Diamond Education

CARAT

Carat Weight

The weight of a diamonds is generally given in carats. The term carat originated in ancient times when gemstones were weighted against the carob bean. Each bean weighed about one carat. In 1913, carat weight was standardized internationally and adapted to the metric system. One carat equals 0.2 grams - a little more than 0.007 ounce. In other words, it takes 142 carats to equal 1 ounce.

Two terms, carat and karat are often confused. Karat refers to the fineness of gold alloys (pure gold is 24 karat; 14 karat is 14 parts gold and 10 parts other metals) and carat refers to gem weights.

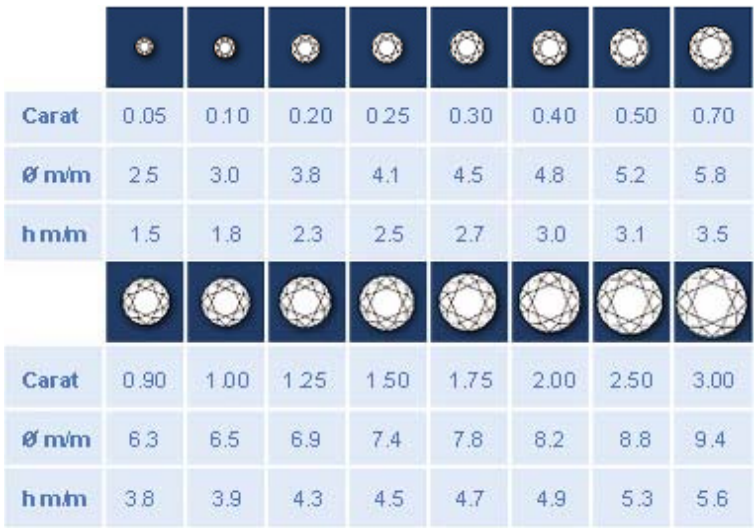
The weight of small diamonds is frequently expressed in points, with one point equalling 0.01 carats. For example, five points is a short way of saying 5/100 of a carat and fifty points equates to a half carat.

Sometimes in the jewellery trade, the term size is used as a synonym for carat weight. This is because small round diamonds having the same weight also look the same size and similar diameters. As diamonds increase in weight, their size becomes less predictable. Diamonds with a shallow cut can have a greater diameter than a deeper cut diamond with the same weight. However, you don't want the diamond to be too shallow or it will not reflect the light properly and will have less brilliance.

Diamond Measurements

It is similar to asking how tall a 200 pound man is. You have no way of knowing because you don't know how the man is proportioned. The same holds true for diamonds. So if size is important to you, focus on diamond measurements as opposed to carat weight. You don't need to carry a millimetre gauge when you go shopping. Just start asking what the different millimetre measurements are and note how they look. Diamonds that look big for their weight may have reduced brilliance and fire so always insist on great cut.

Note that an increase in carat weight does not produce the same increase in millimetre diameter. For example, there is a 25% increase in carat weight from 1.00 carats to 1.25 carats but less than 8% increase in diameter (6.5 to 7.0 mm). This concept, along with the increased price per carat, explains why prices increase dramatically in order to get noticeably bigger millimetre size. Please have a look at the figure below to see the carat weight of a diamond and diameter in mm.



Carat	0.05	0.10	0.20	0.25	0.30	0.40	0.50	0.70
Ø m/m	2.5	3.0	3.8	4.1	4.5	4.8	5.2	5.8
h m/m	1.5	1.8	2.3	2.5	2.7	3.0	3.1	3.5
Carat	0.90	1.00	1.25	1.50	1.75	2.00	2.50	3.00
Ø m/m	6.3	6.5	6.9	7.4	7.8	8.2	8.8	9.4
h m/m	3.8	3.9	4.3	4.5	4.7	4.9	5.3	5.6

Carat Price

The weight of a diamond has a large impact on price. All other factors being equal, the heavier the diamond, the greater its cost will be. Diamonds lose approximately 40-60% of their rough weight when they are cut. Over 1 million rough diamonds must be mined before one is found that can be cut into a 1.00 carat finished diamond! Please have a look at the figure below to get an impression of price incensement based on carat.

