OSMIUM

Basic information for investors, manufacturers and jewelers

Osmium-Institute Germany GmbH

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Registration and all further information at:

www.osmium.com

www.osmium-onboarding.com

www.osmium.info

The rarest and most beautiful precious metal –
The „sunshine element“

Osmium jewelry: Examples

Osmium?

Maybe you have already heard about it...

... The company name Osram is derived from Osmium

... A neologism of osmium and tungsten

... The first lamp filaments were made from osmium

... These emitted a wonderful, soft light

... A light bulb from this time can still be seen today in the German Museum

... But osmium was simply too rare ... and was therefore replaced by tungsten

OSRAM

Osmium is …

… The new silver or gold for investment

… Not exchangeable

… Incredibly rare

… Divisible, therefore can be used as a barter object in crises

… In a crisis situation probably even more valuable than today

… As such a new asset class and an exciting option for capital investment

Osmium in the fast lane

Osmium is the superlative

... Highest density of all elements and substances

... Highest value density of all metals

... Highest abrasion resistance of all materials

... Highest compression modulus of all elements

... Rarest of all non-radioactive elements

... Shielding effect against gamma radiation

... Superconductor at low temperatures

Osmium in the periodic table

… The precious metals were introduced into the financial markets at intervals of several years from right to left.

… Gold and silver have obviously been known since ancient times and were the only reliable means of payment for a long time.

… Palladium and platinum were introduced to the financial markets before the year 2000 and were used to make special jewelry.

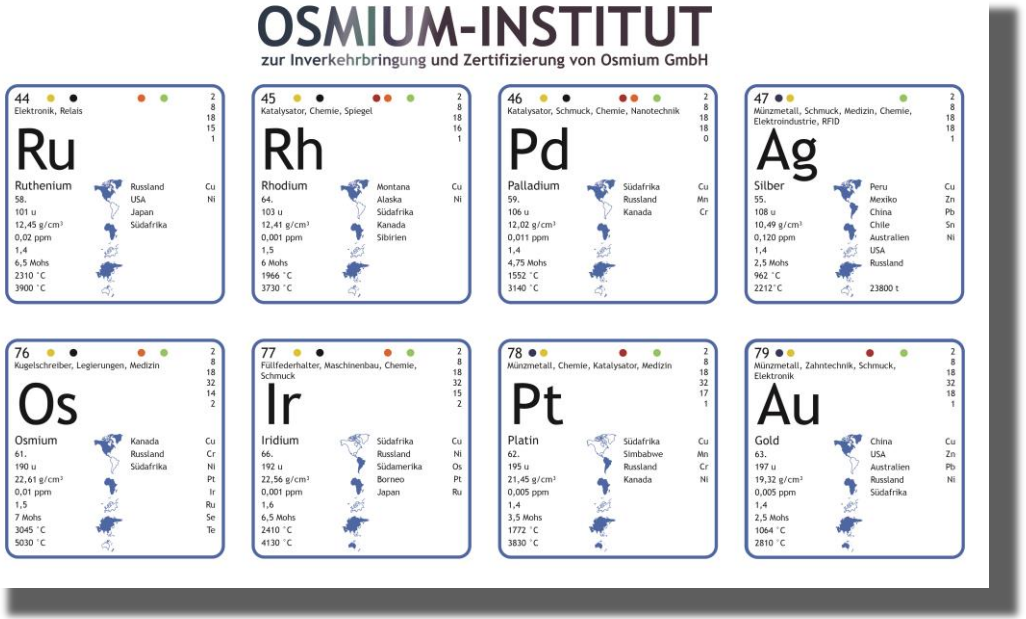
… The most recent launch of a precious metal was ruthenium, which experienced a price rally in late 2017.

… Iridium and ruthenium took a similar course in commodity markets, but are neither rare nor suitable for specialized applications.

… Therefore, osmium is the next and last precious metal to start its price rally!

