



## AgosiRefining

At Agosi, your material is in good hands

Our recycling management returns your scrap material to the cycle of your precious metals.

We process the material for you cost-effectively using state-of-the-art processes. You receive the value in the form you prefer: as fine metal or semi-finished products, as credit on your precious metals weight account, or as the equivalent in cash transferred to your bank account.

Agosi thereby completes the cycle with a fully comprehensive service package: we offer all services for the entire cycle of precious metals - a reliable single source.



*Information given about our products, plants, equipment and processes is based on extensive research and experience in technical applications. This information is accurate to the best of our knowledge but is provided, whether given orally or in writing, without any liability on our part over and above that relating to each individual contract and we reserve the right to make technical modifications in the course of product development. Furthermore, our technical applications support service is available for further consultation and co-operation in solving any problems regarding production or technical applications.*

*This does not, however, release the clients from their obligation to check our specifications and recommendations before using them for their own purposes. This applies in particular to international deliveries, also with respect to third party proprietary rights as well as to any applications and procedures which have not been clearly specified by us in writing. In the event of claims our liability is limited to that laid down in our current Terms and Conditions of Delivery, Processing and Payment.*

*Agosi AG is part of Umicore, Brussels, a global materials technology group. It focuses on application areas where its expertise in materials science, chemistry and metallurgy makes a real difference. Umicore's overriding goal of sustainable value creation is based on an ambition to develop, produce and recycle materials in a way that fulfils its mission: materials for a better life. Its social commitment and innovative environmental approach have earned Umicore worldwide recognition; the corporation is among „World's Most Ethical Companies“ (Ethisphere 2012). [www.umicore.com](http://www.umicore.com)*

*With its subsidiaries in Austria and Thailand, North- and South America, Agosi represents the core of the Umicore Business Unit Jewelry & Industrial Metals. It provides a closed-loop concept of precious metals services, products and refining for the precious metals consuming industries. Its Pforzheim site is RJC-CoC certified and can offer responsibly produced CoC-products. Agosi is also accredited according to the Responsible Gold and Responsible Silver Guidance by the London Bullion Market Association (LBMA). Certificates are available online [www.agosi.de](http://www.agosi.de)*

