

THE MANY
TYPES OF GEMSTONES

A HANDBOOK



Anpé Atelier cph
JEWELLERY

THE VAST WORLD OF GEMSTONES

THE WORLD of gemstones is incredibly vast and exciting, as there are roughly 200 varieties of gemstones known in the world today. But this might make you wonder, *“what exactly is a gemstone?”*

Gemstones are minerals that have been chosen for their beauty and durability, then cut and polished for use as human adornment. These stones have been used as religious symbols, decorative ornaments, amulets and even good luck charms for centuries throughout human civilization.

These minerals are created in the different levels of the earth's surface. Without sounding too much like a science textbook, there are different ways that gemstones are formed, and those are through an igneous, hydrothermal, metamorphic or sedimentary formation. Overall, the main recipe for a stone to form requires chemical elements within high temperatures mixed with high pressures. After they have cooled, they are forced up towards the earth's surface, where it is possible for humans to dig them up, cut and polish them.

There is so much to be said when it comes to the topic of gemstones, which is why we wanted to create a handbook that dives deeper into the topic. We will show you the many different types of stones we use in our jewellery, from sapphires and diamonds, to spinels and tourmalines - and everything in between! We hope this will help you decide on which gemstone is the perfect one for your future Anpé designs.



PRECIOUS VS. SEMI-PRECIOUS GEMSTONES

GEMSTONES fall into two categories: *Precious and semi-precious*. This division was created in the 1800's and considered their value differentiation during that time. Nowadays, this category is not the only criteria used for evaluating a stone. The color, quality, rarity, and provenance are to be taken into consideration, as well.

Though there are hundreds of variations of gemstones, there are only four that fall into the category of precious gemstones, those are sapphire, diamond, emerald and ruby. All other stones are therefore considered semi-precious gemstones.

Precious Stones:

One distinction between precious and semi-precious gemstones is the difference in hardness, or rather the stone's resistance to scratches. In general, precious gemstones rank higher up on the Mohs Scale of Hardness, with diamonds being a 10 out of 10 and rubies and sapphires at a 9 out of 10.

Emeralds are a slight exception to this rule, as they are a 7.5 to 8 out of 10 on the scale, however they are still technically a delicate stone. This is because most emeralds harbor inclusions inside the stone, making them slightly more delicate and susceptible to chipping or scratching. Overall, most precious stones are best suited for

jewellery as they can withstand everyday wear - when handled properly, of course.

Semi-Precious Stones:

Tourmalines, spinels, aquamarines and tsavorites are just a few of the beautiful semi-precious gemstones that are used throughout Anpé designs.

Semi-precious stones are still durable and some can be used within jewellery, however they are slightly more fragile than diamonds, sapphires and rubies. Tourmalines and spinels for example rank between 7 to 8, making them quite durable for fine jewellery.

When the precious vs. semi-precious categorization came about, it was mainly due to the value and rarity differences between the 4 precious gemstones and the rest. Today some semi-precious gemstones can be worth much more than a precious stone. This means that you should not stress too much over whether or not you are choosing one or the other when buying your next piece of fine jewellery! These things are incredibly meaningful and personal, which is what brings the true value to the design.



DIAMOND

BIRTHSTONE OF APRIL

COLORS: WHITE, BLUE, PINK, RED, BLACK, VIOLET

WHITE diamonds are the best known of all gemstones and are composed of the chemical, carbon. Not only is it the only gemstone that is composed of a single element, but it is the hardest naturally occurring substance out of all other minerals. The name 'Diamond' derives from the ancient Greek word 'adamas' meaning 'invincible', which it gained because of its sheer strength.

Most diamonds used as gemstones are colorless or very faintly colored. However, colored diamonds, known as "fancies", can be extremely rare and valuable.

Some of the most valuable gemstones ever known have been fancy diamonds. These sparkling stones actually come in a number of different colors, ranging from colorless to pink, red, blue, violet, black and many more.

Diamonds have an incredibly high refractive

power, which gives it its extraordinary brilliance. One of the most popular cuts for this stone is the brilliant cut, which was created by Marcel Tolcowsky in 1919. This cut gave the standardized dimensions for "the perfect diamond cut." Of course today, there are many different cuts to choose from, but the brilliant cut remains the most popular and most common.