OSMIUM-INSTITUT

zur Inverkehrbringung und Zertifizierung von Osmium GmbH

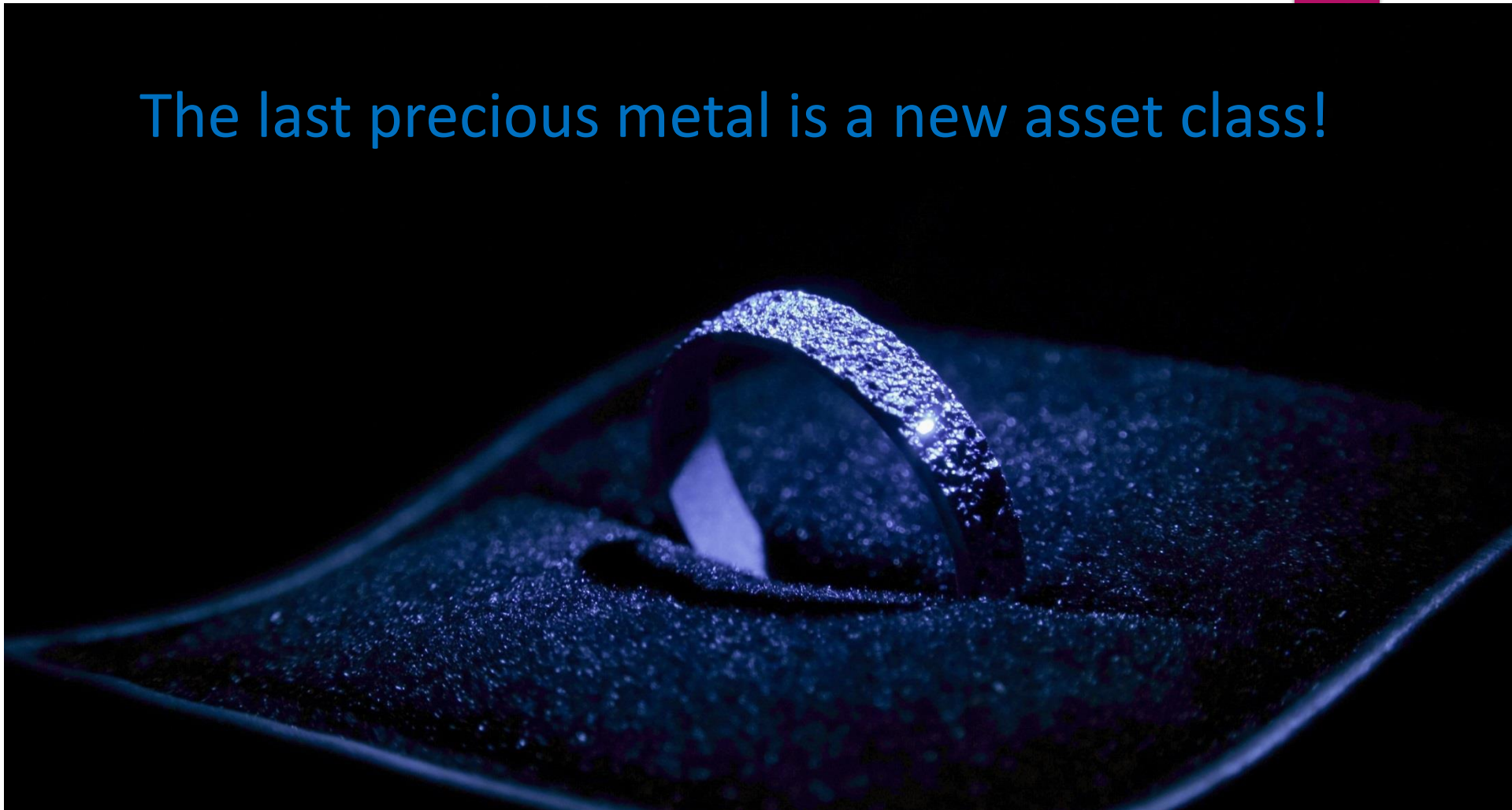


Why is osmium so rare?

- Osmium is mined together with platinum in platinum mines.
- 10,000 tons of platinum ore contain only one ounce of osmium.
- So to produce one ounce of osmium, 250 truckloads of platinum ore are required.
- 22 grams of osmium fit into the volume of a single sugar cube.
- There is nothing more rare and valuable than this metal in its crystalline form!


