



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.

Allgemeine Gold- und Silberscheideanstalt 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 fulfills its mission: materials for a better life. Its social commitment and innovative environmental approach have earned Umicore worldwide recognition; the corporation is among the „World's Most Ethical Companies“ (Ethisphere 2012). www.umicore.com

With its subsidiaries in Austria, The Netherlands, Switzerland, Thailand, North and South America, Agosi represents the core of the Umicore Business Unit Jewellery and Industrial Metals. It provides a closed-loop concept of precious metals services, products and refining for the precious metals consuming industries. At its RJC-CoC certified sites in Pforzheim and Thailand, Agosi can offer CoC-conform, responsibly produced gold of conflict-free and certified origin. 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.

AgosiGold is conflict-free

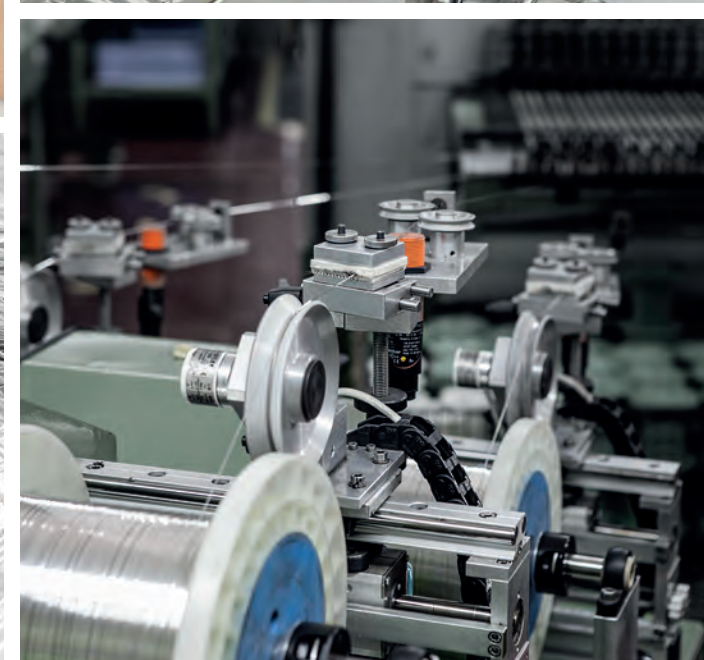
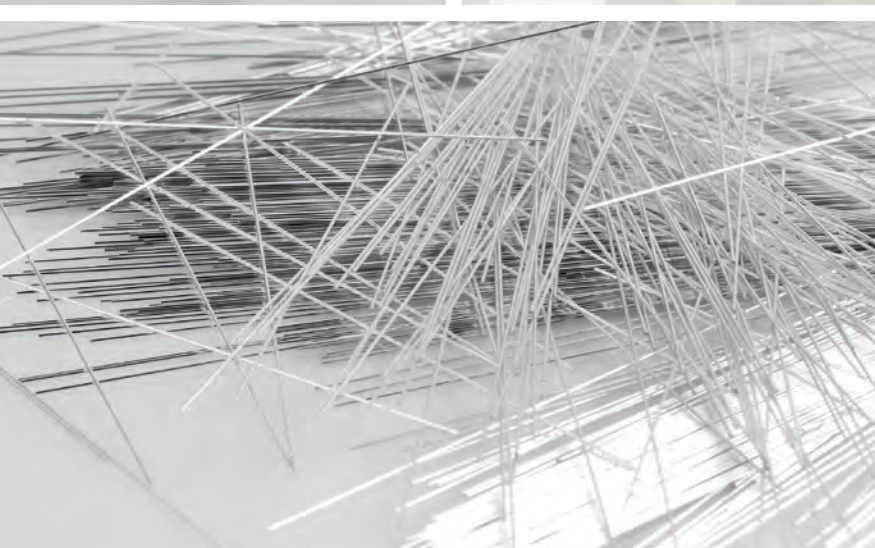
There is a special focus on fine gold, especially in the conflict-stricken countries around the globe as its mining can be damaging to the environment.

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 - it verifies that Agosi fine 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.