One of the major differences between diamonds and other gemstones is that diamonds are prized for being colorless, whereas other gemstones are prized for having vibrant tones.

Diamonds are absolutely incredible stones to use within fine jewellery and will always be a classic, however at Anpe Atelier we are more partial to vibrant and colorful gemstones.



MOHS HARDNESS SCALE: 10

The Josephine Diamond ring
holds brilliant cut VS1 diamonds
set in 14kt. yellow gold.

SAPPHIRE

BIRTHSTONE OF SEPTEMBER

COLORS: BLUE, PINK, GREEN, TEAL, YELLOW, PURPLE, BI-COLOR, COLOR CHANGING

SAPPHIRES are an incredible choice of gemstone when choosing fine jewellery. They have been sought after for centuries and have been used within royal jewellery collections across the world. Sapphires can be commonly found across the world from regions such as Sri Lanka, Madagascar, Thailand, and China, among other places.

These minerals fall under the gemstone category corundum. Gem-quality corundum stones can be of equal or higher value to diamonds, as they are rare, durable and stunningly beautiful.

These unique stones come in every tone and color known, and unknown, to man. From deep blues and pastel pinks to unique teals and canary yellows, a sapphire's color is truly one of a kind. Unlike diamonds, a sapphire's color is one of the most important aspects in determining its value. A sapphire's color should have a good hue, tone, saturation and overall coverage in order to have a high value.

Special Sapphires:

Padparadscha: One of the rarer sapphires is a pinkish orange variety called padparadscha, a name that comes from the Sinhalese word for lotus flower. Traditionally from Sri

Lanka, these gemstones are sifted from Sri Lankan rivers.

Color Changing: A color changing sapphire is a stone that changes from one color to another depending on the light source, which makes them rare and therefore more expensive. They exhibit different colors in different lighting conditions, giving you two very exciting colors under the right conditions.

Bi-Color: Bi-color sapphires are stones that harbour two different colors as a result of color zoning. Color zoning happens when conditions of the trace elements which color the stone, change, making the stone incredibly unique and rare.

Blue Kashmir Sapphires: Blue Kashmir sapphires are found in the Kashmir region and are one of the rarest and most expensive sapphires in the world. No other Kashmir sapphires have been found since the discovery of a second mine in 1880's. This means that all Kashmir sapphire available today comes from only two mines. These stones boast a luxurious velvet blue color and are normally of incredible quality.



MOHS HARDNESS SCALE: 9

A bespoke 1.17ct. bi-color sapphire ring set in 18kt. rose gold with diamonds on the band. And a 0.58ct. drop shape light green unheated sapphire, set in 18kt. rose gold with diamonds on the band.

TSAVORITE GARNET

BIRTHSTONE OF JANUARY

COLORS: YELLOW GREEN, GREEN, DEEP GREEN

TSAVORITES are a variety of the mineral Garnet, and were first discovered in Tanzania in 1967. Tsavorite is an example of the fact that even nowadays, it is still possible for new gemstones to emerge onto the market. Tsavorite is a rare member of the garnet family and a new member to the jewelry market.

They are found in Tanzania, Kenya, and Madagascar, though the very finest Tsavorite, with the purest green hues, is still found in Tsavo, Kenya. This remote bush-land along the Kenya-Tanzania border, an area of raw beautiful African wilderness, has a history of violent volcanic activity. Due to these volatile geological conditions under which it forms, Tsavorite is only found in relatively small sizes. Stones over 2.5 carats are considered very rare and valuable.

Tsavorite receive their prized green color from traces of vanadium and chromium.

They range between 7 and 7.5 on Mohs scale of hardness, meaning they are durable enough for fine jewellery.

Tsavorites are a great alternative to emeralds, as they harbor less inclusions and have a much higher brilliance (sparkle) and fire (color). They have a similar hardness rating, however because tsavorites are less included than emeralds, they are far less susceptible to chipping and scratching.

Because tsavorite is not very well known, there is not too much demand for the stone, as say, there is for an emerald, which is one of the reasons it is far less expensive. The gemstone is in demand more by collectors and connoisseurs, than by the general public.



MOHS HARDNESS SCALE: 7-7.5

The Harita ring is set in 18kt. white gold and holds a 2.19ct. unheated natural green tsavorite with VS diamonds.

