Treatments, Synthetics, and Simulants
Treatments, Synthetics, and Simulants

In This Lesson:
• A Bumpy Marriage
• Basic Distinctions
• Diamond Treatments
• Synthetic Diamonds
• Diamond Simulants
• Representation and Disclosure
• Testing and Identification
• Problems and Potentials

A BUMPY MARRIAGE

Like many areas of modern life, jewelry retailing is affected by the marriage of nature and technology. It’s sometimes a bumpy marriage, but it’s here to stay. Treated diamonds, synthetic diamonds, and diamond simulants are good examples. They’re among the increasingly diverse products that you may encounter in your work. They cause controversy within our industry and pose very real challenges in our day-to-day interactions. At the same time, they can provide benefits for consumers while creating opportunities for your firm and you, too. All of this makes learning to recognize and explain them essential to your development as a jewelry professional.

In the diamond industry there’s genuine concern about treatments, synthetics, and simulants. Most of it comes from the fear that these products will harm consumer confidence in natural diamonds. So far the fear has been unfounded. There’s also no reason to expect serious trouble in the future, even though artificial processes and products are growing in variety, complexity, and availability. As a result, every professional needs to stay alert and keep his or her knowledge up-to-date.

It’s likely that specific concerns or issues have already arisen in your store. If you sell these products, how can you present them ethically and effectively? If you don’t offer them, what should you say to customers who ask about them? In any event, how do you avoid problems from misidentification or deception?
Despite the difficulties surrounding them, treatments, synthetics, and simulants do play a positive role in today’s marketplace. For consumers, they expand the choices for beauty and value. To retailers they offer possibilities for increased sales. Perhaps most importantly, they can help jewelers build trust with their customers.

In this lesson you’ll examine diamond treatments, synthetics, and simulants – products of nature and technology’s bumpy marriage. You’ll also find answers to important questions they raise.

Lesson Objectives

When you have successfully completed this lesson you will be able to:

- Accurately define the terms, ‘treatment’, ‘synthetic’, and ‘simulant’.
- Describe diamond treatments and their effects.
- Answer questions about synthetic diamonds and simulants.
- Follow ethical guidelines for representation and disclosure.
- Explain how artificial processes and products can be identified.
- Understand how these processes and products fit into fine jewelry retailing.
BASIC DISTINCTIONS

Treated diamonds, synthetic diamonds, and diamond simulants are all different products that are often confused by consumers. As a professional, you need to be able to explain the basic distinctions clearly and to provide the best information to suit the customer’s needs.

Here are three simple definitions that you can share with customers:

- **Treated diamond** – A diamond that formed naturally, but underwent a laboratory process to improve its appearance.

- **Synthetic diamond** – A diamond that was made in a laboratory. It has essentially the same composition, structure, and properties as a natural diamond, but was produced by technological means.

- **Diamond simulant** – A diamond look-alike. Diamond simulants are NOT diamonds. They just resemble diamonds. Other terms that mean the same thing are diamond imitation, imitation diamond, and simulated diamond.

Now let’s take a closer look at each type of product.

DIAMOND TREATMENTS

Experts estimate that 3/4 of all gems are now being treated in one way or another. Many colored gemstones often undergo treatment as a matter of routine processing. These include amethyst, aquamarine, emerald, opal, ruby, sapphire, tanzanite, topaz, tourmaline, and cultured pearls. Many different processes are used on colored gems, and some are centuries old. (In The Colored Gemstones Course you’ll learn more about them).

Most diamond treatments have been developed within the last 50 years. They’re less prevalent than those for colored gems, but they are becoming more widespread, varied, and sophisticated.

Diamond treatments can affect clarity or color. Only a few basic processes are used on a commercial scale. They can be performed in various ways, though, and these variations affect the final results. A diamond can also be given more than one treatment.
Clarity Treatments

- **Laser drilling** – Laser drilling lightens dark inclusions. To accomplish this, a high-power laser usually burns a tiny channel into the diamond to reach the inclusion. Then a strong acid is injected to bleach it. The treatment leaves a very tiny laser drill hole which is generally invisible to the naked eye. Although the drill hole becomes an added inclusion, the process improves the diamond’s overall appearance.

