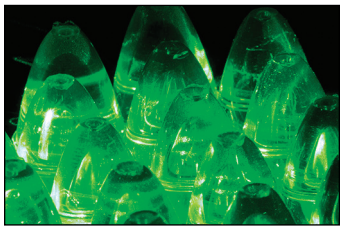
A.L.P. Optical Silicone Molding









A.L.P. features six LSR (Liquid Silicone Rubber) injection machines. A 80-ton, 180-ton, 220-ton, three 240-ton and 660-ton tiebarless molding machines that have advanced production features including a built-in conveyor, ERC robot, Electro Servo injection and coining technology. We have the capacity to mold parts up to approximately 175 square inches.

The low viscosity of Liquid Silicone requires molds built with very tight tolerances to avoid leaks. Our high speed machining centers and surface grinding give us the ability to produce these critical tools in house. We can provide fast turnaround of prototype and production optical quality tools. We inventory mold bases and custom or stock inserts to reduce lead time. Tooling time is further compressed because the part surface finish is cut so precisely, it requires significantly less polishing than a conventionally machined surface. Prototypes or production-ready inserts now take weeks instead of months. With this precision silicone equipment and our existing tooling and optical engineering expertise, A.L.P. is an ideal partner to take your project from concept to production quickly. Our in-house photometry lab allows real-time evaluation of first samples and our optical CMM verifies molded parts meet the design specifications.

A.L.P. has two state-of-the-art LSR (Liquid Silicone Rubber) machines that can produce high quality optical parts for unique lighting requirements. Silicone is a versatile, high performance material that offers some distinct advantages over injection molded thermoplastics for challenging lighting fixture design applications.

The strengths of optical silicone include:

- Greater than 91% light transmittance
- 1.41 refractive index
- Low viscosity yields excellent mold replication and allows low clamp tonnage compared to thermoplastics
- Exceptional continuous service temperature range of -45 to +200 degrees C.
- Immune to UV degradation (most grades)
- Exceptional impact resistance
- Potential to “wet” against an LED lens to eliminate the air interface and increase transmittance by 3-5%
- Allows undercut (negative draft) features, including optics
- Potential for self-gasketing
- Potential for self-mounting
- Suited for insert molding with plastic, metal and glass
- Silicone expands when molded, allowing very thick wall sections with no sink marks

A.L.P.®

DOW CORNING

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