

Carrara Marble

Sample: TU18

Type of rock: Metamorphic

Age: Triassic

Location/Formation: Carrara, Italy

Characteristic summary:

Main minerals:

Calcite (pale)

Mineral size:

Coarse to medium

Mineral morphology:

Anhedral

Fabric:

Granoblastic

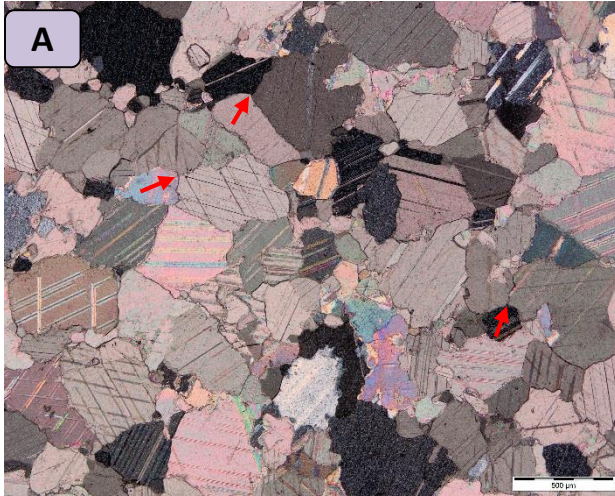
Noteworthy features

Components: The sample is solely composed of calcite. Mineral size ranges from coarse to medium, some of the crystal boundaries has junctions that forms angles of approximately 120° (red arrows; polygonal grains). (Image B) Note the well developed rhombohedral cleavage of the calcite crystal (green arrow). Cleavage planes are surfaces of relative weakness along which the crystals tend to split.

Processes reconstructed from the thin section: The generally coarse size of the calcite crystals and the presence of polygonal grains are indicative of an intense recrystallization phase that occurred under the effect of high temperatures. Note that the crystals do not show a preferential orientation, such as in other types of metamorphic rocks (e.g. sample TU12, TU13, etc.), indicating that, in this case, the recrystallization took place in absence of strongly oriented pressures. For example, this can occur when magma is injected through sedimentary rocks, causing a rapid, strong increase of temperature and the metamorphic recrystallization (baking) of the surrounding rocks.

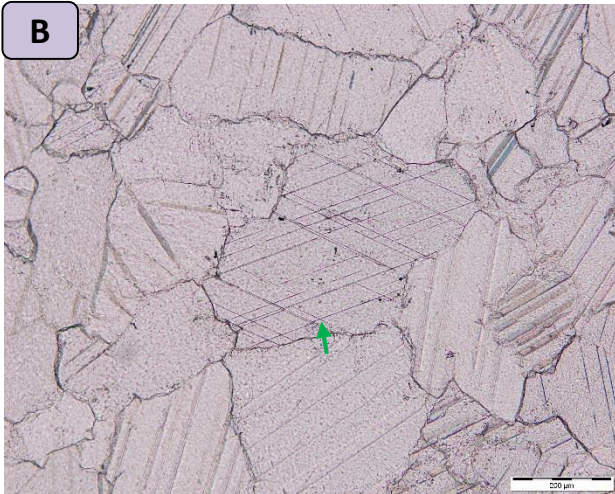
Occurrence: Carrara (Italy), Wunsiedel (Germany), Greece, USA.

Technical use: Used in sculptures since classical times, famous ornamental stone.



XPL image

Magnification: 45x



PPL image

Magnification: 113x