



? ABOUT US

Founded in 1982, Manufacturing Sciences Corporation (MSC) is a high technology specialty metals manufacturing and materials acquisition company with extensive experience in design, metal casting and rolling, fabrication, welding, and precision machining. With decades of experience in manufacturing and metal processing, at MSC we strive to utilize our experience, knowledge, and expertise to provide our customers with the highest quality, precision, and service available.

PROCESS DEVELOPMENT

The skilled craftsmen, engineers, and metallurgists at MSC work closely with a variety of energy, nuclear, metal matrix composite manufacturers, and physics research teams to develop and validate new manufacturing and processing technologies. The work is performed in two facilities on MSC's campus, with one location being a licensed radioactive materials facility.

i BUSINESS INFORMATION

- Small Business
- TOSHA Voluntary Protection Program (VPP) Star Site
- A2LA ISO/IEC 17025:2017 Accredited Laboratory in Chemical Field of Testing Certification No.: 6695.01 for Depleted Uranium, Depleted Uranium Alloys, Natural Uranium, Natural Uranium Alloys, Uranium Oxide, Uranium Nitrate, and Water
- DUNS: 10-255-8160
- Registered in System for Award Management (SAM)
- Cybersecurity Maturity Model Certification (CMMC)

ENGINEERING

DESIGN & MANUFACTURABILITY PROCESSING

- Research and Development Projects for New Technologies
- Engineering, Design, and Production of Shielding Systems
- Generating Rolling Schedules for R&D Metal Matrix Composites and Specialty Metals
- Casting, Rolling, and Machining of Uranium Components
- Production of Uranium Based Catalyst Materials

MANUFACTURING

CASTING FURNACES

- Two Vacuum Induction-Melting Furnaces
- Casting Weight of up to 10,000 pounds
- Powered by 300 kW Power Supply

ROLLING MILL

- Four-High, Reversing Mill
- 2,500 tons of Separating Force
- 30' Entry and Exit Tables
- Capable of Rolling Widths up to 39"
- Preheating Furnaces with Operating Temperatures of up to 1,375°C
- Vacuum Heat Treat Furnace with Operating Temperatures of up to 750°C
- Salt Bath (4'x6'x10') with Operating Temperatures of up to 750°C
- Annealing and Quenching
- For Small Scale Rolling Projects, Laboratory / R&D, a Stanat Rolling Mill is available



FABRICATION / ASSEMBLY SUPPORT

FABRICATION

- Hydraulic Shears
- Press Brake
- 100 & 300 Ton Press
- Three-Roll Bender
- Roller/Leveler

MACHINING

- Haas VF 6/40 Vertical Machining Center, Haas SL 30 Lathes, Haas DS-30Y Lathe
- Mori Seiki Duracenter 5 Machining Center
- Okuma Howa V100R Vertical Turret Lathe
- Toyoda SB 216 Bridge Mill

WELDING

- ASME Section 9 Certified
- Metal Inert Gas (MIG)
- Tungsten Inert Gas (TIG)
- Shielded Metal Arc Welding (SMAW)
- NDE per Customer Requirements

QUALITY ASSURANCE

MSC's Quality Assurance Program is based on ASME NQA-1-2008 with NQA-1a-2009 Addenda, Part 1 Requirements; 10 CFR 830, Subpart A, Quality Assurance Requirements, and DOE O 414.1D Quality Assurance.

LAB & ANALYTICS

Utilizing our in-house laboratory, MSC can provide a variety of metallurgical analyses and testing. Employing Inductively Coupled Plasma Mass Spectrometry (ICP-MS) and Optical Emission Spectrometry (OES) which can be used to identify both trace amounts and major concentrations of nearly all elements within a sample, and Organic Elemental Analysis, for rapid determination of carbon, hydrogen, nitrogen, sulfur, and oxygen, MSC can provide accurate and reproducible results.

ISO/IEC 17025:2017 Accredited through A2LA:

- Carbon Testing using CHNS/O 2400 Analyzer
- ICP-MS 17 Element Uranium Testing
- ICP-MS Uranium Isotope Ratio
- ICP-MS Water Testing
- Uranium Titration (Davies-Gray)



PRODUCTS & SERVICES

- Vacuum Induction Melting (VIM)
- Specialty Metals Rolling
- CNC Machining
- Welding
- Fabrication
- Quality Assurance (Dimensional Inspection and Mechanical Properties Testing)
- Laser Etching
- Laboratory Material Testing and Analytics
- Engineering and Consulting (Metallurgical, Materials, Nuclear, Chemical, and Civil)
- Research and Development
- Specialty Metals Acquisition and Disposition



MATERIAL RECEIPTS

At MSC, we are experienced and specifically equipped for processing radioactive materials in an environmentally sound, safe, and controlled manner. Licensed by the State of Tennessee, MSC is qualified and accredited to accept components containing depleted and natural uranium for repurposing into commercial products. Our Material Receipts Program is available to both domestic and international entities with license-conforming products.



MANUFACTURING SCIENCES CORPORATION

804 South Illinois Avenue
Oak Ridge, TN 37830

865.481.0455
www.mfgsci.com
info@mfgsci.com



ASME NQA-1
COMPLIANT



MANUFACTURING SCIENCES CORPORATION

LEADERS IN HIGH QUALITY SPECIALIZED
METAL FABRICATION

