

# Gemmology Today

June 2023  
Quarterly Publication



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EDUCATION IN THE KEY GEM PRODUCING AREAS

POWERED BY THE WORLD GEM FOUNDATION

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Cover: Iconic Panthère Cartier brooch by Tino Hammid



[Click here to read the March 2023 Issue](#)



Geoff Dominy - Founder / Editor

It is hard to believe that three months have gone by so quickly. So much is happening here in Ethiopia and while I am glad we are through the most challenging parts, I have to admit that even I, the eternal optimist, experienced numerous times when I thought we would never pull this off.

Ethiopia is a country full of the most amazing people but mired in bureaucracy. If I hear the word 'authenticate' one more time, I will scream. There is an obsession with 'letters' and while the normal heading would be 'To Whom It May Concern', here every letter has to be addressed to the right department. So if you need a letter for five different departments, you will have to get five individual letters and they will all have to have official stamps on them.

I have to say I have never been asked to authenticate my diplomas or my birth certificate but as the saying goes 'When in Rome, Do as the Romans Do'.

Like most people, I have my faults and limitations. One of them is working with government officials. A

## Editor at Work

recipe for disaster! Thankfully Haimanot was there to smooth things out and I will be the first to admit that without her, Project Africa in Ethiopia would never have taken off. She overcame obstacles that seemed insurmountable and never lost track of where the finishing line was and what had to be done to get over it.

There is an enormous degree of satisfaction knowing that we have succeeded where others have failed. Now we can focus on the setting up of the 'Centre of Excellence' and the 'Gem Testing Laboratory' and get back to what we both love the most, teaching.

One interesting development since the last issue was the announcement that private equity funds managed by Blackstone have acquired International Gemological Institute (IGI), from Shanghai Yuyuan Tourist Mart, a subsidiary of Fosun, and Roland Lorie, a member of the company's founding family.

Blackstone bought IGI, whose majority revenue and profits come from India, for about \$530 million. According to reports, Blackstone had purchased an 80% stake from Fosun and 20% from the Lorie family.

### WHAT'S IN THIS ISSUE?

I have to say that I always approach each issue with a certain degree of trepidation. If you have ever been involved in putting together a publication, you know what I mean. With everything going on here, it has been hard to focus and that is one thing you must do. It is no mean task but one that when I get started and we have mapped out what we want to cover, I get excited.

This issue has been a liberating experience. I spend so much of my time writing about gemmology that it has been refreshing to focus on other areas of our industry.

One of the things I enjoy the most is the freedom and the opportunity to work with so many lovely and generous people, who are anxious to help. In some cases, I find myself in uncharted territory and that in itself is challenging but also rewarding. You learn so much and in this issue in particular, I have encountered areas that have been both informative and eye-opening.

You will find this issue a slight departure from previous issues because we complete the series of issues that focus on the supply chain.

In this issue you will find articles on branding, wax carving, the lost wax process, mould making, what the difference is between carats, karats, carrots and carets, Nina looks at zultanite, Leone reports on GemGenève and by the time we publish, Haimi will have photos of our new 'Centre of Excellence' and Gem Testing Laboratory here in Addis Ababa.

One article that is a must-read is the one on the anatomy of a sale. In fact, if you read nothing else in this issue, you must read this one. Why?

I used to look down on selling. I thought it was an entry-level job and that for most, it was a transitional stage they went through before starting a 'real career'. I was wrong, dead wrong. You see it does not matter what profession you are in, what career path you take or what industry you embrace, everyone and I mean everyone is involved in the art of selling. They are either selling a product, a service or themselves. Lawyers, accountants, dentists, doctors, charities, retail and wholesale outlets, you name it, they will be selling something.

So the obvious question is why are so few sales people trained in sales? The very existence of any business relies on selling a product or a service to survive. Selling is perhaps the most important aspect of any business. There is no point stocking your showcases with the finest gemstones and jewellery if your sales associates lack the skills to sell them.

There is a real 'Art' to selling, a pre-defined script that all successful people follow. Success is certainly not by chance, it is more by design. If you follow the script, you will increase your chances of being successful, if you don't, you won't. It's that simple.

I have had many salespeople work for me over the years. I would be a rich man if I had received even a dollar for every time I have been told that the customer was only looking.

How many times have you been greeted by 'Hi, Can I help you?' and how many times have you responded 'No, I'm just looking'.

Untrained sales associates always lean on the 'discount' crutch. This is why most stores inflate their retail prices so that their untrained staff can offer the one inducement that stores think is the nirvana of selling. In reality, it creates a bad impression and once you are on the discount merry-go-round, try getting off.

Retailers have tried it and it is virtually impossible. Once you give a client a discount, he will always expect it. In fact, he will even tell his friends.

We all want referral business but do you want this type of referral business?

As you will see in 'Selling Success - The Anatomy of a Sale', if you identify your customers needs correctly, price will never be an issue.

You will also see that during a normal sales presentation, you can find creative ways to give your clients the 'look' they want without breaking their budget.



Haimanot Sisay - Associate Editor

In the process, you may awaken the 'inner beast' in them and turn them onto a whole new world of gemstones that previously did not exist. This is not only an exciting prospect but also a great way of getting the competitive edge. Imagine the look on your competitors face when your client walks into their store and asks for a colour-change garnet?

Jewellers have got to stop running with the pack and find new and fertile ground, a place where discounts do not exist because they don't need to exist. Would you discount a colour-change garnet if you were the only jeweller in the mall selling one? Of course not.

So.....you have been warned. Stop complaining about sales, invest in your employees and see what happens. You will be more than pleasantly surprised. I guarantee it!

Have a great summer and we will see you all again in September!

**Associate  
Editor at Work**



# EMPIRE builders

## The Art of Branding



the brand. However, this means that the product must maintain a consistency that reflects the image as well.

### Advantage: Customer Loyalty

Well-executed branding helps create customer loyalty by reinforcing the purchase of merchandise in the consumer's mind. For sporting products, a campaign focused on physical fitness and not on a particular product helps establish the brand as a leader in the industry for both previous and future customers. When the product is associated with a lifestyle, it keeps consumers pursuing similar goals coming back.

**W**hen a company looks to establish itself in the marketplace, it often turns to branding to help. The concept of branding and identity is to create a look and feel immediately identifiable and recognizable in the marketplace. Good branding can increase the value of the product and the company itself. A company's identity in the marketplace can easily make or break its profitability as a whole.

### Advantage: Awareness

The harder a company works on its branding and identity, in most cases, the more awareness it creates. For example, Coca-Cola is known worldwide for its product. A consumer can see it in a foreign country, with labelling in a foreign language and know it is a Coca-Cola product. The red colour and shape of the bottle is an immediate trigger in many minds as to the fact that the drink is a Coca-Cola product. This is branding and identity at its best.

### Advantage: Consistency in the Marketplace

The more often a customer sees your brand in the marketplace, the more often he will consider it for purchase. If the brand and identity are truly kept consistent, the customer is more likely to feel that the quality is consistent and to become a loyal follower of

### Disadvantage: Can Become Commonplace

Many brands strive to be No. 1 in the minds of consumers. For example, in many parts of the U.S., people request a Coke when they go to a restaurant, not necessarily meaning a Coca-Cola product, but any soda. While it is the goal of branding to become the standard, it is not the goal to become the generic term of a line of products.

### Disadvantage: Negative Attributes

If a product or service experiences a negative event, that will become attached to the brand. For example, a massive recall or unintentionally offensive ad campaign can tarnish a company's brand and image, causing the company to need to build a whole new brand and identity to recapture its place in the market.

### Disadvantage: Pigeonholes

Sometimes establishing a strong brand identity can backfire when a company needs to pivot in response to changing market conditions. A bakery known for sweet cakes may find it hard to rebrand as a purveyor of gluten-free goods when its name calls to mind images of pastries, frosting and sprinkles.

If we look at the 'Top 10' most recognizable brands, there are few surprises. Like them or not, from a business and

profit perspective, they have collectively spent billions telling us why we should buy from them, and that investment has certainly paid off. The figures represent their 'Net Worth' in 2023 in U.S. dollars

- Apple (AAPL) - \$ 2788.7 billion
- Microsoft (MSFT) - \$ 2462.71 billion
- Google (GOOGL) - \$ 1582.55 billion
- Amazon (AMZN) - \$ 1248.27 billion
- Samsung (SMN) - \$ 359.3 billion
- Coca-Cola (KO) - \$ 258.52 billion
- McDonald's (MCD) - \$ 208.00 billion
- Toyota (TSE) - \$ 184.66 billion
- Disney (DIS) - \$ 160.47 billion
- Mercedes-Benz (DAIG) - \$ 81.06 billion

Collectively that is 9,334.24 billion dollars, a staggering amount of money and this just represents ten companies worldwide.

To put this into perspective, Apple spent \$ 1.8 billion in 2020 on advertising, marketing, and promotions. Between 2014 and 2019, Daimler AG (Mercedes-Benz) spent \$ 3.8 billion U.S. dollars advertising in the United States and in 2022, McDonald's spent approximately \$ 398.3 million U.S. dollars on worldwide advertising, down from \$ 459.9 million they spent the previous year.

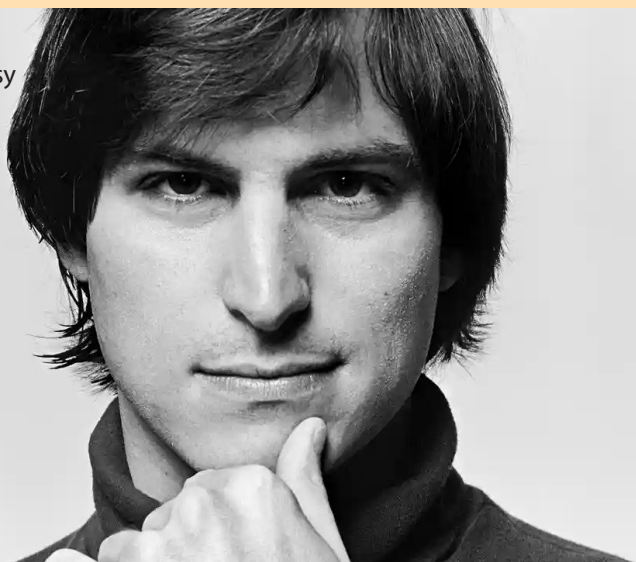
Calculating the actual value of 'branding' is not easy. In some cases, branding simply encourages us to buy a product and stay loyal to it over the years (McDonalds, Coca-Cola), in other cases, the branding adds a significant cost to the product (Apple, Mercedes-Benz).

Harry McCracken of Fast Company wrote an interesting article in May 2021 about Apple prior to the death of Steve Jobs and ten years after his death.

*'From a business viewpoint, Apple is flourishing, becoming the first company to reach a valuation of \$2 trillion less than nine years after Jobs's death. In fact, Apple is now worth more than six times what it was on October 5, 2011. Tim Cook has proven to be one of the best CEOs in the history of business. The question now being asked is 'would an Apple run by Steve Jobs have matched Tim Cook's history-making financial results?'. It is impossible to say.*

*In terms of products, it's now fair to compare Cook's biggest products to Jobs landmarks such as the Apple II, Mac, iPod, iTunes, iPhone, and iPad. Apples biggest all-new product since 2011 has unquestionably been the Apple Watch,*

Steve Jobs  
Photo courtesy  
of Allsar



*which is now worn by 100 million people, including a third of iPhone users in the U.S. Judged purely as a revenue generator, the smartwatch deserves to be mentioned in the same breath as Jobs's signature products: It's a bigger business than the iPod was at its height.*

*The other obvious megahit of the Cook years are AirPods, which defined the modern wireless-earbud category and still lead it; they're as iconic as wired iPod earbuds once were—and vastly more profitable for Apple.*

*While Jobs was not an inventor, he had a near-superhuman ability to know what to put into a product and what to leave out. He could make the seams between hardware and software nearly vanish. He made hard decisions that were often questioned, but almost always prescient and—eventually—widely imitated.*

*No single person has taken on that responsibility in the Cook era, and it shows. Compared to earlier days, the company has released more than its share of half-baked products, such as 2013's iOS 7, whose newly minimalist look felt like a rough draft. In 2014, it had to create a \$10,000 Apple Watch to learn that such a device made no sense. Instead of making touch-screen Macs, it replaced the MacBook Pro's function keys with a skinny touchscreen in 2016, seemingly making very few people happy. Right now, the odd changes which the company decided to make to its Safari browser—and has only partially unwound—seem like an instance of inadequate editing of its raw ideas.*

*While Jobs was not immune to making mistakes, present-day Apple does feel like it's lost the final polish that Jobs gave almost everything. Still, even if Apple errs in public more than it once did, it usually gets to a good place eventually. In the post-Jobs era, the iPhone line-up has had some false starts—remember the proudly plasticky iPhone 5c?—and grew confusing as Apple added more and more variants. But the four new iPhone 13 models—and the iPhone SE—make for the most comprehensible iPhone line since the days when it consisted of a grand total of one*

phone. And by making the new iPhones slightly thicker and heavier to allow for larger, longer-lasting batteries, Apple abandoned Jobs's thinner-is-better instincts to achieve a sensible goal. That's an infinitely smarter act of editing than asking 'what would Steve do?'

*Steve Jobs will never be forgotten, but more and more, when Apple does things that he wouldn't have, it's not a sign that the company has lost its way. Instead, it's evidence that Apple is still restlessly looking forward rather than obsessing over its past. In reality, what could be more Steve Jobs-like than that?'*

But what about 'branding' in the gem and jewellery sector?

While no jewellery house made the Top Ten, branding plays an important part in a business that relies on sentiment. DeBeer's slogan 'A Diamond is Forever' is a classic example of marketing at its finest.

In May 2023, StyleCraze published an article by Pratima Ati where she stated the most recognizable jewellery brands. Not surprisingly, Tiffany and Cartier topped the list.

- Tiffany
- Cartier
- Bvlgari
- Harry Winston
- Van Cleef & Arpels
- Chopard
- David Yurman
- Buccellati
- Boucheron
- Hermès

Let's look at her rationale.

### 1. Tiffany & Co

Tiffany & Co has a powerful legacy attached to its name and is the first thing that comes to our mind when we talk about designer jewelry. It first set up store in 1837 under the name Tiffany, Young & Ellis, and later changed to Tiffany & Co. and expanded its base to London and Paris. It is famous for making world-class couture jewelry, whether it is diamonds, solitaire, or platinum and boasts of superior craftsmanship. Jackie Kennedy, Elizabeth Taylor, and many big celebrities are all its loyal customers.

A study examined the global net sales share of Tiffany & Co. by product segment and found that the jewelry

segment accounted for over 90% of the company's revenue. The other product segments, which include timepieces, accessories, and fragrances, accounted for less than 10% of the company's net sales. This highlights the importance of the jewelry segment in the company's success, with implications on its marketing and product development strategies.

### 2. Cartier

Louis Cartier, a French designer, founded Cartier in 1847 in Paris. In a few years, it gained popularity for making exquisite accessories and expanded its base to other big cities in the world. In 1947, Cartier created the legendary panther-shaped brooch with pave diamonds and the most beautiful gems. It caught the attention of the world as well as the Princess of Windsor, who was indeed mesmerized by this masterpiece. Cartier makes a different version of this ever since, which continues to be the most awaited piece every year. It is also known for auctioning the finest, most prestigious, and rare pieces of jewelry.

### 3. Bvlgari

Bvlgari is an Italian brand that was started in the late 18th century by a Greek immigrant, Sotirios Voulgaris. Bvlgari's signature jewelry is made of multicolored stones and diamonds that are truly exquisite and unique. Its most famous collection is 'Serpentine,' where jewelry like watches, necklaces, and bangles are coiled in the shape of a snake and are encrusted with diamonds and colored stones.



Courtesy of Tiffany & Co.

#### 4. Harry Winston

Harry Winston started the brand in 1932 and passed away in 1978. The company retained the name and continued to make couture and designer jewelry using diamonds and gemstones. Its jewelry is highly intricate, elegant, and structural, and you will know one when you see one. Celebrities continue to choose Harry Winston on the red carpets even to this day because the designers keep the vintage aesthetic intact while designing contemporary jewelry.

#### 5. Van Cleef & Arpels

Van Cleef & Arpels is yet another French designer company from the Art Deco era. It was started by Alfred Van Cleef in collaboration with his uncle, Salmon Arpels. Its jewelry is all about old-world charm and path-breaking gemstone-making techniques to make watches, rings, earrings, and necklaces. Van Cleef is also known for its exclusivity and futuristic designs like 'Mystery Setting,' which is a setting that brings out the best exposure of each gemstone.

#### 6. Chopard

Chopard is a Swiss company that was started in 1860 by Sonviellier and was famous for making watches for women. It was sold to a German company in 1960 that retained its name and continued to make what the company was best known for – wrist and pocket watches for women. It later expanded its horizons and went on to make jewelry for women, all of which are highly sought after even to this day.

#### 7. David Yurman

Started by David and Sybil Yurman in 1980 in New York, this American jewelry brand came in much later than the other big brands. But hey, it is no less than the other big names in the industry. It makes jewelry to suit the many needs of women – whether it is for a red carpet event or as an everyday essential. Its signature piece is the 'Cable Motif,' which is all about encompassing silver, platinum, or gold wire and decking up with gemstones or left polished. Celebrities are often spotted wearing David Yurman.

#### 8. Buccellati

Buccellati is a big name not just in Italy (where it was first started) but in all other big cities like New York, London, Paris, and Hong Kong. With a strong heritage and culture, Buccellati is known for its unparalleled quality and design in gold and silver laced diamond jewelry and stone studded insect and animal forms that are beautifully made into exquisite pieces.

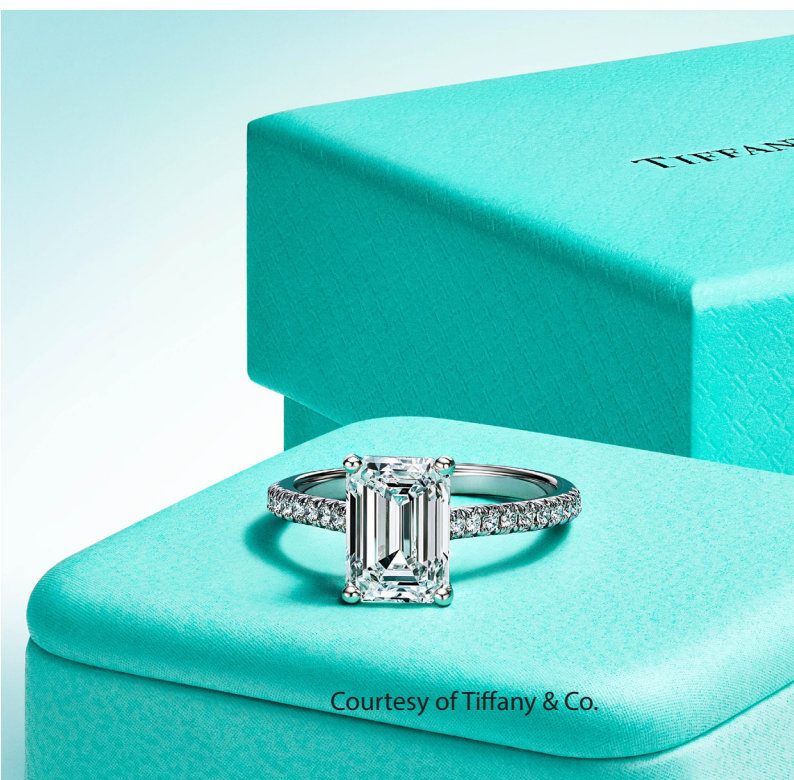
#### 9. Boucheron

Boucheron was started in 1860 by Frédéric Boucheron, making jewelry for the elite Parisian community, and quickly became the center of luxury jewelry. In 1898, Boucheron moved to 26 Place Vendôme, which caught everyone's attention. It was at the corner of the road and the brightest, which meant the jewels would sparkle and bring out the best. While the headquarters remains at the same place to this day, Boucheron has opened many other stores in Moscow, London, New York, Shanghai, Hong Kong, Dubai, etc. From bespoke designer pieces that have an air of elegance to watches and bridal collections, Boucheron remains at the top of its game.

#### 10. Hermes

Hermès was started in Paris in 1837 by a Parisian designer, Thierry Hermès. The luxury label known for its eccentric colors and bold designs is also into making jewelry for women. It is known for making bespoke and limited edition jewelry as opposed to mass production, just like its other products. Leather is its forte, and thus it has designs that blend leather and enamel to make contemporary jewelry, along with other exclusive gold and diamond collections. Grace Kelly was one of its most loyal customers.

Assigning a value to brand name items requires a different approach compared to no-name brands. In the latter, it is a question of breaking the item down into its component parts, researching the component prices, and then applying a fair retail mark-up.



Courtesy of Tiffany & Co.

In the case of brand items, a valuer must either research the item through the company's website or contact them directly.

If you talk to any seasoned jewellery appraisers, they will attest to the fact that when it comes to pricing a brand name product, there is no logic involved. Even the simplest item defies logic because the one 'unknown factor' is the value of the brand.



Cartier sell a simple platinum and diamond 'Ballerine' wedding band for £ 1540 on their website. This price includes 20% VAT. It measures 2.1mm wide and is set with a one point (0.01 carat) round brilliant cut diamond.

According to Moissanite Co, a 2mm comfort fit platinum band will weigh around 2 grams (finger size 6). While Cartier do not state the quality of the diamond, let's assume that it is G colour, VS clarity and is an excellent cut.

If this were a no-name product, an appraiser would calculate the spot price of platinum, the cost of the diamond, the labour to make the ring and bezel set the stone and then apply a retail mark-up. Realistically, this ring should retail for between £ 500 and £ 600 excluding VAT.

The Cartier price excluding VAT is £ 1285.

A similar ring, designed by Elsa Peretti for Tiffany & Co. set with a two-point (0.02 carat) round brilliant diamond sells for £ 1250 (or £ 1050 excluding VAT).

Clearly, we can see the incentive of creating a brand. Is the Cartier ring worth £ 1540? The answer is irrelevant. If you want to impress the 'love of your life' with a Cartier Ballerine 2.1mm comfort fit platinum and diamond wedding ring in the classic Cartier 'red' box, this is what it will cost. The real question one should ask is 'do you see the added value of paying almost £ 600 more for this ring compared to a generic brand?' Guaranteed the first words that will roll off the lips of your loved one when she is showing the ring off to her friends is that it came from Cartier and that will immediately put you in the 'he loves you a lot' category.

But what about 'other' brands in the gem and jewellery sector?

Certain gemstones are branded. Not necessarily by a company but more by supply and demand.

This applies to emeralds, rubies, sapphires, and certain other gemstones such as Paraíba tourmaline. The charts below (based on GemGuide) show how 'origin' can affect the price of a gemstone. Origin in itself is a form of branding because by creating a separate pricelist, we are setting it apart from all other similar gemstones from other countries.

Emerald Origin	Carat Weight	Commercial 4	Good 6	Fine 8	Extra Fine 10
Non-Origin	1.00 to 1.99ct	Base	Base	Base	Base
Colombia		+33%	+54%	+33%	+25%
Zambia		+23%	+30%	+11%	+4%
Brazil		-	-2%	-	-3%

Ruby Origin	Carat Weight	Commercial 4	Good 6	Fine 8	Extra Fine 10
Non-Origin	1.00 to 1.99ct	Base	Base	Base	Base
Myanmar		+176%	+270%	+317%	348%
Mozambique		+134%	+116%	+136%	+85%

Blue Sapphire Origin	Carat Weight	Commercial 4	Good 6	Fine 8	Extra Fine 10
Non-Origin	1.00 to 1.99ct	Base	Base	Base	Base
Myanmar		+22%	+177%	+98%	+150%
Sri Lanka		-11%	+67%	+37%	+78%

Diamond laboratories are also a form of branding with certain laboratories considered better than others. It is common knowledge in the trade that certain laboratories are considered more competent than others, producing reports that are more accurate and more consistent. Is this fair? Probably not for a new laboratory but if we look at the 'product' you are offering, confidence in the information is paramount. Of course, we know that certain laboratories have experienced problems with grader influencing but as with Apple and all other brands, a strong brand is normally more consumer resistant.

A recent analysis of the popular IDEX Online Diamond platform revealed some interesting results.

If we look at all one-carat round brilliant cut diamonds listed for sale with accompanying reports, we can see that of the 38,723 diamonds listed, 89% were graded by GIA, 7% by IGI, 3% by HRD and 1% by 'other' labs.

If we look at all shapes of diamonds listed for sale with accompanying reports, we can see that of the 973,299 diamonds listed, 89% were graded by GIA, 6% by IGI, 3% by HRD and 2% by other labs (of which EGL accounted for 48% of them).

Clearly the members of IDEX see 'added value' in getting their diamonds graded by GIA but here is the puzzling part. If we look at the discounts, we see that GIA diamonds are also among the most heavily discounted (a 3.51 carat pear shape graded by GIA on March 15th, 2023, is listed at 92% off the IDEX list price). This goes against everything we now know about branding. If you trust a brand, why would you be so willing to offer heavy discounts? It used to be different. The dubious laboratories who tended to be quite liberal with their grades were heavily discounted while the more trusted laboratories were not. This made sense. If Lab C is grading a G colour, SI-2 as an F colour, SI-1, it stands to reason that if the

seller knows this, he will really be asking a price that is more in line with the lower colour and clarity. The advantage of course is that to unsuspecting buyers, the over graded stone will look like a better deal. Clearly, sellers are using GIA to boost confidence in their clients.

The following charts divided into three colour and clarity categories (D, VVS-1, G, VS-1 and J, SI-1) and two cut categories (Excellent & Good), make interesting reading. On the one hand, GIA dominant the market but winning the 'Most Discounted' category is not something to be proud of, or is it? Remember the value of a business is based on revenue and profit and in this case, of the almost one million diamonds listed on IDEX, over 875,000 were graded by GIA. That is serious money by anyone's standards. You see, GIA are not interested in what a diamond sells for, merely in producing a report that a seller can use to sell the diamond. In this instance, the goal of branding the laboratory is working fine. People trust it and therefore are happy to pay for the service.

