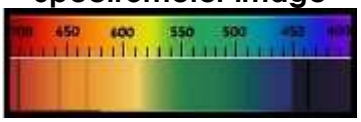
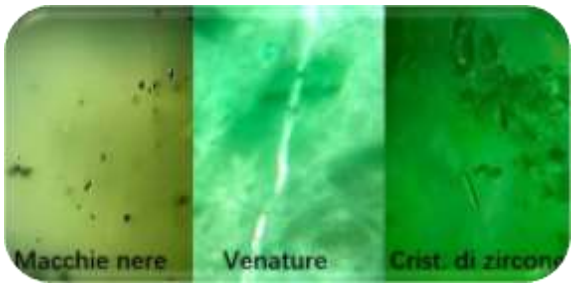
Warning: this version has been completed with Google Translate, it certainly contains errors or inaccuracies.

Technical sheet - general: Jadeite (jade)

<table>
<tr><td>Gemma - names</td><td colspan="2">(Italian -jade-jadeite)
(English -jade-jadeite)
(French - Jade-jadéite)
(Spanish - Jade-jadeíta)
(Portuguese - Jade-jadeite)
(Thai - หยก - หยก h ¯ yk-h ¯ yk)</td><td>(German - Jade-Jadeit)
(Arabic - اليشم الجاديت alyashmu aljadit)
(Russian - жадеит zhadeit)
(Mandarin -翡翠 玉 fěicuì yù)
(Swahili - Jade-jadeite)
(Hindi - जेड - जेडाइट jed-jedait)</td><td>photo
  </td></tr>
<tr><td>Colors (GIA)</td><td colspan="3">Jadeite, composed of interlocking granular pyroxene crystals, comes in a wide range of colors including green , lavender , white , gray , pink , brown , red , blue , black, orange and yellow . The most prized variety, imperial jade, is a rich emerald green , commonly called imperial. The term jade fei is now preferred as the pyroxene composition may also include onfacite and / or kosmochlor .</td></tr>
<tr><td>Cause of Color</td><td colspan="4">"Emerald" green (chrome jadeite), Cr $^{3+}$ in octahedral coordination. Yellowish green, Fe $^{3+}$ in octahedral coordination. Purple ("lavender jadeite"), charge transfer Fe $^{2+}$ - O-Fe $^{3+}$, synthetic and colored by Mn $^{3+}$</td></tr>
<tr><td>Classification</td><td colspan="2">Mineral class
Inosilicates</td><td>Species - Group (mineral)
Jade - Pyroxenes</td><td>Variety
Jadeite</td></tr>
<tr><td rowspan="2">Optical properties</td><td>Specific Gravity: 3.25-3.40
Municipality: 3 . 34</td><td colspan="2">RI: 1,654 - 1,667 (Item-RI 1660)
Polariscope : (AGG, rare: DR)
Double refraction: 0.012-0.020 (generally not detectable)</td><td>Character optical
Positive biaxial</td><td>Pleochroism
NO</td></tr>
<tr><td colspan="3">Luster (luster) - luster of the fracture
Vitreous - oily - pearly - granular</td><td>Dispersion (fire)
NO</td></tr>
<tr><td>Light</td><td colspan="3">Fluorescence
SWUV : generally inert, rare: pale green
LWUV : Inert to whitish-greenish; bleached stones: possible bluish-white or yellow-green reaction</td><td>Phosphorescence
NO</td></tr>
<tr><td>Form</td><td>Crystalline dress
Massive granular aggregate, or fibrous, rare prismatic crystals
Melting point: 1000 ° C (approx.)</td><td colspan="2">Phenomenal optical effects

NO</td><td>Crystalline system
Monocline (cryptocrystalline)
Crystal class</td></tr>
<tr><td>Chemical formula</td><td colspan="3">Sodium and aluminum silicate

NaAl (SiO $_3$) $_2$ o
NaAlSi $_2$ O $_6$</td><td>Spectrometer image
 
Green jadeite (Cr): 437.5nm, double band at 690nm, other lines can be seen at 630nm, 655nm.
Tinted green jadeite: 437.5 nm, 650 nm band.</td></tr>
<tr><td>Fracture</td><td>Flaking
Distinct / good 1 direction</td><td colspan="2">Breaking- Parting
NO</td><td>Fracture
Irregular</td></tr>
<tr><td>Durability</td><td>Hardness (Mohs) - Absolute
6 - 7; 72-100</td><td colspan="2">Toughness
Awesome</td><td>Stability (heat, light, chemicals)
Great</td></tr>
</table>

<table>
<tr><td>Clarity - characteristics</td><td>Typical Inclusions: In terms of transparency, fine jadeite should be free of obvious or annoying inclusion defects that hinder the passage of light. The finest jadeite has no inclusions or other transparency defects visible to the naked eye. Typical imperfections are mineral inclusions, which are usually black, dark green, or brown , but can be other colors. Small specks called pollen are generally acceptable in bright, translucent green jadeite known as "imperial jade". Black inclusions are the most undesirable, especially in a lighter color and colorless to white base. To effectively judge the degree of clarity, the appraiser must consider the size, extent, color and position of the inclusions.
 

