BRASS, COPPER AND BRONZE ALLOYS

Properties, Specifications, Typical Uses

Here are typical uses of the most popular copper-base alloys.

SHEETS, ROLLS, STRIPS and CIRCLES

Made in a variety of widths, gauges and tempers—for stamping, deep drawing, forming, spinning and spring applications. Precise control of grain structure means economy in fabrication, with excellent finish and quality.

Copper Strip—For drawing, stamping, spinning; for leaders, gutters, flashing.

Low Brass, 80%—Light golden color, very ductile. For expansion bellows, flexible hose, clock dials.

Yellow Brass—Bright yellow color. For general drawing, stamping, forming and spinning—probably most versatile of all the brasses.

Commercial Bronze, 90%—Rich bronze color. Resists season cracking and corrosion from weathering. For weather strip, costume jewelry, screw shells, primer cups; electric fixtures for outdoor use.

Cartridge Brass, 70%—For small arms, shell cases; deep drawn and spun parts; eyelet machine products.

Red Brass, 85%—Fine golden color, very ductile. For vanities, jewelry, radiator cores, fire extinguishers.

Leaded Brasses—Flat, stiff, free-cutting brass for blanking; clock, watch, and instrument frames; wheels and so on. Also used for engraving purposes.

Phosphor Bronzes—Excellent for spring contacts, for electronic and mechanical devices, diaphragms, instruments. Good fatigue and wear resistance.

Copper Nickels—Give good corrosion resistance and retain their mechanical properties at higher temperatures than any of the other copper alloys. Highly suitable for support baffles or tube sheets in evaporators and heat exchangers of mechanical parts that must operate at elevated temperatures.

Nickel Silvers—Silvery white in color, and extremely ductile, these alloys are used as base for silver plated ware, costume jewelry and so on, where ductility as well as beauty is important. Higher corrosion and wear resistance makes them useful for fishing reels, marine applications, slide fasteners.

RODS, DRAWN SHAPES and BARS

Tellurium Copper—Offers excellent machinability without seriously compromising such desirable properties of pure copper as electrical and thermal conductivity and hot workability. Frequently used for soldering iron and welding tips and in current carrying electrical parts, which require difficult machining operations.

Free-Cutting Rod—Most versatile of many machinable alloys, high-speed, free-cutting brass rod permits fast screw machine operations without sacrifice of quality in the finished part and with minimum tool maintenance. Fills 90 percent of industry's need for machining rod.

Naval Brass Rod—Made to U.S. Government specifications for marine construction.

Aluminum Bronze—Malleability, strength and good corrosion resistance to liquids and gasses make this alloy good for bolts and screw products, and components for pole line hardware.

Copper Nickel—Excellent corrosion resistance to sea water and other liquids, highly resistant to stress corrosion cracking. Very malleable either hot or cold. Used for fasteners and many small parts.

Leaded Nickel Silver—Excellent machinability. Used in valves, valve trimmings and hardware fittings.