

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 Tin

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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

Ceramics: ANSI B18.6.7M-1985



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

Ceramics: ANSI B18.2.4.1M-1979
 (R1995)



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

Ceramics:	see item
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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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Goodfellow Corporation

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USA
A Pennsylvania corporation
EIN 23-2557381

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Siren : 381486836
Numéro de TVA Intracommunitaire :
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Goodfellow GmbH

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Registered in Friedberg (Hessen) No. HRB 1309
Import VAT number DE112610478

Goodfellow (Shanghai) Trading Co., Ltd

Fl. 23, 758 Nanjing Road West
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200040
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

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- 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,

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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

Tin Sn

Tin was known and used by ancient civilisations.

Tin is a silvery white metal which is soft and pliable, and which emits the characteristic sound of "tin cry" when bent. It is a relatively common element, its abundance being 2.2 ppm in the earth's crust. Its principal ore is cassiterite, SnO₂, from which the metal is obtained by reduction. Tin forms a stable oxide coating on its surface which makes it unreactive in water; however, it is soluble in both acids and alkalis, and reacts readily with halogens.

As tin has good chemical resistance, it is used as a coating of other metals to prevent corrosion, the coating of steel to produce tin plate being an important example of this application. Tin is widely used in the manufacture of soft solders where it is alloyed with other elements to produce a wide range of alloys with different characteristics. Tin is also a constituent of bronzes, pewter, certain bearing materials and fusible alloys.

Atomic Properties

Atomic number	50
Atomic radius - Goldschmidt	0.158 nm
Atomic weight	118.69 amu
Crystal structure	Tetragonal
Electronic structure	Kr 4d ¹⁰ 5s ² 5p ²
Photo-electric work function	4.3 eV
Thermal neutron absorption cross-section	0.63 Barns
Valences shown	2, 4

Natural isotope distribution	Mass No.	%
	112	1.0
	114	0.7
	115	0.4
	116	14.7
	117	7.7
	118	24.3
	119	8.6
	120	32.4
	122	4.6
	124	5.6
Ionisation potential	No.	eV
	1	7.34
	2	14.63
	3	30.5
	4	40.7
	5	72.3

Physical Properties

Boiling point	2270 C
Density @20C	7.28 g cm ⁻³
Melting point	231.9 C

Electrical Properties

Electrical resistivity @20C	12.6 μOhmcm
Temperature coefficient @0-100C	0.0046 K ⁻¹
Superconductivity critical temperature	3.722 K
Thermal emf against Pt (cold 0C - hot 100C)	+0.42 mV

Thermal Properties

Coefficient of thermal expansion @0-100C	23.5 x 10 ⁻⁶ K ⁻¹
Latent heat of evaporation	2497 J g ⁻¹
Latent heat of fusion	59.6 J g ⁻¹
Specific heat @25C	213 J K ⁻¹ kg ⁻¹
Thermal conductivity @0-100C	66.8 W m ⁻¹ K ⁻¹

Mechanical Properties

Material condition	Polycrystalline
Bulk modulus	58.2 GPa
Hardness - Mohs	1.5-1.8
Poisson's ratio	0.357
Tensile modulus	49.9 GPa



Microfoil

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

SN004600	Thickness..... 0.25μm	Area density..... 182.5μg.cm⁻²			
	Purity..... 99.999%	Support..... Permanent Mylar 3.5μm			
Quantity					
Web Code	Disc diam.	1 disc	2discs	5discs	10discs
576-040-029	10 mm	USD 422.00	USD 579.00	USD 1049.00	USD 1677.00
626-251-027	25 mm	USD 631.00	USD 892.00	USD 1677.00	USD 2722.00

Typical Analysis : Starting Material : Ag <1, Al <1, Au 1, Bi 2, Cd 1, Cu <1, Fe 2, In <1, Mg 1, Ni 1, Pb 10, Si 5, Ti 1.
 This item is normally made to order for delivery within 4-5 weeks.

SN004700	Thickness..... 0.5μm	Area density..... 365μg.cm⁻²			
	Purity..... 99.999%	Support..... Permanent Mylar 3.5μm			
Quantity					
Web Code	Disc diam.	1 disc	2discs	5discs	10discs
536-794-715	10 mm	USD 449.00	USD 620.00	USD 1131.00	USD 1813.00
417-463-944	25 mm	USD 676.00	USD 961.00	USD 1813.00	USD 2950.00

Typical Analysis : Starting Material : Ag <1, Al <1, Au 1, Bi 2, Cd 1, Cu <1, Fe 2, In <1, Mg 1, Ni 1, Pb 10, Si 5, Ti 1.
 This item is normally made to order for delivery within 4-5 weeks.

SN004850	Thickness..... 1.0μm	Area density..... 730μg.cm⁻²			
	Purity..... 99.999%	Support..... Permanent Mylar 3.5μm			
Quantity					
Web Code	Disc diam.	1 disc	2discs	5discs	10discs
883-215-292	10 mm	USD 517.00	USD 722.00	USD 1336.00	USD 2154.00
237-545-395	25 mm	USD 790.00	USD 1131.00	USD 2154.00	USD 3518.00

Typical Analysis : Starting Material : Ag <1, Al <1, Au 1, Bi 2, Cd 1, Cu <1, Fe 2, In <1, Mg 1, Ni 1, Pb 10, Si 5, Ti 1.
 This item is normally made to order for delivery within 4-5 weeks.



Foil

SN000040	Thickness..... 0.0005mm	Purity..... 99.75%					
	Support..... Temporary Acrylic						
Quantity							
Sizes LT	Size	1pc	2pcs	3pcs	5pcs	10pcs	15pcs
Web Code							
869-426-944	25 x 25 mm	USD 522.00	USD 683.00	USD 809.00	USD 1014.00	USD 1405.00	USD 2010.00
080-596-641	50 x 50 mm	USD 879.00	USD 1188.00	USD 1593.00	USD 2553.00	USD 4911.00	USD 7269.00
982-719-623	100 x 100 mm	USD 2035.00	USD 3918.00	USD 5800.00	USD 9565.00		

Typical Analysis : Ag 3, Al 25, Au 50, B 5, Bi 10, Ca 150, Cd 1, Cr 400, Cu 800, Fe 400, Ga 2, In 3, K 200, Mg 7, Mn 30, Mo 50, Na 50, Ni 20, Pb 50, Sb 50, Si 60, Zn 20.

Tin
Sn



Foil

SN000050

Thickness **0.001mm** Purity **99.75%**
 Support **Temporary Acrylic**

Sizes LT		Quantity		
Web Code	Size	1pc	2pcs	5pcs
726-821-625	25 x 25 mm	USD 491.00	USD 640.00	USD 948.00
237-622-911	50 x 50 mm	USD 820.00	USD 1106.00	

Typical Analysis : Ag 3, Al 25, Au 50, B 5, Bi 10, Ca 150, Cd 1, Cr 400, Cu 800, Fe 400, Ga 2, In 3, K 200, Mg 7, Mn 30, Mo 50, Na 50, Ni 20, Pb 50, Sb 50, Si 60, Zn 20.

SN000060

Thickness **0.002mm** Purity **99.75%**
 Support **Temporary Acrylic**

Sizes LT		Quantity		
Web Code	Size	1pc	2pcs	5pcs
475-336-868	25 x 25 mm	USD 472.00	USD 613.00	USD 906.00
546-020-524	50 x 50 mm	USD 783.00	USD 1062.00	

Typical Analysis : Ag 3, Al 25, Au 50, B 5, Bi 10, Ca 150, Cd 1, Cr 400, Cu 800, Fe 400, Ga 2, In 3, K 200, Mg 7, Mn 30, Mo 50, Na 50, Ni 20, Pb 50, Sb 50, Si 60, Zn 20.

SN000070

Thickness **0.0025mm** Purity **99.75%**
 Support **Temporary Acrylic**

Sizes LT		Quantity		
Web Code	Size	1pc	2pcs	5pcs
823-443-159	25 x 25 mm	USD 453.00	USD 586.00	USD 863.00
518-852-325	50 x 50 mm	USD 744.00	USD 1022.00	

Discs		Quantity		
Web Code	Diameter	10 discs	20 discs	50 discs
017-091-081	4 mm	USD 515.00	USD 629.00	USD 904.00
136-379-213	6 mm	USD 597.00	USD 747.00	USD 1094.00
047-403-203	8 mm	USD 681.00	USD 867.00	USD 1287.00
925-401-343	10 mm	USD 765.00	USD 987.00	
675-167-359	15 mm	USD 971.00		

Typical Analysis : Ag 3, Al 25, Au 50, B 5, Bi 10, Ca 150, Cd 1, Cr 400, Cu 800, Fe 400, Ga 2, In 3, K 200, Mg 7, Mn 30, Mo 50, Na 50, Ni 20, Pb 50, Sb 50, Si 60, Zn 20.

SN000081

Thickness **0.003mm** Purity **99.95%**
 Temper **As rolled**

Sizes LT		Quantity		
Web Code	Size	1pc	2pcs	5pcs
122-744-663	25 x 25 mm	USD 652.00	USD 840.00	USD 1234.00
700-143-275	50 x 50 mm	USD 1062.00	USD 1480.00	

Typical Analysis : Al 2, Ca 2, Fe 200, In <1, Mg 2, Na <1, Pb 10, Si 15.

SN000204

Thickness **0.004mm** High Purity **99.99+%**
 Temper **As rolled**

Sizes LT		Quantity		
Web Code	Size	1pc	2pcs	5pcs
317-030-939	25 x 25 mm	USD 708.00	USD 944.00	

Discs		Quantity		
Web Code	Diameter	10 discs	20 discs	50 discs
295-038-300	4 mm	USD 781.00	USD 1094.00	
879-788-416	6 mm	USD 947.00		
973-551-661	8 mm	USD 1114.00		

Typical Analysis : Ag <1, Al <1, Au 1, Bi 2, Cd 1, Cu <1, Fe 2, In <1, Mg 1, Ni 1, Pb 10, Si 5, Ti 1.

SN000090

Thickness **0.004mm** Purity **99.75%**

Sizes LT		Quantity		
Web Code	Size	1pc	2pcs	5pcs
602-613-195	25 x 25 mm	USD 416.00	USD 534.00	USD 781.00
475-075-976	50 x 50 mm	USD 671.00	USD 947.00	

Discs		Quantity		
Web Code	Diameter	10 discs	20 discs	50 discs
278-278-482	4 mm	USD 494.00	USD 600.00	USD 858.00
784-804-672	6 mm	USD 567.00	USD 704.00	USD 1025.00
100-576-091	8 mm	USD 640.00	USD 808.00	USD 1194.00
572-003-858	10 mm	USD 714.00	USD 914.00	
500-486-582	15 mm	USD 894.00		

Typical Analysis : Ag 3, Al 25, Au 50, B 5, Bi 10, Ca 150, Cd 1, Cr 400, Cu 800, Fe 400, Ga 2, In 3, K 200, Mg 7, Mn 30, Mo 50, Na 50, Ni 20, Pb 50, Sb 50, Si 60, Zn 20.

Metal - Tin

Tin
Sn



Foil

SN000101

Thickness **0.005mm**
 Temper **As rolled**

Purity **99.95%**

Sizes LT

Web Code
 247-792-016
 294-277-562

Size	Quantity		
	1pc	2pcs	5pcs
25 x 25 mm	USD 575.00	USD 759.00	USD 1168.00
50 x 50 mm	USD 988.00	USD 1705.00	

Discs

Web Code
 027-819-857
 805-616-732
 844-939-963
 875-886-796
 654-785-384

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	USD 582.00	USD 725.00	USD 1055.00
6 mm	USD 699.00	USD 891.00	USD 1321.00
8 mm	USD 816.00	USD 1058.00	
10 mm	USD 934.00	USD 1226.00	
15 mm	USD 1225.00		

Typical Analysis : Al 2, Ca 2, Fe 200, In <1, Mg 2, Na <1, Pb 10, Si 15.

