

ALLOYS **& MASTER ALLOYS**



GENIA® is a family of **universal alloys and master alloys**, suitable for use in all **jewellery production processes** and for all legal fineness, as defined by ISO 9202:2019, of the relevant **precious alloys**. Its main characteristic is a **fine grain structure** which ensures excellent **stability**, high mechanical **strength**, outstanding **castability** and almost **no shrinkage defects**.



FLEXIA® is a family of **master alloys** suitable for the production of **precious alloy jewellery**, in the fineness defined by ISO 9202:2019, through **plastic deformation processes**. The alloys produced with FLEXIA® are **fine-grained**, **exceptionally strong** and guarantee maximum **plasticity**.



LUX® is a family of master alloys suitable for the production of jewellery in precious alloys, in the fineness defined by ISO 9202:2019, through the **lost wax casting technique**. A key feature of LUX® gold alloys and master alloys is deoxidation: after casting, **the castings are deoxidised and clean**, which is a fundamental requirement for casting pieces with stones.



BLANK® is a family of economically viable alloys designed to meet the demand for a 750‰ nickel-free alloy that is **100% compliant with the REACH regulation**. BLANK® family alloys are suitable for **jewellery production through lost wax casting and plastic deformation processes**.



PLATINA® is a family of 950‰ platinum alloys suitable for jewellery production through **lost wax casting and plastic deformation processes**. Alloys in this family enable the creation of jewellery with high hardness and excellent wear resistance, the fundamental characteristics of platinum jewellery. PLATINA® is **the answer to the long-standing issue of poor resistance in platinum jewellery**.



UNIBRAX® represents an **innovative and versatile solution** in the world of master alloys for **soldering**, designed to offer ease of use and impeccable results. With an **exceptionally low melting range and high mechanical properties**, UNIBRAX® stands out as the ideal choice for a wide range of applications.



GENIA®

GENIA® is a family of **universal alloys and master alloys**, suitable for use in **all jewellery production processes** and for **all precious metal alloys** fineness defined by ISO 9202:2019. Its main characteristic is the fine grain structure which ensures **excellent stability, high mechanical strength, excellent castability**, and almost **no shrinkage defects**.



DEEP DRAWING -
ONE SIDE FLAT



DEEP DRAWING



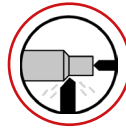
STONE IN PLACE
CASTING & WITHOUT
STONES



MACHINE MADE
SOLID CHAIN



MACHINE MADE
HOLLOW CHAIN



MACHINING

Reliability in continuous casting processes is one of GENIA's flagship features and, thanks to the fine and homogeneous structure, it guarantees excellent **mechanical properties**. In plastic deformation processes, it ensures **compact and smooth profiles**.

With GENIA®, more extensive rolling can be carried out and the number of annealing steps can be reduced. Cold working rates of over 90% can be achieved without breakage. During heat treatment, grain growth is controlled and limited by the presence of **grain refiners**.

WITHOUT GRAIN REFINER



WITH GRAIN REFINER



GENIA® makes it possible to produce **very thin wires**. Its **fine grain** structure results in a **higher surface gloss**. During CNC machining manufacturing operations, GENIA® offers several advantages in terms of chip breaking.

GENIA® is also an excellent product in **investment casting**, as it provides **excellent form-filling capacity, no residues** in the crucible after casting, **reduced shrinkage porosity**, and excellent **resistance to fire cracking**.

GENIA® is also available in a series of 930‰ and 935‰ silver alloys, which ensure a complete solution to the problem of fire stains. Recently the GENIA® family has been enriched with a new innovative compositions, GENIA276, that ensures an higher tarnish resistance over time, without the need for additional surface treatments.



The entire GENIA® range is produced using **only ethical silver according to the RJC - CoC standard**. In addition, silver and all other metals come from recycled sources for a 100% recycled end product (ISO 14021 certified).

A close-up photograph of two stacks of cigars, one on the left and one on the right, separated by a dark vertical gap. The cigars are wrapped in a dark, textured material, possibly leather or a similar material, and are arranged in neat rows. The lighting is dramatic, highlighting the texture of the cigars and the gap between them. The text "GRAIN REFINED" is overlaid in the center of the image, in a white, sans-serif font.

GRAIN REFINED



FLEXIA®

FLEXIA® is a family of **master alloys** suitable for the production of **precious alloy jewellery**, in all fineness defined by ISO 9202:2019, through plastic deformation processes. Alloys produced with FLEXIA® are **fine-grained**, **exceptionally strong** and guarantee **maximum plasticity**.