UBANK
JOHN SMITH
VISA
OSMIUM

The last precious metal is a new asset class!



Most important criteria for investors

... Extremely high shortage

... Foreseeable further increase of scarcity up to unavailability

... Resale in different markets

... Unlimited shelf life with very low storage volume

... Non-hazardous and easy to transport

... Not available on any stock exchange and strongly increasing demand


Echte Anlageoptionen:
Sachwert: Osmium kristallin
Das seltenste Edelmetall der Welt!
Echte Anlageoptionen:
Sachwert: Osmium kristallin
Das seltenste Edelmetall der Welt!
DRN
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Basic facts about osmium...

- So incredibly rare that the annual world production is only 1,200 kg. Of this, the average crystallization rate is 120 kg. As capacities ramp up, this rate increases sharply.
- The annual production of crystalline osmium fits into a volume of only 5.31 liters.
- Osmium is about 1,000 times rarer than diamonds and is used in spectacular jewelry and the most exclusive watches.
- Available at many jewelers and any listed retailer or wholesaler affiliated with an Osmium Institute.
- In many countries, this tamper-proof precious metal already has the status of gold and in some cases is already traded duty and/or tax free.
- Osmium is certified and documented in the International Osmium Database, which also allows for secure transactions in private markets and sales to jewelers.
- Or in other words, this could be the hottest tip on the investment market.

Comparability of availability with gold

- Global gold reserves fit into a cube with an edge length of 24 meters, which will continue to grow due to current active mining measures.
- The global osmium stocks fit into a cube with an edge length of only 1.0 meters!
- Less than 9 m^3 of osmium exists in contrast to about 13,800 m^3 of gold.
- So gold is about 1,500 times more abundant by volume in the continental crust than osmium.
- Gold simply will not run out. Osmium, on the other hand, will!

GLOBALLY MINED GOLD TO DATE:
CUBE WITH 24 m EDGE LENGTH

Expected price development

- Due to the new possibility to invest in osmium, the demand for osmium is increasing rapidly.
- Until its introduction to the market as crystalline osmium in 2013, osmium was largely unknown. Due to its appearance as a hazardous osmium sponge and its rarity without industrial applications, osmium did not appear to be of interest.
- This changed when crystallization became possible in early 2014. Crystallization made osmium harmless by changing its atomic arrangement and opened new markets and applications.
- The process result is comparable to growing ordinary diamonds from carbon under very high temperatures and extreme pressures.
- At the time, less than one percent of jewelers and investment advisors were familiar with osmium. Thanks to Hublot's products and a growing jewelry market, that's changing.
- Prices have already risen 450% between 2014 and 2017 alone, with the peak not yet in sight. It is expected that there will be an effect called the Osmium Big Bang.

Demand drivers for osmium

Key factors driving demand include:

Investors are increasingly investing in osmium.

Due to rapidly rising prices, retailers and wholesalers are keeping osmium in their hands longer and longer to generate additional wholesale profits and thus higher margins.

Every day, new players are entering the jewelry market and producing jewelry, watches, and crystalline micro-sculptures from osmium.

With the special microstructure of a sphere, it is now possible to produce even the rarest jewelry, known as osmium beads.

The number of countries with affiliated osmium institutes is growing rapidly. It is expected that global coverage can be achieved by 2030.

The Osmium Big Bang

- In a few years, osmium will be almost completely depleted. This future point in time is referred to by experts as the Osmium Big Bang.
- As the concentration of osmium in other ores decreases, the amount of osmium that can be produced will effectively drop to 0 kg.
- Continuous production in the future jewelry market will flood the crystalline osmium market.
- Therefore, there will be less and less osmium available for retail sale.
- At this point, osmium will only be available through buybacks from investors.
- Some experts predict that this will lead to a tenfold increase in price or even more.

The Osmium Disk

... Disks are the largest available geometric form of crystalline osmium.

... Can be cut into any desired shape.

... Jewelers provide cutting of osmium shapes that customers desire.

... Osmium is cut by wire erosion process.

