

Bits and Pieces

Quartz

How many varieties of **quartz** do you know? Quartz, a silica and the most common mineral, can occur in many forms. It can be ultra-fine grained (cryptocrystalline) or appears with an extraordinary colour when it contains certain elements or impurities. The charts below are some of the most common varieties of quartz. Some high-pressure forms of quartz such as coesite and stishovite are rare in nature and high-temperature forms such as tridymite and cristobalite can be identified only with a microscope.

Quartz – crystalline

Variety	Description
Rock crystal 水晶	Clear and colourless
Milky quartz 石英	When rock crystal is filled up with minute gas and liquid inclusions
Amethyst 紫晶	Purple to violet, colour caused by iron
Citrine 黃晶	Yellow, golden, brown and reddish, coloured by iron
Smoky quartz 煙晶	Brown to black, coloured by natural irradiation
Rose quartz 芙蓉石	Pale to deep rose pink and rarely orange, coloured by manganese and titanium
Sagenite 髮晶	Inclusions of needle-like rutile (golden) or tourmaline (black)
Star quartz 星光石英	Minute rutile inclusion in rose or white quartz produces an effect of asterism when lighted
Quartz cat's eye 石英貓眼	Massive quartz in honey-yellow brownish and gray-green colour with fibrous, parallel actinolite inclusions
Tiger's eye 木變石	Replacement of fibrous crocidolite by quartz and tinted to golden-yellow by iron
Aventurine quartz 東陵石	Quartzite (metamorphic rock) coloured by fuchsite (green mica)

Chalcedony 玉髓 - cryptocrystalline

Variety	Description
Carnelian 紅玉髓	Naturally impregnated by iron compounds and red in colour
Chrysoprase 綠玉髓	Coloured by nickel compound, pale to vivid green
Agate 瑪瑙	Banded Chalcedony, often displaying striking colour and translucence contrasts
Onyx 縞瑪瑙	Striated-banded agate
Moss Agate 苔蘚瑪瑙	Colourless, translucent chalcedony (not an agate) with moss-like green, stem-like hornblende, chlorite
Fire Agate 火瑪瑙	Layered material with thin films inducing interference of light at layers and play of colour
Jasper 碧玉	Tiny silica crystals containing much finely-divided mineral matters as clay, iron oxides sometimes up to 20%
Silicified wood 矽化木	An exchange of the carbon matter of buried tree trunks by SiO ₂ through a replacement process which is so slow that the inner structure of the wood, the annual rings and the structure of the cells are preserved

Originally created by Dr. LS Chan

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