Round Brilliant – One Carat, D Colour, VVS-1 Clarity, Excellent Cut					Round Brilliant – One Carat, D Colour, VVS-1 Clarity, Good Cut *				
Top 50 Most Discounted Diamonds			Top 50 Least Discounted Diamonds		Top 50 Most Discounted Diamonds			Top 50 Least Discounted Diamonds	
GIA	100%		GIA	100%	GIA	-		GIA	-
HRD	0		HRD	0%	HRD	-		HRD	-
IGI	0%		IGI	0%	IGI	-		IGI	-

Round Brilliant – One Carat, G Colour, VS-1 Clarity, Excellent Cut					Round Brilliant – One Carat, G Colour, VS-1 Clarity, Good Cut				
Top 50 Most Discounted Diamonds			Top 50 Least Discounted Diamonds		Top 50 Most Discounted Diamonds			Top 50 Least Discounted Diamonds	
GIA	62%		GIA	100%	GIA	90%		GIA	84%
HRD	8%		HRD	0%	HRD	2%		HRD	10%
IGI	30%		IGI	0%	IGI	8%		IGI	6%

Round Brilliant – One Carat, J Colour, SI-1 Clarity, Excellent Cut					Round Brilliant – One Carat, J Colour, SI-1 Clarity, Good Cut				
Top 50 Most Discounted Diamonds			Top 50 Least Discounted Diamonds		Top 50 Most Discounted Diamonds			Top 50 Least Discounted Diamonds	
GIA	82%		GIA	96%	GIA	92%		GIA	94%
HRD	2%		HRD	0%	HRD	0%		HRD	2%
IGI	16%		IGI	4%	IGI	8%		IGI	4%

\* Only 7 diamonds in the system  
Source: IDEX ONLINE May 31st, 2023

One startling revelation was how insignificant 'Diamond Designer Cuts' are on the IDEX network. 'Hearts & Arrows' is a popular brand, yet of the 973,299 diamonds listed, only 240 or 0.025% are in the system. CanadaMark® Diamonds fared slightly better with 782 or 0.08% listed. One would have thought these 'brands' would be more popular but apparently not. In fact, of the thirty-five designer cuts listed in the search engine, only CanadaMark® and Hearts & Arrows yielded results.

Finally, Kristopher Jones from Forbes sums up branding and why you should see it as an investment in your business rather than a cost.

### The Importance of Branding in Business

A business's branding is more important than you might think. On the outside, your brand may seem like it consists only of elements such as logos and colours, but your brand is actually the entire identity of your business. Your brand gives you personality.

Branding has always been a vital part of business, but it may be more important now than ever before. With social media, consumers get exposed to new brands every day. This can be great for consumers who have plenty of options and are able to do research to find the best one, but it makes it harder for businesses.

There's a huge amount of competition today, so businesses need to go the extra mile of ensuring they stand out in a crowd. To do this, you should invest in creating a strong brand that will get and keep people's attention. With the right branding, you have the chance to get some control over how people perceive your business, so you don't want to overlook this.

### More People Will Recognize Your Business

One of the most obvious reasons that businesses need branding is to help them get recognized more often. If you have strong branding for your business, people will naturally take note of it much more than they would a business without it. A business that doesn't really have any cohesive branding isn't going to stay in someone's mind for very long.

However, a business with elements such as a distinct logo, attractive colours and other visual elements will be much more memorable. Someone might see your brand for only a moment, but if it sticks out in a positive way, there's a good chance they won't forget it, even if this person isn't ready to use your products or services just yet. Eventually, when they're ready to take the next steps, if your branding has stuck with them, they'll come back to you.

### Branding Can Help Build Trust

Trust from your audience is one of the most important things you can have as a business, but this isn't always easy to gain. A business that's missing key elements of branding will have an even harder time getting people to trust them.

Branding is something many of us expect to see when we look at businesses in any industry, and missing this could be a red flag to some. Without branding, you have very little to show for your business.

If you had to choose between a business with clear, professional-looking branding and a business that hasn't made this effort, you probably know which one you'd trust more. Branding helps you show potential customers that you're an established, credible business. You can use this to tell people very early on what they can expect from your business. This is an investment your business is making to improve itself, and potential customers will recognize that you put in the work to create your brand.

### You Can Improve Your Advertising

Your business won't be able to get very far without advertising. Branding and advertising go hand in hand. If you want to have better advertising for your business, you're going to need to work on creating a brand first.

When you're advertising your business, you want everything to be cohesive and represent your business's identity and values. This can be a challenge when you haven't taken the time to form your brand. If you're advertising without solid branding, you're missing out on a lot of great opportunities to create an effective campaign. Incorporating branding into your advertising will help increase recognition of your brand when it's all tied together.

### It's Great for Your Employees

Branding provides value inside of your company as well. Of course, you want your employees to love working for your company and feel like they're a part of a team. A company with great branding will have an easier time getting employees to feel like they're involved with something more than just a job.

In addition to branding that can help draw in new customers, you also want to invest in the aspects of branding that keep your team motivated. This includes little things like branded apparel and merchandise, but also the look of your entire office space. If you can motivate your employees by creating a sense of unity through branding, you could end up seeing great results all around.

## Branding Creates Loyal Customers

You don't just want customers who recognize your brand and use your business once — you want to create customers who continue to come back. With good branding, you can give your brand a more human side, which your customers can relate to more than a company that's strictly all business.

In many ways, you can appeal to people's emotions through branding and make them feel more connected to your company. Branding allows you to build relationships with your audience, which can eventually turn them into loyal customers. You can create a brand that people actually care about and put yourself ahead of businesses that aren't using this to their advantage.

Interested in branding your jewellery business? Read on with some important tips from our friends at 'The Branding Company'.

### ABOUT THE AUTHORS

This article is a collective work combining excerpts from various articles by Geoff Dominy, Lynn Lauren of Chron, Harry McCracken of Fast Company, Pratima Ati (StyleCraze) and Kristopher Jones from Forbes. All data is included to emphasize the effects branding can have on a product.



Sunflower collection  
and Classics by  
Harry Winston



Bvlgari Collection  
Photo by David Sims



Harry Winston  
Kaleidoscope Collection



# BRANDED agency

## Developing Your Successful Jewelry Business

**C**onsider what makes your brand special and how you can exhibit it via your product and packaging when developing your jewelry branding.

Building a successful brand is all about developing an identity for your items that helps people remember your jewelry, even if you don't have the most money for marketing.

Defining who you are designing for and what kind of jewelry designs you specialize in will aid in improving your brand's overall perception.

Jewelry branding should be original, memorable, and one-of-a-kind in order to offer a distinct style that helps your items stand out.

Branding your jewelry can also help you stand out and ensure that your name is remembered by your clients. Here are some guidelines to assist you in developing a strong brand for your jewelry company.

### THE MARKET RESEARCH PROCESS TO BUILD YOUR JEWELRY BUSINESS

#### Identify Your Target Market

Identifying your target consumer is essential when developing a jewelry business.

When you understand your target market, you can design jewelry that caters to their particular likes and interests.

Branding for jewelry should appeal to this group of people and show what the jewelry is.

How you set prices, create promotions, and choose advertising platforms will depend a lot on how well you know your target market.

#### Competitor Research and Brand Positioning

Every business, including the jewelry industry, must do a competitive analysis.

Knowing what other companies in your industry are doing may help you stand out by allowing you to

optimize what works well for your competitors and position yourself differently or provide products and services that are distinctive.

With a competitive analysis in hand, as well as a comprehensive understanding of your own strengths and skills, you are set to determine what will make your jewelry branding unique.

This will provide a benchmark for your brand to stand out from the competition while staying loyal to its identity.

#### Define Your Brand Identity and Aesthetic

Begin by establishing your brand's identity, mission, and purpose.

Your product's and target audience's personalities should be reflected in your branding in that it will be attractive to their sensibilities.

Before you begin designing, think about what distinguishes you and makes your jewelry distinctive.

Not only should the creative design of your brand reflect your audience, but it should also be a visual demonstration of your products and services, mission and vision, and, ultimately, your brand personality.

#### Choose Your Brand Name

The name you choose for your jewelry business will be key to the overall success of building a successful Brand.

Select a name that is unique and memorable but also one that encompasses the essence of your Brand's identity.

#### Determine your brand values and mission

Defining your brand values and mission is essential for any business.

Brand values are the core principles that drive the decisions of a business, while a mission statement outlines the purpose of the company.

Brand values should remain consistent throughout every aspect of your business and help customers understand what you stand for.

### **Develop a unique selling proposition**

Creating a unique selling proposition (USP) for your jewelry business can help you stand out from the competition and attract potential customers.

A 'Brand USP' (unique selling proposition) is the unique aspect of the products and services you sell that help you stay ahead and rise among your competitors.

Some marketing experts consider brand USP one of the most powerful marketing strategies because it makes your customers trust you and choose you over others.

You can also consider brand USP as a powerful position-defining factor of a business in a marketplace.

It also helps you define your ideal customer base so that you don't have to create products to please everyone.

Your USP should clearly communicate what sets you apart from other jewelry brands in terms of quality, design or service.

Brand recognition is key to any successful business, and having a USP will help to build great branding.

### **Create a visual identity (logo, packaging, etc.)**

Creating a visual identity for your jewelry business is an integral part of branding.

It's extremely important and should reflect the values, mission, target audience and unique selling proposition of your business.

This includes developing a jewelry logo design that encapsulates your brand as well as packaging ideas that showcase who you are.

Brand identity can also include website design, social media presence, promotional materials, and other visuals that aid in brand recognition.

## **CREATING YOUR FIRST JEWELRY PRODUCT LINE**

### **Research Trends and Consumer Needs**

Researching trends and consumer needs are essential for any jewelry business.

Knowing what's in demand and popular among your target audience will help you to create pieces that stand out from the crowd.

Research can also include looking at existing brands, fashion designers, special occasions, customer feedback and more.

By understanding the current marketplace and paying attention to what your audience wants, you can create pieces that have a unique edge and appeal to the right people.

Branding plays a huge role in this process, as it will help shape how consumers perceive your product and connect with your company.

### **Determine Your Price Point**

The price point is a key element for any jewelry business.

You should focus on finding the right balance between quality and affordability, as well as considering who your target audience is.

Consider special occasions like weddings or anniversaries that may require more expensive pieces, as well as everyday items that can be offered at more affordable prices.

Don't forget to think about the lifespan of each piece; a high-quality product that lasts longer can be worth a higher price point.

Brand recognition and identity should also be taken into account when determining price, as this will help more people become aware of your brand.

### **Design and Prototype Your Products**

The design process and prototyping of jewelry products are important parts of building a successful jewelry business. Every piece should reflect the quality, values, mission and unique selling proposition of your company.

Start by researching trends and understanding what people are looking for in terms of product design, then begin sketching or using software to create designs.

You can also seek the help of a designer, if needed, or use stone setters to create custom pieces.

Once you have your designs ready, it's time to start prototyping.

This process may include creating product photos, 3D visualizations and other visuals that will help your target audience understand what the finished product looks like.

When prototyping, consider special occasions like weddings, anniversaries and other special occasions that may require unique pieces.

Your jewelry design should tell a story and evoke emotion in the people who wear it. Use this narrative to create designs that are meaningful and memorable.

Think about how each stone or metal will bring life to your piece, as well as how it can be personalized to a certain person.

Branding and design should go hand in hand for a successful jewelry business, so make sure both are taken into account when creating your products.

### **Source Materials and Production Methods**

Sourcing materials and determining production methods are crucial parts of any jewelry business.

As a jeweller, you should source the most appropriate materials of the best quality to ensure your product meets consumer expectations.

You should also ensure that the manufacturing process reflects your standards for product quality.

Proper sourcing and production methods will give customers a sense of confidence and trust in your brand.

It will also help you stand out from competitors and give your business a unique edge.

As audiences are more aware and more concerned about sustainability and ethical sourcing, keep these aspects in mind as you choose your materials.

These are considerations your customers will look for when choosing jewelry from your brand.

By taking the time to source quality materials and production methods, you can create products that will stand out in the jewelry market and help build your brand.

### **Launching Your Jewelry Business Online**

Launching your jewelry business online is an important step in establishing a successful business.

You need to create a great branding presence and connect with customers through different channels such as a website, social media, e-commerce, and email marketing.

When you are ready to share your jewelry business with the world, and more specifically, your target audience, be sure you have the following promotional tactics and platforms at the ready.

#### **Step 1: Create a Website for your Jewelry Brand**

The first step is setting up a website with all the necessary information about your products and company.

This should include images of your product line, pricing information, contact details and other relevant

information. You should also have a page dedicated to your brand's story so customers can get to know you better.

#### **Step 2: Choose Social Media Platforms and Create Profiles for Your Jewelry Business**

Social media is an essential part of any business today and is key for engaging with followers and your target audience. Set up accounts on Facebook, Instagram and Twitter and make sure to keep them updated with news about your products and any other relevant information.

Post images of your pieces on your Instagram feed along with their stories so that customers can understand more about the product.

#### **Step 3: Choose an Email Marketing Platform and an Email Strategy for Your Jewelry Business**

Finally, use email marketing to stay in touch with current and potential customers.

You can create custom campaigns that are tailored to different audience segments and communicate with them directly.

### **Promoting Your Jewelry Business with Traditional Media**

While your target audience may use digital marketing mediums to research and purchase your jewelry, you will still have many opportunities to meet your customers where they are, including as they read their magazines, as they're shopping brick-and-mortar stores, and as they attend brand-specific events.

#### **Create Marketing Collateral**

Creating marketing materials for your jewelry business is an important step in building relationships with potential and existing customers.

Your business cards, brochures, advertisements and even social media posts should all be designed to reflect your brand's vision and values.

Business cards are a great way to introduce yourself and let people know what kind of jewelry you have to offer.

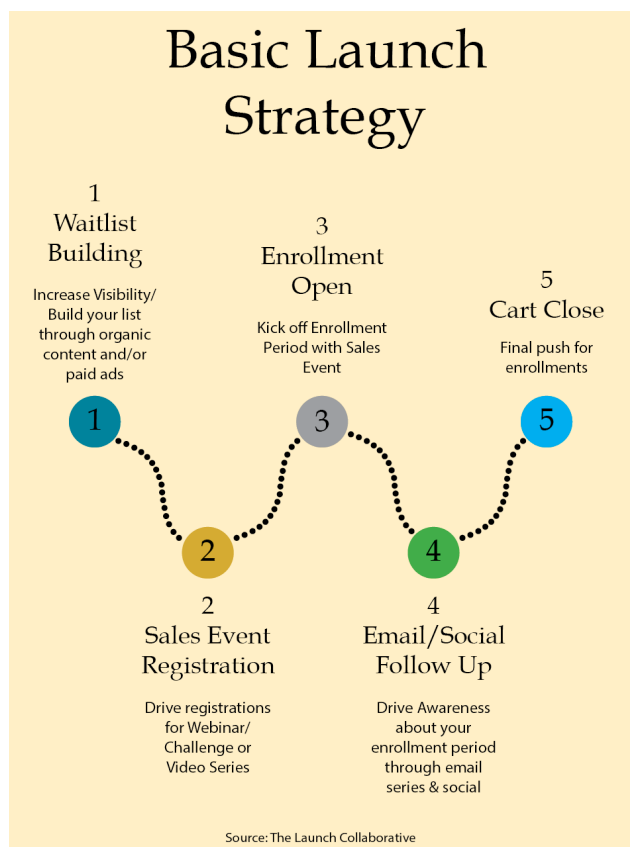
Make sure you include your logo and all relevant contact information, as well as a brief description of your product range.

You can also use attractive graphics and colours to make your card stand out and create an eye-catching design.

Brochures are another great way to promote your jewelry business.

They should include detailed information about the different pieces in your collection and their prices.

You can also use them as a way to explain the story of your brand and why customers should choose your jewelry over others.



Ads are another great way to get noticed.

Invest in ads that will help you reach out to your target audience. You can use images of your jewelry to draw attention and create expectations for your customer as to what they'll see in the brand.

### Plan a Product Launch Event or Strategy

Launching a new product or line of jewelry is an exciting time for any brand.

A successful product launch strategy should incorporate business focus, sales goals and the future of your relationship with customers.

First, you need to have a clear idea of what you want to achieve with the launch.

Set yourself clear business objectives such as increasing sales, expanding your reach to new markets or raising brand awareness.

This will help you focus your efforts on the tasks that will give you the best results.

Next, create a sales strategy for your launch event.

Decide which products you want to showcase and how many pieces you'll need to sell in order to make it successful.

You should also consider pricing, discounts and other incentives to encourage customers to purchase.

Finally, think about how you can promote the launch in the wider world.

This could be through social media campaigns or reaching out to influencers.

It's important to build relationships with your target audience and create a buzz around your new products before they hit the shelves.

By taking the time to plan a successful product launch strategy, you can ensure that your jewelry brand becomes a success in the future.

With the right tools and strategies in place, you can make sure that your customers are aware of what you have to offer and connect with them on a deeper level.

### SELLING YOUR JEWELRY PRODUCTS

With branding in place, you are ready to send your jewelry out into the world and onto the hands, ears, and necks of your customers.

Depending on the size of your business and budget, there are a few different ways to go about this.

#### Making Your Products Available for Purchase Online, In Stores, Wholesale, etc.

If you want to reach an international audience, setting up an online store is often the best option.

Websites such as Shopify and BigCommerce all make it easy to create an e-commerce store with user-friendly interfaces.

You can also embed a plugin, such as WooCommerce, into your own website. From here, you can upload pictures of your products, set prices and accept payments.

Creating sales relationships with brick-and-mortar retail stores is another great way to get your jewelry out into the world.

You could approach existing retailers or look for shop spaces that you can rent on your own. It's important to do your research and understand the expectations of retailers before submitting any proposals.

Selling wholesale is also a great option for jewelry businesses.

You can get in touch with potential buyers, such as boutiques or department stores, and negotiate pricing and delivery terms.

Building strong relationships with these customers will help ensure that your products reach their target market.

By selling both online and in-stores, you can create a holistic experience for customers and expand the reach of your jewelry business.

Whether it's through website sales or wholesale deals, taking the time to build a successful business plan will help you deliver quality jewelry to customers all over the world.

### Grow and Expand Your Jewelry Business

No matter how successful you become, it's important to monitor and analyze sales data constantly.

This will help you stay up-to-date on what is working and what changes need to be implemented in order to keep your business growing.

### Monitor and Analyze Sales Data

Start by tracking key metrics such as monthly sales figures, customer acquisition costs and average order value.

This will give you an overview of your business performance, as well as any trends that are emerging.

You should also keep a close eye on customer feedback and reviews.

Positive comments can be used to refine your marketing campaigns and attract new customers, while negative reviews can provide valuable insight into areas where the product or service could use improvement.

By regularly monitoring and analyzing your sales data, you can make sure that your jewelry business is staying up-to-date with customer expectations.

This will help ensure that your products remain competitive in the industry and give customers a reason to keep coming back for more.

### Building Relationships with Customers

The success of any business is largely dependent on customer relationships.

Building strong relationships with customers is key to keeping them engaged and turning them into loyal fans of your jewelry brand.

Start by reaching out to customers directly and engaging in conversations.

This can be done through social media, email campaigns or even face-to-face meetups at trade shows or other events.

You should also consider offering incentives to customers who go above and beyond when it comes to promoting your brand.

Providing discounts or exclusive access to new collections can be a great way to thank them for their loyalty and

encourage them to continue spreading the word about your products.

Finally, make sure that you are constantly communicating with your customers.

Whether it's through emails, newsletters or social media posts, staying in touch is a great way to build relationships and keep customers engaged with your brand.

By taking the time to build meaningful relationships with customers, you can create an emotional connection that will make them more likely to recommend your products and come back for more.

### Stay up-to-date on industry trends and consumer preferences

The jewelry industry is constantly evolving, so it's important to stay up-to-date with the latest trends and consumer preferences.



# feedback

This will ensure that your brand remains competitive in the market and attractive to customers.

Continue researching what other jewelry businesses are doing and what kind of designs they are creating.

This will give you an idea of what is popular in the industry and help you anticipate future trends.

You should also pay attention to customer feedback and reviews.

This will give you insight into what people like or dislike about your products so that you can make improvements accordingly.

Apply this feedback and review research to your competitors, as well.

You'll also come away with ideas and inspiration on how you can improve your own offerings and fill gaps in the market.

Finally, keep an eye out for any changes in consumer preferences or behaviour.

This will help you stay ahead of the curve and create products that are in line with customer expectations.

By staying up-to-date on industry trends and consumer preferences, you can ensure that your jewelry brand remains relevant and attractive to customers.

## Develop New Products and Jewelry Collections

Staying competitive in the jewelry industry also means constantly creating new products and collections.

This will help keep your brand fresh and exciting while also providing customers with something new to choose from.

Start by researching what other brands are doing and identify any gaps in the market that you could fill with a unique product or collection.

You should also take the time to experiment with different materials, colours and designs to create something that stands out from the crowd.

At the same time, it's important to keep customer feedback in mind.

Consider, also, reaching out with regular surveys. This will help you create products that people actually want rather than simply guesswork.

By regularly creating new products and collections, you can keep your jewelry brand fresh and exciting for customers.

This will give them a reason to keep coming back for more while also helping you stay competitive in the industry.

## Explore New Sales Channels and Marketing Strategies for Your Jewelry Business

The success of any jewelry business depends heavily on its sales and marketing strategies.

### SALES CHANNELS CHEAT SHEET

	POS	Blog	Email	Facebook	Messenger	Instagram	Pinterest	Etsy/ eBay
Brand Building	High	High	High	Med	Med	Med	High	Low
Time Investment	High	Low	Low	Med	Low	Med	High	Med
Cost \$	High	Low	Low	Low	Med	Low	Low	Med
Lifespan	Low *	High	Low	Med	Low	Low	High	Med
Audience Reach	Low	High	Med	Med	Low	Med	High	High
Engagement	High	Med	High	Low	High	Low	Low	Low
Overall Return	High	High	High	Med	High	Med	Med	Med
Shopify App	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

\*Varies depending on if you have a permanent storefront, weekly farmer's market spot or one off event

SOURCE: AMIKA RYAN SHEPHERDLIKEAGIRL.COM

That's why it's important to explore new channels and strategies that can help you reach a larger audience, boost sales and grow your business.

When researching your competitors, note what brands are doing in terms of online marketing, from social media campaigns to email newsletters.

This will give you an idea of what's working and what isn't in terms of reaching customers.

You should also consider expanding your reach by selling through additional channels, such as retail stores or eCommerce websites.

This can be a great way to increase exposure and boost sales.

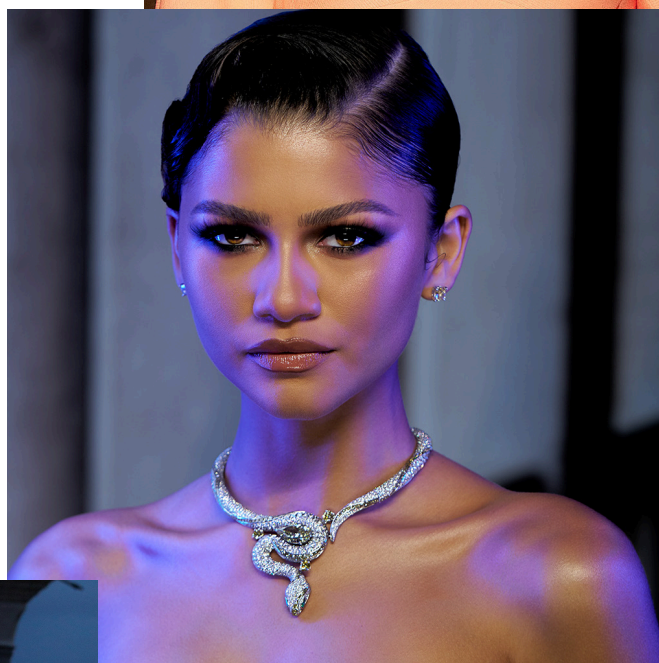
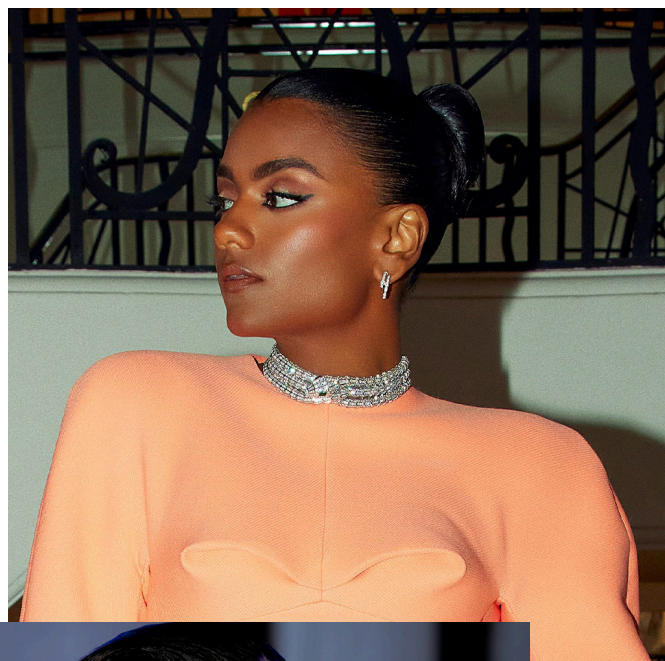
## CONCLUSION

To build a successful jewelry business, you need to focus on branding, staying up-to-date with industry trends and consumer preferences, developing new products and collections, and exploring different sales channels and marketing strategies.

It's also important to maintain strong relationships with customers by connecting with them through various mediums.

By following the tips and best practices in this branding guide for jewellery businesses, you can create and build a successful jewelry brand that stands out from the competition.

With the right strategies in place, you'll be able to create a strong brand identity and attract customers who love your products.



Stunning Advertisements By Bvlgari

## ABOUT THE BRAND AGENCY

Inventing the future from startups to stalwarts.

You can find us at the intersection of strategy and creativity.

We design brands, products, and experiences that help our clients solve problems, transform culture, and redefine industries.