In one variation of this treatment, pulsed lasers are focused on a shallow inclusion. The resulting heat makes the inclusion expand. This creates enough internal pressure to cause a break that extends from the inclusion to the diamond’s surface. In another variation, several laser channels are drilled beside each other. This makes an irregular groove that reaches the inclusion. In either case, acid is still used to bleach the inclusion. Both techniques leave microscopic traces that resemble natural clarity characteristics. Their purpose is to disguise the treatment, but occasionally, they can make a diamond less attractive than it would have been with standard lasering.

- **Fracture filling** – This treatment makes fractures and cleavages less visible. If a break reaches the diamond’s surface, it can be filled with a glass-like material. The filler resembles diamond in transparency, color, and other properties. The treatment is often performed in a vacuum chamber, so the glass material will fill the break completely. As a result, the break may almost seem to disappear. Occasionally a laser channel is drilled to an enclosed break and the filler is injected. This conceals both the break and the drill hole.

Laser drilling began in the 1970s, and fracture filling followed in the 1980s. Today both treatments are common. They’re considered ethical, as long as they’re disclosed to the customer. As a matter of significant difference, laser drilling is a permanent treatment, while fracture filling may not be. (There’s more about permanence in the “Representation and Disclosure” section below.)
Treatments, Synthetics, and Simulants

The effects of fracture filling are regarded as cosmetic. The diamond’s clarity may appear to improve as much as two grades. Its color may appear to improve as well because of the improved transparency that results from the clear filling. The break is still present, though, so the true quality remains the same. Without removing the treatment, there’s no way to grade the diamond accurately. For this reason, many trade laboratories won’t issue quality reports on fracture-filled diamonds. (Lesson 13 has more about trade laboratories and the services they provide.)

Color Treatments

• Irradiation – Irradiation most often creates fancy color in light yellow or brown diamonds. It can also deepen or intensify other natural colors. There are several irradiation techniques, and they’re often combined with controlled heating. (The heating part of the process is called annealing.) The resulting colors include most of those seen in natural diamonds – various shades of yellow, brown, blue, pink, red, green, and orange. Some black diamonds are irradiated, too. Most of these, however, are very dark green and not true black.

A treatment that’s related to irradiation is known as ion implantation. It places boron atoms just beneath the diamond’s surface, producing colors that range from blue to black. (This technique came from the computer industry, where it’s widely used to make computer chips with special properties.)

The first irradiation experiments occurred in the early 1900s when researchers buried diamonds in radioactive chemicals. The diamonds turned green, and also became dangerously radioactive. Understandably, that procedure was soon abandoned. Only a small number of diamonds were treated in this way, and most of them are now stored in lead-lined containers. They must remain there for several hundred years before they’ll be safe to wear.
Current irradiation techniques date from the 1970s. Treatment occurs in nuclear reactors or the machines known as linear accelerators. To guard public safety, the US Nuclear Regulatory Commission (NRC) limits the amount of radiation a diamond can receive and specifically defines the type of radiation that can be used on diamonds. Treatment facilities and firms that deal in treated diamonds also take steps to eliminate potential problems. You can assure customers that irradiated diamonds pose no health concerns.

- **High-pressure, high-temperature (HPHT)** – This treatment alters a diamond’s color at the molecular level. The method that was originally developed by the General Electric Company removes some or all color from certain types of light brown diamonds. (It’s often called the GE Process.) Other versions of the treatment can color some diamonds pink, blue, yellow, green, or orange.

HPHT treatment or high temperature alone is also used to color diamonds black. The diamonds selected for this treatment often contain numerous fractures. During the process, the fracture surfaces convert to graphite (another form of carbon), making the diamonds appear completely black.

Commercial HPHT treatments were first announced in 1999. The GE Process also marked a new dimension in treatment. Never before had an artificial process been able to remove the color from diamonds on a scale that was suitable for production.

