

Goodfellow

Serving The Needs of Science and Industry Worldwide

Au service de la Science et de l'Industrie dans le monde entier

Weltweiter Lieferant für Wissenschaft und Industrie

Metals and Alloys
Métaux et Alliages
Metalle und Legierungen

Ceramics
Céramiques
Keramiken

Polymers
Polymères
Polymere

Composites
Composites
Verbundwerkstoffe



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Standard Price List for Silver

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Introduction

Goodfellow is well known as a specialist supplier of small to medium size quantities of metals, alloys, ceramics, polymers and other materials to meet the research, development and specialist production requirements of science and industry worldwide. We realise that "small" means different things to different people, but we consider small to mean any quantity from a few grammes to a few kilos.

Goodfellow offers two distinct services to meet the requirements of our customers:

- The first meets the needs of our customers who need small quantities of products from our standard range of materials within 24-48 hours.
- The second service is for those who require larger quantities or further processing of our standard products or who need an item which falls within our general area of supply expertise.

The range of materials offered by Goodfellow is extensive, as are the forms in which the various products are available. This Catalogue provides a detailed overview of our standard products which are available from stock. Full details of all of these items, including prices and technical information, can be found in our web Catalogue at www.goodfellow.com.

Materials

Metals and Alloys

Goodfellow supplies virtually all of the pure metals from Aluminium to Zirconium as well as a comprehensive range of alloys. Most are available in a variety of forms, including rod, wire and foil. The Catalog details those materials which are available as standard products from stock. Custom-made items are also available, so please contact us if you are unable to identify the item you require.

Ceramics

The ceramic materials offered by Goodfellow have been carefully chosen, and include both the established as well as more recently developed products. All are available as either standard or custom-made products in a variety of forms and sizes. The Catalog details those items which are

available from stock. For ceramic components made to customer drawings, our Ceramic and Glass Division would be delighted to help. Please visit www.goodfellow-ceramics.com for further information.

Polymers

The range of polymers supplied by Goodfellow is broad and includes both the familiar as well as some of the more unusual or recently developed materials. The Catalog details those items which are available from stock; please contact us if you are unable to find the item you specifically require.

Compounds & Intermetallics

Goodfellow can supply aluminides, borides and silicides as well as other intermetallics and compounds. The majority of these items are made to order and the Catalog details those which are available. Please contact us with details of your requirements.

Composites

Some examples of these materials are listed in the Catalog. As some of these are manufactured on a custom-made basis, please contact us with details of your requirements.

Glasses

Goodfellow offers two distinct types of glass products. The first are generally silica-based and transparent. Generally, these products are made to order for customers, so we do not list them in our Catalog, however, they are available through the Goodfellow Ceramic and Glass Division. Please contact us with your requirements.

The second type of glass product is commonly referred to as "metallic glasses" or "glassy metals". In contrast to crystalline metals and alloys with highly ordered atomic structures, these are non-crystalline (amorphous) metals or, more usually, alloys. Our Catalogue details those glassy metals which are available from stock; please contact us if you are unable to find the item you specifically require.

Product Descriptions



Bar

A straight length of rectangular, square or oval section material.

Tolerances

Section dimensions:	≤ 10mm	± 10%
	> 10mm	± 1mm
Length:	< 100mm	± 1mm
	≥ 100mm	+ 5% / - 1%



Bolt

A threaded pin that can be screwed into a nut or a tapped hole to fasten items together. Bolts are available with different head styles and also in metric and inch-threaded sizes.

Tolerances

See item



Chopped Fibre

Fibres cut into short lengths called cut, staple or chopped fibre.

Tolerances

Fibre diameter:	± 25%
Number of strands:	± 10%
Tex number:	± 10%
Length:	+ 5% / - 1%



Crucible

A vessel in which other materials may be heated or melted, usually at high temperatures.

Tolerances

Height:	± 10%
Inside Dimensions:	± 10%
Outside Dimensions:	± 10%



Fabric

Woven fabrics are made by the regular interlacing of two arrays of yarns at right angles to each other, these being referred to as the warp and weft (see also Non-woven fabric).

Tolerances

Fabric thickness:	± 25%
Number of yarns:	± 10%
Tex number:	± 10%
Size (linear dimension):	< 100mm ± 5mm
	≥ 100mm ± 5%



Fibre

Yarns or tows consisting of several approximately parallel individual filaments, each filament usually being smaller in diameter than a monofilament. Yarns contain a defined number of filaments, typically three to several hundred; tows contain thousands of filaments whose number is only defined approximately. Both are primarily specified by their linear density measured in "tex", the weight in grams of a 1km length of material.

Tolerances

Fibre diameter:	± 25%
Number of strands:	± 10%
Tex number:	± 10%
Length:	+ 5% / - 1%



Film

A non-metallic sheet material with a thickness < 0.5mm.

Tolerances

Thickness:	± 20%
Size (linear dimension):	< 100mm ± 1mm
	≥ 100mm + 2% / - 1%



Flake

Flat, irregularly shaped pieces of material. A maximum flake size is indicated but individual flakes may vary greatly in size.

Tolerances

Dimensions shown are nominal

Product Descriptions



Foam

A low density, permeable structure of cells and continuous ligaments offering a high surface area to volume ratio, and also a high strength to weight ratio. Owing to the nature of this material, dimensions are nominal.



Foil

Thin sheets of pure metal and metal alloys. Due to their fragile nature, some foils are coated on one side with an acrylic or polyester support. Where foils are supported they are indicated in the detailed item description.

Tolerances

Thickness: < 0.010mm ± 25%
 0.01-0.05mm ± 15%
 > 0.050mm ± 10%
 Size (linear dimension): < 100mm ± 1mm
 ≥ 100mm + 2% / -1%



Granule

Pellets of an approximately regular shape. Granules may vary in size and, therefore, the dimensions stated are nominal. In addition, the shape of a granule may vary from item to item.

Tolerances

Dimensions shown are nominal



Honeycomb

A cellular structure similar in appearance to natural honeycomb. Owing to the nature of this material, dimensions are nominal.



Insulated Wire

A single or multiple flexible strand of metal or alloy with an insulating sheath.

Tolerances

Wire diameter: ± 10%
 Length: + 5% / -1%
 Insulation thickness: Nominal values only



Laminate

Layers of material which have been bonded together by the use of heat, pressure and, possibly, adhesive.

Tolerances

Thickness: ± 10%
 Size (linear dimension): ≤ 100mm ± 1mm
 > 100mm + 2% / -1%



Lump

A solid piece of material with no defined shape.

Tolerances

Dimensions shown are nominal



Mesh

Mesh is available as either a woven wire or electroformed product; in all cases, the quoted aperture sizes are nominal. Wire mesh: a material which is woven from metal wires to provide a thin grid with a regular series of holes. Electroformed mesh: a product made by electroplating the mesh geometry through a mask onto a substrate which is subsequently etched away.

Tolerances

Thickness: woven: ± 10%
 electroformed: ± 20%
 Wire diameter: ± 10%
 Size (linear dimension): < 100mm ± 1mm
 ≥ 100mm + 2% / -1%

Product Descriptions



Metallised Film

Film which is coated with a metal. The thickness of the metal is measured and described in terms of the material's specific electrical resistance in ohms per square.

Tolerances

Thickness: $\pm 10\%$
 Size (linear dimension): < 100mm $\pm 1\text{mm}$
 $\geq 100\text{mm}$ $+2\% / -1\%$



Microfoil

An extremely thin sheet of metal or alloy mounted on a permanent support. This support **cannot** be removed without destroying the Microfoil.

Tolerances

Thickness: $\pm 30\%$
 Size: $\pm 20\%$



Microleaf

An extremely thin sheet of metal mounted on a removable support. Microleaf is not available for metals which are too brittle to be free standing.

Tolerances

Thickness: $\pm 30\%$
 Size: $\pm 20\%$



Monofilament

A single strand of a non-metallic material.

Tolerances

Diameter: $\pm 20\%$
 Length: $+5\% / -1\%$



Non-Woven Fabric

Non-woven fabrics are made by methods other than weaving or knitting, the yarns and fibres being held together, often quite loosely, by means other than geometric interlacing. Due to the open and porous nature of this material, all other dimensions are nominal. conventional textile fabrics. Due to the open and porous nature of this material, all other dimensions are nominal.

Tolerances

Size (linear dimension): < 100mm $\pm 5\text{mm}$
 $> 100\text{mm}$ $\pm 5\%$



Nut

Generally a flat piece of material with a threaded hole which can be screwed onto a bolt to fasten items together. Nuts typically have a hexagonal external shape. Nuts are available in metric and inch-threaded sizes.

Tolerances

See item



Powder

Small particles with an approximately defined size range. Those materials described as alloy precursors are not true alloys - they are made by sintering a blend of powders of the component metals to achieve alloying by diffusion. The resultant cake is ground and sieved to the required particle size range. Unless otherwise stated, the particle sizes shown are for guidance only. We do not guarantee either any particular size distribution between the quoted minimum and maximum sizes, or a specific particle shape.

Tolerances

Dimensions shown are nominal

Product Descriptions



Rod

A straight length of circular section material.

Tolerances

Diameter:	≤ 10mm	± 10%
	Polymer	+ 20%/-10%
	Ceramic	+ 20%/-10%
> 10mm	± 5%	
	Ceramic	+ 20%/-10%
	Polymer	+ 20%/-10%
Length:	< 100mm	± 1mm
	≥ 100mm	+ 5% / -1%



Sheet

Flat material with a thickness > 0.5mm.

Tolerances

Thickness:		± 10%
	Ceramic	± 20%
	Composite	± 20%
	Polymer	± 20%
Size (linear dimension):	< 100mm	± 1mm
	≥ 100mm	+ 2% / -1%



Single Crystal

A material grown as a monocrystal, generally to a specific orientation, dimension and surface finish. It may contain a dopant. Single crystals are usually made to order.

Tolerances

Orientation:	± 3°
Size:	Sizes shown are nominal



Sphere

A regular solid or hollow three-dimensional form in which every cross-section is a circle. Spheres are available with standard or precision tolerances, and can be supplied with different surface finishes depending on the material.

Tolerances

Diameter (standard):	± 5%
Diameter (precision):	see item



Sputtering Target

A high purity material used as a source for sputtering, a cold vapourisation process in which atoms are physically removed from the target surface by ion bombardment.

Tolerances

Thickness:	± 0.5mm
Size:	± 0.5mm



Tube

A hollow length of material normally circular in section. Most tubes are straight except those made of flexible polymer.

Tolerances

Outside diameter:	≤ 2mm	± 0.05mm
	Polymer	± 10%
	Ceramic	± 10%
≤ 5mm	± 0.1mm	
	Polymer	± 10%
	Ceramic	± 10%
> 5mm	± 5%	
	Polymer	± 10%
	Ceramic	± 10%
Wall thickness:		± 10%
	Polymer	± 20%
	Ceramic	± 20%
Length:	< 100mm	± 1mm
	≥ 100mm	+ 5% / -1%



Washer

A thin, flat piece of material with a hole in the middle, used in conjunction with bolts and nuts to distribute the load of a threaded fastener.

Tolerances

See item

Product Descriptions



Wire

A single or multiple flexible strand of pure metal or alloy.

Tolerances

Wire diameter: $\pm 10\%$
Length: $+5\% / -1\%$

Hazards Information

HAZARDS

All materials listed in this catalogue, whatever the quantity supplied, are sold for research or development purposes. We make no warranty that the materials are fit for a particular purpose. In purchasing materials from this catalogue, customers should be aware that there may be hazards associated with their use and in the handling of them. Complete toxicological or hazard investigations are the responsibility of the customer. Ingestion or contact with the human body may be harmful. The responsibility for the safe use of our products rests with the customer. All materials should be handled by qualified personnel familiar with laboratory procedures and who are familiar with the nature of the material and any necessary precautions which should be taken in the handling, use and storage of the products. The customer shall be responsible for the control and use of the products offered in this catalogue whether alone or in combination with other articles or substances or in any other manner whatsoever.

HAZARD SYMBOLS



C

Corrosive

Chemicals which may destroy living tissue when in contact with them.



D

Dangerous when wet

Chemicals which, in contact with water or damp air, evolve highly flammable or toxic gases and vapours in dangerous quantities.



E

Explosive

Chemicals which may react exothermically without atmospheric oxygen, quickly evolving gases, and which under defined test conditions detonate, quickly deflagrate or upon heating explode when partially confined.



F+

Extremely Flammable

Chemicals which when finely divided (small particle size) are liable to ignite spontaneously.



Xn

Harmful

Chemicals which may cause death or acute or chronic damage to health when inhaled, ingested or absorbed via the skin.



F

Highly flammable

Chemicals which will ignite after contact with flame, or which will evolve highly flammable gases in contact with water.



Xi

Irritant

Non-corrosive chemicals which, through immediate, prolonged or repeated contact with the skin or mucous membrane may cause inflammation.



R

Radioactive

Chemicals which will emit ionising radiation without being subject to irradiation. General precautions for Toxic chemicals apply to those of low activity. For chemicals of medium or high activity special regulations apply.



T

Toxic

Chemicals which may cause death or acute or chronic damage to health when inhaled, ingested or absorbed via the skin.



T+

Very Toxic

Chemicals which in low quantities cause death or acute or chronic damage to health when inhaled, ingested or absorbed via the skin.

General Information

Analyses

Typical Analysis :

Where appropriate a typical analysis is given. All figures are parts per million (ppm) by weight unless otherwise stated. It must be emphasised that this data is "typical" and no guarantee is given that the material supplied will conform to these analyses. The compositions shown under alloy headings are generally weight percent. Exceptions are the glassy alloys and the rare earth magnets where the convention of using atomic ratio is followed.

Purity

Purities listed are quoted with respect to total metallic impurities. Typical analyses may give additional information about likely non-metallic impurities.

High Purity

For materials described as High Purity, the actual analysis of metallic impurities will be supplied free of charge. For other items, an actual analysis can be supplied and a charge will be made for the analysis and for the sample used.

If you require an analysis please tell us whether you require analysis of metallic impurities only or metallic and gaseous. Where an analysis is required the shipment of your order may be delayed.

Supports

Some items from our range of foils need to be supported on one side of the foil to enable both you and us to handle these very delicate materials. Two types of support can be used, the choice being governed by the material. Wherever possible we use a temporary support, a permanent support only being used when the material is brittle (for example Chromium or Manganese).

The temporary support is Acrylic, approximately 0.2mm thick. This may be removed by dissolving in 2-Propanone (Acetone).

Our permanent support is Polyester, thickness 0.125mm, which is hot-press laminated to one face of the foil. It **cannot** be removed without destroying the foil.

Microfoil is mounted on a permanent 3.5µm polyester support. This support **cannot** be removed without destroying the Microfoil.

Microleaf is mounted on a specially treated support which allows separation of the metal film from the support. Full instructions on the method of removal are issued with each Microleaf supplied.

Light Tight (LT) & Not Light Tested (NLT)

Light tight (LT) foils are supplied without visible pinholes after examination without magnification. Foils 0.025mm or more in thickness are supplied LT unless otherwise stated.

Foils less than 0.025mm thick are normally supplied Not-Light Tested (NLT), and will normally contain pinholes but may occasionally be free from pinholes. Foils less than 0.025mm in thickness can often be supplied LT but may incur additional charges. Please specify if you require LT foils

Vacuum tight

Vacuum tight foils show no detectable leakage when tested with a helium mass spectrometer with a sensitivity of 10^{-9} atm-cm³.s⁻¹.

Continuous Lengths

If you require material in continuous lengths please tell us when you place your order. Unless otherwise specified, we reserve the right to supply in more than one length.

Technical Data and Information

All information and technical data are given as a guide only. Although every effort has been made to ensure that the information is correct, no warranty is given as to its completeness or accuracy.

Tolerances

For details of our standard tolerances, please refer to the Product Description section. In many cases, closer tolerances are available but may be subject to an extra charge. If you have any special requirements it is important that you tell us at the time of ordering. This includes special tolerances, dimensional uniformity or any other special requirement which you may have (for example edge finish, packaging, labelling etc.). Please indicate precisely what is required and we shall do our best to meet your specification.

Order information

General Information

There are over 70,000 stock packs listed and if you cannot find what you need amongst them, please ask for special sizes, thicknesses, tolerances, dimensions or larger quantities. We are also able to offer many other pure metals, alloys, polymers and ceramics to special order.

Prices

All the prices listed are total (lot) prices for the sizes and quantities listed. Prices are subject to change without notice.

Prices shown include delivery except for those items marked as "special offer" or dangerous goods with transport restriction. They do not include value added tax, any import duties or local taxes.

Transport Restriction

Some of the materials supplied by Goodfellow are subject to special transport restrictions. Additional shipment charges may apply which are dependent on destination. Please check the individual item on our website or contact us for details of the charges.

If you intend to have the material transported or sent onwards please ensure that you are aware of the relevant transport restrictions.

Delivery

Split shipment

All orders are accepted for one shipment on one date to one address. A charge will be made for split shipments made at the customer's request.

Special Analysis, Supports or Tolerances

An extra charge is made for non-standard supports, alternative tolerances and certificates of analysis. The analysis is free of charge for items marked "High Purity".

Cancellations

A charge for cancellation of orders may be made. The amount will depend on the circumstances.

Express Service

An administration charge of £10 will be made for any order received for which same day shipment within the UK is requested.

Shipment

We aim to have all items listed in this catalogue in stock in the quantities and sizes listed. We can only undertake to despatch an order on a particular date. The date of delivery at the customer's address is subject to the normal variations of the delivery service used.

Despatch

Orders will normally be despatched within 48 hours of receipt.

Non delivery

If we have notified you of despatch of goods and you have not received delivery within 7 days, please contact us.

Insurance

All consignments will be insured by us against the usual risks unless we are instructed in writing to the contrary.

Export Restrictions

A UK Government export licence may be required for some items to some destinations. If the item you require needs a special export licence or an end-use statement we will inform you at the time you order.

Materials Handling

Many of our materials are extremely delicate and it is essential every care is taken when handling them. Special attention is drawn to the extreme fragility of Microfoil, Microleaf and thinner and finer materials.

All materials are carefully packed to ensure safe transport of goods to your address. We do not accept responsibility for damage caused by mishandling once the outer transit packaging has been removed.

Terms of payment

Our normal terms of payment are net 30 days from date of invoice. Any alternative terms of payment are to be agreed with us in writing at the time of placing an order. Customers may be asked to pay cash with order or cash against pro-forma invoice with their first order. In order to establish a credit account we will require details of your bankers, along with two trade references.

Order information

Credit account

We endeavour to keep our costs down and customers are requested to pay our invoices on time. We reserve the right to delay delivery if there are overdue invoices on the account. Accounts which remain unpaid beyond the due date may incur an interest charge at a rate of 2% per month.

Credit card payments

We also accept payment using the following credit and charge cards:

Mastercard, VISA, American Express, DELTA and Switch.

VAT

VAT number: GB 212 8527 79

UK

VAT will be added to the invoice at the rate ruling at the date of invoice. Where a customer is exempt, VAT will be charged unless we receive a copy of the exemption form at the time the order is placed.

EU

Customers registered for VAT who provide their local registration number will not be charged UK VAT.

Customers who are exempt from VAT will not be charged UK VAT provided we are given a copy of their exemption form at the time the goods are ordered.

Customers not registered for VAT or who fail to give us their registration number will be charged UK VAT at the current rate.

Export

All exports to countries outside the EU are zero-rated for UK VAT unless the invoice is being paid from within the EU.

Return of goods

We will only accept return of goods provided we are contacted BEFORE the goods are returned. When we agree to the return we will issue a Goods Return Number and give instructions for the method of return of the goods. Goods will not be accepted for return without a valid Goods Return Number. Due to the nature of some of our materials, it is imperative that you check any possible transport restrictions with your proposed freight company.

Claims

Great care is taken during manufacture and packing and all items are carefully inspected before shipment. Any claim in respect of short delivery, incorrect material or defective quality must be notified to us in writing within three days of delivery. Please retain ALL packaging for our inspection. Our liability for any such claim shall not exceed the cost of replacement of the goods free of charge, or crediting the customer with the invoice value thereof.

