

# Ruby: The Royal Gemstone

Next to diamonds, rubies are one of the most important gemstones in the world. Since ancient times, ruby has been perceived as the “king of gems”. Its red aura is a symbol of passion and power; it is also a perfect talisman that maintains love and friendship and is the birth stone for the month of July.



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Rubies belong to the corundum family. The corundum species is used to describe all gemstones consisting of the chemical composition Al<sub>2</sub>O<sub>3</sub>. Corundum comes in a wide variety of colors and when the color is predominantly red it is termed as a ruby. All the other shades and colors are classified as sapphires.

The most desirable color for ruby is deep, pure, vivid red; also generally known as pigeon's blood. Stones with deep pinkish red, orange red, purplish red and brownish red are also considered ruby. However, gem and jewellery professionals should make careful distinction between ruby color with pink and purple sapphires.



When one is buying rubies one should look out for vibrant red rubies, although rubies may show a more pinkish or slightly violetish red color. Rubies look best

when viewed under incandescent or day light, particularly around mid-day. Saturation is also an important factor: the more intense the saturation, the more vivid the stone. Lighter toned stones may look like pink sapphires. Stones which are too dark should be avoided.

Rubies are mined in various locations around the world, in places like Myanmar, Thailand, Cambodia, Vietnam, Madagascar, Kenya, Tanzania, Sri Lanka, United States, Australia, China, Afghanistan and Pakistan. A factor that

greatly influences pricing is the practice of origin preference. A certified Burmese ruby, specifically one originating from Mogok, carries a significant price premium and is much easier to sell than other varieties.

A rough guide to the most desirable ruby sources is as follows, in decreasing order of importance: Burma, Sri Lanka, Vietnam, Thailand and Africa. However, it must be noted that this scale is very subjective, as a transparent ruby with an even deep red color from Thailand could cost more than a translucent uneven colored stone from Burma. The origin determination of these gemstones is done based on inclusions, spectrographic features, fluorescence and color and is best left to a well equipped gemological laboratory.



Often, inclusions are the key to identification, but they may also affect the stone's transparency, brilliance and value.

In terms of cut, ruby is one of the most poorly-proportioned stones, mainly due to the scarcity of the rough material and size and shape of the rough. Not many people are aware how scarce ruby really is. Common cutting styles for rubies include mixed cut, oval or antique cushion for transparent material and cabochons or beads for translucent and opaque stones.

Rubies sometimes show a star-like phenomenon known as the “Asterism Effect”; such rubies are termed as Star Rubies. The finest Star Rubies from Burma show a glassy body: they have a fine transparency with just enough silk to show a good Star. Such stones fetch high prices. Remember this: if the color is rich, you can still have an expensive stone, even with a poor star, but you cannot have a high value stone with poor color, no matter what

the quality of the star.

Rubies are durable with good stability. Hardness on the Moh's scale is 9, and toughness is usually excellent. However, stones with certain treatments or large fractures can be less durable. For reasonably clean stones, no special wear or care precautions are necessary. However, always avoid contact with strong chemicals. The best way of cleaning your Ruby is with warm soapy water and a soft brush.



Almost all rubies are treated. The level of treatment can vary considerably and impacts the price. The most accepted and prevalent treatment is heat treatment. Heat treatment is performed to improve color. Surface diffusion and irradiation treatment also improve color. Fracture filling may improve color or clarity. Impregnation with oils, waxes or dyes may reduce the visibility of fractures and other imperfections. It should be noted that not all rubies react favorably to treatment. Only certain types have the potential for color and clarity enhancement.

The best way to detect treatments is to observe changes to inclusions using a high magnification power microscope along with different lighting and immersion techniques. In the recent past, spectrographic studies have proved invaluable in confirming the presence of treatment in Rubies.

Additionally, rubies have been synthesized in laboratories for many years, but only in the recent past have they become readily available in global markets. These synthetics come in a range of beautiful colors and are available in large sizes. However, their value will always be much lower than the equivalent natural ruby due to the fact that there is no rarity factor attached to these man-made stones. These synthetics predominantly show internal inclusions that are completely different from a natural stone. However, there are several manufacturing techniques which create rubies with inclusions that are nearly identical to natural rubies.

Experienced gemologists equipped with the latest spectrographic equipment will be able to differentiate between the two.

There are a lot of other gemstones available on the market which imitate rubies; these are known as simulants. They include red varieties of spinel, garnet, tourmaline, beryl and glass. Synthetics and simulants are priced much lower than natural ruby. In order for consumers to safeguard themselves, certification from an independent well-equipped gemological laboratory is a prerequisite to buying with confidence.

As gemstones often represent a significant investment, consumers should always insist on an internationally recognized certificate. IGI has been at the forefront of gemstone identification and diamond certification since 1975. Every state-of-the-art IGI Laboratory around the world is equipped with the latest gemological equipment for gemstone identification and diamond testing. IGI also specializes in origin determination for gemstones. IGI's highly trained and experienced gemologists ensure that the gemstone trade and end consumers can purchase colored stones with absolute confidence.



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