We collaborate with ambitious companies with big dreams, spanning various sectors.

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# SCHOLARSHIPS

## Tino Hammid Memorial Gemmological Scholarship



In every industry there are iconic individuals, giants who stand head and shoulders above the rest. In the field of jewellery and gemstone photography, there is little debate that Tino Hammid was a visionary, a rare talent who possessed the unique ability to capture the true beauty of gemstones. For almost forty years his photography adorned the pages of every important publication around the world, showcasing his unrivalled ability to inject realism into his work.

Tino started his career as a staff gem photographer at the Gemological Institute of America (GIA) in Santa Monica, California (1980 to 1982). In 1983 he started his freelance career in gem and jewellery photography and began a 25-year association with David Federman providing photographs for Modern Jeweler's monthly Gem Profile column. During this period they jointly won two Jesse H. Neal awards from the Association of Business Publishers. In 1987 he acquired Christie's Auction house as a client and photographed more than a hundred of their jewellery sales catalogues. In 2012, Tino joined forces with gemmologist Geoffrey M. Dominy and provided the exquisite photographs for The Handbook of Gemmology, the first digitized gemmological textbook released in 2013.

Sadly, Tino passed away in 2015 after a two-year battle with cancer, however through the Handbook of Gemmology and now the World Gem Foundation courses, his legacy and monumental contribution to our industry will live on for future generations to appreciate and admire.

In 2023, the World Gem Foundation will award five scholarships allowing deserving students to take the World Gem Foundation theoretical 'Career Gemmology' course.

The deadline for submitting your application is December 31st, 2023. All applications will be judged by Tino's wife Petra and his oldest daughter Evelyn with the mandate to select those five candidates who, in their opinion, best epitomize the spirit of Tino.

## W.E. Hunn Memorial Gemmological Scholarship

Each recipient of the Tino Hammid Memorial Gemmological Scholarship will also automatically receive the W.E. Hunn Memorial Gemmological Scholarship that will provide funding equivalent to 50% of the cost of the practical workshops and final examinations.

To download the application form, please click on the image

**APPLY NOW!  
SCHOLARSHIP  
APPLICATION**



# WORD smithing

## The Tale of Two Carrots

It seems odd that in an industry, two different terms that sound the same, would be used to describe both gold purity and the weight of a gemstone.

So, what is the difference between carat and karat?

### GOLD PURITY (KARAT)

The purity of gold is expressed in karats and refers to how much gold is present. Pure gold is described as 24 karat or 1000 (although pure gold is actually considered to be 999.9 since it is impossible to get absolute purity in a metal). In North America, 10K, 14K, 18K and 22K are popular, in Europe, 14K, 18K and 22K are widely used, while in the United Kingdom and Australia, you will find 9K, 14K, 18K and 22K. This is not to say that you will not find intermediate purities of gold but generally speaking, this is what you might expect to find in most jewellery stores.

So, what do we mean by 9K, 10K, 14K, 18K and 22K?

Since pure gold is 24, anything less is defined as a percentage of pure gold. 9K is therefore 37.5% pure gold ( $9/24 \times 100$ ), while 10K is 41.7% pure gold ( $10/24 \times 100$ ), 14K is 58.3% pure gold ( $14/24 \times 100$ ), 18K is 75% pure gold ( $18/24 \times 100$ ) and 22K is 91.7% pure gold ( $22/24 \times 100$ ). You will often hear people refer to karat in terms of parts of gold and parts of alloy. So, if we are talking about 14K, we could describe it as 14 parts gold and 10 parts alloy.

If we are using the 1000 system, since 9K is 37.5% pure gold, it can be written as 375 ( $1000 \times .375$ ). 10K would be 417 since it contains 41.7% pure gold ( $1000 \times .417$ ), 14K would be 583 (although normally it is written as 585) since it contains 58.3% pure gold ( $1000 \times .583$ ), 18K would be 750 since it is 75% pure gold ( $1000 \times .75$ ) and 22K would be 917 ( $1000 \times .917$ ).

Now you may be asking why all jewellery is not made from pure gold. In reality, gold is an extremely soft and malleable noble metal when pure. While it is used for its beauty and corrosion resistance, gold is too soft in its pure form for many practical applications. It is therefore hardened by the addition of other metals called alloys.

By making gold alloys, its durability and hardness is improved but its resistance to tarnishing is weakened, meaning a balance must be struck. The higher the proportion of other metals, the harder the alloy becomes, and each metal tints gold to various shades. Gold alloys are especially common in jewellery, where the maker will choose between the strength of the metal, the desired colour, and of course the cost.

Zinc, copper, nickel, iron, cadmium, aluminium, silver, platinum, and palladium are all common metals alloyed with gold.

Gold and copper are the only two-coloured pure metals. Gold is yellow and copper is a reddish brown. All other metals are white or grey in colour but have various effects on the colour of gold alloys. A gold-coloured alloy for jewellery will typically be one of three colours; yellow, white, or rose (pink).

### Gold Karatage

$$9 / 24 \times 100 = 37.5\%$$

$$10 / 24 \times 100 = 41.7\%$$

$$14 / 24 \times 100 = 58.3\%$$

$$18 / 24 \times 100 = 75.0\%$$

$$22 / 24 \times 100 = 91.7\%$$

$$9 = 37.5\% \text{ of } 1000 = 375$$

$$10 = 41.7\% \text{ of } 1000 = 417$$

$$14 = 58.3\% \text{ of } 1000 = 583$$

$$18 = 75.0\% \text{ of } 1000 = 750$$

$$22 = 91.7\% \text{ of } 1000 = 917$$

Depending on the alloy, gold appears in four basic shades: yellow gold, white gold, rose gold, and green. A huge range of other coloured golds are also possible, including grey, purple, blue, and black, with blends between possible depending on the amounts used.

Yellow gold is the most popular and the shade most commonly thought of as being truly golden. It is an alloy of gold, silver, copper, and zinc. Because it is mixed with silver (another noble metal) it is hypo-allergenic, meaning it is unlikely to cause an allergic reaction. This also makes it very tarnish resistant.

White gold appears almost like silver or platinum. A very popular gold for jewellery, it is an alloy of gold and platinum or palladium. Parts of nickel and zinc may also be added. The hardness of platinum or palladium makes white gold extremely durable and scratch resistant.

Rose gold gets its reddish tint from the inclusion of copper. Silver is also part of the alloy. The relatively low cost of both copper and silver makes it a more affordable option.

Green gold is an alloy of gold, silver, and sometimes copper. The very subtle green tint is created by its silver content. It is the only naturally occurring alloy. Found in the Earth's crust, with trace amounts of copper and other metals, it is termed electrum. Green gold can also be created with cadmium. This alloy, however, is toxic to the skin.

Typically, jewellers will not distinguish their prices based on the colour of gold and the alloys used, with prices based on the percentage of gold present.

## WEIGHT (CARAT)

The name carat derives, via Medieval French and Italian, from Arabic qīrāt, meaning 'bean pod'. which is itself from Greek 'keration', referring to both the carob bean and a small weight.

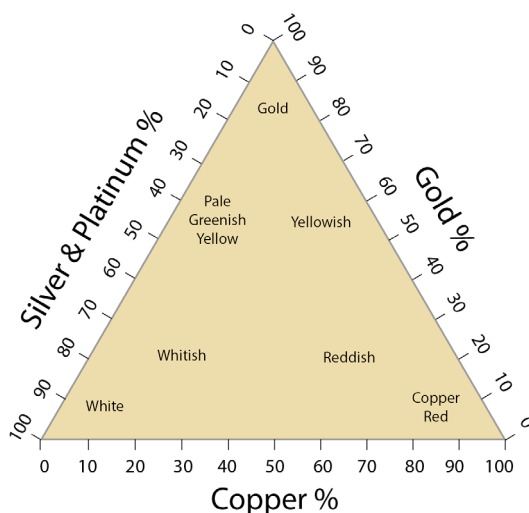
In the past, carob beans were used to measure very small weights and pure gold coins. It was said they were preferred because carob seeds varied very little in weight compared to other species of seeds. Of course, we now know that this is not true. High precision scales now show us that there can be plenty of weight variation between carob seeds, meaning that in the past, you may have been blessed or cursed depending on the seeds that were used to weigh your precious gold coins or gems.

Early in the 20th century, the weight of the carat was set at 200 milligrams, or 0.2 grams. Thus, a 2-carat diamond weighs 400 milligrams or 0.4 grams, a 3-carat diamond weighs 600 milligrams or 0.6 grams, a 4-carat diamond weighs 800 milligrams or 0.8 grams, and a 5-carat diamond weighs 1000 milligrams or 1 gram.

A carat can also be described in 'points' with 100 points equal to one carat or 200 milligrams. Therefore a 25 pointer equals .25 carat (or 50 milligrams), a 50 pointer

equals .50 carat (or 100 milligrams), a 75 pointer equals .75 carat (150 milligrams), and a 100 pointer equals 1.00 carat (200 milligrams). Carats and points are most used to describe the weight of a gemstone since it sounds better than describing a one carat diamond as a 200 milligramer!

A common misconception of diamonds (in particular) is that the carat weight correlates with the size of the diamond. This is true in some ways but only to a small extent.



Round brilliant cut diamonds are cut to stricter parameters than any other diamond shape. A round diamond cut to correct proportions should measure approximately 6.5mm in diameter. A poorly cut 1 carat diamond may be much deeper than it should be and may have a diameter as small as 5.8mm.

	Karat	Gold (Au)	Silver (Ag)	Copper (Cu)	Zinc (Zn)	Palladium (Pd)
Yellow Gold	9K	37.5%	42.5%	20%		
Yellow Gold	10K	41.7%	52%	6.3%		
Yellow Gold	14K	58.3%	30%	11.7%		
Yellow Gold	18K	75%	15%	10%		
Yellow Gold	22K	91.7%	5%	2%	1.3%	
White Gold	9K	37.5%	62.5%			
White Gold	10K	41.7%	47.4%		0.9%	10%
White Gold	14K	58.3%	32.2%			9.5%
White Gold	18K	75%				25% (or Pt)
White Gold	22K	N/A	N/A	N/A	N/A	N/A
Rose Gold	9K	37.5%	20%	42.5%		
Rose Gold	10K	41.7%	20%	38.3%		
Rose Gold	14K	58.3%	9.2%	32.5%		
Rose Gold	18K	75%	9.2%	22.2%		
Rose Gold	22K	91.7%		8.4%		

Imagine a piece of A4 paper. Let's say it weighs one carat. If we scrunch it up, will it weigh more, less or the same? Of course, the weight will not change but the size will. Consumers should be wary of diamonds that are cut to achieve certain key weight categories such as .50ct (half a carat), .75ct (three-quarters of a carat) and especially 1.00ct (one carat) since the price per carat changes dramatically. Remember it is not so much the weight that matters but the brilliance. If you buy a diamond that has been cut to retain weight, you may pay more but get a less brilliant diamond.

Just to confuse matters.....

In the United Kingdom and Australia, they spell 'karat' as 'carat'. So weight and karatage are spelled the same!

However, it should be noted that while 'carat' can be used to describe gold purity and the weight of a gemstone, 'karat' can only be used to describe the purity of gold.

An altogether different homophone is caret: the name for the wedge-shaped mark (^) that is used by copy editors and proof-readers to indicate the place where text is to be inserted. While its unrelated meaning makes confusion with the weight of a gemstone or the purity of gold unlikely, it is strange that a language with so many possibilities should choose to have four words (carrot, carat, karat and caret) that all sound the same!

## QUIZ #27



Let's see how much you know about branding and the manufacture of jewellery!

**15 QUESTIONS.....NO TIME LIMIT!**

All entrants who score 100% on the first attempt will be entered into a draw to win our Coloured Gemstone course valued at \$ 550 USD.

**Deadline: July 15th, 2023**

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More Info



# A beginners guide to wax carving

using a wax cutting saw blade and the excess can be kept and reused. Make sure you pick a wax tube with a central hole in the middle so that when it comes to sizing the ring as you carve, this can be done easily using a professional wax ring stick.

**Wax blocks:** Making a pendant, brooch, or large charm? Wax blocks will work well when you want to create a raised relief pattern that would be difficult to create using sheet metal alone. Because you can create curves and softer shapes in wax, wax sheets can be used to portray more natural scenes. Think about traditional cameos and how tactile they can be. With a wax sheet, the right wax sculpting tools, and some dedication you can create entire scenes of flowers, animals, or sculptures.

**Wax wire:** Although you may have been slowly taking away wax to reveal your design, you can also add some finishing flourishes using wax wire. Wax wire comes in a variety of shapes such as round, square, oval, and star shaped. These lengths of wax wire are pliable and can be used to add decorative elements to your overall design.

## Types of Jewellers Wax

- There are different types of jewellers wax available that are used for different purposes.



**Green:** A very hard wax, it cannot be flexed. Ideal for sharp edges and for intricate carvings and delicate engraving.

**Wax tubes:** If you're creating a ring then wax tube is the best choice for you. The wax tube can be cut down

**Purple:** General purpose, hard with some flexibility.

**Blue:** Less hard and more flexible than green or purple. Good for rounded surfaces and less intricate designs. This is a popular choice with jewellers.

**Turquoise:** Displays exceptional surface finish, especially in recessed areas. Maintains superior strength, toughness, and extreme flexibility.

**Sheet Wax:** good for cutting, moulding, and modelling but not as good for carving.

**Wax Profile Wire and Tube:** wax in the form of wire or tube, can be bent and twisted, used for hinges etc just like metal wire.

## WAX CARVING TECHNIQUE

### Getting your design just right

If you're creating a cameo or raised relief image in a wax block, the best place to start is with a point of reference. Do you have an image you would like to refer to? Once you have an image that's to scale, fix it to your wax block and gently scratch along the edge of the image that you're using to leave you with a rough outline to work to. This will help to guide you along the way. Remember that all you want at this stage is the outline of your design scratched or marked into the wax. Don't overdo it – the detail will come later.

If you regularly create rings and pendants using wax tube, you may want to use a marker to lay out your plans before you start carving your wax. However, this will need to be reapplied as you carve to stop you from going astray and missing your mark. Some people can carve wax freehand, but this does take a lot of practice and concentration, as you'll need to consistently see where your carving is headed in your mind's eye.

### Scratching, Scraping, Carving

Carving wax for lost wax casting is no exact science. The beauty of it is that you can get started with just a scalpel and some wax files. Whatever stage you're at in your experience, here are our top tips for wax carving to help you get the most out of your supplies:

**Slow down!** There is no need for brute force in wax carving. In fact, it's all about finesse. So, take your time and slowly carve and scrape away at the wax. The slower and more controlled you are in your approach the more likely it is that you will not make a mistake and start over. This will also mean that you don't weaken the overall structure of the wax as you carve.

**Adjust your position** Using carvers and scrapers to carve out your design more precisely? Remember

to adjust the position of your tool to ensure you're removing material with each pass of your tool.

**Perfection isn't everything** When you first start out, the whole process of wax carving can be incredibly messy, slow, and difficult. But don't let that put you off. Remember that the three-dimensional, curved designs you're working towards may not be perfect in reality so don't expect that of yourself when you first get started. Plus, the redeeming thing about wax carving is that if you make a mistake, it can be easily rectified. And once you do carve out that perfect design, it will be cast so that you can re-create it again and again.

**Use heat effectively** Keep in mind that when you're using your scraping and carving tools, you can heat the tip of the tool by carefully and quickly placing it in the flame of your Sprit Lamp. This will make carving much quicker and easier. You can also eliminate unwanted creases and uneven edges with localised heat too.

**Add and subtract** Although wax carving is mainly taking away excess material, keep in mind that you can add hot wax to your existing piece to form raised elements too. Once you really get used to this technique you can even go as far as building pendant bails and findings that are already a part of your design, leaving you with less to do once the wax has been cast.

**Add a soft toothbrush to your toolkit** As you work, you'll notice that your design (and you!) tends to get covered in tiny slivers of wax. By gently rubbing a soft toothbrush over your wax every so often you can make sure that no excess wax gets in the way, and you also have a clearer view of how your design is shaping up.

### Repairing uneven spots with molten wax

Learning how to carve wax for jewellery is undeniably tricky and whatever stage you're at in your jewellery making career, there will be instances when you need to rectify a mistake you've made in your wax carving. Whether you're repairing a crack or you're building up wax to remedy taking too much away there are a couple of things you'll need to keep in mind along the way:

- Use scrap wax to repair any mistakes that you've made. This will keep costs down and it should leave you with enough material to make any repairs you need.
- To create the best possible bond between the wax block/tube and your repair wax, make sure you heat the original wax first. This will help the crystalline structure of the wax re-bond as it cools and dries, making the bond between the two waxes much stronger.

## Finishing ready for casting

There are a few steps you can take to make sure there are no unwanted, rough edges on your wax carving before going through the lost wax casting process.

Run your wax design through a cool flame. This will melt any tiny, unwanted bits of wax and they will become part of your overall design.

Use your wax file to round off edges of rings and pendants for a neat, even finish. Remember to use emery paper after filing to remove the file marks you put into your design.

Working on a design that has flat, flush surfaces? Use fine grit emery paper to tidy up any uneven edges.

Many jewellers claim that using a small piece of an old pair of tights to polish up your wax carving is a great way of making sure that your design is smooth as you go into the casting process.

## WHICH WAX SCULPTING TOOLS WILL YOU NEED?

### Basic Carving Tools

You can buy a basic set of carving tools for under \$ 25 USD, but as you progress you will soon want to use a more precise set of tools. One of the most famous carving sets is the Wolf Precision Wax Carver Complete. This set is not only beautiful, but the tools are super sharp and there is a range of sizes and shapes to help you get the most precise finish to your carvings. The full tool set will cost approximately \$ 225 USD, but you can get small sets and build up your collection over time.

Many wax carvers love using a scalpel to carve wax. An option that can help expand the usability of your scalpel is to purchase a bespoke set of scalpel blades such as the set created by UK master wax carvers, Russell Lownsbrough and Danila Tarcinale.

### Advanced Tools

**Pendant drill or flex shaft tool:** If you work with metal, you may have a pendant drill or flex shaft tool available to you already. With a motorised tool you can pick up specific burrs that will speed up your wax carving process significantly.

**Wax Carving Burrs:** If you are a silversmith, you may already have a variety of burrs for stone setting. The good news is that you can also use these with wax carving to carve sets for stones or textures in the wax. There are special larger wax carving burrs that are particularly helpful for carving seats or removing a lot of wax quickly.

**Wax Trimmer and Bench Mate:** When used in conjunction with a bench mate and your pendant drill a wax trimmer (such as the Wolf Wax Adjustable Wax Trimmer) will allow you to create a completely flat surface or create your own lathe in order to speed up wax carving.

**Wax Pen / Electric Wax Carver:** When you start wax carving, you will soon start creating pieces that involve joining waxes (or make repairs to broken waxes) and a wax pen is the easiest way to do this. You can purchase a battery-operated version relatively cheaply for approximately \$ 35 USD, but you can only use this for about 15 minutes at a time, so it does have its limitations. If you plan to use it frequently, you will soon want to upgrade to an electric model such as the Foredom Electric Wax Carver which has interchangeable tips that will allow you to carve and join wax, or a basic electric wax carver.

**Speciality Templates:** If you plan of creating stone settings in wax, then a set of templates for round and speciality shape settings can be very helpful in getting the most precise designs and settings.

### Wax to Metal Conversion

Metal	Metal to Wax Ratio
Brass	8.5: 1
Silver	10.5: 1
Gold (9K)	13: 1
Gold (14K)	14: 1
Gold (18K)	16: 1
Platinum	22: 1

Example: 1 gram of wax = 10.5 grams of Silver

Don't forget to add extra silver for the sprue (when being cast)

With plenty of practice and a little imagination, carving wax can be the key to a whole host of new jewellery making ideas that you just can't put into practice with traditional metalsmithing tools and techniques. Invest in some basic wax carving tools and equipment before stepping things up a notch and investing in advanced tools.

### ABOUT THIS ARTICLE

Information in this article has been sourced from Cooksongold, the Jewellers Academy and the British Academy of Jewellery.

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# METAL smithing

## Raiders of the Lost Wax

**A**lso known by its French name, *cire perdue*, lost wax casting is a very versatile technique capable of accurately reproducing complex designs in metal, and also an ancient tradition with a rich history spanning more than five millennia.

The exact origins of lost wax casting are shrouded in mystery, and it is possible that the technique was developed independently in different regions, but archaeological records suggest that the method was first used at some point in the fourth millennium BC.

Prior to this, molten copper was transformed into relatively rudimentary tools and weapons using simple open or two-part moulds made from stone or clay. The bright idea of first carving a wax model, around which a clay mould could then be formed and heated – a process which both hardens the clay shell and melts away the wax – meant that much more elaborate metal objects could be cast and opened the door to a whole new world of craftsmanship and artistry.

Some of the earliest known objects produced in this way are decorative copper items found in the Nahal Mishmar hoard, in Southern Palestine, which have been dated back to 3700 BC. Other early lost-wax-cast pieces, from delicate miniatures and dress pins to life-size statues, have been found all around the world, in Europe, the Middle East and Asia, as well as in Africa and the Americas.

As the use of lost wax casting spread, new techniques and variations were introduced to the process. As well as copper, metal workers began casting pieces in bronze and gold. Furthermore, the development of hollow casting allowed for the production of hollow objects that could be made more cheaply, while the introduction of indirect casting made larger-scale pieces viable.

The biggest changes made to this ancestral technique, however, did not occur until the 20th century. Following initial developments in the dentistry sector, the jewellery industry had its own brainwave in 1936, when Danish engineer Thøger Grønborg-Jørgensen patented

a method involving rubber moulds that could be reused to make multiple wax models without having to carve each one individually.

Today, between CAD and 3D printing, jewellers have a wide range of hi-tec design and production tools at their fingertips. But hand carving wax models for lost wax casting allows them to get in touch with the ancient roots of their profession by practising an art which, to this day, is still one of the most accurate methods of reproducing a detailed design in metal.

One of the oldest methods of jewellery making around, lost wax casting dates back to the 3rd century BC. Having been lost and rediscovered many times throughout history, the lost wax casting process is still used today for casting metal alloys. Keep on reading to find out what the lost wax process is and how you can use it for jewellery making.

### What is lost wax casting?

Lost wax casting is a process where wax models are converted into metal replicas. One of the main advantages to lost wax casting is that large quantities of jewellery can be cast at one time, saving time and money. The most common metals used for this process are silver, gold, brass, and bronze.

For this example, we are going to demonstrate the casting of a ring in gold.



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NEVADA CITY, CALIFORNIA, U.S.A

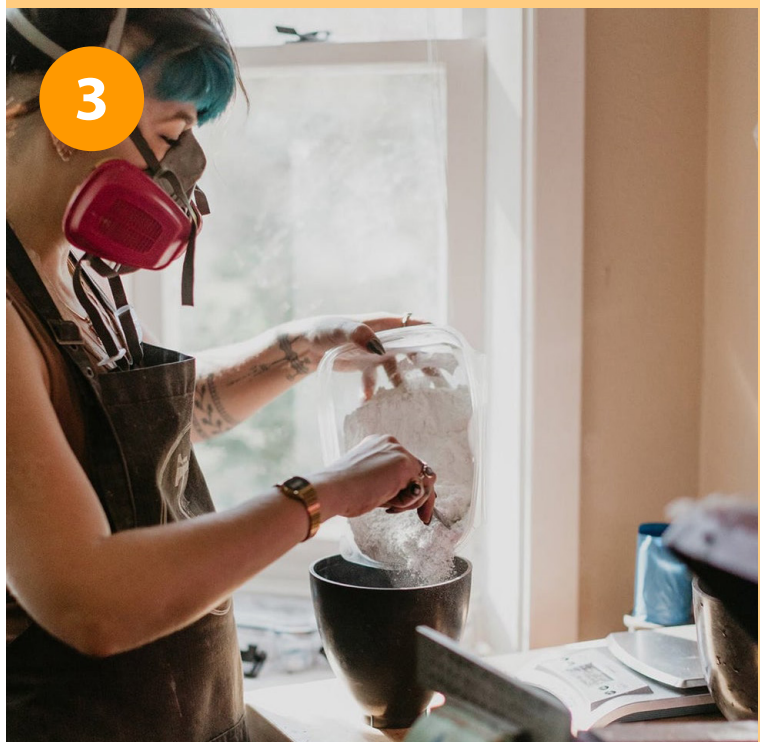
1. Once the wax ring carving has been finished to your satisfaction, it's time to attach a wax sprue. To do so, gently heat the wax ring and then quickly attach it to the sprue.



2. Fix the ring and the sprue to the bottom of the casting flask – with a gap of at least 5mm between the edges and the top of the flask and the ring. If a manufacturer is making multiple rings, they will attach the models and sprues to a wax tree.

3. Now it is time to prepare the investment according to the manufacturers instructions making sure that any air bubbles are removed – if you stir for too long, the mixture will become too thick to work with.

After allowing the investment to set (anywhere from a few hours to overnight), it is time to remove the rubber base to expose the wax sprue.



4



4. With the sprue at the bottom, place the flask in the kiln to allow the melted wax to escape. Set the kiln between 150 and 200°C and leave for an hour. After the hour has passed, turn the heat up to 400°C for an hour and 30 minutes. To finish, increase the temperature to 720°C and hold for another hour – the varying temperatures ensure that the investment is fully dry and hardened, and the wax is thoroughly melted.

5. Next it is time to prepare the correct quantity of gold needed based on the wax to gold conversion ratios allowing additional gold to form the button.

5



6



6. Heat the gold in a crucible inside a melting kiln following the specific melt instructions for the karatage being used.

7. Once the gold has melted and is ready for casting, remove the flask from the kiln and place it in the vacuum casting machine.



8. Next we will remove the hot AF crucible with the melted gold and pour it into the flask.

9. As this is done, the vacuum will start pulling the metal down and through the hollow cavity left by the wax before burnout. A big healthy button leads to a successful cast.