... But cutting into diamonds and stars is also a typical example done by investors before selling.

... Machining results in price differentials that can be realized in addition to value appreciation.

... Osmium institutes are in contact with companies that can cut osmium and arrange the cutting on behalf of the client.

... After successful cutting, the resulting shapes are recertified and entered into the osmium database.

... Each piece of osmium is registered by the Osmium-Institut zur Inverkehrbringung und Zertifizierung von Osmium GmbH.

... The Institute is located in Germany and is the worldwide control authority for the marketing of osmium.

Certification of osmium in the osmium database

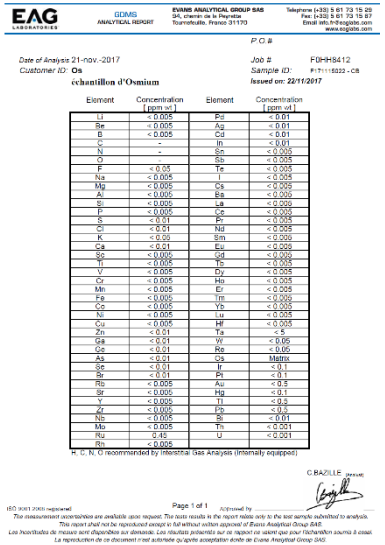
- In principle, each piece of osmium is scanned after crystallization and archived in a database, similar to a fingerprint.
- For online identification, a code consisting of three blocks, the Osmium Identification Code (OIC), is assigned to the data generated for each piece of osmium.
- The database is publicly accessible worldwide. The code can be entered for identification purposes on the website of any osmium institute as well as on the websites of hundreds of partners.
- In this way, the authenticity of osmium can be verified over the Internet by comparing the scanned crystal structure in the database with a high-resolution close-up image of the piece of osmium being verified.
- The reliability of the identification on a single mm^2 is approximately 10,000 times higher than the recognition of a fingerprint.
- This enables trading among private individuals or direct sales to jewelers or other investors, as authenticity can be verified immediately and a certificate printed.
- By entering an OIC in the database field, an owner of osmium can also see the current value of their osmium in local currency and check the value of their entire osmium holdings in one step.

The Osmium Identification Code: D3 - D34B - 27A9

- A high-resolution scan of the crystal structure surface of each osmium piece forms the basis for an entry in the OIC database.
- In addition, the piece is weighed to an accuracy of 4 significant digits, dimensions are determined, and in some cases a crystallization grade is assigned.
- Chemical purity is determined for an entire batch and confirmed in the certificate.
- A piece of osmium cannot be recrystallized. Its structure would disappear. For this reason, each osmium piece can be uniquely assigned and the chemical purity cannot be changed by melting.
- The first letter followed by a digit (here: D3) in the code stands for the product category, which is separated by a hyphen, while the following eight characters are chosen randomly and are unique for each piece.
- When queried, the database displays the current value of each osmium piece or an entire osmium account.

Five Nines Purity

- What is counted is the number of nines in the purity specification.
- The abbreviation ppm stands for parts per million.
- In crystalline form, osmium has an exceptional purity of 99.9995%, which is unusual even in the precious metals market.
- The "impurities" are tantalum and the precious metal ruthenium.
- This exceptional purity of osmium is achieved through the atom-by-atom crystallization process.