Today irradiation is commonplace, and HPHT treatments are widely available. In fact, a growing number of colored diamonds are HPHT treated. Diamonds lightened by the GE Process are relatively rare, however, because the process, as stated above, works on only 1-2% percentage of diamonds, (just certain types of light brown ones). Like laser drilling and fracture filling, irradiation and HPHT treatment are generally considered ethical, provided that they’re disclosed.
COATING

The process known as coating is a fairly common treatment for colored gemstones. The same process, however, is a highly deceptive one for diamonds.

When a gem is coated, a thin layer of some substance is applied to its surface. The goal is usually to improve or change the gem’s color.

Coatings are most often seen on colored gemstone imitations. For example, colorless quartz might be coated with green plastic to imitate emerald. Coatings can also create distinctive gemstone products. Colorless quartz and topaz are sometimes coated with a thin film of gold or some other metal to give them an iridescent sheen. (Iridescence is the oil-on-water effect that appears when light is broken up by structural layers.)

Coatings are rarely applied to diamonds. A coating changes the appearance of the diamond’s color – but not the actual color. The diamond’s girdle or pavilion might be partly covered with a thin layer of colored plastic or chemicals like those used on camera lenses. A carefully placed spot of ink, paint, or even fingernail polish can also do the trick. The coating often mimics a fancy color. A blue coating on a diamond with a light yellow tint can make the diamond look near colorless. That’s because the blue and yellow cancel each other optically.

Coatings on colored gemstones are ethical only if they’re disclosed. Otherwise, no matter how it’s done or what the effect, coating a diamond is considered fraudulent. Since a coating prevents a diamond from being graded accurately, most trade laboratories won’t issue quality reports on coated diamonds.
SYNTHETIC DIAMONDS

Shortly before 1800, scientists proved that diamond is a crystal form of carbon. Soon after that, they began trying to produce this natural wonder by artificial means.

Initial success didn’t come until the 1950s. Even then the resulting product wasn’t gem quality, though it was still a major breakthrough. More than 100 tons of industrial grade synthetic diamonds are now produced every year. They’re used primarily for abrasives and cutting tools in mining, construction, and manufacturing.

Gem quality diamonds were first synthesized around 1970. To mark the achievement, some of the earliest specimens were cut and polished as gemstones. At that time, however, producing synthetic diamonds of gem quality was extremely expensive. During the next 15 years, limited quantities were made for scientific and technical purposes. For example, a space probe that went to Venus in 1978 had a synthetic diamond window. It measured about 3/4 inch in diameter and was 1/8 inch thick.

Research and development continued until 1985 when commercial production of gem quality synthetic diamonds began. At first, these were also used in science, technology, and industry. In fact, some leading manufacturers vowed not to make synthetic diamonds for jewelry while others worked specifically toward that goal.

In the 1990s synthetic gem diamonds began to appear on the jewelry market. Since then – in the 2000s and 2010s – the supply has increased steadily. It has also diversified, with expanded color choices, larger carat weights, and improved quality. Quantities are still very limited compared to the output of natural diamonds, but the supply is certain to grow in the future.
Most of the synthetic gem diamonds produced today are fancy colors. Various shades of yellow and brown are most abundant. Other colors include pink, blue, orange, and red. Near colorless (or “white”) synthetic gem diamonds are still relatively rare, but their availability is increasing. The weight range for synthetic gem diamonds is currently restricted to about 3 carats or less, but technological advances mean that the range of available sizes will continue to grow too.

Many diamond and jewelry professionals are worried about synthetic gem diamonds, but most experts believe that they’ll find a market niche of their own. This has already occurred with synthetic versions of emerald, ruby, sapphire, and other gems. Consumers seem to be ready – even eager – for this new product. Media reports on synthetic diamonds often draw floods of inquiries by viewers or readers who want to own these marvels of science and technology.

**DIAMOND SIMULANTS**

Treated and synthetic diamonds are modern products. Diamond simulants have been around for a long time. Some are natural minerals. For example, colorless sapphire and quartz were used as diamond simulants for centuries. They remain popular today, but primarily as alternative “white” gems rather than as diamond simulants.