10



10. When the cavity is full, the excess gold will form a 'button'.

11



11. Within 30 seconds of cooling down, the crystalline structure of the gold appears.

12



12. After 15 minutes, the flask can be quenched in water.

13. Now it is time to clean the dissolved investment from the gold ring, sprue and button.



14



14 & 15. Finally it is time to remove the sprue and button and file down the ring ready for final polishing. The finished ring can then be sold or used as a model for future production.

15



#### ABOUT THIS ARTICLE

Information in this article has been sourced from the British Academy of Jewellery and Precious Ghost Jewelry.

[Visit PRECIOUS GHOST](#)

# Studying Gemmology with the World Gem Foundation

There's an expression 'different strokes for different folks' and this is certainly true in the case of gemmology. We are fortunate to work in an extremely diverse industry; one that provides unlimited opportunities in a broad range of disciplines.

Some people want to become a professional gemmologist; to forge a career for themselves working with gemstones. At the World Gem Foundation, gemmology is not just a job, it's a profession. This is why we opted for the 'Career Gemmologist' designation. We not only want to raise the level of consciousness with consumers but also within our industry. An awareness that gemmology is a science that demands a high level of theoretical knowledge and practical experience.

At the same token, we also understand that not everyone wants to become a fully fledged gemmologist. Many choose to specialise in a particular area, such as diamonds or coloured gemstones. To recognise this, we introduced two new 'Diploma' programs (Diamond Professional and Coloured Gemstone Professional) in 2018.

But what about gemmologists who may have completed their studies five, ten, fifteen or twenty years ago? Since gemmology is constantly evolving, it is important to continually upgrade your knowledge. You simply cannot afford to become complacent. One minute you may be 'up to speed', the next completely 'out of sync'. Each year brings new treatments and enhancements, new lab-created gemstones and new techniques to identify them. It is not the certificate that hangs on your wall that defines who you are as a gemmologist but the knowledge you possess. Our courses can be taken collectively or independent of each other, allowing our students to customise their own personal development programs based on their own specific needs.

Finally, there are many people who share a passion for gemstones but don't necessarily want to enrol in a gemmological program, they simply want to augment their existing knowledge and upgrade their level of understanding.

Regardless of your motivation to expand your knowledge, the World Gem Foundation has a variety of courses and programs that can help you reach your goal.

## CAREER GEMMOLOGIST PROGRAM

For students wishing to pursue a career in gemmology, our 'Career Gemmologist' program has been especially designed to give you the knowledge and experience

required to work as a professional gemmologist. The World Gem Foundation and our affiliated gem academies offer you two options to earn your Career Gemmologist Diploma with our Gemmology Seven/ Eleven programs.

## GEMMOLOGY SEVEN

This option allows you to complete the entire theoretical requirements by enrolling in our Career Gemmology course (5 modules - 78 lessons) and completing the five practical workshops (Gem Identification #1, Gem Identification #2, Diamond Grading and Lab-created Diamonds, Coloured Gemstone Grading #1 and Lab-created and Treated Gems) and our 40 hour online Coloured Gemstone Grading course.

The theoretical component covers the chemical nature of gemstones, their physical and optical properties, basic crystallography, the absorption of light, the spectroscope, refraction and reflection, the refractometer, optical character and sign, dispersion, reflectivity meters, polarized light, the polariscope, pleochroism, the dichroscope, colour filters, specific gravity, luminescence, magnification and thermal conductivity.

From there we move into the most challenging and fluid areas of gemmology; imitation and composite gemstones, lab-created gemstones and the treatment and enhancement of gems.

In the lessons pertaining to lab-created gemstones you will not only learn about the various methods used to manufacture lab-created gemstones (including Verneuil Flame-Fusion, Czochralski Pulling Method, Flux Melt Method, the Hydrothermal Method, HPHT, CVD, Detonation, Ultrasonic Cavitation Skull Crucible, Zone Melt, Horizontally Oriented Crystallization, the Sublimation Method, and the Modified Stöber Method) but also the unique identifying features that allow us to separate them from their natural counterparts.

The use of treatments and enhancements is both demanding and depending on who you talk to, highly controversial. Here we look at not only the techniques used to treat and enhance gemstones (heat treatment, surface and sub-surface diffusion, lead glass fracture filling, flux assisted partial fissure healing, glass fracture filling, cobalt doped glass filled sapphires, clarity enhanced diamonds, HPHT, quench-crackling, surface modifications, coatings and foil backs, laser drilling and irradiation) but also how they can be detected. We also look at the advanced gem testing techniques that are often needed to identify many of these treatments.

The course then takes a slightly different direction, focusing on the identification of gemstones including the tests that are commonly used to identify them and an in-depth look at each of the ten gemstone groupings based on colour and transparency (colourless or white, red, pink, orange, yellow, blue, green, violet or purple, brown, black or grey). These lessons include the important varieties and species of gemstones that commonly occur within each colour grouping, how to distinguish gemstones that are commonly confused with each other (i.e., aquamarine and blue topaz, emerald and chrome green tourmaline, diamond and lab-created moissanite) or gemstones that have physical and optical properties that are similar (i.e., amethyst quartz and purple scapolite) to each other. This section also includes gemstones that either exhibit optical phenomena (i.e., asterism or chatoyancy) or are unusual by nature.

The next module looks specifically at diamonds, their physical and optical properties, geology, localities, principle mines, crystal system, chemical composition and classification, causes of colour (fancy coloured diamonds), absorption spectra, inclusions, fluorescence, diamond cutting and mining and a comprehensive examination of the 4 C's (colour, clarity, cut and carat weight) and how they are measured and assessed. The lesson on 'Cut' compares some of the most important and recognized 'Cut' grading systems used today including those pioneered by the Gemological Institute of America (GIA), the American Gem Society (AGS), Hoge Raad voor Diamant (HRD), the International Gemological Institute (IGI), the European Gemological Laboratory (EGL) and the Accredited Gem Appraisers (AGA).

The final twenty-nine lessons (29) are devoted to coloured gemstones and covers their physical properties, geology, localities, crystal system, chemical composition and causes of colour, varieties, absorption spectra, pleochroism, inclusions, fluorescence, pricing and care guidelines. Gemstones covered include corundum, beryl, chrysoberyl, spinel, zircon, topaz, tourmaline, peridot, quartz, garnet, tanzanite, lapis lazuli, turquoise, spodumene, feldspars, iolite, andalusite, diopside, apatite, and organic gems (pearls, coral, jet, ivory, and amber). You will also learn about the various colour grading systems currently used in gemmology (GIA, Gemewizard, ColourWise, GemDialogue and the World of Color), how to accurately describe colour based on hue, tone and saturation, the clarity classification of gemstones, how cut is assessed, opal, jadeite and pearl grading, and how to estimate the weight of 'mounted' stones.

The study of gemmology simply would not be complete without a comprehensive program of practical instruction. This involves five practical workshops (Gem Identification #1 & #2, Diamond Grading and Lab-

created Diamonds, Lab-created and Treated Gems and Coloured Gemstone Grading #1) totalling twenty-eight days of in-class instruction and our online / practical Coloured Gemstone Grading #2 course where you will work with the Gemewizard and ColourWise Colour Grading systems.

## GEMMOLOGY ELEVEN

While the information is the same, the theoretical portion of this program is divided into five free-standing courses (Basic Gemmology, Advanced Gemmology, Gem Identification, Diamonds and Coloured Gemstones). This option allows you to take each course separately giving you greater flexibility in terms of time and how you can pay for the courses.

Like the 'Gemmology Seven' program, there are five practical workshops and one 40 hour online course.

## DIAMOND PROFESSIONAL PROGRAM

Designed specifically for those engaged in the diamond trade, this program covers the same theoretical information covered in our 'Diamonds' course plus our eight-day Diamond Grading and Lab-created Workshop.

## COLOURED GEMSTONE PROFESSIONAL PROGRAM

If your area of expertise is coloured gemstones, this program is ideally suited for you. The Coloured Gemstone Professional program involves the completion of four theoretical courses (Basic Gemmology, Advanced Gemmology, Gem Identification and Coloured Gemstones) plus our two five-day practical Gem Identification workshops, our five-day Coloured Gemstone Grading #1 workshop, our five-day Lab-created and Treated Gems workshop plus our online / practical Coloured Gemstone Grading #2 course.

## RESIDENCY PROGRAMS

We are delighted to announce that our Career Gemmologist, Diamond Professional and Coloured Gemstone Professional Diploma Programs are available as a full-time residency program through the Gem Academy of Canada in Montreal, Canada.

Integrating the theoretical and practical components of these programs, students can earn their Career Gemmologist Diploma in six-months, their Diamond Professional in one month and their Coloured Gemstone Professional Diploma in five months.

## COURSES IN OTHER LANGUAGES

All of our diploma and general interest courses are now available in English, Spanish & French. We are currently translating all the courses into Russian. These will be available in 2023.

Mining and exploration, gem cutting, jewellery manufacturing and goldsmithing, valuations, laboratory work, education and the wholesale/retail trade



— GEMMOLOGY OPENS DOORS



Your  
passport  
to explore  
the world, offering  
diverse and exciting  
opportunities



The section on jade follows a similar format with lessons covering their physical and optical properties, their geology, localities, crystal system, chemical composition, absorption spectra and pleochroism, inclusions, fluorescence, mining, principal mines, evaluating the rough, jadeite cutting, jadeite nomenclature, grading jadeite, synthesis of jadeite, gem identification, common treatments and enhancements, cleaning and care and pricing.

## ORGANIC GEMS

This course explores a very select group of gemstones (coral, jet, amber, ivory and pearls), formed through organic processes rather than through geological forces deep within the earth's surface. Lessons cover their physical and optical properties, geological formation, crystal systems, chemical composition, varieties and classification, causes of colour, common inclusions and internal characteristics, fluorescence, pearl grading criteria, methods of synthesis, gem identification, common treatments and enhancements, and cleaning and care instructions.

## ONLINE TUTORING

While clearly the ideal way to learn a particular subject is in a classroom or with one-on-one tutoring, we appreciate that this is difficult when you enrol in a long distance study program. Fortunately, new distance learning technologies are changing. Now teachers can connect with their students virtually using a variety of virtual tutoring tools, such as Skype.

The chart outlines the number of online tutoring hours that are included in our courses. If you require additional tutoring, you can talk to your tutor to discuss availability and pricing.

## ONCE A STUDENT, ALWAYS A STUDENT

We appreciate that the science of gemmology is constantly evolving. Every year new lab-created gemstones and treatments and enhancements are emerging in the market place along with new techniques and advanced technology to detect them. While your knowledge in certain areas may be relevant today, it may be obsolete tomorrow.

To meet this challenge, the World Gem Foundation has introduced our 'One a Student, Always a Student' policy, an innovative program that is unique to the World Gem Foundation and our affiliated gem academies.

Once you register for one of our courses or programs, we provide you with lifetime access to your student page so that every two years when we update our courses, you will receive the latest digital course notes free of charge.

## FLEXIBLE STUDY SCHEDULES

Benjamin Franklin once said 'An investment in knowledge pays the best interest' and this is as true today as it was back then. But how can we achieve this when we all lead such busy lives?

At the World Gem Foundation, we appreciate that we all have responsibilities and commitments that can make studying a challenge.

To meet this challenge, we offer a flexible study schedule that allows you to register at any time and study at your own pace.

Enrol in one of our three diploma programs, take the theory and practical diploma courses separately and receive course credits or take our general interest courses. The choice is yours! Our goal is to help you devise a study schedule that works for you!

Course Name	Hours
Basic Gemmology - Theory	2
Advanced Gemmology - Theory	4
Gem Identification - Theory	2
Diamonds - Theory	2
Coloured Gemstones - Theory	5
Career Gemmology - Theory	14

Whether you are taking our online tests, writing our final theoretical examinations or taking a practical test, we provide you with the flexibility to make it possible. Our students are our major stakeholders and we believe it is our responsibility to offer them every opportunity to achieve their educational goals.

## AVAILABLE IN PRINT

All our diploma theoretical courses are available in print. When you purchase the printed course notes, you will automatically receive online access. Since we regularly update all our courses, all course notes are printed on demand.

## COURSE FEES

Fees charged by the individual gem academies are charged in the prevailing currency for that particular area (i.e., Euros in Europe, Pounds Sterling in Britain). Please note that shipping charges apply to any courses provided in print.

## CAREER GEMMOLOGIST RESIDENCY PROGRAM CURRICULUM

For more information, please click [here](#)

# Internationally Recognized Diplomas



# Practical Workshops

## Gemstone Identification #1 (5 Days)

This workshop covers the identification of red, pink, orange, yellow and green gemstones plus a section on crystallography.

**Prerequisites:** World Gem Foundation Gem Identification (Theory) or equivalent

## Gemstone Identification #2 (5 Days)

This workshop covers the identification of blue, violet/purple, brown, black and phenomenal/unusual stones.

**Prerequisites:** World Gem Foundation Gem Identification #1 (Practical)

## Coloured Gemstone Grading #1 (5 Days)

This workshop includes practical instruction on how to access the hue, tone and saturation of coloured gemstones and how to grade pearls, jadeite and opals. During this practical class three colour grading systems; GIA, GemDialogue and World of Color will be discussed.

**Prerequisites:** None

## Coloured Gemstone Grading #2 (40 Hours Online)

This online coloured gemstone course consists of a comprehensive overview of the GemWizard and ColourWise Colour Grading Systems and includes practical exercises that are completed online, glass study samples and a lifetime subscription to ColourWise.

**Prerequisites:** None

## Diamond Grading & Lab-created Diamonds (8 Days)

This workshop includes practical instruction on how to clarity and colour grade diamonds, techniques to determine table percentage, crown angle, girdle thickness and pavilion depth percentage, how to access polish and symmetry and the identification of lab-created and treated diamonds.

**Prerequisites:** None

## Lab-created and Treated Gemstones (5 Days)

This workshop focuses on coloured gemstones produced synthetically or treated to improve their appearance.

**Prerequisites:** World Gem Foundation Advanced Gemmology (Theory) or equivalent

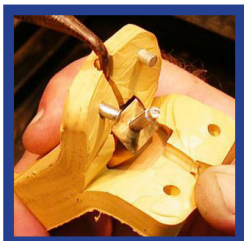
PROGRAM OR COURSE NAME	EUROS	POUNDS STERLING	USD
<b>CAREER GEMMOLOGY SEVEN</b>			
Career Gemmology (Theory)	1400	1250	1600
Gem Identification #1	500	450	550
Gem Identification #2	500	450	550
Coloured Gemstone Grading #1	500	450	550
Coloured Gemstone Grading #2	1000	900	1150
Diamond Grading/Lab-created Diamonds	1750	1575	2000
Lab-created & Treated Gems	500	450	550
Examinations Fees (Final Exam)	250	225	280
<b>Total Cost</b>	<b>6400</b>	<b>5750</b>	<b>7230</b>
<b>CAREER GEMMOLOGY ELEVEN</b>			
Basic Gemmology (Theory)	200	180	225
Advanced Gemmology (Theory)	400	360	450
Gem Identification (Theory)	225	200	250
Diamonds (Theory)	225	200	250
Coloured Gemstones (Theory)	500	450	550
Gem Identification #1	500	450	550
Gem Identification #2	500	450	550
Coloured Gemstone Grading #1	500	450	550
Coloured Gemstone Grading #2	1000	900	1150
Diamond Grading/Lab-created Diamonds	1750	1575	2000
Lab-created & Treated Gems	500	450	550
Examinations Fees (Final Exam)	250	225	280
<b>Total Cost</b>	<b>6550</b>	<b>5890</b>	<b>7355</b>
<b>DIAMOND PROFESSIONAL</b>			
Diamonds (Theory)	225	200	250
Diamond Grading/Lab-created Diamonds	1750	1575	2000
Examinations Fees ( Final Exam)	250	225	280
<b>Total Cost</b>	<b>2225</b>	<b>2000</b>	<b>2530</b>
<b>COLOURED GEMSTONE PROFESSIONAL</b>			
Basic Gemmology (Theory)	200	180	225
Advanced Gemmology (Theory)	400	360	450
Gem Identification (Theory)	225	200	250
Coloured Gemstones (Theory)	500	450	550
Gem Identification #1	500	450	550
Gem Identification #2	500	450	550
Coloured Gemstone Grading #1	500	450	550
Coloured Gemstone Grading #2	1000	900	1150
Lab-created & Treated Gems	500	450	550
Examinations Fees (Final Exam)	250	225	280
<b>Total Cost</b>	<b>4575</b>	<b>4115</b>	<b>5105</b>

PROGRAM OR COURSE NAME	EUROS	POUNDS STERLING	USD
<b>INDIVIDUAL THEORY</b>			
Basic Gemmology	200	180	225
Advanced Gemmology	400	360	450
Gem Identification	225	200	250
Diamonds	225	200	250
Coloured Gemstones	500	450	550
<b>INDIVIDUAL PRACTICAL</b>			
Gem Identification #1	500	450	550
Gem Identification #2	500	450	550
Coloured Gemstone Grading #1	500	450	550
Coloured Gemstone Grading #2	1000	900	1150
Diamond Grading/Lab-created Diamonds	1750	1575	2000
Lab-created & Treated Gems	500	450	550
<b>EXAMINATION FEES</b>			
Theory / Practical Final Examinations Fees	250	225	280
<b>GENERAL INTEREST</b>			
Rubies, Sapphires & Emeralds	95	85	105
Opals & Jade	75	65	85
Organic Gems	50	45	55

ALL PRICES QUOTED FOR THEORICAL COURSES ARE FOR DIGITAL ACCESS



REMEMBER.....Studying should also be FUN!



# MIRROR mirror

## A chip off the old block



The art of cutting a mould

**H**ave to ever wondered how manufacturers make thousands of identical rings, pendants, earrings, or other types of jewellery?

In this issue, we have already looked at how you can create a wax model of a piece of jewellery and then convert it into metal using the 'Lost Wax Process'. We also discussed how the 'flasks' can be used to cast numerous pieces at one time but what about replicating a design?

If you want to get into mass jewellery production, there are four things you need to know.

1. Make sure the 'model' you use is made to the highest standard. Remember, every subsequent piece made will be a mirror image of the original, warts and all!
2. You can make a model by wax, convert it into metal and then use this as the starting out point or you can pay a highly skilled craftsman to produce a hand-made model. There are benefits to both strategies. In the first case, the costs are much less but even with a highly skilled wax carver, the detail may not be of the highest standard. If you make a hand-made model, the costs



Rubber Moulds

will be higher, depending on the intricacy of the model, but the detail will be better and when it comes to making high quality jewellery, the devil is certainly in the detail.

3. See this as an 'investment' rather than a cost. Depending on how many pieces you produce, the design cost per piece may be insignificant and well worth the cost.

For example, let's say you have an extremely intricate design, and a model maker charges you \$ 2,000 USD for his time and materials. Typically, models are made from silver but can be made from any metal. If you were to make two subsequent rings, your design cost per unit would be \$ 1,000 USD. However, if you plan to cast two thousand pieces, your design cost per unit is now \$ 1.00 USD. Whether you decide to go this route depends largely on the quantity you plan to produce and the importance you place on the end product. If you are building your 'brand' on quality, this is where you need to make your statement.

4. Make sure your model is approximately 10% heavier than needed. As we saw in the previous article, once cast, they will have to be filed and polished and this will result in a weight loss.

### THE PROCESS

Once you have your finished polished model you will need to attach a sprue, to the thickest part of the design. Now the model and sprue will go through a three-step plating process prior to moulding.

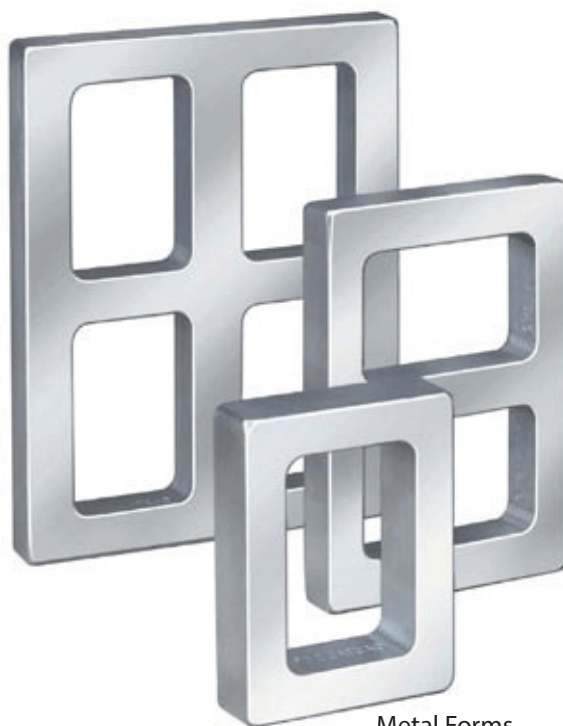
The first step involves copper plating the model and the sprue. Copper adheres well to both the silver and the brass sprue rod and prepares the model for the next step.



The second step involves nickel plating the model. Nickel provides a very tough surface that bonds to the copper and prevents metal oxides from contaminating the rubber mould. Moulds that are contaminated with metal oxides will stick to your wax injections making it harder to remove them. This can be especially problematic in the case of designs that are highly decorative and intricate. The presence of dark, blotchy areas around the model in the rubber is usually the result of copper oxides.

Finally, the model is rhodium plated. Rhodium is a very rare, silvery-white, hard, corrosion-resistant transition metal that is a member of the platinum group. White gold is often rhodium plated to improve its appearance, while silver is rhodium plated to prevent it from tarnishing. It creates a fabulous surface that will not adhere to the rubber. Having a smooth surface ensures that the injection wax will flow easily into your mould and that the wax will not stick.

As with the investment flask, it is important to create a mould that leaves enough room around the model. Depending on the technique used, the mould will either consist of layers of rubber (based on the size of the model), sandwiched together, and fused into one homogenous mass through heat and pressure or will be made from silicone.



Metal Forms

## Vulcanised Rubber Moulds

This is the most common type of mould and works particularly well for base metal masters and other metal objects that can withstand heat. Shrinkage from master to mould is minimal with vulcanised rubber – approximately 1.5-2%, it is cheaper, quicker and creates long-lasting moulds. The life expectancy of a well-maintained mould can be 5,000 cast items.

## Cold Silicone Moulds

This method of creating moulds for wax is more delicate and involves pouring liquid silicone over and around your master, rather than compressing it using heat and pressure. Unlike vulcanized rubber moulds, there is no master to mould shrinkage, it can be used for very detailed and delicate designs, especially hollow objects and will have a life expectancy of between 1,500 and 2,000 cast items from a single mould.

To each his own.....

Each rubber model maker has his own technique, but most will use a metal recessed form (frame) where the layers of rubber will sit. There are a number of options for rubber, including natural rubber, vulcanizing silicone rubbers, and room temperature vulcanizing (RTV) rubbers, a non-shrinking, no-heat option. Each has its advantages and disadvantages, and as a result, each may be the best choice in certain situations. The key to choosing between them is to understand the properties of all three, and then decide which to use based on what qualities are most important for a given situation.

## Rubber

Natural rubber's advantages include high tear and tensile strength and a long shelf life. As the industry standard for decades, it's also a more familiar material to many mould makers.

Tensile strength is commonly measured by the number of pounds per square inch (psi) required to tear a standard sample. Natural rubber can withstand up to 3,000 to 3,500 psi, while silicone rubbers can handle 1,000 to 1,400 psi. RTVs are the most prone to tearing at 100 to 200 psi.

This greater tensile strength means that natural rubber moulds normally last longer in production situations. While natural rubber moulds may be used thousands of times before deteriorating, silicone moulds typically withstand hundreds of uses, while some putty-type RTVs may be usable for only 10 to 30 waxes.

Because they have been in use for decades, natural rubber moulds have been proven to remain usable for up to 50 years under ideal storage conditions. Although

silicones may demonstrate similar staying power, their more recent introduction (in the 1970s) means their storability for long periods of time is relatively untested. RTVs can be less stable, because some are susceptible to moisture and will deteriorate more quickly if exposed to atmospheric humidity. (Pre-vulcanized shelf life for natural rubber and vulcanizing silicone rubbers is about the same at one year. RTV silicones are typically good for approximately six months.)

Although natural rubber was initially less expensive than silicones, the price of vulcanizing silicone rubber has dropped and the two are now nearly equal. RTVs, however, remain more expensive than either natural rubber or vulcanizing silicones.

## Silicone

A relative newcomer, silicone offers many advantages including a higher-quality surface finish and easier release of wax models, as well as the availability of RTVs.

Because silicone rubber moulds are self-lubricating, they don't require the use of spray release agents, reducing problems caused by the build-up of these agents on the moulds. This property also makes it easier to release intricate, detailed designs from silicone rubber moulds on the first try, versus the tinkering occasionally required to get the right amount of release agent in a natural rubber mould.

In addition, silicone rubber moulds typically produce a shinier wax model, which can result in a higher-quality surface finish on cast items. Because silicone is relatively inert compared to natural rubber, it will not react with silver or with the copper in sterling, reducing the need for nickel or rhodium plating of the models. (Certain materials, such as some plastics, will inhibit curing of RTVs. In these cases, coating the model will frequently solve the problem).

Some users find that silicone rubber holds its shape during wax injection better than natural rubber, making silicone more tolerant of variations in injection pressure. Also, silicone rubbers typically produce less flashing, since seals can be tighter.

Silicone's putty-like texture makes it easier to pack a mould, since there's no need to cut the rubber to size, and it is also easier to cut. In addition, different hardness's of silicone rubber can be combined in a single mould and vulcanized together.

Silicone rubber's higher heat resistance makes it suitable for casting metals with melting points of less than 315°F (157 C), such as pewter and tin, directly into the mould. Silicone rubber also has a higher vulcanizing temperature than natural rubber: 330°F (165 C) to 350°F (177 C), compared to 310°F (154 C) for natural rubber.

## RTV Rubber

A third option for mould making is the non-shrinking, no-heat RTV rubber. This two-part mould material is typically mixed and poured around the model, then allowed to cure for 18 to 72 hours.

