A rose by any other name would smell as sweet

Annually, some 400 million carats of synthetic rough are produced.* Despite these figures, many traditionalists obstinately refuse to accept the rapid rise in interest for “cultured” diamonds and insist they should be called “synthetic”. Gill Hyslop finds out more.

* Most of this goes towards industrial use. Less than 100 000 carats are currently produced for the gem industry.

LAST YEAR, BHP BILITON FORECAST A scenario where supply will be unable to keep pace with demand. Their statement read: “Diamond jewellery demand growth is expected to be strong going forward. No significant new mines have been discovered [and] any new [natural] production will be relatively small-scale. Production will decrease at some mines.”

Unfortunately, the good times experienced by natural diamond producers, unlike their product, is not going to last forever.

But well before this was realised, man – once again – prevailed. Ever since English chemist Smithson Tennant confirmed that graphite and diamonds were made of the same stuff in 1796, scientists have been delving into the marvels of modern technology to make a synthetic diamond that emulates a natural one in every conceivable way, bar its birthplace.

“There’s absolutely no difference between mined and cultured diamonds,” says Janet Silk, GM of the Cultured Diamond Company (CDC), local distributor of the Gemesis range of cultured diamonds. “They share the same chemical make-up and hardness; despite being grown in a monitored environment, we have no control over the growth or the colour intensity of the stone; and both grow in four days. It’s a myth that it takes natural diamonds millions of years to grow in nature. It’s just taken us millions of years to find them.”
Despite much opposition, some experts now view synthetics as a great opportunity for the diamond industry. The consuming market for diamond jewellery is growing exponentially with hundreds of millions of new consumers being added from the fast-expanding economies of India, China and Asia. Natural diamond production cannot now – nor will it in the future – meet demand. Synthetics are ideally in a position to fill the gap.

“Supply of natural rough is predicted to decline over the next 10 to 15 years. Technological innovation can play an important role in augmenting supply when a mined product cannot support consumer demand,” comments Clark McEwan, marketing manager of Gemesis, one of the largest synthetic diamond producers. “Over time, cultured diamonds will bridge the gap, with a product that is 100% diamond at a consumer-friendly price.”

What is still getting up everyone’s noses, though, is semantics. The term “synthetic” is widely used and, gemmologically speaking, accurate. But producers do not care for it, arguing that it smacks of “fake” and is therefore misleading and off-putting. They would prefer “cultured”. This, in turn, enrages traditionalists. “People can call them what they want,” says McEwen, “but cultured diamonds are diamonds.”

According to lawyer Hanro Friedrich, the SA Diamond Act, No. 56 of 1986, only recognises “synthetic diamonds”, being a “diamond manufactured by any artificial means”. “Nowhere does the Act refer to ‘cultured’ diamonds, so the term has not been accepted by law,” he states.

The nomenclature for grading synthetic diamonds also marks a point of controversy. Because the gemmological properties of naturals and synthetics are identical, producers of synthetic diamonds believe they should be graded according to the same criteria as natural diamonds, albeit with a disclosure note identifying them as lab grown.

“We offer 100% declaration that they are grown in a laboratory,” says Roger Lappeman, co-founder of CDC. “We’re happy with the term ‘laboratory-grown diamond’ but we believe we are entitled to use the word ‘cultured’. To a lot of people, synthetic means plastic. Synthetic is also a process of synthesis – which our diamonds do not go through. However, the diamond industry still abjectly refers to them as ‘synthetic’ which is doing us a huge amount of damage.”

It is worth remembering how enthusiastically consumers took to cultured pearls in the early 20th Century. Kokichi Mikimoto introduced cultured pearls – real pearls grown around an artificially inserted nucleus – in the 1890s. Like synthetic diamonds, natural pearl magnates branded them as fakes, but a court case in France changed that. Mikimoto insisted that he had paid duty on his gems (although not necessary), which so pleased the French government that they declared that the pearls must be called cultured pearls.

“As such, patience on the part of synthetic producers against the constant rebuttal of their product is wearing thin. “We have been holding out an olive branch to the industry from the beginning – but it’s either being rejected or ignored,” says Lappeman, who set up the Cultured Diamond Foundation (CDF) in South Africa – a worldwide industry body that regulates cultured diamond practices. “We want to do as little damage to the mined diamond industry as possible whilst all they seem to want to do is as much damage to us as possible.

“The industry expected us to climb on the Blood Diamond movie bandwagon, but we didn’t and now several people believe we made a mistake. Holding out the olive branch to the diamond industry is getting more difficult. If I was still in that trade, I wouldn’t be looking to fight the CDF – I would want to work with them to explore ways in which we could co-exist.”

“The World Federation of Diamond Bourses (WFDB) has accepted synthetic diamonds as a separate and parallel diamond business. Thus it is not correct that there is a ‘constant rebuttal’,” comments local diamantaire David Woolf, who is also honorary legal counsel of the WFDB.

**Restrategising the marketing approach**

“Like any new product, such as Tanzanite, it will take some time before cultured diamonds will be 100% accepted by the consumer,” states Mike Goch, CEO of the Cultured Diamond Company (CDC). “We got so excited about the product that we almost got ahead of the wave, so to speak. So, going forward, we are going to be ‘scaling back’ on our marketing drive, focusing our approach on customers who have shown interest and support.”

Demand for synthetics is certainly getting stronger ... overseas. In America, synthetic stones are not easy to find while in Britain, it is almost impossible: most buyers have to join waiting lists. It’s a very different scenario in South Africa.

“Many South Africans don’t understand fancy colour diamonds and question our diamonds as they display such intense colour,” explains Janet Silk, who, despite relocating to Romania this month, will still actively be involved in marketing the Savannah range (which she created) throughout Europe.

