## FASTENAL®

### MANUFACTURING, MACHINING & ENGINEERING SERVICES



Fastenal's manufacturing division has expanded to include a new manufacturing facility in Johor, Malaysia. This facility allows Fastenal to quickly provide machined and threaded components to our customers while bringing Fastenal's commitment to quality and service to Southeast Asia.

- Fully traceable specialty fasteners and machined components
- · High integrity products made to customer specifications
- Manufacturing, stocking and distribution services
- · Excellent on-time deliveries and lead times
- Product quality and flexibility
- Cellular layout allows for a LEAN environment

#### **PRODUCTS:**

Stud Bolts	Single End, Double End, Fully Threaded, Tap End Studs
Nuts	Hex, Heavy Hex, Cap Nuts, Coupling, Slotted, Tie Wire According to: ANSI B18.2.2, DIN 934, A194/194M
<b>Bolts and Screws</b>	Hex Heads, Heavy Hex, Penta Head, Ferry Cap Screws (12pt.) and More
Fully Machined Parts	Full Service CNC Machining Capabilities Including: Shafts, Pins, Plates, Blocks and More

#### **STANDARDS:**

ASTM A193	Alloy and Stainless Steel Bolting Material for High Temperature Grade: B7, B7M, B8 Class 1 & 2, B8M Class 1 & 2, B16, L7
ASTM A194	Carbon and Alloy Steel Nuts for High Temperature Grade: 2H, 2HM, 7M, 8
ASTM A307	Carbon Steel Externally Threaded Fasteners Grade: A & B
ASTM A320	Alloy Steel Bolting Materials Grade: L7, L7M, B8 Class 1 & 2, B8M Class 1 & 2
ASTM A325	Carbon Steel High Strength Heavy Hex Structural Bolts
ASTM A453	High Temperature Bolting Grade: 660, Class A, B & C
ASTM A490	Alloy Steel High Strength Heat Treated Heavy Hex Structural Bolts
SAE J429	Grade: 5, 8
ISO 898	Grade: 8.8, 10.9, 12.9



#### **MATERIALS:**

Carbon and Alloy Steels	1045, 4140, 4142 and 4340
Stainless Steels	304, 304L, 310, 316, 321, 347, 410, 17-4, Nitronic 50 & 60, Duplex Stainless Steels
Super Alloys	K400 & K500 Monel™, Inconel® 625, 718, 825, 925, Hastalloy® C22, C276, Ferrillium 255, Titanium Alloys, Tantalum
Non-Ferrous Material	Aluminum Bronze, Silicone Bronze, Brass, Naval Brass and Copper

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#### **MACHINING & PART SIZE CAPABILITIES:**

#### CNC Turned Parts (as well as manual turning)

• Up to 50.8mm (2") diameter

#### CNC Milled Parts (as well as manual milling)

VMC 508mm x 1016mm x 635mm (20"x40"x25")

#### **Thread Rolling**

- Materials as hard as 40 HRC
- 6.096m (20') bars up to 76.2mm (3") in diameter
- 6.35mm (¼") to 63.5mm (2-1/2") in UNC, UNF, UNJ, ACME and metric

#### **Cut Threading**

- Materials as hard as 42 HRC
- 6.35mm (¼") to 63.5mm (2.5") diameters in unified, ACME and metric

#### **Hot Upset Forging**

- Max of 38.1mm (1-1/2") diameter stainless steel
- Up to 914.4mm (36") length for 38.1mm (1-1/2") diameter



#### **Screw Machines**

- Up to 25.4mm (1") diameter
- Up to 152.4mm (6") length
- Used in cutting threaded rod, bar stock, pins and other threaded products

#### **Bending**

• Up to 31.75mm (1-1/4") diameter bar (material dependent)

#### **IN HOUSE COATINGS:**

- Xylan™/PTFE/ Teflon
- NCF
- Magni™

#### **AVAILABLE COATINGS:**

- Zinc Plating
- Hot Dip Galvanizing
- Nickel Plating
- Electroless Nickel Plating
- Chromium Plating
- Annodizing

#### **AVAILABLE HEAT TREATING:**

- Normal Hardening of Steel
- · Quenching and Tempering
- Solutionizing
- Precipitation Hardening/Aging
- Annealing
- Stress Relieving
- Brazing

#### **ENGINEERING SERVICES:** •

- Inspection Equipment Including: CMM's, Comparators, GD&T Instruments and More
- Chemical, Mechanical and Corrosion Testing:



- Proof Load
- Charpy Impact
- Tensile Testing
- Hydrogen Embrittlement
- X-Ray Fluorescence
- Salt Spray
- Magnetic Particle Inspection
- Liquid Penetrant

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