DEEP DRAWING -
ONE SIDE FLAT



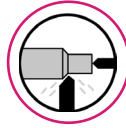
DEEP DRAWING



MACHINE MADE
SOLID CHAIN



MACHINE MADE
HOLLOW CHAIN



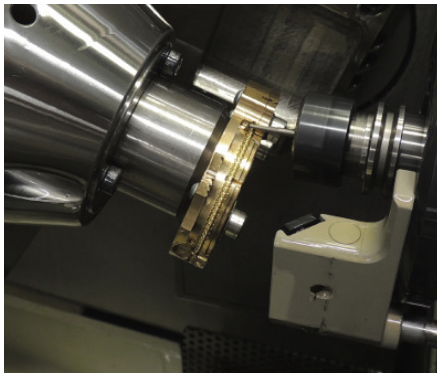
MACHINING

The fine-grain structure also provides a **very high resistance to corrosion**, an essential feature in the production of **hollow jewellery**.

When producing hollow pieces, the internal core must be removed by immersion in acidic solutions. These solutions can potentially damage and oxidize the surface of the pieces. Thanks to FLEXIA®'s corrosion resistance, surface quality and brilliance are preserved, ensuring greater durability of the final product.



CORROSION



CNC MACHINING

More demanding productions, such as the production of **super-light hollow tubes or chains**, are a particular strength of the new generation of FLEXIA® master alloys. In CNC machining operations, FLEXIA® offers a series of alloys that are particularly **suitable for chip breaking**. **Super-hardening alloys** are also part of the new generation FLEXIA® family.



The entire FLEXIA® range is produced using **only ethical silver according to the RJC - CoC standard**. In addition, silver and all other metals come from recycled sources for a 100% recycled end product (ISO 14021 certified).

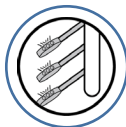
A high-magnification microscopic image of a metal surface. The surface is dark and heavily scratched with numerous fine, light-colored lines. A prominent, irregular, and somewhat jagged white line runs diagonally across the center of the image, likely representing a crack or a severe corrosion product. The overall texture is rough and granular, with some areas appearing more corroded than others.

LESS
CORROSION



LUX®

LUX® is a family of **alloys & master alloys** suitable for the production of **jewellery**, in all fineness defined by ISO 9202:2019, through the **lost-wax investment casting process**. The main characteristic of the LUX® family is its **deoxidising capability**. After casting, the castings are **deoxidised, shining and clean**. This is a fundamental requirement for **castings with stones**.

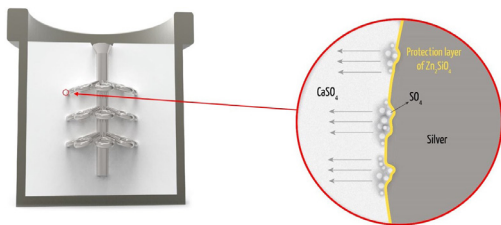


STONE IN PLACE
CASTING



CASTING WITHOUT
STONES

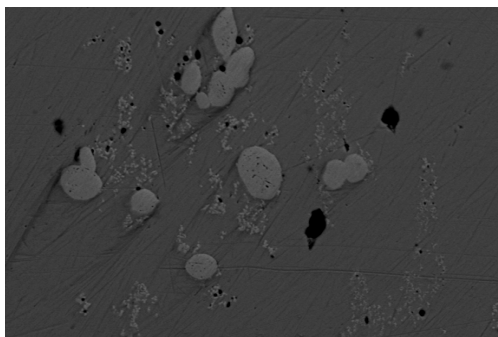
The elements responsible for deoxidation produce a very stable thin and protective film on the surface of the cast tree, while the **alloy is molten**, which prevents reactions between the investment and the molten metal poured during casting, thereby helping to **avoid common issues of gas porosity**. LUX® compositions are **specifically calibrated to ensure maximum form-filling capacity**.



INVESTMENT INCLUSIONS



HARD SPOTS



LUX® family alloys have **high viscosity**, which guarantees more **laminar flow** thereby avoiding turbulence of the metal during casting. This, in turns, helps to **reduce many defects** such as investment inclusions. The high-purity **raw materials** contained in the alloy guarantee the **total absence of hard spots**, a common drawback among investment casting alloys. Some **new formulations** have recently been added to the LUX® family, specifically for 585‰ red gold alloys, which combine the effectiveness of **deoxidation** with the guaranteed **strength** of fine grain.



