

**Diamond!** The mere mention of the word brings centuries of folklore, stories, and sometimes inaccurate claims. For example, because of the scarcity of discovery and their celestial appearance, ancient Greeks and Romans believed these sparkling rarities to be the splinters from falling stars or the tears of gods that had fallen to earth.

For centuries, this gem's beauty has been sought and admired. Some historians estimate diamonds were being traded as far back as 4BC. Their exceptional beauty and rarity quickly helped spread their popularity through European and Asian royalty as symbols of power and wealth. Then, in 1477, the first diamond engagement ring was given, thereby bestowing the diamond with its tie to commitment and love.

Throughout history, a diamond's unique beauty and intrinsic value have endowed this gem with rich symbolic meaning and a deep emotional legacy unlike any other gem known to man. A diamond has become the most emotionally charged gift that life partners exchange to express their love and ongoing commitment. It can also be the most rewarding self purchase a person can make.

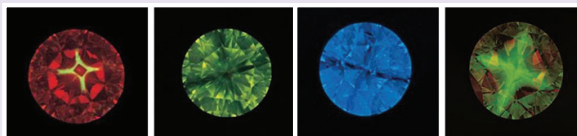
Today, via science, we understand and can verify the origin of diamonds. We know their chemical composition, and atomic structure, and where they are most likely to be found on earth. And, like all other things in our lives, science can now replicate them in a lab.

As a person buying a diamond, it can be a very confusing journey because there is a lot of information available, and it is hard to know what is accurate. So, we are providing this information to help you navigate as you select a diamond, possibly one of the most important purchases you will ever make.

## Detection and Screening:

Natural diamonds and lab-grown diamonds share similar chemical, optical and physical properties. However, the inherent differences are in their growth environments at the atomic level, as well as at the microscopic levels. Sophisticated equipment has been developed to test stones of any size or shape, whether they are loose or mounted into jewelry.

With proper screening and testing, whether natural or lab-grown, the origin of a diamond can be determined with 100% certainty.



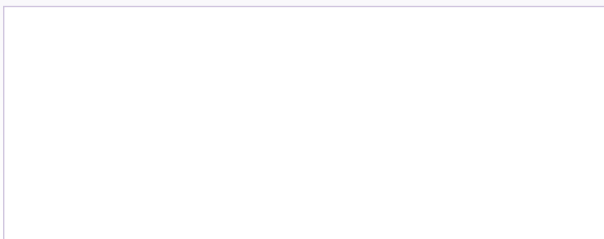
*Various colors and fluorescence indicating diamond origin.*

To ensure that diamonds from various origins are not mixed, the diamond industry has developed a variety of clear stringent processes. These processes include separate manufacturing facilities, tamper-proof packaging, item coding systems, sophisticated testing systems, as well as third-party laboratory grading. These steps ensure that natural and lab-grown diamonds are differentiated throughout the entire supply chain, from cutting and polishing, to jewelry manufacturing and all the way to the retail store and then to you, the consumer.

## Your Assurance:

With the multiple quality assurance processes established throughout the industry, you can buy an accurately identified natural or lab-grown diamond, with total confidence, from a responsible jeweler.

Whichever your particular choice, a natural diamond or a lab-grown diamond, be assured that you are purchasing a gem of momentous beauty and unmatched durability that carries with it a rich history of emotional symbolism and time-honored heritage.



## “A Tale of Two Diamonds”



Buying a Diamond?  
Here's what you should know!

## Natural Diamonds:

It is estimated that most natural diamonds are approximately 1 billion to 3.5 billion years old. Carbon, the core element of a diamond, is crystallized under temperatures of over 1,600 degrees Fahrenheit with pressure of over 650,000 pounds per square inch. The crystallization happens at depths of approximately 90 miles below the earth's surface and the crystals are then carried to the surface by volcanic eruptions. If not carried to the surface quickly enough, a diamond crystal may end up becoming just mere graphite.

These conditions of formation are rare and specific. The geology has to be just right, illustrating the relative rarity of a diamond. And, although natural diamonds are mined in various locations around the globe, the exact circumstances for their crystallization and the rare pipe-like kimberlite formations that transport them toward to the earth's surface need to exist. Further contributing to their rarity and value is the reality that there is only a finite number of natural diamonds on the planet.



## Lab-Grown Diamonds:

A lab-grown diamond is a diamond, possessing all of the same optical, physical and chemical properties of its below the earth counterpart. However, the circumstance for a lab-grown diamond's crystallization is a created process. This diamond uses present-day technology that replicates a natural diamond's growing process in weeks. Although diamonds have been able to be grown in a lab since the mid-to-late 1900's, the higher gem-quality diamonds used in finished jewelry have only recently been commercially available. Currently, there are two processes used to create lab-grown diamonds: Chemical Vapor Deposition (CVD) and High Pressure/High Temperature (HPHT).

CVD diamonds start out as a small diamond piece, or "seed", that is sealed into a heated chamber. The heated chamber is then flooded with carbon-rich gases that are "ionized," breaking the molecular bonds and causing the carbon to be attracted and adhered to the "seed", crystallizing as a diamond.

HPHT diamonds also start with the use of a small diamond "seed" but by a process which creates an environment of extremely high pressure and high temperature. The "seed" is placed into a carbon-rich environment and then subjected to temperatures of approximately 2,700 degrees Fahrenheit and pressure of approximately 1.5 million pounds per square inch. The carbon melts and then forms a diamond crystal around the "seed".



## Cutting, Polishing & Grading of a Diamond:

No matter the origin of a diamond, earth-mined or lab-grown, the optical, chemical and physical properties are the same. Both measure a "10" on the MOHS hardness scale, making them the hardest gem on the planet, and the perfect emotional symbol of longevity and durability. Whether mined or grown, a diamond crystal is cut and polished taking an identical path and using the same tools and techniques.

When it comes to "the 4 C's" (cut, color, clarity, and carat weight), both earth-mined and lab-grown diamonds are graded in the same manner using the exact same criteria. It may be surprising for some, but, because lab-grown diamonds are grown, just like earth-mined diamonds, both are crystallized, their color can vary, and they can have flaws and inclusions affecting color and clarity grade.