SN000110

Thickness **0.006mm**

Purity **99.75%**

NLT Sizes

Web Code
 540-064-095
 353-058-609

Size	Quantity		
	1pc	2pcs	5pcs
25 x 25 mm	USD 381.00	USD 485.00	USD 704.00
50 x 50 mm	USD 602.00	USD 871.00	

Sizes LT

Web Code
 419-630-695
 154-974-774

Size	Quantity		
	1pc	2pcs	5pcs
25 x 25 mm	USD 419.00	USD 534.00	USD 774.00
50 x 50 mm	USD 662.00	USD 958.00	

Discs

Web Code
 349-693-480
 711-686-876
 960-860-432
 107-561-998
 445-241-666

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	USD 475.00	USD 572.00	USD 814.00
6 mm	USD 537.00	USD 662.00	USD 958.00
8 mm	USD 601.00	USD 752.00	USD 1105.00
10 mm	USD 664.00	USD 844.00	
15 mm	USD 820.00		

Typical Analysis : Ag 3, Al 25, Au 50, B 5, Bi 10, Ca 150, Cd 1, Cr 400, Cu 800, Fe 400, Ga 2, In 3, K 200, Mg 7, Mn 30, Mo 50, Na 50, Ni 20, Pb 50, Sb 50, Si 60, Zn 20.

SN000200

Thickness **0.006mm**

Purity **97.4%**

NLT Sizes

Web Code
 476-216-846
 221-694-829
 451-386-296
 851-109-828

Size	Quantity				
	1pc	2pcs	5pcs	10pcs	20pcs
50 x 50 mm	USD 267.00	USD 282.00	USD 318.00	USD 366.00	USD 449.00
100 x 100 mm	USD 292.00	USD 317.00	USD 373.00	USD 444.00	USD 559.00
150 x 150 mm	USD 316.00	USD 352.00	USD 428.00	USD 522.00	USD 669.00
200 x 300 mm	USD 363.00	USD 418.00	USD 532.00	USD 669.00	

Sizes LT

Web Code
 878-367-106
 629-738-492

Size	Quantity				
	1pc	2pcs	5pcs	10pcs	20pcs
25 x 25 mm	USD 255.00	USD 265.00	USD 290.00	USD 327.00	USD 394.00
50 x 50 mm	USD 334.00	USD 353.00	USD 397.00	USD 457.00	USD 561.00

Coil

Web Code
 222-542-966
 300-402-328
 862-926-031
 601-901-636

Length	Quantity
	1 Reel
1 m	USD 509.00
2 m	USD 601.00
5 m	USD 785.00
10 m	USD 994.00

Discs

Web Code
 105-106-811
 138-352-241
 294-032-337
 754-037-514
 254-691-075
 836-386-711
 548-337-556

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	USD 487.00	USD 551.00	USD 702.00
6 mm	USD 491.00	USD 556.00	USD 711.00
8 mm	USD 495.00	USD 562.00	USD 719.00
10 mm	USD 499.00	USD 567.00	USD 727.00
15 mm	USD 508.00	USD 580.00	USD 748.00
25 mm	USD 527.00	USD 607.00	USD 790.00
50 mm	USD 573.00	USD 673.00	USD 895.00

Typical Analysis : As 130, Bi 40, Cu 60, Fe 70, Pb 330, Sb 2.4%.
 Prices for 200mm wide coil on request.

Metal - Tin

Tin
Sn



Foil

SN000120

Thickness **0.007mm**

Purity **99.75%**

Sizes LT

Web Code
786-818-319
335-958-690

Size	Quantity		
	1pc	2pcs	5pcs
25 x 25 mm	USD 379.00	USD 482.00	USD 699.00
50 x 50 mm	USD 597.00	USD 858.00	

Discs

Web Code
937-788-135
223-517-001
939-629-209
453-650-587
706-317-489

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	USD 473.00	USD 571.00	USD 811.00
6 mm	USD 536.00	USD 659.00	USD 954.00
8 mm	USD 598.00	USD 749.00	USD 1099.00
10 mm	USD 661.00	USD 840.00	
15 mm	USD 815.00		

Typical Analysis : Ag 3, Al 25, Au 50, B 5, Bi 10, Ca 150, Cd 1, Cr 400, Cu 800, Fe 400, Ga 2, In 3, K 200, Mg 7, Mn 30, Mo 50, Na 50, Ni 20, Pb 50, Sb 50, Si 60, Zn 20.

SN000121

Thickness **0.007mm**

Purity **99.95%**

Temper **As rolled**

NLT Sizes

Web Code
531-121-581
285-265-532

Size	Quantity	
	1pc	2pcs
25 x 25 mm	USD 477.00	USD 620.00
50 x 50 mm	USD 878.00	

Sizes LT

Web Code
370-001-011

Size	Quantity	
	1pc	2pcs
25 x 25 mm	USD 572.00	USD 744.00

Discs

Web Code
417-974-247
360-263-227
423-309-562
605-645-176

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	USD 529.00	USD 650.00	USD 939.00
6 mm	USD 620.00	USD 780.00	
8 mm	USD 712.00	USD 912.00	
10 mm	USD 804.00		

Typical Analysis : Al 2, Ca 2, Fe 200, In <1, Mg 2, Na <1, Pb 10, Si 15.

SN000201

Thickness **0.007mm**

Purity **97.4%**

NLT Sizes

Web Code
206-509-571
901-398-997
543-136-799

Size	Quantity				
	1pc	2pcs	5pcs	10pcs	20pcs
100 x 100 mm	USD 282.00	USD 308.00	USD 363.00	USD 435.00	USD 550.00
150 x 150 mm	USD 307.00	USD 343.00	USD 419.00	USD 513.00	USD 661.00
200 x 300 mm	USD 354.00	USD 409.00	USD 524.00	USD 662.00	

Sizes LT

Web Code
874-770-810
925-957-415

Size	Quantity				
	1pc	2pcs	5pcs	10pcs	20pcs
25 x 25 mm	USD 245.00	USD 255.00	USD 280.00	USD 317.00	USD 384.00
50 x 50 mm	USD 257.00	USD 272.00	USD 308.00	USD 356.00	USD 439.00

Coil

Web Code
832-322-771
533-077-834
457-897-554
473-037-043

Length	Quantity	
	1 Reel	
1 m	USD 501.00	
2 m	USD 594.00	
5 m	USD 779.00	
10 m	USD 990.00	

Discs

Web Code
666-289-967
286-245-631
780-708-668
588-587-018
573-386-804
673-354-978
169-362-854

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	USD 465.00	USD 529.00	USD 680.00
6 mm	USD 469.00	USD 534.00	USD 688.00
8 mm	USD 473.00	USD 539.00	USD 697.00
10 mm	USD 476.00	USD 545.00	USD 705.00
15 mm	USD 486.00	USD 558.00	USD 726.00
25 mm	USD 505.00	USD 585.00	USD 768.00
50 mm	USD 552.00	USD 651.00	USD 874.00

Typical Analysis : As 130, Bi 40, Cu 60, Fe 70, Pb 330, Sb 2.4%.
 Prices for 200mm wide coil on request.

Metal - Tin

Tin
Sn



Foil

SN000130

Thickness **0.008mm**

Purity **99.75%**

NLT Sizes

Web Code

654-083-624
095-480-285
677-031-043

Size	Quantity		
	1pc	2pcs	5pcs
25 x 25 mm	USD 365.00	USD 462.00	USD 667.00
50 x 50 mm	USD 569.00	USD 836.00	
100 x 100 mm	USD 1485.00		

Sizes LT

Web Code

438-550-942
464-633-513

Size	Quantity		
	1pc	2pcs	5pcs
25 x 25 mm	USD 401.00	USD 508.00	USD 734.00
50 x 50 mm	USD 626.00	USD 919.00	

Discs

Web Code

349-875-515
734-440-916
805-119-268
639-912-441
989-051-242

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	USD 465.00	USD 559.00	USD 794.00
6 mm	USD 524.00	USD 642.00	USD 927.00
8 mm	USD 582.00	USD 726.00	USD 1063.00
10 mm	USD 641.00	USD 811.00	USD 1295.00
15 mm	USD 785.00	USD 1070.00	

Typical Analysis : Ag 3, Al 25, Au 50, B 5, Bi 10, Ca 150, Cd 1, Cr 400, Cu 800, Fe 400, Ga 2, In 3, K 200, Mg 7, Mn 30, Mo 50, Na 50, Ni 20, Pb 50, Sb 50, Si 60, Zn 20.

SN000140

Thickness **0.009mm**

Purity **99.75%**

NLT Sizes

Web Code

071-287-610
050-039-635
793-895-236

Size	Quantity		
	1pc	2pcs	5pcs
25 x 25 mm	USD 352.00	USD 443.00	USD 637.00
50 x 50 mm	USD 542.00	USD 818.00	
100 x 100 mm	USD 1449.00		

Sizes LT

Web Code

303-150-579
515-715-489

Size	Quantity		
	1pc	2pcs	5pcs
25 x 25 mm	USD 387.00	USD 487.00	USD 701.00
50 x 50 mm	USD 596.00	USD 900.00	

Discs

Web Code

942-007-022
750-883-901
860-495-807
561-977-725
247-224-568

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	USD 458.00	USD 549.00	USD 777.00
6 mm	USD 512.00	USD 626.00	USD 902.00
8 mm	USD 567.00	USD 705.00	USD 1029.00
10 mm	USD 622.00	USD 785.00	USD 1275.00
15 mm	USD 757.00	USD 1052.00	

Typical Analysis : Ag 3, Al 25, Au 50, B 5, Bi 10, Ca 150, Cd 1, Cr 400, Cu 800, Fe 400, Ga 2, In 3, K 200, Mg 7, Mn 30, Mo 50, Na 50, Ni 20, Pb 50, Sb 50, Si 60, Zn 20.

SN000210

Thickness **0.009mm**

Purity **97.4%**

NLT Sizes

Web Code

834-375-998
497-256-589
611-137-430

Size	Quantity				
	1pc	2pcs	5pcs	10pcs	20pcs
100 x 100 mm	USD 261.00	USD 282.00	USD 327.00	USD 384.00	USD 477.00
150 x 150 mm	USD 281.00	USD 310.00	USD 372.00	USD 448.00	USD 567.00
200 x 300 mm	USD 319.00	USD 364.00	USD 457.00	USD 569.00	

Sizes LT

Web Code

203-297-587
013-015-556

Size	Quantity				
	1pc	2pcs	5pcs	10pcs	20pcs
25 x 25 mm	USD 231.00	USD 239.00	USD 260.00	USD 289.00	USD 342.00
50 x 50 mm	USD 241.00	USD 253.00	USD 282.00	USD 321.00	USD 387.00

Coil

Web Code

668-609-501
576-192-442
024-053-604
006-711-279
838-905-474

Length	Quantity	
	1 Reel	
0.5 m	USD 395.00	
1 m	USD 448.00	
2 m	USD 524.00	
5 m	USD 675.00	
10 m	USD 846.00	

Discs

Web Code

923-111-854
388-975-664
621-961-611
745-204-801
150-604-512
825-573-443
196-683-143

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	USD 429.00	USD 480.00	USD 593.00
6 mm	USD 432.00	USD 484.00	USD 600.00
8 mm	USD 435.00	USD 488.00	USD 606.00
10 mm	USD 438.00	USD 492.00	USD 613.00
15 mm	USD 446.00	USD 503.00	USD 630.00
25 mm	USD 461.00	USD 525.00	USD 664.00
50 mm	USD 499.00	USD 579.00	USD 750.00

Typical Analysis : As 130, Bi 40, Cu 60, Fe 70, Pb 330, Sb 2.4%.

