

# Trapiche Emerald

Trapiche Emerald belongs to Beryl group. Its chemical composition is  $\text{Be}_3\text{Al}_2(\text{SiO}_3)_6$ . It gets green colour often from the trace amounts of Chromium and sometimes from Vanadium. Emeralds are Cyclo-silicates having three or more tetrahedrals linked into a ring. Trapiche emeralds were first described by Émile Bertrand in 1879. They are rare and generally found in the western part of the Eastern Cordillera basin, in the Muzo, Coscuez and Peñas Blancas mines of Colombia.



*Trapiche Emerald in a ring ( from Ref.2)*

Trapiche is a Spanish word meaning a sugar mill – resembling pattern of spokes of a grinding wheel. It is characterised by 6 pointed radial pattern of dark impurities. One of the reasons for black impurities in Trapiche Emerald are remains of shale matrix in which Emeralds formed are trapped between radial dendrites. Another interpretation is they have formed by fluid overpressuring followed by sudden decompression which causes rapid crystallization of Emerald. During this rapid crystal growth particles of black shale matrix are trapped between six growth sectors of Emerald crystals. These impurities may fill in at the crystal junctions, forming a six-point radial pattern. This results in six sectors of clear emerald. Thus, the central core and the six surrounding trapezoidal sectors of a trapiche emerald comprise a single, untwinned crystal.

Emerald has Hexagonal crystal system with a vitreous lustre and white streak. It has massive form or crystal habit with hardness of 7.5-8 on Mohs scale. It has imperfect cleavage with very poor toughness due to highly included impurities. Its refractive index (RI) is 1.57 and specific gravity is 2.76. It doesn't show any response to UV light except when it is filled with a fracture filling material which is used to improve clarity.

Most emeralds are oiled to fill in the surface cracks to improve clarity. Cedar oil or any oil having similar RI to that of Emerald might be used to fill in the cracks.

## **Bibliography**

1 - [Wikipedia.org/wiki/Trapiche\\_emerald](https://www.wikipedia.org/wiki/Trapiche_emerald)

2 - Pinterest.com

3. <https://www.gemsociety.org/article/trapiche-emerald/>