



MATERIALS AVAILABLE IN THE COLLEGE OF ENGINEERING MACHINE SHOP

COLD ROLLED STEEL

ASTM-1018 stocked in common sizes from 1/8" to 2" thickness and 3/4", 1", 2", 4", 6", 10", and 12" widths. We are not able to stock all common sizes, and we do not have full lengths, i.e. 21 feet, in all of these sizes.

ASTM-1018 has good machinability, and is easily welded. The tensile strength is 85,000 psi, and the yield strength is 70,000 psi.

ASTM-12L-14 is generally stocked in round sizes from 1/8" to 6" diameters in 1/8" increments.

ASTM-12L14 is a leaded, free-machining carbon steel, this grade is not considered very weldable, (high sulphur content). The tensile strength is 78,000 psi, and the yield strength is 70,000 psi.

HOT ROLLED STEEL AND STRUCTURAL SHAPES

The College of Engineering Machine Shop stocks some hot rolled flats, rounds, plates, sheets, or structural shapes. Some of these materials are in stock as drop, clip, or leftovers from various projects.

Square and rectangular tubing is typically ASTM-500, tensile strength 45,000 psi and yield strength 39,000 psi. It may be mechanically joined or welded by commonly used techniques and practices.

The hot rolled flats and rounds are typically ASTM A-36, tensile strength 58/80,000 psi, and yield strength 36,000 psi. This material is used for general-purpose structural members that involve mild cold bending, mild hot forming, punching, and welding.

ALUMINUM

6061-T6 stocked in most of the common sizes as the cold rolled steel rounds, flats, and in plate. 6061-T6 has most of the good qualities of aluminum; it is machineable and weldable. Tensile strength is 45,000 psi and yield strength 40,000 psi.



UNIVERSITY
OF WYOMING

College of Engineering
and Applied Science
Machine Shop

EN Bldg Room # L65 - Dept. 3295 - (307) 766-4243 - www.uwyo.edu/ceas/shop/
1000 E. University Ave.
Laramie, WY 82071-2000

5052 Aluminum sheets are stocked in a limited quantity and gauges; this gauge has excellent cold forming workability and good welding characteristics. Tensile strength is 33,000 psi and yield strength is 28,000 psi.

MISCELLANEOUS

The Machine Shop has a limited stock of acrylics, polycarbonates, nylon, Delran, Teflon, and UHMW. There are some brass rounds in stock. A limited selection of plumbing fittings is also available. Hardware available includes nuts, bolts, washers, key stock, "O" rings, cotter keys, set screws, dowel pins, roll pins, machine screws/nuts, etc. Some sprockets and chain, an assortment of bearings, (flange, roller, pedestal, etc.) are available as are some drill stock material and some flat ground stock.

SUPPLIER

Steel and Aluminum

Valley Steel
Fort Collins
800 666 9473

EMJ

Denver
800 336 5365
www.emjmetals.com

McMaster Carr

Online
www.mcmaster.com

Speedy Metals

Online
www.speedymetals.com

Online Metals

Online
www.speedymetals.com

Miscellaneous Parts

The Machine Shop has a comprehensive catalog library in the shop, from manufactures and suppliers such as Swagelok. The Thomas Register is also a good reference.



College of Engineering
and Applied Science
Machine Shop

EN Bldg Room # L65 - Dept. 3295 – (307) 766-4243 - www.uwyo.edu/ceas/shop/
1000 E. University Ave.
Laramie, WY 82071-2000

MATERIALS ACQUISITION AND COST

Please, check with one of the shop personnel before using any materials in the shop inventory, since some of the inventory has been acquired for use in specific research or student projects.

For your cost estimations and since material prices are highly variable, Raw material prices will be charged at then-current rates + 20% markup (UW Reg) & shipping. Otherwise, customers are allowed to provide their own materials for the shop to build from.

Miscellaneous materials

Cost: Market Price from catalogs or quotes

Thank You,

Shop Personnel