Another natural simulant is colorless zircon. Zircon is usually yellow, brown, or green in its original state. The colorless variety is produced by heat treatment, and it became available commercially around 1900. It enjoyed a decade or two of popularity, and many people still equate the word “zircon” with “imitation diamond.”
The oldest human-made simulant is glass, which has mimicked diamond since the 1500s. Colorless synthetic sapphire and synthetic spinel appeared in the early 1900s, and a parade of artificial simulants followed during the rest of the century. These included synthetic rutile, strontium titanate, yttrium aluminum garnet (YAG), and gadolinium gallium garnet (GGG). Some of these are still produced, and you might also see them in older jewelry. Glass, synthetic sapphire, and synthetic spinel are by far the most common diamond simulants in terms of volume, however.

From the 1970s through the mid 1990s, synthetic cubic zirconia (CZ) was regarded as the best diamond simulant from the standpoint of appearance and other characteristics. It is now available in many colors, and is often marketed as a laboratory-created gem in its own right. CZ is technically classified as a synthetic because it does have a rare natural counterpart. It’s important to note, however, that CZ is not related to zircon. Although CZ and zircon both contain the element zirconium, that’s the only thing they have in common.

The latest gem material that might be considered a diamond simulant is synthetic moissanite (MOYSS-an-ite). This is a crystal form of silicon carbide. Industrial grade material, called carborundum, has been manufactured since about 1900. It’s widely used as an industrial abrasive. A very rare natural version of moissanite has also been found in meteorites.
Gem quality synthetic moissanite entered the market in the late 1990s. Many experts have described it as closer to diamond in appearance than any other gem. However, synthetic moissanite is primarily marketed as a unique laboratory-created gemstone, not as a diamond simulant.

Many experts say moissanite is closer to diamond in appearance than any other gem.

**REPRESENTATION AND DISCLOSURE**

For most consumers, the big questions regarding diamond treatments, synthetics, and simulants boil down to: “What am I really getting – and is it really worth the price?” With synthetic diamonds and simulants, the answer is reasonably straightforward. For treated diamonds, it has several components.

**Representing Synthetics and Simulants**

FTC guidelines concerning representation of any gem or jewelry product are based on two simple principles:

- Clearly identify the product.
- Don’t say (or write) anything that might confuse or mislead a customer.

To follow these principles, remember that the term “diamond” by itself refers only to the natural gemstone. Thus, you need to make a clear distinction between diamond, synthetic diamond, and diamond simulant.
Instead of “synthetic,” you may use the terms “laboratory-created” or “laboratory-grown” to describe a synthetic diamond. You may also use “created” along with the manufacturer’s name. You need to explain what any of these terms mean, however. Don’t assume that customers will understand what you’re talking about. For example, you might say, “This is a Pure Grown-created diamond. It’s like a natural diamond, but was created in a laboratory under controlled conditions.”

Be careful with the terms “real” and “genuine,” and others like them. They imply that the material is natural.

Also be careful in describing simulants. Don’t call them “synthetic diamonds.” A synthetic has essentially the same composition, structure, and properties as its natural counterpart. Simulants do not.

“Imitation” and “simulated” are acceptable alternatives for “simulant.” Terms like “faux” (a French word meaning imitation) and “fashion” by themselves, however, are not.

Despite their role as ‘diamond simulants’, you do need to identify synthetic sapphire and synthetic spinel as “synthetics.” Most professionals would say it’s okay to use the terms “cubic zirconia” and “moissanite” alone, even though they’re really synthetics. That’s because natural versions aren’t available. It’s best to explain that they’re laboratory-created gems, however.

**FTC Guidelines are clear:** Identify the product and don’t say - or write - anything that might mislead or confuse customers.

**Disclosing Treatments**

FTC guidelines say that diamond treatments must be disclosed if they’re not permanent, if they create special care requirements, or if they have a significant effect on value. Full disclosure involves three separate questions:

- **What has been done to the diamond?** You can answer this in an appropriate way with the information that you’ve learned in this lesson. In the past, the FTC guidelines didn’t specifically require disclosure of laser drilling. Under current guidelines all diamond treatments must be disclosed.
• **Is the treatment permanent, and is any special care required because of it?** This is a touchy part of disclosure for many colored gemstone treatments. It’s not an issue for most treated diamonds, however.