RTVs offer both advantages and disadvantages over traditional natural rubber and vulcanizing silicone moulds. Room-temperature curing permits the moulding of fragile materials that would be damaged by the pressure of a vulcanizer, such as hollow beads. RTVs also typically offer zero percent shrinkage, compared to 0 to 4 percent for natural rubber and 2.6 to 3.6 percent for vulcanizing silicones. (This is a particularly crucial factor when the manufacturing process involves stone setting).

Clear liquid RTV silicones also provide greater ease for inexperienced mould cutters, since the mould maker can see the model through the silicone rubber.

On the downside, RTVs usually have significantly longer curing times - hours or even days, compared to 45 minutes or less for natural rubber and vulcanizing silicone moulds. They also offer the lowest tensile strengths of all the common mould materials and require careful cutting and gentle use to avoid damaging the mould.

Many RTVs must be mixed in precise amounts, and the working time for the moulds is often quite short at just a minute or two, although there are some RTVs that offer work times of up to 60 minutes. Most liquid RTVs require vacuuming to remove air bubbles, as well.

Before handling any rubber, it is important to ensure that your hands and especially your fingertips are clean. This will prevent contamination of the rubber.

In the case of a 'sandwich' mould, most mould makers suggest using two different colours of rubber (i.e., Castaldo's Gold for the outside layers and No-Shrink-Pink for the inside). This helps the mould cutter to know just how deep he will need to make his cuts. If this is the case, the mould maker will place two layers of 'Castaldo's

Gold in the metal form followed by one layer of No-Shrink-Pink, followed by the metal model.

On the backing material of layers 4 and 5 (also No-Shrink-Pink) it is important to draw an outline of the model so that the rubber can be cut to fit closely around the model. Ideally, the model should be positioned a little over halfway into the mould. This allows for a longer sprue and gives plenty of room to cut large, angular locking keys into the mould.

Gaps in the rubber around the model can cause air pockets in the mould and ruin the wax injections. If there are any large gaps around the model, they should be filled with small pieces of extra rubber. Any open areas, such as the centre of rings, will also need to be filled with rubber.

In the case of our example, the finished mould will consist of eight layers, two gold on the top and bottom and four No-Shrink-Pink in the middle. It is important not to over-pack the metal mould form since this may cause the mould to be too dense with a tendency to warp or curl after vulcanizing.

In order to create a high-quality rubber mould, the temperature

and cooking times must be very precise. This involves using a thermometer to check the temperatures of the upper and lower heating plates. Check each plate separately by placing a block of scrap wood into the vulcanizer and sandwiching the thermometer first between the wood and the top plate, and then between the wood and the bottom plate. Observe the temperature variation through the vulcanizer's entire heating and cooling cycle.

In the case of Castaldo No-Shrink Pink and Gold Label rubber, they recommend a temperature of 307 degrees Fahrenheit or 152 degrees Celsius for 15 minutes per 6mm layer. It is recommended that you apply light pressure when tightening the vulcanizer down and that you adjust it once the rubber has softened.

Once the moulds have cooled, it is a good idea to attach a photo or a sketch of the model inside for quick reference at a later date.



Vulcanizer

Now comes the tricky part, cutting the model out of the mould.

1. ALWAYS use a very sharp scalpel blade. If it is dull or damaged, replace it immediately.
2. The first cut will be across the top and down the two sides of the mould. This provides a guideline for where to begin cutting the 'keys'. Keys are notches, both male and female, that lock the mould into its original position so that it won't twist during wax injection. Keys should be cut deeply and should be geometric in shape to provide good contact.
3. Secure the mould using a pair of vice-grip pliers mounted to a stable work bench.
4. The first key cut begins at the sprue button and slices toward the side of the mould. Do not cut through the wall of the mould.
5. The second key cut runs along the side of the mould to a point about half the length of the mould. Begin where the front cut ended. The cut in STEP 2, now acts as a guide for future key cuts.
6. The next cut defines the top of the key, like a mini plateau. The use of two different coloured rubber sheets provides an indicator of how deep to make the cuts. Try to avoid using a sawing motion, all cuts should be made with a single deep slice of the blade.
7. In order to cut the inside key, you will need to stretch the rubber. Some mould cutters use a 'step cut' for the inside of their keys. Step cuts provide great gripping strength in the finished mould, and they rarely part when the wax is being injected.
8. Certain mould cutters like to cut their keys, so they are both facing the same direction while others prefer the second to go in the opposite direction.

9. It is important to cut the 'keys' so that they extend almost to the edge of the model. This ensures greater 'holding power' close to the model.

10. To cut the rubber inside the side galleries, you will again need to stretch the mould open quite far. This way the seam ends up going through the centre of the side gallery and not along the edge of the model. Cutting the mould so that the seam is inside the gallery makes it easier to pull the wax injection out of the mould.

11. In the case of a ring model that will accommodate a centre stone, in order to make the gallery cuts for the centre stone, you will again need to stretch the rubber mould.

12. Great care should be taken not to touch the metal model with the scalpel blade since this will dull the blade.

13. By leaving about 3 to 4mm of rubber uncut, you will create a hinge at the back of the mould. This hinge acts like a key and prevents the mould from twisting during wax injection. If you are going to create a mould of two separate halves, you will need to cut a third and fourth key.

14. An often-overlooked step is the cutting of air vents. Without proper venting a mould will become air bound during wax injection and high points will not fill with wax.

15. Always use the least amount of air pressure required to fill the cavity of the mould and never over pressure your injections. Ideally, you will need about 4 lbs. of air pressure (4 psi).

## Conclusion

We often equate manufactured jewellery as being cheap compared to hand-made jewellery. Nothing could

be further from the truth since both require skilled craftsmanship that takes years of experience. The next time you look at a piece of jewellery, think of the journey (manufacturing process) just as much as the destination (the finished product). It will increase your appreciation of the piece and the efforts of those who created it.

## ABOUT THIS ARTICLE

Information in this article has been sourced from the following individuals and companies: Geoff Dominy, Suzanne Wade, Dominic Annetta, Steven Blythe, John Davidian, Elaine Corwin, Roger Greene, Michael Knight, Jeffrey Mathews, Lee Mosemiller, Bob Romanoff, Liz Rutherford, Len Weiss, Tom Weishaar (Ganoskin) and Merrell Casting (Photos).

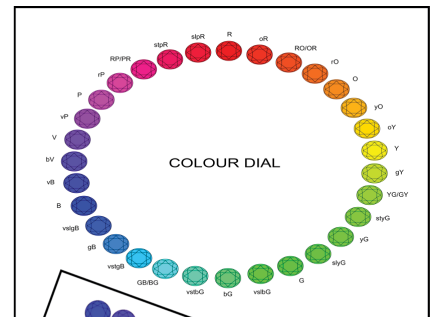
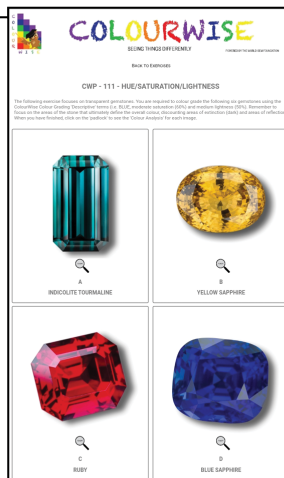


Injecting wax into the rubber moulds

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# SELLING success

## The Anatomy of a Sale

*Psychology is the scientific study of mind and behaviour in humans and non-humans. Psychology includes the study of conscious and unconscious phenomena, including feelings and thoughts. It is an academic discipline of immense scope, crossing the boundaries between the natural and social sciences.*

Gemmological education is seen by many as a cost of doing business rather than an investment in their business. They do not realise that 'knowledge' can mean the difference between a sale won and a sale lost. Businesses who invest in their employees reap the rewards, not only in increased sales and profitability but also in employee loyalty. If you want an employee to be invested in your company, you must invest in them.

While no-one will deny the benefits of product knowledge, what about sales training? Every business needs to sell their products to generate revenue and profits, yet the vast majority of salespeople have never received any training. If you want to ensure that sales success is by design rather than chance, you must invest in a sales training program.

Successful salespeople adhere to a well-defined script that if followed will reap huge dividends. It has nothing to do with chance. It has everything to do with psychology, knowing what to say and when to say it, understanding your customer's needs, listening, and having the product knowledge to answer any questions your client may have about the product you are selling. Ultimately in an industry built on trust it is about gaining your clients trust.

So, let's look at the anatomy of a sale, the do's, and the don'ts and how a salesperson can increase their chances of making sales if they follow this process step by step.

There are seven steps in the 'Anatomy of a sale'.

1. Greeting
2. Identifying Your Customer's Needs
3. Presentation: Features / Benefits
4. Overcoming Objections
5. Closing the Sale
6. Add-ons
7. Follow-up

Every sale will go through these steps, in one form or another.

**D**o successful salespeople achieve success by design or by chance? While some will argue that there are many factors that contribute to the success of a company, the sales associates are the front-line troops, engaging with potential clients every minute of every working day. To many clients, they are the company, and our perception of the company is based largely on our 'customer service' experience. A poor experience will often turn a client away and in this highly competitive world where bad news can spread rapidly via social media, there are a lot more options available.

Sadly today, poor service is the norm, and we are often surprised when we receive service that thirty years ago would have been considered marginally acceptable.

If we look specifically at the gem and jewellery industry, we find, on the surface, that we are dealing with products that are relatively straightforward. A diamond is a diamond, right? Who cares about cut and how diamonds handle light? Does it really matter that a gemstone has been irradiated or that a ruby is from Myanmar? No one wants to know why gold comes in a variety of colours and when it comes to the manufacture of jewellery, aren't all things made the same way?

In reality, gemstones and jewellery are one of the most complex consumer products in the marketplace and if you do not have the appropriate product knowledge, you will struggle.

## GREETING

Most sales are lost before they even start. Why? Because of the greeting. You may think this is nonsense, but it is true. How many times have you visited a store and been greeted with the tired old 'Hi, Can I help you?' The obvious response is. 'No, I'm just looking'.

There was a time when people had more time to shop. Today, it is simply not the case. Busy lives mean that most people are running simply to catch up. Proof of this is online shopping. Online shopping would never have succeeded if we had more time to shop. It offers flexibility and that is very important today. You can shop online 24 hours a day, seven days a week, 365 days of the year. You do not need to fight the traffic or find a parking space. You can shop from the convenience of your home and have the items delivered to your front door. This makes it especially challenging for traditional 'brick and mortar' stores. Online operations simply do not have the same operating costs. They may have enormous warehouses (i.e., Amazon) but that one warehouse can service a large area, and this makes it cost effective.

If therefore, a client walks into your store, you have to understand that they are there for a reason. They may not be willing to buy today but they are planning to make a purchase in the not-too-distant future. SOMETHING brought them into your store, the question is 'What?'

Customers come into a retail store to seek an experience — the product they purchase is just a souvenir.

There are six proven ways to greet a customer.

### 1. GREET CUSTOMERS POLITELY AND POSITIVELY

A positive customer experience starts with a positive greeting. Be polite but also warm. Show a genuine interest in your customer. When greeting customers, remember always to do the following:

### Smile

Smiling improves not only your mood but also the mood of your customer. Plus, smiling shows you're approachable and likable — two crucial traits of a successful salesperson.

### Give your undivided attention

Stop what you are doing so you can fully engage with your customer. They will immediately get the impression that you care. Being attentive will also allow you to pick up on important information that may be helpful later on.

### Make eye contact

Eye contact is a sign of a good listener. It builds trust and connection and can change a person's perception of you.

## 2. LEARN THE DIFFERENCE BETWEEN MEETING AND GREETING

A simple 'Hi' is not enough since it does not evoke any feelings of helpfulness. If you want a customer to feel that a salesperson's helpfulness and welcome are genuine, the greeting must be genuine.

## 3. EXPRESS AN ATTITUDE OF BOTH HOSPITALITY AND ASSISTANCE

When you express both hospitality and assistance, the customer receives a welcome and a face with a name.



The customer will start to feel that they will receive the help and service they need. This immediately puts them more at ease.

#### 4. TIMING IS EVERYTHING

Do not intimidate your customer by approaching them too quickly. The general rule of thumb is fifteen seconds. If you approach them before they get their bearings and decompress from traffic and the hectic nature of their lives, you could be seen as an overbearing, needy obstacle that makes shopping a chore. They may be running through a list in their head, putting their car keys in their purse, or just trying to get the lay of the land. Interrupting that process and demanding a response could cost you a sale.

On the other hand, if you wait too long, your customer may feel ignored and become impatient.

#### 5. INTRODUCE, DON'T IMPOSE

The greeting is your chance to make a positive impression and set the tone for the buying experience. Maybe the customer doesn't want your help right away, and that's fine. They'll remember that help was offered, and you were available to them. You don't need to stalk them, just welcome them with an open heart.

#### 6. AVOID QUESTIONS THAT CAN INITIATE A NEGATIVE RESPONSE

Any question that initiates a 'No' response immediately closes the door to further communication. This is why a salesperson should never ask 'Can I help you?' It can be very challenging engaging with a customer who has decided they do not want or need your help.

Do not let thoughtless questions derail your sales process. Instead, choose natural greetings that engage your customer without bothering them.

#### GREETING EXAMPLES

##### Welcome

Branding will establish the image you want to convey to your customers, in some cases, a greeting may be more formal, in others perhaps 'folksier'. This is not about changing the personality of your salespeople. It is more about implementing a 'tried and tested' formula that will help your salespeople improve their sales productivity.

##### Examples

Good morning (afternoon or evening)

Welcome to our store.

Thanks for dropping by today.

Is this your first time in our store?

##### Weather

Weather is a great way of initiating a conversation.

##### Examples

I thought it would never stop raining.

I see you have decided to escape the sunshine.

Hi! How are you surviving this heat?

##### A Genuine Compliment

The secret to greeting customers with a compliment is to make it specific and relevant to your business, otherwise it may come off as being insincere.

##### Example

After initially greeting a customer with 'Good Morning', 'Good Afternoon', or 'Good Evening', you might say 'That is a lovely ring you are wearing'.

##### Repeat Customer

Show your customers you remember them and value their repeat business. A personalized greeting is always best.

##### Examples

Good morning, Mr Jones, how are you today?

If you cannot remember their name, a simple

'It is nice to see you again' always works.

##### Product Specific

If you notice a customer looking at a piece of jewellery, a product specific greeting is ideal.

##### Example

This is one of our newest designs featuring a gemstone called tanzanite from Tanzania.

The idea is to initiate a two-way conversation and avoid small-talk greetings easily answered with a 'yes' or a 'no'.

Each customer is unique, so how you greet customers will vary based on individual personalities. Practice a few different ways to greet customers, and do not be afraid to be creative and come up with your own warm welcomes after your initial greeting of 'Good Morning', 'Good Afternoon' or 'Good Evening'.

Just remember.....

Do not be too gushy, insincere or make unfounded assumptions. Be yourself!

## IDENTIFYING YOUR CUSTOMER'S NEEDS

Believe it or not, the hard part is now over. Greetings are like 'Speed Dating'. You have only a few seconds to make a good impression and lay the foundations for a meaningful interaction. Now it is time to find out why your customer is in your store.

Identifying needs is like a game of charades. You will need to ask specific questions to identify their needs in a timely fashion. The more specific your questions, the faster you will understand their needs.

### Potential Questions

1. Is it a gift for some-one or a gift for yourself?
2. Do you have anything specific in mind?
3. What is your budget?
4. Is time a factor?

## CASE STUDY – ENGAGEMENT RING CUSTOMER

After identifying that your customer wants to buy an engagement ring, what specific questions would you ask?

### 1. Budget

You may feel that asking about budget is crass but in reality, it is not. There is no point in building up unrealistic expectations by showing a customer rings that are beyond their price range. Some may feel it is a form of flattery, but it also has the potential of making your customer feel inadequate. It may force them to back away from the sale believing that everything in the store is beyond their budget. Establishing a budget is a good way of creating a framework that you can work within, a blank canvas. If your customer sets a budget, and most will, do not step outside the boundaries of their budget. This will only turn your customer against you.

### 2. Style

Engagement rings come in many different shapes and sizes, from traditional to contemporary. You will need to

narrow down the selection so establishing the style is very important.

### 3. Choice of Metal

The Internet is a great source of information. Today, consumers do their own research before they go out to buy. Are they looking for yellow gold, white gold, or platinum? Do they prefer a certain karat of gold? In the case of a diamond engagement ring, the metal content will normally have little bearing on the overall price but will have a great impact on the appearance of the ring.

### 4. Choice of Gemstone

Do not assume that everyone wants a diamond or that they want a natural stone. Different people have different buying motivations. Perhaps they are conscious of country of origin, perhaps they feel that a lab-created diamond is more environmentally friendly, or perhaps the person they are buying for has a personal preference.

Identifying needs is all about discovering what they are looking for, not imposing your own ideas. This is all about asking questions and listening. It is also a time when you are strategizing for the next step (presentation). If you have not accurately identified what they are looking for, you will never be able to make a 'killer' presentation, and this will only frustrate your customer.

### 5. Lifestyle

Lifestyle is very important when it comes to selecting an engagement ring. Obviously, the intention is for the recipient to wear the ring all the time so making sure the style of the ring matches their lifestyle is very important.

After you have identified their needs, recap them. This is a great way of showing your client that you were listening. The more specific the questions, the fewer you will need to ask and the easier it will be to remember what they said.

Identifying your customer's needs is also a great time to help them fine tune their preferences. Some clients are knowledgeable while others are not. Do not make assumptions and do not talk down to your customer. There is no point asking if they want a traditional or contemporary ring design if they do not know the difference. Examples help them to zero in on what they really want.



## PRESENTATION

Some salespeople adopt the strategy of showing customers items that are not exactly what they are looking for before zeroing in on the one item that will tick all the boxes. It is a dangerous strategy and one that can easily backfire. The logic is to frustrate the customer so that when you finally show them an item that fits the criteria they are looking for, they will buy it.

Realtors are very good at doing this. They already know the house they want to sell you but believe that if they show it to you first, you will not buy it and will still want to see more. The idea of having a choice is very important. This is why jewellery stores have hundreds of different engagement rings. They want you to feel that you have a choice. One jeweller once took the '20% of the stock sells 80% of the time' too far by removing the other 80%. They thought that by isolating the 'best sellers' they were being cost effective. In reality, the reverse happened. Customers felt their choices were limited. While you may feel that telling a customer that 'this is our most popular style' is a good idea, in reality, you are telling your customer that they are not unique and different. Not everyone wants to run with the pack. A purchase of jewellery reflects who you are and since everyone is different, it is important to have a good selection that covers all the different styles and price points.

### White Gloves

White cotton gloves are ideal when putting the jewellery in and out of the showcases before and after closing but should never be used when presenting an item. They create an air of exclusivity, are often viewed as being pretentious, and will only intimidate your customer. The goal here is to create a sense of ownership, to break down the barriers and make the

jewellery accessible. You want your customers to try on the jewellery, not feel afraid of getting it dirty. Jewellery is made to be worn and enjoyed, not stored away in a safety deposit box. Customers need to imagine themselves owning the piece of jewellery and that can only be achieved if they can touch and feel it.

How you present your jewellery tells the customer a lot about you as a person and the store you represent. There is nothing wrong with showing pride in the products you sell and making sure that they are handled properly. Just do not make your customer feel bad about handling them.

## FEATURES & BENEFITS

You may be asking why successful salespeople follow a script. The answer is quite simple. If you do not follow a logical progression, certain parts of the sales jigsaw puzzle will not fit into place. Features and benefits are a classic example of not putting the 'cart before the horse'.

How can you extol the benefits of a particular feature if you have not already identified your customer's needs?

If, in our example, you have identified that the recipient of the ring leads an active lifestyle, why would you show them engagement rings that have very high settings?

Features and benefits are completely entwined with the needs of the customer. They not only reinforce that you listened but also that you understand why certain features are important.

At the same token, if you have identified that the recipient gravitates towards more modern designs, why would you show them a ring that is quite traditional?

In your presentation, for every feature, you must give a direct benefit to your customer.

In our example of the engagement ring, let's look at some of the features and their direct benefits (chart opposing page)

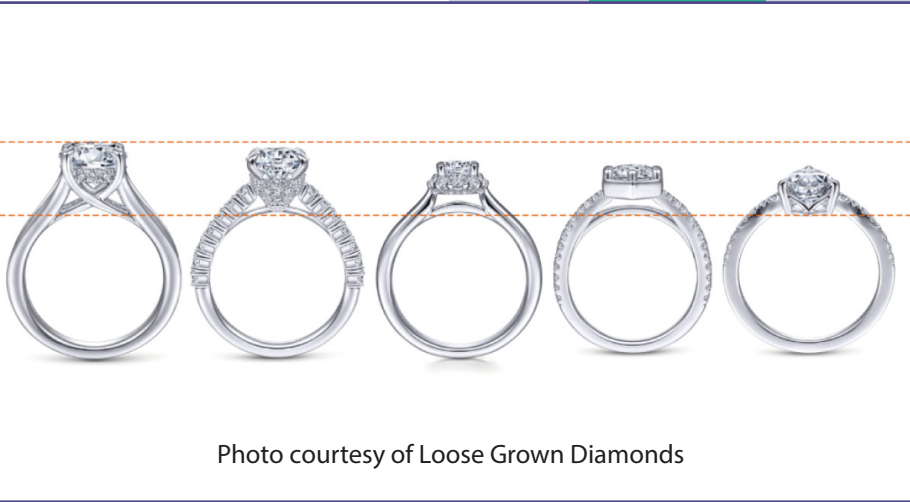
The tricky part here is not presenting the features but tying these features to your customer's needs so that they can see a direct benefit. Some salespeople are very good at 'thinking on the spot' others are not. If you fall into the latter category, it is good to take the time to make yourself familiar with the products you are selling and also the potential benefits.

Again, it comes down to understanding your customer's needs and what motivates them to buy.

Photo courtesy of  
Fact Magazine



If a client comes into your store and tells you they want an amethyst ring because it is their birthstone, you will obviously show them a selection of amethyst rings. If, on the other hand, they want a blue stone, because blue is their favourite colour, you will have to adopt a different strategy. Here budget will play a key role since cost will have a direct bearing on what they can and cannot afford. The old expression ‘a champagne taste on a beer budget’ comes to mind. If they have their heart set on a two-carat extra fine quality blue sapphire (currently has a wholesale cost of \$ 7,500 USD based on GemGuide May/June 2023) and they have a budget of \$ 2,000 USD, clearly, they cannot afford it. This is where your knowledge comes into play and where you can provide alternatives that allow your customer to meet their objective while still working within their budget. You must never tell your customer that they cannot afford what they want, you must show them what they can afford. Self-realisation can be an important strategy. You do not want to alienate your customer. Put yourself in their position. How would you like to be treated?



Feature	Benefit
A low setting	Active lifestyle
Platinum	More durable
14K	More affordable
Diamond	More durable
Branded item (i.e., Tiffany)	Enhances personal status
Quality Workmanship	Longer lasting
Coloured Gemstone	More unique / More affordable
Fancy coloured diamond	More unique
Lab-created diamond	More affordable / Environmentally friendly
Canadian Diamond	Non-conflict
Traditional Setting	Timeless



Let's look at some options and their viable cost-saving alternatives:

Option	Natural Alternative	Man-Made Alternative
Blue Sapphire	Blue Spinel / Tanzanite / Iolite	Lab-created Sapphire
Ruby	Red Spinel / Red Tourmaline / Garnet	Lab-created Ruby
Emerald	Chrome Tourmaline / Green Tourmaline / Tsavorite Garnet	Lab-created Emerald
Aquamarine	Blue Topaz / Blue Zircon	
Diamond	White Sapphire	Lab-created Diamond / Moissanite
Alexandrite	Colour Change Sapphire or Garnet	Lab-created Alexandrite
Australian Opal	Ethiopian Opal	Lab-created Opal
Pink Topaz	Pink Tourmaline / Pink Spinel / Kunzite	
Yellow Sapphire	Citrine Quartz	
Yellow Topaz	Citrine Quartz	
Yellow Diamond	Yellow Sapphire / Yellow Topaz / Citrine Quartz	Lab-created Yellow Diamond
Paraíba Tourmaline	Apatite / Indicolite Tourmaline	
D Colour Diamond	G Colour Diamond	
H Colour Diamond	I Colour Diamond	
VVS-1 clarity Diamond	VS-2 clarity Diamond	
VS-1 clarity Diamond	SI-1 clarity Diamond	
Platinum	18K White Gold	
18K White Gold	14K White Gold	
18K Yellow Gold	14K Yellow Gold	

In most of these cases, the alternatives will give your customer the 'look' they desire within the price point they can afford.

For example, a two-carat extra fine tanzanite will have a wholesale cost (GemGuide May / June 2023) of \$ 1,050 USD, considerably less than the \$ 7,500 USD for a two-carat blue sapphire of comparable quality.

A two-carat extra fine aquamarine, for example, will wholesale for \$ 1,440 USD compared to \$ 600 USD for a similar quality blue zircon. The same quality blue topaz will cost \$ 40 USD.

A two-carat non-origin specific extra fine quality ruby will wholesale for \$ 26,400 USD while a similar quality red spinel will cost \$ 11,000 USD.

A D colour, VVS-1 clarity, round brilliant cut diamond will have a wholesale cost of \$ 12,825 USD while the same diamond in a VS-2 clarity will cost \$ 8,050 USD.

If we adjust the colour from D to G, a VVS-1 clarity diamond will cost \$ 8,925 USD.

In terms of gold, 14K will sell for 22% less than 18K. If your client is looking at a 20-gram gold chain, this savings can be significant. In terms of appearance, unless stamped, an appraiser would need to test the gold to know the difference.

This is where your product knowledge and salesmanship skills come into play. Be creative, offer viable alternatives and educate your customers. Guaranteed, most customers will never have heard of tanzanite, blue zircon, chrome tourmaline, tsavorite garnet, colour-change garnets and sapphires, iolite, red and blue spinel, yellow and pink sapphires, or kunzite. If you want the competitive edge, getting them excited about these gemstones will make it harder for your competitors. How can you comparison shop if there are no comparables? Guaranteed, your competitor down the street will love you if his customer has fallen in love with the idea of owning a colour-change garnet!

