

it's naturally hypoallergenic and holds its white color better.

When platinum was declared a strategic government resource during World War II, many jewelry bands were made out of palladium. As recently as September 2001, palladium was more expensive than platinum and rarely used in jewelry also due to the technical obstacle of casting. However the casting problem has been resolved, and its use in jewelry has increased because of a large spike in the price of platinum and a drop in the price of palladium.

Prior to 2004, the principal use of palladium in jewelry was as an alloy in the manufacture of white gold jewelry, but, beginning early in 2004 when gold and platinum prices began to rise steeply, Chinese jewelers began fabricating significant volumes of palladium jewelry. Johnson Matthey estimated that in 2004, with the introduction of palladium jewelry in China, demand for palladium for jewelry fabrication was 920,000 ounces, or approximately 14% of the total palladium demand for 2004 - an increase of almost 700,000 ounces from the previous year. This growth continued during 2005, with estimated worldwide jewelry demand for palladium of about 1.4 million ounces, or almost 21% of net palladium supply, again with most of the demand centered in China. The popularity of Palladium jewelry is expected to grow in 2008 as the world's biggest producers embark on a joint marketing effort to promote Palladium jewelry worldwide

## **Platinum**

An element that is used in jewelry or as a catalyst in electronics.

Platinum is considered to be a precious metal.

## **History**

Platinum occurs naturally in the alluvial sands of various rivers, though there is little evidence of its use by ancient peoples. However, the metal was used by pre-Columbian Native Americans near modern-day

Esmeraldas, Ecuador to produce artifacts of a white gold-platinum alloy. The first European reference to platinum appears in 1557 in the writings of the Italian humanist Julius Caesar Scaliger as a description of an unknown noble metal found between Darién and Mexico, "which no fire nor any Spanish artifice has yet been able to liquefy.

In 1741, Charles Wood, a British metallurgist, found various samples of Columbian platinum in Jamaica, which he sent to William Brownrigg for further investigation. Antonio de Ulloa, also credited with the discovery of platinum, returned to Spain from the French Geodesic Mission in 1746 after having been there for eight years. His historical account of the expedition included a description of platinum as being neither separable nor calcinable. Ulloa also anticipated the discovery of platinum mines. After publishing the report in 1748, Ulloa did not continue to investigate the new metal. In 1758, he was sent to superintend mercury mining operations in Huancavelica.

Carl von Sickingen researched platinum extensively in 1772. He succeeded in making malleable platinum by alloying it with gold, dissolving the alloy in aqua regia, precipitating the platinum with ammonium chloride, igniting the ammonium chloroplatinate, and hammering the resulting finely-divided platinum to make it cohere. Franz Karl Achard made the first platinum crucible in 1784. He worked with the platinum by fusing it with arsenic, then later volatilizing the arsenic.

## **Properties**

Metallic chemical element, one of the transition elements, chemical symbol Pt, atomic number 78. A very heavy, silvery white precious metal, it is soft and ductile, with a high melting point (3,216 °F [1,769 °C]) and good resistance to corrosion and chemical attack. Small amounts of iridium are commonly added for a harder, stronger alloy that retains platinum's advantages. Platinum is found usually as alloys of 80-90% purity in placer deposits or more