Here are the specifics you need to disclose:

- **Laser drilling and HPHT treatments** – These are permanent and they require no special care.

- **Irradiation** – Under normal conditions this kind of treatment is also permanent. Very high heat - the kind that comes from a jeweler’s torch or even from a house fire - may affect it, though.

- **Fracture filling** – This can be damaged by high heat and certain cleaning methods.

If you sell diamonds that have been treated by irradiation or fracture filling, provide the following information on special care:

Caution customers not to use an ultrasonic cleaner on fracture-filled diamonds. In Lesson 16 you’ll learn more about ultrasonics and other methods for cleaning diamonds and diamond jewelry.

Tell customers to inform the take-in person of either treatment (irradiation or fracture filling) if they need repairs or other services on the jewelry in which the diamond is set. Perhaps you’ll already have this information in your records. In a perfect world, it should be the customer’s responsibility to remind the staff member who takes in the jewelry, to ensure that no mistakes are made. Since a customer might not remember or might not recognize the importance of the information, however, it’s important that you – or your take-in person – ask specifically if the customer has knowledge of any treatments that may have been applied to the diamond. For your store’s protection, it’s also important that a professional be able to recognize and identify most treatments at the time of take in, using all the tools available.
• **How does the treatment affect value?**

The expense of the treatment process is added to the original price of the diamond. As a result, treated diamonds are worth more than they were before treatment, but they cost less than untreated diamonds of comparable appearance.

When you’re discussing diamond treatment, don’t get defensive if customers seem suspicious. Acknowledge their concern. Cite your company’s disclosure policy as a commitment to honesty and ethics. Explain the benefits of the process. Be sure to emphasize that the purpose of treatment is to improve the diamond’s appearance – not to deceive the purchaser.

**TESTING AND IDENTIFICATION**

Another question customers may have is: “How can I be sure of what I’m getting?” This gives you an opportunity to build trust by spotlighting the expertise that stands behind the products you sell.

You can tell customers that all synthetic diamonds and diamond simulants can be positively identified. Almost all treatments can be, too. Members of your store’s professional team can probably make many of the determinations. A trade laboratory can make the rest.

Today many jewelry stores have an impressive array of gem-testing equipment. They also have owners, managers, buyers, or technical personnel who are fully qualified to use it. The sales staff should be trained to identify simulants and certain treatments when taking in jewelry for repair, appraisal, or other services.

You need to learn your professional responsibilities in this important area. Even before you’re completely trained, however, you can arrange for your manager or a qualified coworker to demonstrate the equipment and procedures. This will give you insights into the detective work of gem identification. You can share these insights with customers.
The first step in testing for any transparent colorless (or near-colorless) gem is to determine whether or not it’s a diamond. This is also the place to begin if there’s reason to believe that the gem may be a fancy color diamond. For this purpose, most jewelers use the devices known as diamond testers.

Standard diamond testers measure a gem’s response to heat. They may misidentify moissanite as diamond, however, because moissanite reacts the same way as diamond on standard testers. For this reason, special testers are made to separate diamond and moissanite. These devices measure the gem’s response to UV (ultraviolet) light. In order to avoid mistakes, it’s sometimes necessary to use both types. If a standard model indicates that a gem is diamond, a moissanite tester is used to make sure.

Magnification is another test that can help identify diamond simulants. It’s useful with treated and synthetic diamonds as well. For example:

- Synthetic moissanite shows the optical effect called doubling. When you use a loupe or microscope and look through the gem’s crown at its pavilion, you see doubled images of the back facet junctions. This results from the way in which the moissanite crystal interacts with light. It doesn’t occur in diamonds. Once you’ve seen it, it’s a quick and sure way to separate moissanite from diamond.
A fracture-filled diamond will often display the flash effect. If you rock the diamond side-to-side as you examine it with a loupe or microscope, you see flashes of two different colors in a specific area. This is caused by light breaking up into spectral colors as it reflects from the boundary between the diamond and the filling. The colors are usually blue and orange or purple and green. (The lighting technique known as darkfield illumination is required to see the flash effect.)