<table>
<tr><td>Guy
NA</td><td>Transparency (commercial) - transparency
From opaque to semi-transparent</td></tr>
</table></td></tr>
<tr><td>Deposits - types of rocks</td><td>Jadeite is a sodium-rich pyroxene mineral formed by fine-grained interlocking crystals in metamorphic rocks at high pressure, but at low temperatures, often present in the facies of glaucophane, a component of eclogite. Its formation is the result of two tectonic plates colliding furiously against each other. To create the perfect conditions for jadeite production, these slow-moving, sliding slabs of earth must accumulate a whopping 600 degrees centigrade and literally crushing pressure of 500,000 pounds for every square inch.
Jadeite forms in subduction zones where dehydration of the descending oceanic crust releases fluids into the overlying mantle, serpentinizing the peridotite into serpentinite and further formation of jadeite. Three case studies from Myanmar, Japan and Guatemala show that this mineral forms in the veins in association with many other surrounding minerals in zoned layers within the serpentinite.
Age : 600 million years</td></tr>
<tr><td>Characteristics of rough stones</td><td>Buying raw jadeite is a lottery. It takes a lot of experience and luck too. Merchants must understand the type of material from the few points exposed on the surface. Raw prices can vary significantly depending on the perceived value, the type of stones and their area of origin.
In Myanmar, the main market for jadeite, traders rank raw jadeite first based on where it was mined. River jadeite, the jadeite recovered from alluvial deposits in and along the Uru River , appears as rounded boulders with a thin skin. In contrast, mountain jadeite (found far from the river) appears as a rounded boulder with a thick outer skin (“skin”). Irregular pieces of jadeite extracted directly from in situ deposits, such as those at Tawmaw, represent a third type. Many believe, in the mining areas, that the jadeite extracted from the rivers and the conglomerate is more 'mature' than that of Tawmaw. Atmospheric agents remove the less hard parts of the stones, which is why the best qualities are usually associated with river jade. In addition, the thinner leather provides a greater likelihood of "exposure points" in the river jade, allowing for a more accurate estimate of the quality and color within. Mountain jade boulders tend to be clouded by a thick layer (referred to as "fog" by traders) between the outer skin and the inner portion of the boulder. The presence of green jadeite and lavender is independent of the deposit type, but reddish orange to brown jadeite is found only in those boulders that are recovered from an iron-rich soil . The reddish orange results from a natural iron oxide coloring of the porous jadeite, and is sometimes intensified by heat (natural or induced).
Differences between nephrite and jadeite .
As a gemstone, jade can be one of two main gems: jadeite or nephrite. Although both are often referred to as jade, there are significant differences between these minerals. Jadeite is a pyroxene rich in aluminum, of slightly greater hardness (6.5-7 against 6-6.5 for nephrite) and composed of grainy interlocking and very compact crystals, while nephrite is an amphibole (hydrated minerals that is which contain hydrogen) rich in magnesium, is composed of intertwined fibrous crystals that fit into an opaque texture. Both are common in most igneous and metamorphic rocks ; pyroxenes are a group of silicate minerals of calcium, magnesium and iron while amphiboles , which are complex hydrated silicates of calcium, magnesium, iron and aluminum.</td></tr>
</table>