## OVERCOMING OBJECTIONS

If you have accurately identified your customer's needs and shown them the features and benefits, you may still encounter reservations. This is only natural. How you overcome these objections will determine whether or not you make a sale.

### MISTAKE NUMBER ONE!

Do not discount!

Discounting sends the wrong message. It tells your customer that:

1. You have no faith in the pricing system your store uses.
2. You have no confidence in the quality of the product.
3. You lack professional sales training.

In the past, stores held sales to sell off poor performing items. It had nothing to do with the quality, simply a question of the item being in the wrong place at the wrong time. By holding annual or semi-annual sales, stores could recoup their costs and reinvest the money into items that were more saleable based on their client base.

Of course, the problem with a 'true sale' is that while it increases traffic and frees up money that can be reinvested, it does not generate a profit. In the 1980's, store owners started to realise that if they artificially inflated their prices, they could still sell the items at a discount, still increase traffic but now they could also make a profit. Today, most items are sold with inflated prices so that they can be discounted. This allows certain stores to have 'never-ending' sales. While it may increase sales and profits, it does nothing to enhance the brand.

If we look at the IDEX ONLINE (June 5th, 2023) listing for one-carat, round brilliant cut diamonds, G colour, VS-1 clarity with a good cut and an accompanying report, we can see that of the 87 available, only 1 is not discounted. Clearly the prices have been set to encourage discounting.

If you have correctly identified the needs of your client (including the budget), shown them items that not only match their needs but derive a direct benefit, why would price be an object? Think about it. If your customer has told you their budget is \$ 1,000 USD and you have shown them an item that fits their needs and falls within their budget, why would they now want to change the ground rules?

Any resistance to price should have been covered in the initial presentation, not as you are trying to close the sale.

What are some of the common reservations?

1. What happens if she does not like it?
2. I don't need it right now.
3. I would still like to look around.

In the case of the first objection, now is a great time to tell your customer about your return policy. Stores love to sell items but are never overly keen to take them back. This is not a good strategy because it can undo what had previously been a good sales experience. While there are legitimate reasons not to take back certain items, other than damage, there is no legitimate reason not to take back a piece of jewellery. Customers hate complicated return policies and especially 'store credits'. Airlines love to employ this strategy. Happy to take your money but not so eager to return it. Instead, they will give you a 'limited time' credit voucher to rebook a flight, hoping of course that you don't.

A great return policy can be the deal breaker. It can reinforce in your customer's mind that they have made a good choice. Again, put yourself in their position. How would you like to be treated?

In the case of our engagement ring customer, he would like to surprise her. He may think he knows what she wants but he can never be sure. A flexible return policy will ease his anxiety and create a magical and memorable moment that will hopefully last a lifetime.

If timing is the issue, suggest a layaway plan. Not everyone is a spontaneous last-minute shopper. The special occasion may be months away. Offering a solution will again reinforce your willingness to help.

If your customer still wants to look around, do not show your disappointment. Clearly you have not convinced them, and this is not their fault. If you are thinking long-term, you should be gracious, encourage them to look around and assure them that you will be at their disposal should they decide to move forward. Yes, you may feel you have wasted your time but is this not what you are paid for? After the client leaves, go back over your sales presentation. Did you miss something? If you learn from the experience, it will be time well worth spent.

## CLOSING THE SALE

It may seem redundant, but many sales are lost simply because the salesperson did not ask for the sale. At some point, you have to ask your customer to make a decision. You were brave enough to ask them if they had a budget in mind, why would you not ask the most natural of questions. If you have done your job, the answer will be positive. If you have not followed the

script, the answer may not. This may force you to revisit areas of your presentation to see why your client is hesitating. Take the time to find out why.

Asking for the sale can be as simple as 'Will that be cash or on your credit card?' to 'Would you like me to gift wrap it for you?'. Both approaches will work. It all depends on the situation.

### ADD-ONS

Most salespeople are so happy to make a sale that they forget to focus on the 'add-on'. In the jewellery business there are plenty of legitimate add-ons. The matching wedding ring to the engagement ring, the matching earrings to the pendant. The matching earrings and pendants to the ring. You may feel you are being too pushy but in reality, you may be solving a future problem. Having the matching wedding ring on layaway will ensure that when the time is right, it is on hand. Imagine coming in three days before the wedding only to find out that the matching ring is out of stock. If you are in the 'service' industry, provide a service. Add-ons are a great way of boosting your SPSH (sales per sales hour) and also ensuring that you are building a relationship with your customer. Don't be shy.

### FOLLOW-UP

The follow-up, which takes place after the sale, is one of the most important steps in the selling process. It's a continuation of the relationship between the seller and the buyer that ensures customer satisfaction, retains

customer loyalty, and helps prospect for new customers. The idea is not to continue selling at this stage, but instead to nurture the existing relationship.

The follow-up might involve sending a thank-you note or calling the customer to ask about their experience with their new product or service. You might also ask your customer to rate your service or post a review on one of your social media or business pages. Sometimes, the follow-up includes completing the logistics of a sale, such as the sizing of the ring. When done well, this stage can often lead you back to step one in the selling process with additional sales, referrals or reviews that bring new customers to you.

### CONCLUSION

The next time you have a buying experience, think about the anatomy of a sale, and see if the salesperson actually follows the script. Chances are they won't. Not by design but simply because no-one took the time to train them.

Invest in your employees and you will reap the rewards, not only in increased sales and profit but also in employee loyalty and job satisfaction.



Photo courtesy  
of Paldesk

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# ZULTANITE

## Trick or Treat?

**T**his article is dedicated to my recent trip to Turkey, searching for the mysterious zultanite stone that is also known as 'Csarite' in Europe. I will share with you the discoveries and insights I made during my trip and my communications with the sellers I met of this unique gemstone. I really want to familiarize you with this gemstone and to talk about its unique features and where its future may lie in the gemstone market. I will also cover the topic of zultanite imitations that I came across while I was searching for the natural stone and the key identifying features that allow us to distinguish natural stones from their imitations using standard laboratory equipment.

### What is 'zultanite'?

The name 'zultanite' conjures up beautiful images of sultans, the treasures of the Ottoman Empire, all shrouded in mystery. It is perhaps one of the more exotic names in the world of gemstones! So, what is 'Zultanite', why is it so special, and why Turkey?

Generally speaking, 'zultanite' (also spelled Sultanate) is a color-changing diaspore ( $\text{AlO}(\text{OH})$ ) that was found in Turkey in the late 1970s in the diasporic metabauxite horizon surrounded with the grey marble rocks in the mine area of the Kucukcamlik and Buyukcamlik Hills in the Ilbir mountains. These mines were originally developed for aluminium – bauxite ore and were strictly controlled by

the government and the Etibank company. Interestingly, the Milas county of Muğla, is the only place in the world where this unique color-changing diaspore can be found. Due to a lack of electricity and water in the region, the mining process is extremely difficult. Production wise, 60% of rough material is opaque and the cutting yield is usually low (10-15%). The commercial faceting of color-changing diaspore only began recently (1980's), so you can see that compared to other

gemstones, zultanite is a relative newcomer in the gem trade.

Millennium Mining Private company, coined the name 'zultanite' in 2005 as a part of their marketing strategy in honor of the 36 sultans who ruled the Ottoman Empire from 1299 to 1923 after buying the mines from Etibank.

Like alexandrite, the color-change of zultanite varies from grayish green under daylight to greyish pink under incandescent light. According to the 'Australian Gemmologist' Volume 23, Number 12, October – December 2009, the color-changing effect is due to its iron oxide composition with the impurities of manganese likely the reason the mineral changes its color from pale green to pale pink.

Zultanite can also change its hue due to the light conditions and produce more yellowish or more greenish hues which is described on the official website dedicated to the stone as canary yellow, cognac pink, ginger, kiwi green, raspberry pink, reach champagne, and sage green.



Faceted Natural Zultanite.

Credit: tucsongemshow.blogspot.com



Zultanite rough

Zultanite is brittle with a 6.5 hardness, and perfect cleavage in one direction, so great care must be taken cutting it.

Care should be taken to avoid any sudden impact, exposure to chemicals, heat, or extreme temperature changes. It should also be carefully stored to avoid the possibility of scratching it. Also, you should be extremely careful during the cleaning process and use gentle soap, warm water, and a very soft new and unused toothbrush. Beware of ultrasonic cleaning because the stone can be easily damaged.

From a pricing standpoint, its rarity, somewhat fragile nature that makes cutting it challenging, and the remoteness of the mining region all work in its favor with prices varying from \$ 900 USD to over \$ 12,000 USD a carat for stones over 20 carats. One of the largest examples of a faceted Zultanite (24.6 carats) can be found on display in the GIA Museum Collection.



Zultanite V-shaped



Zultanite under daylight

#### How to find the 'real' Zultanite?

One of the downsides of high prices is that it invites imitations and fakes. This is certainly the case with alexandrite and the use of lab-created color-change sapphires. The quantity of imitations is so high that the name zultanite now stands as a name for its glass imitation as well! When sellers hear a request for zultanite, they immediately start to show imitation stones. Most sellers do not even know that there is a natural counterpart and that it is called diaspro!

All Photos by  
Nina Gold



Zultanite in cold light and incandescent light

zultanite is significantly higher (3.39 according to GIA) than the glass imitations (2.93).

If you are unable to measure its specific gravity, its reaction under crossed polarization filters will show that glass stays dark (due to its isotropic amorphous nature) while zultanite will change from dark to light during each 360-degree rotation.

The refractometer will also reveal the biaxial nature of zultanite (both shadow edges moving as the stone is rotated on the glass hemisphere) with refractive indices stated as 1.702 – 1.750. Glass, on the other hand, is singly refractive with an R.I. of around 1.59.

Under the microscope, you can find the common features of glass in the imitations such as rounded gas bubbles and swirls. However, be careful, because not every glass imitation contains them, and some glass imperfections can be confused with the internal structure of the natural stone connected to its lines of cleavage. A good rule to follow is that if they are present, it is glass. If they are not, you will need to do more testing.



A

So, what are these imitations that are being sold everywhere instead of the natural zultanite stone?

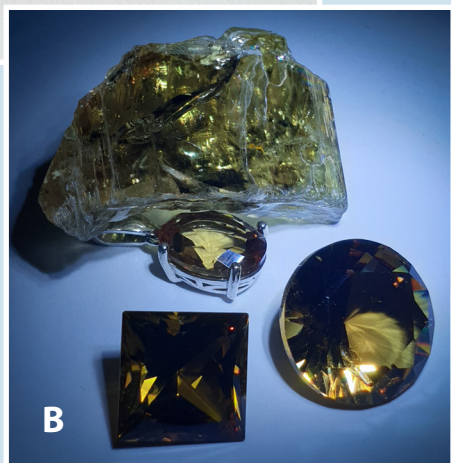
In most cases it is a color-changing glass. It has the same luster, hardness and color-change as the natural stone and looks very similar to it.

Inclusions found in natural color-change diaspore include mineral inclusions, negative crystals, cleavage planes and internal channels filled with iron oxides, while glass imitations are typically clean.

When you are out of the lab you can use a portable polariscope and a darkfield magnifier to see the behavior of the stone in question under polarization filters and its inclusions. Even a clean-looking natural stone will usually have inclusions that cannot be confused with a glass imitation.

Under UV radiation the natural stone will remain inert while glass will exhibit a milky blue reaction with a light pink fluorescence.

One interesting difference is their reaction to light. A natural stone will remain green in daylight while its imitations will show an intense pink to red color. So, in most cases, you can just bring the stones out



B

The key to separating natural zultanite from its glass imitation is its specific gravity (S.G.). The S.G. of



C

Zultanite rough, Sitall and normal glass under A. Daylight B. Cold Light and C. Incandescent Light

of the shop or put them next to the window and you will immediately know what you are dealing with. As with all tests, you must be careful because intensely saturated top-grade zultanite will appear grayish violet under daylight and look very similar to imitation zultanite. But the trained eye can catch the difference of the colors as well as in the case of observing the stone under fluorescent light when it will appear grayish green versus the yellowish green of artificial imitations. The presence of the gray coloration should be the key in their separation.

You can also use a diamond tester to discern zultanite from its imitations. In case you start the measurements from 2 points on the tester's scale, Zultanite will show 6-7 points, while glass and other imitations will show a maximum of 3 points on the scale.

Besides the normal glass imitations that you will encounter in 95% cases, you may also come across

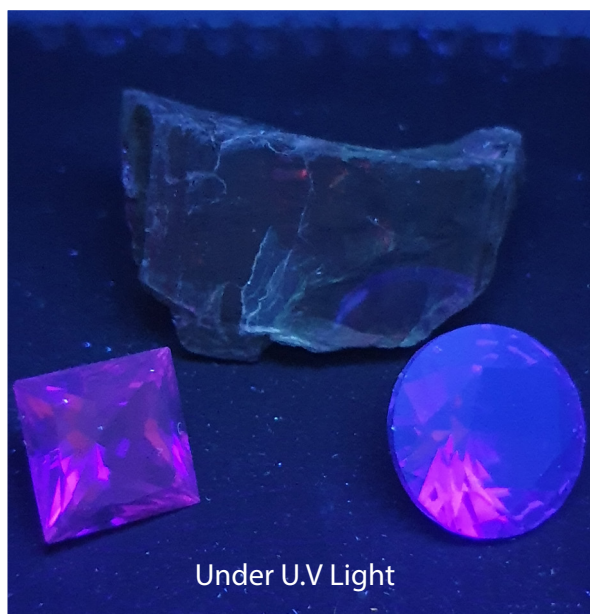
Sitall (ceramic glass) imitations. The difference between Sitall and normal glass is that it appears more yellowish brown under a cold light source. It seems that Sitall's color is partly due to a thin film or other surface coating

because Sitall shows a rainbow line on the scale of refractometer and darker sides when it is immersed.

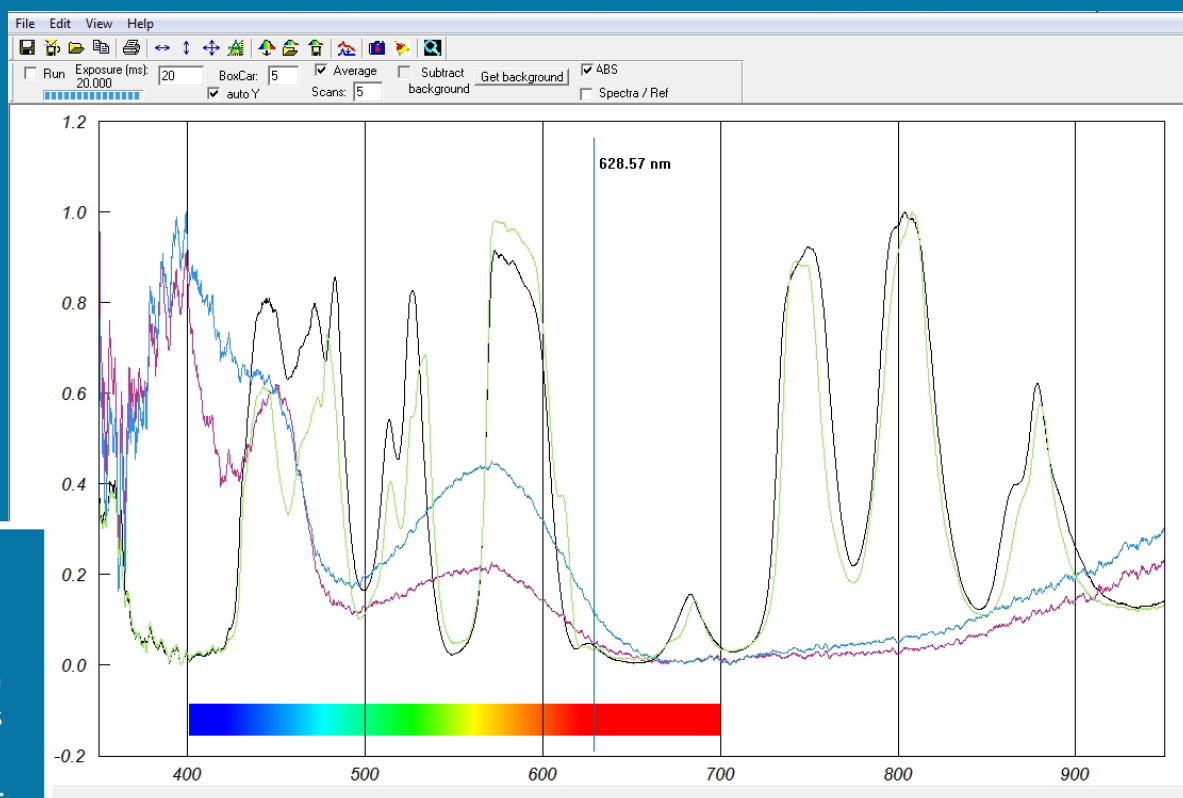
The refractive index of Sitall is higher than normal glass (1.679), but it stays static due to the absence of a crystalline structure.

The specific gravity of Sitall is higher than zultanite (3.56 versus 3.39), which can be explained by the chemical composition of the material and the presence of heavy chemical elements in the structure.

Both color-changing Sitall and color-changing glass more likely owe their ability to change color to rare earth elements that are added to their composition during the manufacturing process. According to UV-VIS-

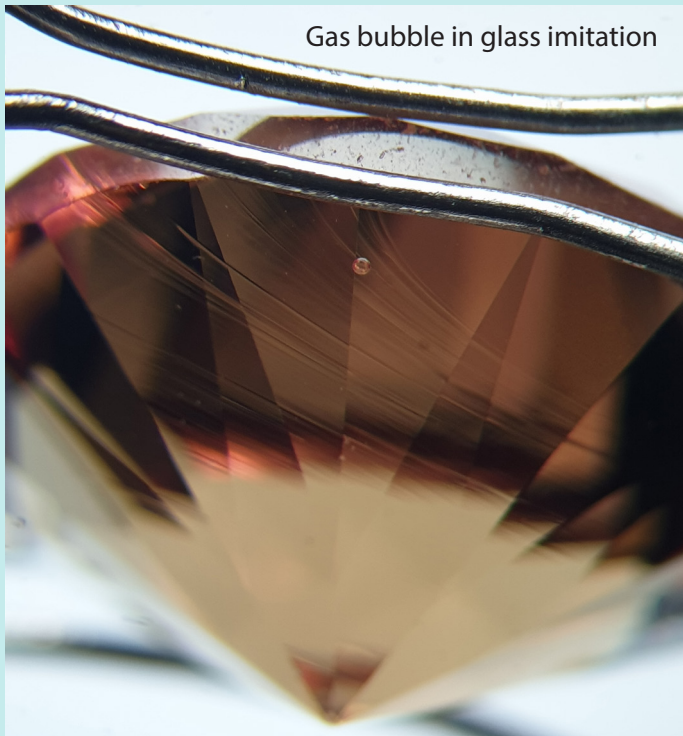


Under U.V Light



Spectrums of Natural Zultanite (Pink) vs Natural Zultanite Top Grade Zultanite (Blue) vs Color Change Glass Imitation (Green) vs Sitall Imitation (Black). Credit: Nina Gold

Gas bubble in glass imitation



NIR spectrometry analysis, these color agents are the same for both materials.

Under UV short wave radiation, Sitall shows a light pink with a slight milky overtone reaction.

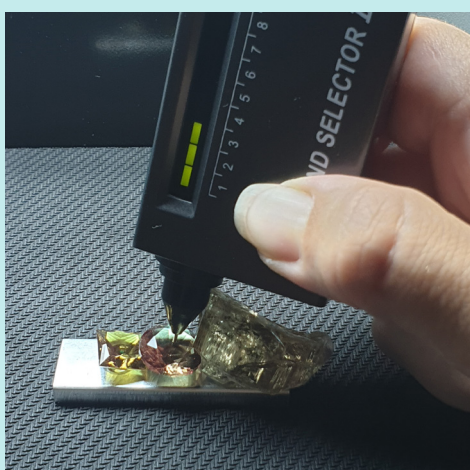
Another way to separate natural zultanite from its man-made imitations is the observance of pleochroism: the natural stones always show very strong dichroism from grayish green to grayish pink, while color-change glasses will not exhibit pleochroism because they are in fact singly refractive.

Sometimes even shadows can speak: if you put all three stones on a well-lit piece of white paper, you will notice the difference between the colored shadows produced by the stones.

The shadow from zultanite will look the same as the color of the gemstone – pale grayish green, while the shadow from Sitall will be vivid yellowish green and shadow from color-changing glass will be vivid bluish green.



Yellowish-Brown Sitall Imitation



	Zultanite (Diaspore)	Sitall (Ceramic glass)	Glass
Specific Gravity	3.37	3.56	2.93
Polariscope	Anisotropic / Biaxial	Isotropic / Anomaly	Isotropic
Refractive Index	1.705 – 1.723 1.720 – 1.750 1.725 – 1.744 1.708 – 1.723	1.679 Shows rainbow line on the scale	1.569
Hardness	6.5 - 7	6.5 - 7	5
Approximate hardness (Diamond Tester)	6	3	3
Chelsea filter	Grayish Pink	Grayish Pink	Grayish Pink
UV Long Wave	Inert	Inert	Inert
UV Short Wave	Inert	Light Pink with a little milky overtone	Milky Blue with Light Pink
Pleochroism	Strong from Grayish Green to Grayish Pink	No	No

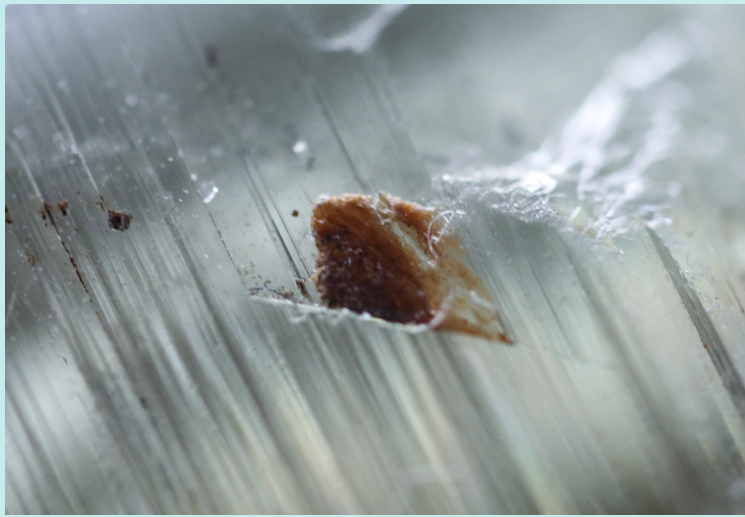
A small calcite or London dichroscope with a polaroid filter can be very handy when you are buying zultanite!

While diaspore has been synthesized using the hydrothermal method, this was more for experimental purposes and never was intended for commercial purposes.

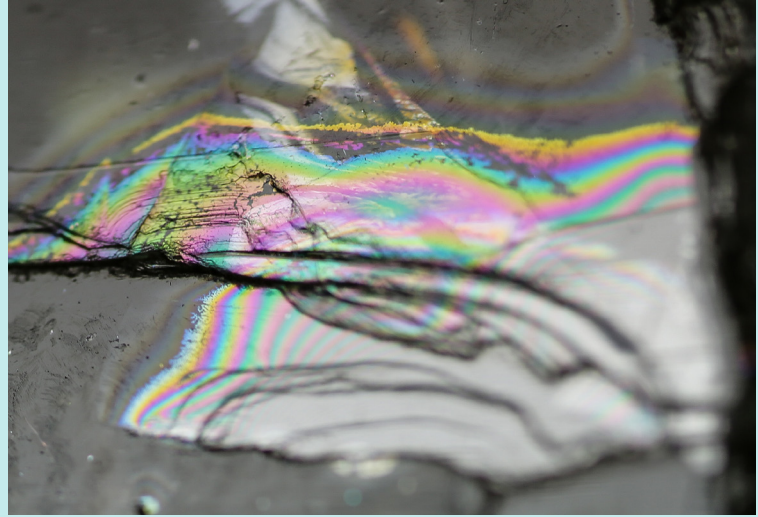
Since diaspore is extremely heat sensitive, it is unlikely you will meet lab-created or heat-treated material.

The table above illustrates the physical and optical properties of natural zultanite, Sitall and normal glass.

All Photos by Nina Gold



Mineral inclusion in Zultanite



Longitudinal interference colors on Zultanite surface

### Conclusions

The story of zultanite sounds very similar to the story of tanzanite. A unique gemstone with a unique color that is only found in one place in the world. A gemstone that breaks one of the cardinal rules of being a gemstone (durability) yet deserves its place in the world of gemstones. But why does zultanite not share the same popularity as tanzanite?

There are multiple reasons for it. The first reason is color. While zultanite has a unique color-change effect, the colors are in most cases very pale and with grayish overtones, it makes them less attractive. Buyers gravitate towards colors that are rich and eye-catching. They want something that stands out, not a gemstone that is understated. They want a 'bang for their buck'.

Another reason is a lack of marketing. Tanzanite entered the world stage due to the marketing prowess of Tiffany and Co. Including tanzanite in their collection was a master stroke. Zultanite needs a similar benefactor. One who sees the real potential and is prepared to spend money to increase its market awareness.

A lack of knowledge coupled with the very high prices has simply opened the door for a flourishing market in imitation stones. While organizations like CIBJO seeks to police the industry, it is hard to stop the misrepresentation of gemstones. Where people see a financial gain, they will exploit it and zultanite has created the 'perfect storm'.

Sadly, the actions of these sellers tarnishes the reputation of zultanite and that is unfortunate.

A majority of the sellers disclosed that they were selling synthetics or imitations but only after the direct question was asked about the origin of their 'Zultanite'.

While imitations are inexpensive, starting around \$ 35 a carat, dishonest sellers can sell these imitations at prices similar to natural zultanite especially to unsuspecting tourists or online.



Inclusions in Zultanite negative crystal



Inclusions in Zultanite partly destroyed negative crystal filled with iron oxides

All Photos by Nina Gold

In my opinion, the potential of zultanite remains untapped. If the prices were a little lower and the stone was more available to local people, it would become more popular and wide-spread and could then challenge the glass imitations.