EAG LABORATORIES

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www.eaglabs.com

P.O.#

Date of Analysis 21-nov.-2017
Customer ID: Os
échantillon d'Osmium

Job # F0HH8412
Sample ID: P171115022 - CB
Issued on: 22/11/2017

Element	Concentration [ppm wt.]	Element	Concentration [ppm wt.]
Li	< 0.005	Pd	< 0.01
Be	< 0.005	Ag	< 0.01
B	< 0.005	Cd	< 0.01
C	-	In	< 0.01
N	-	Sn	< 0.005
O	-	Sb	< 0.005
F	< 0.05	Te	< 0.005
Na	< 0.005	I	< 0.005
Mg	< 0.005	Cs	< 0.005
Al	< 0.005	Ba	< 0.005
Si	< 0.005	La	< 0.005
P	< 0.005	Ce	< 0.005
S	< 0.01	Pr	< 0.005
Cl	< 0.01	Nd	< 0.005
K	< 0.05	Sm	< 0.005
Ca	< 0.01	Eu	< 0.005
Sc	< 0.005	Gd	< 0.005
Ti	< 0.005	Tb	< 0.005
V	< 0.005	Dy	< 0.005
Cr	< 0.005	Ho	< 0.005
Mn	< 0.005	Er	< 0.005
Fe	< 0.005	Tm	< 0.005
Co	< 0.005	Yb	< 0.005
Ni	< 0.005	Lu	< 0.005
Cu	< 0.005	Hf	< 0.005
Zn	< 0.01	Ta	< 5
Ga	< 0.01	W	< 0.05
Ge	< 0.01	Re	< 0.05
As	< 0.01	Os	Matrix
Se	< 0.01	Ir	< 0.1
Br	< 0.01	Pt	< 0.1
Rb	< 0.005	Au	< 0.5
Sr	< 0.005	Hg	< 0.1
Y	< 0.005	Tl	< 0.3
Zr	< 0.005	Pb	< 0.3
Nb	< 0.005	Bi	< 0.01
Mo	< 0.005	Th	< 0.001
Ru	0.45	U	< 0.001
Rh	< 0.005		

H, C, N, O recommended by Interstitial Gas Analysis (Internally equipped)

O.BAZILLE

Page 1 of 1 Approved by

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Counterfeiting osmium? - Absolutely impossible!

- Gold can be forged by simply plating tungsten ingots with gold, as the densities of the two elements are very similar. Since osmium has the highest density of all elements, no other element or chemical compound can match its density.
- For this reason, it is impossible to position a less valuable nucleus in an osmium bar that matches the density of osmium. A simple density measurement would reveal the counterfeit.
- Once an osmium piece is listed in the international OIC database, it cannot be counterfeited anyway because crystallization can never be repeated in the same way.
- If someone tried to coat a metal core during crystallization at 3,000 °C, that metal core would melt before the osmium did, again making it impossible to counterfeit.
- Counterfeiting osmium is simply impossible!
- Therefore, customs authorities rely on the registration of goods in this database, as the owner and the current owner can be indicated upon request.

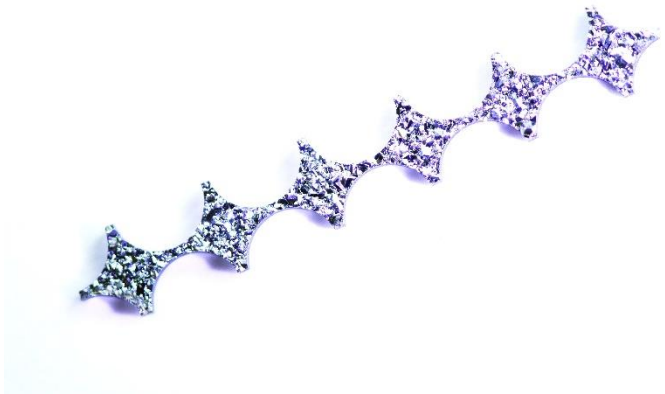

OS
The magical sparkle of the "sunshine element"!

Osmium Diamonds

- Osmium diamonds are produced in 3mm (larger Osmium Diamonds range up to 9mm) diameters and are the geometric inverse of osmium stars.
- These two shapes can be cut from discs or ingots with almost no loss of material.
- Jewelers use these shapes in the same way they use carbon-based diamonds.
- They can be easily incorporated into jewelry and removed without modification.

Osmium starrows are used like splitbars!

- Gold has been sold as table bars for a number of years. In a crisis situation, a 100-gram bar can be divided into 1-gram segments without incurring the inflated price of individually blistered 1-gram bars when purchased.
- The idea is based on the idea of using smaller pieces of a bar to purchase food and other essentials.
- In addition, governments can ban the possession of gold in a crisis situation. In this case, the osmium starrows can alternatively be broken into individual stars.