	However, both are susceptible to scratches. Nephritis can occur in extremely large **sizes .** Large jade sculptures are commonly made from this material. High quality jadeite is normally used for smaller jewelery. Both materials are extremely wear **-resistant** , although nephrite is the most tenacious of the two. However, the superior **color** (in variety and vividness) for jade, imperial green, is found only in jadeite. **Transparency is** also generally higher in jadeite. These factors, combined with greater rarity, make jadeite more expensive than nephrite.
Main deposits	Burma / Myanmar is the source of 70% of the highest quality jade in the world. This $ 50 billion a year industry produces half of the country's gross domestic product. The most important sources of jadeite are found in Asia, especially in the **Upper Myanmar region** around Tawmaw, as well as in the form of secondary sources along the Uru River and as a conglomerate in the Hwéka region of Upper Burma. A well-known site in China is located in Sinkiang Province in the Kunlun Mountains. Major manufacturers: **Guatemala** (Motagua valley), **Myanmar** (Kachin state, Sagaing region), **Russia** (Krasnoyarsk Krai, Yamalo-Nenets Autonomous Okrug). Minor producers: **Cuba** (Guantanamo region), **Japan** (Niigata prefecture), **Kazakhstan** (Karaganda), **Turkey** (Bursa province) Minor producers: **Brazil** (Minas Gerais),
Year of discovery	**6th millennium BC - 1843:** For centuries it was thought that jade was a single gem, but in 1863 two types were recognized: jadeite and nephrite. Nephrite is more common, but both are hard, fine-grained rocks suitable for carving.
History	Given its high toughness, in many places in the world it was used before the introduction of metals, not only for ornamental purposes, but also for commonly used tools. The **jade** - **jadeite from Monviso, called "green stone of Oncino",** extracted 7,200 years ago from the deposits of the Re di Pietra (the deposits are south-west of Turin, on Monte Beigua, about 2000m above sea level) and found along the Po valley, is among the most ancient in the world. This mineral was used for the most precious and symbolic axes and hatchets of the Neolithic period. According to the research, the jade underwent an initial processing at the place of collection, the very hard blocks were crushed through thermal shock procedures (fire and snow), the fragments obtained were then chipped until a sketch of the desired shape was obtained. The scraps were conspicuous, thousands of processing chips, and the remains of the hearths were found in the Po Valley with dating extended **between 5200 and 4700 BC** . Crossing the Alps, the "rough" pieces were subjected to progressive and repeated processing along the way, in Switzerland and France, **progressively increasing the degree of finish** . A journey that lasted millennia: they reached Carnac Saint-Michel in Brittany around 4500 BC, and in Somerset, Great Britain, in 3800 BC Some **ornamental axes** were discovered in Canterbury, England and date back to 6000 years ago (4000 BC today exposed at the British Museum). The mineral was analyzed by the Gemological Association of Great Britain (Gem-A) and analyzed the mineral by classifying it as: - jade with 75% omfacite: omfacite jade - jade with 50 - 75% of omfacite: jade omfacite jadeite - jade with 25 - 50% o0mfacite: jadeite omfacite jade The " **Piedmontese jade** " was discovered in the summer of 2001 by two *cristalliers* , Franco Manavella and Franco Salusso. The "crystals" are crystal seekers whose passion consists in climbing mountains to go and find the most beautiful and precious crystals In the mid- **Jomon era** (縄 文 時代, Jōmon jidai 14000-300 BC) , about 5,500 years ago, the Itoigawa region of Japan became the birthplace **of Japanese jadeite sculpture** . Pendants created from pieces of jadeite called *taishu have* been produced and marketed in many parts of the Asian country since ancient times. The techniques of processing raw jadeite, including **the carving of spherical beads** , were used handed down until the end of that era. In the **Yayoi** era (弥 生 時代 Yayoi-jidai , 4th century BC to 3rd century AD) , rounded beads called *magatama* and tube-shaped beads called *kudatama* became popular. According to the legend dating back to the beginning of the eighth century AD, the ancient state of Koshi (in today's Niigata Prefecture) was ruled by a beautiful empress who wore a mysterious green jadeite with a curved shape. Koshi produced a variety of beautiful stones and was characterized by a thriving trade with many other parts of Japan. More recently, jewels made of *magatama jadeite* were found in the tombs of powerful people. It was used as a sacred ornament, as well as a symbol of wealth and prestige. *Magatama* jadeite sculptures also spread to the Korean peninsula, where they have been found in many archaeological sites. Japanese jadeite

went into decline towards the end of the Kofun period (3rd-7th century AD) to almost completely disappear in the 6th century. Jadeite was revived in Japan in **1938** , when the geologist-researcher Eizo Ito discovered a deposit near the Kotaki River, in the city of Itoigawa.

The use of jade and other green stones was a long- **term tradition in Korea** (c. 850 BC - AD 668). Jade is found in a small number of pit houses and burials. The artisanal production of small comma-shaped "tubular jades" using materials such as jade, microcline, jasper, etc., in South Korea originates from the **Middle Mumun Pottery Period** (c. 850–550 BC). comma shapes are found on some of Silla's royal gold crowns (c. 300 / 400–668 AD) and lavish elite burials of the Three Korean Kingdoms After the Silla state united the Korean peninsula in **668 AD** , the Widespread popularization of Buddhism-related death rituals led to the decline in the use of jade in burials as a prestigious funerary asset.

