

## NATURAL STONE VS IMITATION GEMSTONE

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Gemstones, whether precious or not, have always fascinated and bewitched men and women. We love their incredible variety of colors, their brilliance, their transparency, and sometimes even the mystical side that can be attributed to them. They are a must in the world of DIY costume jewelry.

But the search for the perfect stone with beautiful colors, no inclusions, no flaws... is increasingly rare.

Demand has long since outstripped the earth's capacity to supply it. The solution that jewelers have found is to treat the stones to fulfill a dream of the perfect stone, or as close to it as possible. The vast majority of stones on the market are therefore treated either to improve their color or to increase their durability. To achieve the desired effect, several treatments are sometimes even combined.

However, there are treatments and treatments... Some methods are widely practised and accepted by the profession, and are not specified at the time of sale. For others, the customer must be clearly informed.

That's why at Perles & co, some of our products are labelled "imitation gemstone".

How do I find out? Here's a technical sheet to help you.

### *Natural gemstones*

In the past, they were called "semi-precious stones" or "gemstones". For a very long time, they have been highly appreciated and used in jewelry. At Perles & co, we offer a wide range of natural gemstones. We like to wear them as bracelets, necklaces or earrings. Different processes are used to enhance them even more:

#### **1 - Heated stones**

Heat treatment is one of the most common processes used by jewelers since the dawn of time. This enhancement method is considered natural. Although the embers of yesteryear have been replaced by thermal furnaces, the technique has not changed. It involves heating stones, sometimes up to 1800°C, to enhance their appearance in a variety of ways, but without using any treatments.

What are the advantages of a heated stone?

- Enhance the quality of their color: change it, even it out, lighten it, intensify it or eliminate a shade.
  - Remove inclusions and attenuate the presence of elements that detract from the stone's purity.
  - Make inclusions appear and create asterism (star effect) or shimmer.
- This treatment is difficult to detect with the naked eye because it is similar to natural processes. There are many examples of its use:
- Aquamarine: to eliminate yellow tones.
  - Tourmaline: to lighten very dark greens and blues.
  - Amethyst: to lighten color. Citrine color is the result of heating pale amethyst. By heating amethyst, a green color can also be obtained, in which case it is called prasiolite.
  - Quartz is sensitive and changes color under the action of heat.
  - Kunzite: for color enhancement.
  - Grey or brown agate: to enhance color. An attractive orange-red color is obtained, like that of carnelian.
  - Yellow or brown tiger's eye: to turn it red. It is then called bull's eye.

#### **2 - Tinted stones**

As the name suggests, natural stones are tinted with colorants to make the color more uniform, enhance it or offer a wider range.

This is the case for most agates (except blue lace agate, which is natural). Jadeite can be colored to obtain different shades of green, including the vivid green of imperial jade. Turquoise can be tinted to enhance or even out its color. Howlite is often tinted.

#### **3 - Stabilized stones**

Impregnation is used to improve the appearance or durability of a stone weakened by cracks, cavities or a porous surface.

The stone block is soaked in a colorless synthetic resin solution under pressure. The resin fills microcracks and cavities, stabilizing and solidifying the stone.

This is a widespread treatment that can be applied to many natural stones. Turquoise, for example, is extremely porous and is almost always treated using this technique, so that it can be worked without breaking.

#### **4 - Treated stones**

In this case, the color of the stone is modified by chemical treatment. The yellow tiger's eye is soaked in an acid bath for a long period to reduce the brown color and make it more yellow.

#### **5 - Stones treated with irradiation**

This treatment is used to modify or enhance the color of certain gemstones. It involves a process that exposes the gemstone to ionizing radiation, such as gamma rays or high-energy accelerated electrons. This process alters the gem's crystalline structure, creating color centers that change its hue.

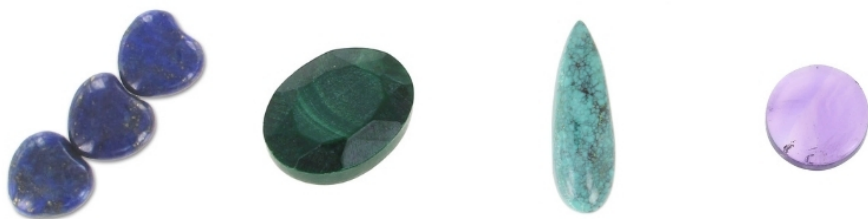
Rock crystal (colorless quartz) becomes smoky quartz through irradiation.

Not all gem types react in the same way to irradiation, and some are not suitable for this treatment. The stability of the resulting color may vary according to the gem and the type of irradiation used.

Some stones may retain their new color permanently, while others may fade over time or if exposed to specific environmental conditions.

#### **6 - Bleached stones**

Bleaching is a technique used to lighten a stone or, in the case of freshwater pearls, to whiten it. It can also be used to remove color from a gem using a chemical product or bleaching agent, and then tint it to the desired color. This is the case with jade.



### *Imitation gemstones*

As the name suggests, these stones imitate the appearance of a gemstone. They are entirely man-made, and have the same visual appearance as a natural stone.

There are different manufacturing processes:

• Reconstituted stones:

These are often made from a mixture of resin, glass or plastic. For some stones, the bases are then mixed with powder (natural stone residue) and colorants to stabilize the color, such as turquoise.

• Hydro fabrication:

Hydro is a manufacturing process that reproduces hard stones using a mixture of powder from the stone family and tinted glass. The stone retains its color and does not break.

• Imitations made exclusively from resin or glass:

These imitations are made exclusively of resin or glass mixed with colorants.

These three processes create a raw material that can then be cut like any other gemstone block to make cabochons, beads, pendants, charms, etc.



Natural gemstones or imitation gemstones... The choice is yours!

Result