D-Color IF	0,5ct	$ 6.460 per carat
D-Color IF	1ct	$ 15.130 per carat
D-Color IF	1,5ct	$ 16.915 per carat
D-Color IF	2ct	$ 25.075 per carat
D-Color IF	3ct	$ 37.315 per carat

With each weight category increase (quarter, third, half), the value per carat of a diamond will increase significantly and almost geometrically (given all have the same other factors). A stone which is twice as large as an otherwise identical smaller stone might be three or more times more expensive. So while you might see a price for a smaller stone at $2,000 per carat, as you price the same cut, colour and clarity in a larger stone you'll see dramatic increases.

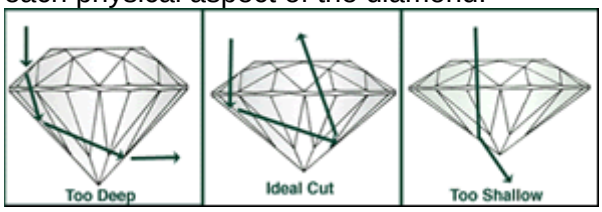
There are standards for reporting a diamond's weight. FTC guidelines allow a one-half point (1/2) tolerance in the stated weight of a diamond. For example, a diamond weighing .495 carat can be legally sold as a 50 point diamond, while a .494 carat diamond must be sold as a 49 point stone. Some stores sell diamonds according to size ranges so you need to insist on knowing the exact weight of your loose diamond.

CUT

Cut comes first

Cut has the biggest impact on the beauty of diamonds and the least amount of difference in their price. The word cut has several meanings when it comes to diamonds. The cut of a diamond does not just mean its shape (round brilliant, princess, oval, cushion, etc.) but also addresses the symmetry, polishing, angles and the proportions of

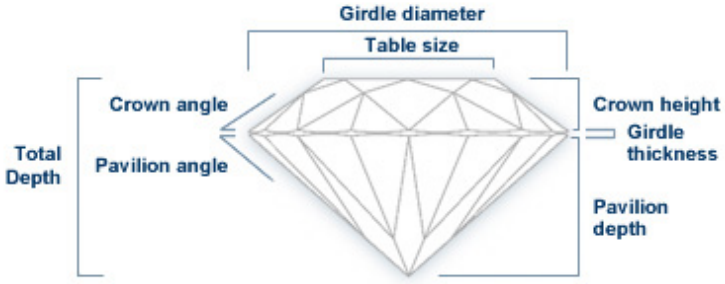
each physical aspect of the diamond.



The cut determines the diamond's sparkle. A properly cut diamond will refract the light that enters the diamond and return it through the top to produce the much desired sparkle. The angles have to be exactly right to effectively reflect the light back to your eye.

Difference in cutting
Diamonds are cut by different diamond cutters with different levels of skill. Each rough diamond crystal has its own distinct inclusions occurring at random locations. Diamond cutters are trying to cut the biggest and heaviest diamond from the rough crystal. Cutting diamonds to the best possible cut usually means losing diamond carat weight in the cutting process. There is always a compromise between beauty and size. Some cutters are better than others and are also willing to take the extra time to do it right.

The typical brilliant cut diamond is cut with 57 facets, 33 on the crown and 24 on the pavilion. On a well-proportioned stone, these facets will be uniform and symmetrical. If they are not, the diamond's ability to refract and reflect light will suffer.



Warning: A poorly-cut diamond just won't look right to the eye. Unfortunately, 75% of all rounds and 88% of all other shapes on the market are poorly proportioned.
When searching for a great cut, the two most important numbers are the depth percentage and the table percentage.

Table percentage is the length of the table divided by the width of the diamond. The higher the number, the bigger the table looks. The lower the number, the smaller the table looks. Do not confuse small table with small diameter. In general, you want the bigger diameter and the smaller table percentage for the most beautiful round diamonds.

Out of Round: It is interesting to note that "round" diamonds are usually not perfect circles. The length and width measurements for a round are both diameter measurements and will be different for an out-of-round shape. If the length is greater than the width by more than .10 millimetres, the diamond has not been cut well and should be avoided. For two-carat stones, the acceptable deviation is 0.12 millimetres.

Fancy Shape Cut
Probably the most important aspect for a fancy cut is the general appearance to your eye and that it is appealing and symmetrical. In many fancy shaped diamonds (marquise, pear, oval, emerald and heart shaped), the pavilion facets do not culminate at a point at the tip of the pavilion as they do for a round. Instead, they form an edge, called the "keel line." This line should be cantered in the diamond and this "culet" should still be as small as possible.

