



# Design & Engineering Solutions

## Expect Excellence Every Step of the Way

At Alliance Precision Plastics, our design and engineering team is distinguished by their extensive experience and dedication. With seasoned and skilled mold designers, we ensure that every project benefits from our expert insight and innovative solutions.

## Transform Your Project with Alliance's Design and Engineering Solutions

- **Dedicated Project Engineer:** Each project features a dedicated engineer to maintain continuity and ensure quality throughout the process.
- **Collaborative Team Environment:** We cultivate a collaborative atmosphere, delivering expert service from concept to completion.
- **Comprehensive Mold Design Expertise:** Our team leverages insights from past projects and forward thinking technologies to enhance current mold designs.
- **Quality and Cost Efficiency:** We prioritize high-quality products while minimizing costs through intelligent design choices.
- **State-of-the-Art Technology:** Utilizing advanced CAD software like Siemens NX and MasterCam's SOLIDWORKS®, we refine mold design and manufacturing.
- **Thorough Mold Flow Analysis:** Comprehensive analyses guarantee optimal performance and results.
- **Extensive Resin Library:** Access to a vast library of commodity and engineered grade resins, featuring thousands of options and custom formulations.
- **Custom Material Development:** We develop materials tailored to your product requirements for optimal fit and performance.
- **Expertise in Metal to Plastics Conversion:** Our proficiency in this area enables weight reduction and cost savings.
- **Longevity Commitment:** We focus on creating products designed for the program's lifespan, not just temporary solutions.



 **Made in the USA**



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*Partnering with Alliance has been a game changer for us. Their commitment to quality and customer satisfaction is evident in every interaction, making our collaboration seamless and effective."*

— JD

# What we offer:

## Services

### Engineering

- Dedicated Project Engineer
- Resin Selection and Formulation
- Design For Manufacturing (DFM)
- Injection Mold Tooling Design
- Mold Flow Analysis
- Plastic Part Design Assistance

### Tooling

- Full service toolroom
- CNC Mills
- CNC Lathe
- Conventional RAM and Wire EDM
- Dedicated Mold Maintenance and Repair
- Global Tooling Solutions
- Comprehensive Preventative Maintenance Programs
- Tool Transfers and Optimization

### Molding

- 83 Injection Molding Machines in Eastern US
- Injection Molding From 28 – 900 ton
- Shot Sizes .25 oz – 146 oz
- Insert Molding
- Horizontal and Vertical Molding
- 2 Shot Molding and Over Molding
- In Line Automation / Robotics
- Class 8 (100,000) Clean Room
- Real Time Production Monitoring

### Assembly

- Simple to Complex Assemblies
- Decorating – Pad Printing / Hot Stamping
- Heat Stake Inserting
- Vibration Welding
- Ultrasonic Welding / Inserting
- Gluing/Bonding
- Precision Post-Mold CNC Machining

## Technology

- IQMS Enterprise IQ ERP
- Siemens NX CAD/CAM
- SolidWorks CAD
- Mastercam CAM
- AutoDesk Mold Flow

## Quality

- Dedicated Quality Engineer
- Formal Product Realization Process
- PPAP – Production Part Approval Process
- IQ/OQ/PQ – Process Validation
- FMEA - Failure Mode and Effects Analysis
- DOE - Design of Experiments
- Programmable CMM and Vision Inspection

## Contact Us Today

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