Capability Statement

DUNS
962372137

NAICS
336411, 541712, 336412,336413, 332710, 333512, 541512, 326199

CAGE CODE:
606C6

Small Business

Woman Owned Operation

SERVICES AVAILABLE

Engineering
Consulting
Machining
Additive Mfg.
Prompt Service
Short Turnaround Time
Direct Digital Mfg.
Lost Pattern Mfg.
Finishing

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Northwest Rapid Manufacturing (NW Rapid) has manufactured thousands of production plastic parts and prototypes for propulsion systems directly from CAD data using the laser sintering process (also known as SLS). These complex components have flown for more than 300,000 total hours on Unmanned Aerial Vehicles (UAVs) in support of our U.S. Armed Forces. These plastic parts and components serve many purposes including fuel delivery, aerodynamic, cosmetic, EMI shielding, and structural applications. NW Rapid's unrivaled capability to produce structurally sound, thin walled parts using the laser sintering process (also known as Additive Manufacturing, Direct Digital Manufacturing (DDM), and 3D Printing) has helped the UAV industry soar to new heights. These parts high function and low weight have allowed planes to stay in flight for more than 24 hours at a time on 1.5 gallons of fuel. This is a great support to our troops. The SLS process is superior (as compared to other Rapid Prototyping processes) because it directly produces parts in nylon and other plastic composites as well as polystyrene for investment casting of nearly any metal (including Ti-6Al-4Vand A356 Aluminum). NW Rapid's part quality is unique for the industry in part for having a strong handle on the many process variables as well as using the newest and most reliable machinery from EOS including the EOSINT P 390 and P 730 which have build volumes of about 12" x 12" x 24" and 27" x 15" x 23" in x, y, and z, respectively. These machines can make one large part or many small parts as quickly as overnight.

CORE CAPABILITIES:

- Overnight, 1 large part or 100s of small parts can be produced directly from CAD data
- For example, more than 100 of our typical 4"x4" parts can be built in a 24 hour period
- Multiple geometries can be built at the same time, overnight, with no tooling required
- Wall thicknesses of 0.030"-0.040" are commonly produced, 0.020" possible
- Standard (unfilled PA12) and custom materials are supported with applications expertise
- Both large and small orders are cost effective with small (P390) and large (P730) machines
- Lightweight nylon includes flexible and stiff options as well as polystyrene for casting patterns
- Nearly any geometry can be produced in plastic or metal – the process knows few limitations
- Depending on part complexity and volume, cost savings compared to conventional technology
- Design services and consulting which integrates our laser sintering process know-how are available
- Process expertise on hand for reproducibility, special projects, and questions anytime

PAST PERFORMANCE:

NWUAV – Built 1000s of parts such as shrouds, ducts, inlets, fuel tanks, fuel doors and housings, electroplated electrical enclosures, cosmetic covers, etc. These parts have proven performance with more than 300,000 total hours of service on Unmanned Aerial Vehicles (UAV's) used around the world.

Aerospace - Other parts produced in UAV industry include large 6' long wing tanks for fuel and frame structure for small lightweight aircraft where low quantities, high complexity, low cost, and high performance meet.

Military – Small parts in specialty conductive materials have been produced with accuracy's to +/- 0.003" (not typical).

Dental – Several iterations of a new needle safety device were designed and built together in one overnight. The design with optimal clearances and stiffness were chosen for patenting. First production parts will be made using SLS to test market with minimal investment. Parts can be autoclaved for use in this environment.

Medical Industry – Knees were cast from polystyrene patterns made in the laser sintering system. Prototype housing for several different kinds of medical equipment have saved time and money, avoiding mistakes in production.

Gaming industry – A new product is coming to market for gamers who are also serving in the armed forces. A ruggedized system has been designed by NW Rapid to include many SLS parts which will see mechanical shock and temperature extremes (-30 deg C to 60 deg C) in the desert environment.

University – Portland State University's Formula SAE team designed an SLS intake manifold to replace their heavy Aluminum one. They are racing with 5 lbs less weight and better performance.