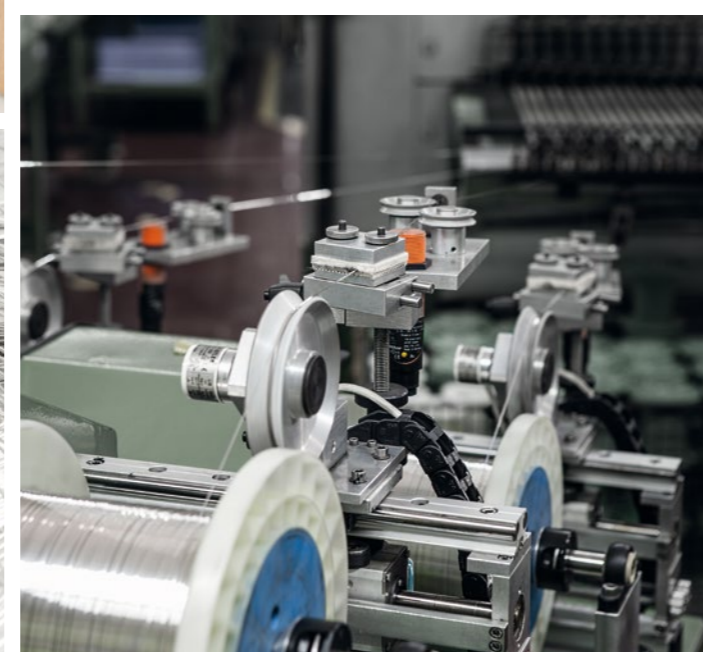
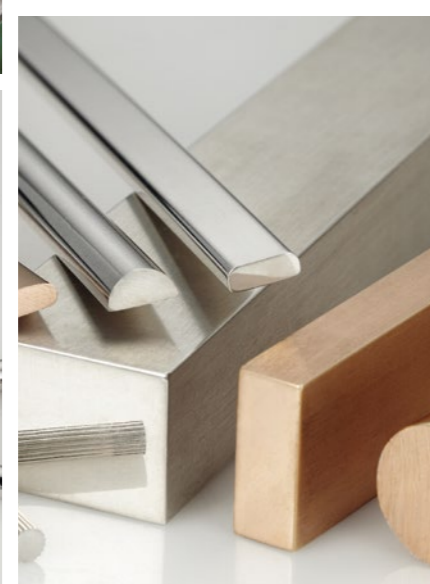
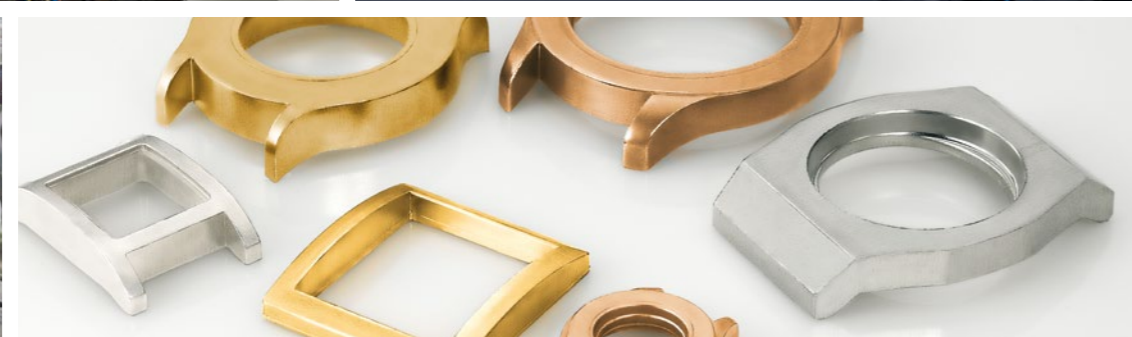
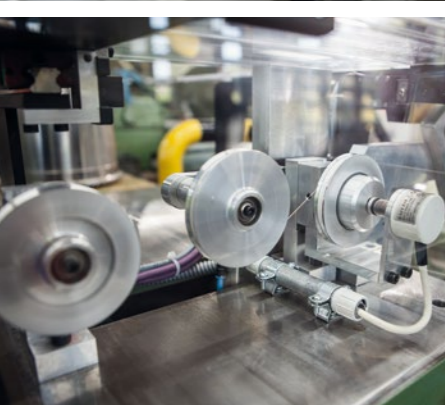
*The current General Terms and Conditions apply.*

Printed on 100% recycled paper



## AgosiLifestyle

Alloys and semi-finished products for the jewellery and watch industry



# Listen. Understand. Find solutions.

We like to be in close, personal contact with our customers so that we can get a clear picture of where our products are being used. This puts us in a position to offer a wide range of products, both in standard and in special designs. Our products are always manufactured to conform to your requirements.

Agosi sheets, tubes and wires are manufactured with the same degree of diligence as a CNC precision turned part from our production facility. As our customers use our semi-finished products for a variety of applications, the alloys must remain consistent in quality and it is our constant quality control and material analysis that guarantee the reliability of the functional properties.

## Agosi's CoC-gold is conflict-free

There is a special focus on fine gold, especially in the conflict-stricken countries around the globe as its mining can be damaging to the environment.

As we deal with precious metals from secondary sources and as a member of the Responsible Jewellery Council, London, Agosi is committed to working responsibly with these materials, paying equal attention to ethical and environmental aspects. Agosi is the first precious metals refinery in Germany to be given RJC Certification, having successfully completed the stringent certification process. In addition, the „CoC Chain of Custody“ Certificate attests to a conflict-free supply chain for CoC-gold - it verifies that Agosi CoC-gold does not come from conflict regions.

Use this brochure as a source for new ideas. Our competent team will be happy to help you with your projects and your questions.