“We have identified our partners and set up agreements with them to market the cultured diamonds, the Savannah range and Taryn Rose (a footwear and accessories manufacturer branching out into jewellery), mainly in the UK and the US, but still maintaining a solid presence in SA,” says Goch.

Advertising executive Shaun McEwan is also a partner in CDC. His wife, Fiona, has designed a necklace in conjunction with Gemesis to be auctioned for charity. “Fiona is a very accomplished designer who makes exclusive pieces,” says Goch. “We’re exploring the feasibility of designing and marketing her one-off designs using cultured diamonds.”

Roger Lappeman also owns a synthetic diamond cutting and polishing concern, Radiant Diamonds (formerly DCW Wynberg), which will continue operating as usual. He sources his rough from Gemesis, accounting for about 30% of the producer’s production (approximately 400 stones per month, averaging in size from 1,2 to 2,8cts), which he will still supply to interested retailers.
SYNTHETIC DIAMONDS

“Indeed, locally we have had fruitful discussions with Messrs. Lappeman and Goch and have invited them to submit alternative names which we in turn will pass on to the WFDDB.”

The actual threat to the gem and jewellery industry lies not in the production of synthetics but in any unscrupulous sales to an unsuspecting consumer without full disclosure. Synthetic diamonds are actually diamonds, thus the opportunity for deception is that much higher, and sell for anywhere from one-third to two-thirds of the price of fancy colour natural diamonds. Gemesis stones typically sell at 70% off the price of fancy colour natural diamonds. A potential catastrophic loss would be consumer confidence.

Because synthetic diamonds could be confused with natural diamonds, specialised instrumentation is necessary in many cases for differentiation. Most respected laboratories and industry bodies overseas now have high-tech equipment on site that can tell a natural from a synthetic diamond. The Diamond Dealers Club of South Africa, for example, recently purchased the DiamondSure machine that can test for synthetic stones.

Internationally, laboratories such as EGL, AGL, IGI and so forth have been grading synthetic diamonds for several years and those that have not done so are following suit. The Gemological Institute of America (GIA) reversed its position on synthetics in late 2006, agreeing to grade them, with reports that use a distinct nomenclature for synthetic diamond reports to help distinguish them from natural diamonds.

In order to aid retailers and gemmologists in detection, Gemesis actually adds nickel to its process, specifically to make the inclusions detectable under a microscope. The company is currently producing primarily fancy colour yellow diamonds but will be adding pinks and blues to their portfolio this year. “We can make colourless gems,” says McEwen, “but we want to get them up to five carats before marketing them. Right now, we can get them to two carats, but there are enough natural two carat diamonds on the market. We want to hit the market with a niche product. There is a shortage in large sizes, so we are aiming at that market instead.”

“We don’t want to butt heads with the diamond industry,” agrees Lappeman.

Synthetics are here to stay and some big players in the industry have recognised the trend.

“It is gratifying to see that a means has been employed to help signal the difference with natural diamonds,” says Woolf. “It is imperative that this disclosure be made as failure to do so, firstly, amounts to fraud, and secondly, will damage public confidence in diamonds all round.”

Synthetics are here to stay and some big players in the industry have recognised the trend. BHP Bilton believes there is room in the marketplace for both natural and synthetic diamonds. Rosy Blue’s Russell Mehta has also made it clear that his company would deal in synthetics “if they would make him money”; while McEwen has even revealed that some of his clients include De Beers’ sightholders.

Says McEwen, “I’ve gone on record as having said that, at some time in the future, De Beers will be a big player – if not the biggest player – in the lab-grown diamond market, just as they are with naturals. I guess they don’t want to be seen as the initiators of the move and are waiting for someone else to blaze the trail.” De Beers is known to have amongst the world’s most advanced CVD research programmes on the production of synthetics.

In response, De Beers states that extensive independent consumer research demonstrates that people want the real thing. “Specifically, research shows that people want diamonds and that machine-made synthetics are not a substitute,” says Thoko Modisakeng, marketing manager for southern Africa.

“People often buy diamonds to mark significant milestones and achieve-ments in their lives and for these purchases, only diamonds will satisfy the consumers’ need. De Beers is confident that synthetics will not have the same emotional and financial value as diamonds because the value of diamonds is inextricably linked to how they were naturally formed billions of years ago.”

According to Lappeman, one of the biggest attractions about the cultured diamond industry is that everyone involved comes from the natural diamond industry. “We still have the same integrity. We are all people who have a love and a passion for diamonds – whatever they are,” he ends. ■

How they are grown

The carbon vapour deposition (CVD) technology employed by Apollo produces diamonds in practically every colour – colourless, pink, orange, brown and blue. It uses a relatively medium temperature and low pressure to “rain” carbon atoms onto a diamond seed crystal from a cloud of vapourised graphite. The layered deposition results in flat “cakes” of diamond with relatively large surface areas for a given caratage. These are grown in moulds to produce pre-formed rough for specific purposes.

Using the high pressure, high temperature (HPHT) technique, Gemesis produces rough ranging in size from 0.7 to 3.5 carats, yields polished in the 0.18 to 2 carat range. The rough ranges in clarity from clean to spotted and yields polished from VVS1 to I1.

The HPHT technique uses pressure of 850 000 pounds per square inch and temperatures of 1 500ºC to mimic the conditions nature produces deep within the earth. Individual carbon atoms from liquefied graphite seep through the molten flux that is created as a result of these conditions and attach themselves to a diamond seed crystal, thus growing a gem-sized diamond. The rough produced is generally in the shape of a truncated octahedron, making it easy to polish. The HPHT technology allows for the production of diamonds of almost any colour.

(Left): Janet Silb, Mike Goch, Roger Lappeman and Steve Lux, CEO of Gemesis.

Credits

• Photographs courtesy CDC