Metal - Tin

**Tin
Sn**



Foil

SN000150

Thickness 0.01mm

Purity 99.75%

NLT Sizes

Web Code

816-328-082
 144-363-346
 328-299-580

Size	Quantity		
	1pc	2pcs	5pcs
25 x 25 mm	USD 348.00	USD 438.00	USD 630.00
50 x 50 mm	USD 535.00	USD 796.00	
100 x 100 mm	USD 1405.00		

Sizes LT

Web Code

977-642-833
 308-445-826

Size	Quantity		
	1pc	2pcs	5pcs
25 x 25 mm	USD 383.00	USD 482.00	USD 693.00
50 x 50 mm	USD 589.00	USD 875.00	

Discs

Web Code

846-478-296
 809-780-248
 222-532-843
 816-605-281
 075-654-074

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	USD 456.00	USD 546.00	USD 772.00
6 mm	USD 509.00	USD 622.00	USD 895.00
8 mm	USD 563.00	USD 699.00	USD 1020.00
10 mm	USD 618.00	USD 778.00	USD 1250.00
15 mm	USD 750.00	USD 1029.00	

Typical Analysis : Ag 3, Al 25, Au 50, B 5, Bi 10, Ca 150, Cd 1, Cr 400, Cu 800, Fe 400, Ga 2, In 3, K 200, Mg 7, Mn 30, Mo 50, Na 50, Ni 20, Pb 50, Sb 50, Si 60, Zn 20.

SN000212

Thickness 0.01mm

Purity 97.4%

Sizes LT

Web Code

901-147-131
 954-148-897
 461-385-968
 286-019-066
 868-363-603

Size	Quantity				
	1pc	2pcs	5pcs	10pcs	20pcs
25 x 25 mm	USD 221.00	USD 229.00	USD 248.00	USD 277.00	USD 329.00
50 x 50 mm	USD 230.00	USD 242.00	USD 269.00	USD 306.00	USD 371.00
100 x 100 mm	USD 249.00	USD 268.00	USD 311.00	USD 365.00	USD 454.00
150 x 150 mm	USD 267.00	USD 294.00	USD 352.00	USD 424.00	USD 537.00
200 x 300 mm	USD 302.00	USD 344.00	USD 431.00	USD 535.00	

Coil

Web Code

021-962-227
 745-285-340
 160-662-896
 082-858-782
 357-348-889

Width 200mm Length	Quantity
	1 Reel
0.5 m	USD 376.00
1 m	USD 425.00
2 m	USD 494.00
5 m	USD 634.00
10 m	USD 792.00

Discs

Web Code

736-240-134
 030-022-417
 752-812-272
 101-536-955
 692-122-135
 515-267-394
 408-413-884

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	USD 407.00	USD 458.00	USD 571.00
6 mm	USD 410.00	USD 462.00	USD 577.00
8 mm	USD 413.00	USD 466.00	USD 583.00
10 mm	USD 416.00	USD 470.00	USD 590.00
15 mm	USD 423.00	USD 480.00	USD 605.00
25 mm	USD 437.00	USD 500.00	USD 637.00
50 mm	USD 472.00	USD 549.00	USD 715.00

Typical Analysis : As 130, Bi 40, Cu 60, Fe 70, Pb 330, Sb 2.4%.

SN000160

Thickness 0.0125mm

Purity 99.75%

NLT Sizes

Web Code

220-238-418
 145-263-455

Size	Quantity		
	1pc	2pcs	5pcs
50 x 50 mm	USD 473.00	USD 720.00	
100 x 100 mm	USD 1254.00		

Sizes LT

Web Code

516-847-455
 565-823-768

Size	Quantity		
	1pc	2pcs	5pcs
25 x 25 mm	USD 317.00	USD 394.00	USD 560.00
50 x 50 mm	USD 520.00	USD 792.00	

Discs

Web Code

117-689-243
 711-154-763
 894-341-768
 792-714-995
 089-372-210

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	USD 439.00	USD 521.00	USD 733.00
6 mm	USD 483.00	USD 585.00	USD 835.00
8 mm	USD 528.00	USD 649.00	USD 940.00
10 mm	USD 573.00	USD 715.00	USD 1163.00
15 mm	USD 684.00	USD 952.00	

Typical Analysis : Ag 3, Al 25, Au 50, B 5, Bi 10, Ca 150, Cd 1, Cr 400, Cu 800, Fe 400, Ga 2, In 3, K 200, Mg 7, Mn 30, Mo 50, Na 50, Ni 20, Pb 50, Sb 50, Si 60, Zn 20.

Metal - Tin

Tin
Sn



Foil

SN000220

Thickness **0.0125mm**

Purity..... **97.4%**

NLT Sizes

Web Code

807-686-720
768-301-278
419-992-047

Size	Quantity				
	1pc	2pcs	5pcs	10pcs	20pcs
100 x 100 mm	USD 236.00	USD 255.00	USD 294.00	USD 345.00	USD 427.00
150 x 150 mm	USD 254.00	USD 280.00	USD 334.00	USD 401.00	USD 506.00
250 x 300 mm	USD 298.00	USD 342.00	USD 432.00	USD 540.00	

Sizes LT

Web Code

996-177-096
088-194-667
000-226-999
269-002-768

Size	Quantity				
	1pc	2pcs	5pcs	10pcs	20pcs
25 x 25 mm	USD 210.00	USD 217.00	USD 235.00	USD 261.00	USD 308.00
50 x 50 mm	USD 219.00	USD 229.00	USD 255.00	USD 289.00	USD 347.00
100 x 100 mm	USD 260.00	USD 280.00	USD 324.00	USD 379.00	USD 470.00
150 x 150 mm	USD 305.00	USD 336.00	USD 401.00	USD 481.00	USD 608.00

Coil

Web Code

304-175-668
336-297-445
037-183-910
647-999-481
999-930-980

Length	Quantity	
	1 Reel	
0.5 m	USD 374.00	
1 m	USD 426.00	
2 m	USD 501.00	
5 m	USD 650.00	
10 m	USD 820.00	

Discs

Web Code

991-372-239
921-528-522
191-073-349
884-174-359
521-795-099
224-386-495
048-303-311

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	USD 379.00	USD 423.00	USD 530.00
6 mm	USD 381.00	USD 427.00	USD 536.00
8 mm	USD 384.00	USD 431.00	USD 542.00
10 mm	USD 387.00	USD 435.00	USD 548.00
15 mm	USD 393.00	USD 444.00	USD 563.00
25 mm	USD 407.00	USD 463.00	USD 593.00
50 mm	USD 441.00	USD 511.00	USD 668.00

Typical Analysis : As 130, Bi 40, Cu 60, Fe 70, Pb 330, Sb 2.4%.

SN000170

Thickness **0.015mm**

Purity..... **99.75%**

NLT Sizes

Web Code

786-450-220
088-478-616
894-072-666

Size	Quantity			
	1pc	2pcs	5pcs	10pcs
50 x 50 mm	USD 397.00	USD 645.00	USD 1389.00	
100 x 100 mm	USD 1103.00	USD 2057.00		
150 x 150 mm	USD 2280.00			

Sizes LT

Web Code

388-249-153
755-719-378

Size	Quantity			
	1pc	2pcs	5pcs	10pcs
25 x 25 mm	USD 279.00	USD 340.00	USD 506.00	USD 821.00
50 x 50 mm	USD 436.00	USD 709.00	USD 1527.00	

Discs

Web Code

330-805-327
350-672-691
834-085-085
260-625-906
578-240-954
280-115-298

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	USD 417.00	USD 491.00	USD 685.00
6 mm	USD 451.00	USD 539.00	USD 763.00
8 mm	USD 485.00	USD 588.00	USD 881.00
10 mm	USD 519.00	USD 638.00	USD 1076.00
15 mm	USD 603.00	USD 876.00	USD 1732.00
25 mm	USD 1010.00		

Typical Analysis : Ag 3, Al 25, Au 50, B 5, Bi 10, Ca 150, Cd 1, Cr 400, Cu 800, Fe 400, Ga 2, In 3, K 200, Mg 7, Mn 30, Mo 50, Na 50, Ni 20, Pb 50, Sb 50, Si 60, Zn 20.

SN000180

Thickness **0.02mm**

Purity..... **99.75%**

NLT Sizes

Web Code

869-136-250
215-364-782
973-064-107

Size	Quantity			
	1pc	2pcs	5pcs	10pcs
50 x 50 mm	USD 393.00	USD 631.00	USD 1355.00	
100 x 100 mm	USD 1076.00	USD 2004.00		
150 x 150 mm	USD 2221.00			

Sizes LT

Web Code

450-103-690
284-120-180

Size	Quantity			
	1pc	2pcs	5pcs	10pcs
25 x 25 mm	USD 277.00	USD 338.00	USD 497.00	USD 804.00
50 x 50 mm	USD 432.00	USD 694.00	USD 1491.00	

Discs

Web Code

291-770-396
471-288-004
911-003-600
875-450-094
431-253-757
906-717-441

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	USD 416.00	USD 490.00	USD 683.00
6 mm	USD 449.00	USD 537.00	USD 759.00
8 mm	USD 483.00	USD 585.00	USD 871.00
10 mm	USD 517.00	USD 634.00	USD 1061.00
15 mm	USD 599.00	USD 862.00	USD 1698.00
25 mm	USD 992.00		

Typical Analysis : Ag 3, Al 25, Au 50, B 5, Bi 10, Ca 150, Cd 1, Cr 400, Cu 800, Fe 400, Ga 2, In 3, K 200, Mg 7, Mn 30, Mo 50, Na 50, Ni 20, Pb 50, Sb 50, Si 60, Zn 20.

Metal - Tin

Tin
Sn



Foil

SN000190

Thickness **0.025mm**

Purity **99.75%**

NLT Sizes

Web Code

157-338-521
391-812-592

Size	Quantity				
	1pc	2pcs	3pcs	5pcs	10pcs
50 x 50 mm	USD 230.00	USD 269.00	USD 301.00	USD 359.00	USD 485.00
100 x 100 mm	USD 287.00	USD 349.00	USD 399.00	USD 486.00	

Sizes LT

Web Code

012-240-879
000-614-456

Size	Quantity				
	1pc	2pcs	3pcs	5pcs	10pcs
25 x 25 mm	USD 202.00	USD 229.00	USD 252.00	USD 296.00	USD 395.00
50 x 50 mm	USD 254.00	USD 295.00	USD 331.00	USD 395.00	USD 533.00

Typical Analysis : Ag 3, Al 25, Au 50, B 5, Bi 10, Ca 150, Cd 1, Cr 400, Cu 800, Fe 400, Ga 2, In 3, K 200, Mg 7, Mn 30, Mo 50, Na 50, Ni 20, Pb 50, Sb 50, Si 60, Zn 20.

