



**High Volume Precision Plastic Parts**



# Miniature Custom Manufacturing

**Welcome to MCM!**

**We are a custom injection molder who specializes in, but are not limited to, high volume injection molded parts with an emphasis on small to medium tonnage.**

**We offer a range of injection molding services and pride ourselves on our agility and competitive nature. We place an emphasis on clean, lean, modern, and precise manufacturing methods.**

## OUR MISSION

Through our commitment to people, process and technology we will lead the way in providing value to our customers by producing the highest quality plastic components



# Miniature Custom Manufacturing Statistics

- Established in 2007
- Currently 3 shifts, 6 day-a-week operation
- Housed in a clean, modern facility
- We have a 25,000 square foot Manufacturing facility, a 20,000 square foot Corporate Office facility and we continue to grow
- Fiscally sound, profitable, and operating with minimal debt



# Molding Capabilities and Equipment





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- MCM is rapidly growing in its capabilities, currently we have 15 injection molding machines with a tonnage range from 28 to 550.
- Machines are newer and meticulously maintained thoroughly with our PM program.
- Automated part removal / sorting for family tools and runner removal with the use of Fanuc 6-Axis Robots and Sprue Pickers.
- Closed loop runner consumption where allowed. Regrind is not reintroduced to the floor, thus eliminating the potential for contamination.
- Insert Molding with a Vertical Molding Machine.
- Two Shot Molding and Over Molding.



## Two Shot



## Insert Molding





# MCM'S Injection Molding Equipment List

- |                          |                           |
|--------------------------|---------------------------|
| (1) 38 Ton Arburg        | (1) 427 Ton Haitian       |
| (5) 55 Ton Arburg        | (1) 500 Ton Engel         |
| (1) 110 Ton Arburg       | (1) 180 Ton 2-Shot Arburg |
| (1) 77 Ton 2-Shot Arburg | (2) 550 Ton Arburg        |
| (1) 165 Arburg           | (2) 220 Ton Arburg        |
| (2) Assembly Machines    |                           |



## **QUALITY POLICY**

**Miniature Custom Manufacturing is committed to continually improving the effectiveness of the Quality Management System and manufacturing process requirements through the use of automation and technology while providing on time delivery at the lowest cost, greatest quality with extraordinary customer satisfaction.**



# MCM Quality



- MCM is TS 16949:2009 Certified
- We are currently working to become ISO 22000 Certified, we expect to achieve this by third quarter.
- Use of SPC on machine settings and rigorous process development to maintain an impressive DPPM.
- Tooling and Processes are carefully refined to run a fully automatic and repeatable process.
- Fully automated alarm systems that monitor cushion, cycle time, fill time, injection pressure and peak injection pressure.
- Automated conveyer systems are set to reject suspected parts during alarms.
- Stringent procedures dealing with repeated alarms during production.
- Key dimensions are checked twice per shift, at start up and shut down to insure customer quality standards are met.
- Packaging, labeling, and lot numbers are verified and consistently recorded.



# ISO/TS 16949:2009 CERTIFICATION



## Certificate of Registration

**Intertek**

This is to certify that the quality management system of

### **Miniature Custom Manufacturing**

170 North Leja Street, Vicksburg, Michigan, 49097, USA

has been assessed and registered by Intertek as conforming to the requirements of

### **ISO/TS 16949:2009**

The quality management system is applicable to

*The Manufacture of Injection Molded Plastic and Rubber Gaskets and Seals*

Permissible exclusions include: Product Design

**IATF Certificate Number:** 0256487  
**Certificate Number:** 2017-0006  
**Certificate Issue Date:** 9 January 2017  
**Certificate Expiry Date:** 14 September 2018

  
Colin Moldoveanu, President

Intertek - 4700 Broadmoor, Suite 200, Kentwood MI 49512, USA



In the issuance of this certificate, Intertek assumes no liability to any party other than to the Client, and then only in accordance with the agreed upon Certification Agreement. This certificate's validity is subject to the organization maintaining their system in accordance with Intertek's requirements for systems certification. Validity may be confirmed via email at [certificate.validation@intertek.com](mailto:certificate.validation@intertek.com) or by scanning the code to the right with a Smartphone.

The certificate remains the property of Intertek, to whom it must be returned upon request.

CT-ISO/TS 16949:2009-eng-01.apr.14

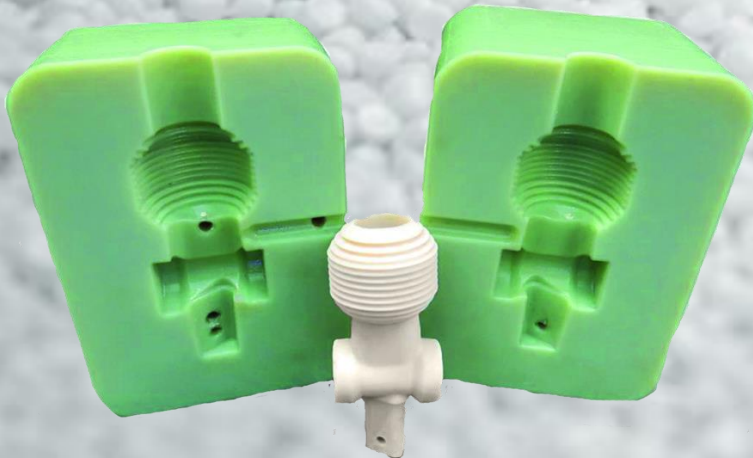
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# Rapid Prototyping Services

- 3D Printed Parts from our Objet 30 Pro
- 3D Printed Cavities
- Cast Urethane Parts from Silicone Tooling





# Object 260 Connex 3D Printer Capabilities

- The Connex is capable of printing Dual Material /Durometer Parts that simulate a Two Shot molded part.
- The Connex is also capable of printing Prototype Injection Molding Cavities from a high heat material. This allows us to produce actual molded Prototype Parts very quickly at a very competitive price.
- Limitations apply to part size material family and part complexity.





# **MCM Tooling and Program Management**

- **MCM has a strategic relationship with a competitive and established local tool shop which provides engineering services that are readily available to MCM and our customers.**
- **MCM also has a partnership with a company that produces tooling in Low Cost Countries. These services are backed by substantial domestic support.**



# **BIO Based Materials**

- **We specialize in molding a variety of different formulations to include both PHA and PLA formulations which are biodegradable and environmentally friendly.**
- **We work with our customers from concept to production.**
- **Our team at MCM has established this process and has the ability to make it a repeatable robust process.**







## Successful Part Quotes

- PART PRINT
- PART WEIGHT
- TYPE OF MATERIAL
- STP (CAD FILE) PREFERRED
- ESTIMATED ANNUAL VOLUME PER YEAR
- **\*\*LEAD TIME 4-5 DAYS\*\***