Figurative works in jade were made **in 1000 BC by the Olmec peoples of the coast of the Gulf of Mexico** . Professionally excavated from important burials and hiding places, objects of various kinds came to light in the 1940s and 1950s at the La Venta site in today's Mexican state of Tabasco. Generally small in size, exhibiting extraordinary mastery of the stone medium that is extremely difficult to carve, Olmec jade objects **were a preferred translucent blue green color** and were unsurpassed in the ancient Americas for compact, symmetrically balanced three-dimensional shape and elegant surface detail A complex imagery characterizes the Olmec jade sculpture and the inclusion of feline and avian elements adds in particular to the symbolic power of the depictions. Later Mesoamerican peoples also sculpted and worshiped jade. An expanded repertoire of shapes and different color preferences distinguish the later works. During much of the **first millennium AD** , the Mayan peoples of southern Mexico and adjacent Guatemala preferred bright green jade. Among their significant works are bas-relief carved plaques with images of lords and servants. Several hundred years later, when the Spaniards arrived in the Aztec capital of Tenochtitlan in the 16th century, jade was the most prized substance. Reserved for the adornment of divinity and royalty, and only then on certain occasions, was jade considered a symbol of life and purity. The main source of jadeite in Mesoamerica was the **Motagua River valley in Guatemala** . This stone was associated with water and vegetation, in particular with young, ripening corn, for this reason it was also linked to life and death. **The Olmec, Mayan, Aztec and Costa Rican elites** particularly appreciated jade carvings and artifacts and commissioned elegant pieces from skilled jade was traded among members of the aristocracy as a luxury item throughout the pre-Hispanic American world. It was **replaced by gold** very late, around **AD 500** in both Costa Rica and Lower Central America. In the Costa Rican regions of Guanacaste-Nicoya, jade artifacts were prevalent mainly between **200 and 600 AD** . Although no local source of jadeite has been identified so far, **Costa Rica and Honduras** have developed their own jade-making tradition. The earliest finds of wrought jade, including a pendant excavated from a burial ground on the Nicoya Peninsula, date back to the mid-first millennium BC, and jade continued to be carved into similar personal ornaments until about 700 AD.

The **Maya** also used Guatemalan jade jewelry and plates to write important scripts and stories and they did so through inscription. Using a "wire saw", skilled craftsmen pulled back and forth a rope with water and sand particles as a cutting agent. In 2015, a large jade pendant was discovered in Belize with 30 hieroglyphs that spoke of King *Janaab 'Ohl K'inich* , a ruler of the mighty Mayan city of Caracol (in modern day Belize). The text told of an incense dispersion ceremony **in 672 AD** . which allowed scholars to better understand traditional Mayan ceremonies and religious practices believed to be the bearers of wind and rain. In addition, he provided details of the king's family lineage and membership rights, helping to maintain power in the family line.

Anglo-Indian diplomat Thomas Douglas Forsyth states that in **632** , **the ancient Iranian Buddhist kingdom Saka of Khotan** sent a "splendid jade stone" as a tribute to Emperor Taizong of Tang. The rivers of Khotan were famous for their jade, "which was discovered by its splendor in the water at night," and divers would have procured it in shallow water after the melting floods had subsided.

Jadeite was imported from **Burma** (now Myanmar) to **China** only after about 1800. The vivid green variety became known as Feicui (翡翠) quickly became almost as popular as nephrite (a mineral already prized in the Asian country for millennia) and a favorite of the new rich of the Qing dynasty, while scholars still had a strong attachment to it. nephrite (white jade or Khotan), which they considered the symbol of a noble.

Although the discovery of jadeite in **Myanmar / Burma** dates back to the **6th century AD or earlier** , its first entry into China was dated by the British sinologist William Warry in **the 13th century** . However, it did not become famous during the period of the Qing dynasty (1644–1914). When **Emperor QianLong** (1711-1798) saw a piece of this bright green jade, he was instantly in love with it. From 1760 to 1790, Qian Long decreed that a **group of majestic jade mountains** based on ancient or contemporary paintings be produced. This work is the most important **Feng Shui collection in the history of Imperial Feng Shui** . The best known are The Mountain of Autumn Travels (秋山 行旅 圖) ; The Great Yu Teaching the River (大禹 治水 圖) and the Nine Elders of Huichang (會昌 九 老 圖) . Learning that he was from a wild country south of *Yunnan* , QianLong sent out columns of troops to secure supplies. But even the Chinese armies could not overcome the difficult terrain and the ferocious people of the Kachin Hills. They returned empty-handed, repelled by malaria, mud, and the tribes playing with outsiders from the north. Subsequently, Chinese traders generally did not attempt to venture into the hills to the mines. They began trading with the Kachin jadeite merchants in the relatively quiet Mogaung Plains.