Girdle width will vary between greater extremes on some fancy shapes compared to the round brilliant. These include the marquise, pear and heart, where the girdle tends to be thick or extremely thick at the tips of the stone and in the cleft of the heart-shaped cut. Also, the princess cut, which has square corners, may have an extremely thin girdle in these areas. Since the girdles vary with greater frequency in fancy shapes, attention needs to be paid to extremely thin and extremely thick girdles to avoid danger of chipping or excessive weight.

COLOR

The whiter, the better
Diamonds are found in a variety of colours, but chances are all the diamonds you'll see in your shopping will be white or yellow, and the whiter the better. The yellow colour in diamonds comes from trace amounts of nitrogen. One part in a million will cause a yellow tint to appear in the K colour diamond. As a rule, the more yellow the stone, the less value it has. There's a good reason for this. The yellowier the stone, the less sharp and sparkly it appears. A whiter stone lets greater amounts of light pass through it, making it sparkle and shine.
The exception to the rule is the Fancy Yellow (canary) diamond, which is beautiful bright yellow and priced similar to white diamonds. There are four colour grades of Fancy Yellow (Fancy Light Yellow, Fancy Yellow, Fancy Intense Yellow and Fancy Vivid Yellow) with each deeper shade bringing a higher price.

Keep in mind that the colour illustrated on these colour charts is exaggerated in order to see the difference on your computer monitor. Actual colour differences are much more subtle.

Perception of colour
The amount of colour you see in a cut diamond depends largely on its size, how it is cut, and whether or not it is mounted. The bigger the stone, the more obvious its colour will be, just as a carafe of wine shows more colour than a glassful.

Some people are more sensitive to the colour of diamonds. What may appear slightly yellow to you may look white (lack of colour) to another person, so it will take a higher colour grade to satisfy you. The average shopper doesn't even notice yellow tints in mounted diamonds having a grade from G to J because the increasing nuances of colour are so slight.

What you see as the "colour" of a diamond is really a combination of body colour, brilliance, and dispersion. Body colour is the inherent colour of the stone and is caused by the different colours of light that are absorbed by the stone.
Brilliance is the total amount of light returned to the eye by reflections from within the stone and from its surface. This often is referred to as the "brightness" and "life" of the stone and determined largely by the cut of the diamond. The better the cut, the more light is reflected within the diamond and back through the top of the diamond.

Dispersion, or fire, is a spreading and separating of white light into its component hues, much like a prism. Even a colourless diamond will flash rainbow colours due to dispersion. Both brilliance and dispersion are desirable for beauty but are not measured or documented on any certification. Have a look at the figure on the right to see the illustration of dispersion (courtesy of IGI)

Keep in mind that colour is graded with the diamond upside down in controlled lighting conditions. What you see looking a diamond face up is impacted more by the brilliance (cut of the diamond) than the colour of the diamond. Colour grading is not an exact science and even the certification laboratories will disagree about a diamond's colour grade. Remember, colour grades are a range and at one point a high H is equal to a low G colour. The distinction between colour grades is so fine that sometimes the same stone will get different colour grades if sent to the same grading laboratory a second time.
Colour and price
Prices for whiter colour grades increase more dramatically than the actual visible colour difference to the eye. Colour grades D, E and F are colourless and it is very difficult to see the differences between these because by definition they are colourless. However, there is a significant price difference because D colour diamonds are rarer than E and both are much rarer than F colour. Please have a look at the figure below to see the difference in pricing when it comes colour.

D-Color	IF	1ct	$	15.130 per carat
E-Color	IF	1ct	$	10.370 per carat
F-Color	IF	1ct	$	9.520 per carat
G-Color	IF	1ct	$	8.075 per carat
H-Color	IF	1ct	$	6.375 per carat

In the near colourless range (G, H, I and J), there is a more noticeable difference. While G colour is very close to colourless, J colour is very close to faint yellow. Most J colour diamonds have a slight yellow tint. Diamonds with H and I colour grade diamonds appear white and are great values because they are more plentiful than the colourless grades and therefore are less expensive.

To know what colour grade you are comfortable with, go look at some diamonds side by side. Remember to be comparing HRD or IGI certified diamonds so you can be sure of the colour you are actually seeing.

It is also helpful to be looking at similar sizes and shapes. Some shapes, like rounds, are brighter than others. Princess cut diamonds tend to be deep and darker looking than a round with the same colour grade. Diamonds with greater carat weights tend to show

more colour than smaller diamonds with the same colour grade.

