accumold®

Micro Solutions
For Big Innovations

Micro Molding Guidelines

These micro molding guidelines are only the tip of the iceberg, intended to provide a general idea of our capabilties.

Each project is unique in size, shape and material and any one of those can greatly affect the molding capabilities. In many cases, project complexity exceeds this general guide.

Micro-Mold® Platform

- Parts up to 1/2” (13 mm) in the largest dimension
- Our smallest part to date is roughly
  800 µm (0.031”) x 300 µm (0.012”) x 380 µm (0.015”)
- Thin wall section < .004” (.1 mm)
- Feature aspect ratios around 6:1 or higher
- Part volume .005 in^3 (.08 cm3) or less
- Gate size as small as Ø .004” (Ø.1mm)
- Ejector pins as small as Ø .010” (Ø .254 mm)

Small Mold Platform

- Parts up to 9 in^2 (58 cm^2)
- Our largest part to date is roughly 3.5” (9 cm) in diameter or about 1oz in shot weight.

Insert / Leadframe Platform

- Parts up to 9 in^2 (58 cm^2)
- Overmold metals, glass, foil, fabric, ceramic flex-circuits, film, other plastics
- Insert material can be as thin as 50 µm (.002”)

Common Thermoplastics

- PEEK, Ultem®/Extem®, LCP, PC, Nylons
- TPE / TPU
- Filled materials: glass, carbon, etc.
- Optical Grade
- Medical Grade
- Attenuated Material

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Tap To Ask A Question

World Class Facilities

Micro Molding
Classifications

Accumold was founded in 1985 with a single focus, to mold very small parts that other companies could not produce. The same mission continues to drive us today.

Our expertise in micro-molding is centered on producing critical components accurately, cost-effectively, and in a timely fashion. You often demand micron tolerances, intricate geometries, and extremely small features.

Our experience and capabilities in these areas are what make us the World Leaders in Micro-Molding.

Micro-Mold® parts are from about 13 mm (0.5”) and smaller, and Small Mold parts up to about 9 cm (3.5”) in diameter.

Expertise

Lead Frame
Insert/ Overmolding
Microfluidics
Thin-Wall Molding
2-Shot Micro- Molding
Micro Optics
Use of Engineering Grade Resins

Ancillary Services

- Custom Automation & Packaging
- Clean Room Molding (Class 7 & Class 8)
- High- Volume Manufacturing (100+ million)
- Secondary Operations (i.e. Sonic Welding & sub-assembly)

Key Markets Served

Medical Device
Micro Electronics
Micro Optics
Automotive Electronics
Emerging Technologies

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DfMM Experts

Design
For Micro Molding

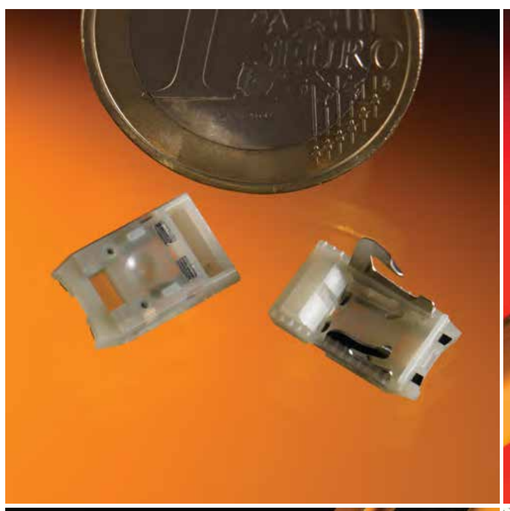
DfMM (design for micro molding) is a fundamental process because the rules of injection molding drastically change when designing miniature parts with precise elements and tight tolerances.

Our DfMM team works alongisde your design engineers to improve and determine manufacturability, ensuring expecations are met for the final part. Each project is unique in terms of geometric complexity, shape, and can be made in a wide range of materials, all of which will ultimately affect the ability to manufacture.