The entire LUX® range is produced using **only ethical silver according to the RJC - CoC standard**. In addition, silver and all other metals come from recycled sources for a 100% recycled end product (ISO 14021 certified).



DEOXIDATION



BLANK®

BLANK500, part of the BLANK® alloy family, is the technological and economically sustainable answer to the need for a **750‰ nickel-free alloy, 100% compliant with REACH regulations.**



STONE IN PLACE
CASTING & WITHOUT
STONES



DEEP DRAWING -
ONE SIDE FLAT



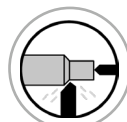
DEEP DRAWING



MACHINE MADE
SOLID CHAIN



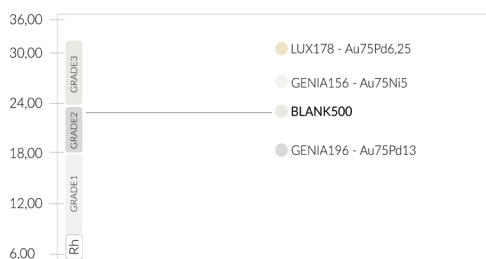
MACHINE MADE
HOLLOW CHAIN



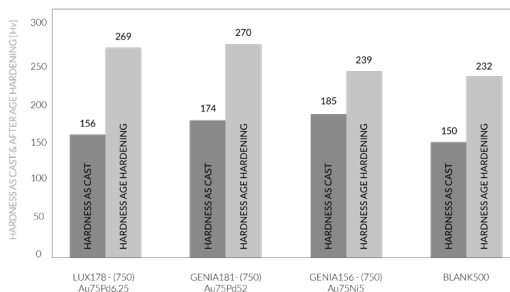
MACHINING

In BLANK500, the **bleaching** element is **manganese**, one of the metals, besides nickel and palladium, historically assigned to this task. It is not to be confused with other bleaching elements used in some products on the market, which compromise the physical, chemical, mechanical and technological characteristics of **gold alloys** to such an extent that they become unusable in an industrial jewellery production process.

PREMIUM WHITE - BLANK500



MECHANICAL PROPERTIES



BLANK500 has a **whiteness** very similar to conventional 750‰ nickel-based white gold alloys used in jewellery production and is therefore an **excellent base for subsequent rhodium plating.**

BLANK500 can be hardened and goes from an average as-cast value of 150HV to 230HV after adequate heat treatment. In terms of hardness and behaviour, it is comparable to a 3N gold alloy.



LUX178 - (750)
Au75 Pd6,25
Density 15.74 g/cm³
Weight 10g



GENIA156 - (750)
Au75 Ni5
Density 14.70 g/cm³
Weight 9.34g



BLANK500
Density 14.38 g/cm³
Weight 9.14g

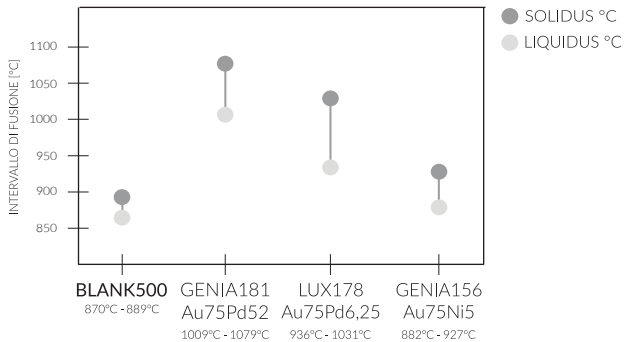


GENIA181 - (750)
Au75 Pd52
Density 15.76 g/cm³
Weight 10.01g

The **lower density** of BLANK500 compared to palladium white gold alloys allows a cost saving of about 6 euros per gram compared to palladium's white gold alloys containing 130‰ of palladium, and 3 euros per gram compared to palladium's white gold alloys containing 62,5‰ of palladium.

BLANK500 is therefore very plastic, making it much easier to prepare and set stones in jewellery.

BLANK500 is also suitable for the production of **jewellery by plastic deformation** and can therefore be considered a **universal alloy**.



The melting range and casting temperature are very similar to those of yellow-gold alloys. This feature is an important aid in **reducing defects** resulting from the reaction with the investment.