Beware of the jeweller that tells you a higher clarity diamond makes it appear whiter. Clarity has no impact on colour and this misinformation was meant to trick you into buying low colour, high clarity stones they have in inventory and can not get rid of.

CLARITY

Level of imperfection
Virtually all natural diamonds contain identifying characteristics, many of which are invisible to the unaided eye. Clarity is the degree to which a stone is free from external marks called blemishes and internal features called inclusions. Inclusions normally have a greater impact on grade, value, beauty, and durability than do blemishes.
When shopping for a diamond, the goal is to decide what level of these imperfections is appropriate for this particular purchase. A certain level of imperfections can be to your advantage since they act as a fingerprint to help identify your diamond. These imperfections can lower the price of the diamond to make it affordable without affecting its beauty to your eye.

The position of an inclusion affects how readily it can be seen. Cutters call the area seen through the table the heart of the stone and make every effort to cut a stone so that inclusions are not visible through the table of the finished stone. The preferred position for inclusions is under the bezel facets or near the girdle because they are less noticeable there.
Sometimes inclusions are located where they cause multiple reflections in the pavilion facets when you look at the stone from the top. Such reflectors lower the clarity grade more than similar non-reflecting inclusions.
Clarity rating system
What follows is the clarity rating system used by diamond laboratories:
• I.F.: internally flawless:
free from internal blemishes visible under 10x magnification (small external details tolerated);
• V.V.S.1: very slightly included:
inclusions and/or external blemishes very difficult to locate under 10x magnification;
• V.V.S.2: very slightly included:
inclusions and/or external blemishes very difficult to locate under 10x magnification;
• V.S.1: very slightly included:
inclusions and external blemishes difficult to locate under 10x magnification;
• V.S.2: very slightly included:
inclusions and external blemishes rather difficult to locate under 10x magnification;
• S.I.1: slightly included:
inclusions and external blemishes rather easy to locate under 10x magnification;
• S.I.2: slightly included:
inclusions and external blemishes easy to locate under 10x magnification;
• P.1- I.1: imperfect:
inclusions and external blemishes very easy to locate under 10x magnification;
• P.2- I.2: imperfect:
inclusions and external blemishes easy to locate with naked eye; and
• P.3- I.3: imperfect:
heavy inclusions located with naked eye.

The last two clarity steps are not sold at Diamond World.

The following diagrams show what inclusions and blemishes look like in the different clarity grades when viewed with 10X magnification. You can use a loupe or microscope to see these characteristics, many of which will not be visible to the unaided eye.

COST

While considering the price factor, always keep in mind the rarity of a diamond. The rarer the stone, more is the price. Let us explain the prices in a relative or comparative manner. Keep in mind, no two diamonds are ever identical. Always remember that a diamond is nature's gift and it does not come with a price tag nor are two prices identical. You might get different prices from different jewellers depending on their buying patterns, sources and suppliers.

Carat

Diamonds weighing two-carats will sell for far more per carat than one-carat diamonds. As you will see in the chart below, the price of a diamond tends to increase exponentially as the size increases. The chart below illustrates the price movement by carat size for the highest quality diamond.

D-Color	IF	0,5ct	$ 6.460 per carat
D-Color	IF	1ct	$ 15.130 per carat
D-Color	IF	1,5ct	$ 16.915 per carat
D-Color	IF	2ct	$ 25.075 per carat
D-Color	IF	3ct	$ 37.315 per carat

Prices are based on Antwerp Diamond Market prices | 2nd Qt. 2005

Colour

Knowing the subtle differences between the sub-groups in the colour grading classification system and the major impact these changes have on the wholesale price, it is imperative the client requires a Diamond Grading Report from an independently recognized company.

The cost of a Diamond Certificate is a small price to pay to insure the diamond quality you pay for is the diamond quality you receive.