If we look at 'branding', this stone ticks all the boxes. Uniqueness and rarity are key marketing factors. You just need some-one to market it.

### How to make a successful acquisition

It may sound strange, but it is really hard work to find a natural zultanite in Turkey. There are some art galleries that sell the nature gemstones at inflated prices, but you should be very careful not to be fooled.

One of the main guaranties for making a successful purchase is to buy a stone that has been certified by either GIA and/or GLT (Gemological Laboratory of Turkey). This of course adds to the cost but gives some assurances. Most large, good quality stones that I encountered had certificates from these laboratories.

Be wary of fake certificates or certificates from no-name laboratories because they can provide false information.

Regarding zultanite rough – while the mines are strictly controlled by the government and private companies, prices are sometimes four times higher than those in Bangkok.

For collectors, V-shaped twinned crystals are particularly sort after. Also, color-change diaspore can exhibit the chatoyancy effect when it is orientated correctly and shaped as a cabochon.

It was easier to find the natural stones in the area around Bodrum, in Muğla Province, in southwestern Turkey. Typically, natural stones are not on display with sellers keeping them separate from the other stock.

Also, you should keep in mind that sellers only know this stone as zultanite. They have not heard of diaspore, so forget about asking for color-change diaspore in the stores!

If you intend to go to Turkey in search of zultanite, I recommend you equip yourself with a simple set of gemological equipment such as 10x loupe with a light source, two flashlights with cold and warm light sources to check the change of color (these are typically absent in the stores), a diamond tester for the approximate hardness check, a portable darkfield loupe, polariscope, and calcite dichroscope (or London filter).

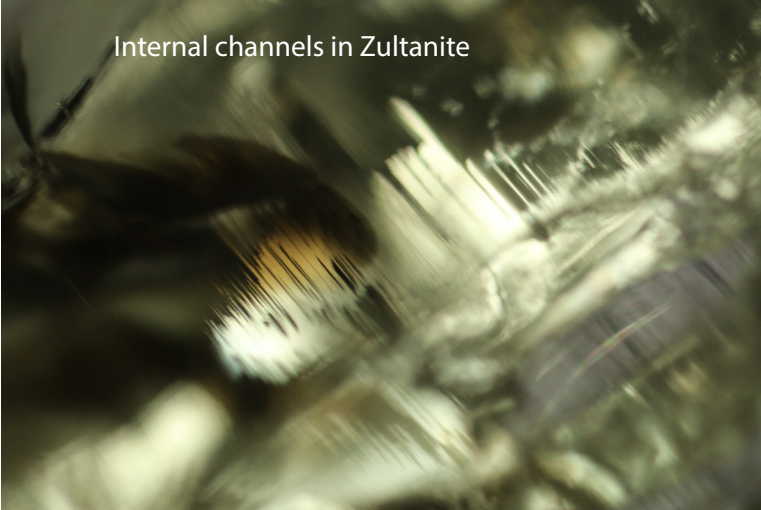
My hunting for zultanite was both hot and spicy, but in the end, I managed to find the piece I was looking for.

Hopefully if you follow these tips, you will too!

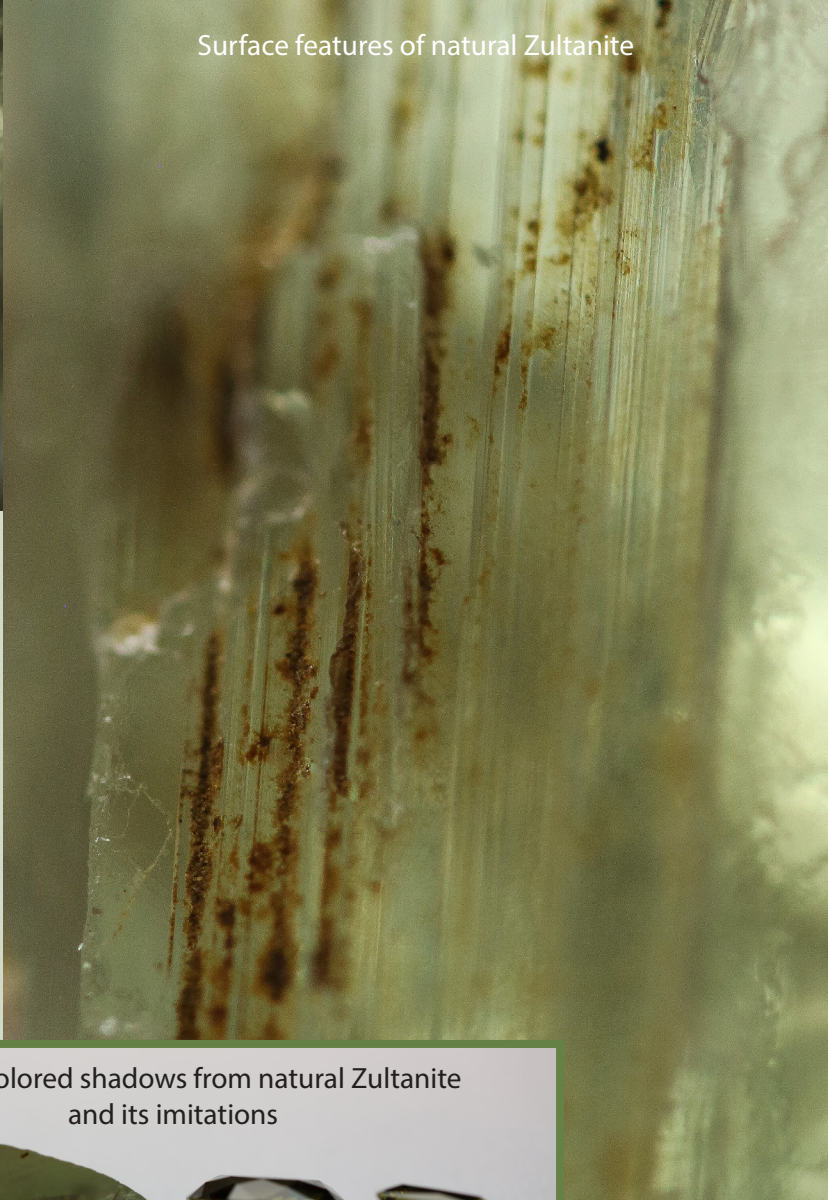


Zultanite  
London D

Internal channels in Zultanite



Surface features of natural Zultanite



**Reference:**

"Australian Gemmologist" Vol.23 from November,12

[https://www.researchgate.net/publication/236848348\\_Zultanite\\_or\\_colour-change\\_diaspore\\_from\\_the\\_Milas\\_Mugla\\_region\\_Turkey\\_and\\_editors\\_addendum](https://www.researchgate.net/publication/236848348_Zultanite_or_colour-change_diaspore_from_the_Milas_Mugla_region_Turkey_and_editors_addendum)

[www.Zultanite.com](http://www.Zultanite.com)

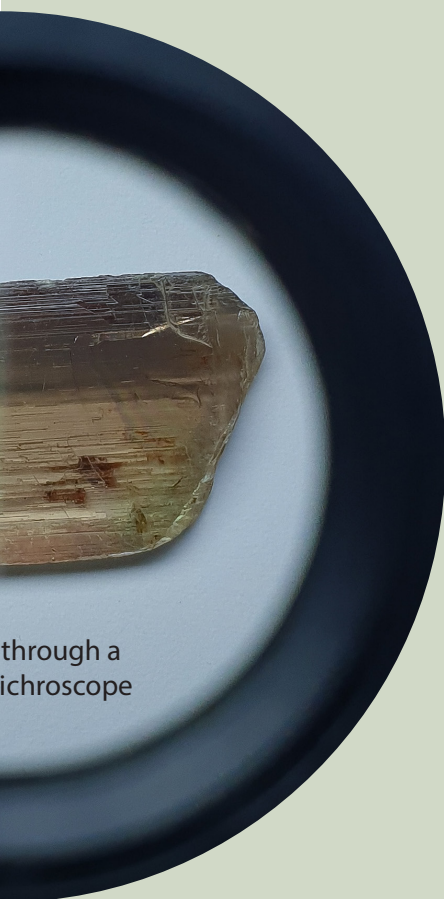
[www.tucsongemshow.blogspot.com](http://www.tucsongemshow.blogspot.com)

[www.wijblijvenhier.nl](http://www.wijblijvenhier.nl)

<https://www.gia.edu/gems-gemology/winter-2016-gemnews-color-change-glass-zultanite-imitation>

Miraslan.gems (Instagram)

Various colored shadows from natural Zultanite and its imitations

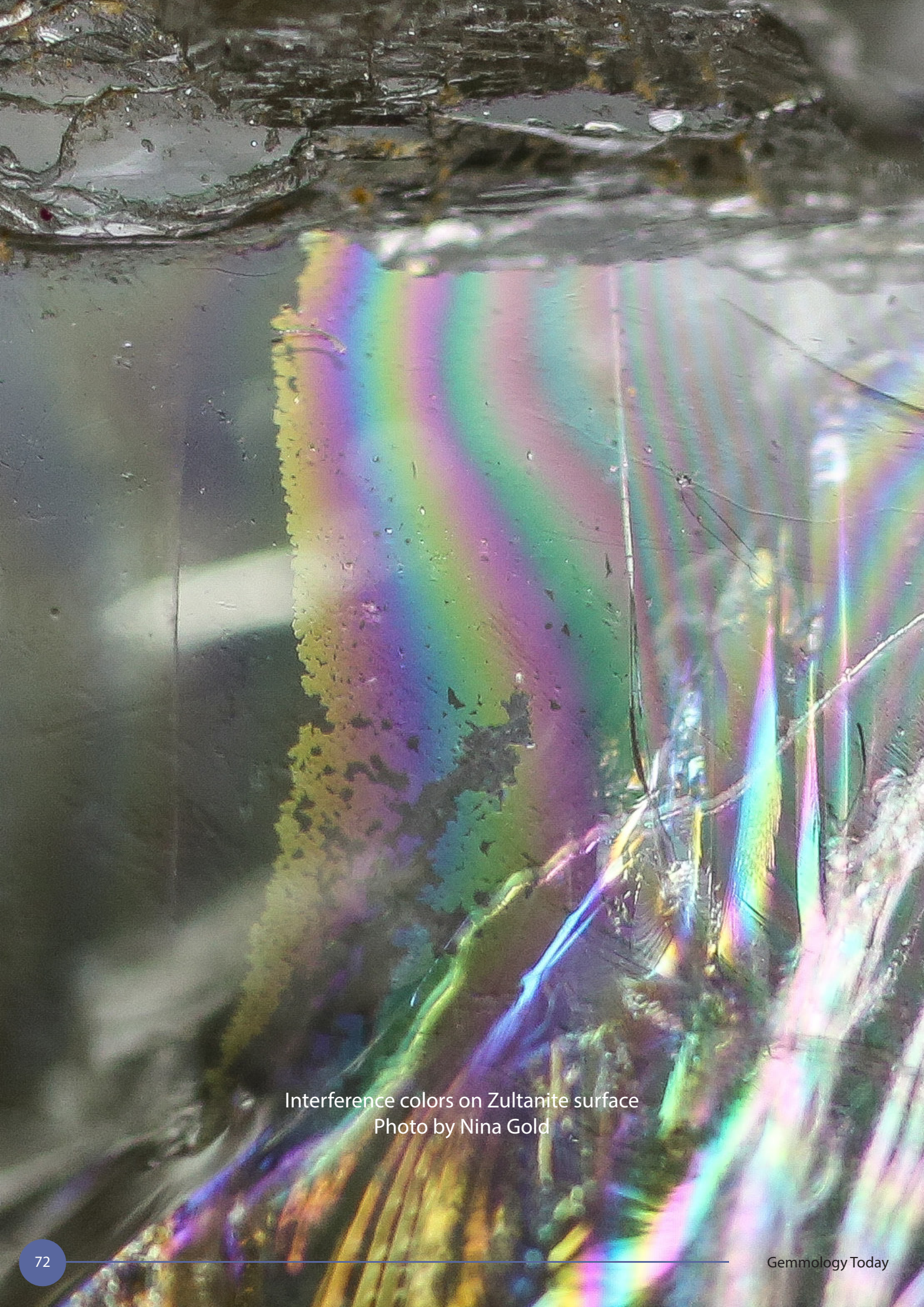


through a  
dichroscope



Inclusions in Zultanite

All Photos by Nina Gold

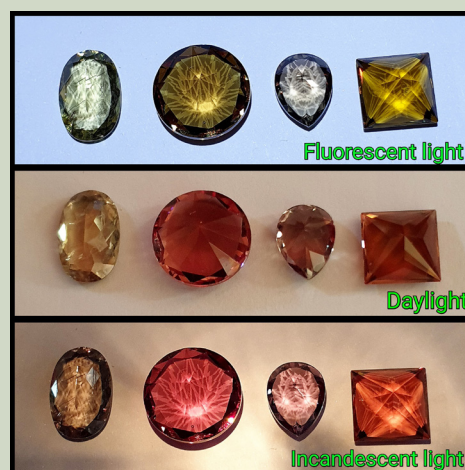


Interference colors on Zultanite surface  
Photo by Nina Gold

## REFERENCE GUIDE

In the table below, you can see the hyperbolized schematic comparison of the difference in nuances of color of natural zultanite, top-grade natural zultanite and its artificial imitations made from glass and Sitall while exposed to various light sources with different light temperatures. Please pay attention to the fact that artificial zultanite imitations exhibit yellowish overtones, while natural zultanite gemstones show grayish overtones.

Color nuances of Natural Zultanite and its Artificial Imitations under various light sources			
Name	Daylight	Incandescent light	Fluorescent light
Natural Zultanite	Intense Pale Grayish - Green	Pale Grayish - Pink	Pale Grayish - Green
Top-grade Natural Zultanite	Pale Grayish - Violet	Intense Pale Grayish - Pinky - Violet	Intense Pale Grayish - Green
Glass Zultanite Imitation	Warm Yellowish - Pink	Intense Warm Yellowish - Pink	Intense Yellowish - Green
Sitall Zultanite Imitation	Orangery - Pink	Intense Orangery - Pink	Intense Warm Yellowish - Green



## ABOUT THE AUTHOR

Nina Zolotukhina is an Expert Gemmologist through the MSU who is now based in Bulgaria. She is an avid mineral and gemstone collector, a photographer of minerals and inclusions (photomicrography) and Director of Corporate & Career Development for the WGF in Eastern Europe (Eastern Europe and Russia Gem Academy).

# STUDY GEMMOLOGY IN THE UNITED KINGDOM



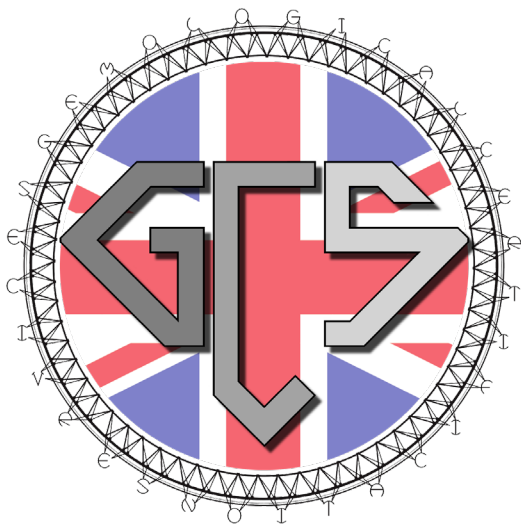
Be recognised as  
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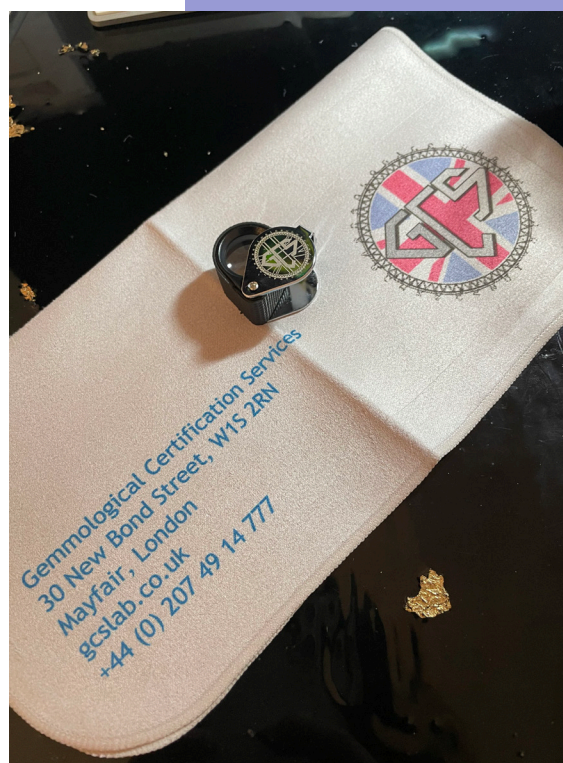


Gemmological Certification Services was established in the heart of London's Mayfair in 2014. We are the UK's leading gemmological laboratory for the origin determination of coloured gemstones; identification of synthetic material, including laboratory grown diamonds; differentiating natural and cultured pearls; and detecting treatment in all the major gemstones. Working in collaboration with Claude Bernard University in Lyon, France, we uphold a high academic standard, with a fully trained team of gemmologists and the most up-to-date technology. We are proud to provide gemmological certification services to the most prestigious jewellers and auction houses in the UK and worldwide.

Our parent company, the antique jewellery specialists, Gemroad had been established on the premises a decade earlier by Stephane Cohen-Scali, whose interest in gemstones stems back to his childhood, having grown up in the family jewellery business in Paris, France. As an interest in gemstones can only take one so far, Stephane went on to pursue his gemmological studies at the Institut National de Gemmologie and Claude Bernard University, obtaining a gemmological degree and diploma respectively. After founding Gemroad, Stephane, recognising a need for such a service, set up a gemmological laboratory in London.

The company is now managed by his daughter, Stephanie Seror, who has grown the team to three times its original size over the past year. With an experienced tutor on staff, we are now in a position to deliver gemmological education to the those with an interest in pursuing this fascinating and ever evolving subject.

Our pooled knowledge, coupled with our day-to-day operations as a laboratory, place us in a prime position to offer the most comprehensive level of gemmological education in the UK. We are looking forward to working with the World Gem Foundation.





# TRADESHOW

## GemGenève 2023

In May, I visited Gem Genève in Switzerland, the 6th edition for this relatively new high-end Gem and Jewellery Trade Fair. While comparatively small compared to other shows (13.000 square meters), Gem Geneva really packs a punch with an impressive and diverse range of approximately 200 gem and jewellery exhibitors displaying exceptional diamonds, precious gemstones, pearls, precious coral, and antique and contemporary jewellery. Gem Genève provides a unique platform representing centuries of tradition with ambitious people and companies presenting innovative and creative ideas.

One of the key aspects of trade shows nowadays is lectures. Gem Genève excelled by offering a dynamic program of industry relevant lectures and workshops held at the GG Trade Fair in the Palexpo close to the airport of Genève.



Immerse yourself in new trends, disruptive thinking, ambitious ideas and fresh approaches. Take part in our informative and educational lectures, industry-relevant seminars, thought-provoking round table discussions and Touch & Feel workshops. As a hub for the gem & jewellery world, GemGenève fosters debate through talks and encourages new generations to Learn & Discover.



Representing centuries of tradition and driven by an open-minded spirit





I completely agree with the quote from Ronny Totah: 'In an increasingly digital age, nothing can replace the experience of touching, handling gems and jewels, and learning first-hand from knowledgeable and impassioned experts.'

Attending this show reinforced just how important it is to invest your time and money attending these shows. Not only do you get an opportunity to meet people and create or nurture existing networks but also to educate yourself on what is new and exciting.

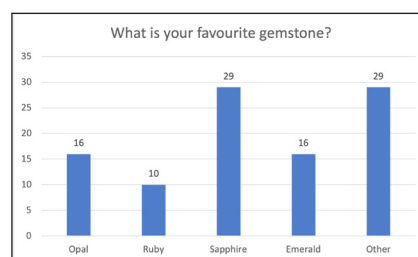
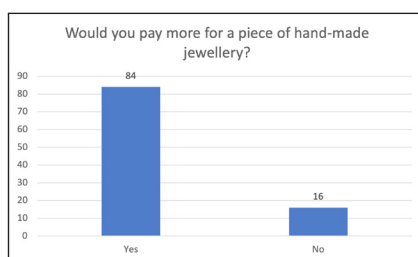
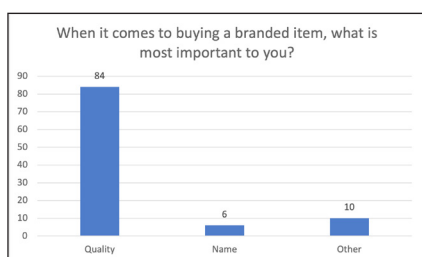
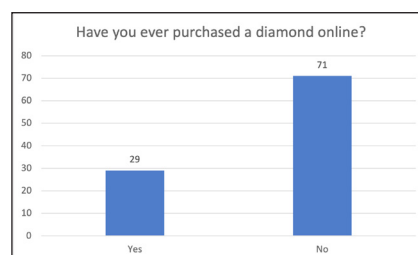
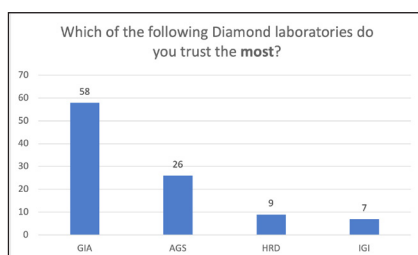
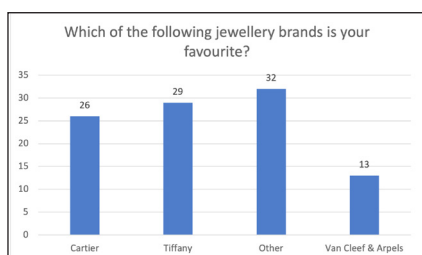
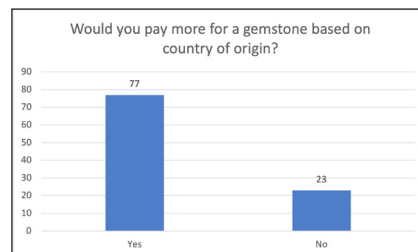
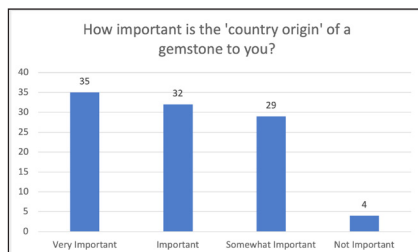
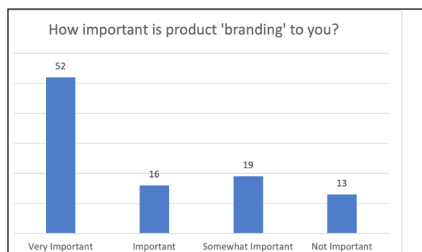


Of course, visiting Gem Genève was also an opportunity to visit the viewing days for both Sotheby's and Christie's and the latest wonder of nature, the impressive 'Estrela de Fura', a 55.22 carat cushion shaped ruby that was unearthed in Mozambique. On June 8th, it sold for 34,8 million USD, a new record for a coloured gemstone sold at auction.



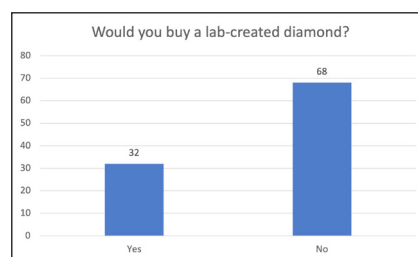
Photos by Leone Langeslag

# Results *MARKET SURVEY*



Some interesting results!

PERCENTAGES



Somewhat surprising that brand and country of origin are so important. 77% indicated that they would pay more for a gemstone based on country of origin. There was no clear winner when it came to jewellery brands with Cartier and Tiffany almost neck and neck. GIA garnered the most votes for 'most trusted laboratory', while surprisingly, only 29% of participants indicated they had purchased a diamond online. Quality reigned supreme when it came to buying branded items and interestingly 84% of participants indicated they would pay more for hand-made jewellery. There was no clear winner when it came to favourite gemstone but one 'BIG LOSER', diamond at 3%. Finally, only 32% indicated they would buy a lab-created diamond.

Clearly, online marketers need to do more to attract diamond buyers away from the traditional 'brick and mortar' stores while consumers need more convincing about the value of lab-created diamonds compared to their natural counterparts.

Geographically, we covered a fair amount of territory with participants coming from thirteen different countries.

To all who participated, thank you for taking the time.

# Sole Leone

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# WGF team

## Professionals at Work

**Geoffrey Dominy (World Gem Foundation)** is an author, independent gemmologist and former jewellery appraiser who appeared on the Canadian Antiques Roadshow for four seasons. He received his F.G.A through the Gemmological Association of Great Britain (Gem-A) in 1987 passing the diploma examinations with distinction.

Throughout the 1990's, Geoff developed and taught the 'Gemmology' program at Red River Community College and The University of Manitoba in Winnipeg, Canada, worked for the Canadian Institute of Gemmology, was President and Founder of the Jewellery Appraisers Association of Canada and was a contributing author for the 5th & 6th Editions of Robert Webster's 'Gems' which even today is considered one of the most authoritative textbooks in Gemmology.

In 2013, he released the first digital gemmological textbook entitled 'The Handbook of Gemmology' in collaboration with world famous gem photographer Tino Hammid. Now in its fourth edition, the handbook has been sold or downloaded in fifty-three countries, is used by fourteen schools, colleges, universities and gemmological organizations as their recommended textbook and now features photographic contributions by other award winning photographers including Jeff Scovil.

In 2018, Geoff released a 5th Anniversary Printed Edition (Two Volumes) and on December 14th, 2019, released his first book in Spanish 'Gemología Para Todos' (the first 14 chapters of the Handbook of Gemmology).

He currently lives in Palma, Mallorca, Spain and in addition to lecturing and promoting his books, is the founder of the World Gem Foundation and creator of ColourWise.