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**LBMA**

GOOD DELIVERY  
REFINER

**DIN EN ISO/IEC  
17025:2018**



RESPONSIBLE  
JEWELLERY  
COUNCIL

CERTIFIED MEMBER  
0000 3460



Zertifiziert nach

**ISO 9001**

Reg.-Nr. 1249

**ISO 14001**

Reg.-Nr. 1250

**ISO 50001**

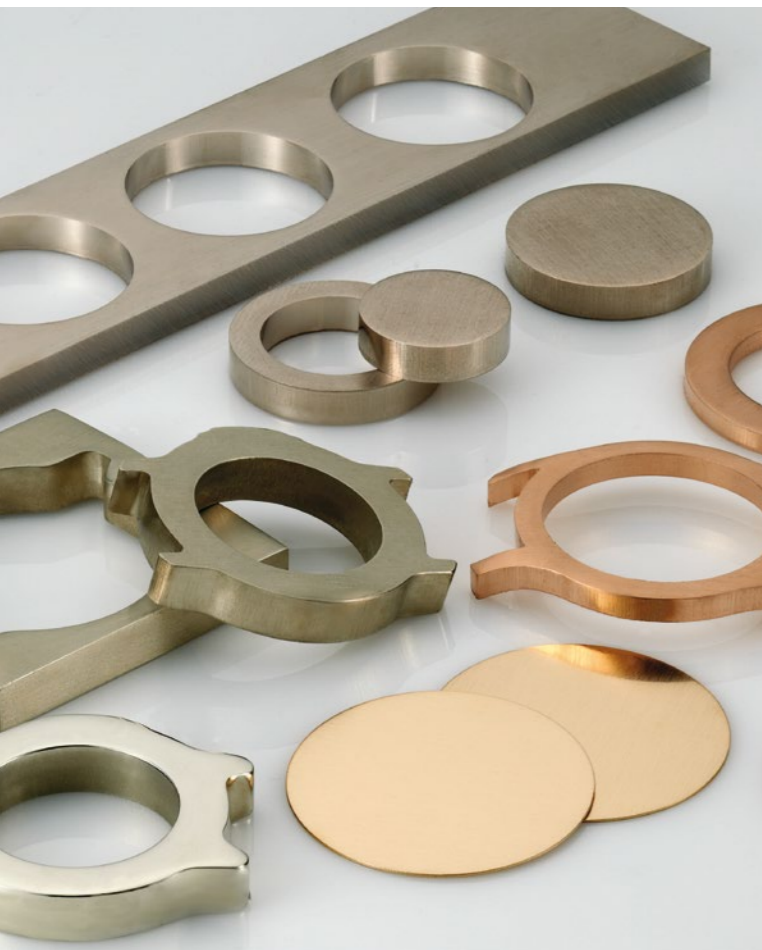
Reg.-Nr. 1251

# AgosiSheets AgosiStrips AgosiPlates AgosiStampingParts

The basis for brilliant results

Sheets and strips with excellent deep drawing characteristics for simple and efficient processing into high-quality end products, available with a brush finish or, by special request, with bright-rolled surfaces. Required hardness and dimension tolerances are monitored by our laboratories. Be it sheets, strips or plates - only the best quality ensures efficient processing further down the line.

- » In-house tool design based on your drawings for stamped parts
- » Latest stamping technology for a clean cut and the closest of tolerances
- » Highest product purity and quality and a wide range of standard materials



