Brass / Bronze / Aluminum

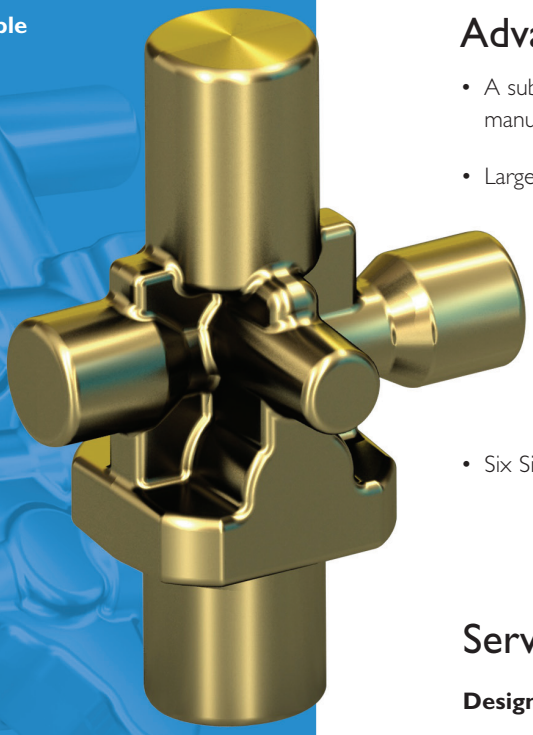
Capabilities

Press Equipment Can Handle

- From 440 tons to 2500 tons
- Produce parts up to 23 kilograms

Press Type Available

- Screw
- Coring
- Mechanical
- Hydraulic



Why Forgings?

Versus Casting

- The forging process compresses metal into a dense homogenous structure. High pressure applications are ideal as the process eliminates porsity
- Tensile strength is double that of sand casting
- Mechanical properties are enhanced by the forging process to withstand high impact and resist fatigue

Versus Bar Stock

- Dimensional accuracy and close tolerances minimize and may even eliminate machining some surfaces
- Lettering and logo's may be forged onto the surface of the part
- Raw material purchases and machining time may be reduced by contouring the forging to a near net shape

First in Forgings

Established in 1917, Mueller Brass Company was the first commercial brass forging facility in the United States

Advantages

- A subsidiary of Mueller Industries, Inc. (NYSE: MLI). Over 90 years of manufacturing excellence
- Largest producer of brass rod in North America
  - From processing raw material through forging and fully machined component, Mueller provides a complete solution
  - Can provide completely machined product
  - State of the art Metallurgical Laboratory
  - TS 16949 certified facilities
- Six Sigma / Lean manufacturing

Services

Design Simulation

- Metal flow analyzed prior to tool building ensuring optimum part quality
- Analysis of stresses in tools prior to production means lower cost for the customer

Heat Treating

- Mueller has complete in-house heat treat capability for brass, bronze, and aluminum
- Hardening of bronze and stress relief annealing of brasses are available

Technical Services

- Complete metallurgical analysis performed on site Mueller has equipment to test tensile strength, hardness, spectroscopy, and a scanning electron microscope
- Certifications supplied upon request

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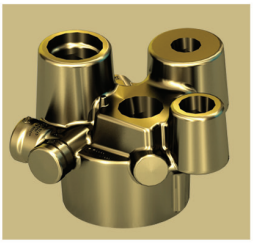
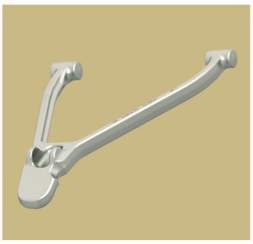
MUELLER FORGINGS





Current Material Forged

Alloy	Description	Comment
Brass and Bronze*		
2745	No Lead Plumbing Brass	Complies with AB-1953.
3700	Low Lead Forging Brass	Used for low leaded applications.
3770	Forging Brass	General forging use.
4850	Naval Brass High Leaded	Marine applications.
6420	Aluminum Silicon Bronze	High strength and corrosion resistant.
6731	Dynalloy Bronze Leaded	Heat treatable bearing bronze for wear application.
6735	Dynalloy Swash Plate	Used for automotive market.
6741	Dynalloy Bronze	Non heat treatable bearing bronze for wear application.
Aluminum*		
2014	Aluminum and Copper	Excellent mechanical properties. Heat treatable.
3003	Aluminum and Magnesium	Moderate strength. Non heat treatable. Brazeable applications.
4032	Aluminum and Silicon	High wearing properties.
6020	Aluminum and Tin	Suitable replacement for leaded aluminum alloys.
62 SN	Aluminum and Tin	Suitable replacement for leaded aluminum alloys.
6061	Aluminum with Silicon and Magnesium	Heat treatable and medium strength. Very versatile with many applications.
6063	Aluminum with Silicon and Magnesium	Heat treatable and medium strength. Brazeable applications.
6082	Aluminum with Silicon and Magnesium	Heat treatable and medium strength. Very versatile with many applications.
7075	Aluminum and Zinc	Heat treatable and very high strength. Applications for highly stressed parts.
A390	Aluminum with Silicon and Copper	Heat treatable. For highest strength applications.

*Other materials available. Please consult Mueller with any requests.

Mueller Forgings Services a Wide Variety of Markets

- Automotive
- Plumbing
- Welding
- ATV
- Refrigeration
- Fittings for Hydraulics
- Pneumatics
- Compressor
- Beverage
- Paint components
- Medical
- A/C
- Electrical
- Ordnance
- Alternative Fuel Valves
- Industrial Valves

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