Contact:

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LBMA
GOOD DELIVERY
REFINER

**DIN EN ISO/IEC
17025:2005**



ISO 9001:2008
Management
System

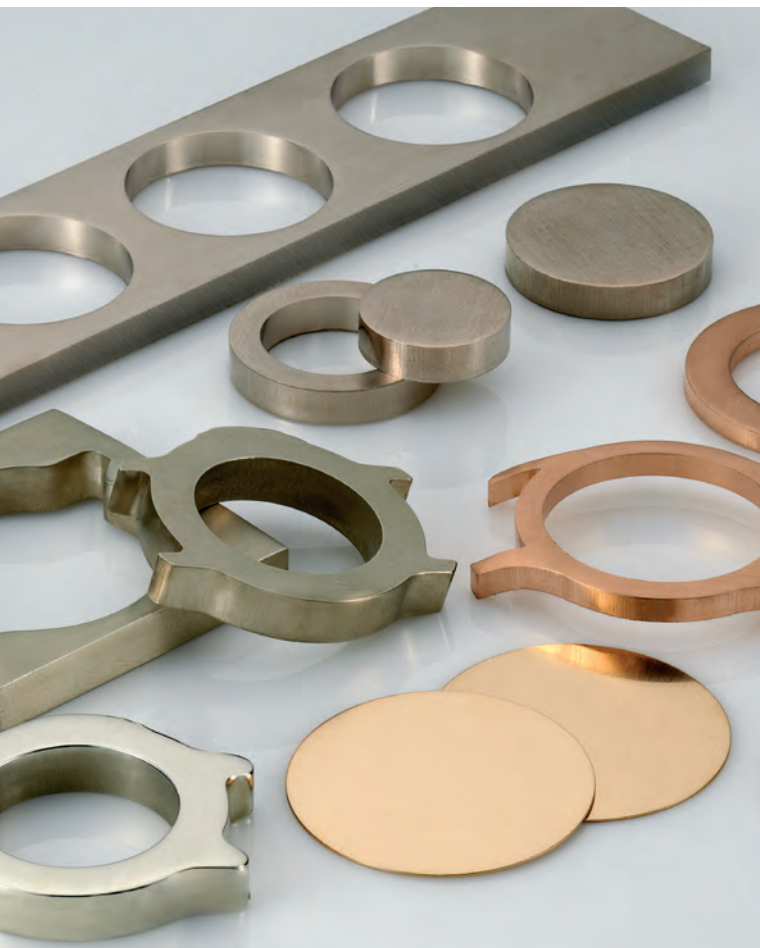
www.tuv.com
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AgosiSheets AgosiStrips AgosiPlates AgosiStampingParts