## Material

| MATERIAL/ALLOY      | colour            | density g/cm <sup>3</sup> | hardness HV 5 recrystallised, annealed |
|---------------------|-------------------|---------------------------|--|
| 333/75              | deep yellow       | 10.9                      | 105                                    |
| 375/27 S            | red               | 11.3                      | 100                                    |
| 376/60              | deep yellow       | 11.0                      | 110                                    |
| 585/40              | red               | 13.1                      | 130                                    |
| 585/90 S            | deep yellow       | 13.0                      | 130                                    |
| 585/100 S           | rosé              | 13.2                      | 140                                    |
| 585/200 S           | yellow            | 13.6                      | 175                                    |
| 585/260 S           | yellow            | 13.7                      | 160                                    |
| 585/300             | light yellow      | 14.0                      | 140                                    |
| 585/340             | greenish yellow   | 13.8                      | 120                                    |
| 585/415 S           | pale yellow       | 14.3                      | 40                                     |
| 750/5 S             | red               | 15.1                      | 160                                    |
| 750/20 S            | red               | 15.0                      | 150                                    |
| 750/40              | red (5N)          | 15.2                      | 160                                    |
| 750/90              | rosé (4N)         | 15.3                      | 140                                    |
| 750/130             | deep yellow (3N)  | 15.4                      | 140                                    |
| 750/150             | light yellow (2N) | 15.6                      | 130                                    |
| 917/- S             | rosé              | 17.6                      | 90                                     |
| 917/53 S            | yellow            | 17.9                      | 55                                     |
| 375 S3 S            | white 1,5% Pd     | 12.3                      | 105                                    |
| 585 S               | white 10% Pd      | 14.5                      | 90                                     |
| 585 S2              | white 14% Pd      | 14.4                      | 130                                    |
| 585 M               | white 19% Pd      | 14.5                      | 160                                    |
| 750 S               | white 10% Pd      | 16.0                      | 100                                    |
| 750 A S             | white 10% Pd      | 15.7                      | 160                                    |
| 750 U               | white 12.5% Pd    | 16.0                      | 130                                    |
| 750 CHC             | white 13% Pd      | 15.7                      | 160                                    |
| 750 S2              | white 14% Pd      | 16.0                      | 120                                    |
| 750 M               | white 16% Pd      | 15.9                      | 140                                    |
| 750 M1              | white 21% Pd      | 16.4                      | 95                                     |
| 750 H1 S*           | white 10% Ni      | 14.8                      | 230                                    |
| 750 H8              | white 5% Ni       | 14.8                      | 130                                    |
| PdAg 950/20         | grey              | 11.8                      | 100                                    |
| PtRu 600            | grey              | 13.7                      | 180                                    |
| PtW 950             | grey              | 21.3                      | 150                                    |
| PtRu 950            | grey              | 20.7                      | 130                                    |
| PtPlus 953          | grey              | 19.9                      | 160                                    |
| PtCu 953            | grey              | 20.1                      | 110                                    |
| PtCo 950            | grey              | 20.1                      | 130                                    |
| Ag 925              | white             | 10.4                      | 70                                     |
| Ag 935              | white             | 10.4                      | 70                                     |
| Ag 950 S            | white             | 10.4                      | 70                                     |
| Ag 970 S            | white             | 10.4                      | 55                                     |
| fine silver Ag 4N   |                   | 10.5                      | 35                                     |
| fine silver Ag 3N7  |                   | 10.5                      | 35                                     |
| fine gold Au 99.99% |                   | 19.3                      | 28                                     |
| platinum Pt 3N5     |                   | 21.5                      | 48                                     |
| palladium Pd 3N5    |                   | 12.0                      | 50                                     |

S = special alloy

\* = alloy contains nickel and does not conform to standard DIN EN 1811:2011 on leaving factory

Further alloys on request.

Surface finish depends on product form ordered: bright-rolled, rolled or brush finish.

## Product

| PRODUCTS                             | thickness mm           | width mm                              | length mm                           | tolerances   |
|--------------------------------------|------------------------|---------------------------------------|-------------------------------------|--------------|
| strips Au-, Pt-, Pd materials        | 0.1 - 2.0              | 3.0 - 100.0                           | continuous                          | DIN EN 1652  |
| strips Ag-materials                  | 0.5 - 2.5<br>0.1 - 2.0 | max. 350<br>max. 100                  |                                     | DIN EN 1652  |
| pre-rolled strips Ag-materials       | 2.0 - 4.0              | max. 350                              |                                     | on request   |
| cut sheet sections                   | 0.1 - ca. 15.0         | according to customer specification   | according to customer specification | DIN EN 1652  |
| plates Ag 935 and Ag 925             | 0.3 - 3.0              | 500<br>oversize dimensions on request | 1000                                | DIN EN 1652  |
| cut plate sections Ag 935 and Ag 925 | 0.3 - 3.0              | < 500                                 | < 1000                              | DIN EN 1652  |
| pre-rolled sheets                    | 1.5 - 8.0              | 360 (ca.)                             | 1000                                | width ± 5 mm |

Oversize dimensions and further materials on request.