Synthetic diamonds often have metallic inclusions that don’t resemble anything in natural diamonds. The color of a synthetic diamond may also be distributed, or zoned, in an unusual (or unnatural) way.

A number of other instruments and tests are available in many stores. Together with diamond testers and magnification, they enable trained gemologists to identify all clarity treatments, some color treatments, most synthetic diamonds, and all simulants. Trade laboratories can also make these identifications. In addition, they can use advanced tests to identify all synthetic diamonds and almost all color treatments.

Even with the best equipment and training, it can be impossible to determine whether the color of a green diamond is treated or natural. That’s because the treatment duplicates nature’s coloring process. In this lesson you’ve learned that irradiation treatment can color diamonds green. However, in Lesson 4 you learned that many green diamonds are colored by natural radiation from the rocks in diamond deposits. Once a green diamond has left the lab or the mine and been cut, there’s often no way to tell for sure how it got its color.
A similar situation exists with a small percentage of HPHT treated diamonds. The treatment process comes very close to duplicating the conditions in which diamonds form deep inside the Earth. As a result, it’s sometimes impossible to prove that a diamond is HPHT treated.

HPHT treatments only work on a small percentage of diamonds, however, and trade laboratories can identify the vast majority of HPHT treated diamonds. So the “question marks” represent just a tiny fraction of a tiny fraction of all the diamonds on the market.

Nevertheless, the diamond industry strives for 100% certainty. With that aim in mind, many firms that provide HPHT treatment also mark the diamonds they treat. Many synthetic diamond manufacturers do this with their products, too. The marks are produced by laser inscription, and they’re visible only under high magnification. (They’re usually placed on the girdle.)

Of course, it’s possible to remove an inscription by repolishing the diamond. If the diamond is later submitted to a trade laboratory for grading or testing, however, the inscription will probably be replaced. As a matter of policy, most trade labs now laser inscribe HPHT treated diamonds. The treatment is also noted on quality reports.

Beyond these steps, advanced research laboratories around the world are constantly working to make identification surer and easier at every level of the market. The ultimate goal is to guarantee that diamonds can always be bought and sold with complete confidence.
PROBLEMS AND POTENTIALS

Treated diamonds, lab-created diamonds, and diamond simulants are most likely to cause problems for jewelry retailers when they’re misidentified. This can occur during take-in for repair, appraisal, or other services. There’s also the possibility that con artists will try to pull a switch during a sales presentation – especially for unset diamonds. To avoid such losses, it’s essential to know and follow your company’s procedures for service take-in and merchandise presentation. (You’ll look more closely at customer service in Lesson 19, and at security in Lesson 20.)

On the sales floor, it’s important to remember that treatments increase the choices available to customers. They provide beautiful products with attractive price tags. The same is true of lab-created diamonds.

The obvious benefit of simulants is the “look” of diamond for a fraction of the cost. Diamond simulants are always in demand as fashion accessories. Style and cost options range from simple “costume” pieces to elegant karat-gold.

You might get occasional questions about ads boasting that a simulant is “better” than a diamond. To respond specifically, you have to analyze the claim carefully. You also need in-depth knowledge of both diamonds and the particular product. You can, however, emphasize that no simulant has ever equaled diamond’s beauty and unique combination of features – much less its value, symbolism, and romance.
Remember that the impulse to purchase a simulant almost always comes from the desire to own a diamond. Proper handling of a simulant question might create a diamond sale, either immediately or sometime in the future.

Above all, treated diamonds, lab-created diamonds, and diamond simulants underscore some fundamental – and permanent – truths of the marketplace. Professionals need the knowledge, specialized resources, and operational procedures required to protect their customers and themselves. Consumers are always wise to do business with a firm they know and trust.

The impulse to purchase a simulant almost always comes from the desire to own a diamond.
Guidelines on treated diamonds, synthetic diamonds, and diamond simulants appear in the following sections:

23.13 Disclosure of treatments to diamonds.
23.22 Disclosure of treatments to gemstones.
23.23 Misuse of the words “ruby”, “sapphire”, “emerald”, “topaz”, “stone”, “birthstone”, “gemstone”, etc.
23.24 Misuse of the words “real”, “genuine”, “natural”, “precious”, etc.
23.25 Misuse of the word “gem”.