**Leone Langeslag (Dutch Gem Academy)** is a graduate of the Federation for European Education in Gemmology (FEEG) (2006), an independent gemmological consultant and is actively involved with the Gemma Association in Holland offering lectures and workshops. Her desire to provide accessible gemmological training in the Netherlands has led to the formation of the Dutch Gem Academy.

Leone is a frequent visitor to international symposiums, exhibitions and trade shows where she continues her own gemmological education and passion for collecting gemstones and minerals.

**Deborah Mazza (British Gem Academy)** is half Italian and half British, and started her journey through the world of gemstones in Germany in 1984, where she studied at the Deutsche Gemmologische Gesellschaft attaining her gemmology and diamond diploma; she subsequently gained her FGA in 1986.

Deborah then went to work for the trade in Idar-Oberstein, buying and selling wholesale gems and diamonds, working as a gemmologist and teaching gemmology at the DGemG, this led on to carrying out jewellery valuations for an insurance company in Germany. She later got a Bachelor in Business in Germany, and returned to the UK in 2010, where she became a tutor for the Gem-A's online courses. Deborah, keen to add to her knowledge, started to study again and passed the NAJ/IRV's CAT jewellery valuation diploma, and is now studying History of Art at Goldsmiths University. Deborah has her own valuation business and works part-time for an online auction house. She contributed several written pieces for Yavorsky's new book, Terra Connoisseur: Gemstones.

**Jan Asplund (Scandinavian Gem Academy)** is a gemmological consultant specializing primarily in the identification and valuation of diamonds, both cut and rough, as well as coloured gemstones and jewellery.

He received his FGA & DGA (Gem Diamond Diploma) through Gem-A in 2011, his BA in History from the Mälardalens University in 2000 and studied geology and gemmology at Luleå Technical University (2005 - 2007), cultural and industrial history at the Uppsala University (1998 - 2000), and archival science at Karlstads University (1998 - 1999). Jan also took his Accredited Jewelry Professional - AJP (Gemmological Institute of America 2011), Introduction to Watches (International School of Gemology 2012), Jewellers Education Foundation - Graduate Sales Associate (American Gem Society 2011), Blacksmithing (Sätergläntan 2002) and Silversmithing (Tärna Folkhögskola 1996).

He is a board member of the Swedish Gemmological Association, fellow and diamond member of Gem-A and initiator and organizer of the Scandinavian Gem Symposium.

**Gérard Raphaël Quintin (South American Gem Academy)** was born in Paris France where he studied Art and Design and graduated from Ecole Boulle. His taste for the diamond world may have been inherited from an uncle who worked in the diamond business.

In 1978 he took the gemology colored stone and diamond course with GIA while he was mining diamonds in the Sewa River in Sierra Leone and where he started the first diamond cutting center in West Africa.

In Abidjan Côte d'Ivoire in 1992 Gérard founded the diamond cutting formation center with a gemological laboratory 'Hardy's', followed by the installation of the colored stone and diamond cutting facilities in the jewelry school EIBMA.

Continuing his tour in the world of gemstones, Gérard went to Madagascar as an expert for a French Government project to develop the organization and skill of the gems sector.

Professor of Gemology in the Jean Guehenno Jewelry School in Saint-Amand-Montrond France, he then moved to Bolivia to fund and manage the 'Instituto Gemologico Boliviano' where students learn gemology and the art of gem cutting.

Since 1997 Gérard has been a member of the Organisation Internationale des Experts based in Geneva, Switzerland.

**Marie-Hélène Corbin (Gem Academy of Canada & Gem Academy of Belgium)** is an FGA gemmologist and accredited Senior Gemmologist through the AGA.

Following a busy career in real estate, she wanted to change her professional path and became interested in gemmology. This discovery of gemstones turned into a passion. Marie-Hélène studied at the EGM and successfully passed her Gemmology Diploma.

Guided by the desire to pass on her love for gems, she became the new Director of EGM in 2016, with a strong desire to modernize the school. As a teacher, she instills in her students the desire to learn more about the world of gemstones.

This passion for gems does not stop there, and Marie-Hélène created Quebec's first independent gem identification laboratory, Lelièvre Laboratoire de Gemmologie (LLG) in 2018. In order to offer the most complete service to her clients, she created the Gems and Jewelry Appraisal Center in 2019, also in Montreal.

**Kyalo Kiilu (East African Gem Academy)** is a fellow of the Gemmological Association of Great Britain (Gem-A) and an Alumnus of Birmingham City University where he obtained his BSc with honours in Gemmology and Jewellery Studies in 2017.

His passion for gemstones can be traced back forty years to his late grandmother's village in rural Kenya and the prospecting trench dug by the first British gemstone explorers in the early part of the 20th Century.

While pursuing his pharmaceutical studies, his interest in gemstones never diminished. Unfortunately in 2003 there were no colleges in Kenya offering gemmological courses so he decided to relocate to England and enrolled in Gem-A's Diamond Diploma program in 2004; the start of his gemmological journey.

Kyalo is a licenced gemstone prospector in Kenya and in 2015 made a discovery of a very unique sapphire, resembling another Kenyan sapphire marketed as 'Goldsheen Sapphire' that he will hopefully share with the gemmological community very soon.

He comes to the World Gem Foundation and specifically the East African Gem Academy with a strong desire and ambition to share his knowledge of gemstones with his fellow East Africans, particularly those involved in the production of gemstones, gemstone lovers and aspiring gemmologists, to provide support and encouragement that was so lacking in the industry when he was growing up in Kenya.

**Salomon Lutumba (South Central African Gem Academy)** is an alumnus of Birmingham City University where he graduated with a Bachelor in Science with honours in Gemmology and Jewellery studies in 2016. He also holds a Diamond Diploma and Gemmology certificate from Gem-A. He is originally from the Democratic Republic of Congo.

In 2002 he relocated to England where, ten years later, he found the opportunity to fulfil his dream of studying gemmology at the Birmingham City University. In 2012, he started his High National Diploma in Gemmology combined with Gem-A's Diamond and Gemmology program which led to a degree program, introduced for the first time in 2015, at the BCU.

Today, by embracing the World Gem Foundation's concept and philosophy of gemmological education, and through the Gem Academy of DR Congo, he would like to share his passion and knowledge of gems with his fellow Congolese; particularly jewellers, aspiring gemmologist and gemstone lovers.

His personal goal is to promote the science of gemmology in his country, by providing information and support to empower people in the jewellery business and those trading in stones.

**Jack Ghazalian (American Gem Academy)** has thirty-eight years of experience in the jewelry industry. He is a graduate gemologist through the Gemological Institute of America (1992), was an instructor for GIA (1993) and was officially Certified-by-the-State of California Education Code 94311(a) to teach Gemology & Jewelry Manufacturing-Arts (1993).

In October 2015, he was honored by the International Distinguished Scholars – Academic Honor Society as an ‘International Distinguished Scholar’ and in 2017 was granted membership in Kappa Delta Pi. He is currently the owner of Isometric Gemological Appraisal Services in Southern California: IsometricGems.com, speaks five languages and is passionate about education.

**Barickeh Charles Kholifa Koroma (West African Gem Academy)** is a freelance gemmologist, diamond grader/valuer, a member of the Gemmological Association of Great Britain and a member of the Scottish Gemmological Association. He was born in Liberia to Sierra Leonean parents and raised in the mineral rich country of Sierra Leone where he survived a devastating brutal civil war which lasted for almost 12 years.

He relocated to the United Kingdom in 2004 and received help on how to cope with Post Traumatic Stress Disorder (PTSD), which now proves pivotal in his approach to life.

He attended the coveted School of Jewellery, Birmingham City University (BCU) where he studied a diploma in diamonds (Gem-A) and a BSc (Hons) in Gemmology and Jewellery Studies. He graduated with a first-class degree in 2018 and was awarded the prestigious Scottish Gemmological Association Prize for Gemmology. He then moved back to Sierra Leone to pursue his dreams. His greatest achievement so far is working as a student mentor during his time at the university, he was able to give advice and guidance to some students that were struggling to cope with the demands of higher education and being away from home.

Like Kyalo, he comes to the World Gem Foundation and specifically the West African Gem Academy with a strong desire and ambition to share his knowledge of gemstones with his fellow West Africans, particularly those involved in the production of gemstones, gemstone lovers and aspiring gemmologists, to provide support and encouragement that was so lacking in the industry when he was growing up in Sierra Leone.

**Dr. Laurent Massi (French-Swiss Gem Academy)** completed his PhD studies on ‘Atomic-scale Defects in Brown and Hydrogen-rich Diamonds’ at the Department of Physics at Nantes University in France under the

direction of Professor Emmanuel Fritsch. During his studies he also taught gemology in Paris at the French National Gemological Institute. Dr. Massi subsequently taught gemology and gave presentations at conferences in numerous countries all around the world. During his career he has also had the opportunity to publish a variety of scientific and educational articles on color-change corundum, hydrogen- and CO<sub>2</sub>-related optical centers in diamond, chameleon diamonds, clinohumite, color-change bastnäsite and on a new gem mineral: hibernite, one of the rarest gems on Earth.

Dr. Massi was the Director of the Asian Institute of Gemological Sciences (AIGS) Gem Laboratory and Gem School based in Bangkok - Thailand. He subsequently completed his Graduate Gemologist (GG) studies at the Gemological Institute of America (GIA) headquarters in Carlsbad, USA and then became the Director of the new GIA Thailand Campus located in Bangkok - Thailand.

With more than 20 years of experience in the Gems & Jewelry industry, Dr. Massi is now the head of both the new international gem academy AGAT (for ‘Academy of Applied & Technical Gemology’) as well as the co-founder of the French-Swiss Gem Academy (from the World Gem Foundation), both housed in the Majestic building - a former palace from the Belle Epoque - located on the French Riviera, in Nice - France.

**Nina Zolotukhina (Eastern Europe & Russia)** studied gemmology at Moscow State University, is an independent gemmologist, now based in Bulgaria, founder of Gemlab Europe Project, researcher, gem expert and author of reviews and articles about gemstones, research methods and gemmological equipment. She is an avid mineral and gemstone collector and photographer of minerals and inclusions (photomicrography).

**Haimanot Sisay (Ethiopia)** is a graduate of the World Gem Foundation and an opal cutter based in Addis Ababa. She is the Associate Editor of Gemmology Today and an instructor / tutor for the World Gem Foundation.

**Wilma van der Giessen (Belgium)** received her first diamond education from Mr. S. Asscher in 1980 and in 1983 graduated at the German DGemG in Idar Oberstein as a diamond professional. At the age of 18, she was introduced to the diamond world in Antwerp where she learned all about rough and polished diamonds. Two years later, in 1985, she received her FGA diploma and in 1991 graduated as a GG at GIA’s headquarters in Santa Monica, USA. Traveling is one of her great passions and her teaching space is a true paradise for gemmology students because they have access to a great collection of both natural and synthetic gemstones. Wilma is an avid photographer of gemstone inclusions and nature.

# MEET OUR TEAM OF PROFESSIONALS



Geoffrey M. Dominy  
World Gem Foundation  
Spanish Gem Academy



Leone Langeslag  
Dutch  
Gem Academy



Deborah Mazza  
British  
Gem Academy



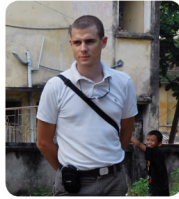
Gérard Raphaël Quintin  
South American  
Gem Academy



Marie-Hélène Corbin  
Gem Academy of Canada  
Gem Academy of Belgium



Jack Ghazalian  
American  
Gem Academy



Dr. Laurent Massi  
French Swiss  
Gem Academy



Kyalo Kiilu  
East African  
Gem Academy



Salomon Lutumba  
South Central African  
Gem Academy



Barickeh Charles Kholifa Koroma  
West African  
Gem Academy



Nina Zolotukhina  
Eastern Europe  
& Russia



Haimanot Sisay  
World Gem Foundation



Lucille Daver  
Gem Academy of Canada  
Gem Academy of Belgium



Dorian Fitchko  
Gem Academy of Canada  
Gem Academy of Belgium



Allison Lemaire  
Gem Academy of Canada  
Gem Academy of Belgium



Caroline Gagnaire  
Gem Academy of Canada  
Gem Academy of Belgium



Wilma van der Giessen  
Gem Academy of Belgium



Gamini Zoysa  
Sri Lanka

**Gamini Zoysa (Sri Lanka)** is the Managing Director of Mincraft Company, a member of the Congress Committee and Communications Committee of the International Colored Gemstone Association (ICA), as well as serving as the organization's Ambassador to Sri Lanka, Executive Committee Member of the Sri Lanka Gem & Jewellery Association, Former President and current Executive Committee Member of the Gemmologists Association of Sri Lanka (GASL), Board member for the International Gemmological Conference (IGC), he holds a Master's Degree in Geology from the University of Moscow and Doctorate in Mineral Exploration from Delft University, Netherlands and is an FGA (Gem-A) and G.G. (GIA) gemological graduate.

## WGF FACT FILE

**Date Founded: 2015**

**Country of Incorporation: Canada**

**Corporate Structure: Not-for-Profit**

**Board of Directors: Yes**

**Executive Council: Yes (5 Members)**

**Head Office: Palma, Mallorca, Spain**

**Number of countries where our students live: 85**

**FB Followers: 17,702**

**Instagram Followers: 1,094**

**LinkedIn Followers: 1,227**

**Total Value of Scholarships Awarded: € 124.800**

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in Addis Ababa, Ethiopia

[information@worldgemfoundation.com](mailto:information@worldgemfoundation.com)



# PROJECT **africa**

## The Long and Winding Road

### THE VISION

My interest in gemstones dates back to when I was a teenager and my uncle taught me the basics of gem cutting.

I am not sure what attracted me to these shiny objects but there was something that fascinated me about the metamorphosis of a gemstone from rough to finished stone.

My uncle is a well-respected mining engineer here in Ethiopia, and I while I would have liked to have pursued a career in earth sciences (including gemmology), no courses were available. Sadly, in Ethiopia, students do not have the freedom to choose their field of study. That all important decision is made by the government authorities. For me, that meant computer science, a far cry from working with beautiful gemstones.

Upon graduation, I decided to work for Ethiopian Airlines because I wanted to see the world, and this offered the best opportunity to do it.

It was only after having a conversation with my friend, Fikru that I became aware of the possibility of studying gemmology. That lead to an online search where he found two gemmologists, Çiğdem Lüle and Lore Kiefert. Through personal correspondence, both encouraged me to apply to schools like GIA for a scholarship, and offered to supply support letters if I did. I applied to two schools, GIA, and the World Gem Foundation (WGF), and received positive responses from both. I decided to go to Bangkok first to study coloured gemstones with GIA because their scholarship program had a time limit while the WGF scholarship offered more flexibility.

My time in Thailand opened my eyes to a whole new world. However, I was still not sure how I could make my dream a reality. I wanted to not only bring gemmology to Ethiopia and the rest of Africa but also establish the entire supply chain. I had my diploma; I was full of energy, but something was still missing.

I knew Ethiopia was blessed with gem resources and had enormous potential, but I also knew that my country was not doing enough. I needed to find the right person, a person who could



The journey begins from Spain



Agreement signing



Meeting Ambassador Amin

see the bigger picture and help me to develop it. This led to a chance meeting with the Minister of Mines in 2017 and while he was helpful, and I was able to talk to various people, nothing materialised.

I was frustrated, every door I hoped would open, remained closed.

### ENTER THE WORLD GEM FOUNDATION

I completed my online training with the WGF and decided to head to Mallorca, Spain in early 2022 to complete the practical requirements. During my month long stay, Geoff and I talked a lot about Africa and the need to bring quality and affordable education to the gem producing regions. Suddenly, I found myself talking to a person who saw the bigger picture. He promised me that the World Gem Foundation would come to Ethiopia if I would 'blaze the trail' and gain the support of the Ethiopian government. I had finally found an organization that understood what I wanted to do and more importantly was willing to help.

I completed my studies and returned to Ethiopia with renewed optimism. I knew it would not be easy but now I had the backing and support I had been searching for.

Another chance meeting with the new Minister of Mines led to an ultimate meeting with Dr. Guta Legesse, head of MIDI (Mining Industry Development Institute). This was another 'game changer'. I had found another forward-thinking person who saw the big picture and understood how education could change the current dynamic. The pieces were finally falling into place but, nothing prepared me for what was to follow!

They say the journey is often better than the destination. I am not so sure I agree.

### THE IMPLEMENTATION

What ensued was a series of meetings with the ministry. I had to not only familiarize them with the World Gem Foundation but also the science of gemmology and our Project Africa initiative. While the reaction was positive, no-one was quite sure how we could implement it. We found ourselves in uncharted territory. Gemmologically speaking, nothing of this magnitude had ever been attempted before. A working relationship between the private and public sectors.

One of the requirements here in Ethiopia is that any new initiative must undergo a 'needs assessment' before

it can move forward. We had to conclude whether or not this program was a viable option and if ultimately it would improve the gem sector. Finally, we reached a point where everyone agreed that this initiative should proceed.

The decision was then made for Geoff to come to Ethiopia to oversee the negotiations and to make a statement of intent on behalf of the World Gem Foundation. Geoff gave a number of presentations to the universities and the ministry to gauge the level of interest and support for the Project Africa initiative. All presentations were met with enthusiasm, and this motivated all of us to find a workable agreement to make the program a reality.

While on the surface, everything appeared to be running smoothly, behind the scenes, they were not. We faced numerous challenges that at times seemed unsurmountable. Ultimately, it was our belief in Project Africa that helped us overcome these challenges. Deep down inside, we all believed that this project was too important to fail. Failure was not an option.



A blank canvas



Finally taking shape



Geoff meeting some of our students

## THE REALISATION

February 24th, 2023 is a day I will remember for the rest of my life. The signing of the joint venture agreement between the World Gem Foundation and MIDI put into motion one of the most significant gemmological events to have occurred in Africa in a long, long time. Nothing of this significance had ever been attempted before and I take great pride in being one of the chief architects of this initiative. We finally had the go ahead to start the program. Now we had to implement our business plan to make it a reality.

Our ambition not only extends to Ethiopia but also throughout Africa. To achieve this goal, we must make the Centre of Excellence and Gem Testing Laboratory here in Addis a shining example of what can be achieved and a template for other governments to follow. I am proud that my country is leading this initiative. Addis Ababa is home to the African Union so it seems appropriate that the birth of this initiative should happen here in Ethiopia, the cradle of humankind.

The first 25-week program is scheduled to start at the beginning of July. The laboratory website has already been launched and we plan to be operational at the same time.

It is hard to describe how I feel at this moment. Over the last sixteen months, we have moved mountains to make the first phase of Project Africa possible. I know there are many more mountains that must be moved but I now know that anything is possible. This project is going to change lives here in Ethiopia and throughout Africa and that is perhaps the greatest motivation of all. As they say in the U.S 'Think big or go home'. This is going to be huge!

In the words of Mebratu Takele Tadesse, one of our new students:

*'It is time for Ethiopia and Africa to benefit from their gemstone resources. Thank you for giving us this opportunity, we will work hard to repay the trust you have shown in us and we will take ownership of our professional development. Thank you again!!'*



Gemmological equipment funded by the Canadian Government stored at GIE



Ethiopian Mineral Gallery located at the Ministry of Mines

## ABOUT THE AUTHOR

Haimanot Sisay is an Ethiopian gemmologist, a graduate of the World Gem Foundation, an opal cutter, Director of Operations for Project Africa and Associate Editor of Gemmology Today.



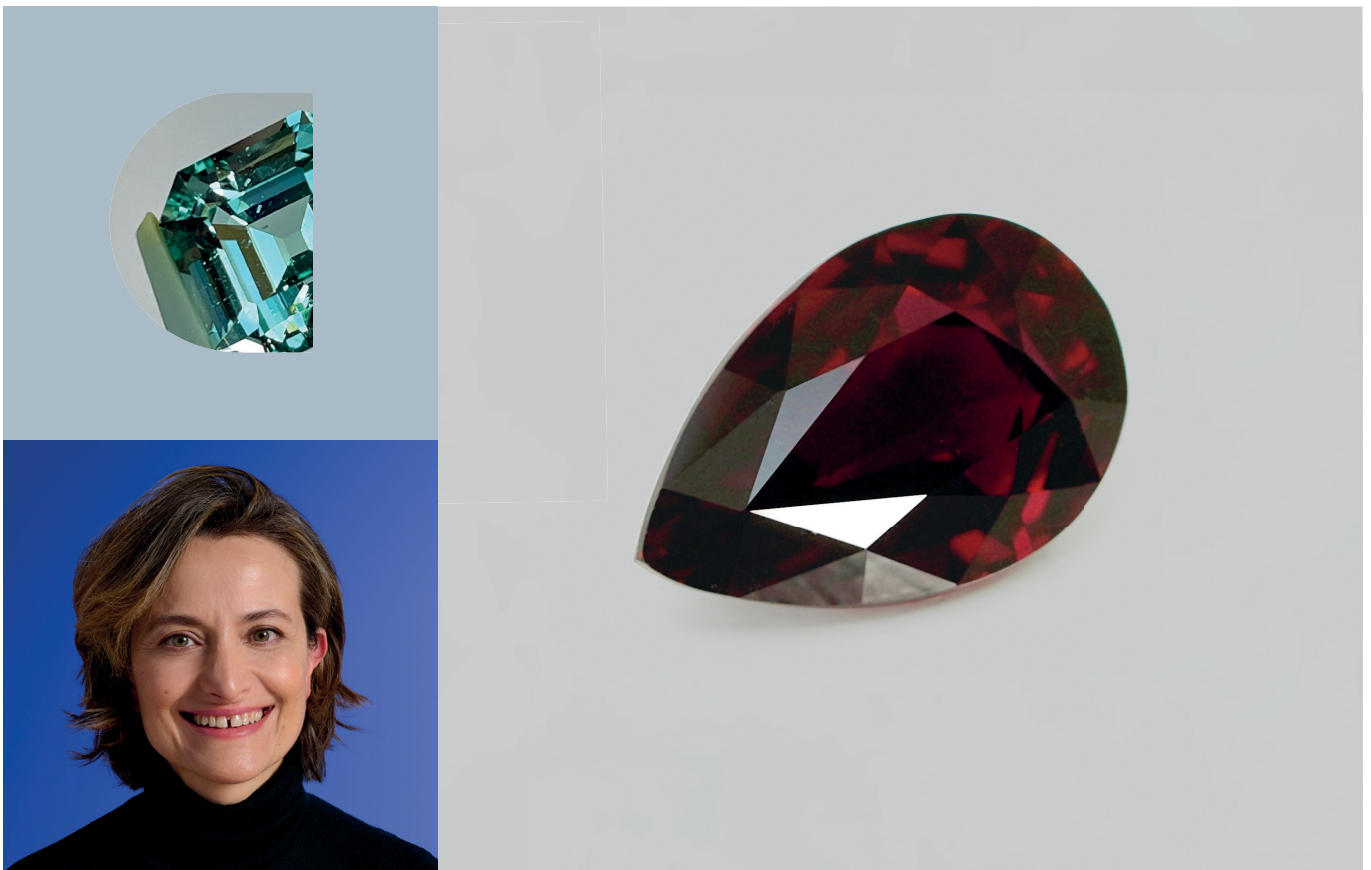
# WGF directory

## Who we are and how to find us

Academy Name	Website Portal	E-mail Addresses
World Gem Foundation	<a href="http://www.worldgemfoundation.com">www.worldgemfoundation.com</a>	<a href="mailto:information@worldgemfoundation.com">information@worldgemfoundation.com</a>
American	<a href="http://www.worldgemfoundation.com/aga">www.worldgemfoundation.com/aga</a>	<a href="mailto:aga@worldgemfoundation.com">aga@worldgemfoundation.com</a>
Belgian	<a href="http://www.worldgemfoundation.com/gab">www.worldgemfoundation.com/gab</a>	<a href="mailto:infogembelgium@egmtl.com">infogembelgium@egmtl.com</a> <a href="mailto:wilma@worldgemfoundation.com">wilma@worldgemfoundation.com</a>
British	<a href="http://www.worldgemfoundation.com/bga">www.worldgemfoundation.com/bga</a>	<a href="mailto:contact@gcslab.co.uk">contact@gcslab.co.uk</a>
Canadian	<a href="http://www.worldgemfoundation.com/gac">www.worldgemfoundation.com/gac</a>	<a href="mailto:info@igem.ca">info@igem.ca</a>
Caribbean	<a href="http://www.worldgemfoundation.com/cbga">www.worldgemfoundation.com/cbga</a>	<a href="mailto:cbga@worldgemfoundation.com">cbga@worldgemfoundation.com</a>
Central American	<a href="http://www.worldgemfoundation.com/caga">www.worldgemfoundation.com/caga</a>	<a href="mailto:caga@worldgemfoundation.com">caga@worldgemfoundation.com</a>
Dutch	<a href="http://www.worldgemfoundation.com/dga">www.worldgemfoundation.com/dga</a>	<a href="mailto:dga@worldgemfoundation.com">dga@worldgemfoundation.com</a>
Eastern Europe / Russia	<a href="http://www.worldgemfoundation.com/eega">www.worldgemfoundation.com/eega</a>	<a href="mailto:ninagold@worldgemfoundation.com">ninagold@worldgemfoundation.com</a>
French-Swiss	<a href="http://www.worldgemfoundation.com/fsga">www.worldgemfoundation.com/fsga</a>	<a href="mailto:fsga@agat-gemology.com">fsga@agat-gemology.com</a>
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South Central African	<a href="http://www.worldgemfoundation.com/scaga">www.worldgemfoundation.com/scaga</a>	<a href="mailto:scaga@worldgemfoundation.com">scaga@worldgemfoundation.com</a>
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Sri Lanka	<a href="http://www.worldgemfoundation.com/slga">www.worldgemfoundation.com/slga</a>	<a href="mailto:gaminiz@worldgemfoundation.com">gaminiz@worldgemfoundation.com</a>
West African	<a href="http://www.worldgemfoundation.com/waga">www.worldgemfoundation.com/waga</a>	<a href="mailto:waga@worldgemfoundation.com">waga@worldgemfoundation.com</a>

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