



Cost Price Analysis of Rhodium Plating On White Gold

White Gold And Rhodium: White Gold is an alloy of Gold which is used quite widely in the modern jewellery industry. White Gold, as the name implies is gold that is white in colour. However this white color does not occur naturally since all pure gold is yellow in color. The white color is due to the alloying of gold with other metals which include silver, Palladium and Nickel. These metals are responsible for a bleaching effect which gives the alloy a white color. Gold is still the major alloying metal however so the alloy is referred to as white gold.

White Gold is significant because it overcomes some of the shortcomings of pure gold. Pure gold is quite soft and prone to wear and tear. Also it is quite expensive so alloying it with other metals reduces the cost as well as provides more durability for jewellery.

Rhodium is a precious metal which is prized for its durability, very high reflectivity and inertness to corrosive chemicals including acids. Its reflectivity allows it to look more shiny than other metals and is compared often with the shine of diamonds. For this reason it is popular for use in jewellery. However making jewelry from Rhodium itself is not feasible due to the material's brittleness and hardness that makes it difficult to work with it. Combined with the fact that Rhodium is one of the rarest metals on Earth and its price can reach up to 10 times more expensive than gold. This is the reason Rhodium is only used as a plating material for jewelry and is quite commonly plated upon white gold. Rhodium plating on white gold is also beneficial for people who have allergies to nickel which can be used as an alloying material so the Rhodium plating can protect the skin from contact with the



Nickel.

Cost of Rhodium Plating: Rhodium, as it has been established already is an expensive metal. The price of Rhodium undergoes wide fluctuation because it is not mined directly but is a byproduct of Platinum mining. Rhodium plating of a ring can cost around **25 to 100\$** depending on the size and shape of the ring. The price also depends on the thickness of the plating that is being done.



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Another factor that has an effect on the cost of Rhodium plating on white gold is the life of the plating after which it has to be re plated. Rhodium plating experiences gradual removal due to wear and tear and will eventually get worn off from jewelry, specially rings because they experience a lot of rubbing contact. The life of the Rhodium plating also depends on the body chemistry of the person wearing it. This is something that people don't consider normally, but the composition of the sweat and skin varies from person to person and can cause corrosion of the metal. This can cause the plating to wear off as quickly as 5 to 6 months however if properly cared for, the life of the plating can even be up to 2 or 3 years.