## Your benefits

- » trouble-free processing into high-quality end products
- » prompt delivery of a comprehensive range of cut sheet sections and standard sheets from stock
- » very little polishing required thanks to minimal peak-to-valley height (on bright rolled surfaces)
- » maintaining exact tolerances guarantees accurate dimensions
- » "endless" strips add to the efficiency of your processing machinery

# AgosiWires | Rods | Profiles

Keep a high profile - with high-class end products

Whether annealed or hardened, round or D-section, or in a variety of other cross-sections - our wires, rods and profiles are an important prerequisite for high-quality end products.

## Material

| MATERIAL/ALLOY | colour            | density g/cm <sup>3</sup> | hardness HV 5 recrystallised, annealed |
|----------------|-------------------|---------------------------|--|
| 333/75         | deep yellow       | 10.9                      | 105                                    |
| 375/27         | red               | 11.3                      | 100                                    |
| 376/60         | deep yellow       | 11.0                      | 110                                    |
| 585/40         | red               | 13.1                      | 130                                    |
| 585/90         | deep yellow       | 13.0                      | 130                                    |
| 585/100        | rosé              | 13.2                      | 140                                    |
| 585/200        | yellow            | 13.6                      | 175                                    |
| 585/260        | yellow            | 13.7                      | 160                                    |
| 585/300        | light yellow      | 14.0                      | 140                                    |
| 585/340        | greenish yellow   | 13.8                      | 120                                    |
| 585/415        | pale yellow       | 14.3                      | 40                                     |
| 750/5          | red               | 15.1                      | 160                                    |
| 750/20         | red               | 15.0                      | 150                                    |
| 750/40         | red (5N)          | 15.2                      | 160                                    |
| 750/90         | rosé (4N)         | 15.3                      | 140                                    |
| 750/130        | deep yellow (3N)  | 15.4                      | 140                                    |
| 750/150        | light yellow (2N) | 15.6                      | 130                                    |
| 917/-          | rosé              | 17.6                      | 90                                     |
| 917/53         | yellow            | 17.9                      | 55                                     |
| 375 S3         | white 1,5% Pd     | 12.3                      | 105                                    |
| 585 S          | white 10% Pd      | 14.5                      | 90                                     |
| 585 S2         | white 14% Pd      | 14.4                      | 130                                    |
| 585 M          | white 19% Pd      | 14.5                      | 160                                    |
| 590 H1         | white 10% Ni      | 12.8                      | 150                                    |
| 750 S          | white 10% Pd      | 16.0                      | 100                                    |
| 750 A          | white 10% Pd      | 15.7                      | 160                                    |
| 750 U          | white 12.5% Pd    | 16.0                      | 130                                    |
| 750 CHC        | white 13% Pd      | 15.7                      | 160                                    |
| 750 S2         | white 14% Pd      | 16.0                      | 120                                    |
| 750 M          | white 16% Pd      | 15.9                      | 140                                    |
| 750 M1         | white 21% Pd      | 16.4                      | 95                                     |
| 750 H1         | white 10% Ni      | 14.8                      | 230                                    |
| 750 H8         | white 5% Ni       | 14.8                      | 130                                    |
| PdAg 950/20    | grey              | 11.8                      | 100                                    |
| PtRu 600       | grey              | 13.7                      | 180                                    |
| PtIr 800/200   | grey              | 21.7                      | 190                                    |
| PtW 950        | grey              | 21.3                      | 150                                    |
| PtRu 950       | grey              | 20.7                      | 130                                    |
| PtPlus 953     | grey              | 19.9                      | 160                                    |
| PtCu 953       | grey              | 20.1                      | 110                                    |
| PtCo 950       | grey              | 20.1                      | 130                                    |

S = special alloy  
 \* = alloy contains nickel and does not conform to standard DIN EN 1811:2011 on leaving factory  
 Further alloys on request / Quality, centricity, straightness as agreed