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 ³	hardness HV 5 recrystallised, annealed
333/75	deep yellow	10.9	105
375/27	S red	11.0	100
376/60	deep yellow	11.0	110
417/100	S yellow	11.6	130
585/40	red	13.1	130
585/83	S yellow	12.9	130
585/90	S deep yellow	13.1	130
585/100	S rosé	13.3	140
585/200	S yellow	13.6	175
585/260	S yellow	13.7	160
585/300	light yellow	13.9	140
585/340	greenish yellow	14.0	120
585/415	S pale yellow	14.1	40
588/415	S pale yellow	14.1	40
750/5	S red	15.1	170
750/20	S red	15.0	150
750/40	red (5N)	15.0	160
750/90	rosé (4N)	15.3	140
750/130	deep yellow (3N)	15.4	140
750/150	light yellow (2N)	15.5	130
900/50	S yellow	17.5	80
917/-	S rosé	17.6	110
917/53	S yellow	17.9	55
990 Ga	S deep yellow	19.0	30
333/585	S white Ag	12.1	80
333 S	S white Ag 1% Pd	11.9	125
375 S1	S white 12% Pd	12.8	130
585 S	white 10% Pd	14.5	90
585 S2	white 14% Pd	14.4	130
585 M	white 19% Pd	14.5	160
585 H	S* white 8% Ni	12.7	150
590 H1	S* white 10% Ni	12.8	150
750 S	white 10% Pd	16.0	100
750 A	S white 10% Pd	16.0	160
750 U	white 12.5% Pd	15.9	125
750 CHS	white 13% Pd	15.7	160
750 S2	white 14% Pd	16.0	120
750 M	white 16% Pd	15.8	140
750 M1	white 21% Pd	16.4	95
750 H1	S* white 10% Ni	14.8	230
750 H8	white 5% Ni	14.4	190
750 H10	S* white 7.5% Ni	14.7	220
PdAg 950/20	white	11.8	100
PtPd 600	white	14.4	160
PtIr 800/200	S white	21.7	190
PtW 950	white	21.3	150
PtRu 950	white	20.8	130
PtPlus 953	white	19.9	160
PtCu 953	white	20.3	110
PtCu 960	white	20.3	100
PtCo 950	white	20.5	130
Ag 800	S white	10.2	85
Ag 925	white	10.3	70
Ag 935	white	10.3	70
Ag 970	S white	10.4	55
Ag 950	S white	10.4	80
fine silver	Ag 4N	10.5	35
fine silver	Ag 3N7	10.5	35
fine gold	Au 99.99%	19.3	30
platinum	Pt 3N5	21.5	50
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 0.1 - 2.0	max. 350 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 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 ³	hardness HV 5 recrystallised, annealed
333/75	deep yellow	10.9	105
375/27 S	red	11.0	100
376/60	deep yellow	11.0	110
417/100 S	yellow	11.6	130
585/40	red	13.1	130
585/83 S	yellow	12.9	130
585/90 S	deep yellow	13.1	130
585/100 S	rosé	13.3	140
585/200 S	yellow	13.6	175
585/260 S	yellow	13.7	160
585/300	light yellow	13.9	140
585/340	greenish yellow	14.0	120
585/415	pale yellow	14.1	40
588/415	pale yellow	14.1	40
750/5 S	red	15.1	170
750/20 S	red	15.0	150
750/40	red (5N)	15.0	160
750/90	rosé (4N)	15.3	140
750/130	deep yellow (3N)	15.4	140
750/150	light yellow (2N)	15.5	130
900/50 S	yellow	17.5	80
917/- S	rosé	17.6	110
917/53 S	yellow	17.9	55
990 Ga S	deep yellow	19.0	30
333/585 S	white Ag	12.1	80
333 S	white Ag	11.9	125
375 S1	white 12% Pd	12.8	130
585 S	white 10% Pd	14.5	90
585 S2 S	white 14% Pd	14.4	130
585 M	white 19% Pd	14.5	160
585 H S*	white 8% Ni	12.7	150
590 H1 S*	white 10% Ni	12.8	150
750 S	white 10% Pd	16.0	100
750 A S	white 10% Pd	16.0	160
750 U	white 12.5% Pd	15.9	125
750 CHS	white 13% Pd	15.7	160
750 S2	white 14% Pd	16.0	120
750 M	white 16% Pd	15.8	140
750 M1	white 21% Pd	16.4	95
750 H1 S*	white 10% Ni	14.8	230
750 H8	white 5% Ni	14.4	190
750 H10 S*	white 7.5% Ni	14.7	220
PdAg 950/20	white	11.8	100
PTPd 600	white	14.4	160
PtIr 800/200 S	white	21.7	190
PtW 950	white	21.3	150
PtRu 950	white	20.8	130
PtPlus 953	white	19.9	160
PtCu 953	white	20.3	110
PtCu 960 S	white	20.3	100
PtCo 950 S	white	20.5	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

