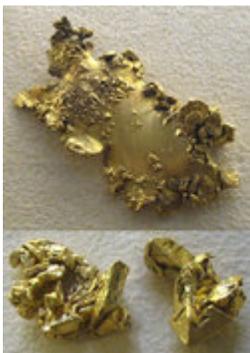


## **BOTM: March 2007**

### **Gold**



Pure gold is too soft for ordinary use and is typically hardened by alloying with silver, copper, or other metals. In various countries, gold, and its many alloys, are most often used in [jewelry](#), [coinage](#) and as a standard for [monetary](#) exchange. When sold in the form of jewelry, gold is measured in [carats](#) (k), with pure gold being designated as 24k. It is, however, more commonly sold in lower measurements of 22k, 18k, 14k and 10k. A lower "k" indicates that a higher percent of copper or silver in the alloy, with copper being the more commonly used metal. Fourteen carat gold-copper alloy is nearly identical in color to certain [bronze](#) alloys, and both may be used to produce police and other badges. Eighteen carat gold, with a high copper content, is found in some antique jewelry and has a distinct, though not dominant, copper cast, creating an attractively warm color. A similar carat weight, when alloyed with silvery metals, appears less warm in color. Some low carat white metal alloys are sold as "white gold" and are silver in appearance, but have a slightly more yellow cast. They are far more resistant to corrosion than are either pure [silver](#) or [sterling silver](#).

Carat weights of twenty and higher are more common in modern jewelry. Gold coins intended for circulation prior to the 1930's were typically 22k, for hardness. Modern collector/investment [bullion coins](#) (which do not require good mechanical wear properties) are typically 24k, although the [American Gold Eagle](#) continues to be made at 22k. Currently, the [Canadian Gold Maple Leaf](#) coin contains the highest purity gold of any popular bullion coin, at 99.99% (.9999 fine). Because of its high electrical conductivity and resistance to corrosion and other desirable combinations of physical and chemical properties, gold has emerged in the late 20th century as an essential industrial metal, particularly when used as a thin plating on [printed circuit board](#) contacts and electrical connectors.

Gold alloys are used in restorative dentistry, especially in tooth restorations, such as [crowns](#) and permanent [bridges](#). The gold alloys' slight malleability facilitates the creation of a superior molar mating surface with other teeth and produces results that are generally more satisfactory than those produced by the creation of porcelain crowns. The use of gold crowns in more prominent teeth such as incisors is favored in some cultures and discouraged in others.

More information: <http://en.wikipedia.org/wiki/Gold>