SN000230

Thickness **0.025mm**

High Purity **99.99+%**

Temper **As rolled**

NLT Sizes

Web Code

435-145-355

Size	Quantity			
	1pc	2pcs	5pcs	10pcs
100 x 100 mm	USD 542.00	USD 737.00	USD 1147.00	

Sizes LT

Web Code

807-114-565
798-065-944

Size	Quantity			
	1pc	2pcs	5pcs	10pcs
25 x 25 mm	USD 225.00	USD 290.00	USD 439.00	USD 641.00
50 x 50 mm	USD 331.00	USD 439.00	USD 675.00	USD 975.00

Discs

Web Code

487-594-743
949-348-072
668-512-208
564-033-015
504-135-422
016-928-629
116-083-874

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	USD 520.00	USD 697.00	USD 1200.00
6 mm	USD 552.00	USD 742.00	USD 1272.00
8 mm	USD 584.00	USD 787.00	USD 1344.00
10 mm	USD 616.00	USD 833.00	USD 1416.00
15 mm	USD 696.00	USD 946.00	USD 1595.00
25 mm	USD 857.00	USD 1173.00	
50 mm	USD 1258.00		

Typical Analysis : Ag <1, Al <1, Au 1, Bi 2, Cd 1, Cu <1, Fe 2, In <1, Mg 1, Ni 1, Pb 10, Si 5, Ti 1.

SN000235

Thickness **0.025mm**

Purity **99.95%**

Temper **As rolled**

Size

Web Code

876-352-900
310-062-466
392-809-902
208-347-044
711-905-697

Size	Quantity				
	1pc	2pcs	5pcs	10pcs	20pcs
25 x 25 mm	USD 151.00	USD 159.00	USD 178.00	USD 203.00	USD 249.00
50 x 50 mm	USD 163.00	USD 175.00	USD 204.00	USD 240.00	USD 301.00
100 x 100 mm	USD 186.00	USD 208.00	USD 256.00	USD 314.00	USD 405.00
150 x 150 mm	USD 209.00	USD 241.00	USD 308.00	USD 387.00	USD 509.00
150 x 300 mm	USD 238.00	USD 282.00	USD 372.00	USD 479.00	

Coil

Web Code

825-344-397
473-456-988
922-968-281
520-495-946

Length	Quantity
	1 Reel
0.5 m	USD 315.00
1 m	USD 368.00
2 m	USD 444.00
5 m	USD 595.00

Discs

Web Code

093-075-592
962-108-392
999-056-865
499-021-507
484-047-851
361-397-103
965-427-587

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	USD 277.00	USD 309.00	USD 390.00
6 mm	USD 280.00	USD 313.00	USD 396.00
8 mm	USD 283.00	USD 318.00	USD 403.00
10 mm	USD 286.00	USD 322.00	USD 410.00
15 mm	USD 293.00	USD 332.00	USD 426.00
25 mm	USD 308.00	USD 353.00	USD 459.00
50 mm	USD 345.00	USD 405.00	USD 541.00

Typical Analysis : Al 2, Ca 2, Fe 200, In <1, Mg 2, Na <1, Pb 10, Si 15.

Metal - Tin

Tin
Sn



Foil

SN000231

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

Purity **98.8%**

NLT Sizes

Web Code
171-098-281

Size	Quantity				
	1pc	2pcs	5pcs	10pcs	20pcs
300 x 300 mm	USD 259.00	USD 304.00	USD 397.00		

Sizes LT

Web Code
720-236-447
415-462-577
218-719-864
936-165-779
731-005-062

Size	Quantity				
	1pc	2pcs	5pcs	10pcs	20pcs
25 x 25 mm	USD 172.00	USD 181.00	USD 203.00	USD 235.00	USD 297.00
50 x 50 mm	USD 180.00	USD 192.00	USD 220.00	USD 261.00	USD 333.00
100 x 100 mm	USD 196.00	USD 214.00	USD 256.00	USD 311.00	USD 403.00
150 x 150 mm	USD 212.00	USD 237.00	USD 291.00	USD 361.00	
300 x 300 mm	USD 285.00	USD 334.00	USD 437.00		

Coil

Web Code
744-030-086
003-753-644
469-207-757
650-963-438
370-433-445

Length	Quantity	
	1 Reel	
0.5 m	USD 333.00	
1 m	USD 384.00	
2 m	USD 457.00	
5 m	USD 603.00	
10 m	USD 769.00	

Discs

Web Code
101-099-226
637-405-050
675-635-134
454-392-293
799-032-445
879-059-204
882-401-256

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	USD 344.00	USD 408.00	USD 503.00
6 mm	USD 347.00	USD 411.00	USD 508.00
8 mm	USD 349.00	USD 415.00	USD 514.00
10 mm	USD 352.00	USD 418.00	USD 519.00
15 mm	USD 358.00	USD 427.00	USD 532.00
25 mm	USD 370.00	USD 444.00	USD 559.00
50 mm	USD 400.00	USD 486.00	USD 627.00

Typical Analysis : Ag 10, As 20, Bi 10, Cd 10, Cu 100, Fe 10, Ni 10, Pb 600, Sb 1.1%, Zn 10.

SN000232

Thickness **0.030mm**
 Temper **As rolled**

Purity **97.4%**

NLT Sizes

Web Code
833-781-332

Size	Quantity				
	1pc	2pcs	5pcs	10pcs	20pcs
300 x 300 mm	USD 313.00	USD 368.00	USD 478.00	USD 607.00	

Sizes LT

Web Code
288-965-089
133-826-361
394-378-823
884-936-316
490-142-005

Size	Quantity				
	1pc	2pcs	5pcs	10pcs	20pcs
25 x 25 mm	USD 200.00	USD 208.00	USD 225.00	USD 250.00	USD 293.00
50 x 50 mm	USD 211.00	USD 222.00	USD 248.00	USD 282.00	USD 339.00
100 x 100 mm	USD 231.00	USD 251.00	USD 294.00	USD 347.00	USD 431.00
150 x 150 mm	USD 252.00	USD 280.00	USD 340.00	USD 412.00	USD 523.00
300 x 300 mm	USD 345.00	USD 404.00	USD 526.00	USD 668.00	

Coil

Web Code
992-066-353
008-298-075
037-254-891
656-850-778
106-342-064

Length	Quantity	
	1 Reel	
0.5 m	USD 397.00	
1 m	USD 464.00	
2 m	USD 558.00	
5 m	USD 747.00	
10 m	USD 961.00	

Discs

Web Code
735-693-034
961-626-114
203-272-063
409-010-042
126-250-409
781-311-235
663-912-412

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	USD 354.00	USD 392.00	USD 488.00
6 mm	USD 357.00	USD 397.00	USD 495.00
8 mm	USD 360.00	USD 401.00	USD 502.00
10 mm	USD 363.00	USD 406.00	USD 509.00
15 mm	USD 371.00	USD 417.00	USD 527.00
25 mm	USD 387.00	USD 439.00	USD 562.00
50 mm	USD 426.00	USD 494.00	USD 649.00

Typical Analysis : As 130, Bi 40, Cu 60, Fe 70, Pb 330, Sb 2.4%.
 Tolerance on thickness : +/-20%.

Metal - Tin

**Tin
Sn**



Foil

SN000240

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

High Purity **99.99+%**

Size

Web Code
 264-909-000
 575-797-003

Size	Quantity			
	1pc	2pcs	5pcs	10pcs
38 x 38 mm	USD 265.00	USD 299.00	USD 369.00	USD 453.00
76 x 76 mm	USD 339.00	USD 404.00	USD 536.00	USD 689.00

Coil

Web Code
 423-518-033
 102-308-374
 658-367-495

Length	Quantity	
	1 Reel	
0.2 m	USD 480.00	
0.5 m	USD 621.00	
1 m	USD 780.00	

Discs

Web Code
 847-952-386
 994-048-044
 256-000-032
 000-001-458
 000-178-848
 022-351-700
 793-967-347

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	USD 377.00	USD 426.00	USD 541.00
6 mm	USD 392.00	USD 447.00	USD 575.00
8 mm	USD 407.00	USD 468.00	USD 608.00
10 mm	USD 422.00	USD 489.00	USD 642.00
15 mm	USD 460.00	USD 542.00	USD 725.00
25 mm	USD 534.00	USD 648.00	USD 893.00
50 mm	USD 722.00		

Typical Analysis : Ag <1, Al <1, Au 1, Bi 2, Cd 1, Cu <1, Fe 2, In <1, Mg 1, Ni 1, Pb 10, Si 5, Tl 1.

SN000241

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

Purity **98.8%**

Size

Web Code
 245-923-832
 740-480-922
 560-116-327
 014-542-956
 817-866-950

Size	Quantity				
	1pc	2pcs	5pcs	10pcs	20pcs
25 x 25 mm	USD 143.00	USD 150.00	USD 168.00	USD 195.00	USD 243.00
50 x 50 mm	USD 152.00	USD 163.00	USD 188.00	USD 223.00	USD 284.00
100 x 100 mm	USD 170.00	USD 188.00	USD 229.00	USD 280.00	USD 364.00
150 x 150 mm	USD 188.00	USD 214.00	USD 269.00	USD 337.00	USD 445.00
300 x 300 mm	USD 242.00	USD 290.00	USD 390.00	USD 508.00	

Coil

Web Code
 381-952-205
 233-367-825
 170-986-566
 373-314-019
 664-262-289

Length	Quantity	
	1 Reel	
0.5 m	USD 322.00	
1 m	USD 380.00	
2 m	USD 464.00	
5 m	USD 631.00	
10 m	USD 820.00	

Discs

Web Code
 097-118-409
 139-810-687
 476-333-063
 541-635-597
 704-445-939
 055-749-118
 968-646-435

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	USD 292.00	USD 339.00	USD 434.00
6 mm	USD 295.00	USD 342.00	USD 440.00
8 mm	USD 298.00	USD 346.00	USD 446.00
10 mm	USD 301.00	USD 350.00	USD 452.00
15 mm	USD 307.00	USD 360.00	USD 468.00
25 mm	USD 321.00	USD 379.00	USD 498.00
50 mm	USD 355.00	USD 428.00	USD 575.00

Typical Analysis : Ag 10, As 20, Bi 10, Cd 10, Cu 100, Fe 10, Ni 10, Pb 600, Sb 1.1%, Zn 10.

SN000260

Thickness **0.058mm**
 Temper **As rolled**

Purity **99.95%**

Size

Web Code
 898-093-638

Size	Quantity		
	1pc	2pcs	5pcs
25 x 25 mm	USD 185.00	USD 190.00	USD 203.00

Typical Analysis : Al 2, Ca 2, Fe 200, In <1, Mg 2, Na <1, Pb 10, Si 15.

SN000239

Thickness **0.06mm**
 High Purity **99.99+%**

Coil width **73mm**
 Temper **As rolled**

Coil

Web Code
 606-037-573
 429-286-780
 660-848-353
 175-714-387
 964-294-042

Length	Quantity	
	1 Reel	
0.1 m	USD 249.00	
0.2 m	USD 290.00	
0.5 m	USD 373.00	
1 m	USD 467.00	
2 m	USD 687.00	

Typical Analysis : Ag <1, Al <1, Au 1, Bi 2, Cd 1, Cu <1, Fe 2, In <1, Mg 1, Ni 1, Pb 10, Si 5, Tl 1.

SN000280

Thickness **0.072mm**
 Purity **99.95%**

Coil width **41mm**
 Temper **As rolled**

Coil

Web Code
 696-807-062
 100-882-871
 610-359-489
 294-934-564
 866-824-483

Length	Quantity	
	1 Reel	
1 m	USD 161.00	
2 m	USD 180.00	
5 m	USD 219.00	
10 m	USD 265.00	
20 m	USD 332.00	

Typical Analysis : Al 2, Ca 2, Fe 200, In <1, Mg 2, Na <1, Pb 10, Si 15.