By the mid- **16th century** , the Spaniards had colonized much of the New World. In the process they discovered that jadeite was considered an extremely precious stone throughout Mesoamerica. Noting that it was used for hip and lower back pain, they called it piedra de ijade (lower back flank stone).

In **1846** , the French chemist Alexis Damour performed the first chemical analysis of nephritis, discovering that it was an amphibole. Subsequently, **French and British forces** stormed the Emperor's Summer Palace in Beijing during the Second **Opium War of 1860** and appropriated thousands of pieces of jadeite which they brought to Europe. Damour re-analyzed the jade, found that the deep green stones were chemically different from nephrite (whitish or dark green) jade, and called the new stone "jadeite". The subsequent separation from jadeite occurred, according to many, around 1863.

The last Chinese emperor smuggled stones from the Forbidden City to finance his unsuccessful attempts to regain the celestial throne. Stunning funerary pieces of **Empress Dowager** are now housed in **the National Taiwan Museum.** They were brought to the island by Chiang Kai-shek who, before **1949** , authorized the sacking of his tomb. Some selected pieces also made it to Madame Chiang's personal collection. By **1908** , jadeite was already the most expensive type of jade sold in Beijing's most famous antiques market, the *Liu Li Chang* , surpassing nephrite.

Name : Jadeite comes from jade. from the French *jade* , and this from the Spanish (piedra de ijada "(stone of the side", for an ancient belief that it benefited kidney pain; *ijada* derives from ilia "side".

The Chinese character 玉 (yù) is used to denote the different types of stone known as "jade", among which the two main ones: jadeite (硬玉 - YìngyYù , hard jade , another name for 翡翠 FěiCuì- emerald) and nephrite (軟 玉 Ruǎn Y ù, 'soft jade'). But due to the culturally added value to jades throughout Chinese history, the word has also come to refer more generally to precious or ornamental stones, which could be worked on.

The problem with omfacite

Onfacite and jadeite have long been considered easily separable by standard gemological tests. The onfacite generally presents itself with colors from dark green to black and with superior optical properties. Recently (early 2000s), some stones initially and gemmologically defined as jadeite turned out, after more detailed tests (Raman spectroscopy) to be onfacite (GIA), These stones took the name of *onfacite jade* . These stones are, even on visual examination, very similar to jadeite. The " **harlequin jade** " can actually be composed of gray-pale green omfacite, or omfacite phenocrysts rich in magnesium (Mg), calcium (Ca) and iron (Fe), characterized by pink stripes of epidote, zoisite and clinozoisite, from white - greenish white phengite, from gray - dark green ide chlorite masses, from red - orange rutile walkways and small yellow - gold or brown pyrite crystals with an oxidation edge if altered.

Variety : In China, it is said that there are "32 (kinds of) water", "72 (kinds of) beans", "108 (kinds of) blue", these words are used to assert that there are many kinds of jade. Imperial green can cost millions of dollars on the market and is pure and penetrating, with a vivid hue with no shades of gray. As far as jadeite is concerned, there are many shades of green in which the stone appears: it ranges from **pure green** to **slightly bluish green** or **slightly yellowish green** .

Other popular jade varieties include " **kingfisher jade** ", with a green color only slightly less vivid than Imperial; "The **apple jade** ", which is of an intense yellowish green; and " **moss-in-snow jade** ," which is translucent white with bright green veins, spots or flecks. The most outstanding examples of these are almost always bought and sold in the Asian market.

Black **jade,** called **Black Maya** (from Guatemala) **,** is also popular, along with **orange to reddish jade** , especially when these colors are not brown.

Trade names :

Imperial : the highest grade, it is of a brilliant green and the transparency and luster of water.

Dense green: like a synthesis of blue or yellow. The age of the jade affects its density or compression, the dense green comes in **three varieties** : old, semi-old and new. Its type of water has a clear quality like ice or an opaque quality like glutinous rice.

Bright green : shows a hint of yellow.

These first 3 types have a similar value.

Kingfisher: green-true-blue color, similar to those of the bird of the same name.