PHYSICAL PROPERTIES

Temp. Solidus °C	870
Temp. Liquidus °C	889
Density [g/cm3]	14,39
Colour Coordinates L*	85,67
Colour Coordinates a*	3,24
Colour Coordinates b*	12,99

CHEMICAL PROPERTIES

Au	75,0%
Ag	5,7%
Cu	13,0%
Zn	1,0 %
Other elements	<5,3%

APPLICATIONS

Tensile strength as cast [MPa]	373
Yield strength as cast [MPa]	248
Elongation as cast [%]	45
Hardness as cast [HV]	150
Hardness after annealing [HV]	150
Hardness after hardening [HV]	232



In addition to the ethicality resulting from the **absence of nickel**, BLANK500 is produced using only **ethical gold and silver** in accordance with the **RJC - CoC standard**. In addition, gold, silver and all other metals contained come **from recycled sources** for a 100% recycled end product (ISO 14021 certified).



PLATINA®

PLATINA® is a family of **950‰ platinum alloys** suitable for jewellery production using **lost-wax investment casting** and **plastic deformation** processes.



DEEP DRAWING -
ONE SIDE FLAT



DEEP DRAWING



STONE IN PLACE
CASTING & WITHOUT
STONES



MACHINE MADE
SOLID CHAIN



MACHINE MADE
HOLLOW CHAIN



MACHINING

The alloys in this family make it possible to create jewellery with **high hardness** and excellent **wear resistance**, the fundamental characteristics of platinum jewellery. PLATINA® is the answer to the long-standing problem of the low wear resistance of platinum jewellery.



The PLATINA® family is offered in **two compositions**:

PLATINA103 is characterised by **high hardness**. The alloy increases goes from about 180HV as cast to 220HV after adequate heat treatment. This particular advantage is combined with **excellent form filling capacity** due to its **low liquidus temperature**, about 200°C lower than other conventional platinum alloys.

PLATINA105 is a **binary platinum-ruthenium alloy** with good **as-cast hardness** of approximately 130HV, and is, in fact, the **standard composition** used by many **platinum jewellery manufacturers**.



PLATINA103



PLATINA105



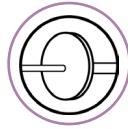
UNIBRAX®

UNIBRAX® represents an innovative and versatile solution in the world of master alloys for soldering, designed to offer ease of use and impeccable results. With an exceptionally low melting range and high mechanical properties, UNIBRAX stands out as the ideal choice for various applications.

Over the years, Progold has developed a range of soldering alloys with a melting point at least 50°C



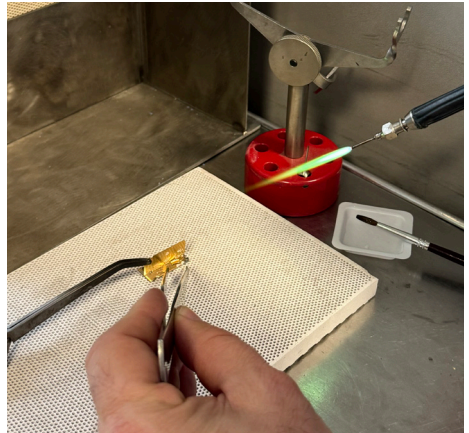
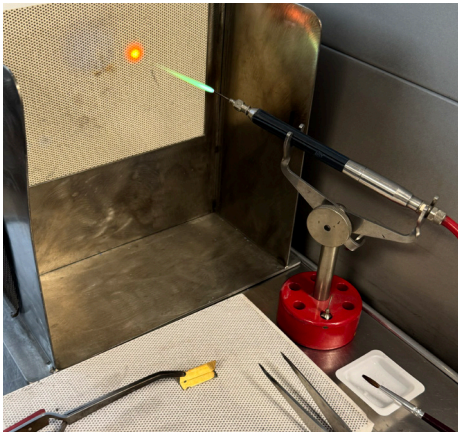
SOLDERING
PLATE



SOLDERING
WIRE

lower than the base metal to be joined, ensuring the perfect preservation of the original colour of the soldered metal.

Additionally, all alloys in the UNIBRAX® line are completely cadmium-free, providing safe solutions that meet the highest standards.



UNIBRAX® also offers special formulations capable of ensuring a reduced melting range, excellent wettability, and minimal solder evaporation, optimizing every phase of the process. Some variants are specifically designed to eliminate gas defects along the joint lines, while others ensure superior mechanical properties, making them perfect for hollow chain production.



The UNIBRAX® family also uses recycled metals and CoC silver.



Where Passions Melt