

SAPPHIRE

One of the best known and most popular gemstones, sapphire is a hard durable stone with a long history. It is mentioned in the Old Testament as one of the twelve stones in the breastplate of the Jewish high priest and in the Book of Revelation as one of the foundation stones of the New Jerusalem. It is found in the ruins of many ancient cultures and in the collections of today's celebrities proving its status as a favorite of the rich and powerful for thousands of years.

Sapphire and ruby are essentially the same mineral: corundum. Sapphires can be virtually any color—except red, which is reserved for ruby. The difference is a minute chemical change with chromium causing red and iron and/or titanium causing the blue shades. Mixtures with other elements such as vanadium cause yellows, greens and other hues. They can range from colorless (white) to black with almost every shade between. The high refractive index (measurement of the amount light bends as it passes through the stone) and the hardness of 9 on the Mohs scale are foundations of the famous sapphire sparkle. Since they have no cleavage, they are difficult to fracture which places them among the toughest gemstones.

Sapphires, like many other gems, are often heated even before they are cut to improve their color and clarity. Some treatments darken or even out their color with a glass-like material sometimes used to fill voids. A more commonly seen enhancement, diffusion treatment, is a baking of sapphire in a clay mixture containing certain minerals which cause a thin layer of a deeper blue color to coat the surface of the stone. Rough handling can remove this layer so this may not work well for sapphires mounted in bracelets and rings, which receive the most wear. Sapphires are a Type II gemstone meaning that most of the species has visible inclusions. Color zoning consisting of parallel straight growth lines (which are sometimes bent 60 degrees) may be visible but these are proof of natural origin. Curved color bands or complete lack of inclusions are characteristic of man-made sapphires.

Star sapphires are an unusual stone generally showing a whitish six-rayed star that moves over the surface of the domed (cabochon cut) stone. Sapphires selected to be cut this way have thousands of fibrous inclusions which cause light to break up into the star pattern known as asterism. The three rays are said to represent "faith, hope and love."

There are many sources for sapphire including Australia, Thailand, Vietnam, Myanmar (Burma), Cambodia, Sri Lanka (Ceylon) and Montana. Each region has a reputation for particular colors and qualities which are commonly used as trade names such as Ceylon (or cornflower blue) with a slightly grayish violetish blue and Kashmir which has a velvety medium to dark color. The use of geographic names does not establish the origin of the gems which leads to much confusion for the retailer and consumer alike. Since these terms have often been misused it is better to use the color nomenclature system developed by the Gemological Institute of America.

This stone requires no special care because of its hardness so it can be cleaned with commercial jewelry cleaners or with ammonia and water; ultrasonic cleaners or steamers are usually safe, except for some treated stones. A toothbrush can be used to remove debris under the mountings.

Sapphire is the traditional stone for the 5th and 45th wedding anniversaries and blue sapphire is the birthstone for September.

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