Metal - Tin

Tin
Sn



Foil

SN000290

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

Purity **98.8%**

Size

Web Code

414-804-239
 850-536-297
 317-030-609
 628-828-824
 603-601-066

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

		Quantity				
		1pc	2pcs	5pcs	10pcs	20pcs
USD	163.00	USD 171.00	USD 191.00	USD 219.00	USD 266.00	
USD	176.00	USD 190.00	USD 221.00	USD 261.00	USD 325.00	
USD	203.00	USD 228.00	USD 280.00	USD 344.00	USD 444.00	
USD	229.00	USD 265.00	USD 339.00	USD 428.00		
USD	309.00	USD 377.00	USD 517.00			

Coil

Web Code

027-055-659
 450-128-220
 266-032-984
 254-112-830

Width 300mm

		Quantity
		1 Reel
Length	0.5 m	USD 403.00
	1 m	USD 488.00
	2 m	USD 610.00
	5 m	USD 851.00

Discs

Web Code

080-871-484
 108-931-686
 616-455-960
 056-994-702
 124-348-681
 543-578-241
 947-275-260

		Quantity		
Diameter		10 discs	20 discs	50 discs
4 mm	USD 307.00	USD 347.00	USD 444.00	
6 mm	USD 311.00	USD 352.00	USD 453.00	
8 mm	USD 315.00	USD 358.00	USD 462.00	
10 mm	USD 319.00	USD 364.00	USD 471.00	
15 mm	USD 329.00	USD 378.00	USD 494.00	
25 mm	USD 350.00	USD 406.00	USD 539.00	
50 mm	USD 400.00	USD 477.00	USD 651.00	

Typical Analysis : Ag 10, As 20, Bi 10, Cd 10, Cu 100, Fe 10, Ni 10, Pb 600, Sb 1.1%, Zn 10.

SN000300

Thickness **0.084mm**
 Purity **99.95%**

Coil width **41mm**
 Temper **As rolled**

Coil

Web Code

557-910-858
 738-856-529
 357-073-160
 634-143-124
 267-894-732

Width 41mm

		Quantity
		1 Reel
Length	1 m	USD 164.00
	2 m	USD 185.00
	5 m	USD 227.00
	10 m	USD 276.00
	20 m	USD 348.00

Typical Analysis : Al 2, Ca 2, Fe 200, In < 1, Mg 2, Na < 1, Pb 10, Si 15.

SN000310

Thickness **0.088mm**
 Purity **98.8%**

Coil width **304mm**
 Temper **As rolled**

Coil

Web Code

107-877-001
 484-625-436
 449-498-757
 578-175-143

Width 304mm

		Quantity
		1 Reel
Length	1 m	USD 428.00
	2 m	USD 528.00
	3 m	USD 606.00
	5 m	USD 729.00

Typical Analysis : Ag 10, As 20, Bi 10, Cd 10, Cu 100, Fe 10, Ni 10, Pb 600, Sb 1.1%, Zn 10.

SN000320

Thickness **0.096mm**
 Purity **99.95%**

Coil width **41mm**
 Temper **As rolled**

Coil

Web Code

849-408-696
 176-080-573
 010-070-427
 258-805-202
 350-655-599

Width 41mm

		Quantity
		1 Reel
Length	1 m	USD 173.00
	2 m	USD 195.00
	5 m	USD 239.00
	10 m	USD 291.00
	20 m	USD 368.00

Typical Analysis : Al 2, Ca 2, Fe 200, In < 1, Mg 2, Na < 1, Pb 10, Si 15.

Metal - Tin

Tin
Sn



Foil

SN000295

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

Purity **99.95%**

Size

Web Code

746-372-436
 290-377-084
 542-723-363
 277-200-197
 393-200-746

Size	Quantity				
	1pc	2pcs	5pcs	10pcs	20pcs
25 x 25 mm	USD 158.00	USD 168.00	USD 193.00	USD 225.00	USD 279.00
50 x 50 mm	USD 176.00	USD 194.00	USD 234.00	USD 283.00	USD 361.00
100 x 100 mm	USD 213.00	USD 246.00	USD 316.00	USD 399.00	USD 525.00
150 x 150 mm	USD 250.00	USD 298.00	USD 398.00	USD 515.00	USD 689.00
300 x 300 mm	USD 360.00	USD 454.00	USD 644.00	USD 863.00	

Coil

Web Code

762-271-384
 360-111-796
 236-150-296
 966-316-567

Length	Quantity
	1 Reel
0.5 m	USD 472.00
1 m	USD 590.00
2 m	USD 758.00
5 m	USD 1091.00

Discs

Web Code

940-105-540
 341-346-458
 938-637-737
 068-112-530
 465-469-047
 505-711-438
 623-060-526

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	USD 280.00	USD 314.00	USD 397.00
6 mm	USD 285.00	USD 321.00	USD 408.00
8 mm	USD 289.00	USD 327.00	USD 418.00
10 mm	USD 294.00	USD 334.00	USD 429.00
15 mm	USD 306.00	USD 350.00	USD 455.00
25 mm	USD 329.00	USD 383.00	USD 507.00
50 mm	USD 387.00	USD 465.00	USD 637.00

Typical Analysis : Al 2, Ca 2, Fe 200, In <1, Mg 2, Na <1, Pb 10, Si 15.

SN000291

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

Purity **98.8%**

Size

Web Code

409-410-977
 176-363-061
 045-386-179
 673-273-750
 159-215-140

Size	Quantity				
	1pc	2pcs	5pcs	10pcs	20pcs
25 x 25 mm	USD 154.00	USD 162.00	USD 183.00	USD 211.00	USD 259.00
50 x 50 mm	USD 168.00	USD 182.00	USD 214.00	USD 255.00	USD 322.00
100 x 100 mm	USD 196.00	USD 222.00	USD 277.00	USD 344.00	USD 448.00
150 x 150 mm	USD 224.00	USD 262.00	USD 340.00	USD 433.00	USD 574.00
300 x 300 mm	USD 308.00	USD 381.00	USD 528.00	USD 700.00	

Coil

Web Code

792-216-418
 901-899-175
 737-388-841
 173-610-087

Length	Quantity
	1 Reel
0.5 m	USD 407.00
1 m	USD 498.00
2 m	USD 628.00
5 m	USD 886.00

Discs

Web Code

168-971-681
 121-454-748
 181-837-646
 729-707-021
 213-379-386
 672-419-764
 052-463-227

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	USD 278.00	USD 311.00	USD 392.00
6 mm	USD 282.00	USD 316.00	USD 400.00
8 mm	USD 285.00	USD 321.00	USD 408.00
10 mm	USD 289.00	USD 326.00	USD 416.00
15 mm	USD 298.00	USD 339.00	USD 436.00
25 mm	USD 315.00	USD 364.00	USD 476.00
50 mm	USD 360.00	USD 427.00	USD 576.00

Typical Analysis : Ag 10, As 20, Bi 10, Cd 10, Cu 100, Fe 10, Ni 10, Pb 600, Sb 1.1%, Zn 10.

SN000350

Thickness **0.109mm**
 Purity **99.95%**

Coil width **41mm**
 Temper **As rolled**

Coil

Web Code

528-126-597
 015-816-899
 977-100-714
 137-591-517
 198-948-091

Length	Quantity
	1 Reel
1 m	USD 176.00
2 m	USD 200.00
5 m	USD 247.00
10 m	USD 302.00
20 m	USD 383.00

Typical Analysis : Al 2, Ca 2, Fe 200, In <1, Mg 2, Na <1, Pb 10, Si 15.

Metal – Tin

Tin
Sn



Foil

SN000330

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

High Purity **99.99+%**

Size

Web Code

831-939-250
 992-405-091
 050-632-289
 663-392-545
 333-327-907

Size	Quantity			
	1pc	2pcs	5pcs	10pcs
25 x 25 mm	USD 259.00	USD 290.00	USD 356.00	USD 435.00
50 x 50 mm	USD 328.00	USD 388.00	USD 510.00	USD 653.00
100 x 100 mm	USD 466.00	USD 583.00	USD 819.00	
150 x 150 mm	USD 604.00	USD 778.00		
300 x 300 mm	USD 1017.00			

Discs

Web Code

329-029-050
 128-630-555
 078-812-958
 851-618-431
 452-303-309
 537-919-485
 239-932-197

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	USD 356.00	USD 401.00	USD 505.00
6 mm	USD 374.00	USD 426.00	USD 545.00
8 mm	USD 391.00	USD 450.00	USD 584.00
10 mm	USD 409.00	USD 475.00	USD 623.00
15 mm	USD 453.00	USD 537.00	USD 721.00
25 mm	USD 540.00	USD 661.00	USD 918.00
50 mm	USD 760.00		

Typical Analysis : Ag <1, Al <1, Au 1, Bi 2, Cd 1, Cu <1, Fe 2, In <1, Mg 1, Ni 1, Pb 10, Si 5, Tl 1.

SN000331

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

Purity **98.8%**

Size

Web Code

991-518-815
 939-857-016
 482-126-697
 265-831-942
 228-989-421

Size	Quantity				
	1pc	2pcs	5pcs	10pcs	20pcs
25 x 25 mm	USD 131.00	USD 142.00	USD 171.00	USD 216.00	USD 285.00
50 x 50 mm	USD 140.00	USD 154.00	USD 190.00	USD 243.00	USD 324.00
100 x 100 mm	USD 157.00	USD 178.00	USD 228.00	USD 297.00	USD 400.00
150 x 150 mm	USD 174.00	USD 203.00	USD 267.00	USD 351.00	
300 x 300 mm	USD 225.00	USD 275.00	USD 382.00		

Coil

Web Code

678-337-715
 623-681-847
 960-228-526
 028-570-805

Length	Quantity
	1 Reel
0.5 m	USD 300.00
1 m	USD 356.00
2 m	USD 435.00
5 m	USD 681.00

Discs

Web Code

513-712-327
 214-043-155
 755-389-303
 423-670-242
 958-780-189
 847-521-857
 940-225-027

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	USD 297.00	USD 357.00	USD 537.00
6 mm	USD 299.00	USD 361.00	USD 541.00
8 mm	USD 301.00	USD 364.00	USD 546.00
10 mm	USD 304.00	USD 367.00	USD 551.00
15 mm	USD 309.00	USD 374.00	USD 563.00
25 mm	USD 320.00	USD 390.00	USD 588.00
50 mm	USD 347.00	USD 428.00	USD 649.00

Typical Analysis : Ag 10, As 20, Bi 10, Cd 10, Cu 100, Fe 10, Ni 10, Pb 600, Sb 1.1%, Zn 10.

SN000360

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

High Purity **99.99+%**

Size

Web Code

173-534-255
 025-623-200
 217-660-681

Size	Quantity		
	1pc	2pcs	5pcs
25 x 25 mm	USD 266.00	USD 300.00	USD 371.00
50 x 50 mm	USD 341.00	USD 407.00	
100 x 100 mm	USD 492.00		

Discs

Web Code

516-005-299
 661-163-148
 329-974-481
 416-016-088
 093-223-876

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	USD 360.00	USD 406.00	USD 513.00
6 mm	USD 379.00	USD 433.00	USD 556.00
8 mm	USD 398.00	USD 460.00	USD 599.00
10 mm	USD 417.00	USD 487.00	USD 642.00
15 mm	USD 465.00	USD 555.00	

Typical Analysis : Ag <1, Al <1, Au 1, Bi 2, Cd 1, Cu <1, Fe 2, In <1, Mg 1, Ni 1, Pb 10, Si 5, Tl 1.