Price movement as diamond colour diminishes, while holding all other quality classifications constant. The chart below illustrates the shift in pricing

D-Color	IF	1ct	$ 15.130 per carat
E-Color	IF	1ct	$ 10.370 per carat
F-Color	IF	1ct	$ 9.520 per carat
G-Color	IF	1ct	$ 8.075 per carat
H-Color	IF	1ct	$ 6.375 per carat

Prices are based on Antwerp Diamond Market prices | 2nd Qt. 2005

Clarity

The clarity grade can have a significant effect on the value of a diamond. The price variance between an VVS1 diamond and a Very Slightly Included One diamond clarity grade is significant at the wholesale level. The chart below illustrates the shift in pricing. Price movement by clarity grade for highest quality diamond while holding all other

quality classifications constant. The chart below illustrates the shift in pricing

D-Color	IF	1ct	$ 15.130 per carat
D-Color	VVS1	1ct	$ 10.625 per carat
D-Color	VVS2	1ct	$ 9.520 per carat
D-Color	VS1	1ct	$ 7.820 per carat
D-Color	VS2	1ct	$ 7.140 per carat

Prices are based on Antwerp Diamond Market prices | 2nd Qt. 2005

Cut

The last but definitely not the least, this C can pack a heavy punch even in small sizes. To get well cut stone, the diamond cutter has to sacrifice a lot of the rough diamond weight. The customer thus has to pay more to incorporate for the lost weight. Moreover, it requires excellent skills to cut and facet a well or ideal cut stone. That is also included in the cost that you as the consumer has to pay. The results are astounding. The sparkle is really awesome. The stone just shines, it just shines. It doesn't matter what light it is kept under or in which metal it is set in. That baby will sparkle like there's no tomorrow. The brilliance and dispersion is incomparable.

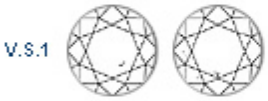
Moreover, a good cut hides or reduces the visual effects of inclusions within the stone. Hence, if you have an ideal or well cut SI2 then there is a good possibility that you will not be able to see the inclusion with your naked eye. No matter what you do, never compromise with the cut of the stone. Always go in for a well cut stone. After all what good is a diamond if it doesn't sparkle.

Shape

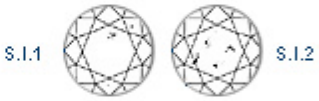
Prices for fancy shape diamond generally are 15% to 20% below round diamond prices at the wholesale level, holding the quality constant, depending on trends and fads.

Internally Flawless
Free from internal blemishes visible under 10x magnification (small external details tolerated).

Very Very Slightly included
Inclusions and/or external blemishes very difficult to locate under 10x magnification.



Very Slightly included
Inclusions and external blemishes difficult to locate under 10x magnification.



Slightly included
Inclusions and external blemishes easy to locate under 10x magnidication

Imperfect
inclusions and external blemishes very easy to locate under 10x magnification.

Imperfect
inclusions and external blemishes easy to locate with naked eye.

Imperfect
heavy inclusions located with naked eye.

Clarity perception
An untrained person will have a very difficult time trying to find inclusions or blemishes in FI, IF, VVS1, or VVS2 grades even with a microscope. There is no visible difference in beauty or appearance once the clarity is clean to the eye with VS clarity. These high clarity grades should only be considered if you are willing to pay the price for higher quality knowing that does not have an impact on appearance.

VS1 and VS2 graded stones have very small inclusions that are difficult to find even when viewed with 10X magnification. Typical inclusions are small crystals or feathers, distinct clouds and groups of pinpoints. They do not impact the diamond's beauty and are very high quality diamonds.

SI1 and SI2 are the two most common grades for the typical buyer. These grades have inclusions or blemishes when viewed with 10X magnification. Most SI1 clarity diamonds

should be "eye-clean," which means the flaws can't be seen with the unaided eye when viewed from the top. These are good quality diamonds and provide great beauty at a very reasonable price. Most SI2 clarity diamonds have inclusions visible to the unaided eye.
Caution! There are some SI clarity diamonds that have inclusions easily visible to the unaided eye and should only be used for earrings or pendants, not for engagement rings.

Advice: For diamonds with many facets (i.e., round brilliant), it is extremely difficult to see the difference between SI1 and higher grades even with a loupe or microscope. Therefore, target SI1 or VS2 as the best clarity values with outstanding beauty. For step cut shapes like emeralds and Askers, we recommend at least VS2 clarity diamonds since these stones are so transparent and inclusions are easier to see with the eye.
Diamond care
A diamond is the hardest thing in the world, but not the toughest. Diamonds can get abrasions or even chipped through normal wear and tear. When diamonds rub together while being stored, they may get scratched or abraded (minute scratches and pits along facet edges). Be careful any time that diamonds might come in contact with another diamond. Diamonds are valuable objects and should not be abused.