Goods ordered in error

We do not accept responsibility for customers' errors in ordering. The amount of credit for returned goods will be at our discretion. Where we accept returned goods a restocking charge will be made.

Conditions of sale

All orders, contracts and quotations are subject to our standard terms and conditions of sale.

Information and statements provided are indicative only and do not form part of any offer or contract.

Exclusions

We supply materials according to our specification. All conditions warranties and representations regarding the quality, fitness for purpose or state, size, shape, capacity or colour of goods supplied whether expressed or implied by common law or statute or otherwise are hereby expressly excluded. We shall not be liable for any damage direct or consequential arising from the use of goods supplied by us however such damage is caused, nor for delay in delivery.

Law

Customers in the USA: Contracts between Goodfellow Corporation and the customer shall be deemed to be subject in all respects to the laws of the Commonwealth of Pennsylvania, or the United States of America.

Customers in France: Contracts between Goodfellow SARL and the customer shall be deemed to be subject in all respects to French law unless otherwise agreed in writing

Customers in Germany: Contracts between Goodfellow GmbH and the customer shall be deemed to be subject in all respects to German law unless otherwise agreed in writing

Order information

Customers in the UK and all other countries: Contracts between Goodfellow Cambridge Limited and the customer shall be deemed to be subject in all respects to English law unless otherwise agreed in writing.

Copies of our General Terms and Conditions are available upon request or can be downloaded from our websites at www.goodfellow.com or www.goodfellowusa.com.

Company Details

Company Structure

The Goodfellow Group consists of five companies:

Goodfellow Cambridge Limited

Goodfellow was established in the City of London in 1946. The Company now has subsidiary operations in France, Germany and North America with the Group's research laboratories, workshop facilities & central administration located in Huntingdon, England.

Goodfellow Corporation

Established at the same time as our associate company in Germany, Goodfellow Corporation was set up to service the requirements of our customers in the USA.

Goodfellow GmbH

Since 1989, this member of the Goodfellow group of companies has been serving the needs of our German speaking customers within Europe.

Goodfellow SARL

Goodfellow established an operation in France in 1993 to meet the needs of our French-speaking customers in Europe.

Goodfellow (Shanghai) Trading Co., Ltd

Goodfellow established a representative office in Shanghai in 2006, and in 2012 followed this with the creation of a fully-fledged trading company, servicing the research and specialist manufacturing requirements of the Chinese market.

COMPANY DETAILS

Goodfellow Cambridge Limited

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USA
A Pennsylvania corporation
EIN 23-2557381

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Goodfellow GmbH

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Goodfellow (Shanghai) Trading Co., Ltd

Room 803, Centro Build, No. 568 Hengfeng Road
SHANGHAI
200070
The People's Republic of China

Conditions of Sale

1 GENERAL

1.1 In these Conditions:

1.1.1 the following expressions shall have the following meanings:-

- "Buyer" the individual firm company or other party from whom an order to supply Goods and/or Services is received by the Seller;
- "Conditions" the standard terms and conditions of sale of the Seller as set out herein and includes any additional terms and conditions of sale agreed in writing by the Seller;
- "Contract" a contract for the Supply of Goods and/or Services by the Seller to the Buyer;
- "Date of Delivery" the date on which delivery of the Goods or Services takes place pursuant to Condition 7;
- "Goods" the goods which the Seller is to supply (or, in relation to Condition 11, the goods in respect of which the Seller is to provide Services) under the Contract and includes any of them or any part of them and where the context so admits includes raw materials, processed materials and/or manufactured products whether processed or manufactured by the Seller or not;
- "Prepayment" a payment to be made by the Buyer pursuant to Condition 6.2 to be used at the Seller's discretion for the purchase of materials and/or towards the costs of labour and other costs relating to the supply of Goods;
- "Recommendations for Use" the recommendations (if any) relating to the storage, handling, application and/or use of the Goods contained in the published literature of the Seller (or, if relevant, a Supplier) or any recommendations made in Writing by an authorised representative of the Seller (or, if relevant, a Supplier);
- "Seller" Goodfellow Cambridge Limited and any subsidiary or holding company or associate (as such terms are defined in the Companies Act 1985 (as amended)) of the said company;
- "Services" the work or services or any of them to be provided by the Seller under the Contract;
- "Supplier" any person, firm or company who or which supplies materials to the Seller which make up the Goods which are to be supplied to the Buyer;

1.1.2 words importing the singular number shall include the plural and vice versa, words importing one gender shall include all genders, and words importing persons shall include bodies corporate, unincorporated associations and partnerships

- 1.2 If satisfactory references and information on the Buyer are not provided within seven days of a request therefore by the Seller, or if, following the provision of such information, the Seller is unable to obtain satisfactory trade indemnity or similar cover in respect of its dealings with the Buyer, the Seller may terminate the Contract and the rights and liabilities of the parties shall be the same as if the Contract had been cancelled in accordance with the provisions of Condition 10.2
- 1.3 The seller reserves the right to assign, sub-contract the Contract or any part thereof. The Buyer shall not be entitled to assign the benefit or burden of the Contract without the consent in writing of the Seller
- 1.4 In relation to all obligations of the Buyer under these Conditions, the time of performance is of the essence
- 1.5 The legal construction of these Conditions shall not be effected by their headings which are for convenience of reference only

2 ORDERS

- 2.1 Notwithstanding that the Seller may have given a detailed quotation or estimate either verbally or in writing no order shall be binding on the Seller unless and until it has been acknowledged in writing by the Seller or the Goods are delivered or the Services are provided by the Seller to the Buyer pursuant to the order
- 2.2 In order to avoid duplication of orders the Buyer shall be responsible for ensuring that any confirmation of an order previously placed is prominently marked as being a confirmation and not a new order. The Buyer acknowledges that any order or confirmation of order which is not so marked may be treated and accepted by the Seller as a new order to create a Contract in addition to any Contract arising out of the previously placed order
- 2.3 These Conditions are incorporated in the Contract and together with any matter set out in the Seller's quotation or acceptance/acknowledgement of order contain the entire obligations between the Seller and the Buyer. In the case of any inconsistency between any letter or quotation incorporating or referring to these Conditions and any order, letter or form of contract sent by the Buyer to the Seller, whatever may be their respective dates, the provisions of these Conditions shall prevail. In the event of the Seller entering into the Contract without the Seller having submitted a written quotation or other letter or document incorporating or referring to these Conditions but in circumstances where the Buyer has had prior notice of these Conditions then all Goods or Services supplied shall be subject to these Conditions
- 2.4 No variation of the Contract by the Buyer shall be binding upon the Seller unless made in Writing and signed on behalf of the Seller. In the event of such variation the Buyer shall indemnify and keep indemnified the Seller in full against all loss, which term shall include (but without prejudice to the generality thereof) loss of profit, costs (including the cost of labour and materials), damages, charges and expenses incurred (directly or indirectly) by the Seller as a result of such variation

- 2.5 Any representations (except fraudulent misrepresentations) or warranties made by or on behalf of the Seller prior to the Contract (whether verbally or in writing) are hereby expressly excluded and shall be of no effect

3 DESCRIPTION

- 3.1 Any figures, statements, descriptions, illustrations, photographs, drawings, weights or any other matters contained in the Seller's catalogues, pamphlets, price lists or advertising literature are not guaranteed to be accurate and are intended merely to represent a general picture of the Seller's products and shall not form part of the Contract nor be regarded as a warranty or representation relating to the Goods or Services
- 3.2 The Seller reserves the right to amend the specification of its products and services from time to time so that the descriptions thereof as set out in its catalogues, pamphlets, price lists or advertising literature may not be identical with those set out in the Seller's quotation and the Buyer is advised to check the specification set out in the Seller's quotation before placing an order

4 SPECIFICATIONS AND INTELLECTUAL PROPERTY

- 4.1 Where goods are supplied to the Buyer's own specification, or where standard goods of the Seller are altered in accordance with the Buyer's instructions the Buyer warrants and undertakes full responsibility for the suitability and fitness of the specification, pattern or design but also that such specification, pattern or design does not infringe any patent, trade mark, registered design, copyright or any other proprietary right of any third party and the Buyer shall indemnify and keep the Seller indemnified in full against any loss, damage or expense whatsoever (including costs) which the Seller may incur in or arising from the performance of the Contract by reason of any infringement of any such patent, trade mark, registered design, copyright or any other proprietary right
- 4.2 The Seller reserves the right to change the Buyer's specification as required to ensure that the Goods comply with any health, safety or other statutory requirement or provision and no such change by the Seller will constitute a breach of contract or impose upon the Seller any liability whatsoever
- 4.3 Unless otherwise agreed in writing, the Seller will be the sole owner of all inventions, formulations, tools, patterns, designs or other similar items and the copyright in all documents and drawings made or produced by it in preparing a quotation for the Buyer or in the course of work on any Contract with the Buyer

5 QUOTATIONS

- 5.1 The Seller's quotations are provisional in so far as they are subject to alteration by reference to any changes in the price of raw materials, any item to be acquired by the Seller from a third party, rates of wages, other costs of production and any other circumstances beyond the Seller's control taking place between the date of the quotation and the Buyer's placing of an order in respect thereof

6 PRICE

- 6.1 The Seller shall be entitled to adjust the Contract price of the Goods or Services whether before or after the making of the Contract in the event of any variation in the cost to the Seller of supplying the same or any part thereof caused by:-
- 6.1.1 any increase in the cost of materials required by the Seller for the completion of the Contract; or
- 6.1.2 any increase in wages or production and manufacturing costs or other overheads; or
- 6.1.3 any other reason whatsoever beyond the control of the Seller including (but without prejudice to the generality of the foregoing) fluctuations in exchange rates between monetary currencies the action of any government or any other authority or any labour problems
- 6.2 In the Seller's absolute discretion, a Prepayment in respect of the Contract may be required to be paid by the Buyer to the Seller on the terms set out in this Condition. The Prepayment shall be applied as follows:-
- 6.2.1 in the event that the Contract is performed in full by both parties the Prepayment shall be retained by the Seller in reduction of the total price payable by the Buyer under the Contract;
- 6.2.2 in the event that the Buyer is either in default of any of its obligations under the Contract or cancels or suspends the Contract in accordance with Condition 10 the Prepayment shall be set off by the Seller against its proper costs losses or damages arising in connection with the default and/or cancellation or suspension
- 6.3 Unless otherwise stated, the price set out in the Seller's quotation includes the cost of packaging, carriage, and (save as provided in Condition 6.4) insurance. In respect of supplies of Goods in the United States of America, Canada and Japan the price also includes import duties and sales taxes (if any). In respect of supplies of Goods in other countries the price does not include import duties or VAT or sales taxes which will be extra charges based on prevailing rates
- 6.4 Where the Buyer requests a particular means of delivery, the price set out in the Seller's quotation does not include insurance, which is to be arranged at the responsibility of the Buyer.

7 DELIVERY

- 7.1 Delivery of Goods shall be deemed to be effected by the Seller at the following times:-
- 7.1.1 where Goods are collected by or on behalf of the Buyer by its servants or agents, or where Goods are collected in

Conditions of Sale

- accordance with a means of delivery specifically requested by the Buyer, when the same are collected;
- 7.1.2 where delivery of the Goods is to be the responsibility of the Seller, when they arrive prior to unloading at the Buyer's premises;
- 7.1.3 where Goods are sold FOB or CIF, when they pass the ship's rail or are loaded onto the aircraft
- 7.2 Delivery of Services shall be deemed to be effected by the Seller at the time of completion by the Seller of the Services
- 7.3 Whilst the Seller will make every reasonable effort to complete the Contract by the date or dates therein specified for delivery of Goods or provision of Services such date or dates shall only constitute the times by which the Seller expects to effect such delivery and if no time is agreed delivery will be within a reasonable time but the performance of the Contract by the Seller shall not be the essence of the Contract, the Seller's failure to so deliver by the due date or dates shall not constitute a breach of Contract and the Seller shall not in any circumstances be responsible for any direct or consequential loss or damage of any kind whatsoever resulting therefrom. The Seller may wholly or partly suspend deliveries of Goods or provision of Services and the Buyer shall accept late delivery of such Goods or Services unless the Buyer has cancelled the Contract in accordance with the provisions of Condition 10.3

8 QUANTITIES INSTALMENTS AND STORAGE

- 8.1 Where Goods are delivered or Services are by instalment each instalment shall be deemed to be sold under a separate Contract and the party in default in respect of any instalment shall be liable accordingly, but no default in respect of any one instalment shall effect due performance of the Contract as regards other instalments
- 8.2 The Seller will endeavour to deliver the quantity of Goods ordered and every delivery shall be deemed to comply with the order. If there is a surplus or shortage of Goods which is no more than 10% of the quantity specified in the order the Buyer shall be deemed to have accepted the Goods and shall pay for the actual quantity delivered
- 8.3 If Goods or Services are to be delivered by instalments, the Seller shall be entitled to invoice each instalment as and when delivery is made and payment for all delivered instalments shall be due notwithstanding the non-delivery of other instalments or other default by the Seller. Failure by the Buyer to make payment by the due date for any one instalment for whatever reason shall entitle the Seller to suspend deliveries of Goods or provision of Services under the Contract but without prejudice to any other right the Seller may have under any of the other provisions of these Conditions
- 8.4 Notwithstanding that risk shall have passed to the Buyer pursuant to Condition 15 the Seller may in its absolute discretion arrange for storage of the Goods either at the request of the Buyer or as a result of the failure by the Buyer to take delivery of the Goods under Condition 7. The Seller may insure the goods whilst in storage and the Buyer shall indemnify and keep indemnified the Seller in full against all costs, losses, damages and expenses whatsoever arising in connection with the storage provided for hereunder and such costs, losses, damages and expenses will be added to and form part of the price of the Goods
- 8.5 Unless otherwise agreed between the Buyer and the Seller, the Seller shall be entitled in its absolute discretion and without giving prior notice to the Buyer at the expiration of 3 months to sell or otherwise dispose of Goods kept in storage as provided in Condition 8.4

9 TERMS OF PAYMENT

- 9.1 Unless otherwise agreed the price shall be due and payable at the Seller's offices 30 days after the date of the Seller's invoice
- 9.2 If the Buyer does not pay the whole or any part of the price on the required day then the Buyer shall pay to the Seller on request interest on the amount outstanding from the required day until the actual date of payment at the rate of 2% p.a. over the base rate of Barclays Bank plc from time to time in force which shall accrue on a daily basis
- 9.3 Condition 12 shall apply in the event of any alleged defect or failure in or of the Goods or Services and the Buyer shall not delay or refuse to make payment in any such event
- 9.4 The Buyer shall not be entitled to withhold payment of any amount due to the Seller by reason of any disputed claim by the Buyer in connection with the Contract nor shall the Buyer be entitled to set off against any amount payable under the Contract to the Seller any amount which is not then due and payable by the Seller or for which the Seller disputes liability
- 9.5 All payments payable to the Seller under the Contract shall become due immediately upon termination of the Contract despite any other provision.

10 SUSPENSION AND CANCELLATION

- 10.1 If the Buyer shall commit any breach of the Contract and fail to remedy the same within 7 days of receiving the Seller's request in writing so to do or any distress or execution is levied upon any goods or property of the Buyer or the Buyer makes any voluntary arrangement with its creditors or becomes subject to an administration order or (being an individual or firm) becomes bankrupt or (being an incorporated company) passes a resolution for winding up (otherwise than for the purpose of amalgamation or reconstruction), or a Court makes an order to that effect, or an encumbrancer takes possession, or an administrative receiver or receiver is appointed, of any of the property or assets of the Buyer, or the Buyer ceases, or threatens to cease, to carry on business or is unable to pay its debts within the meaning of section 123 Insolvency Act, 1986, or the Seller reasonably apprehends that any of the events mentioned above is about to occur in relation to the Buyer and notifies the Buyer accordingly, the Seller may:-
- 10.1.1 stop any Goods in transit and suspend any further deliveries;

and/or

- 10.1.2 suspend work on the Contract; and/or
- 10.1.3 determine the Contract forthwith and if the Goods or Services, or any part of them have been delivered but not paid for, the price shall become immediately due and payable notwithstanding any previous agreement to the contrary but without prejudice to the Seller's right to any unpaid price for Goods or Services delivered under the Contract and to damages for loss (both direct and consequential) suffered in consequence of such determination
- 10.2 If the Buyer requires cancellation of the Contract this will only be accepted at the sole discretion of the Seller and unless otherwise agreed in writing only upon condition that any costs, charges or expenses (both direct and consequential) incurred by the Seller up to the date of cancellation and the value of all loss or damage (both direct and consequential) incurred by the Seller by reason of such cancellation will be reimbursed by the Buyer to the Seller forthwith. Acceptance by the Seller of any cancellation by the Buyer will only be binding upon the Seller if it is made in writing
- 10.3 In the event of the Seller other than in any of the circumstances set out in Condition 10.1 being prevented or hindered from completing the Contract either wholly or in part in accordance with the terms thereof for any reason whatsoever beyond its reasonable control which, for the avoidance of doubt and without prejudice to the generality of the foregoing, shall include governmental action, war, riot, civil commotion, fire, flood, epidemic, labour disputes (including labour disputes involving the work force or any part thereof of the Seller or Supplier), restraints or delays affecting shipping or carriers, licensing, exporting or importing restrictions, currency restrictions and Acts of God then further performance of the Contract shall be suspended for the period during which the Seller is so prevented provided that in the event of the Contract being suspended for a continuous period of more than 3 months then either party may give the other notice in writing to terminate the Contract forthwith and in such circumstances the Buyer shall pay for all Goods or Services supplied to the date of such termination such payment to be made on or before the last day following the month during which termination was effected. The Seller shall be under no liability whatsoever to the Buyer for any direct or consequential loss or damage suffered by the Buyer as a result of the Seller's inability to perform its obligations under the Contract in these circumstances
- 10.4 The Seller's rights contained in Condition 17 (but not the Buyer's rights) shall continue beyond the discharge of the parties' primary obligations under the Contract consequent upon its termination
- 10.5 The termination of the Contract for whatever reason will be without prejudice to the rights and duties of either party accrued prior to termination

11 INSPECTION AND CLAIMS FOR DEFECTS

- 11.1 The Goods are of a highly specialised nature and must be treated with the utmost care. It is essential that the Buyer checks that they correspond in all respects with the Buyer's requirements. Any discrepancies should be notified to the Seller immediately. The Buyer undertakes to ensure that all Goods are unpacked and handled only by persons qualified to deal with such specialised products, to safeguard against injury to the Goods or to the Buyer's personnel
- 11.2 The Buyer shall inspect the Goods and carry out tests to ensure the Goods conform with the description of the Goods or Services in the Buyer's orders within 7 days of Delivery and whether or not the Buyer carries out such obligation to inspect and test no claims for non-delivery, shortages in quantity of units delivered, defective Goods or Services, non-conformity to description or partial loss or damage to Goods will be accepted by the Seller unless:-
- 11.2.1 they are notified in writing by the Buyer to the Seller within 10 days after the Date of Delivery (in the case of partial loss, damage, non-conforming or defective Goods or Services) or 14 days after the date of the invoice (in the case of non-delivery);
- 11.2.2 the Goods in respect of which a claim is made together with all the relevant packing are preserved intact as received for a period of 35 days from notification of any such claim and the Buyer permits the Seller or its servants or agents full and free right of access to inspect the Goods and investigate the claim; and
- 11.2.3 if the Buyer fails to give the appropriate notice as specified in Condition 11.2.1, the Buyer's claim will be deemed to have been waived and will be absolutely barred
- 11.3 It is in all cases the responsibility of the Buyer to ensure by testing or otherwise that the Goods are fit and suitable for the purposes for which the Buyer requires them in the conditions in which they will be used. The Buyer acknowledges that the Seller shall be under no liability of any description to the Buyer if the Goods prove to be unsuitable for whatever reason for application or use notwithstanding that the Seller may, at the request of the Buyer, have given in good faith technical or other advice in relation to the proposed application or use of the Goods and the Buyer shall indemnify and keep indemnified the Seller in full against any and all liability of any kind arising out of or connected with the application or use of the Goods
- 11.4 Section 3 Sale and Supply of Goods Act 1994 shall not apply
- 11.5 The Seller will not accept the return of Goods in any circumstances unless it has first issued a Goods return number and such number is quoted with the returned Goods

