

# A.L.P.<sup>®</sup>

## Automotive Molding Capabilities



World-Class Services — from Concept to Design to Production

A.L.P. is an industry leading provider of engineered thermoplastic injection molded components. Long recognized for designing and manufacturing the finest optical lighting components, A.L.P. also leverages the same world-class resources to supply other industries requiring the timely, economical, and precise production of injection molded components, with the automotive industry our fastest growing market.

Known for its expertise in injection molding, product design and tool building, A.L.P. offers diverse capabilities, all of which can be combined to meet your unique requirements to maximize potential and profits.

### **AUTOMOTIVE EXPERTS**

A.L.P.'s expert molding team approaches automotive projects as true partnerships, forging strategic alliances with our customers. Past/current automotive projects include taillights, headlights, signal optics, light pipes, and metalized bus mirrors.

### **CUSTOM SERVICES**

#### **Design and Engineering**

Product design and engineering services for a wide range of products, with expertise in new product development from design to final production.

#### **Tooling and Prototyping**

Design, build and maintain high efficiency injection molds. For all molds that are built by A.L.P., the customer will pay for the original purchase of the tool but in most cases will not have any additional mold maintenance or repair charges for the lifetime of the tool.

- Rapid Prototyping
- Economical Fast-Track Tooling with standard mold inserts
- 5-Axis Laser
- High Speed Machining
- Lifetime Tooling Management and Mold Maintenance

#### **Product Testing**

A.L.P. experts use in-house labs for rapid analysis of fixture, material, and coating performance.

- Absolute Photometry
- Relative Photometry
- UV Testing
- Heat Testing

#### **Contract Assembly**

When time-to-market and efficiency matters, you can consider the assembly capability of A.L.P. as an extension of your own manufacturing team.

- Experience with lighting electronics and wiring
- Economical Labor Cost
- Lower Overhead
- Quality Protocols
- Demand-Based Flexibility

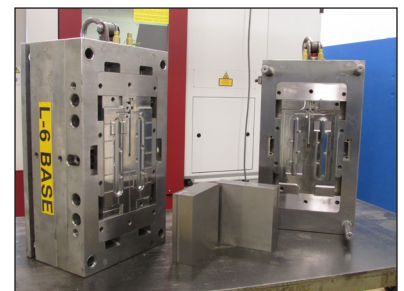
#### **Warehousing and Logistics**

A.L.P. dedication to supply chain excellence gives customers a competitive advantage.

- Logistics Planning and Support
- Just-In-Time and Safety Stock Inventory
- EDI Order Processing
- Bar Coding
- Economical Packaging Solutions

We are your comprehensive resource for:

- Innovative Designs
- Materials Expertise
- Superior Tooling
- Production Excellence
- Economical Pricing
- Competitive Lead Times
- Quality Products





## MANUFACTURING CAPABILITIES

### PRODUCTION

- 100 -1,650 ton presses
- Shot size from 4 to 260 ounces
- Mold base sizes up to 60 inches
- Servo Robot Technology
- In-line extruder/thermoformer
- Compression molding
- Gasketing

### SECONDARY OPERATIONS

#### Metalizing

- Vapor Deposition batch vacuum metalizing
- Fast cycle sputtering with in-chamber top coating capability

#### Coatings

- UV cure base coats
- First and second surface painting

#### Laser cutting

- Precision two- and three-dimensional shapes for plastic, steel, and aluminum
- Edge polishing for plastic

#### Fastening and assembly

- Sonic welding, spin welding, hot stamping, post mold machine and assembly

## SPECIALIZED EXPERTISE

### Quality Materials

A.L.P. production processes can accommodate all thermoplastic resins, specializing in clear and transparent colored materials.

- UV Resistant Acrylic
- UV Enhanced Polycarbonate
- ABS
- Optical Silicone
- PP
- PS
- Nylon
- PETG
- Noryl
- Polyetherimide

### Silicone Injection Molding

- 80-ton, 180-ton, 220-ton, three 240-ton and 660-ton
- Mold base sizes up to 175 sq in

Unique performance characteristics including:

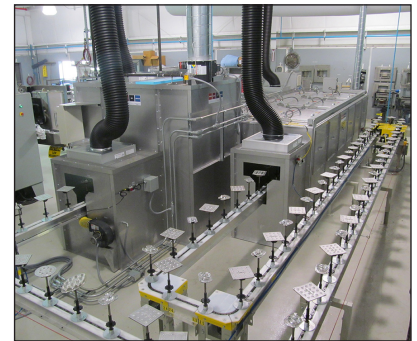
- UV Resistant
- 92-93% Light Transmittance
- No Yellowing or Cracking
- Self Gasketing
- F1 rated for Weatherability
- Flammability: HB rated for Flammability
- Relative Thermal Index (RTI): 150 degrees C (300 degrees F)

### Edgelit Injection Molding

- 88 ton - 1650 ton presses
- Economical fast-track tooling with standard mold inserts
- Standard sizes include 48" x 12", 24" x 12", 24" x 8" and 24" x 24"
- Tooling experts who understand edgelit
- Tools accommodate specifications for size, light source, light output pattern, and thickness
- CAD modeling capabilities
- Adherence to Production Part Approval Process (PPAP) for all new products

### Engineering Services

- Product Design
- Optical Engineering
- Rapid Prototyping
- Testing
- Performance Verification





# Manufacturing Facilities

A.L.P. has three injection molding plants, strategically located near automotive OEM customers to promote collaboration, speed production, and minimize freight costs.

A.L.P. continuously improves the efficiency and productivity at all of our manufacturing plant locations by investing in new systems and equipment.

## Charlevoix, MI



The A.L.P. Charlevoix, MI facility is **ISO 9001:2015 certified** for the manufacture and assembly of plastic components.

10163 US31 N Charlevoix, MI 49720-9649  
231.547.6584 | Fax: 231.547.5833

## Dickson, TN



The A.L.P. Dickson, TN facility is **ISO 9001:2015 certified** for the manufacture and assembly of plastic components.

One Gum Branch Road, Dickson, TN 37055  
615.446.7733 | Fax: 615.446.3007

## Monterrey, Mexico



Calle Avenida Industrial 303, Parque Industrial La Silla, Apodaca, Nuevo Leon, MX 66648  
52.818.288.0500 | Fax: 52.818.288.0519

# A.L.P.<sup>®</sup>

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