Metal – Tin

Tin
Sn



Foil

SN000390

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

Purity **98.8%**

Size

Web Code

868-500-290
 562-531-026
 316-380-899
 547-602-590
 450-323-524

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

		Quantity				
		1pc	2pcs	5pcs	10pcs	20pcs
25 x 25 mm	USD 154.00	USD 162.00	USD 183.00	USD 211.00	USD 259.00	
50 x 50 mm	USD 168.00	USD 182.00	USD 214.00	USD 256.00	USD 322.00	
100 x 100 mm	USD 196.00	USD 222.00	USD 277.00	USD 345.00	USD 448.00	
150 x 150 mm	USD 224.00	USD 262.00	USD 340.00	USD 434.00	USD 574.00	
300 x 300 mm	USD 308.00	USD 381.00	USD 529.00	USD 701.00		

Coil

Web Code

285-426-740
 290-441-000
 305-125-283
 140-650-069

Width 300mm

Length 1 Reel
 0.5 m USD 406.00
 1 m USD 496.00
 2 m USD 625.00
 5 m USD 882.00

Quantity

Discs

Web Code

064-812-565
 101-566-657
 695-832-589
 979-065-847
 383-237-175
 904-649-687
 081-203-375

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

		Quantity		
		10 discs	20 discs	50 discs
4 mm	USD 278.00	USD 311.00	USD 393.00	
6 mm	USD 282.00	USD 316.00	USD 401.00	
8 mm	USD 285.00	USD 321.00	USD 408.00	
10 mm	USD 289.00	USD 326.00	USD 416.00	
15 mm	USD 298.00	USD 339.00	USD 436.00	
25 mm	USD 315.00	USD 364.00	USD 476.00	
50 mm	USD 360.00	USD 427.00	USD 576.00	

Typical Analysis : Ag 10, As 20, Bi 10, Cd 10, Cu 100, Fe 10, Ni 10, Pb 600, Sb 1.1%, Zn 10.

SN000396

Thickness **0.20mm**
 Purity **98.8%**

Coil width **15mm**
 Temper **As rolled**

Coil

Web Code

308-588-023
 647-033-362
 756-674-615
 162-529-490
 163-874-104

Width 15mm

Length 1 Reel
 1 m USD 231.00
 2 m USD 258.00
 5 m USD 314.00
 10 m USD 379.00
 20 m USD 493.00

Quantity

Typical Analysis : Ag 10, As 20, Bi 10, Cd 10, Cu 100, Fe 10, Ni 10, Pb 600, Sb 1.1%, Zn 10.

SN000395

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

Purity **98.8%**

Size

Web Code

421-867-976
 551-409-715
 798-908-894
 166-852-195
 443-887-605

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

		Quantity				
		1pc	2pcs	5pcs	10pcs	20pcs
25 x 25 mm	USD 135.00	USD 148.00	USD 181.00	USD 229.00	USD 305.00	
50 x 50 mm	USD 148.00	USD 166.00	USD 209.00	USD 270.00	USD 362.00	
100 x 100 mm	USD 174.00	USD 203.00	USD 267.00	USD 351.00	USD 477.00	
150 x 150 mm	USD 200.00	USD 239.00	USD 324.00	USD 433.00		
300 x 300 mm	USD 277.00	USD 348.00	USD 497.00			

Coil

Web Code

715-116-892
 467-090-952
 392-081-813

Width 300mm

Length 1 Reel
 0.5 m USD 366.00
 1 m USD 449.00
 2 m USD 605.00

Quantity

Discs

Web Code

974-814-034
 896-795-371
 799-820-726
 774-068-918
 037-823-815
 185-255-400
 312-545-991

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

		Quantity		
		10 discs	20 discs	50 discs
4 mm	USD 299.00	USD 361.00	USD 542.00	
6 mm	USD 303.00	USD 365.00	USD 549.00	
8 mm	USD 306.00	USD 370.00	USD 556.00	
10 mm	USD 309.00	USD 374.00	USD 563.00	
15 mm	USD 317.00	USD 386.00	USD 582.00	
25 mm	USD 334.00	USD 409.00	USD 618.00	
50 mm	USD 374.00	USD 467.00	USD 710.00	

Typical Analysis : Ag 10, As 20, Bi 10, Cd 10, Cu 100, Fe 10, Ni 10, Pb 600, Sb 1.1%, Zn 10.

Metal - Tin

**Tin
Sn**



Foil

SN000400

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

High Purity **99.99+%**

Size

Web Code

828-423-412
 552-925-199
 115-645-355
 455-674-342

Size	Quantity			
	1pc	2pcs	5pcs	10pcs
25 x 25 mm	USD 208.00	USD 235.00	USD 293.00	USD 366.00
50 x 50 mm	USD 261.00	USD 310.00	USD 411.00	USD 534.00
100 x 100 mm	USD 367.00	USD 460.00	USD 648.00	
150 x 150 mm	USD 473.00	USD 610.00		

Discs

Web Code

959-294-422
 911-805-488
 975-675-214
 959-403-550
 925-439-914
 679-995-387
 999-417-099

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	USD 330.00	USD 389.00	USD 460.00
6 mm	USD 343.00	USD 408.00	USD 490.00
8 mm	USD 357.00	USD 427.00	USD 520.00
10 mm	USD 370.00	USD 447.00	USD 551.00
15 mm	USD 404.00	USD 494.00	USD 626.00
25 mm	USD 471.00	USD 590.00	
50 mm	USD 641.00		

Typical Analysis : Ag <1, Al <1, Au 1, Bi 2, Cd 1, Cu <1, Fe 2, In <1, Mg 1, Ni 1, Pb 10, Si 5, Tl 1.

SN000391

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

Purity **98.8%**

Size

Web Code

150-416-419
 802-059-481
 257-429-433
 178-681-233
 335-154-128

Size	Quantity				
	1pc	2pcs	5pcs	10pcs	20pcs
25 x 25 mm	USD 135.00	USD 148.00	USD 180.00	USD 228.00	USD 303.00
50 x 50 mm	USD 148.00	USD 165.00	USD 208.00	USD 268.00	USD 359.00
100 x 100 mm	USD 173.00	USD 201.00	USD 264.00	USD 348.00	USD 472.00
150 x 150 mm	USD 198.00	USD 237.00	USD 321.00	USD 427.00	
300 x 300 mm	USD 273.00	USD 343.00	USD 489.00		

Coil

Web Code

106-283-442
 894-266-948
 783-371-982

Width 300mm Length	Quantity
	1 Reel
0.5 m	USD 361.00
1 m	USD 442.00
2 m	USD 586.00

Discs

Web Code

342-144-646
 768-085-820
 010-733-159
 341-640-750
 705-098-655
 137-333-009
 166-627-317

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	USD 299.00	USD 360.00	USD 541.00
6 mm	USD 302.00	USD 365.00	USD 548.00
8 mm	USD 306.00	USD 369.00	USD 555.00
10 mm	USD 309.00	USD 374.00	USD 563.00
15 mm	USD 317.00	USD 385.00	USD 580.00
25 mm	USD 333.00	USD 408.00	USD 616.00
50 mm	USD 373.00	USD 464.00	USD 706.00

Typical Analysis : Ag 10, As 20, Bi 10, Cd 10, Cu 100, Fe 10, Ni 10, Pb 600, Sb 1.1%, Zn 10.

SN000415

Thickness **0.44mm**
 Temper **As rolled**

Purity **99.99+%**

Discs

Web Code

747-695-970

Diameter	Quantity				
	1 discs	2 discs	3 discs	5 discs	10 discs
4 mm	USD 290.00	USD 299.00	USD 307.00	USD 322.00	USD 356.00

Typical Analysis : Ag <1, Al <1, Au 1, Bi 2, Cd 1, Cu <1, Fe 2, In <1, Mg 1, Ni 1, Pb 10, Si 5, Tl 1.

SN000420

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

High Purity **99.99+%**

Size

Web Code

894-268-076
 783-506-097
 938-257-716
 282-212-748

Size	Quantity			
	1pc	2pcs	5pcs	10pcs
25 x 25 mm	USD 226.00	USD 260.00	USD 332.00	USD 421.00
50 x 50 mm	USD 296.00	USD 359.00	USD 489.00	USD 644.00
100 x 100 mm	USD 437.00	USD 558.00	USD 804.00	
150 x 150 mm	USD 578.00	USD 757.00		

Discs

Web Code

276-587-508
 573-446-542
 680-820-373
 102-547-982
 818-498-862
 312-358-913
 044-867-212

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	USD 339.00	USD 402.00	USD 480.00
6 mm	USD 357.00	USD 427.00	USD 520.00
8 mm	USD 375.00	USD 453.00	USD 560.00
10 mm	USD 393.00	USD 478.00	USD 601.00
15 mm	USD 437.00	USD 542.00	USD 702.00
25 mm	USD 527.00	USD 669.00	
50 mm	USD 754.00		

Typical Analysis : Ag <1, Al <1, Au 1, Bi 2, Cd 1, Cu <1, Fe 2, In <1, Mg 1, Ni 1, Pb 10, Si 5, Tl 1.

Metal – Tin

Tin
Sn



Foil

SN000410

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

Purity **98.8%**

Size

Web Code

927-133-386
 891-666-395
 458-288-276
 286-032-128
 754-020-756

Size	Quantity				
	1pc	2pcs	5pcs	10pcs	20pcs
25 x 25 mm	USD 138.00	USD 152.00	USD 187.00	USD 238.00	USD 317.00
50 x 50 mm	USD 154.00	USD 174.00	USD 222.00	USD 288.00	USD 388.00
100 x 100 mm	USD 186.00	USD 219.00	USD 293.00	USD 388.00	USD 529.00
150 x 150 mm	USD 217.00	USD 264.00	USD 363.00	USD 487.00	
300 x 300 mm	USD 312.00	USD 397.00	USD 643.00		

Coil

Web Code

160-850-225
 252-590-034
 573-753-775

Width **300mm**

Length 1 Reel

0.5 m USD 410.00
 1 m USD 512.00
 2 m USD 823.00

Discs

Web Code

902-583-968
 822-996-068
 874-505-109
 313-147-100
 143-393-702
 924-217-276
 527-154-159

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	USD 301.00	USD 363.00	USD 545.00
6 mm	USD 305.00	USD 368.00	USD 554.00
8 mm	USD 309.00	USD 374.00	USD 563.00
10 mm	USD 313.00	USD 380.00	USD 572.00
15 mm	USD 323.00	USD 394.00	USD 594.00
25 mm	USD 343.00	USD 422.00	USD 639.00
50 mm	USD 393.00	USD 493.00	USD 751.00

Typical Analysis : Ag 10, As 20, Bi 10, Cd 10, Cu 100, Fe 10, Ni 10, Pb 600, Sb 1.1%, Zn 10.