12 WARRANTY

- 12.1 In substitution for all and any other rights which the Buyer might or would have had but for these Conditions and subject to Condition 11,

Conditions of Sale

the Seller shall make good by replacement any failure in the Goods or Services which results from defects in the Seller's materials or workmanship and which appear not later than 2 months after the Date of Delivery and shall replace any Goods or Services which do not conform with the description in the Buyer's order

- 12.2 Notwithstanding the provisions of Condition 12.1, in the case of a claim falling within Condition 12.1, the Seller reserves the right at its sole discretion to credit the Buyer in full the price paid by the Buyer to the Seller
- 12.3 The Seller's liability under this Condition shall automatically cease if:
- 12.3.1 the Buyer has not paid for all Goods or Services supplied under any Contract by the due date or is otherwise in breach of this or any other Contract made with the Seller; or
- 12.3.2 the Seller or its servants or agents are denied full and free right of access to the allegedly defective Goods; or
- 12.3.3 the Buyer has not properly maintained the Goods or has not complied with any Recommendations for Use; or
- 12.3.4 the defect or failure is caused by a breach by the Buyer of its undertakings and warranties contained in Condition 17; or
- 12.3.5 the Buyer has failed to notify the Seller in writing of any defect or suspected defect within 14 days of the same coming to the knowledge of the Buyer
- 12.4 The warranty set out in Condition 12.1 shall be in lieu of any warranties conditions or undertakings whether express or implied by statute, common law or otherwise howsoever which warranties, conditions and undertakings are hereby expressly excluded, except that such exclusions will not apply to any implied condition that the Seller has or will have the right to sell the Goods when the property is to pass
- 12.5 Nothing in these Conditions excludes or limits the liability of the Seller for death or personal injury caused by the Seller's negligence or fraudulent misrepresentation
- 12.6 SUBJECT TO CONDITIONS 12.4 AND 12.5
- 12.6.1 the seller's total liability in contract, tort (including negligence or breach of statutory duty), misrepresentation or otherwise, arising in connection with the performance or contemplated performance of the contract shall be limited to the price paid for the goods or services under the contract; and
- 12.6.2 the seller shall not be liable to the buyer for any indirect or consequential loss or damage (whether for loss of profit, loss of business, depletion of goodwill or otherwise), costs, expenses or other claims for consequential compensation whatsoever (however caused) which arise out of or in connection with the contract

13 CONSUMER SALES

- 13.1 Where the Goods are sold under a consumer sale (as defined by the Sale of Goods Act 1979) the statutory rights of the Buyer are not affected by these conditions

14 TITLE TO GOODS

- 14.1 Full legal and beneficial ownership of the Goods shall be retained by the Seller notwithstanding that the risk in the same shall pass to the Buyer at the time of delivery until the Seller has received payment in full in respect of
- 14.1.1 The Goods; and
- 14.1.2 All other sums which become due and owing by the Buyer to the Seller on any account whatsoever
- 14.2 Until ownership of the Goods has passed to the Buyer the Buyer shall hold the Goods in a fiduciary capacity and as bailee of the Seller and shall at all times take proper care of the same and will not obliterate or obscure any identifying mark or their packaging and will keep the Goods separate from any other goods and in such manner that they may be clearly identified as belonging to the Seller and the Buyer hereby grants to the Seller the right to enter on the Buyer's premises at any time during the continuation of the Contract to check that the Buyer is complying with the obligation contained in this Condition. The Buyer will return the Goods to the Seller if it receives a request whether verbally or in Writing so to do prior to payment in full as aforesaid having been made and the Seller will then repay any part of the purchase price it has already received in respect of the Goods less a reasonable amount in respect of its costs and expenses in connection with the Contract
- 14.3 For the purposes of Condition 14.1, the expression "the Buyer" includes any subsidiary or holding company or associate of the Buyer (as such terms are defined in the Companies Act 1985 (as amended))
- 14.4 The Seller will have the right to maintain an action against the Buyer for the price of the Goods notwithstanding that property in the Goods has not been passed

15 RISK AND INSURANCE

- 15.1 The risk in the Goods shall pass to the Buyer at the time of delivery as provided for in Condition 7
- 15.2 Notwithstanding the reservation of title contained in Condition 14, the Buyer shall insure the Goods and/or any products made wholly or partly therefrom for the full amount of the price payable under the Contract with an insurance office of repute from the time of delivery of the Goods until the date title in the Goods passes to the Buyer pursuant to Condition 14.1

16 EXPORT TERMS

- 16.1 In these Conditions "Incoterms" means the international rules for the interpretation of trade terms of the International Chamber of Commerce

as in force at the date when the Contract is made. Unless the context otherwise requires, any term or expression which is defined in or given a particular meaning by the provisions of Incoterms has the same meaning in the Contract

- 16.2 Where the Goods are supplied for export from the United Kingdom then unless otherwise agreed in writing between the Buyer and the Seller

- 16.2.1 the provisions of Incoterms shall (subject to any special terms agreed in writing between the Buyer and the Seller) apply but if there is any conflict between the provisions of Incoterms and these Conditions, the latter shall prevail.
- 16.2.2 the Buyer shall be responsible for complying with any legislation or regulations governing the importation of the Goods into the country of destination and (save in respect of the United States of America, Canada and Japan) for the payment of any duties and taxes thereon unless payment for these is included in the Contract
- 16.2.3 the Buyer shall be deemed to have satisfied itself that such Goods comply with the safety regulations of any country or state in which the Goods are to be used outside the United Kingdom and the Buyer shall indemnify and keep indemnified the Seller in full for any loss or damage whatsoever which the Seller may incur if such Goods do not comply with such safety regulations

- 16.3 The Goods shall not be used in any country other than that for which the Seller was aware they were originally ordered without the Seller's consent in writing

- 16.4 The Buyer undertakes not to offer the Goods for resale in any country notified by the Seller at or before the time the Buyer's order is placed, or to sell the Goods to any person if the Buyer knows or has reason to believe that person intends to resell the Goods in any such country

17 BUYER'S WARRANTIES

- 17.1 The Buyer warrants to the Seller that:
- 17.1.1 the Buyer will install, operate or otherwise use or store the Goods strictly in accordance with the Recommendations for Use and with all relevant or applicable statutory or other regulations governing the installation, operation, use or storage of the Goods; and
- 17.1.2 any collection vehicle, container, ship or other means of transport provided by the Buyer or any agent of the Buyer will comply with all relevant legislation and regulations relating to health and safety requirements; and
- 17.1.3 the storage and transport facilities and all parts thereof and all equipment used in connection therewith is suitable for storage (both short term and long term) and transport of the Goods and complies with any statute, regulation, bye law or other rule having the force of law and relating to the storage of goods of the nature of the Goods; and
- 17.1.4 the Buyer will ensure that the Goods are stored in conditions appropriate to goods of that nature and will comply with any recommendations as to the storage of Goods notified to it by the Seller from time to time; and
- 17.2 The Buyer shall indemnify and keep indemnified the Seller in full against any claim, loss or damage (including, without limitation, damage to the reputation of the Seller) arising directly or indirectly from any breach of the warranty contained in Condition 17.1

18 SEVERANCE

- 18.1 If at any time any one or more of the provisions or part thereof of these Conditions becomes or is invalid, illegal or unenforceable in any respect under any law or is held by a court to be invalid, illegal or unenforceable, the validity and enforceability of the remaining provisions hereof and the remainder of such provision shall not in any way be affected or impaired thereby

19 JURISDICTION

- 19.1 These Conditions and each and every Contract made pursuant to them shall be governed by and construed in all respects in accordance with the laws of England and the Seller and the Buyer hereby agree to submit to the non-exclusive jurisdiction of the English Courts

20 NOTICES

- 20.1 Any notice required or permitted to be given by either party to the other under these Conditions shall be in writing addressed to that other party at its registered office or principal place of business or such other address as may at the relevant time have been notified pursuant to this provision to the party giving notice
- 20.2 Any notice given pursuant to clause 20.1 shall be deemed to have been served:
- 20.2.1 if delivered by hand, on the first Business Day following delivery;
- 20.2.2 if sent by post, on the third Business Day after posting if the address of the recipient is in the country of despatch, otherwise on the seventh Business Day after posting;
- 20.2.3 if sent by facsimile transmission, on the first Business Day following successful transmission
- 20.3 In proving service it shall be sufficient proof in the case of a notice sent by post, that the envelope containing the same was properly stamped, addressed and placed in the post and, in the case of facsimile transmission, that it was properly addressed and successfully transmitted
- 20.4 In this Condition 20, "Business Day" shall mean any day other than Saturday, Sunday or any other day which is a public holiday in the place at which the notice is left or to which such notice is despatched

21 WAIVER

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21.1 No waiver by the Seller of any breach of any provision of the Contract by the Buyer shall be considered as a waiver of any subsequent breach

of the same or any other provision and the Seller shall not be prejudiced by any forbearance or indulgence granted by it to the Buyer

Silver

Ag

Silver was known to ancient civilisations.

Silver is a soft, malleable metal with a characteristic sheen. It has the highest thermal and electrical conductivities of all metals. It is generally found uncombined, or in the sulphide or arsenide ores from which it can be recovered as a cyanide complex which is subsequently reduced to the metal, in aqueous solution, by the use of zinc. The pure metal is stable to water and oxygen but is attacked in air by sulphur bearing compounds to form the characteristic black layer of silver sulphide. It is soluble in sulphuric and nitric acids.

Some silver salts are sensitive to light (e.g. AgI, AgCl and AgBr) and are of fundamental importance to photography. Other applications and industries in which silver is used include the manufacture of jewellery (both as the pure metal and as a constituent of various alloys), the electrical industry (e.g. in the manufacture of contacts) and for the silvering of glass.

Atomic Properties

Atomic number	47
Atomic radius - Goldschmidt	0.144 nm
Atomic weight	107.8682 amu
Crystal structure	Face centred cubic
Electronic structure	Kr 4d ¹⁰ 5s ¹
Photo-electric work function	4.7 eV
Thermal neutron absorption cross-section	63.8 Barns
Valences shown	1, 2

Natural isotope distribution	Mass No.	%
	107	51.83
	109	48.17

Ionisation potential	No.	eV
	1	7.58
	2	21.5
	3	34.8

Physical Properties

Boiling point	2212 C
Density @20C	10.5 g cm ⁻³
Melting point	961.9 C

Electrical Properties

Electrical resistivity @20C	1.63 μOhmcm
Temperature coefficient @0-100C	0.0041 K ⁻¹
Thermal emf against Pt (cold 0C - hot 100C)	+0.74 mV

Thermal Properties

Coefficient of thermal expansion @0-100C	19.1 x10 ⁻⁶ K ⁻¹
Latent heat of evaporation	2390 J g ⁻¹
Latent heat of fusion	103 J g ⁻¹
Specific heat @25C	237 J K ⁻¹ kg ⁻¹
Thermal conductivity @0-100C	429 W m ⁻¹ K ⁻¹

Mechanical Properties

Material condition	Soft	Hard	Polycrystalline
Bulk modulus			103.6 GPa
Hardness - Vickers	25	95	
Izod toughness	5 J m ⁻¹		
Poisson's ratio			0.367
Tensile modulus			82.7 GPa
Tensile strength	172	330	MPa



Microfoil

CONTRACT COATING of customers' own components or assemblies is available to special order.

AG004500 Thinness **0.1μm** Area density **110μg.cm⁻²**
 Purity **99.95 + %** Support **Permanent Mylar 3.5μm**

Quantity					
Web Code	Disc diam.	1 disc	2discs	5discs	10discs
502-728-592	10 mm	YEN 31600	YEN 43000	YEN 77000	YEN 122000
133-148-448	25 mm	YEN 46800	YEN 65500	YEN 122000	YEN 198000

Typical Analysis : Starting Material : Al 1, Au 10, Bi <1, Ca 1, Cd <1, Cr <1, Cu 5, Fe 8, Mg <1, Mn <1, Na <1, Pb 1, Pd 3, Si 2, Sn <1.
 This item is normally made to order for delivery within 4-5 weeks.

AG004600 Thinness **0.25μm** Area density **262.3μg.cm⁻²**
 Purity **99.95 + %** Support **Permanent Mylar 3.5μm**

Quantity					
Web Code	Disc diam.	1 disc	2discs	5discs	10discs
499-815-288	10 mm	YEN 35000	YEN 48000	YEN 87000	YEN 139000
613-831-689	25 mm	YEN 52500	YEN 74000	YEN 139000	YEN 226000

Typical Analysis : Starting Material : Al 1, Au 10, Bi <1, Ca 1, Cd <1, Cr <1, Cu 5, Fe 8, Mg <1, Mn <1, Na <1, Pb 1, Pd 3, Si 2, Sn <1.
 This item is normally made to order for delivery within 4-5 weeks.

AG004700 Thinness **0.5μm** Area density **522.6μg.cm⁻²**
 Purity **99.95 + %** Support **Permanent Mylar 3.5μm**

Quantity					
Web Code	Disc diam.	1 disc	2discs	5discs	10discs
010-399-808	10 mm	YEN 37200	YEN 51500	YEN 94000	YEN 151000
497-143-426	25 mm	YEN 56000	YEN 80000	YEN 151000	YEN 245000

Typical Analysis : Starting Material : Al 1, Au 10, Bi <1, Ca 1, Cd <1, Cr <1, Cu 5, Fe 8, Mg <1, Mn <1, Na <1, Pb 1, Pd 3, Si 2, Sn <1.
 This item is normally made to order for delivery within 4-5 weeks.

AG004850 Thinness **1.0μm** Area density **1098μg.cm⁻²**
 Purity **99.95%** Support **Permanent Mylar 3.5μm**

Quantity					
Web Code	Disc diam.	1 disc	2discs	5discs	10discs
071-947-970	10 mm	YEN 43000	YEN 60000	YEN 111000	YEN 179000
186-307-277	25 mm	YEN 65500	YEN 94000	YEN 179000	YEN 292000

Typical Analysis : Starting Material : Al 1, Au 10, Bi <1, Ca 1, Cd <1, Cr <1, Cu 5, Fe 8, Mg <1, Mn <1, Na <1, Pb 1, Pd 3, Si 2, Sn <1.
 This item is normally made to order for delivery within 4-5 weeks.

Silver

Ag



Foil

AG000080 Thickness **0.00075mm** Purity..... **99.97%**
 Support..... **Temporary Acrylic**

Web Code	Size	Quantity		
		1pc	2pcs	5pcs
258-839-381	25 x 25 mm	YEN 41800	YEN 54500	YEN 81000
016-910-070	50 x 50 mm	YEN 70000	YEN 94500	

Typical Analysis : Al 4, Au 8, Bi 3, Ca 40, Cd 2, Cr 20, Cu 20, Fe 60, Mg 3, Mn 5, Na 10, Ni 5, Pb 40, Si 20, Sn 1.

AG000090 Thickness **0.001mm** Purity..... **99.97%**

Web Code	Size	Quantity		
		1pc	2pcs	5pcs
802-171-091	25 x 25 mm	YEN 40000	YEN 52000	YEN 77500
864-405-528	50 x 50 mm	YEN 67000	YEN 90000	

Typical Analysis : Al 4, Au 8, Bi 3, Ca 40, Cd 2, Cr 20, Cu 20, Fe 60, Mg 3, Mn 5, Na 10, Ni 5, Pb 40, Si 20, Sn 1.

AG000100 Thickness **0.002mm** Purity..... **99.97%**

Web Code	Size	Quantity		
		1pc	2pcs	5pcs
600-993-073	25 x 25 mm	YEN 38600	YEN 50000	YEN 74000
503-665-161	50 x 50 mm	YEN 64000	YEN 85500	
748-227-888	100 x 100 mm	YEN 154000		

Typical Analysis : Al 4, Au 8, Bi 3, Ca 40, Cd 2, Cr 20, Cu 20, Fe 60, Mg 3, Mn 5, Na 10, Ni 5, Pb 40, Si 20, Sn 1.

AG000110 Thickness **0.0025mm** Purity..... **99.97%**

Web Code	Size	Quantity		
		1pc	2pcs	5pcs
063-757-647	25 x 25 mm	YEN 37000	YEN 47800	YEN 70500
819-778-884	50 x 50 mm	YEN 60500	YEN 81500	
456-816-661	100 x 100 mm	YEN 148000		

Web Code	Diameter	Quantity		
		10 discs	20 discs	50 discs
810-663-268	4 mm	YEN 42400	YEN 52000	YEN 74500
332-905-799	6 mm	YEN 49200	YEN 61500	YEN 89500
613-216-216	8 mm	YEN 56000	YEN 71000	YEN 105000
652-025-998	10 mm	YEN 62500	YEN 81000	YEN 122000
503-247-453	15 mm	YEN 79500	YEN 105000	

Typical Analysis : Al 4, Au 8, Bi 3, Ca 40, Cd 2, Cr 20, Cu 20, Fe 60, Mg 3, Mn 5, Na 10, Ni 5, Pb 40, Si 20, Sn 1.

AG000215 Thickness **0.003mm** Purity..... **99.9%**

Web Code	Size	Quantity					
		1pc	2pcs	5pcs	10pcs	20pcs	
417-513-013	25 x 25 mm	YEN 26800	YEN 31600	YEN 41400	YEN 53500	YEN 71000	
207-078-044	50 x 50 mm	YEN 37200	YEN 46400	YEN 65000	YEN 86500	YEN 118000	
860-002-847	100 x 100 mm	YEN 58500	YEN 76000	YEN 112000	YEN 162000		
240-315-838	150 x 150 mm	YEN 79500	YEN 106000	YEN 177000			

Web Code	Length	Quantity
		1 Reel
550-973-987	0.2 m	YEN 97500
871-743-228	0.5 m	YEN 140000

Web Code	Diameter	Quantity		
		10 discs	20 discs	50 discs
987-773-450	4 mm	YEN 37600	YEN 45200	YEN 63000
471-677-462	6 mm	YEN 40800	YEN 49800	YEN 70000
959-685-681	8 mm	YEN 44000	YEN 54500	YEN 77500
960-711-041	10 mm	YEN 47200	YEN 59000	YEN 84500
088-875-840	15 mm	YEN 55000	YEN 70000	YEN 102000
109-484-843	25 mm	YEN 71000	YEN 93000	YEN 138000
685-612-208	50 mm	YEN 111000	YEN 149000	

Typical Analysis : Al 1, Au 20, Bi 1, Ca 3, Cd 20, Cr <1, Cu 500, Fe 7, Mg 1, Mn <1, Na 1, Ni 10, Pb 50, Si <1, Sn 3.

Metal – Silver

Silver

Ag



Foil

AG000120

Thickness **0.004mm**

Purity..... **99.97%**

Sizes LT

Web Code

147-837-113
 557-363-762
 987-685-476
 263-977-826

Size	Quantity			
	1pc	2pcs	5pcs	10pcs
25 x 25 mm	YEN 34000	YEN 43600	YEN 64000	YEN 95500
50 x 50 mm	YEN 54500	YEN 75500	YEN 170000	
100 x 100 mm	YEN 136000	YEN 259000		
150 x 150 mm	YEN 289000			

Discs

Web Code

639-281-543
 910-194-262
 774-286-045
 785-757-325
 219-666-000
 458-262-183

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	YEN 40800	YEN 49400	YEN 70500
6 mm	YEN 46600	YEN 58000	YEN 84000
8 mm	YEN 52500	YEN 66500	YEN 98000
10 mm	YEN 58500	YEN 75000	YEN 115000
15 mm	YEN 73000	YEN 95500	YEN 200000
25 mm	YEN 115000	YEN 204000	

Typical Analysis : Al 4, Au 8, Bi 3, Ca 40, Cd 2, Cr 20, Cu 20, Fe 60, Mg 3, Mn 5, Na 10, Ni 5, Pb 40, Si 20, Sn 1.