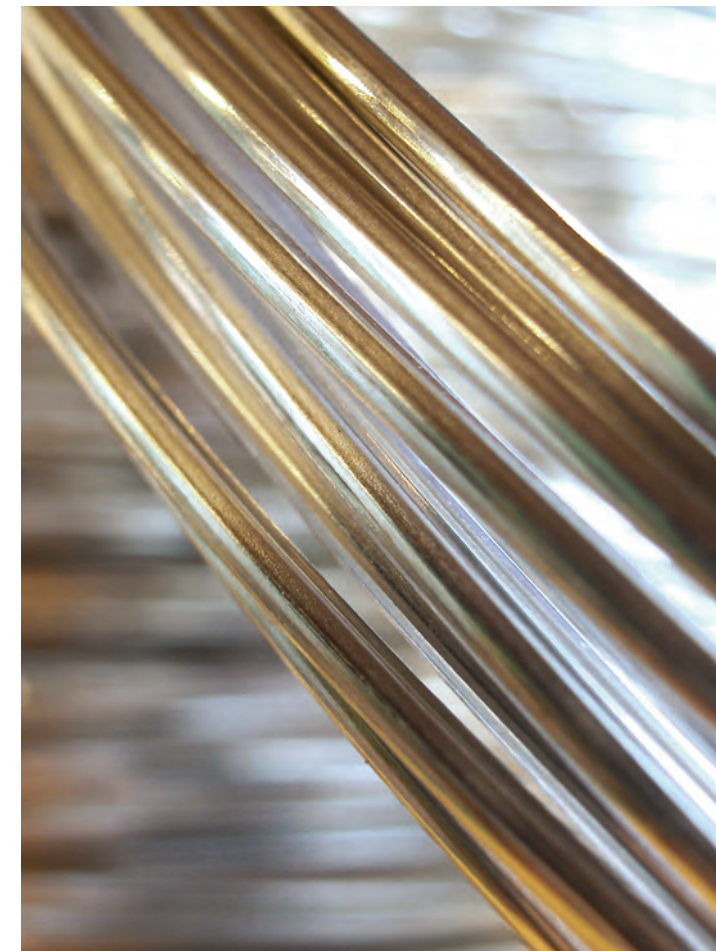
MATERIAL/ALLOY	colour	density g/cm ³	hardness HV 5 recrystallised, annealed
Ag 800 S	white	10.2	85
Ag 925	white	10.3	70
Ag 935	white	10.3	70
Ag 950 S	white	10.4	80
Ag 970	white	10.4	55
fine silver Ag 4N		10.5	35
fine silver Ag 3N7		10.5	35
fine gold Au 99.99%		19.3	30
platinum Pt 3N5		21.5	50
palladium 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 > 0.5 - 3.0 > 3.0 - 6.0	+0/-0.03 +0/-0.04 +0/-0.05	ø 0.05 - 0.1 and > 6 (up to max. 40 mm)	0.05 - 0.8 mm on spools 0.81 - 6.0 mm in rings > 6.0 mm as rods annealed or hardened
rods, round	0.5 - 3.0 > 3.0 - 6.0 > 6.0 - 10.0 > 10.0 - 18.0 > 18.0 - 20.0 > 20.0 - 30.0	+0 / -0.04 +0 / -0.05 +0 / -0.06 +0 / -0.07 +0 / -0.08 ± 0.2	ø > 30	drawn straight length max. 3 m hardened l-max 1.5m
profiles acc. to customer specifications	1.0 - 3.0 > 3.0 - 6.0	+0 / -0.04 +0 / -0.05	dimensions < 1 mm and > 6 mm	proportion width/height = 2 to 1, other proportions on request annealed
wires, square	width 1.0 - 3.0 > 3.0 - 6.0 > 6.0 - 10.0 > 10.0 - 18.0 height 0.2 - 3.0 > 3.0 - 6.0 > 6.0 - 10.0 > 10.0 - 18.0	± 0.02 ± 0.03 ± 0.05 ± 0.1 ± 0.02 ± 0.03 ± 0.05 ± 0.1	dimensions > 18 mm and height < 1/2 width	on spools, annealed straightened as rod height ≥ 1/2 width, hard
rolled wire	2.0 / 3.0 4.0 / 5.0 / 6.0 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
333/75	deep yellow
375/27 S	red
376/60	deep yellow
417/100 S	yellow
585/40	red
585/83	yellow
585/90 S	deep yellow
585/100 S	rosé
585/200 S	yellow
585/260	yellow
585/300 S	light yellow
585/340 S	greenish yellow
585/415 S	pale yellow
588/415 S	pale yellow
750/5 S	red
750/20	red
750/40	red (5N)
750/90 S	rosé (4N)
750/130	yellow (3N)
750/150	light yellow (2N)
900/50 S	yellow
917/ - S	rosé
917/53 S	yellow
990 Ga S	deep yellow
333 S	white Ag
333/585 S	white Ag
375 S1	white 12% Pd
375 S3 S	white 1.5% Pd
585 S	white 10% Pd
585 S2	white 14% Pd
585 M	white 19% Pd
585 H *	white 8% Ni
590 H1 S*	white 10% Ni
750 A S	white 10% Pd
750 S	white 10% Pd
750 U	white 12.5% Pd
750 CHS	white 13% Pd
750 M	white 16% Pd
750 M1	white 21% Pd
750 H1 S*	white 10% Ni
750 H8 S	white 5% Ni
750 H10 S*	white 7.5% Ni
PdAg 950/20	white
PtPd 600	white
PtW 950	white
PtRu 950	white
PtPlus 953	white
PtIr 800/200 S	white
PtCo 950 S	white
PtCu 953 S	white
PtCu 960	white
Ag 800	white
Ag 925 S	white
Ag 935	white
Ag 950	white
Ag 970	white
fine silver Ag 4N	
fine silver Ag 3N7	
platinum Pt 3N5	
palladium Pd 3N5	

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 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
	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. ± 0.05mm 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 Au: drawn straight	< 1 mm/m
Material length	0.5 m / 1 m ± 10%	± 5 mm
Weight	< 0.5 kg on request / 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.