The “Osmium-Pearl”

- Osmium Pearls are crystallized 3D spheres, referred to as Osmium Spheres for customs purposes.
- Osmium Pearls are not hollow, but carry a super-exact carbon sphere inside with a distinct polished surface that serves as a substrate for crystallization.
- The ball has a hole on which it sits during crystallization. In the case of chains, this hole is expanded to form a through-hole.
- Common diameters of osmium pearls are 11 and 16 mm. They are processed similarly to conventional pearls.
- The production of a single Pearl requires a considerable amount of energy and takes about three months. The success rate is sometimes as low as 10%.
- Paradoxically, the percentage yield of Pearls decreases with the number of Pearls in the crystallization furnace. Therefore, the price of the Pearls increases with increasing production.
- For this reason, osmium pearls are among the most exclusive pieces of jewelry around.

Osmium - a toxic substance until 2013?

- Osmium is obtained as osmium sponge, a hazardous substance. For this reason, private individuals are not allowed to trade osmium sponge and only certain chemical companies are allowed to trade.
- Osmium sponge is considered harmful to health because it tends to form osmium tetroxide in an oxygen or air atmosphere. The gas has a pungent odor. Incidentally, it is this property that gave osmium its name.
- However, in its crystalline form, analogous to the crystal structure of a diamond, osmium is non-toxic and in no way dangerous.
- Crystalline osmium is extremely durable and resistant to strong acids and alkalis. Most importantly, crystalline osmium can only form osmium tetroxide at temperatures around 400 °C.
- Osmium has been crystallized since 2013 and has been completely harmless since then. This relatively late date is due to the fact that the process was not considered mature until 2012. It took about 40 years for a team of Russian and Swiss experts to find the process.

Hexagonal densest packing to crystal structure!

At the level of the individual atoms, osmium is very densely packed. This specific crystal structure causes or promotes several properties:

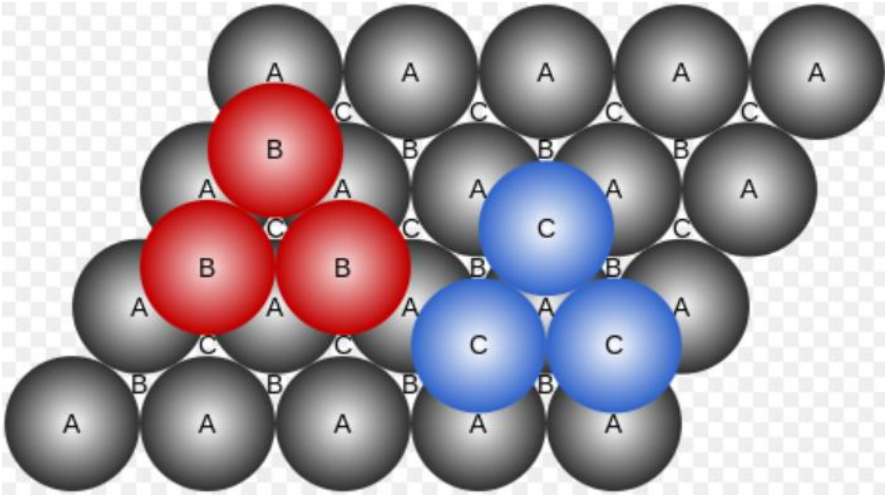
Highest density

Non-hazardous

Non-toxic

Incompressible

Highest abrasion resistance



Working with osmium as a manufacturer

- Osmium should not be exposed to temperatures above 500 °C. At the jeweler, osmium can be incorporated into jewelry similar to carbon-based diamonds, which, by the way, burn in a fire like conventional carbon and are converted into CO2.
- When the critical temperature for vaporization is reached, a pungent and unpleasant garlic odor is perceived. In this case, work must be interrupted and the workshop ventilated.
- An osmium ingot or disc, also called a wafer, can be cut by applying the wire EDM process.
- Three-dimensional shapes can be crystallized on carbon substrates. The process in the laboratory is very complex and also dangerous because of the exceptionally high pressure conditions.
- Only the "Institut zur Inverkehrbringung und Zertifizierung von Osmium GmbH" gives jewelers and jewelry associations valid regulations for working with osmium.