AG000130

Thickness **0.005mm**

Purity..... **99.97%**

Sizes LT

Web Code

119-458-752
 907-520-034
 557-261-958
 927-717-812

Size	Quantity			
	1pc	2pcs	5pcs	10pcs
25 x 25 mm	YEN 32600	YEN 41600	YEN 60500	YEN 92000
50 x 50 mm	YEN 52000	YEN 72500	YEN 163000	
100 x 100 mm	YEN 130000	YEN 247000		
150 x 150 mm	YEN 275000			

Discs

Web Code

930-460-689
 307-587-446
 448-433-402
 054-183-126
 772-889-895
 611-234-961

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	YEN 40000	YEN 48400	YEN 69000
6 mm	YEN 45400	YEN 56000	YEN 81500
8 mm	YEN 51000	YEN 64000	YEN 94000
10 mm	YEN 56500	YEN 72000	YEN 111000
15 mm	YEN 70000	YEN 92000	YEN 192000
25 mm	YEN 111000		

Typical Analysis : Al 4, Au 8, Bi 3, Ca 40, Cd 2, Cr 20, Cu 20, Fe 60, Mg 3, Mn 5, Na 10, Ni 5, Pb 40, Si 20, Sn 1.

AG000140

Thickness **0.006mm**

Purity..... **99.97%**

Sizes LT

Web Code

734-933-321
 059-853-009
 166-765-567
 294-929-058

Size	Quantity			
	1pc	2pcs	5pcs	10pcs
25 x 25 mm	YEN 31200	YEN 39600	YEN 57500	YEN 88500
50 x 50 mm	YEN 49000	YEN 69500	YEN 156000	
100 x 100 mm	YEN 124000	YEN 235000		
150 x 150 mm	YEN 262000			

Discs

Web Code

641-738-431
 217-307-116
 163-398-004
 424-750-911
 093-874-013
 734-260-793

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	YEN 39200	YEN 47200	YEN 67000
6 mm	YEN 44200	YEN 54500	YEN 78500
8 mm	YEN 49400	YEN 62000	YEN 90500
10 mm	YEN 54500	YEN 69000	YEN 108000
15 mm	YEN 67000	YEN 89000	YEN 185000
25 mm	YEN 106000	YEN 187000	

Typical Analysis : Al 4, Au 8, Bi 3, Ca 40, Cd 2, Cr 20, Cu 20, Fe 60, Mg 3, Mn 5, Na 10, Ni 5, Pb 40, Si 20, Sn 1.

AG000150

Thickness **0.007mm**

Purity..... **99.97%**

Sizes LT

Web Code

326-746-972
 501-955-169
 413-606-998
 160-919-067

Size	Quantity			
	1pc	2pcs	5pcs	10pcs
25 x 25 mm	YEN 31000	YEN 39400	YEN 57000	YEN 87000
50 x 50 mm	YEN 48800	YEN 68500	YEN 153000	
100 x 100 mm	YEN 122000	YEN 231000		
150 x 150 mm	YEN 257000			

Discs

Web Code

097-423-503
 177-942-772
 242-841-457
 355-181-693
 397-706-464
 713-307-674

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	YEN 39000	YEN 47000	YEN 67000
6 mm	YEN 44200	YEN 54000	YEN 78500
8 mm	YEN 49200	YEN 61500	YEN 90000
10 mm	YEN 54500	YEN 69000	YEN 107000
15 mm	YEN 67000	YEN 88000	YEN 182000
25 mm	YEN 105000	YEN 185000	

Typical Analysis : Al 4, Au 8, Bi 3, Ca 40, Cd 2, Cr 20, Cu 20, Fe 60, Mg 3, Mn 5, Na 10, Ni 5, Pb 40, Si 20, Sn 1.

Metal – Silver

Silver

Ag



Foil

AG000218 Thickness 0.008mm

Purity 99.95+%

Sizes LT

Web Code

034-965-855
 380-461-463
 541-573-509

Size	Quantity				
	1pc	2pcs	5pcs	10pcs	20pcs
25 x 25 mm	YEN 23600	YEN 27200	YEN 34400	YEN 43000	YEN 56000
50 x 50 mm	YEN 31600	YEN 38400	YEN 52000	YEN 68000	YEN 91000
100 x 100 mm	YEN 47400	YEN 60500	YEN 87500	YEN 118000	

Coil

Web Code

014-097-239
 168-664-894
 063-151-280

Length	Quantity	
	1 Reel	
0.2 m	YEN 64500	
0.5 m	YEN 90500	
1 m	YEN 120000	

Discs

Web Code

425-127-340
 957-684-097
 357-240-566
 256-007-773
 724-697-271
 527-673-445
 238-369-906

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	YEN 33600	YEN 38600	YEN 50000
6 mm	YEN 36000	YEN 42000	YEN 55500
8 mm	YEN 38400	YEN 45400	YEN 61000
10 mm	YEN 40800	YEN 48800	YEN 66500
15 mm	YEN 46800	YEN 57500	YEN 79500
25 mm	YEN 59000	YEN 74500	YEN 107000
50 mm	YEN 89000	YEN 117000	

Typical Analysis : Cu 70, Fe 5, Na 1, Pb 1, Zn 5.

AG000160 Thickness 0.008mm

Purity 99.97%

NLT Sizes

Web Code

451-684-310
 411-587-065
 827-533-759
 835-332-156

Size	Quantity			
	1pc	2pcs	5pcs	10pcs
25 x 25 mm	YEN 30000	YEN 37800	YEN 54500	YEN 85000
50 x 50 mm	YEN 46400	YEN 67000	YEN 148000	
100 x 100 mm	YEN 118000	YEN 224000		
150 x 150 mm	YEN 249000			

Sizes LT

Web Code

157-082-361

Size	Quantity			
	1pc	2pcs	5pcs	10pcs
25 x 25 mm	YEN 32800	YEN 41600	YEN 60000	YEN 93000

Discs

Web Code

183-311-414
 913-930-057
 241-258-573
 157-324-021
 665-507-105
 188-389-748

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	YEN 38400	YEN 46200	YEN 65500
6 mm	YEN 43200	YEN 53000	YEN 76000
8 mm	YEN 47800	YEN 59500	YEN 87000
10 mm	YEN 52500	YEN 66500	YEN 105000
15 mm	YEN 64500	YEN 86000	YEN 178000
25 mm	YEN 102000	YEN 180000	

Typical Analysis : Al 4, Au 8, Bi 3, Ca 40, Cd 2, Cr 20, Cu 20, Fe 60, Mg 3, Mn 5, Na 10, Ni 5, Pb 40, Si 20, Sn 1.

AG000170 Thickness 0.009mm

Purity 99.97%

NLT Sizes

Web Code

087-305-039
 964-335-883
 718-327-313
 996-173-163

Size	Quantity			
	1pc	2pcs	5pcs	10pcs
25 x 25 mm	YEN 28800	YEN 36200	YEN 52000	YEN 83000
50 x 50 mm	YEN 44200	YEN 65500	YEN 145000	
100 x 100 mm	YEN 115000	YEN 218000		
150 x 150 mm	YEN 243000			

Sizes LT

Web Code

966-878-374

Size	Quantity			
	1pc	2pcs	5pcs	10pcs
25 x 25 mm	YEN 31800	YEN 39800	YEN 57500	YEN 91500

Discs

Web Code

961-738-827
 217-353-677
 169-209-416
 151-182-531
 897-814-295
 226-785-777

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	YEN 37800	YEN 45200	YEN 64000
6 mm	YEN 42200	YEN 51500	YEN 74000
8 mm	YEN 46600	YEN 58000	YEN 84500
10 mm	YEN 51000	YEN 64500	YEN 103000
15 mm	YEN 62000	YEN 85000	YEN 174000
25 mm	YEN 101000	YEN 176000	

Typical Analysis : Al 4, Au 8, Bi 3, Ca 40, Cd 2, Cr 20, Cu 20, Fe 60, Mg 3, Mn 5, Na 10, Ni 5, Pb 40, Si 20, Sn 1.

Metal – Silver

Silver

Ag



Foil

AG000220

Thickness **0.01mm**

Purity..... **99.95+%**

Sizes LT

Web Code

718-790-244
 124-735-358
 242-160-495
 607-362-153

Size	Quantity				
	1pc	2pcs	5pcs	10pcs	20pcs
25 x 25 mm	YEN 23600	YEN 27000	YEN 34000	YEN 42400	YEN 55000
50 x 50 mm	YEN 31200	YEN 37800	YEN 51500	YEN 67000	YEN 89500
100 x 100 mm	YEN 46800	YEN 60000	YEN 86000	YEN 116000	
150 x 150 mm	YEN 62000	YEN 81500	YEN 121000		

Coil

Web Code

967-224-995
 109-319-479
 516-107-772

Width 150mm

Length

0.2 m YEN 73500
 0.5 m YEN 104000
 1 m YEN 140000

Quantity

Discs

Web Code

640-800-759
 100-094-601
 511-833-017
 979-126-379
 390-792-002
 849-010-684
 126-325-541

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	YEN 33600	YEN 38600	YEN 50000
6 mm	YEN 36000	YEN 41800	YEN 55000
8 mm	YEN 38200	YEN 45200	YEN 60500
10 mm	YEN 40600	YEN 48400	YEN 65500
15 mm	YEN 46400	YEN 57000	YEN 79000
25 mm	YEN 58000	YEN 73500	YEN 105000
50 mm	YEN 87500	YEN 115000	

Typical Analysis : Cu 70, Fe 5, Na 1, Pb 1, Zn 5.

AG000241

Thickness **0.0125mm**

Coil width **9mm**

Purity..... **99.95+%**

Coil

Web Code

803-474-066
 037-798-485
 114-814-219
 561-073-463
 582-255-187

Width 9mm

Length

0.5 m YEN 22800
 1 m YEN 27800
 2 m YEN 35200
 5 m YEN 49800
 10 m YEN 66500

Quantity

Typical Analysis : Cu 70, Fe 5, Na 1, Pb 1, Zn 5.

AG000240

Thickness **0.0125mm**

Purity..... **99.95+%**

NLT Sizes

Web Code

621-115-391
 497-760-149
 888-011-625

Size	Quantity				
	1pc	2pcs	5pcs	10pcs	20pcs
25 x 25 mm	YEN 22800	YEN 26200	YEN 34200	YEN 44800	YEN 63000
50 x 50 mm	YEN 28600	YEN 34600	YEN 47400	YEN 63500	YEN 89500
100 x 100 mm	YEN 40400	YEN 51000	YEN 73500	YEN 101000	YEN 142000

Sizes LT

Web Code

550-963-319
 829-722-773

Size	Quantity				
	1pc	2pcs	5pcs	10pcs	20pcs
25 x 25 mm	YEN 25000	YEN 28800	YEN 37600	YEN 49400	YEN 69500
50 x 50 mm	YEN 35800	YEN 43200	YEN 59000	YEN 79500	YEN 112000

Coil

Web Code

953-526-994
 373-796-506
 724-567-238

Width 100mm

Length

0.5 m YEN 73000
 1 m YEN 94500
 2 m YEN 126000

Quantity

Discs

Web Code

043-120-229
 390-032-416
 754-060-469
 257-552-170
 194-014-541
 251-815-792
 476-970-709

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	YEN 42200	YEN 56000	YEN 84000
6 mm	YEN 44000	YEN 59000	YEN 88000
8 mm	YEN 45800	YEN 61500	YEN 92000
10 mm	YEN 47600	YEN 64000	YEN 96000
15 mm	YEN 52000	YEN 70000	YEN 106000
25 mm	YEN 61000	YEN 83000	YEN 126000
50 mm	YEN 83500	YEN 115000	

Typical Analysis : Cu 70, Fe 5, Na 1, Pb 1, Zn 5.

Metal – Silver

Silver

Ag



Foil

AG000180

Thickness **0.015mm**

Purity **99.97%**

NLT Sizes

Web Code

068-112-645
 893-386-078
 584-187-924

Size	Quantity			
	1pc	2pcs	5pcs	10pcs
50 x 50 mm	YEN 32400	YEN 51500	YEN 111000	
100 x 100 mm	YEN 88000	YEN 164000		
150 x 150 mm	YEN 181000			

Sizes LT

Web Code

070-215-615
 750-948-709
 653-969-204

Size	Quantity			
	1pc	2pcs	5pcs	10pcs
25 x 25 mm	YEN 23000	YEN 28000	YEN 40800	YEN 66000
50 x 50 mm	YEN 35800	YEN 57000	YEN 122000	
100 x 100 mm	YEN 110000	YEN 205000		

Discs

Web Code

154-485-293
 310-650-942
 831-363-484
 920-432-445
 054-057-237
 757-154-216

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	YEN 34600	YEN 40600	YEN 56500
6 mm	YEN 37200	YEN 44400	YEN 63000
8 mm	YEN 40000	YEN 48400	YEN 72000
10 mm	YEN 42800	YEN 52500	YEN 87500
15 mm	YEN 49600	YEN 71000	YEN 139000
25 mm	YEN 81500	YEN 137000	

Typical Analysis : Al 4, Au 8, Bi 3, Ca 40, Cd 2, Cr 20, Cu 20, Fe 60, Mg 3, Mn 5, Na 10, Ni 5, Pb 40, Si 20, Sn 1.

AG000250

Thickness **0.015mm**

Purity **99.95+%**

NLT Sizes

Web Code

127-639-319
 510-731-413
 763-508-543
 726-794-836

Size	Quantity				
	1pc	2pcs	5pcs	10pcs	20pcs
25 x 25 mm	YEN 23400	YEN 27000	YEN 35400	YEN 46600	YEN 65500
50 x 50 mm	YEN 29800	YEN 36200	YEN 49800	YEN 67000	YEN 94500
100 x 100 mm	YEN 42600	YEN 54500	YEN 79000	YEN 108000	YEN 157000
200 x 200 mm	YEN 68500	YEN 91000	YEN 141000		

Sizes LT

Web Code

839-442-997
 393-926-797

Size	Quantity				
	1pc	2pcs	5pcs	10pcs	20pcs
25 x 25 mm	YEN 25600	YEN 29800	YEN 39000	YEN 51500	YEN 72000
50 x 50 mm	YEN 37200	YEN 45200	YEN 62500	YEN 84000	YEN 118000

Coil

Web Code

682-260-264
 808-978-440
 326-575-424

Length	Quantity	
	1 Reel	
0.2 m	YEN 73000	
0.5 m	YEN 104000	
1 m	YEN 146000	

Discs

Web Code

465-583-563
 716-027-920
 780-559-044
 527-540-928
 949-719-321
 055-751-580
 890-724-771

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	YEN 42600	YEN 56500	YEN 85000
6 mm	YEN 44600	YEN 59500	YEN 89500
8 mm	YEN 46600	YEN 62500	YEN 93500
10 mm	YEN 48600	YEN 65000	YEN 98000
15 mm	YEN 53500	YEN 72000	YEN 109000
25 mm	YEN 63000	YEN 86000	YEN 131000
50 mm	YEN 88000	YEN 121000	

Typical Analysis : Cu 70, Fe 5, Na 1, Pb 1, Zn 5.

AG000190

Thickness **0.02mm**

Purity **99.97%**

NLT Sizes

Web Code

606-981-223
 590-086-971

Size	Quantity			
	1pc	2pcs	5pcs	10pcs
100 x 100 mm	YEN 86000	YEN 159000		
150 x 150 mm	YEN 177000			

Sizes LT

Web Code

320-183-743
 891-104-700
 378-717-924

Size	Quantity			
	1pc	2pcs	5pcs	10pcs
25 x 25 mm	YEN 22800	YEN 27800	YEN 40200	YEN 64500
50 x 50 mm	YEN 32200	YEN 50500	YEN 108000	
100 x 100 mm	YEN 94500	YEN 175000		

Discs

Web Code

309-355-508
 669-447-403
 680-932-646
 116-584-830
 573-110-306
 638-799-133

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	YEN 34400	YEN 40400	YEN 56500
6 mm	YEN 37200	YEN 44400	YEN 62500
8 mm	YEN 39800	YEN 48200	YEN 71000
10 mm	YEN 42600	YEN 52000	YEN 86000
15 mm	YEN 49200	YEN 70000	YEN 137000
25 mm	YEN 80000	YEN 134000	

Typical Analysis : Al 4, Au 8, Bi 3, Ca 40, Cd 2, Cr 20, Cu 20, Fe 60, Mg 3, Mn 5, Na 10, Ni 5, Pb 40, Si 20, Sn 1.

Metal - Silver

Silver

Ag



Foil

AG000260

Thickness **0.025mm**
 Temper **As rolled**

Purity **99.95+%**

NLT Sizes

Web Code

759-561-708
 667-264-012
 969-969-862
 848-083-788
 648-362-876

Size	Quantity				
	1pc	2pcs	5pcs	10pcs	20pcs
25 x 25 mm	YEN 15400	YEN 16900	YEN 20200	YEN 23600	YEN 28800
50 x 50 mm	YEN 18100	YEN 20800	YEN 26200	YEN 32200	YEN 41000
100 x 100 mm	YEN 23600	YEN 28400	YEN 38400	YEN 49400	YEN 65500
150 x 150 mm	YEN 29000	YEN 36200	YEN 50500	YEN 66500	YEN 90500
300 x 300 mm	YEN 45400	YEN 59500	YEN 88000		

Sizes LT

Web Code

704-557-205
 339-807-339
 145-023-053
 457-107-936
 163-644-597

Size	Quantity				
	1pc	2pcs	5pcs	10pcs	20pcs
25 x 25 mm	YEN 16200	YEN 17700	YEN 21200	YEN 24800	YEN 30400
50 x 50 mm	YEN 19000	YEN 21800	YEN 27600	YEN 33800	YEN 43000
100 x 100 mm	YEN 26000	YEN 31200	YEN 42200	YEN 54500	YEN 72000
150 x 150 mm	YEN 32000	YEN 39800	YEN 55500	YEN 73500	YEN 99500
300 x 300 mm	YEN 54500	YEN 71000	YEN 106000		

Coil

Web Code

400-176-204
 022-029-833
 753-734-219

Width 100mm	Quantity	
Length	1 Reel	
0.5 m	YEN 41000	
1 m	YEN 51000	
2 m	YEN 65500	

Discs

Web Code

216-782-512
 097-818-038
 227-250-649
 406-333-546
 791-689-668
 961-207-384
 150-924-344

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	YEN 26800	YEN 29600	YEN 37200
6 mm	YEN 27600	YEN 30800	YEN 39000
8 mm	YEN 28400	YEN 32000	YEN 41000
10 mm	YEN 29400	YEN 33200	YEN 42800
15 mm	YEN 31400	YEN 36000	YEN 47400
25 mm	YEN 35600	YEN 42000	YEN 56500
50 mm	YEN 46000	YEN 56500	YEN 80000

Typical Analysis : Cu 70, Fe 5, Na 1, Pb 1, Zn 5.

AG000270

Thickness **0.025mm**
 Temper **As rolled**

High Purity **99.99+%**

Size

Web Code

865-538-387
 192-296-874
 037-104-945
 638-119-973

Size	Quantity				
	1pc	2pcs	5pcs	10pcs	20pcs
25 x 25 mm	YEN 22600	YEN 27000	YEN 36200	YEN 46400	YEN 61000
50 x 50 mm	YEN 32600	YEN 41000	YEN 58500	YEN 77500	
100 x 100 mm	YEN 52500	YEN 69000	YEN 123000		
150 x 150 mm	YEN 72000	YEN 111000			

Coil

Web Code

764-997-358
 624-673-869

Width 150mm	Quantity	
Length	1 Reel	
0.2 m	YEN 85500	
0.5 m	YEN 180000	

Discs

Web Code

529-501-916
 187-746-361
 468-297-959
 537-237-852
 154-727-394
 340-915-136
 614-395-314

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	YEN 31200	YEN 35800	YEN 47000
6 mm	YEN 34200	YEN 40200	YEN 54000
8 mm	YEN 37200	YEN 44400	YEN 61000
10 mm	YEN 40400	YEN 48800	YEN 67500
15 mm	YEN 47800	YEN 59500	YEN 84500
25 mm	YEN 63000	YEN 81000	YEN 119000
50 mm	YEN 102000		

Typical Analysis : Al 1, Au 10, Bi <1, Ca 1, Cd <1, Cr <1, Cu 5, Fe 8, Mg <1, Mn <1, Na <1, Pb 1, Pd 3, Si 2, Sn <1.