TOURMALINE

BIRTHSTONE OF OCTOBER

COLORS: BLUE, GREEN, ORANGE, PINK, PURPLE, RED, YELLOW, BROWN, BLACK, COLORLESS, BI-COLOR, WATERMELON.

TOURMALINE was first discovered in the late 1600's. The name comes from the Sinhalese term "turмали," which means stone of many colors.

Similar to sapphires, tourmalines come in a vast array of colors, with pink being one of the rarest hues. When a tourmaline has green on the outside and pink on the inside, it is known as a *watermelon tourmaline*.

This stone varies in hardness, with some stones ranking slightly below some of the quartz gems, and others being about equal to emeralds.

Until the 1800's, tourmalines were mistaken for emeralds or rubies, as these minerals can have very similar colors to these stones. It is said that many stones in the Russian Crown

from the 17th century are tourmalines, but were thought to be rubies.

Tourmalines have been loved throughout history, but its strongest admirer had to be the Tzu Hsi, the empress of China in the early 1900s. She adored pink tourmalines so much that she bought large quantities of it to have around her palace, and even had it made into jacket buttons for her Imperial Court to wear.

Tourmalines are mined everywhere in the world including Africa, Afghanistan, Africa, Australia, Brazil, Kenya, Madagascar, Mozambique, Nigeria, Pakistan, Siberia, Sri Lanka, Tanzania, the USA, and Zimbabwe.



MOHS HARDNESS SCALE: 7-7.5

A bi-color tourmaline holding both green, orange, yellow and pink hues.

SPINEL

BIRTHSTONE OF AUGUST

COLORS: COLORLESS, RED, BLACK, BROWN, GREY, DARK GREEN, VIOLET, PINK AND LAVENDER.

SPINEL can be found in a number of countries including Afghanistan, Brazil, Cambodia, Kenya, Russia, Tanzania, Thailand and Vietnam, however it is mostly mined in Sri Lanka and Burma.

Just like sapphires and tourmalines, spinels can be found in a large assortment of colors, ranging from colorless to black including brown, blue, dark green, violet, pink, lavender and red.

Similar to tourmalines, spinels used to be mistaken for rubies. So much so, that the Black Prince's Ruby, a centerpiece of the British Imperial State Crown, was only recently confirmed to be a spinel.

Spinel and rubies are very similar, however spinels tend to be more reflective and glittering, because of their different optical characteristics.

In 2016, Jewelers of America removed sardonyx as the second birthstone of August and replaced it with the beautiful gem spinel.

Red spinels, also known as ruby spinels, are the most prized of this mineral. The opaque, black variety, known as Pleonast, has a good luster and is used as a black gemstone.



MOHS HARDNESS SCALE: 8

This wedding ring holds a grey spinel and one tiny hidden VS1 diamond set in an 18kt. rough yellow band.

EMERALD

BIRTHSTONE OF MAY

COLOR: GREEN

THE first known emeralds were mined in Egypt around 1500 BC, and it was said to be one of Cleopatra's favorite stones out of her vast jewelry and gem collection.

These beautiful stones have a hardness of 7.5 to 8 on the Mohs Scale, however they are more susceptible to chipping or scratching than other stones with a similar rating, as they generally have more inclusions. This means that you have to be very careful when wearing your emerald jewelry.

Most emeralds are usually treated by filling the emerald with oil to fill in the cracks and help prevent unintentional chipping or cracking. You can coat emeralds with baby oil as an extra care precaution to help the stone from becoming overly brittle.

Many emeralds will have some type of internal inclusion, usually quite visible to the naked eye. Naturally internally flawless emeralds are incredibly rare and can be worth quite a bit of money, sometimes even more than a diamond!

Just like sapphires, the emerald's most important quality is its color. The ideal color is vivid green to bluish green, with even color saturation and no color zoning.

Emeralds and aquamarines are both made from Beryl, however they get their green color from chromium and vanadium. This is interesting because emeralds are considered a precious stone, whereas aquamarines are considered semi-precious.



MOHS HARDNESS SCALE: 7.5-8

This ring holds an emerald (AA+) on 1.21ct set with VS1 diamonds in a halo around the emerald. On the 18kt yellow gold band a small light blue sapphire is set.

AMETHYST

BIRTHSTONE OF FEBRUARY

COLOR: PURPLE

AMETHYST is a violet variety of the mineral quartz. Its name comes from the Greek word "amethystos," which interestingly meant "not intoxicated" or "not drunk."