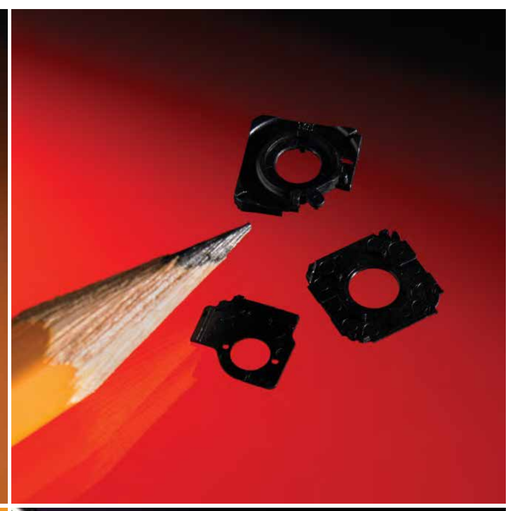
Choice of materials can also have a dramatic influence on DfMM. When micro molding, mission-critical components often require exotic or highly engineered compounds.

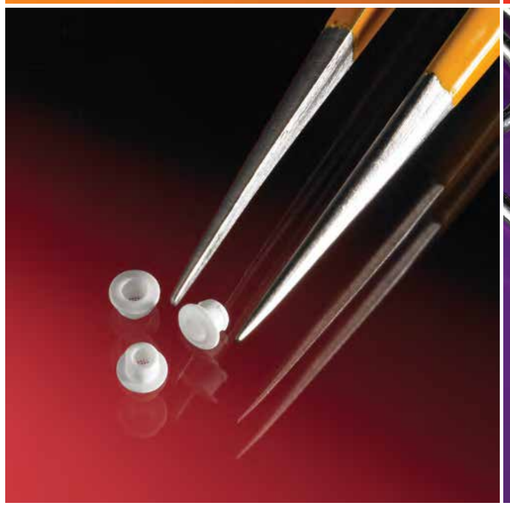
Soft durometer or elastomeric resins are also prominent. Direct experience with these materials in the context of micro molding is another part of valuable know-how needed to maximize the performance of the resin/part design combination and to ensure successful DfMM.

Insert Molding

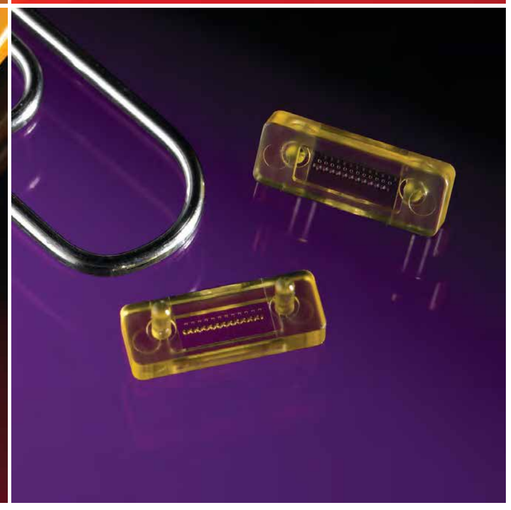


High Velocity Manufacturing





Delicate Media Overmolding



Micro Optics

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In-House Tooling

Micro Molding
Services

In-House Tooling & Mold Building
Great tools make great parts. Being truly vertically integrated with tool design and build in-house is a must in order to control this delicate process from the start to finish. Cross-functional teams work to build tools that are capable of molding production ready parts that are right first time. Our dedicated in-house maintenance team is also crucial to keep our production running like clockwork.

Automation & Packaging
Molding micron sized parts is impressive, but conveying and packaging them is no small feat. Understanding fit, form and function, our team develops entire systems to protect and deliver quality parts to your specifications. Our automation team is devoted to designing and developing bespoke solutions just for you.

24/7 Production, Tooling & Quality Inspection
Our team of experts meet around the clock to keep up with the demand in production and tooling. Our customers from across the world require high-quality parts, quick turn-around and constant communication no matter where they may be. At Accumold fulfilling this demand has become a way of life.

Technical Highlights
- Accumold builds high-speed, automated micro manufacturing cells with in-line inspection and packing.
- Accumold can measure the surface finish and surface profiles with our in-house white-light interferometers.
- Our state-of-the-art Quality Department uses laser and optical metrology with sub-micron accuracy.

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