AG000265

Thickness **0.025mm**
 Temper **Annealed**

Purity **99.95+%**

NLT Sizes

Web Code

866-814-250
 692-771-915
 186-939-840
 002-341-115

Size	Quantity				
	1pc	2pcs	5pcs	10pcs	20pcs
25 x 25 mm	YEN 15400	YEN 16900	YEN 20200	YEN 23600	YEN 28800
50 x 50 mm	YEN 18100	YEN 20800	YEN 26200	YEN 32200	YEN 41000
100 x 100 mm	YEN 23600	YEN 28400	YEN 38400	YEN 49400	YEN 65500
250 x 300 mm	YEN 42600	YEN 55000	YEN 81000		

Sizes LT

Web Code

806-139-304
 634-123-107
 457-949-193
 028-472-035

Size	Quantity				
	1pc	2pcs	5pcs	10pcs	20pcs
25 x 25 mm	YEN 16200	YEN 17700	YEN 21200	YEN 24800	YEN 30400
50 x 50 mm	YEN 19000	YEN 21800	YEN 27600	YEN 33800	YEN 43000
100 x 100 mm	YEN 26000	YEN 31200	YEN 42200	YEN 54500	YEN 72000
250 x 300 mm	YEN 51000	YEN 66500	YEN 97000		

Coil

Web Code

647-142-151
 124-841-556
 129-459-119

Width 250mm	Quantity	
Length	1 Reel	
0.5 m	YEN 55000	
1 m	YEN 71000	
2 m	YEN 99000	

Typical Analysis : Cu 70, Fe 5, Na 1, Pb 1, Zn 5.

Silver

Ag



Foil

AG000266

Thickness **0.025mm**
 Temper **Annealed**

Purity **99.95+%**

NLT Sizes

Web Code
 690-721-169
 240-322-817

Size	Quantity		
	1pc	2pcs	5pcs
150 x 150 mm	YEN 29000	YEN 36200	YEN 50500
300 x 300 mm	YEN 45400	YEN 59500	

Sizes LT

Web Code
 197-980-377
 891-999-495

Size	Quantity		
	1pc	2pcs	5pcs
150 x 150 mm	YEN 32000	YEN 39800	YEN 55500
300 x 300 mm	YEN 54500	YEN 71000	

Coil

Web Code
 959-670-068
 279-072-306

Length	Quantity	
	1 Reel	
0.5 m	YEN 59000	
1 m	YEN 77000	

Typical Analysis : Cu 70, Fe 5, Na 1, Pb 1, Zn 5.

AG000268

Thickness **0.030mm**
 Temper **Annealed**

Purity **99.95+%**

NLT Sizes

Web Code
 898-368-574

Size	Quantity			
	1pc	2pcs	5pcs	10pcs
260 x 300 mm	YEN 46000	YEN 60000		

Sizes LT

Web Code
 735-443-620
 161-690-586
 399-654-952

Size	Quantity			
	1pc	2pcs	5pcs	10pcs
50 x 50 mm	YEN 18700	YEN 21400	YEN 27400	YEN 33800
100 x 100 mm	YEN 24600	YEN 30000	YEN 40800	
260 x 300 mm	YEN 53000	YEN 69000		

Coil

Web Code
 119-574-183
 321-021-434
 888-538-443

Length	Quantity	
	1 Reel	
0.2 m	YEN 43800	
0.5 m	YEN 59500	
1 m	YEN 77500	

Typical Analysis : Cu 70, Fe 5, Na 1, Pb 1, Zn 5.

AG000280

Thickness **0.035mm**
 Temper **As rolled**

Purity **99.95+%**

Size

Web Code
 799-413-360
 926-668-417
 833-551-725
 193-973-026

Size	Quantity				
	1pc	2pcs	5pcs	10pcs	20pcs
25 x 25 mm	YEN 16000	YEN 17500	YEN 21000	YEN 25200	YEN 32400
50 x 50 mm	YEN 19000	YEN 21800	YEN 27800	YEN 35000	YEN 46000
100 x 100 mm	YEN 25000	YEN 30400	YEN 41400	YEN 54000	
150 x 150 mm	YEN 31200	YEN 39000	YEN 55000	YEN 73500	

Coil

Web Code
 246-630-123
 828-770-354
 596-287-526

Length	Quantity	
	1 Reel	
0.5 m	YEN 50000	
1 m	YEN 64000	
2 m	YEN 83500	

Discs

Web Code
 535-942-199
 992-766-659
 095-827-457
 978-431-139
 303-888-550
 986-065-377
 258-173-627

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	YEN 27800	YEN 32200	YEN 44800
6 mm	YEN 28800	YEN 33600	YEN 46800
8 mm	YEN 29800	YEN 35000	YEN 49000
10 mm	YEN 30600	YEN 36200	YEN 51000
15 mm	YEN 33000	YEN 39600	YEN 56000
25 mm	YEN 37600	YEN 46000	YEN 66500
50 mm	YEN 49200	YEN 62500	YEN 93000

Typical Analysis : Cu 70, Fe 5, Na 1, Pb 1, Zn 5.

AG000281

Thickness **0.035mm**
 Temper **As rolled**

Purity **99.95+%**

Size

Web Code
 516-981-227

Size	Quantity		
	1pc	2pcs	5pcs
300 x 300 mm	YEN 49400	YEN 65000	YEN 112000

Coil

Web Code
 517-462-502
 636-312-125

Length	Quantity	
	1 Reel	
0.5 m	YEN 64000	
1 m	YEN 83500	

Typical Analysis : Cu 70, Fe 5, Na 1, Pb 1, Zn 5.

Silver

Ag



Foil

AG000300

Thickness **0.05mm**
 Temper **As rolled**

Purity **99.95+%**

Size

Web Code

271-709-174
 963-646-487
 455-802-041
 975-253-562
 906-698-199

Size
 25 x 25 mm
 50 x 50 mm
 100 x 100 mm
 150 x 150 mm
 150 x 300 mm

Quantity					
	1pc	2pcs	5pcs	10pcs	20pcs
25 x 25 mm	YEN 15900	YEN 17400	YEN 20600	YEN 24800	YEN 31000
50 x 50 mm	YEN 19000	YEN 21800	YEN 27400	YEN 34400	YEN 44600
100 x 100 mm	YEN 25000	YEN 30400	YEN 41200	YEN 53500	YEN 74000
150 x 150 mm	YEN 31200	YEN 39000	YEN 55000	YEN 78500	
150 x 300 mm	YEN 38800	YEN 49800	YEN 77500		

Coil

Web Code
 337-264-835
 158-106-908
 763-363-086

Width 150mm
Length
 0.5 m
 1 m
 2 m

Quantity	
1 Reel	
0.5 m	YEN 50500
1 m	YEN 64000
2 m	YEN 102000

Discs

Web Code
 420-378-938
 547-374-000
 421-758-076
 719-750-655
 968-834-530
 104-315-377
 039-423-456

Diameter
 4 mm
 6 mm
 8 mm
 10 mm
 15 mm
 25 mm
 50 mm

Quantity			
	10 discs	20 discs	50 discs
4 mm	YEN 25200	YEN 28200	YEN 35800
6 mm	YEN 26000	YEN 29200	YEN 37400
8 mm	YEN 26800	YEN 30400	YEN 39200
10 mm	YEN 27600	YEN 31400	YEN 41000
15 mm	YEN 29600	YEN 34200	YEN 45400
25 mm	YEN 33400	YEN 39800	YEN 54000
50 mm	YEN 43200	YEN 53500	YEN 76000

Typical Analysis : Cu 70, Fe 5, Na 1, Pb 1, Zn 5.

AG000305

Thickness **0.05mm**
 Temper **Annealed**

Purity **99.95+%**

Size

Web Code

744-471-293
 712-441-871
 969-722-169
 670-387-234

Size
 50 x 50 mm
 100 x 100 mm
 150 x 150 mm
 300 x 300 mm

Quantity			
	1pc	5pcs	10pcs
50 x 50 mm	YEN 19000	YEN 21800	YEN 27400
100 x 100 mm	YEN 25000	YEN 30400	YEN 41200
150 x 150 mm	YEN 31200	YEN 39000	YEN 55000
300 x 300 mm	YEN 49400	YEN 65000	

Coil

Web Code
 103-069-874
 803-392-056

Width 300mm
Length
 0.5 m
 1 m

Quantity	
1 Reel	
0.5 m	YEN 64000
1 m	YEN 102000

Typical Analysis : Cu 70, Fe 5, Na 1, Pb 1, Zn 5.

AG000341

Thickness **0.075mm**
 Purity **99.95+%**

Coil width **0.40mm**
 Temper **Annealed**

Coil

Web Code
 606-919-894
 717-448-560
 942-641-950
 464-660-176
 937-253-213

Width 0.40mm
Length
 0.2 m
 0.5 m
 1 m
 2 m
 5 m

Quantity	
1 Reel	
0.2 m	YEN 16700
0.5 m	YEN 18200
1 m	YEN 20000
2 m	YEN 23000
5 m	YEN 30800

Typical Analysis : Cu 70, Fe 5, Na 1, Pb 1, Zn 5.

AG000340

Thickness **0.075mm**
 Temper **As rolled**

Purity **99.95+%**

Size

Web Code

927-932-681
 991-578-549
 947-322-413
 415-311-720
 913-970-434

Size
 25 x 25 mm
 50 x 50 mm
 100 x 100 mm
 150 x 150 mm
 150 x 300 mm

Quantity					
	1pc	2pcs	5pcs	10pcs	20pcs
25 x 25 mm	YEN 16000	YEN 17500	YEN 20800	YEN 25000	YEN 31400
50 x 50 mm	YEN 19100	YEN 22000	YEN 27800	YEN 34800	YEN 45400
100 x 100 mm	YEN 25400	YEN 30800	YEN 41800	YEN 54500	YEN 77000
150 x 150 mm	YEN 31600	YEN 39600	YEN 56000	YEN 82000	
150 x 300 mm	YEN 39400	YEN 50500	YEN 81000		

Coil

Web Code
 407-797-261
 974-660-913
 832-624-495

Width 150mm
Length
 0.5 m
 1 m
 2 m

Quantity	
1 Reel	
0.5 m	YEN 51000
1 m	YEN 65500
2 m	YEN 106000

Discs

Web Code
 246-310-066
 788-760-620
 595-085-912
 385-738-487
 217-305-754
 163-219-131
 402-399-292

Diameter
 4 mm
 6 mm
 8 mm
 10 mm
 15 mm
 25 mm
 50 mm

Quantity			
	10 discs	20 discs	50 discs
4 mm	YEN 25400	YEN 28200	YEN 35800
6 mm	YEN 26000	YEN 29400	YEN 37600
8 mm	YEN 26800	YEN 30400	YEN 39400
10 mm	YEN 27600	YEN 31600	YEN 41200
15 mm	YEN 29600	YEN 34400	YEN 45600
25 mm	YEN 33600	YEN 40000	YEN 54500
50 mm	YEN 43800	YEN 54500	YEN 77500

Typical Analysis : Cu 70, Fe 5, Na 1, Pb 1, Zn 5.

Silver

Ag



Foil

AG000349

Thickness **0.09mm**
 Purity **99.95+%**

Coil width **101.6mm**
 Temper **Annealed**

Coil	Width 101.6mm	Quantity
Web Code	Length	1 Reel
256-415-145	0.1 m	YEN 34800
014-908-354	0.2 m	YEN 42000
939-737-420	0.5 m	YEN 56000
741-704-810	1 m	YEN 72000

Typical Analysis : Cu 70, Fe 5, Na 1, Pb 1, Zn 5.

AG000350

Thickness **0.1mm**
 Temper **As rolled**

Purity **99.95+%**

Size	Quantity
Web Code	1pc 2pcs 5pcs 10pcs 20pcs
299-906-616	25 x 25 mm YEN 18200 YEN 20400 YEN 24800 YEN 30200 YEN 38600
488-336-802	50 x 50 mm YEN 22800 YEN 26600 YEN 34800 YEN 44400 YEN 58500
042-107-826	100 x 100 mm YEN 31800 YEN 39400 YEN 55000 YEN 73000
805-208-471	150 x 150 mm YEN 40800 YEN 52000 YEN 77000

Coil	Width 150mm	Quantity
Web Code	Length	1 Reel
757-115-280	0.5 m	YEN 67000
639-409-237	1 m	YEN 101000

Discs	Quantity
Web Code	10 discs 20 discs 50 discs
934-617-004	4 mm YEN 27000 YEN 30400 YEN 38600
827-131-245	6 mm YEN 28000 YEN 32000 YEN 41000
391-411-438	8 mm YEN 29200 YEN 33600 YEN 43600
926-437-012	10 mm YEN 30400 YEN 35200 YEN 46200
804-628-648	15 mm YEN 33200 YEN 39200 YEN 52500
578-579-239	25 mm YEN 38800 YEN 47400 YEN 65500
322-404-728	50 mm YEN 53000 YEN 67500

Typical Analysis : Cu 70, Fe 5, Na 1, Pb 1, Zn 5.

AG000351

Thickness **0.1mm**
 Temper **Annealed**

Purity **99.95+%**

Size	Quantity
Web Code	1pc 2pcs 5pcs 10pcs 20pcs
230-067-974	25 x 25 mm YEN 18200 YEN 20400 YEN 24800 YEN 30200 YEN 38600
224-325-535	50 x 50 mm YEN 22800 YEN 26600 YEN 34800 YEN 44400 YEN 58500
425-817-181	100 x 100 mm YEN 31800 YEN 39400 YEN 55000 YEN 73000
491-107-027	150 x 150 mm YEN 40800 YEN 52000 YEN 77000
084-572-285	300 x 300 mm YEN 67500 YEN 113000

Coil	Width 300mm	Quantity
Web Code	Length	1 Reel
236-323-329	0.5 m	YEN 101000

Discs	Quantity
Web Code	10 discs 20 discs 50 discs 100 discs
628-063-058	4 mm YEN 27000 YEN 30400 YEN 38600 YEN 51000
754-762-451	6 mm YEN 28000 YEN 32000 YEN 41000 YEN 54500
294-346-083	8 mm YEN 29200 YEN 33600 YEN 43600 YEN 58500
514-111-031	10 mm YEN 30400 YEN 35200 YEN 46200 YEN 62000
968-364-391	15 mm YEN 33200 YEN 39200 YEN 52500 YEN 71000
142-002-434	25 mm YEN 38800 YEN 47400 YEN 65500 YEN 89500
630-070-732	50 mm YEN 53000 YEN 67500

Typical Analysis : Cu 70, Fe 5, Na 1, Pb 1, Zn 5.

Metal – Silver

Silver

Ag



Foil

AG000400

Thickness **0.125mm**
 Temper **As rolled**

Purity **99.95 + %**

Size

Web Code

591-427-080
 928-377-171
 047-145-015
 893-125-424
 640-678-456

Size
 25 x 25 mm
 50 x 50 mm
 100 x 100 mm
 150 x 150 mm
 150 x 300 mm

Quantity					
	1pc	2pcs	5pcs	10pcs	20pcs
25 x 25 mm	YEN 15500	YEN 16800	YEN 19600	YEN 23000	YEN 28600
50 x 50 mm	YEN 18100	YEN 20400	YEN 25400	YEN 31400	YEN 40400
100 x 100 mm	YEN 23400	YEN 28000	YEN 37200	YEN 60000	
150 x 150 mm	YEN 28600	YEN 35400	YEN 64500		
150 x 300 mm	YEN 35200	YEN 54000			

Coil

Web Code
 718-137-852
 799-075-741

Width 150mm
Length
 0.5 m
 1 m

Quantity

1 Reel
 0.5 m YEN 51000
 1 m YEN 85000

Discs

Web Code
 084-806-068
 600-759-304
 094-914-416
 864-303-159
 037-891-087
 736-378-266
 047-278-081

Diameter
 4 mm
 6 mm
 8 mm
 10 mm
 15 mm
 25 mm
 50 mm

Quantity

	10 discs	20 discs	50 discs
4 mm	YEN 24800	YEN 27400	YEN 34800
6 mm	YEN 25400	YEN 28400	YEN 36400
8 mm	YEN 26000	YEN 29400	YEN 37800
10 mm	YEN 26800	YEN 30200	YEN 39400
15 mm	YEN 28400	YEN 32600	YEN 43200
25 mm	YEN 31800	YEN 37400	YEN 50500
50 mm	YEN 40200	YEN 49400	

Typical Analysis : Cu 70, Fe 5, Na 1, Pb 1, Zn 5.

AG000401

Thickness **0.125mm**
 Temper **Annealed**

Purity **99.95 + %**

Size

Web Code
 168-161-815
 279-256-347
 638-072-956
 067-851-638
 678-312-853

Size
 25 x 25 mm
 50 x 50 mm
 100 x 100 mm
 150 x 150 mm
 150 x 300 mm

Quantity					
	1pc	2pcs	5pcs	10pcs	20pcs
25 x 25 mm	YEN 15500	YEN 16800	YEN 19600	YEN 23000	YEN 28600
50 x 50 mm	YEN 18100	YEN 20400	YEN 25400	YEN 31400	YEN 40400
100 x 100 mm	YEN 23400	YEN 28000	YEN 37200	YEN 60000	
150 x 150 mm	YEN 28600	YEN 35400	YEN 64500		
150 x 300 mm	YEN 35200	YEN 54000			

Coil

Web Code
 838-989-056
 405-567-189

Width 150mm
Length
 0.5 m
 1 m

Quantity

1 Reel
 0.5 m YEN 51000
 1 m YEN 85000

Discs

Web Code
 735-481-648
 145-252-099
 479-116-531
 951-098-798
 401-444-418
 535-184-170
 427-018-577

Diameter
 4 mm
 6 mm
 8 mm
 10 mm
 15 mm
 25 mm
 50 mm

Quantity

	10 discs	20 discs	50 discs
4 mm	YEN 24800	YEN 27400	YEN 34800
6 mm	YEN 25400	YEN 28400	YEN 36400
8 mm	YEN 26000	YEN 29400	YEN 37800
10 mm	YEN 26800	YEN 30200	YEN 39400
15 mm	YEN 28400	YEN 32600	YEN 43200
25 mm	YEN 31800	YEN 37400	YEN 50500
50 mm	YEN 40200	YEN 49400	

Typical Analysis : Cu 70, Fe 5, Na 1, Pb 1, Zn 5.

AG000360

Thickness **0.125mm**
 Temper **As rolled**

High Purity **99.99 + %**

Size

Web Code
 300-587-929
 573-496-939
 687-123-521
 890-446-789

Size
 25 x 25 mm
 50 x 50 mm
 100 x 100 mm
 150 x 150 mm

Quantity				
	1pc	2pcs	5pcs	10pcs
25 x 25 mm	YEN 22800	YEN 26000	YEN 32400	YEN 40200
50 x 50 mm	YEN 29800	YEN 35800	YEN 48200	YEN 62500
100 x 100 mm	YEN 43800	YEN 56000	YEN 79500	
150 x 150 mm	YEN 58000	YEN 75500		

Discs

Web Code
 305-849-324
 231-174-532
 896-820-030
 102-510-098
 813-760-386
 720-037-877
 004-731-494

Diameter
 4 mm
 6 mm
 8 mm
 10 mm
 15 mm
 25 mm
 50 mm

Quantity

	10 discs	20 discs	50 discs
4 mm	YEN 30200	YEN 34200	YEN 43400
6 mm	YEN 32000	YEN 36800	YEN 47400
8 mm	YEN 33800	YEN 39200	YEN 51500
10 mm	YEN 35600	YEN 41800	YEN 55500
15 mm	YEN 40000	YEN 48000	YEN 65500
25 mm	YEN 49000	YEN 60500	
50 mm	YEN 71500		

Typical Analysis : Al 1, Au 10, Bi <1, Ca 1, Cd <1, Cr <1, Cu 5, Fe 8, Mg <1, Mn <1, Na <1, Pb 1, Pd 3, Si 2, Sn <1.