Lavender: of the same color as the flower of the same name; it is the second most valuable. Deep colors are priced higher than softer colors.

Purple: moderate, clear or bright. Being very rare, it is worth even more than the green varieties of FeiCui.

Five colors in one stone: red, green, purple, yellow, white. The more colors, the higher the price.

Mung Bean Green: Has a tinge of blue with a hint of yellow that gives it a deep blue-green color. Of all the *Feicui colors* , this is the most common.

Apple green: delicate green; like a young sprout of grass or a bright green apple. While it doesn't have a noble / imperial quality (not worthy of an emperor), it has a gentle and pretty quality (popular with girls). It usually has a lot of water and gives the effect of extreme softness and delicacy in its structure.

Blue-green: intense with very little yellow. To have this blue-green color, the stone must be very old (compressed). The texture, or motif of intertwined mineral crystals, of this type of jade is very delicate. Typical of the highest quality bracelets and pendants.

Oily green: deep or dark in color.

Green life: an unripe peach or like the oxidation of ancient bronze. The green color in this jade swirls around the black or white colors like a lightly mixed paint. It has little water or transparency, and its internal texture or structure is slightly rough and chipped.

Dark green / black: which looks black, but when illuminated with a light, it shines through. The value of this stone has started to grow in recent years and has steadily increased since then.

Mottled color: combination of colors, for example (purple and green), used to bring about happiness, work and longevity.

Water jade:

Glass : almost as transparent as glass. When used as a "lens", it allows you to read the words below.

Ice : transparent but with a fine mist inside. When used as a "lens", it allows you to read the words below. but they are not clear enough to distinguish them.

Glutinous Rice: Semi-transparent, like sticky, dense rice or like soft pulled cotton. The white matter makes up no more than 20% of the stone's composition.

Moss-in-Snow characterized by a green color that floats on a white surface like green moss scattered on white and powdery snow.

Cyanine: blue-green whose base color appears green but is not evenly distributed. The texture is slightly rough and the stone can range from completely opaque to transparent.

Lotus Root Starch: Mixed, appears light but is rather dark, appears transparent but is rather opaque. It looks like a cloudy mess of lotus root powder.

Rice water: it has many impurities; it is essentially not transparent. It is similar to white, cloudy liquid.

White base: it is not transparent; looks like cotton. It is white but may have other colors.

Dry base: has a very rough / dull texture.

Other terms known in the Chinese market:

Lao keng "Old mine" jadeite - fine texture

Jiu keng jadeite "Relatively old mine" - medium texture

Xin keng "New mine" jadeite - coarse texture

	Ying jadeite - with maximum luster and transparency **Guan yin zhong** - Semi-transparent, uniform, light green jadeite **Hong wu dong** - Lower quality than guan yin zhong, with a pale red mixed with green **Jin si zhong -** Jadeite "Golden thread": a vivid green color is evenly distributed throughout the stone, very precious. **Zi er cui** - High quality jadeite extracted from rivers. Due to its high translucency, it is also known as *ice* (" **bing zhong** "). **Lao keng bo li zhong** - Jadeite "glass" (finer fabric, more translucent) of old mine In imperial green, this type is the most precious jadeite. **Fei yu** - Red jadeite, named after a bird with red feathers **Hong pi** - Jadeite "Red skin", cut from the red skin of a boulder **Jin fei cui** - Golden or yellow jadeite **Shuang xi** - Jadeite with both red and green **Fu lu shou** - Jadeite mixed with red, green and lavender **Da si xi** - Highly translucent jadeite with red, green, lavender and yellow **Wufu linmen** - Jadeite with red, green, lavender and yellow, plus white as the bottom layer **Glacial jade** ? Mysterious variety found in Egypt, Morocco and Israel with potential properties still unexplored. **Other names** : Stone of Heaven,
Property attributed	In China, jadeite and nephrite are very important stones also for what concerns popular beliefs. Shape, type, color, place of origin influence the spiritual and protective power assigned to these materials. The variety of these characteristics and their impact on the protection perceived by buyers is very vast, difficult to identify and organize in a homogeneous and sensible way. A Chinese proverb says "gold can be costed, but jade is priceless". Primarily, jadeite gems are said to possess **health-strengthening abilities and enhance longevity** . Jadeite bracelets are said to protect the wearer and **absorb negative energy** . According to feng shui, jadeite can affect not only health, but prosperity as well. Considered a "dream stone" by ancient cultures, jade is used today to **solve dreams, access the spiritual realm and encourage creativity** . As a stone of spiritual purification, **lavender jadeite** it is an excellent crystal to use in retreats or **during meditations** . It helps to release cynicism and pent-up anger and to embrace an attitude of calm acceptance. Its action balances the nerves and soothes the heart rhythm. A piece of jade **kept in a pocket** or on a pendant to be stroked from time to time recharges energy and **traditionally protects against disease** . Jade can also be used to **mitigate the shock or fear of the very young or elderly cared for in hospital** or outside the home and family. It is also excellent for healing **feelings of guilt** , and for extreme cases of defeatism. It also deals with "pathological normality ", an excessive desire to adapt to a group, even if it is sect, exaggerated militarism, an attitude of following the leader, or the compulsive desire to give in to general opinion to belong at any cost. As a professional support stone, lavender jadeite helps **doctors, nurses, veterinarians** and all healers in practical diagnosis and their applications It is a support stone for educators and jade, carved in the shape of a symbol of faith, is uplifting for the military personnel. **Planet: NA** **Month:** March **Zodiac sign:** Virgo **,** Aries (unofficial) **Chakra:** Root
Treatments	Jadeite is classified as grade **A, B, C or B + C** depending on the type or degree of treatment. **Grade A : 100% natural** Feicui unprocessed and unaltered . The only intervention allowed is polishing, but only with wax. **Grade B** : has undergone a *bleaching process* to clean the interior of impurities and inferior color. This intervention destroys its internal structure, leaving holes where the inclusions used to be. These holes are filled with a clear type of polymer and then lacquered which leaves a highly transparent finished product. Its transparency is cloudy, it looks a bit like jelly. If you use a magnifying glass to examine the texture, you will see noticeable continuous sheets of small threads left behind by acrid erosion. Grade B is light in your hand. If you hit a Grade B bracelet, it will resonate with a dull "thud" sound. **Grade C** : dyed stone (infrequent) to give it a more appreciated color. **Grade B + C** : after an acid or alkaline cleaning, it is dried and then dyed. Combine the interventions listed for grades B and C.

	Grade D : (not for all institutes) refers to a composite stone such as an assembled shotgun / stone, comprising a jade top with a plastic backing. Another simple method of distinction is to spend a few yuan to purchase a currency detector. Shine the detector small ultraviolet light on the Feicui, if you see a fluorescent glow, then it is defiantly grade B or C, grade A does not change under ultraviolet light. A recent treatment consists in impregnating jadeite with a **special resin .** The spectrometer analysis can help in its identification. Of course, the safest method is to go to a nationally certified institution to evaluate the jade and obtain a certificate of authenticity.
Synthetic counterpart	General Electric has produced synthetic jadeite in a variety of colors from green to lavender, but it is not yet commercially available (2022).
It can be confused with	Pseudo-jades include up to **40 other rocks and minerals** that disguise themselves as jades in the archaeological record. Some of the most common are: serpentine, prehnite, aventurine quartz, lizardite, coarse garnet, chrysoprase and dolomitic marble. How is real jade identified? X-ray diffraction and Raman spectroscopy are used scientifically. **Nephrite** (Separable by: RI, SG, structure, spectrum), **Synthetic jadeite** (Separable by: slightly higher hardness, no spectrum), **Composite jade** (Separable by: junction plane, inclusions), **Serpentine (Bowenite, antigorite)** (Separable by : RI, SG, luster, hardness), **Idocrase** (Separable by: RI, spectrum, structure), Hydrogrossular **garnet** (Separable by: RI, SG), **Prehnite** (Separable by: RI, birefringence, structure), Aventurine **Quartz** (Separable by : RI, SG, structure, spectrum), **Maw-sit-sit** (Separable by: color, structure), **Chrysoprase** (Separable by: RI, SG, structure, spectrum), **Zoisite** (Separable by RI, appearance), **Prehnite** (Separable via: RI, appearance), **Talc** (steatite / soapstone) (Separable by: hardness), **Calcite** (Separable by: hardness), **Imitations of jadeite assembled** Triplets: 3 pieces of clear and transparent jadeite with cement or green gel (Separable by : microscope). **Plastic, metajade glass (Separable** by: hardness).
Indicative gemological tests	Many of the Chinese merchants are able to judge the type and quality of jadeite through a simple visual inspection, using common flashlights, and sometimes through UV lamps. For non-experts, these checks may not be as immediate. Standard tests: Point refraction (since jadeite is normally cut with curved surfaces), microscope, spectrometer and UV test (for certain colors) can give significant indications.
Value (2021)	**High :** 100,000+ $ / ct **Exceptional pieces** | **Medium:** 1000 $ / ct **High quality** | **Low:** 1-2 $ / ct **Treated jadeite** The three most important qualities of jadeite, in order of impact on its market value, are color, transparency and texture (fine, medium or coarse). When evaluating the qualities of wrought jadeite, multiple factors must be considered: **translucency, texture, color (zheng), saturation (nong), tone (xian), distribution (jun).** First, color is examined under both fluorescent and incandescent light sources. Then you check the transparency level. They look for a uniform color or a pleasant color mottle, also trying to keep an eye on the fine polish making sure that the surface reflections are not distorted. Clarity (the degree of transparency) is also important, because any fractures can strongly affect the final price of the gem. Color and transparency (water) have a relationship to each other, if there is both good color and good water, the value is immensely greater than if only one is good.
Typical cut	More than for most gem materials, **fashion plays a fundamental role** in the beauty and value of jadeite. Typically, the best grades are cut for use in jewelry, such as **cabochons, bracelets, or beads** . Cutters are often specialized: one can make rings, another carves, and so on. Polishing is **especially** important with jadeite. Fine polishing produces a fine sheen, so that light can pass cleanly in and out of a translucent or semi-transparent piece. One method of judging the quality of polish is by examining the reflection of a ray of light on the surface of a piece of jadeite. A stone with a fine polish will produce a sharp, undistorted reflection, with no "orange peel" or visible immersion. **Since the 1930s** , double cabochons, **shaped like a Chinese ginko nut** , have been considered ideal for prime-grade jadeite, as the convex bottom is said to increase the return of light to the eye, thereby intensifying ì the color. low transparency, however, is best cut with flat bases, as any material below the belt adds to the bulk without increasing beauty. Hollow cabochons are considered less valuable. **Carvings and sculptures** The jadeite used in carvings is often of a lower quality than that used for jewelry, but nevertheless there are some spectacular carved jadeite charms and art objects. **Huaigu (pi)**

