



Image courtesy Eternity by Bolton Gems

IT'S HIP TO BE SQUARE: THE PRINCESS CUT

The princess cut was designed as a square version of the round brilliant cut. Combining superior sparkle with maximum weight retention, this cut truly does reign supreme.

Also known as a square modified brilliant, the goal of the princess cut was to achieve the weight retention of emerald step cuts – when cutting from octahedral crystal rough – and the superior scintillation and brilliance of the round brilliant cut.

How does a princess cut retain more weight than its round brilliant cousin? When sawing perfect octahedral-shaped crystals in half, the cutter achieves two pyramidal-shape diamonds. By creating a very large table and a very small crown height, high weight retention is achieved.

On the pavilion, four large triangular facets are placed very close to the octahedral faces of the crystal and a few facets are added, coming from each corner, without removing lots of rough.

Weight retention can then be as high as 70 to 80 per cent of the rough diamond. In comparison, a well-cut round brilliant is typically around 45 to 50 per cent yield of the same type of octahedral

rough diamond crystal.

This means a piece of rough that would cut two 80-point round diamonds would typically yield two 1-carat princess cuts. Consequently, a 1-carat princess cut sells for a price closer to that of an 80-point round diamond.

The scintillation of the princess cut comes from the interaction of the crown facets over the top of the pavilion facets which create smaller “virtual facets” than other square-shaped cuts and even smaller and more frequent sparkles than a round brilliant.

There is more internal bouncing around of light inside a princess cut, which also has more frequent pin fire as opposed to less frequent broad flash fire of a round brilliant.

The number of facets on a princess cut is variable, depending on crown type – French or bezel corner. The bezel corner has four more facets (kite shaped bezel facets on each corner) than French corners.

The pavilion of each princess cut is comprised of four large triangular facets and a row of pavilion main facets that run from the cutlet to each corner.

Each pavilion main facet (the facet that runs from each corner to the cutlet) has facets applied adjacent, and there is usually two, three or four on each side, making 5, 7 or 9 sets of splintery facets running from each corner in a fan-shaped pattern.

These are called “chevron” facets. There is no limit to how many chevron facets one stone can have but there are usually more facets applied to bigger stones and less to smaller stones.

The origin of the princess cut dates back to 1961 when A Nagy of London developed the profile cut. It had multiple faceting on the pavilion, but was much flatter than the modern princess and did not exhibit the same sparkle.

A further evolution came in 1971 when Basil Watermeyer, a diamond cutter from

Johannesburg, developed the ‘Barion’ cut. This is an octagonal square or rectangle, with a polished and faceted girdle. It has a central cross pattern (as seen through the table) created by the pavilion facets, and crescent-shaped facets on the pavilion.

In 1979, Israel Itzkowitz, a cutter at Ambar Diamonds in Los Angeles, produced a square stone from the girdle up, with faceting similar to the round brilliant cut from the girdle down. This accounts for the fire and brilliance of today’s princess.

One problem with this cut is its pointed corners, which are susceptible to chipping. Some diamond cutters and jewellers actually polish these off.

Princess cuts with “thin” girdles are also prone to chipping because the octahedral cleavage direction is lined-up and in a vulnerable position during everyday wear. A girdle should be at least 2 per cent of the diameter and ideally up to 4 to 5 per cent ♦