AG000402

Thickness **0.125mm**
 Purity **99.95 + %**

Coil width **300mm**
 Temper **Annealed**

Coil

Web Code
 641-039-038
 271-907-622

Width 300mm
Length
 0.3 m
 0.5 m

Quantity

1 Reel
 0.3 m YEN 57500
 0.5 m YEN 85000

Typical Analysis : Cu 70, Fe 5, Na 1, Pb 1, Zn 5.

Silver

Ag



Foil

AG000410

Thickness **0.15mm**
 Temper **As rolled**

Purity **99.95 + %**

Size

Web Code
 909-755-160
 719-390-109
 923-773-457
 471-677-135

Size	Quantity				
	1pc	2pcs	5pcs	10pcs	20pcs
25 x 25 mm	YEN 18100	YEN 20600	YEN 25600	YEN 31600	YEN 41000
50 x 50 mm	YEN 23400	YEN 28000	YEN 37200	YEN 48200	YEN 64500
100 x 100 mm	YEN 33800	YEN 42800	YEN 60500	YEN 90000	
150 x 150 mm	YEN 44400	YEN 57500	YEN 98000		

Coil

Web Code
 078-056-952

Width	Length	Quantity
150mm	1 Reel	YEN 74500
	0.5 m	

Discs

Web Code
 959-640-924
 955-123-059
 390-384-075
 798-003-962
 750-492-079
 811-500-832
 437-601-236

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	YEN 26400	YEN 30000	YEN 38600
6 mm	YEN 27800	YEN 32000	YEN 41400
8 mm	YEN 29000	YEN 33800	YEN 44400
10 mm	YEN 30400	YEN 35600	YEN 47400
15 mm	YEN 33800	YEN 40400	YEN 55000
25 mm	YEN 40400	YEN 49800	YEN 70000
50 mm	YEN 57000	YEN 73500	

Typical Analysis : Cu 70, Fe 5, Na 1, Pb 1, Zn 5.

AG000420

Thickness **0.20mm**
 Temper **As rolled**

Purity **99.95 + %**

Size

Web Code
 744-458-138
 744-322-137
 855-200-557
 920-981-877

Size	Quantity			
	1pc	2pcs	5pcs	10pcs
25 x 25 mm	YEN 15100	YEN 16900	YEN 20800	YEN 25600
50 x 50 mm	YEN 19100	YEN 22800	YEN 30000	YEN 38400
100 x 100 mm	YEN 27400	YEN 34200	YEN 55500	
150 x 150 mm	YEN 35400	YEN 50500		

Discs

Web Code
 246-004-067
 309-986-610
 798-261-927
 277-679-753
 347-741-391
 684-035-737
 116-601-947

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	YEN 23400	YEN 26600	YEN 35600
6 mm	YEN 24400	YEN 28000	YEN 37800
8 mm	YEN 25400	YEN 29400	YEN 40200
10 mm	YEN 26400	YEN 31000	YEN 42600
15 mm	YEN 29000	YEN 34600	YEN 48400
25 mm	YEN 34200	YEN 42000	
50 mm	YEN 47400		

Typical Analysis : Cu 70, Fe 5, Na 1, Pb 1, Zn 5.

AG000450

Thickness **0.25mm**
 Temper **As rolled**

Purity **99.95 + %**

Size

Web Code
 700-159-463
 519-933-221
 991-660-120
 957-514-896

Size	Quantity			
	1pc	2pcs	5pcs	10pcs
25 x 25 mm	YEN 15500	YEN 17600	YEN 22000	YEN 27000
50 x 50 mm	YEN 20200	YEN 24000	YEN 32200	YEN 41400
100 x 100 mm	YEN 29200	YEN 37000	YEN 66500	
150 x 150 mm	YEN 38400	YEN 60500		

Discs

Web Code
 689-360-807
 170-111-784
 263-969-383
 996-173-727
 521-717-479
 214-685-739
 835-721-514

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	YEN 23600	YEN 26800	YEN 36200
6 mm	YEN 24800	YEN 28600	YEN 38800
8 mm	YEN 26000	YEN 30200	YEN 41400
10 mm	YEN 27000	YEN 31800	YEN 44000
15 mm	YEN 30000	YEN 36000	YEN 50500
25 mm	YEN 35800	YEN 44200	
50 mm	YEN 50500		

Typical Analysis : Cu 70, Fe 5, Na 1, Pb 1, Zn 5.

Metal – Silver

Silver

Ag



Foil

AG000460

Thickness **0.25mm**
 Temper **As rolled**

High Purity **99.99+%**

Size

Web Code

465-189-035
 148-630-463
 578-810-212
 351-283-139

Size
 25 x 25 mm
 50 x 50 mm
 100 x 100 mm
 150 x 150 mm

Quantity					
	1pc	2pcs	5pcs	10pcs	20pcs
25 x 25 mm	YEN 26000	YEN 30400	YEN 39600	YEN 50000	YEN 66000
50 x 50 mm	YEN 36200	YEN 44800	YEN 62500	YEN 82500	
100 x 100 mm	YEN 56500	YEN 73500	YEN 119000		
150 x 150 mm	YEN 77000	YEN 108000			

Discs

Web Code

910-393-837
 799-230-551
 903-824-955
 978-117-145
 264-638-871
 079-858-634
 982-331-399

Diameter
 4 mm
 6 mm
 8 mm
 10 mm
 15 mm
 25 mm
 50 mm

Quantity			
	10 discs	20 discs	50 discs
4 mm	YEN 31800	YEN 36400	YEN 47000
6 mm	YEN 34400	YEN 40200	YEN 53000
8 mm	YEN 37000	YEN 43800	YEN 58500
10 mm	YEN 39600	YEN 47400	YEN 64500
15 mm	YEN 46000	YEN 56500	YEN 79000
25 mm	YEN 59000	YEN 75000	YEN 108000
50 mm	YEN 91500	YEN 132000	

Typical Analysis : Al 1, Au 10, Bi <1, Ca 1, Cd <1, Cr <1, Cu 5, Fe 8, Mg <1, Mn <1, Na <1, Pb 1, Pd 3, Si 2, Sn <1.

AG000451

Thickness **0.25mm**
 Temper **As rolled**

Purity **99.95+%**
 Condition **Flattened**

Size

Web Code

053-210-237
 974-303-394
 600-834-348

Size
 250 x 300 mm
 300 x 500 mm
 300 x 1000 mm

Quantity	
	1pc
250 x 300 mm	POA
300 x 500 mm	POA
300 x 1000 mm	POA

Typical Analysis : Cu 70, Fe 5, Na 1, Pb 1, Zn 5.

AG000462

Thickness **0.30mm**
 Temper **As rolled**

Purity **99.95+%**

Size

Web Code

507-430-987
 914-087-326
 762-874-934

Size
 50 x 50 mm
 100 x 100 mm
 150 x 150 mm

Quantity			
	1pc	2pcs	5pcs
50 x 50 mm	YEN 21000	YEN 25200	YEN 34000
100 x 100 mm	YEN 31000	YEN 39400	
150 x 150 mm	YEN 41000		

Typical Analysis : Cu 70, Fe 5, Na 1, Pb 1, Zn 5.

AG000466

Thickness **0.5mm**
 Temper **As rolled**

Purity **99.95+%**

Discs

Web Code

548-214-823

Diameter
 19 mm

Quantity				
	1 discs	2 discs	5 discs	10 discs
19 mm	YEN 16000	YEN 17600	YEN 21200	YEN 25800

Typical Analysis : Cu 70, Fe 5, Na 1, Pb 1, Zn 5.

AG000465

Thickness **0.5mm**
 Temper **As rolled**

Purity **99.95+%**

Size

Web Code

791-424-639
 928-082-106
 010-264-694
 283-079-216

Size
 25 x 25 mm
 50 x 50 mm
 100 x 100 mm
 150 x 150 mm

Quantity			
	1pc	2pcs	5pcs
25 x 25 mm	YEN 14500	YEN 17000	YEN 22800
50 x 50 mm	YEN 19200	YEN 23600	YEN 41600
100 x 100 mm	YEN 33400	YEN 57500	
150 x 150 mm	YEN 62500		

Discs

Web Code

384-904-190
 113-012-531
 126-567-300
 820-918-537
 614-822-695
 852-834-007

Diameter
 4 mm
 6 mm
 8 mm
 10 mm
 15 mm
 25 mm

Quantity			
	10 discs	20 discs	50 discs
4 mm	YEN 28600	YEN 37200	YEN 47200
6 mm	YEN 30000	YEN 39400	YEN 50500
8 mm	YEN 31600	YEN 41600	YEN 54000
10 mm	YEN 33000	YEN 43800	YEN 58000
15 mm	YEN 36800	YEN 49000	YEN 74500
25 mm	YEN 44200		

Typical Analysis : Cu 70, Fe 5, Na 1, Pb 1, Zn 5.

Metal – Silver

Silver

Ag



Foil

AG000470

Thickness **0.5mm**
 Temper **As rolled**

High Purity **99.99+%**

Size

Web Code
 531-309-788
 413-722-432
 715-308-269
 413-527-916

Size	Quantity		
	1pc	2pcs	5pcs
25 x 25 mm	YEN 17400	YEN 20600	YEN 27800
50 x 50 mm	YEN 22600	YEN 27800	YEN 52000
100 x 100 mm	YEN 40600	YEN 70000	
150 x 150 mm	YEN 76000		

Discs

Web Code
 690-989-562
 373-691-320
 711-424-322
 928-048-123
 006-017-828
 752-225-476

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	YEN 32600	YEN 38800	YEN 56500
6 mm	YEN 34200	YEN 41200	YEN 60500
8 mm	YEN 35800	YEN 43600	YEN 64500
10 mm	YEN 37600	YEN 46000	YEN 68500
15 mm	YEN 41600	YEN 52000	YEN 90000
25 mm	YEN 51500		

Typical Analysis : Al 1, Au 10, Bi <1, Ca 1, Cd <1, Cr <1, Cu 5, Fe 8, Mg <1, Mn <1, Na <1, Pb 1, Pd 3, Si 2, Sn <1.

AG000467

Thickness **0.5mm**
 Temper **As rolled**

Purity **99.95+%**
 Condition **Flattened**

Size

Web Code
 069-278-803
 888-683-904
 015-577-273

Size	Quantity		
	1pc	2pcs	5pcs
50 x 50 mm	YEN 20200	YEN 25200	YEN 49200
100 x 100 mm	YEN 39200	YEN 69500	
100 x 200 mm	YEN 68500		

Discs

Web Code
 811-092-018
 583-840-202
 489-037-670
 556-277-134
 943-855-488
 120-638-443

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	YEN 29000	YEN 37800	YEN 48000
6 mm	YEN 30600	YEN 40200	YEN 52000
8 mm	YEN 32200	YEN 42600	YEN 56000
10 mm	YEN 34000	YEN 45000	YEN 60000
15 mm	YEN 38200	YEN 51000	
25 mm	YEN 48800		

Typical Analysis : Cu 70, Fe 5, Na 1, Pb 1, Zn 5.

AG000468

Thickness **0.5mm**
 Temper **As rolled**

Purity **99.95+%**
 Condition **Flattened**

Size

Web Code
 566-671-454
 453-719-107
 445-665-999

Size	Quantity
	1pc
200 x 200 mm	POA
200 x 500 mm	POA
200 x 1000 mm	POA

Typical Analysis : Cu 70, Fe 5, Na 1, Pb 1, Zn 5.

AG000475

Thickness **1.0mm**
 Temper **As rolled**

Purity **99.95+%**

Size

Web Code
 522-321-168
 290-145-234
 268-155-416
 519-427-971

Size	Quantity			
	1pc	2pcs	5pcs	10pcs
25 x 25 mm	YEN 16400	YEN 19800	YEN 27000	YEN 44800
50 x 50 mm	YEN 23000	YEN 34000	POA	
100 x 100 mm	YEN 57000	POA		
150 x 150 mm	POA			

Discs

Web Code
 928-494-171
 061-763-030
 720-380-118
 047-512-658
 939-080-656
 385-075-421

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	YEN 29800	YEN 39000	YEN 50000
6 mm	YEN 32000	YEN 42000	YEN 55000
8 mm	YEN 34200	YEN 45200	YEN 60500
10 mm	YEN 36400	YEN 48400	YEN 71500
15 mm	YEN 41600	YEN 60000	YEN 108000
25 mm	YEN 62500		

Typical Analysis : Cu 70, Fe 5, Na 1, Pb 1, Zn 5.

Metal – Silver

Silver

Ag



Foil

AG000480

Thickness **1.0mm**
 Temper **As rolled**

High Purity **99.99+%**

Size

Web Code
 803-188-199
 398-513-657
 814-203-421
 775-425-448

Size	Quantity			
	1pc	2pcs	5pcs	10pcs
25 x 25 mm	YEN 19500	YEN 23600	YEN 34000	YEN 54000
50 x 50 mm	YEN 26800	YEN 41600	YEN 87000	
100 x 100 mm	YEN 69000	YEN 126000		
150 x 150 mm	YEN 140000			

Discs

Web Code
 928-182-660
 022-826-336
 853-288-937
 661-113-318
 639-162-857
 895-352-790

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	YEN 34000	YEN 40800	YEN 59500
6 mm	YEN 36200	YEN 44200	YEN 65000
8 mm	YEN 38600	YEN 47800	YEN 73000
10 mm	YEN 41200	YEN 51500	YEN 86500
15 mm	YEN 46800	YEN 67000	YEN 130000
25 mm	YEN 73500		

Typical Analysis : Al 1, Au 10, Bi <1, Ca 1, Cd <1, Cr <1, Cu 5, Fe 8, Mg <1, Mn <1, Na <1, Pb 1, Pd 3, Si 2, Sn <1.

AG000501

Thickness **2.0mm**
 Temper **As rolled**

Purity **99.95+%**
 Condition **Polished on 1 side**

Size

Web Code
 749-854-965
 133-620-491

Size	Quantity	
	1pc	2pcs
25 x 25 mm	YEN 21200	YEN 28200
50 x 50 mm	YEN 45200	

Typical Analysis : Cu 70, Fe 5, Na 1, Pb 1, Zn 5.

AG000500

Thickness **2.0mm**
 Temper **As rolled**

Purity **99.95+%**

Size

Web Code
 886-463-838
 807-986-754
 998-344-859
 793-112-360

Size	Quantity			
	1pc	2pcs	5pcs	10pcs
25 x 25 mm	YEN 19200	YEN 23600	YEN 41600	YEN 74000
50 x 50 mm	YEN 33400	YEN 57500	POA	
100 x 100 mm	POA			
150 x 150 mm	POA			

Typical Analysis : Cu 70, Fe 5, Na 1, Pb 1, Zn 5.

AG000530

Thickness **3mm**
 Temper **As rolled**

Purity **99.95+%**

Size

Web Code
 168-604-721
 075-588-921

Size	Quantity	
	1pc	2pcs
50 x 50 mm	YEN 45000	POA
100 x 100 mm	POA	

Typical Analysis : Cu 70, Fe 5, Na 1, Pb 1, Zn 5.

AG000550

Thickness **6mm**
 Temper **As rolled**

Purity **99.95+%**

Size

Web Code
 633-912-487
 239-060-997

Size	Quantity	
	1pc	2pcs
50 x 50 mm	YEN 80500	POA
100 x 100 mm	POA	

Typical Analysis : Cu 70, Fe 5, Na 1, Pb 1, Zn 5.



Sputtering Target

AG009300

Thickness **3.0mm**

Purity **99.99%**

Size

Web Code
 573-225-486
 864-826-379
 547-787-190

Disc diam.	Quantity
	1disc
25 mm	POA
50 mm	POA
75 mm	POA

Typical Analysis : Au 5, Bi 1, Cu 20, Fe 2, Mg 1, Pb 10.

These targets are normally available for immediate shipment from stock. Other sizes are available to special order.

AG009500

Thickness **5.0mm**

Purity **99.99%**

Size

Web Code
 174-891-771

Disc diam.	Quantity
	1disc
31 mm	POA

Typical Analysis : Au 5, Bi 1, Cu 20, Fe 2, Mg 1, Pb 10.

These targets are normally available for immediate shipment from stock. Other sizes are available to special order.

Metal – Silver

Silver

Ag



Sputtering Target

AG009600

Thickness **6.0mm** Purity..... **99.99%**

Size	Quantity
Web Code	Disc diam.
655-741-648	25 mm
103-292-296	50 mm
940-851-290	75 mm
	1disc
	POA
	POA
	POA

Typical Analysis : Au 5, Bi 1, Cu 20, Fe 2, Mg 1, Pb 10.
 These targets are normally available for immediate shipment from stock. Other sizes are available to special order.



Mesh

AG008710

Nominal Aperture..... **0.25mm** Wire diameter..... **0.06mm**
 Wires/inch..... **82x82** Open area **65%**
 Type **Plain weave mesh**

Size	Quantity
Web Code	1pc
853-678-745	20 x 20 mm YEN 25200
526-449-555	40 x 40 mm YEN 35800
960-337-198	80 x 80 mm YEN 92000
	2pcs
	YEN 31600
	5pcs
	YEN 44200



Wire

AG005102

Diameter..... **0.0125mm** Purity..... **99.99%**
 Temper..... **Hard**

Length	Quantity
Web Code	1 Reel
481-295-095	1 m YEN 61000
576-820-421	5 m YEN 118000

Typical Analysis : Al <2, Au <2, Bi <2, Cd <2, Cu 15, Fe <5, In <1, Mn <2, Ni <2, Pb <3, Sb <2, Sn <3, Zn <10.
 1m and 5m reels only.

AG005104

Diameter..... **0.015mm** Purity..... **99.99%**
 Temper..... **Hard**

Length	Quantity
Web Code	1 Reel
630-723-128	1 m YEN 50500
812-683-428	5 m YEN 94000

Typical Analysis : Al <2, Au <2, Bi <2, Cd <2, Cu 15, Fe <5, In <1, Mn <2, Ni <2, Pb <3, Sb <2, Sn <3, Zn <10.
 1m and 5m reels only.

AG005106

Diameter..... **0.015mm** Purity..... **99.99%**
 Temper..... **Annealed**

Length	Quantity
Web Code	1 Reel
842-179-781	1 m YEN 50500
352-116-082	5 m YEN 94000

Typical Analysis : Al <2, Au <2, Bi <2, Cd <2, Cu 15, Fe <5, In <1, Mn <2, Ni <2, Pb <3, Sb <2, Sn <3, Zn <10.
 1m and 5m reels only.

AG005105

Diameter..... **0.025mm** Purity..... **99.99%**
 Temper..... **As drawn**

Length	Quantity
Web Code	1 Reel
400-124-346	1 m YEN 24400
894-058-488	2 m YEN 28200
015-547-801	5 m YEN 35400
943-483-788	10 m YEN 43800
757-309-898	20 m YEN 55500

Typical Analysis : Al 5, Au 5, Bi 2, Cd 3, Cu 35, Fe 10, Mn 2, Ni <3, Pb <3, Sb 5, Sn 2, Zn 10.

AG005107

Diameter..... **0.025mm** Purity..... **99.99%**
 Temper..... **Annealed**

Length	Quantity
Web Code	1 Reel
768-706-486	1 m YEN 24400
736-160-368	2 m YEN 28200
399-621-444	5 m YEN 35400
735-434-408	10 m YEN 43800
386-940-005	20 m YEN 55500

Typical Analysis : Al 5, Au 5, Bi 2, Cd 3, Cu 35, Fe 10, Mn 2, Ni <3, Pb <3, Sb 5, Sn 2, Zn 10.