	Chinese symbol of eternity, this is a flat disc with a hole in the center, usually mounted as a pendant or brooch. Ideally, the hole should be one fifth of the diameter of the entire disc and exactly centered. It is often used small pairs in earrings or cufflinks. **On an (earrings and *saddle rings*)** Crafted from a single piece of jadeite, these earrings look like a simple band of jadeite onto which a cabochon has been directly cut. *Saddle* rings allow you to place the most beautiful area above the ring, the bottom is relatively hidden. The band around it should have a uniform color all around. **Lian huan** (Double hoop earrings) These earrings require a large amount of rough compared to their yield, as they are cut from two pieces of the same quality, each of which must produce two hoops. A pair of these earrings was sold in Hong Kong for $ 1.55 million at Christie's in 1997.
Famous stones	The Trellis Diamond Egg is a jeweled enamel work made by **August Holmström** under the supervision of the Russian jeweler **Peter Carl Fabergé in 1892** . It is one of the Fabergé imperial eggs, made for Alexander III of Russia, who introduced it to his wife, Empress Maria Feodorovna. Lot 1843, the "Doubly Fortunate" necklace of 27 **imperial jadeite pearls measuring** approximately 15 mm, was sold for **$ 9.3 million at** Christie's in 1999. The 12.6M Circle of Heaven estimated at $ 12.6M in 2016 and the Prosperity Circle estimated at $ 14.3M in 2018.
Record stones	unnamed **imperial green jadeite** necklace , with 23 round pearls measuring 17.35–20.71 mm, holds the world record total auction price for a piece of jadeite. It was sold by Tiancheng International Hong Kong (Lot 158) in 2012 for HK $ 106.2 million (about $ 13 million at the time). The Barbara Hutton-Mdivani necklace in imperial green jadeite with 27 round pearls measuring 15.40–19.20 mm was purchased by Cartier at a Sotheby's auction in Hong Kong (lot 1847) in 2014 for HK $ 214,040,000 (or **$ 27.44 million at the time**). **Lavender jadeite** necklace composed of 35 graduated pearls from 15.66 to 14.64 mm sold by Poly Auction, Hong Kong (Lot 2108), in 2018, for a total price of HK $ 21,240,000 (or 2,723,077 USD of the time). A colossal boulder of jadeite weighing **nearly 175 tons** was discovered in 2019. The gigantic stone is 4.3m high, 5.8m long and weighs about 175 tons. According to reports, this rough boulder of jadeite could be worth around **$ 170 million USD** . A second huge 260-ton boulder was discovered in the same area (Kachin state) not long after.