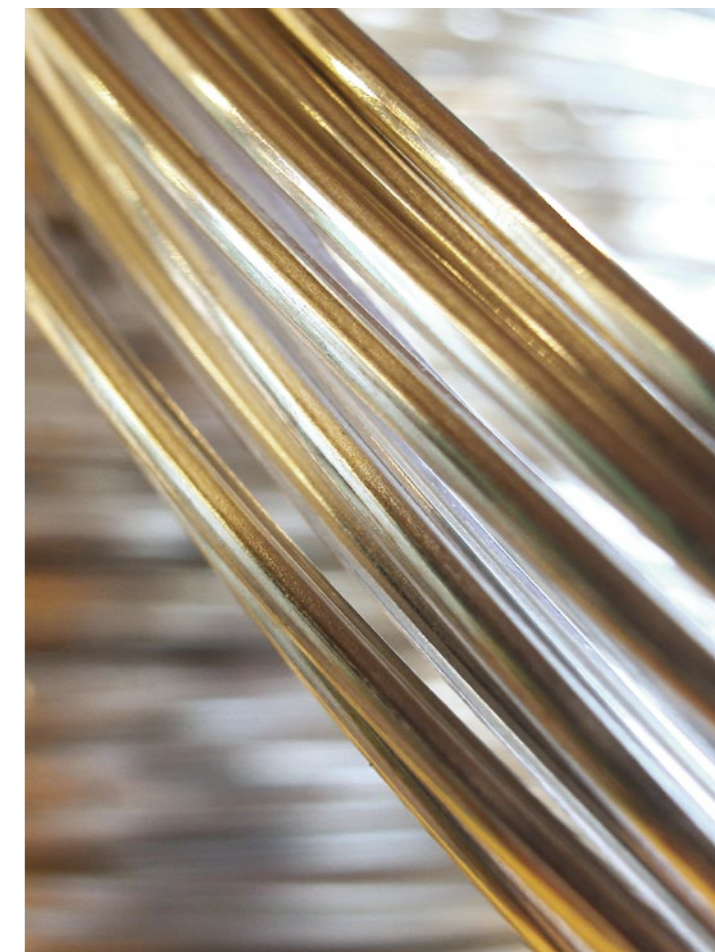
| MATERIAL/ALLOY | colour    | density g/cm <sup>3</sup> | hardness HV 5 recrystallised, annealed |
|----------------|-----------|---------------------------|--|
| Ag 925         | white     | 10.4                      | 70                                     |
| Ag 935         | white     | 10.4                      | 70                                     |
| Ag 950         | white     | 10.4                      | 70                                     |
| Ag 970         | white     | 10.4                      | 55                                     |
| fine silver    | Ag 4N     | 10.5                      | 35                                     |
| fine silver    | Ag 3N7    | 10.5                      | 35                                     |
| fine gold      | Au 99.99% | 19.3                      | 28                                     |
| platinum       | Pt 3N5    | 21.5                      | 48                                     |
| palladium      | Pd 3N5    | 12.0                      | 50                                     |

S = special alloy  
 Further alloys on request / Quality, centricity, straightness as agreed