Metal – Silver

Silver

Ag



Wire

AG005220

Diameter **0.050mm** Purity **99.99%**
 Condition **Gold plated wire**

Length		Quantity	
Web Code	Length	1 Reel	
514-124-632	0.5 m	YEN	26400
265-586-244	1 m	YEN	33400
198-278-164	2 m	YEN	43800
784-770-696	5 m	YEN	62000

Typical Analysis : Al 5, Au 5, Bi 2, Cd 3, Cu 35, Fe 10, Mn 2, Ni <3, Pb <3, Sb 5, Sn 2, Zn 10.

AG005110

Diameter **0.05mm** Purity **99.99%**
 Temper **Annealed**

Length		Quantity	
Web Code	Length	1 Reel	
957-599-601	10 m	YEN	13800
699-955-698	50 m	YEN	17500
494-452-202	100 m	YEN	20600
806-537-211	500 m	YEN	37400
817-161-717	1000 m	YEN	59000

Typical Analysis : Au 5, Bi 1, Cu 20, Fe 2, Mg 1, Pb 10.

AG005113

Diameter **0.075mm** Purity **99.99%**
 Temper **As drawn**

Length		Quantity	
Web Code	Length	1 Reel	
479-762-946	5 m	YEN	13000

Typical Analysis : Au 5, Bi 1, Cu 20, Fe 2, Mg 1, Pb 10.

AG005116

Diameter **0.1mm** Purity **99.99%**
 Temper **As drawn**

Length		Quantity	
Web Code	Length	1 Reel	
481-480-508	5 m	YEN	13500
326-497-782	10 m	YEN	15200
122-665-353	20 m	YEN	16700
109-457-739	100 m	YEN	23600
046-724-257	500 m	YEN	57500

Typical Analysis : Au 5, Bi 1, Cu 20, Fe 2, Mg 1, Pb 10.

AG005120

Diameter **0.125mm** Purity **99.99%**
 Temper **Annealed**

Length		Quantity	
Web Code	Length	1 Reel	
151-579-198	5 m	YEN	13300
296-185-237	10 m	YEN	15000
023-152-475	20 m	YEN	16500
423-805-466	100 m	YEN	23400
975-678-029	500 m	YEN	57000

Typical Analysis : Au 5, Bi 1, Cu 20, Fe 2, Mg 1, Pb 10.

AG005124

Diameter **0.15mm** Purity **99.99%**
 Temper **As drawn**

Length		Quantity	
Web Code	Length	1 Reel	
186-212-663	5 m	YEN	13700
962-029-208	10 m	YEN	15700
276-528-993	20 m	YEN	17500
066-883-234	100 m	YEN	25600
644-713-387	250 m	YEN	43200

Typical Analysis : Au 5, Bi 1, Cu 20, Fe 2, Mg 1, Pb 10.

AG005127

Diameter **0.20mm** Purity **99.99%**
 Temper **As drawn**

Length		Quantity	
Web Code	Length	1 Reel	
638-407-209	5 m	YEN	13400

Typical Analysis : Au 5, Bi 1, Cu 20, Fe 2, Mg 1, Pb 10.

Metal – Silver

Silver

Ag



Wire

AG005140 Diameter **0.25mm** High Purity **99.99%**
 Temper **As drawn**

Length		Quantity	
Web Code	Length	1 Reel	
921-766-017	0.5 m	YEN	17600
220-756-578	1 m	YEN	19100
594-563-020	5 m	YEN	26400
926-153-406	10 m	YEN	33200
320-381-962	25 m	YEN	49800

Typical Analysis : Ca <1, Cd <1, Cu <1, Fe 2, Mg <1, Na <1, Si 1.

AG005130 Diameter **0.25mm** Purity **99.99%**
 Temper **Annealed**

Length		Quantity	
Web Code	Length	1 Reel	
267-930-189	5 m	YEN	13400
693-428-466	10 m	YEN	15900
769-178-752	20 m	YEN	18500
147-346-943	50 m	YEN	25000
408-095-179	100 m	YEN	40200

Typical Analysis : Au 5, Bi 1, Cu 20, Fe 2, Mg 1, Pb 10.

AG005145 Diameter **0.35mm** Purity **99.99%**
 Temper **Annealed**

Length		Quantity	
Web Code	Length	1 Reel	
683-764-154	5 m	YEN	15200
824-966-838	10 m	YEN	18500
806-343-485	20 m	YEN	22200
699-562-183	50 m	YEN	40600

Typical Analysis : Au 5, Bi 1, Cu 20, Fe 2, Mg 1, Pb 10.

AG005150 Diameter **0.5mm** Purity **99.99%**
 Temper **Annealed**

Length		Quantity	
Web Code	Length	1 Reel	
968-137-820	1 m	YEN	14800
978-373-859	2 m	YEN	17000
017-233-069	5 m	YEN	21200
548-406-522	10 m	YEN	26000
651-924-636	20 m	YEN	34800

Typical Analysis : Au 5, Bi 1, Cu 20, Fe 2, Mg 1, Pb 10.

AG005155 Diameter **0.8mm** Purity **99.99%**
 Temper **As drawn**

Length		Quantity	
Web Code	Length	1 Reel	
778-702-015	0.5 m	YEN	15000
684-352-316	1 m	YEN	17600
296-735-914	2 m	YEN	21000
544-039-509	5 m	YEN	27400
004-942-766	10 m	YEN	39600

Typical Analysis : Au 5, Bi 1, Cu 20, Fe 2, Mg 1, Pb 10.

AG005160 Diameter **1.0mm** Purity **99.99%**
 Temper **Annealed**

Length		Quantity	
Web Code	Length	1 Reel	
660-397-904	0.2 m	YEN	13600
638-652-448	0.5 m	YEN	16300
831-560-817	1 m	YEN	19400
945-108-740	5 m	YEN	32000
138-597-256	10 m	YEN	54500

Typical Analysis : Au 5, Bi 1, Cu 20, Fe 2, Mg 1, Pb 10.

AG005170 Diameter **2.0mm** Purity **99.99%**
 Temper **Annealed**

Length		Quantity	
Web Code	Length	1 Reel	
067-692-009	0.1 m	YEN	15100
093-089-768	0.2 m	YEN	17600
182-612-668	0.5 m	YEN	22600
106-632-196	1 m	YEN	28200
280-150-840	2 m	YEN	42200

Typical Analysis : Au 5, Bi 1, Cu 20, Fe 2, Mg 1, Pb 10.

Metal – Silver

Silver

Ag



Insulated Wire

Insulating coatings of polyurethane, polyimide and Nylon are also available.

AG005816	Conductor diameter..... 0.025mm	Insulation thickness..... 0.005mm
	Purity..... 99.99%	Insulation..... Polyurethane
Length		
Web Code		
700-181-291	Quantity	Length 1 Reel
362-058-607		2 m YEN 15900
006-658-610		5 m YEN 18900
982-650-667		10 m YEN 22200
580-856-464		20 m YEN 32400
		50 m YEN 63000

Typical Analysis :

AG005815	Conductor diameter..... 0.025mm	Insulation thickness..... 0.005mm
	Purity..... 99.99%	Insulation..... Polyester
Length		
Web Code		
245-395-644	Quantity	Length 1 Reel
674-453-878		2 m YEN 15900
306-736-610		5 m YEN 18900
342-083-886		10 m YEN 22200
760-486-230		20 m YEN 32400
		50 m YEN 63000

Typical Analysis :

AG005820	Conductor diameter..... 0.04mm	Insulation thickness..... 0.007mm
	Purity..... 99.99%	Insulation..... Polyester
Condition..... Butyral bond coating 0.005 mm thick		
Length		
Web Code		
142-079-812	Quantity	Length 1 Reel
280-245-454		2 m YEN 23400
945-134-514		5 m YEN 35200
207-450-190		10 m YEN 59500
103-866-156		20 m YEN 109000
		50 m YEN 256000

Typical Analysis :

AG005825	Conductor diameter..... 0.05mm	Insulation thickness..... 0.0075mm
	Purity..... 99.99%	Insulation..... Polyester
Length		
Web Code		
060-784-274	Quantity	Length 1 Reel
598-026-663		2 m YEN 15300
753-335-176		5 m YEN 18000
166-893-478		10 m YEN 21000
861-682-780		20 m YEN 28200
		50 m YEN 54500

Typical Analysis :

AG005810	Conductor diameter..... 0.075mm	Insulation thickness..... 0.010mm
	Purity..... 99.99%	Insulation..... PTFE (Polytetrafluoroethylene)
Length		
Web Code		
096-329-213	Quantity	Length 1 Reel
041-150-010		1 m YEN 15800
143-761-023		2 m YEN 18800
970-127-738		5 m YEN 28200
265-963-128		10 m YEN 47400
		20 m YEN 84500

Typical Analysis :

AG005811	Conductor diameter..... 0.075mm	Insulation thickness..... 0.010mm
	Purity..... 99.99%	Insulation..... Nylon
Length		
Web Code		
603-641-993	Quantity	Length 1 Reel
593-052-374		1 m YEN 15800
824-170-461		2 m YEN 18800
810-673-942		5 m YEN 28200
092-197-979		10 m YEN 47400
		20 m YEN 84500

Typical Analysis :

AG005842	Conductor diameter..... 0.125mm	Insulation thickness..... 0.0125mm
	Purity..... 99.9%	Insulation..... Polyimide
Length		
Web Code		
254-922-938	Quantity	Length 1 Reel
488-343-115		5 m YEN 17400
213-079-249		10 m YEN 20200
432-201-915		20 m YEN 26000
		50 m YEN 49000

Typical Analysis : Al 1, Au 20, Bi 1, Ca 3, Cd 20, Cr <1, Cu 500, Fe 7, Mg 1, Mn <1, Na 1, Ni 10, Pb 50, Si <1, Sn 3

Metal – Silver

Silver

Ag



Insulated Wire

AG005840

Conductor diameter **0.125mm**
 Purity **99.99%**

Insulation thickness **0.0125mm**
 Insulation **Polyester**

Length

Web Code
 710-348-690
 793-580-023
 197-509-905
 688-747-556
 093-445-271

Quantity

Length 1 Reel
 2 m YEN 15300
 5 m YEN 18000
 10 m YEN 21000
 20 m YEN 29000
 50 m YEN 56500

Typical Analysis :

AG005845

Conductor diameter **0.125mm**
 Purity **99.99%**

Insulation thickness **0.015mm**
 Insulation **PTFE (Polytetrafluoroethylene)**

Length

Web Code
 479-905-483
 988-178-670
 522-326-550
 290-815-722
 351-974-430

Quantity

Length 1 Reel
 2 m YEN 17800
 5 m YEN 22000
 10 m YEN 28000
 20 m YEN 45400
 50 m YEN 98000

Typical Analysis :

AG005856

Conductor diameter **0.25mm**
 Purity **99.99%**

Insulation thickness **0.005mm**
 Insulation **Polyurethane**

Length

Web Code
 553-638-552
 753-149-323
 983-848-222
 308-044-879
 773-846-490

Quantity

Length 1 Reel
 1 m YEN 15800
 2 m YEN 17900
 5 m YEN 22400
 10 m YEN 30000
 20 m YEN 49400

Typical Analysis :

AG005860

Conductor diameter **0.25mm**
 Purity **99.99%**

Insulation thickness **0.015mm**
 Insulation **Epoxy**

Length

Web Code
 187-116-931
 389-619-737
 702-472-680
 809-075-325
 134-422-286

Quantity

Length 1 Reel
 2 m YEN 17300
 5 m YEN 21000
 10 m YEN 27600
 20 m YEN 43400
 50 m YEN 90500

Typical Analysis :

AG005850

Conductor diameter **0.25mm**
 Purity **99.99%**

Insulation thickness **0.023mm**
 Insulation **Polyester**

Length

Web Code
 996-805-637
 600-708-565
 088-566-581
 070-816-359
 852-048-630

Quantity

Length 1 Reel
 2 m YEN 17100
 5 m YEN 20600
 10 m YEN 24200
 20 m YEN 35000
 50 m YEN 70000

Typical Analysis :

AG005855

Conductor diameter **0.25mm**
 Purity **99.99%**

Insulation thickness **0.024mm**
 Insulation **PTFE (Polytetrafluoroethylene)**

Length

Web Code
 506-081-669
 260-204-931
 525-624-933
 703-115-960
 889-496-938

Quantity

Length 1 Reel
 2 m YEN 17900
 5 m YEN 22400
 10 m YEN 30000
 20 m YEN 49400
 50 m YEN 108000

Typical Analysis :

Metal – Silver

Silver

Ag



Rod

AG007902	Diameter 1.0mm Temper As drawn	Purity 99.95 + %				
	Size	Quantity				
	Web Code	Length	1pc	2pcs	5pcs	10pcs
	564-072-711	100 mm	YEN 16200	YEN 18700	YEN 24600	YEN 29200
	533-456-064	200 mm	YEN 17900	YEN 21000	YEN 28200	YEN 34400
	000-493-514	500 mm	YEN 21200	YEN 25800		
	138-134-114	1000 mm	YEN 24800	YEN 31000		

Typical Analysis : Cu 70, Fe 5, Na 1, Pb 1, Zn 5.

AG007905	Diameter 1.5mm Temper As drawn	Purity 99.95 + %				
	Size	Quantity				
	Web Code	Length	1pc	2pcs	5pcs	10pcs
	934-961-021	100 mm	YEN 17400	YEN 20400	YEN 27200	YEN 33000
	870-136-052	200 mm	YEN 19600	YEN 23400	YEN 32000	YEN 40800
	767-004-718	500 mm	YEN 23800	YEN 29600	YEN 46000	
	875-594-533	1000 mm	YEN 28600	YEN 37400		

Typical Analysis : Cu 70, Fe 5, Na 1, Pb 1, Zn 5.

AG007910	Diameter 2.0mm Temper As drawn	Purity 99.95 + %				
	Size	Quantity				
	Web Code	Length	1pc	2pcs	5pcs	10pcs
	449-313-936	100 mm	YEN 17800	YEN 21600	YEN 30200	YEN 41400
	164-243-000	200 mm	YEN 20800	YEN 26000	YEN 37000	YEN 62500
	530-385-376	500 mm	YEN 26800	YEN 34400		
	298-163-981	1000 mm	YEN 33600	YEN 55500		

Typical Analysis : Cu 70, Fe 5, Na 1, Pb 1, Zn 5.

AG007911	Diameter 2.6mm Temper As drawn	Purity 99.95 + %				
	Size	Quantity				
	Web Code	Length	1pc	2pcs	5pcs	
	367-439-571	100 mm	YEN 19100	YEN 24000	YEN 35800	
	720-888-475	200 mm	YEN 22200	YEN 28400		
	926-814-664	500 mm	YEN 28400	YEN 44400		
	825-675-690	1000 mm	YEN 42600			

Typical Analysis : Cu 70, Fe 5, Na 1, Pb 1, Zn 5.

AG007912	Diameter 3.0mm Temper As drawn	High Purity 99.997%				
	Size	Quantity				
	Web Code	Length	1pc	2pcs	5pcs	
	297-366-922	100 mm	YEN 23200	YEN 29400	YEN 47400	
	439-079-918	200 mm	YEN 28400	YEN 38000	YEN 81000	
	714-670-162	500 mm	YEN 44000	YEN 78500		
	860-432-478	1000 mm	YEN 77500			

Typical Analysis : Ca <1, Cd <1, Cu <1, Fe 2, Mg <1, Na <1, Si 1.

AG007915	Diameter 3.5mm Temper As drawn	Purity 99.95 + %				
	Size	Quantity				
	Web Code	Length	1pc	2pcs	5pcs	
	955-748-867	100 mm	YEN 20400	YEN 25400	YEN 36200	
	658-418-463	200 mm	YEN 24600	YEN 31400	YEN 55000	
	283-561-160	500 mm	YEN 32800	YEN 52500		
	348-761-097	1000 mm	YEN 52000			

Typical Analysis : Cu 70, Fe 5, Na 1, Pb 1, Zn 5.

AG007920	Diameter 5.0mm Temper As drawn	Purity 99.95 + %				
	Size	Quantity				
	Web Code	Length	1pc	2pcs	5pcs	
	270-496-864	100 mm	YEN 28400	YEN 36600	YEN 63500	
	812-101-696	200 mm	YEN 34200	YEN 50500	YEN 107000	
	512-703-190	500 mm	YEN 57000	YEN 102000		
	087-889-884	1000 mm	YEN 100000			

Typical Analysis : Cu 70, Fe 5, Na 1, Pb 1, Zn 5.

Metal – Silver

Silver

Ag



Rod

AG007928

Diameter **6.0mm**
 Temper **As drawn**

Purity **99.95 + %**

Size

Web Code
 442-757-320
 273-271-798
 073-145-994
 245-062-109

Length	Quantity			
	1pc	2pcs	5pcs	10pcs
50 mm	YEN 26200	YEN 33600	YEN 52500	YEN 90000
100 mm	YEN 31400	YEN 41600	YEN 84500	
200 mm	YEN 39400	YEN 67000		
500 mm	YEN 77500			

Typical Analysis : Cu 70, Fe 5, Na 1, Pb 1, Zn 5.

AG007936

Diameter **7.0mm**
 Temper **As drawn**

Purity **99.95 + %**

Size

Web Code
 713-771-282
 409-464-071
 708-248-763
 939-777-802

Length	Quantity			
	1pc	2pcs	5pcs	10pcs
50 mm	YEN 27600	YEN 35600	YEN 59500	POA
100 mm	YEN 33200	YEN 47400	POA	
200 mm	YEN 45000	POA		
500 mm	POA			

Typical Analysis : Cu 70, Fe 5, Na 1, Pb 1, Zn 5.

AG007935

Diameter **7.0mm**
 Temper **As drawn**

High Purity **99.99%**

Size

Web Code
 596-422-860
 959-505-818
 938-225-106
 278-144-620

Length	Quantity			
	1pc	2pcs	5pcs	10pcs
50 mm	YEN 29400	YEN 38200	YEN 71000	YEN 127000
100 mm	YEN 36000	YEN 56500	YEN 121000	
200 mm	YEN 54000	YEN 96500		
500 mm	YEN 114000			

Typical Analysis : Au <5, Bi 3, Cd 3, Cu 70, Fe 5, Na <1, Pb <2, Sn <5.

AG007930

Diameter **7.0mm**
 Temper **As drawn**

High Purity **99.999%**

Size

Web Code
 986-237-497
 279-676-075
 919-828-078

Length	Quantity	
	1pc	2pcs
50 mm	YEN 36400	YEN 47600
100 mm	YEN 45200	YEN 74500
200 mm	YEN 72000	

Typical Analysis : Fe 1, Mg <1, Na <1.

AG007938

Diameter **8.0mm**
 Temper **As drawn**

Purity **99.95 + %**

Size

Web Code
 839-346-927
 573-335-736
 135-963-077
 665-205-046

Length	Quantity			
	1pc	2pcs	5pcs	10pcs
50 mm	YEN 29600	YEN 38200	YEN 71500	YEN 128000
100 mm	YEN 36000	YEN 57000	YEN 122000	
200 mm	YEN 54500	YEN 97500		
500 mm	YEN 115000			

Typical Analysis : Cu 70, Fe 5, Na 1, Pb 1, Zn 5.

AG007940

Diameter **10.0mm**
 Temper **As drawn**

Purity **99.95 + %**

Size

Web Code
 816-328-862
 263-411-638
 010-688-470
 336-052-872

Length	Quantity		
	1pc	2pcs	5pcs
25 mm	YEN 29600	YEN 38400	YEN 67000
50 mm	YEN 35600	YEN 52500	
100 mm	YEN 50000	YEN 87500	
200 mm	YEN 85000		

Typical Analysis : Cu 70, Fe 5, Na 1, Pb 1, Zn 5.

AG007942

Diameter **12.7mm**
 Temper **As drawn**

Purity **99.95 + %**

Size

Web Code
 720-010-889
 537-766-591
 144-316-547
 593-036-399

Length	Quantity			
	1pc	2pcs	5pcs	10pcs
25 mm	YEN 33400	YEN 45200	YEN 91500	POA
50 mm	YEN 42600	YEN 72500	POA	
100 mm	YEN 70000	POA		
200 mm	POA			

Typical Analysis : Cu 70, Fe 5, Na 1, Pb 1, Zn 5.

