

## Diamond or Cubic Zirconia: Knowing the difference can save you money!

So what is the difference between diamond and cubic zirconia? Why is cubic zirconia (CZ) quickly becoming more popular as a desirable substitute for diamond? Gemologists can agree that CZ comes closer than any other gem material to matching the characteristics of a diamond.

Most people, even trained gemologists, cannot tell the difference between diamond and CZ, with the naked eye. Moreover, to the untrained eye, CZ looks identical to a good quality diamond. However, under closer inspection, CZ appears to have slightly less brilliance (or sparkle) than a diamond, and more fire, or flashes of color.

CZs were originally developed by the Russians, for their space program. They were developed as an alternative to diamonds that were used in the optics of their lasers. CZs have a refractive index, dispersion and hardness so close to a diamond it's uncanny.

So what are some key features that can guide you in telling the difference between diamond and CZ? Do keep in mind, though, in order to accurately distinguish the two gems, gemological equipment such as microscope, or loupe, must be used for testing and verification.

To start, let's take a look at the hardness factor: Did you know CZ ranges between 8.5 to 9.0 on the Mohs?hardness scale whereas diamond, one of the hardest materials known to man, is rated 10, lying at the top of the hardness scale?

Furthermore, glass (or sand) is rated approximately 5 to 6 on the hardness scale, therefore, dust and dirt will not scratch CZ. Indeed, CZ can scratch glass just like regular diamonds, making it more resistant to chipping.

One great difference between diamond and CZ is weight. CZs are heavyweights in comparison to diamonds; a CZ will weigh approximately 1.75 times more than a diamond of equivalent size. So basically, a piece of CZ the same size as a one-carat diamond weighs about 1.75 carats. Well...isn't that interesting?

Contemporary production of CZ is virtually flawless, whereas diamond usually contains impurities and inclusions, or have some sort of defect, be it a feather, included crystal, or perhaps a remnant of an original crystal face (e.g. trigons).

In regards to color—more precisely, the lack of color—only the rarest of diamonds are truly colorless, as most have a tinge of yellow or brown to some extent. By comparison, CZ in most cases can be made entirely colorless, equivalent to a perfect &quot;D&quot; on diamond's color grading scale.

Also, under close inspection with a loupe, the facet shapes of some CZs appear different from diamonds. Both gems disperse light a little differently. Dispersion is just a scientific term for the breaking up of light into its spectral colors. With a dispersive power greater than diamond (0.060 vs. 0.044), the more prismatic fire of CZ can be seen by even an untrained eye.

Dispersion occurs based on the gem's refractive index. In this case, refractive index simply indicates how much a beam of light will bend, based on the direction in which it is traveling when it passes between two materials of different optical densities (such as between diamond and air; or between CZ and air). Being that CZ has a refractive index of 2.176, compared to a diamond's 2.417, diamonds are therefore said to be brighter than CZ.

Another difference between the two gems is that CZs are thermal insulators—meaning, they reduce the rate of heat transfer—whilst diamonds are among the most efficient thermal conductors—meaning, they allow heat to easily pass through them. Without testing the gems'heat conductivity, it can be difficult to tell them apart.

Remember, it is a 50/50 guess to identify a gem by visual inspection; it is not a scientific method of authentication. That is why even certified and degreed gemologists use gemological equipment for testing and verification.

You will also be glad to know that CZs are not only durable and inexpensive, but just like diamonds, they come in any color of the rainbow, making them even more desirable.

There have been many instances to see if jewelers can tell the difference between diamond and cubic zirconia, just by examining the gems with the naked eye. Over and over again, it was inconclusive; jewelers could not tell the difference just by looking at the gems. So you can now understand why the difference between diamond and cubic zirconia rests in the price, and in the mind.

## About the Author

Penny Best provides you with fine cubic zirconia jewelry and timeless designs, at an affordable price. The online store at [www.pennybest.com](http://www.pennybest.com) offers you top quality cz jewelry including beautiful rings, earrings, stunning necklaces, dazzling bracelets, bridal sets, free shipping and free jewelry box.

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