## Product

| PRODUCT                                  | diameter/ dimension mm  | tolerances mm  | on request                                 | delivery form  |
|--|---|--|--|--|
| wires, round                             | 0.1 - 0.5<br>> 0.5 - 3.0<br>> 3.0 - 6.0   | +0/-0.03<br>+0/-0.04<br>+0/-0.05   | ø 0.05 - 0.1<br>and > 6 (up to max. 40 mm) | 0.05 - 0.8 mm on spools<br>0.81 - 6.0 mm in rings<br>> 6.0 mm as rods annealed or hardened |
| rods, round                              | 0.5 - 3.0<br>> 3.0 - 6.0<br>> 6.0 - 10.0<br>> 10.0 - 18.0<br>> 18.0 - 20.0<br>> 20.0 - 30.0   | +0 / -0.04<br>+0 / -0.05<br>+0 / -0.06<br>+0 / -0.07<br>+0 / -0.08<br>± 0.2    | ø > 30                                     | drawn straight length standard 2 m hardened<br><br>l-max 1.5 m                             |
| profiles acc. to customer specifications | 1.0 - 3.0<br>> 3.0 - 6.0  | +0 / -0.04<br>+0 / -0.05   | dimensions < 1 mm and > 6 mm               | proportion width/height = 2 to 1, other proportions on request<br><br>annealed             |
| wires, square                            | width<br>1.0 - 3.0<br>> 3.0 - 6.0<br>> 6.0 - 10.0<br>> 10.0 - 18.0<br><br>height<br>0.2 - 3.0<br>> 3.0 - 6.0<br>> 6.0 - 10.0<br>> 10.0 - 18.0 | ± 0.02<br>± 0.03<br>± 0.05<br>± 0.1<br><br>± 0.02<br>± 0.03<br>± 0.05<br>± 0.1 | dimensions > 18 mm and height < 1/2 width  | on spools, annealed<br><br>straightened as rod height ≥ 1/2 width, hard                    |
| rolled wire                              | 2.0 / 3.0<br>4.0 / 5.0 / 6.0<br>8.0   |  | diameter > 8 mm and intermediate diameters | in rings, annealed   |

Wires in special cross-sections on request.  
 Billets/continuous cast material: all dimensions and properties on request.



# AgosiTubes

Precision pays

Our product range would not be complete without high-quality tubes. The precision and care exercised during their manufacture ensure that they are the right choice wherever accuracy and reliability are required. Whether drawn or hammered, seamless tubes with precision measurements and exemplary characteristics are ideal for each application, for industrial production as well as in the goldsmith's workshop.

## Material

| MATERIAL/ALLOY     | colour            | density g/cm <sup>3</sup> | hardness HV 5 recrystallised, annealed |
|--------------------|-------------------|---------------------------|--|
| 333/75             | deep yellow       | 10.9                      | 105                                    |
| 375/27 S           | red               | 11.3                      | 100                                    |
| 376/60             | deep yellow       | 11.0                      | 110                                    |
| 585/40             | red               | 13.1                      | 130                                    |
| 585/90 S           | deep yellow       | 13.0                      | 130                                    |
| 585/100 S          | rosé              | 13.2                      | 140                                    |
| 585/200 S          | yellow            | 13.6                      | 175                                    |
| 585/260            | yellow            | 13.7                      | 160                                    |
| 585/300 S          | light yellow      | 14.0                      | 140                                    |
| 585/340 S          | greenish yellow   | 13.8                      | 120                                    |
| 585/415 S          | pale yellow       | 14.3                      | 40                                     |
| 750/5 S            | red               | 15.1                      | 160                                    |
| 750/20             | red               | 15.0                      | 150                                    |
| 750/40             | red (5N)          | 15.2                      | 160                                    |
| 750/90 S           | rosé (4N)         | 15.3                      | 140                                    |
| 750/130            | yellow (3N)       | 15.4                      | 140                                    |
| 750/150            | light yellow (2N) | 15.6                      | 130                                    |
| 917/53 S           | yellow            | 17.9                      | 55                                     |
| 375 S3 S           | white 1.5% Pd     | 12.3                      | 105                                    |
| 585 S S            | white 10% Pd      | 14.5                      | 90                                     |
| 585 S2 S           | white 14% Pd      | 14.4                      | 130                                    |
| 585 M S            | white 19% Pd      | 14.5                      | 160                                    |
| 590 H1 S*          | white 10% Ni      | 12.8                      | 150                                    |
| 750 S S            | white 10% Pd      | 16.0                      | 100                                    |
| 750 U S            | white 12.5% Pd    | 16.0                      | 130                                    |
| 750 CHC S          | white 13% Pd      | 15.7                      | 160                                    |
| 750 M S            | white 16% Pd      | 15.9                      | 140                                    |
| 750 M1 S           | white 21% Pd      | 16.4                      | 95                                     |
| 750 H1 S*          | white 10% Ni      | 14.8                      | 230                                    |
| 750 H8 S           | white 5% Ni       | 14.8                      | 130                                    |
| PdAg 950/20        | grey              | 11.8                      | 100                                    |
| PtRu 600           | grey              | 13.7                      | 180                                    |
| PtW 950            | grey              | 21.3                      | 150                                    |
| PtRu 950           | grey              | 20.7                      | 130                                    |
| PtPlus 953         | grey              | 19.9                      | 160                                    |
| PtCo 950 S         | grey              | 20.1                      | 130                                    |
| PtCu 953 S         | grey              | 20.1                      | 110                                    |
| Ag 925 S           | white             | 10.4                      | 70                                     |
| Ag 935             | white             | 10.4                      | 70                                     |
| Ag 950             | white             | 10.4                      | 70                                     |
| Ag 970             | white             | 10.4                      | 55                                     |
| fine silver Ag 4N  |                   | 10.5                      | 35                                     |
| fine silver Ag 3N7 |                   | 10.5                      | 35                                     |