SN000424

Thickness **0.65mm**
 Temper **As rolled**

High Purity **99.99+%**

Size

Web Code

326-247-719
 411-093-861
 106-754-701

Size	Quantity		
	1pc	2pcs	5pcs
25 x 25 mm	USD 235.00	USD 274.00	USD 354.00
50 x 50 mm	USD 316.00	USD 387.00	
100 x 100 mm	USD 476.00		

Discs

Web Code

180-114-838
 067-103-302
 364-510-983
 458-544-119
 924-096-993

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	USD 344.00	USD 409.00	USD 491.00
6 mm	USD 364.00	USD 438.00	USD 537.00
8 mm	USD 385.00	USD 467.00	USD 583.00
10 mm	USD 405.00	USD 496.00	USD 630.00
15 mm	USD 456.00	USD 568.00	

Typical Analysis : Ag <1, Al <1, Au 1, Bi 2, Cd 1, Cu <1, Fe 2, In <1, Mg 1, Ni 1, Pb 10, Si 5, Tl 1.

SN000426

Thickness **0.75mm**
 Temper **As rolled**

High Purity **99.99+%**

Size

Web Code

450-302-607
 984-695-905
 082-317-018

Size	Quantity		
	1pc	2pcs	5pcs
25 x 25 mm	USD 241.00	USD 282.00	USD 367.00
50 x 50 mm	USD 328.00	USD 404.00	
100 x 100 mm	USD 500.00		

Discs

Web Code

254-378-545
 437-726-099
 868-704-816
 866-990-086
 989-290-309

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	USD 347.00	USD 413.00	USD 498.00
6 mm	USD 369.00	USD 444.00	USD 547.00
8 mm	USD 391.00	USD 476.00	USD 597.00
10 mm	USD 413.00	USD 507.00	USD 647.00
15 mm	USD 468.00	USD 585.00	

Typical Analysis : Ag <1, Al <1, Au 1, Bi 2, Cd 1, Cu <1, Fe 2, In <1, Mg 1, Ni 1, Pb 10, Si 5, Tl 1.

SN000441

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

High Purity **99.999%**

Size

Web Code

327-935-099
 991-882-522
 985-320-416
 165-056-369

Size	Quantity		
	1pc	2pcs	5pcs
25 x 25 mm	USD 324.00	USD 388.00	USD 518.00
50 x 50 mm	USD 471.00	USD 596.00	USD 847.00
100 x 100 mm	USD 766.00	USD 1013.00	
150 x 150 mm	USD 1060.00		

Discs

Web Code

632-041-062
 005-127-614
 640-958-460
 119-808-851
 976-112-285
 014-031-108

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	USD 383.00	USD 444.00	USD 582.00
6 mm	USD 420.00	USD 497.00	USD 667.00
8 mm	USD 458.00	USD 551.00	USD 752.00
10 mm	USD 496.00	USD 605.00	USD 838.00
15 mm	USD 590.00	USD 737.00	USD 1049.00
25 mm	USD 778.00		

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

Metal - Tin

Tin
Sn



Foil

SN000440

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

Purity **99.99+%**

Size

Web Code

532-581-829
 572-732-734
 591-592-233
 485-358-030

Size	Quantity			
	1pc	2pcs	5pcs	10pcs
25 x 25 mm	USD 249.00	USD 293.00	USD 385.00	USD 496.00
50 x 50 mm	USD 343.00	USD 426.00	USD 595.00	USD 793.00
100 x 100 mm	USD 531.00	USD 691.00	USD 1101.00	
150 x 150 mm	USD 719.00	USD 994.00		

Discs

Web Code

949-030-163
 628-770-883
 596-359-077
 544-882-890
 110-353-585
 794-196-956
 274-623-480

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	USD 351.00	USD 419.00	USD 506.00
6 mm	USD 375.00	USD 453.00	USD 561.00
8 mm	USD 399.00	USD 487.00	USD 615.00
10 mm	USD 423.00	USD 521.00	USD 670.00
15 mm	USD 482.00	USD 606.00	USD 804.00
25 mm	USD 602.00	USD 776.00	
50 mm	USD 906.00		

Typical Analysis : Ag <1, Al <1, Au 1, Bi 2, Cd 1, Cu <1, Fe 2, In <1, Mg 1, Ni 1, Pb 10, Si 5, Tl 1.

SN000430

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

Purity **98.8%**

Size

Web Code

608-408-956
 051-121-885
 390-228-151
 778-513-233
 314-152-401

Size	Quantity				
	1pc	2pcs	5pcs	10pcs	20pcs
25 x 25 mm	USD 128.00	USD 140.00	USD 169.00	USD 206.00	USD 268.00
50 x 50 mm	USD 152.00	USD 174.00	USD 223.00	USD 282.00	USD 375.00
100 x 100 mm	USD 199.00	USD 242.00	USD 330.00	USD 434.00	
150 x 150 mm	USD 247.00	USD 310.00	USD 437.00		
300 x 300 mm	USD 391.00	USD 514.00			

Coil

Web Code

928-025-394
 411-355-545

Width 305mm	Length	Quantity
		1 Reel
	0.5 m	USD 526.00
	1 m	USD 843.00

Discs

Web Code

269-055-297
 631-901-994
 987-738-028
 467-251-830
 406-480-136
 810-018-086
 252-260-639

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	USD 247.00	USD 282.00	USD 368.00
6 mm	USD 253.00	USD 291.00	USD 382.00
8 mm	USD 259.00	USD 299.00	USD 395.00
10 mm	USD 265.00	USD 308.00	USD 409.00
15 mm	USD 281.00	USD 329.00	USD 443.00
25 mm	USD 311.00	USD 373.00	USD 511.00
50 mm	USD 387.00	USD 481.00	USD 683.00

Typical Analysis : Ag 10, As 20, Bi 10, Cd 10, Cu 100, Fe 10, Ni 10, Pb 600, Sb 1.1%, Zn 10.

SN000450

Thickness **1.5mm**
 Temper **As rolled**

High Purity **99.99+%**

Size

Web Code

021-144-807
 110-070-217
 258-489-952

Size	Quantity		
	1pc	2pcs	5pcs
50 x 50 mm	USD 581.00	USD 802.00	USD 1311.00
100 x 100 mm	USD 941.00	USD 1310.00	
150 x 150 mm	USD 1300.00		

Discs

Web Code

424-356-261
 880-357-564
 339-722-177
 748-639-742
 083-946-991
 101-243-674

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	USD 1060.00	USD 1812.00	USD 3174.00
6 mm	USD 1106.00	USD 1877.00	USD 3276.00
8 mm	USD 1151.00	USD 1942.00	USD 3378.00
10 mm	USD 1197.00	USD 2006.00	USD 3481.00
15 mm	USD 1311.00	USD 2168.00	USD 3736.00
25 mm	USD 1539.00		

Typical Analysis : Ag <1, Al <1, Au 1, Bi 2, Cd 1, Cu <1, Fe 2, In <1, Mg 1, Ni 1, Pb 10, Si 5, Tl 1.

SN000500

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

Purity **98.8%**

Size

Web Code

237-033-204
 629-152-490
 644-057-625
 507-209-255
 401-155-061

Size	Quantity				
	1pc	2pcs	5pcs	10pcs	20pcs
25 x 25 mm	USD 178.00	USD 197.00	USD 238.00	USD 289.00	USD 369.00
50 x 50 mm	USD 217.00	USD 252.00	USD 324.00	USD 411.00	USD 542.00
100 x 100 mm	USD 294.00	USD 361.00	USD 497.00	USD 655.00	
150 x 150 mm	USD 371.00	USD 470.00	USD 669.00		
300 x 300 mm	USD 603.00	USD 890.00			

Typical Analysis : Ag 10, As 20, Bi 10, Cd 10, Cu 100, Fe 10, Ni 10, Pb 600, Sb 1.1%, Zn 10.

Metal - Tin

Tin
Sn



Foil

SN000510

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

High Purity **99.99+%**

Size

Web Code
 086-663-215
 832-904-403
 113-059-764
 008-464-130

Size	Quantity		
	1pc	2pcs	5pcs
25 x 25 mm	USD 286.00	USD 345.00	USD 467.00
50 x 50 mm	USD 417.00	USD 530.00	USD 760.00
100 x 100 mm	USD 679.00	USD 901.00	
150 x 150 mm	USD 966.00		

Typical Analysis : Ag <1, Al <1, Au 1, Bi 2, Cd 1, Cu <1, Fe 2, In <1, Mg 1, Ni 1, Pb 10, Si 5, Tl 1.

SN000521

Thickness **3.0mm**
 Temper **As rolled**

Purity **99.99+%**

Discs

Web Code
 195-120-648

Diameter	Quantity
	1 discs
40 mm	USD POA

Typical Analysis : Ag <1, Al <1, Au 1, Bi 2, Cd 1, Cu <1, Fe 2, In <1, Mg 1, Ni 1, Pb 10, Si 5, Tl 1.

SN000520

Thickness **3.0mm**
 Temper **As rolled**

High Purity **99.99+%**

Size

Web Code
 704-917-312
 114-668-394

Size	Quantity	
	1pc	2pcs
25 x 25 mm	USD 313.00	USD 384.00
50 x 50 mm	USD 471.00	

Typical Analysis : Ag <1, Al <1, Au 1, Bi 2, Cd 1, Cu <1, Fe 2, In <1, Mg 1, Ni 1, Pb 10, Si 5, Tl 1.

SN000530

Thickness **6.0mm**
 Temper **As rolled**

High Purity **99.99+%**

Size

Web Code
 107-878-013
 484-759-528

Size	Quantity	
	1pc	2pcs
25 x 25 mm	USD 375.00	USD 471.00
50 x 50 mm	USD 596.00	

Typical Analysis : Ag <1, Al <1, Au 1, Bi 2, Cd 1, Cu <1, Fe 2, In <1, Mg 1, Ni 1, Pb 10, Si 5, Tl 1.



Sheet

SN003001

Thickness **9.5mm**

High Purity **99.9999%**

Size

Web Code
 801-878-021

Size	Quantity
	1pc
42 x 93 mm	POA

Typical Analysis : Ag 0.3, Ca 0.2, Mg 0.1, Si 0.1.

SN003005

Thickness **15mm**

Purity **99.99+%**

Discs

Web Code
 307-889-618

Diameter	Quantity
	1 pcs
100 mm	USD POA

Typical Analysis : Ag <1, Al <1, Au 1, Bi 2, Cd 1, Cu <1, Fe 2, In <1, Mg 1, Ni 1, Pb 10, Si 5, Tl 1.



Sputtering Target

SN009300

Thickness **3.0mm**

Purity **99.99%**

Size

Web Code
 145-154-002
 863-184-118
 898-013-874

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

Typical Analysis : Ag <1, Cd 2, Mg <1, Pb 20, Si <1.
 These targets are normally available for immediate shipment from stock. Other sizes are available to special order.

SN009600

Thickness **6.0mm**

Purity **99.99%**

Size

Web Code
 516-788-836
 952-790-240
 098-783-277

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

Typical Analysis : Ag <1, Cd 2, Mg <1, Pb 20, Si <1.
 These targets are normally available for immediate shipment from stock. Other sizes are available to special order.

Metal – Tin

**Tin
Sn**



Wire

SN005110 Diameter **0.25mm** High Purity **99.99+%**
 Temper **As drawn**

Length

Web Code
 441-892-422
 107-997-692
 126-091-328
 236-556-525
 761-418-293

Quantity	
Length	1 Reel
1 m	USD 254.00
2 m	USD 305.00
5 m	USD 407.00
10 m	USD 522.00
20 m	USD 685.00

Typical Analysis : Ag <1, Al <1, Au 1, Bi 2, Cd 1, Cu <1, Fe 2, In <1, Mg 1, Ni 1, Pb 10, Si 5, Tl 1.

