



CAPABILITY STATEMENT

COMPANY OVERVIEW

Sigma Engineering and Fabrication, Inc. produces Mil-I-45208A and Mil-std-45662 compliant mechanical parts and assemblies utilizing both vertical milling and turning centers. Sigma is a wholly owned subsidiary of Science Systems & Applications, Inc.

Core Competencies:

- Vertical milling — product size up to 40" × 20" × 20"
- Turning center product size up to 12"
- Tolerances to 0.0005" on traditional machined parts
- In-house CMM inspection with Keyence coordinate measuring — tolerance to 0.0003"
- Material capability: aluminum, titanium, stainless steel, beryllium, copper, plastics, invar
- Mil-I-45208A and Mil-std-45662 compliant parts and assemblies

Value-Added Services

- Specializes in just-in-time convenience, quick turnaround, R&D prototypes
- Consistent machining to 0.0005" across all traditional subtractive operations
- Large-format resin additive manufacturing — parts up to 13.9" × 7.7" × 13.8"
- High-resolution resin printing at 46-micron pixel fidelity — razor-sharp surface detail
- Engineering-grade, flexible, rigid, and impact-resistant resin material library
- Alumina ceramic additive production — kiln-sintered technical ceramic parts

ADDITIVE MANUFACTURING CAPABILITIES

LARGE-FORMAT RESIN PRINTING

- Build envelope: 13.9" × 7.7" × 13.8"
- Large parts completed in under 6 hours
- ±0.15% XY dimensional tolerance
- Smooth surfaces, minimal post-processing
- Batch production or single large-body parts

ADVANCED MATERIAL LIBRARY

- Engineering-grade resins: rigid, tough, flexible
- Impact-resistant and flame-retardant formulations
- Biocompatible resins for medical applications
- High-temp, chemical-resistant specialty resins
- True silicone, ceramic, and polyurethane chemistries

TECHNICAL CERAMIC PRODUCTION

- Alumina (Al₂O₃) ceramic parts — kiln sintered
- High-temp, high-strength, corrosion-resistant
- Complex geometries not feasible by traditional methods
- Intricate internal features with fine surface detail
- Ideal for aerospace, defense, and industrial applications

MULTI-MATERIAL FDM PRINTING

- Dual-nozzle extrusion — primary + dedicated support material
- Build volume up to 13.8" × 12.6" × 12.8"
- Carbon fiber, glass fiber, and engineering thermoplastics
- 65°C heated chamber — high-performance filament capable
- AI-monitored printing — automatic failure detection
- Laser cutting, engraving, and digital cutting in same platform

END MARKETS SERVED

- Aerospace & Defense — Mil-spec compliant machined parts and assemblies
- NASA & Government — precise, certified-quality components
- Medical Devices — biocompatible materials, tight tolerances
- Automotive — functional prototypes and end-use tooling
- Firearms — precision machined and additively produced components
- R&D / Commercial — rapid prototyping, IP development, production runs

Cage Code: I62Q7 | **NAICS Codes:** 333517, 326199, 332710, 332994, 333511, 333515, 334519, 336413, 336419, 336992, 339999
Product Codes: 1005, 1280, 1560, 1680, 5340

CERTIFICATIONS (Current): ITAR (In Progress): ISO 9001 | Xometry QMS In a Box Level 2 | AS9100 CMMC Level 2