Hublot Firmament

- Classic Fusion Tourbillon Firmament from Hublot, the Swiss luxury wristwatch manufacturer.
- This wristwatch premiered at Baselworld 2014, which is considered the most important trade show for wristwatches and is held every year in Switzerland.
- Premiere for the first ever watch with osmium dial.
- Price for a single watch: CHF 150.000,00

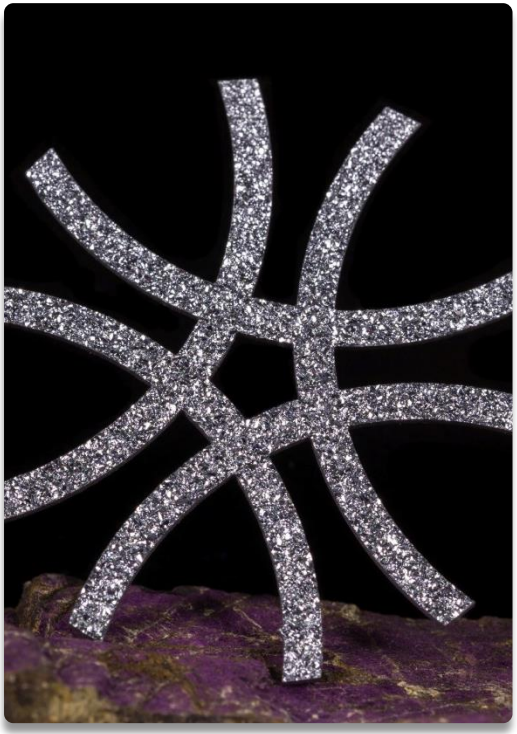
Osmium can be cut into almost any shape using the wire EDM process.

Shapes according to customer requirements

Any shape without complex holes and bridges with less than 2mm can be produced. The price request can be processed within two days.

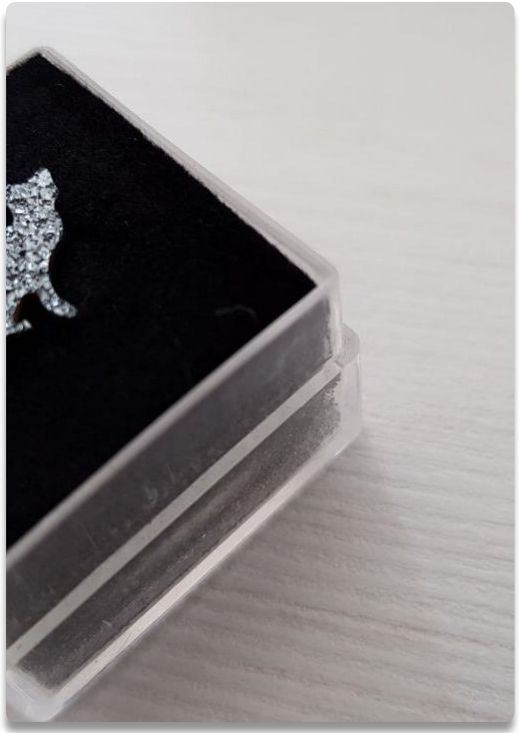
Customer request - five beam shape

The production of molds with holes is a real challenge. In addition, material is lost that cannot be recovered.



2D Cat shape

This specific shape represents the minimum width of an osmium bridge in the tail of the cat.



Six pointed star

The thickness of the shape is about half a millimeter.

Cuff links & tie clip

Men can get their fair share of Osmium, too…

Starrows in a gold ring

Here a Starrow has been set so as not to lose its original shape.

Osmium Diamond in a Medallion

Pendant

Information websites

www.osmium.info	International main page with basic information
www.osmium-preis.com	Current prices in multiple currencies
www.osmium-onboarding.com	Become a trading partner!
www.osmium-jewelry.com	The site for jewelers
www.osmium.com	Online-Shop
www.osmium-institute.com	*Institut zur Inverkehrbringung und Zertifizierung von Osmium GmbH*

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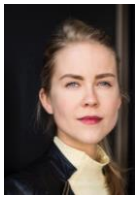

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