The main points of these sections are covered in the lesson.
Treated diamonds, synthetic diamonds, and diamond simulants cause controversy and create challenges, but they have an important place in today’s jewelry industry.

Treated diamonds are diamonds that formed naturally in the earth, but underwent a laboratory process to improve appearance. Synthetic diamonds are diamonds that were created in a laboratory. Diamond simulants are not diamonds. They only look like diamonds.

Diamond treatments can affect clarity or color. The main treatments are laser drilling, fracture filling, irradiation, and high-pressure, high-temperature (HPHT).

Lab-created diamonds are becoming part of the jewelry market. Most are fancy color, but the availability of near colorless lab-created diamonds is increasing.

Popular diamond simulants include glass, natural and synthetic colorless sapphire, synthetic spinel, and cubic zirconia. Synthetic moissanite might be considered a diamond simulant, but it’s primarily marketed as a unique lab-created gem.

To follow FTC guidelines for representing lab-created diamonds and simulants, clearly identify your product and avoid misleading or confusing statements. Essential points in treatment disclosure are the nature and effects of the process, its permanence, and special care that’s required because of it. How treatment affects value is another customer concern.

All clarity treatments, some color treatments, most lab-created diamonds, and all simulants can be identified with standard tests. In addition, advanced laboratory tests can identify all lab-created diamonds and almost all color treatments. With green diamonds and HPHT treated diamonds, treatment is sometimes impossible to prove.

To avoid problems associated with treatments, lab-created diamonds, and simulants, know and follow company procedures for service take-in and merchandise presentation.

For jewelry professionals, treatments, synthetics, and lab-created diamonds underscore the need for knowledge, resources, and effective procedures. For customers they reinforce the importance of doing business with an ethical firm.
LESSON 8 FOLLOW-UP CHECKLIST

____ If your store sells treated diamonds, lab-created diamonds, or diamond simulants, practice defining them. If you don’t carry these products, ask your manager to explain the reasons for this decision. Learn how to respond to customers who might ask for them.

____ With a coworker, role-play disclosing any treatments that have been performed on diamonds in your inventory.

____ Role-play answering customer questions about the availability of lab-created diamonds.

____ Ask your store manager or a qualified coworker to demonstrate equipment and tests for identifying treatments, lab-created diamonds, and simulants. Practice describing the testing process in your own words.

____ If there are diamond testers in your store, learn to use them. Also practice explaining to customers how and why they’re used.

____ Talk to your manager about procedures for take-ins and presentations. How are they designed to help you avoid problems with treatments, lab-created diamonds, and simulants?
Lesson 8 Self-Test

This lesson also includes a Self-Test that’s designed to help you gauge your comprehension of the lesson material. The test is an important part of the learning process, so be sure to complete it.

When you're ready to take the test, go to the Course Materials page (the one that lists all the lessons and click on "Take Self-Test." Make certain you select the test for this lesson).

All questions in the test are based on Lesson 8. More than one answer for a question might seem correct, but you should select the one best answer based on the lesson discussion.

As you take the test, you may refer to the lesson. To do this, you’ll need to have the lesson loaded in a separate window of your browser.

If you feel certain about a question, try answering it without looking at the lesson. But if you’re not sure, check the lesson before answering.

After you answer a question, you’ll receive immediate results and feedback. You'll find out whether you answered correctly, what the correct answer was (in case you missed it), and also the page number in the lesson where the information can be found. Take time to review any material you’re not completely clear on.

At the end of the test, you’ll receive your overall results. Then you’ll be able to continue to the next step in your coursework.

If you have questions or need help, please contact us. You can use this website – just click on Help. You can also email studenthelp@diamondcouncil.org or phone 615-385-5301 / toll free 877-283-5669.

After you take the Self-Test for this lesson, you’ll be ready for Progress Evaluation 2. This includes Learning Evaluation 2 plus Training Evaluation 2 and Satisfaction Evaluation 2.