



STUNNINGLY SCINTILLATING THE ROUND BRILLIANT CUT

In a new regular column for 2008, Jeweller examines the features and history of the world's most popular diamond cuts. This month, it's the sleek and stylish round brilliant.

The round brilliant cut is by far the most popular diamond cut in the jewellery market. It accounts for approximately 75 per cent of diamonds sold today.

Owing to its cone-like symmetrical shape, this cut is known to be the most optically spectacular of all cuts, reputed for its superior sparkle.

The modern round brilliant is comprised of 58 facets – eight star, eight kite and 16 upper-girdle facets on the crown with eight pavilion and 16 lower girdle facets, as well as an optional culet.

This cut was not invented by one person, but developed over time and the prototype can be found at the beginning of the 15th century.

Indeed, the term "brilliant cut" did not come into general use for some time – it was first mentioned in a jeweller's inventory in 1614.

Amongst the different versions of the early brilliant cut where the Peruzzi (a square brilliant cut known at the beginning of the 18th

century), the Reagent (similar to Peruzzi with rounded corners), Cushion cut (or old mine cut) and Old European cut (round).

Improvement of gem-cutting technology in the early 19th century allowed jewellers to tweak the cut to resemble the round brilliant cut known today.

It was actually in 1919 when Antwerp-born Marcel Tolowsky – a mathematician born into a family of diamond cutters and dealers – analysed the proportions of the round brilliant.

He assessed both brilliance (the amount of white light reflected) and fire (flashes of spectral colour) to create a delicate balance between the two and produced recommended proportions for round brilliant diamonds.

Published in his book *Diamond Design*, Tolowsky outlined and gave specifications for a way to cut diamonds to maximise brilliance and scintillation. And while he wasn't the first to suggest diamond proportions in these ranges, he was

the first to publish a mathematical foundation that supported them.

Different versions of this style would become known as the "Tolowsky Cut," the "Modern Brilliant Cut," and the "American Ideal Cut."

In the 1970s, gemmologist Bruce Harding developed another mathematical model for gem design, opening the door for computer modelling by such organisations as The Moscow State University Gemological Center, Gemmological Institute of America and folds.net to optimise the round brilliant.

Famous examples of round brilliant cuts include the De Young Red. It is the third-largest red diamond in the world (5.03 carats). Another exceptional brilliant is the American Star: a 14.89-carat diamond with flawless clarity. It is believed the diamond is today worth \$US2.3 million (\$AU 2,567,731).

An interesting bi-product of the round brilliant that has become a

selling tool in recent years is the hearts and arrows pattern that appears when the stone has been cut correctly. Viewed from above, and only visible with a special viewer, one can see a number of arrows that result from the symmetrical positioning of facets.

Viewed from beneath, the pattern manifests in small heart shapes. The presence of the hearts and arrows pattern does not guarantee that a diamond will be the most brilliant. In fact, not all ideal round brilliant diamonds even have this pattern.

In recent years major diamond grading laboratories such as GIA and AGS and Australia's own Garry Holloway of Holloway Diamonds, Melbourne have conducted much research on the ideal diamond cut proportions. They all agree there is no one set of proportions that is the "best".

So, as history shows, the tale of the round brilliant cut is a continually evolving story ♦