S = special alloy

\* = alloy contains nickel and does not conform to standard DIN EN 1811:2011 on leaving factory

Further alloys on request.

## Product

| PRODUCT               | Aø outer diameter | Aø tolerance | wall thickness | tolerances |
|-----------------------|-------------------|--------------|----------------|------------|
| round tubes, seamless | 0.9 - 6.0         | ±0.05 mm     | 0.175 - 0.5 mm | **±0.03 mm |
|                       |                   |              | 0.5 - 1.0 mm   | **±0.05 mm |
|                       |                   |              | >1.0 - 2.0 mm  | **±0.07 mm |
|                       | 6.0 - 10.0        | ± 0.06 mm    | 0.2 - 0.5 mm   | **±0.05 mm |
|                       |                   |              | 0.5 - 1.0 mm   | **±0.07 mm |
|                       |                   |              | >1.0 - 2.0 mm  | **±0.10 mm |
|                       | 10.0 - 18.0       | ± 0.08 mm    | 0.3 - 1.0 mm   | **±0.03 mm |
|                       |                   |              | >1.0 - 2.0 mm  | **±0.05 mm |
|                       |                   |              | >2.0 - 4.0 mm  | **±0.07 mm |
|                       | 18.0 - 20.0       | ± 0.10 mm    | 0.3 - 1.0 mm   | ±0.05 mm   |
|                       |                   |              | >1.0 - 2.0 mm  | ±0.07 mm   |
|                       |                   |              | >2.0 - 4.0 mm  | ±0.10 mm   |
|                       | ***20.0 - 40.0    | ± 0.10 mm    | 2.0 - 6.0 mm   | **±0.10 mm |

\*\* Where the inner diameter = 2 x wall thickness, the tolerance for the wall thickness changes to approx. ± 0.05 mm depending on wall thickness

Tubes with ratio 2 x wall thickness > inner diameter available following agreement

\*\*\* Material with inner diameter > 20 mm available following agreement

|                   | standard                                 | on request |
|-------------------|--|------------|
| Delivery hardness | hard                                     | ± 20HV     |
| Straightness      | Ag: drawn straight<br>Au: drawn straight | < 1 mm/m   |
| Material length   | 0.5 m / 1 m ± 10%                        | ± 5 mm     |
| Weight            | < 0.5 kg on request<br>/ tolerance ±10%  |            |

## Your benefits

- » particularly suitable for CNC manufacturing
- » best processing characteristics
- » optimum inner and outer surfaces require little polishing
- » individual cross-sections and special alloys on request

# AgosiTurnedParts | AgosiMilledParts

## Where quality counts

Our highly qualified employees use the latest lathes and milling machines to develop and produce precision parts based on customer drawings, fulfilling the very highest quality demands.

## Our range of machinery includes

- » CNC lathe from 1-220 mm
- » fixed headstock automatic lathes
- » sliding headstock automatic lathe
- » 3- and 5-axis milling machines

## Materials

See tables:

AgosiSheets|Wires|Tubes

## Your benefits

- » high level of accuracy
- » close tolerances
- » improved surface quality
- » savings in material

Our production facilities are designed for small-batch and large-scale production and process all common alloys.

Areas of application: jewellery and watch industry, writing utensil industry.

