

# CHALCEDONY:

## A COMMON YET DIVERSE GEMSTONE.

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Various colors and patterns of chalcedony have been popular gemstones for thousands of years. Chalcedony is microcrystalline quartz and includes many varieties based on their color, pattern and phenomenon. It is commonly found in almost every country and is one of the more affordable gemstones. It is tough, making it a perfect material for carving. Chalcedony is often finished as beads but better grade material is generally cabochon or custom cut. Since it may form in large nodules or even blocks, carved objects such as small figurines or bowls and boxes are frequently seen. There are rarer varieties of chalcedony, i.e., chrysoprase that command higher price points than typically seen for chalcedony. These varieties are particularly popular with designers and collectors. Untreated blue chalcedony, purple chalcedony, various green chalcedonies ranging from chrysoprase to apache blue are the most popular. Much rarer examples such as iris or fire agates always find their way into collections.

There are a number of interesting traits known about chalcedony, some of which are not often understood. It is probably one of the oldest gems used prehistorically, mostly in bead form. Beads of extensive sizes, colors, and patterns of chalcedony are still a very popular choice within the gem trade at almost all levels. But unfortunately, still today, many of these beads are produced by basic methods, since the focus is on obtaining the lowest labor cost per unit possible. As a result, they are fashioned by dry cutting and polishing which create dangerously dusty environments for the cutters. This situation causes



*19th century gold and chalcedony intaglio bracelet. Courtesy of Sotheby's.*

the prevalence of otherwise avoidable silicosis fatalities that we have all heard so much about in recent years. The situation has gained more attention from trade groups, especially in the Fair Trade and Ethical Sourcing space, but so far, efforts to eliminate this hazard have come up short. One needs to be conscious of the origin of very inexpensive beads and their production, if they are supporting the responsible jewelry movement.



*Agate Lily by Patrick Dreher. Courtesy of Pala International. Photo by Mia Dixon.*

The other important aspect of chalcedony is that most varieties are treatable with very low-cost methods such as dyeing, quench crackling, heating, and coating. Almost all black onyx in the market is dyed low grade chalcedony and obvious unnatural colors like bright pinks and blues in banded agate are



16.02ct blue chalcedony set in 18K white gold with accent diamonds. Courtesy of Philip Zahm Designs.

abound. Popularity and higher price points of chryso-prase and blue chalcedony are compelling reasons for light gray colored material to be dyed in green and blue. Heating of chalcedony is not widely publicized but it is certainly one of the oldest methods to create browns and yellows for banded agates, carnelian, and sard onyx, known for thousands of years.

Similarly, quench crackling is an old method to permanently dye low grade plain chalcedony in bright reds and greens to imitate ruby and emerald, a practice going back to Ancient Egypt. Coating is more of a modern technique, most probably inspired by foil backing. Iridescent (mainly via gold or titanium plating) and diversely colored coatings are applied to the surface of the cut stones to make them more attractive. However, the potential for treatment of chalcedony should not discourage interest in the array of attractive varieties, many of which are natural, available in the market today. Gemologists generally can detect such treatments since they are easily detectable via magnification.

Pricing of chalcedony varies greatly. While small, calibrated cabochons are sold at very low-price points, the unusual and rare ones are priced individually, especially if they are custom cuts. Beads can sell from a few cents to hundreds of dollars depending on size and variety. Once they are carved as figurines, the artist would set the mark for the work rather than the material. ♦

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