Metal – Silver

Silver

Ag



Rod

AG007945	Diameter 16mm Temper As drawn	Purity 99.95 + %
Size	Quantity	
Web Code	Length	1pc 2pcs
784-855-295	25 mm	YEN 38200 YEN 62000
584-107-161	50 mm	YEN 59000 YEN 106000
461-061-205	100 mm	YEN 103000
Typical Analysis : Cu 70, Fe 5, Na 1, Pb 1, Zn 5.		

AG007950	Diameter 20.0mm Temper As drawn	Purity 99.95 + %
Size	Quantity	
Web Code	Length	1pc
825-852-001	25 mm	POA
231-507-195	50 mm	POA
938-394-397	100 mm	POA
Typical Analysis : Cu 70, Fe 5, Na 1, Pb 1, Zn 5.		

AG007955	Diameter 25mm Temper As drawn	Purity 99.95 + %
Size	Quantity	
Web Code	Length	1pc
162-008-416	25 mm	POA
188-008-617	50 mm	POA
925-118-395	100 mm	POA
Typical Analysis : Cu 70, Fe 5, Na 1, Pb 1, Zn 5.		

AG007958	Diameter 35mm Temper As drawn	Purity 99.95 + %
Size	Quantity	
Web Code	Length	1pc
712-679-027	25 mm	POA
736-076-215	50 mm	POA
719-776-077	100 mm	POA
Typical Analysis : Cu 70, Fe 5, Na 1, Pb 1, Zn 5.		

AG007959	Diameter 40.0mm Temper As drawn	Purity 99.95 + %
Size	Quantity	
Web Code	Length	1pc
748-466-839	12 mm	POA
533-312-632	25 mm	POA
199-378-302	50 mm	POA
Typical Analysis : Cu 70, Fe 5, Na 1, Pb 1, Zn 5.		

AG007960	Diameter 50.0mm Temper As drawn	Purity 99.95 + %
Size	Quantity	
Web Code	Length	1pc
815-790-116	25 mm	POA
973-774-743	50 mm	POA
721-849-232	100 mm	POA
Typical Analysis : Cu 70, Fe 5, Na 1, Pb 1, Zn 5.		



Tube

AG007050	Outside Diameter 0.7mm Inside Diameter 0.3mm Temper As drawn	Wall Thickness 0.2mm Purity 99.95 + %		
Size	Quantity			
Web Code	Length	1pc	2pcs	5pcs
449-580-445	100 mm	YEN 25800	YEN 31200	YEN 48800
275-425-388	200 mm	YEN 30400	YEN 40800	YEN 80500
884-620-974	500 mm	YEN 46400	YEN 79000	
706-995-286	1000 mm	YEN 78000		
Typical Analysis : Cu 70, Fe 5, Na 1, Pb 1, Zn 5.				

Metal – Silver

Silver

Ag



Tube

AG007100

Outside Diameter..... **1.1mm**
 Inside Diameter..... **0.75mm**
 Temper..... **As drawn**

Wall Thickness..... **0.175mm**
 Purity..... **99.95 + %**

Size

Web Code
 189-874-294
 734-283-529
 785-449-749
 181-221-165

Length	Quantity				
	1pc	2pcs	5pcs	10pcs	20pcs
100 mm	YEN 25200	YEN 30200	YEN 45600	YEN 75500	YEN 136000
200 mm	YEN 29600	YEN 38200	YEN 74000	YEN 132000	
500 mm	YEN 43000	YEN 72000	YEN 159000		
1000 mm	YEN 71500	YEN 129000			

Typical Analysis : Cu 70, Fe 5, Na 1, Pb 1, Zn 5.

AG007130

Outside Diameter..... **1.64mm**
 Inside Diameter..... **1.09mm**
 Temper..... **As drawn**

Wall Thickness..... **0.275mm**
 Purity..... **99.95 + %**

Size

Web Code
 946-630-194

Length	Quantity		
	5pcs	10pcs	20pcs
16.5 mm	YEN 30200	YEN 41000	YEN 65000

Typical Analysis : Cu 70, Fe 5, Na 1, Pb 1, Zn 5.

AG007150

Outside Diameter..... **1.75mm**
 Inside Diameter..... **1.55mm**
 Temper..... **As drawn**

Wall Thickness..... **0.1mm**
 Purity..... **99.95 + %**

Size

Web Code
 652-638-223
 579-779-712
 472-474-204
 059-285-095

Length	Quantity		
	1pc	2pcs	5pcs
100 mm	YEN 25000	YEN 30000	YEN 44600
200 mm	YEN 29400	YEN 37400	YEN 72000
500 mm	YEN 42200	YEN 70500	
1000 mm	YEN 69500		

Typical Analysis : Cu 70, Fe 5, Na 1, Pb 1, Zn 5.

AG007200

Outside Diameter..... **2.0mm**
 Inside Diameter..... **1.6mm**
 Temper..... **As drawn**

Wall Thickness..... **0.2mm**
 Purity..... **99.95 + %**

Size

Web Code
 410-629-790
 328-712-584
 089-067-990
 133-490-660

Length	Quantity				
	1pc	2pcs	5pcs	10pcs	20pcs
100 mm	YEN 25400	YEN 30200	YEN 44200	YEN 72500	YEN 130000
200 mm	YEN 29600	YEN 37200	YEN 71000	YEN 126000	
500 mm	YEN 41800	YEN 69000	YEN 151000		
1000 mm	YEN 68500	YEN 122000			

Typical Analysis : Cu 70, Fe 5, Na 1, Pb 1, Zn 5.

AG007220

Outside Diameter..... **2.8mm**
 Inside Diameter..... **2.5mm**
 Temper..... **As drawn**

Wall Thickness..... **0.15mm**
 Purity..... **99.95 + %**

Size

Web Code
 686-333-217
 791-652-113
 956-513-541
 564-191-172

Length	Quantity			
	1pc	2pcs	5pcs	10pcs
100 mm	YEN 24200	YEN 30200	YEN 42600	YEN 68000
200 mm	YEN 29400	YEN 37600	YEN 64500	
500 mm	YEN 39800	YEN 62000		
1000 mm	YEN 61500	YEN 112000		

Typical Analysis : Cu 70, Fe 5, Na 1, Pb 1, Zn 5.

AG007230

Outside Diameter..... **3.5mm**
 Inside Diameter..... **3.04mm**
 Temper..... **As drawn**

Wall Thickness..... **0.23mm**
 Purity..... **99.95 + %**

Size

Web Code
 523-894-342
 486-795-874
 849-480-584
 185-065-949

Length	Quantity			
	1pc	2pcs	5pcs	10pcs
100 mm	YEN 21800	YEN 26800	YEN 37400	YEN 50500
200 mm	YEN 26000	YEN 32800	YEN 46800	
500 mm	YEN 34400	YEN 44600		
1000 mm	YEN 43800	YEN 74000		

Typical Analysis : Cu 70, Fe 5, Na 1, Pb 1, Zn 5.

AG007250

Outside Diameter..... **4.65mm**
 Inside Diameter..... **4.15mm**
 Temper..... **As drawn**

Wall Thickness..... **0.25mm**
 Purity..... **99.95 + %**

Size

Web Code
 379-491-705
 436-470-048
 558-762-369
 845-295-584

Length	Quantity			
	1pc	2pcs	5pcs	10pcs
100 mm	YEN 22800	YEN 28200	YEN 39600	YEN 53500
200 mm	YEN 27400	YEN 34400	YEN 49400	YEN 82500
500 mm	YEN 36200	YEN 47000	YEN 94500	
1000 mm	YEN 46200	YEN 76000		

Typical Analysis : Cu 70, Fe 5, Na 1, Pb 1, Zn 5.

Silver

Ag



Tube

AG007251

Outside Diameter..... **4.65mm**
 Inside Diameter..... **4.23mm**
 Temper..... **As drawn**

Wall Thickness..... **0.21mm**
 Purity..... **99.95+%**

Size

Web Code

524-466-966
 051-732-974
 866-454-142
 755-813-106

Length	Quantity			
	1pc	2pcs	5pcs	10pcs
100 mm	YEN 22800	YEN 28200	YEN 39600	YEN 53500
200 mm	YEN 27400	YEN 34400	YEN 49400	YEN 82500
500 mm	YEN 36200	YEN 47000	YEN 94500	
1000 mm	YEN 46200	YEN 76000		

Typical Analysis : Cu 70, Fe 5, Na 1, Pb 1, Zn 5.

AG007260

Outside Diameter..... **5.0mm**
 Inside Diameter..... **4.5mm**
 Temper..... **As drawn**

Wall Thickness..... **0.25mm**
 Purity..... **99.95+%**

Size

Web Code

133-245-314
 655-666-608
 958-328-831
 791-106-045

Length	Quantity			
	1pc	2pcs	5pcs	10pcs
100 mm	YEN 22800	YEN 28200	YEN 39400	YEN 53500
200 mm	YEN 27400	YEN 34400	YEN 49400	YEN 82500
500 mm	YEN 36200	YEN 47000	YEN 94000	
1000 mm	YEN 46200	YEN 76000		

Typical Analysis : Cu 70, Fe 5, Na 1, Pb 1, Zn 5.

AG007300

Outside Diameter..... **6.0mm**
 Inside Diameter..... **4mm**
 Temper..... **As drawn**

Wall Thickness..... **1.0mm**
 Purity..... **99.95+%**

Size

Web Code

888-251-357
 031-414-701
 926-842-903
 855-367-044

Length	Quantity		
	1pc	2pcs	5pcs
100 mm	YEN 28800	YEN 36600	YEN 57000
200 mm	YEN 34200	YEN 44200	YEN 89500
500 mm	YEN 48200	YEN 83000	
1000 mm	YEN 80500		

Typical Analysis : Cu 70, Fe 5, Na 1, Pb 1, Zn 5.

AG007325

Outside Diameter..... **7.0mm**
 Inside Diameter..... **6mm**
 Temper..... **As drawn**

Wall Thickness..... **0.5mm**
 Purity..... **99.95+%**

Size

Web Code

347-980-345
 511-661-995
 990-922-569

Length	Quantity		
	1pc	2pcs	5pcs
100 mm	YEN 28800	YEN 36600	YEN 57000
200 mm	YEN 34200	YEN 44200	YEN 89500
500 mm	YEN 48200	YEN 83000	

Typical Analysis : Cu 70, Fe 5, Na 1, Pb 1, Zn 5.

AG007335

Outside Diameter..... **8.0mm**
 Inside Diameter..... **5.0mm**
 Temper..... **As drawn**

Wall Thickness..... **1.5mm**
 Purity..... **99.95+%**

Size

Web Code

216-953-390
 022-971-894
 515-384-847
 678-677-678

Length	Quantity		
	1pc	2pcs	5pcs
50 mm	YEN 26200	YEN 34000	YEN 51500
100 mm	YEN 30400	YEN 44200	YEN 82500
200 mm	YEN 40800	YEN 69000	
500 mm	YEN 78000		

Typical Analysis : Cu 70, Fe 5, Na 1, Pb 1, Zn 5.

AG007400

Outside Diameter..... **8.0x5.0mm**
 Inside Diameter..... **6x3mm**
 Condition..... **Rectangular section**

Wall Thickness..... **1mm**
 Purity..... **99.95+%**

Size

Web Code

920-885-240
 110-651-826
 831-479-687

Length	Quantity		
	1pc	2pcs	5pcs
100 mm	YEN 37400	YEN 49000	YEN 98000
200 mm	YEN 46800	YEN 76500	
500 mm	YEN 89000		

Typical Analysis : Cu 70, Fe 5, Na 1, Pb 1, Zn 5.

AG007350

Outside Diameter..... **10mm**
 Inside Diameter..... **8mm**
 Temper..... **As drawn**

Wall Thickness..... **1.0mm**
 Purity..... **99.95+%**

Size

Web Code

802-581-593
 779-258-199
 407-269-757
 908-723-329

Length	Quantity		
	1pc	2pcs	5pcs
50 mm	YEN 26000	YEN 33600	YEN 50000
100 mm	YEN 30200	YEN 43200	YEN 80000
200 mm	YEN 39800	YEN 67000	
500 mm	YEN 75500		

Typical Analysis : Cu 70, Fe 5, Na 1, Pb 1, Zn 5.

Metal – Silver

Silver

Ag



Tube

AG007380

Outside Diameter..... **12.7mm**
 Inside Diameter..... **11.7mm**
 Temper..... **As drawn**

Wall Thickness..... **0.5mm**
 Purity..... **99.95+%**

Size

Web Code

706-318-948
 281-292-715
 398-829-765
 686-234-211

Length

50 mm
 100 mm
 200 mm
 500 mm

Quantity

1pc	2pcs	5pcs
YEN 25200	YEN 32400	YEN 45400
YEN 29000	YEN 39400	YEN 70500
YEN 35800	YEN 59500	
YEN 66000		

Typical Analysis : Cu 70, Fe 5, Na 1, Pb 1, Zn 5.



Powder

AG006030

Max. Particle size **2micron**

Purity..... **99.97+%**



Web Code

381-105-085
 638-127-416
 765-936-178
 742-020-503

Quantity

Weight

10 g
 25 g
 50 g
 100 g

1 Pot

YEN 26400
 YEN 41000
 YEN 66000
 YEN 117000

Typical Analysis : Cl <20, Cu 180, Fe <20, K <1, Na 30, Pb <20.

Hazardous goods, additional shipment charges apply which are dependent on destination. Please check the individual item on our website or contact us for further details.

AG006023

Max. Particle size **45micron**
 Condition..... **Gas atomized**

Purity..... **99.99%**
 Condition..... **Spherical**



Web Code

191-970-079
 227-518-830
 659-708-162
 075-038-257

Quantity

Weight

10 g
 20 g
 50 g
 100 g

1 Pot

YEN 17000
 YEN 22000
 YEN 32600
 YEN 49800

Typical Analysis : Cu <25, Fe <10, Ni <5, Pb <10, Cl <5, sulphate <10, water <4000.

May be suitable for additive manufacturing research and development purposes.

Hazardous goods, additional shipment charges apply which are dependent on destination. Please check the individual item on our website or contact us for further details.



Lump

AG006100

Max. Lump size **3mm**
 Condition..... **Shot**

High Purity **99.999%**

Web Code

948-528-732
 566-096-572
 762-074-405

Quantity

Weight

10 g
 20 g
 50 g

1 Pot

YEN 36600
 YEN 54500
 YEN 112000

Typical Analysis : Fe 1, Mg <1, Na <1.

AG006105

Max. Lump size **6mm**
 Condition..... **Pellets**

Purity..... **99.99%**

Web Code

564-774-698
 051-834-129
 630-752-366

Quantity

Weight

20 g
 50 g
 100 g

1 Pot

YEN 27400
 YEN 38000
 YEN 64000

Typical Analysis : Au 5, Bi 1, Cu 20, Fe 2, Mg 1, Pb 10.

Nominally 3.5mm diameter x 6mm length pellets.

AG006110

Max. Lump size **10mm**
 Condition..... **Shot**

Purity..... **99.99%**

Web Code

414-045-084
 755-630-738
 453-845-096

Quantity

Weight

20 g
 50 g
 100 g

1 Pot

YEN 27400
 YEN 38000
 YEN 64000

Typical Analysis : Au 5, Bi 1, Cu 20, Fe 2, Mg 1, Pb 10.

Silver

Ag



Lump

AG006106

Max. Lump size **20mm**
 Condition..... **Pellets**

Purity..... **99.99%**

Web Code
 583-118-626
 086-521-801

Quantity		1 Pot
Weight		
50 g		YEN 38000
100 g		YEN 64000

Typical Analysis : Au 5, Bi 1, Cu 20, Fe 2, Mg 1, Pb 10.
 Nominally 9mm diameter x 15mm length pellets.



Sphere

AG006840

Diameter..... **0.5mm**
 Grade..... **Precision Sphere**

Tolerance..... **±50µm**

Quantity
Web Code
 349-438-788
 487-204-836
 684-418-457
 546-178-899

Quantity		1 Pot
Spheres		
20 pcs		YEN 15300
50 pcs		YEN 21600
100 pcs		YEN 30800
200 pcs		YEN 47800

Typical Analysis : Not applicable



Single Crystal

AG002113

Oriented..... **(100)**
 Length..... **2mm**
 Condition..... **Unpolished**

Diameter..... **12.7mm**
 Purity..... **99.999%**

Web Code
 780-150-678

Quantity		1pc
		YEN POA

Typical Analysis : Not applicable

AG002118

Oriented..... **(100)**
 Length..... **5mm**

Diameter..... **12mm**
 Purity..... **99.999%**

Web Code
 457-297-930

Quantity		1pc
		YEN POA

Typical Analysis : Not applicable

AG002111

Oriented..... **(100)**
 Diameter..... **10mm**
 Condition..... **Polished on 1 side to 1 micron**

Thickness..... **2mm**
 Purity..... **99.999%**

Web Code
 614-209-918

Quantity		1pc
		YEN POA

Typical Analysis : Not applicable

AG002110

Oriented..... **(100)**
 Diameter..... **10mm**
 Condition..... **Unpolished**

Thickness..... **2mm**
 Purity..... **99.999%**

Web Code
 359-711-391

Quantity		1pc
		YEN POA

Typical Analysis : Not applicable

AG002119

Oriented..... **(100)**
 Length..... **10mm**

Diameter..... **12mm**
 Purity..... **99.999%**

Web Code
 054-033-497

Quantity		1pc
		YEN POA

Typical Analysis : Not applicable

AG002114

Oriented..... **(100)**
 Diameter..... **12.7mm**
 Condition..... **Unpolished**

Thickness..... **3mm**
 Purity..... **99.999%**

Web Code
 038-997-731

Quantity		1pc
		YEN POA

Typical Analysis : Not applicable
 Although this crystal is normally held in stock ready for immediate shipment it is an example of crystals which may be grown to order with a delivery forecast of 4-10 weeks.

Metal – Silver

Silver

Ag



Single Crystal

AG002120	Oriented (100) Length 25mm	Diameter 12mm Purity 99.999%
Quantity		1pc
Web Code 706-972-566	YEN POA	
Typical Analysis : Not applicable		
AG002121	Oriented (100) Length 50mm	Diameter 12mm Purity 99.999%
Quantity		1pc
Web Code 731-481-481	YEN POA	
Typical Analysis : Not applicable		
AG002151	Oriented (110) Diameter 10mm Condition Polished on 1 side to 1 micron	Thickness 2mm Purity 99.999%
Quantity		1pc
Web Code 533-530-878	YEN POA	
Typical Analysis : Not applicable		
AG002150	Oriented (110) Diameter 10mm Condition Unpolished	Thickness 2mm Purity 99.999%
Quantity		1pc
Web Code 824-162-695	YEN POA	
Typical Analysis : Not applicable		
AG002131	Oriented (111) Diameter 10mm Condition Polished on 1 side to 1 micron	Thickness 2mm Purity 99.999%
Quantity		1pc
Web Code 778-195-855	YEN POA	
Typical Analysis : Not applicable		
AG002130	Oriented (111) Diameter 10mm Condition Unpolished	Thickness 2mm Purity 99.999%
Quantity		1pc
Web Code 846-980-729	YEN POA	
Typical Analysis : Not applicable		
AG002160	Oriented (111) Length 25mm	Diameter 10mm Purity 99.999%
Quantity		1pc
Web Code 851-173-059	YEN POA	
Typical Analysis : Not applicable Although this crystal is normally held in stock ready for immediate shipment it is an example of crystals which may be grown to order with a delivery forecast of 4-10 weeks.		
AG002141	Oriented (220) Diameter 10mm Condition Polished on 1 side to 1 micron	Thickness 2mm Purity 99.999%
Quantity		1pc
Web Code 065-947-901	YEN POA	
Typical Analysis : Not applicable		
AG002140	Oriented (220) Diameter 10mm Condition Unpolished	Thickness 2mm Purity 99.999%
Quantity		1pc
Web Code 403-933-579	YEN POA	
Typical Analysis : Not applicable		

Metal – Silver

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