

RAPID TOOLING & INJECTION MOLD SERVICES



PARTS IN DAYS, NOT WEEKS OR MONTHS

ACHIEVE BETTER RESULTS FASTER WITH AN ADVANCED ADDITIVE MANUFACTURING EXPERT

FATHOM has added RAPID tooling and injection molding to its extensive portfolio of production services. By combining our additive manufacturing expertise with Precision Plastics in a joint venture, our clients now have access to revolutionary additive and subtractive manufacturing techniques to dramatically speed up product development — this hybrid approach allows us to innovatively compress industry standard lead-times for its customers, resulting in products that go to market faster and more effectively.

- Fast quoting (within 24 to 48 hours)
- Quick turn tool builds (10 days to 4 weeks)
- 24/7 global manufacturing footprint achieves faster results
- Improved efficiencies by utilizing the latest technologies: Modular Unit Dies (MUD), 3D Printed Tooling, Direct Metal Laser Sintering (DMLS)
- Leveraging a proprietary, automated process that speeds up production time
- Experts at designing for manufacturability (DFM), providing guidance that will optimize your design specific to the injection molding process
- Advanced real-time project management

RAPID TOOLING & INJECTION MOLD SERVICES

- In-House FATHOM Engineering and Design Resources
- Tooling / Injection Molding
- Rotational Molding
- Thermoforming
- Liquid Silicone Injection Molding (LSIM)
- Compression Molding
- Fabrication / Assembly
- Printing, Decorating, and Painting

MANY MATERIALS TO CHOOSE FROM:

- ABS
- ABS/PC
- Acetal (Celcon/Delrin)
- Acrylic (PMMA)
- HDPE
- LDPE
- Nylon
- Polycarbonate
- PET
- Polypropylene
- Polystyrene
- TPE
- TPU
- TPV (Santoprene)
- Silicone

FATHOM stocks a variety materials for quick turn parts. If you desire a specific material, we have a diverse supply chain to help procure the materials (longer lead times and higher costs may apply).

RAPID TOOLING



CONVENTIONAL TOOLING

WHEN TO CHOOSE RAPID INJECTION MOLDING



Not sure where to start? Consider the following. FATHOM's unique approach shortens the product development cycle by leveraging advanced technologies like 3D printing. Customers are saving time and reducing costs by testing their ideas early and often.

3D PRINTING

- Quickest production method and great for low quantity needs
- Ideal for proof of concepts (test form, fit, and function)
- Simulate the final product with multiple materials and finishes
- Low volume, highly customized, complex geometries for non-cosmetic parts

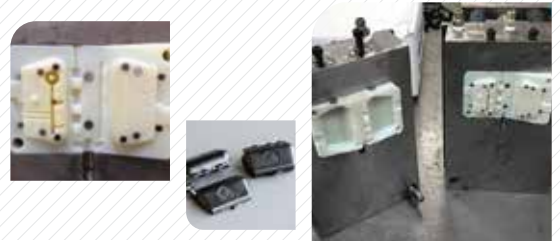
MACHINING & CASTING

- Best for lower production quantities
- Ideal for parts made in final production materials
- More robust than 3D printing
- Per part cost is high, yet, tooling investment is relatively low
- Short lead times

RAPID INJECTION MOLDING

- Higher production volume requirements
- Injection mold material properties requirements
- Prove out manufacturability before making long term investment
- Short time to market in injection mold grade materials
- Cost effectiveness increases with higher quantities

FATHOM'S 3D PRINTED TOOLING EXPERTISE



With 3D printing and additive manufacturing, it is now feasible to quickly create custom injection molds in days instead of weeks — these molds produce low volumes of parts using the final injection mold grade plastics. Multiple iterations with less tooling investment.

- Materials Available:
PE, PP, PS, ABS, TPE, PA, POM, PC-ABS, Glass Filled Resins
- Processes Available:
Blow Molding and Injection Molding
- Up to 50 shots
- Tools can be printed in ONE day
- Direct Metal Laser Sintering, or DMLS, for tool building is also available — by using DMLS, FATHOM can compress the tool building process from weeks to days for high volume production
- Molds are built by sintering metal powder in patterns driven from a 3D model
- DMLS “prints” metal molds, versus, traditional methods of machining or EDM
- Lead-time for DMLS mold making is days, unlike weeks for traditional methods
- Time and cost can be reduced further by having a large selection of MUD bases available for any size DMLS insert
- DMLS inserts last as long as traditional metal tooling (in the range of 100,000 shots)