SN005120 Diameter **0.5mm** High Purity **99.99+%**
 Temper **As drawn**

Length

Web Code
 629-113-134
 088-032-016
 639-140-254
 177-281-407
 892-536-475

Quantity	
Length	1 Reel
1 m	USD 268.00
2 m	USD 325.00
5 m	USD 439.00
10 m	USD 568.00
20 m	USD 750.00

Typical Analysis : Ag <1, Al <1, Au 1, Bi 2, Cd 1, Cu <1, Fe 2, In <1, Mg 1, Ni 1, Pb 10, Si 5, Tl 1.

SN005130 Diameter **1.0mm** High Purity **99.99+%**
 Temper **As drawn**

Length

Web Code
 085-770-294
 721-279-866
 962-064-078
 159-986-539
 998-324-505

Quantity	
Length	1 Reel
0.5 m	USD 245.00
1 m	USD 293.00
2 m	USD 361.00
5 m	USD 496.00
10 m	USD 663.00

Typical Analysis : Ag <1, Al <1, Au 1, Bi 2, Cd 1, Cu <1, Fe 2, In <1, Mg 1, Ni 1, Pb 10, Si 5, Tl 1.

SN005140 Diameter **1.5mm** High Purity **99.99+%**
 Temper **As drawn**

Length

Web Code
 375-676-379
 611-978-355
 283-116-012
 791-453-546
 843-171-151

Quantity	
Length	1 Reel
0.2 m	USD 218.00
0.5 m	USD 270.00
1 m	USD 327.00
2 m	USD 409.00
5 m	USD 572.00

Typical Analysis : Ag <1, Al <1, Au 1, Bi 2, Cd 1, Cu <1, Fe 2, In <1, Mg 1, Ni 1, Pb 10, Si 5, Tl 1.



Rod

SN007910 Diameter **2.0mm** Purity..... **99.75%**
 Condition..... **Extruded**

Size

Web Code
 590-931-744
 866-462-801
 307-855-310
 481-916-326

Length	Quantity				
	1pc	2pcs	5pcs	10pcs	20pcs
100 mm	USD 119.00	USD 130.00	USD 158.00	USD 175.00	USD 202.00
200 mm	USD 124.00	USD 136.00	USD 168.00	USD 189.00	USD 222.00
500 mm	USD 133.00	USD 149.00	USD 188.00	USD 217.00	USD 261.00
1000 mm	USD 143.00	USD 163.00	USD 210.00	USD 248.00	USD 306.00

Typical Analysis : As + Bi + Cu + Fe + Pb + Sb <2000, others <500.

SN007915 Diameter **2.0mm** High Purity **99.99+%**

Size

Web Code
 465-066-960
 899-021-549
 913-144-687
 897-808-338

Length	Quantity		
	1pc	2pcs	5pcs
100 mm	USD 282.00	USD 348.00	USD 525.00
200 mm	USD 339.00	USD 447.00	USD 892.00
500 mm	USD 511.00	USD 887.00	
1000 mm	USD 877.00		

Typical Analysis : Bi 1, Cd 1, Pb 5.

SN007918 Diameter **3.0mm** High Purity **99.99+%**

Size

Web Code
 201-553-512
 927-718-261
 190-206-206
 176-609-216

Length	Quantity			
	1pc	2pcs	5pcs	10pcs
100 mm	USD 218.00	USD 262.00	USD 350.00	USD 568.00
200 mm	USD 254.00	USD 313.00	USD 555.00	
500 mm	USD 335.00	USD 548.00		
1000 mm	USD 540.00			

Typical Analysis : Ag <1, Al <1, Au 1, Bi 2, Cd 1, Cu <1, Fe 2, In <1, Mg 1, Ni 1, Pb 10, Si 5, Tl 1.

Metal – Tin

**Tin
Sn**



Rod

SN007920

Diameter **5.0mm**
 Condition **Extruded**

Purity **99.75%**

Size

Web Code
 239-546-211
 943-283-875
 910-475-391
 809-422-948

Length	Quantity				
	1pc	2pcs	5pcs	10pcs	20pcs
100 mm	USD 138.00	USD 158.00	USD 182.00	USD 213.00	USD 261.00
200 mm	USD 147.00	USD 171.00	USD 204.00	USD 243.00	USD 312.00
500 mm	USD 166.00	USD 199.00	USD 247.00	USD 333.00	
1000 mm	USD 188.00	USD 229.00	USD 324.00		

Typical Analysis : As + Bi + Cu + Fe + Pb + Sb <2000, others <500.

SN007930

Diameter **6.0mm**

High Purity **99.999+%**

Size

Web Code
 177-874-046
 234-258-373
 282-298-122
 287-271-742
 908-962-939

Length	Quantity				
	1pc	2pcs	5pcs	10pcs	20pcs
50 mm	USD 274.00	USD 342.00	USD 489.00	USD 754.00	USD 1317.00
100 mm	USD 329.00	USD 420.00	USD 691.00	USD 1255.00	
200 mm	USD 407.00	USD 553.00	USD 1192.00		
500 mm	USD 641.00	USD 1154.00			
1000 mm	USD 1142.00				

Typical Analysis : Bi 1, Cd 1, Pb 5.

SN007939

Diameter **8.9mm**

Purity **99.99+%**

Size

Web Code
 887-730-478
 004-474-437
 629-571-880
 844-435-753

Length	Quantity			
	1pc	2pcs	5pcs	10pcs
100 mm	USD 285.00	USD 367.00	USD 504.00	USD 659.00
200 mm	USD 354.00	USD 464.00	USD 657.00	USD 876.00
500 mm	USD 490.00	USD 656.00	USD 962.00	
1000 mm	USD 643.00	USD 873.00		

Typical Analysis : Ag <1, Al <1, Au 1, Bi 2, Cd 1, Cu <1, Fe 2, In <1, Mg 1, Ni 1, Pb 10, Si 5, Tl 1.

SN007940

Diameter **9.5mm**

Purity **99.75%**

Size

Web Code
 994-853-319
 356-672-216
 584-030-554
 003-819-891

Length	Quantity			
	1pc	2pcs	5pcs	10pcs
100 mm	USD 158.00	USD 186.00	USD 224.00	USD 269.00
200 mm	USD 173.00	USD 208.00	USD 259.00	USD 342.00
500 mm	USD 205.00	USD 253.00	USD 380.00	
1000 mm	USD 240.00	USD 326.00		

Typical Analysis : As + Bi + Cu + Fe + Pb + Sb <2000, others <500.

SN007945

Diameter **15mm**

Purity **99.75%**

Size

Web Code
 730-641-235
 616-716-527
 628-349-135
 022-411-445

Length	Quantity			
	1pc	2pcs	5pcs	10pcs
100 mm	USD 204.00	USD 251.00	USD 375.00	USD 621.00
200 mm	USD 239.00	USD 321.00	USD 611.00	USD 1094.00
500 mm	USD 356.00	USD 605.00	USD 1320.00	
1000 mm	USD 592.00	USD 1077.00		

Typical Analysis : As + Bi + Cu + Fe + Pb + Sb <2000, others <500.

SN007948

Diameter **22.0mm**
 Condition **Extruded**

Purity **99.75%**

Size

Web Code
 962-884-189

Length	Quantity
	1pc
200 mm	USD 272.00

Typical Analysis : As + Bi + Cu + Fe + Pb + Sb <2000, others <500.

SN007950

Diameter **25.0mm**
 Condition **Extruded**

Purity **99.75%**

Size

Web Code
 477-477-845
 684-731-438
 591-425-286
 928-153-649

Length	Quantity		
	1pc	2pcs	5pcs
100 mm	USD 232.00	USD 296.00	USD 437.00
200 mm	USD 272.00	USD 370.00	USD 701.00
500 mm	USD 398.00	USD 687.00	
1000 mm	USD 663.00		

Typical Analysis : As + Bi + Cu + Fe + Pb + Sb <2000, others <500.

Metal – Tin

**Tin
Sn**



Bar

SN008100

Side Length **7mm**
 High Purity **99.9999%**

Side Length (of longer side)**12mm**

Size

Web Code
 991-297-309
 136-975-904
 019-205-308
 846-449-947
 400-666-135
 083-273-697

Length	Quantity			
	1pc	2pcs	5pcs	10pcs
12 mm	USD 262.00	USD 318.00	USD 548.00	USD 932.00
22 mm	USD 303.00			
25 mm	USD 322.00	USD 479.00	USD 952.00	
28 mm	USD 340.00			
50 mm	USD 477.00	USD 790.00	USD 1729.00	
75 mm	USD 632.00	USD 1101.00	USD 2506.00	

Typical Analysis : Ag 0.3, Ca 0.2, Mg 0.1, Si 0.1.

SN008150

Side Length **25mm**
 Purity **99.99+%**

Side Length (of longer side)**30mm**

Size

Web Code
 093-130-064

Length	Quantity
290 mm	1pc POA

Typical Analysis : Ag <1, Al <1, Au 1, Bi 2, Cd 1, Cu <1, Fe 2, In <1, Mg 1, Ni 1, Pb 10, Si 5, Tl 1.
 Nominal ingot weight : 1000g.



Powder

SN006020

Max. Particle size **45micron**

Purity **99.9%**



Web Code
 482-046-935
 255-863-099
 982-879-922
 062-703-642
 837-950-247
 743-781-119

Quantity	Weight	1 Pot
	50 g	USD 171.00
	100 g	USD 195.00
	200 g	USD 231.00
	500 g	USD 309.00
	1000 g	USD 407.00
	2000 g	USD 602.00

Typical Analysis : Ag <10, Ca <10, Cu 100, Fe 10, Mg <10, Mn <10, Pb 100, Si 10.

SN006031

Max. Particle size **150micron**

High Purity **99.995%**



Web Code
 057-513-450
 082-974-882
 154-035-084

Quantity	Weight	1 Pot
	10 g	USD 343.00
	20 g	USD 441.00
	50 g	USD 662.00

Typical Analysis : Please ask.



Lump

SN006102

Max. Lump size **4mm**
 Condition **Pellets**

High Purity **99.995%**

Web Code
 313-521-943
 622-220-260
 394-988-783

Quantity	Weight	1 Pot
	20 g	USD 286.00
	50 g	USD 378.00
	100 g	USD 525.00

Typical Analysis : Please ask.
 Nominally 3.2mm diameter x 3mm length. Please ask for prices for larger quantities.

SN006101

Max. Lump size **5mm**
 Condition **Pellets**

High Purity **99.995%**

Web Code
 209-489-465
 098-255-217
 311-661-424

Quantity	Weight	1 Pot
	50 g	USD 352.00
	100 g	USD 445.00
	200 g	USD 665.00

Typical Analysis : Please ask.
 Nominally 4.7mm diameter x 4.7mm length pellets. Please ask for prices for larger quantities.

SN006110

Max. Lump size **5mm**
 Condition **Shot**

High Purity **99.995%**

Web Code
 483-681-992
 460-247-362
 530-917-834

Quantity	Weight	1 Pot
	20 g	USD 244.00
	50 g	USD 312.00
	100 g	USD 466.00

Typical Analysis : Please ask.

Metal – Tin

Tin
Sn



Lump

SN006100

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

High Purity **99.995%**

Web Code
 111-409-287
 926-161-613
 770-206-914

Quantity

Weight	1 Pot
50 g	USD 337.00
100 g	USD 424.00
200 g	USD 597.00

Typical Analysis : Please ask.
 Nominally 6.35mm diameter x 6.35mm length pellets. Please ask for prices for larger quantities.



Single Crystal

SN002110

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

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

Web Code
 676-477-414

Quantity

1pc
 USD POA

Typical Analysis : Not applicable

Metal – Tin

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