Copper

Copper is a chemical element with the symbol Cu and atomic number 29. It is a soft, malleable, and ductile metal with very high thermal and electrical conductivity. A freshly exposed surface of pure copper has a pinkish-orange color. Copper is used as a conductor of heat and electricity, as a building material, and as a constituent of various metal alloys, such as sterling silver used in jewelry, cupronickel used to make marine hardware and coins, and constantan used in strain gauges and thermocouples for temperature measurement.

Applications

Name	Nominal composition (percentages)	Hardness (Brinell scale)
Cupronickel (ASTM B111, B171)	**Cu** 88.35, Ni 10.0, Fe 1.25, Mn 0.4	–
"	"	–
Cupronickel	**Cu** 70.0, Ni 30.0	–
Ounce metal **Copper** alloy C83600 (also known as "Red brass" or "**composition** metal") (ASTM B62)	**Cu** 85.0, Zn 5.0, Pb 5.0, Sn 5.0	60

Copper fittings for soldered plumbing joints.The major applications of copper are electrical wire (60%), roofing and plumbing (20%), and industrial machinery (15%). Copper is used mostly as a pure metal, but when greater hardness is required, it is put into such alloys as brass and bronze (5% of total use)[22]For more than two centuries, copper paint has been used on boat hulls to control the growth of plants and shellfish.[98]A small part of the copper supply is used for nutritional supplements and fungicides in agriculture.[53][99] Machining of copper is possible, although alloys are preferred for good machinability in creating intricate parts.