This is because it was believed that the stone would prevent people getting tipsy when drinking alcohol.

This semi precious gemstone can be sourced in almost all continents, however, Brazil is one of the most active locations for the mining and faceting of it.

In fact, amethyst was as expensive and as cherished as ruby and emerald until the 19th Century, when Brazil's large deposits were discovered.

Unlike most precious and semi-precious

gemstones whose value is measured by weight, amethysts' value is determined by the vibrancy of their colour.

The rarest shade of amethyst is known as "Deep Russian" and it's so uncommon that the price depends on the demand of collectors.

Tibetan Buddhist monks use amethysts to make prayer beads. The beads are used during prayer and meditation to help the monks concentrate as the stone is seen as calming to the mind.



MOHS HARDNESS SCALE: 7

An 14kt. gold signet ring with 7
amethyst stones.

PERIDOT

BIRTHSTONE OF AUGUST

COLOR: GREEN

PERIDOT is a type of a silicate mineral called olivine. It's one of the few gems that occurs in only one colour, green. It's pigmentation is due to the presence of iron trace elements.

Peridot is found in the earth's upper mantle, in lava deposits, or at meteorite crash sites. It occurs all over the world, including the USA, Tanzania, Kenya, South Africa, Australia, China, Pakistan, Myanmar and Norway.

The prices and value of peridot vary tremendously and are based on the size and quality of the particular gemstone. Peridot is considered one of the more affordable green stones available.

Peridot was called Evening Emerald by the ancient Romans because while deep green emeralds darkened to where they almost looked black at night in candlelight, peridots still shimmered under candlelight and their color didn't darken.



MOHS HARDNESS SCALE: 6.5-7

A bespoke ring which holds a 1.99ct peridot stone, set in 18kt. gold with VS1 diamonds.

AQUAMARINE

BIRTHSTONE OF MARCH

COLOR: AQUAMARINE

AQUAMARINE is known for its beautiful, crystal blue color. It gets its name from Latin "aqua marina" which means "sea water." It references the similarity of the gemstone's color and clarity to that of the ocean.

Decorative jewelry and protective amulets using aquamarine have been found that date back as far as 500 B.C. Believed to be a precious treasure from mermaids, sailors have worn aquamarine amulets to keep them safe at sea and ward off seasickness.

Aquamarine is mined in many countries across the world, including Brazil, Zambia, Nigeria, and Madagascar, as well as Pakistan and Mozambique. Many of the gem-quality

examples of aquamarine are mined in Brazil, and these are the stones commonly used in jewelry.

Both emeralds and aquamarine are members of the beryl variety of gemstones, and many people are unaware that these stones are so closely related. Emeralds are the rarest and precious of the beryl gemstones because they are more fragile, however, fine examples of aquamarine are also highly prized.



MOHS HARDNESS SCALE: 6.5-7

The Malene Aquamarine 3.5 ring holds a 0.18ct. aquamarine set in 14kt. yellow gold.

TANZANITE

BIRTHSTONE OF DECEMBER

COLOR: BLUE TO VIOLET

TANZANITE is a trade name that was first used by Tiffany and Company for gem-quality specimens of a mineral named zoisite with a blue color. Tiffany could have sold the material under the mineralogical name of "blue zoisite," but they thought the name "tanzanite" would stimulate customer interest and be easier to market.

The name "tanzanite" was given because the world's only known tanzanite deposit of commercial importance is in northern Tanzania. The name reflects the gem's limited geographic origin.

This stone was only recently found in the 1960's and has grown quickly in popularity due to its beautiful blue and purple color.

Tanzanite comes from the mineral zoisite, which naturally occurs in a wide range of colors that include colorless, gray, yellow, brown, pink, green, blue, and violet. The name "tanzanite" is used for a color variety of zoisite that ranges from blue, through violet, to violetish purple.

Tanzanite has a rating of 6.5 on the Mohs Hardness Scale, making it one of the "softer" gemstones. This means that the gem is more vulnerable to being scratched during normal wear. This problem can be reduced if the setting is designed to protect the stone from impact and abrasion, or if the ring is not worn during activities when the chance of impact or abrasion is high.



MOHS HARDNESS SCALE: 6-6.5

Three tanzanites of varying shapes, sizes, and hues.