How to look
Diamonds are clarity graded face up (looking at the top of the diamond), not from the side or bottom of the diamond. We have the most problem with clarity where the inclusions are not visible with the eye from the top of the diamond but are visible from the side. When viewing a diamond from the side, the middle third of the diamond is generally very transparent.
If an inclusion is in this part of the diamond and happens to be turned broadside to your view, it can be much more visible than when viewed from the top where there are many facets to hide its appearance. If the diamond is going to be visible from the side in the setting, make sure your diamond is clean to the eye from the top and the side, regardless of what clarity grade it has.

CARE

Keep your jewellery clean!
If you want your diamond to look better than most rings worn today-keep it clean! A clean diamond will have the same sparkle and brightness that it did the day you bought it while a dirty diamond will look dull and dark.
It's hard to keep a diamond ring clean. Diamonds are natural grease attractors and can become coated with grease when they are immersed in dishwater or when they come in contact with any greasy substance including hand or body lotions and natural skin oils. Powders, hair spray and soap are also cut down on a diamond's brilliance.
A safe and easy way to clean a diamond ring is to soak and wash it in warm sudsy water using a mild liquid detergent. Then it can be dried with a soft, lint-free cloth. If the dirt on the diamond cannot be washed off after soaking, try using a tooth pick, a Water Pick or un-waxed dental floss to removed caked-on dirt. Brushes should be used with caution because hard bristles can scratch gold mountings.
You can also buy one of the brand-name liquid jewellery cleaners, which usually include a container of cleaner, a basket to soak the ring in and a small brush to clean hard to get at areas. Read the label and follow its instructions. Don't touch your clean diamonds with

your finger since that simply puts oil back on them. For frequent travellers, jewellery cleaner now is available in a foam dispenser that ensures you have beautiful jewellery wherever you go.
Ethyl alcohol and ammonia are also good for cleaning diamonds because they help avoid the problem of water spots.
Caution: Fracture-filled diamonds should not be cleaned in solutions which are acidic or which contain ammonia since they can cloud, discolour or even remove the filling material.

Protect your jewellery
Don't let your jewellery come in contact with chlorine bleach which can be very damaging to the metal. Gold prongs can get pitted and actually dissolve to the point they can no longer hold the diamonds or other gemstones. Prolonged exposure to chlorine in hot tubs or swimming pools can have the same effect. You might already protect your hands from harsh chemicals, but if you don't think about your fine jewellery. Remove your rings or wear gloves to protect them from products that contain chorine, because it can damage metal. Avoid dripping bleaches and hair dyes on your fine jewellery.
Ultrasonic cleaners
To get rid of encrusted dirt, it is sometimes necessary to have the diamond cleaned professionally with steamers and ultrasonic cleaners. There are many types of these small machines on the market that will clean any piece of jewellery that can be dipped in a liquid. They consist of a metal cup that you fill with water and detergent. When the machine is turned on, a high frequency motion creates the cleaning action. Since each machine is slightly different, read the instructions very carefully before use, especially concerning what types of jewellery should not be cleaned using this method.
A wrist watch should not be "dipped" in any liquid, since many are not water proof and even those that are can be damaged if dipped in chemicals that can disintegrate the material used for sealing it tight. The best method for diamond watches is a jeweller’s polishing cloth for all metal parts of the watch and diamonds. Be careful with the diamonds so as not to loosen the settings.

CONFIDENCE

Every Diamond World diamond we sell comes with a certificate that guarantees and documents the quality of your diamond. Without this certificate, you have no proof of the value of your diamond.

A certified gemmologist prepares the diamond certificate (also called a grading report, dossier or quality report). The gemmologist scrutinizes the diamond under a microscope, noting its dimensions, clarity, cut, colour, finish, symmetry and other characteristics.

The most highly valued diamonds in the industry come with a diamond certificate report from the Diamond High Council (HRD) or the International Gemmological Institute (IGI), **British Gemmological Institute (BGI)** known and respected for having the most strict, consistent and unbiased systems for grading diamonds in the world. That's why every loose diamond we sell at Diamond World has been analyzed and graded by either the HRD or the IGI. A certificate from HRD or IGI guarantees forever the quality of your Diamond.

Be aware that if you buy a diamond without a certificate, you are trusting the

salesperson's claim as to its quality. A trained gemmologist or even another jeweller may disagree with that salesperson's assessment. Protect yourself: get a grading report. Please note that a 'certificate' and an 'appraisal' are two different things. A certificate guarantees your diamond's quality. An appraisal places a monetary value on your gem. Of course, a certificate from HRD or IGI greatly facilitates appraisal of your Diamond.