

## ALL ABOUT PRECIOUS METALS

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*What is a precious metal?*

Since time immemorial, precious metals have fascinated men and women with their beauty and singularity. But what is a *métal précieux*? It's a particularly rare metal, with high economic value and special characteristics. These include rhodium, platinum and palladium, ruthenium, osmium, iridium, gold or silver. They are also known as "the noble metals". Each metal is unique.

*Each metal is unique.*

## 1. PRECIOUS METALS

In this fact sheet, we will discuss only the two most common precious metals used in jewelry: Gold and Silver.

### GOLD

Although not the most expensive, gold is the most coveted precious metal. When pure, it contains 99.9% gold. This is known as 24K gold. It is considered unalterable, soft and malleable.

A gold jewel is made up of at least 75% pure gold. It is completed by silver, copper, palladium and zinc, which give strength and color to the final material. This is known as Or 18K or Or 750/1000. When it weighs 3 g or more, it must be marked with the eagle tipped dot.

This noble metal is widely used in jewelry. But to compensate for the scarcity of gold, more and more jewelry is being made from recycled gold.

### 925 SILVER

The silver has a minimum 92.5% pure silver content. It is called Silver 925 or Sterling Silver 925.

Since silver is very soft, it is complemented by 7.5% of other metals to make it suitable for jewelry-making.

When a silver jewel weighs 30 g or more, it is mandatory to see the poinçon "tête de minerve". The poinçon 925 is affixed to signify that it is indeed 925 silver.

As with gold, more and more jewelry is being made from recycled silver.



### LE VERMEIL

A vermeil jewel is a 925 silver jewel covered with a gold plating of a minimum thickness of 5 microns. Esthetically, it has the color of gold, but for a much more affordable price.

As it is considered a precious metal in its own right, it is subject to strict customs regulations. It must bear the poinçon d'État "V", the poinçon of the manufacturer or de poinçon of the importer as well as the poinçon "Tête de minerve".

## 2. VENEERING ON METAL

Plating on metal is carried out using the electrolytic technique, also known as galvanoplasty. This process consists of coating objects or jewelry with a thin layer of metal. Precious metals such as gold, silver or rhodium are most often used.

They are immersed in a bath containing metal particles, in which an electric current is circulated. The jewel, attached to a cathode, receives ions from the anode, which fix the chosen metal to its entire surface.

The principle of electrolysis creates an aesthetic effect. But it also forms a protective barrier for the base metal, to prevent oxidation of the jewel.

The quality of a jewelry plating is directly linked to two main factors:

- The choice of process depending on the basic material. For example, a zamak object will require intermediate copper plating before silver plating. This plating allows the silver to bond better to the jewel.
- The thickness of the plating: the thicker the layer of plating, the more it will resist wear and oxidation. Thickness is measured in microns ( $1\mu=1/1000$  mm). It is determined by the bath life.

### SILVER / SILVER PLATES

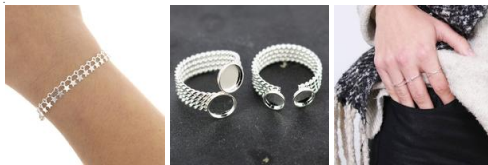
There are no warranty points identifying Plaqué Argent. Thus, the designations Métal Argenté, Plaqué Argent or Doublé Argent may mean the same thing.

Notwithstanding, there is general agreement on the following criteria:

Métal Silver Plating

- Métal argenté : Unless specified as "silver 925", "silver" or "argenté" costume jewelry is composed of a silver-colored metal.

- Plaqué argent : This is a common metal covered with a fine silver plating. French legislation requires a minimum silver plating thickness of 10 microns to qualify as a silver plating



### PLAQUÉ DORÉ / DORÉ

There are no warranty points for Plaqué Or. A distinction is made between the following criteria:

- Métal doré : unless stated "gold-plated", "doré" or "métal doré" costume jewelry is composed of a gold-colored metal:

- 24K fine gold or "flash gold": This is a base of metal covered with a fine plating of pure gold. Its thickness is between 0.3 and 1 micron.

- Gold plating: French legislation requires a minimum thickness of 3 microns of gold, applied to a metal such as silver or brass, to recognize the title of gold plating.

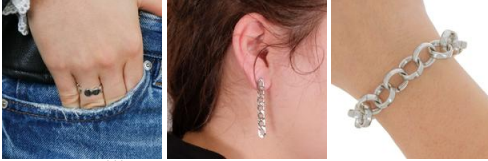


### PLAQUÉ RHODIUM / RHODIÉ

The Plaqué Rhodium is differentiated from the métal Rhodié:

- Plated rhodium: with its high hardness, rhodium offers good protection against wear and oxidation. A coating of between 0.7 and 1 micron is sufficient. Nevertheless, its cost is higher than that of silver plating.

- Métal rhodié: Rhodium-plated jewelry is plated with an alloy the color of Rhodium, but generally contains no Rhodium.



### GOLD FILLED - Gold laminate / SILVER FILLED

The Gold Filled is the treatment of a metal (often based on brass) consisting of the mechanical application of a layer of gold alloy of varying titration. The weight of gold alloy corresponds to 1/20 of the total weight of the product. Gold-filled is a recyclable material.

What are the differences between gold-filled and gold-plated? Read our article Gold Filled Vs Plated: Gold.

The Silver Filled involves the same process as for Gold-Filled (rolled gold). But this time, pure Silver is used.



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