

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 Zinc

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Introduction

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

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

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

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

Materials

Metals and Alloys

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

Ceramics

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

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

Polymers

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

Compounds & Intermetallics

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

Composites

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

Glasses

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

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

Product Descriptions



Bar

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

Tolerances

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



Bolt

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

Tolerances

See item



Chopped Fibre

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

Tolerances

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



Crucible

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

Tolerances

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



Fabric

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

Tolerances

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



Fibre

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

Tolerances

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



Film

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

Tolerances

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



Flake

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

Tolerances

Dimensions shown are nominal

Product Descriptions



Foam

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



Foil

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

Tolerances

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



Granule

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

Tolerances

Dimensions shown are nominal



Honeycomb

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



Insulated Wire

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

Tolerances

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



Laminate

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

Tolerances

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



Lump

A solid piece of material with no defined shape.

Tolerances

Dimensions shown are nominal



Mesh

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

Tolerances

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

Product Descriptions



Metallised Film

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

Tolerances

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



Microfoil

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

Tolerances

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



Microleaf

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

Tolerances

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



Monofilament

A single strand of a non-metallic material.

Tolerances

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



Non-Woven Fabric

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

Tolerances

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



Nut

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

Tolerances

See item



Powder

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

Tolerances

Dimensions shown are nominal

Product Descriptions



Rod

A straight length of circular section material.

Tolerances

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



Sheet

Flat material with a thickness > 0.5mm.

Tolerances

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



Single Crystal

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

Tolerances

Orientation:	± 3°
Size:	Sizes shown are nominal



Sphere

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

Tolerances

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

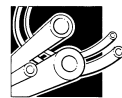


Sputtering Target

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

Tolerances

Thickness:	± 0.5mm
Size:	± 0.5mm



Tube

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

Tolerances

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



Washer

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

Tolerances

See item

Product Descriptions



Wire

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

Tolerances

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

Hazards Information

HAZARDS

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

HAZARD SYMBOLS



C

Corrosive

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



D

Dangerous when wet

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



E

Explosive

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



F+

Extremely flammable

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



Xn

Harmful

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



F

Highly flammable

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



Xi

Irritant

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



R

Radioactive

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



T

Toxic

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



T+

Very Toxic

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

General Information

Analyses

Typical Analysis :

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

Purity

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

High Purity

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

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

Supports

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

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

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

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

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

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

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

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

Vacuum tight

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

Continuous Lengths

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

Technical Data and Information

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

Tolerances

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

Order information

General Information

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

Prices

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

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

Transport Restriction

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

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

Delivery

Split shipment

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

Special Analysis, Supports or Tolerances

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

Cancellations

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

Express Service

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

Shipment

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

Despatch

Orders will normally be despatched within 48 hours of receipt.

Non delivery

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

Insurance

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

Export Restrictions

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

Materials Handling

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

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

Terms of payment

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

Order information

Credit account

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

Credit card payments

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

Mastercard, VISA, American Express, DELTA and Switch.

VAT

VAT number: GB 212 8527 79

UK

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

EU

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

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

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

Export

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

Return of goods

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

Claims

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

Goods ordered in error

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

Conditions of sale

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

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

Exclusions

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

Law

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

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

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

Order information

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

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

Company Details

Company Structure

The Goodfellow Group consists of five companies:

Goodfellow Cambridge Limited

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

Goodfellow Corporation

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

Goodfellow GmbH

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

Goodfellow SARL

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

Goodfellow (Shanghai) Trading Co., Ltd

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

COMPANY DETAILS

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Goodfellow (Shanghai) Trading Co., Ltd

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SHANGHAI
200070
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Conditions of Sale

1 GENERAL

1.1 In these Conditions:

1.1.1 the following expressions shall have the following meanings:-

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

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

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

2 ORDERS

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

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

3 DESCRIPTION

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

4 SPECIFICATIONS AND INTELLECTUAL PROPERTY

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

5 QUOTATIONS

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

6 PRICE

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

7 DELIVERY

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

Conditions of Sale

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

8 QUANTITIES INSTALMENTS AND STORAGE

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

9 TERMS OF PAYMENT

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

10 SUSPENSION AND CANCELLATION

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

and/or

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

11 INSPECTION AND CLAIMS FOR DEFECTS

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

12 WARRANTY

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

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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

Zinc

Zn

Zinc was known to the Greeks and Romans as a constituent of the copper alloy, brass, but metallic zinc was not discovered until the 16th. century by Paracelcus.

Zinc is a brittle metal which has a blue cast. It is readily accessible as it occurs in concentrated ores from which it is easily extracted (it has an abundance of 75 ppm in the earth's crust). Extraction is achieved by heating the oxide with carbon and distilling out the metal. Zinc tarnishes in air and reacts with acids and alkalis.

Zinc is used widely throughout industry; for example, it is used as a galvanic coating on steel to prevent corrosion, and is used as a constituent of various alloy systems (e.g. with copper in brass), as well as in zinc-base alloys which can be used for diecasting (the other alloy constituents are aluminium, copper and magnesium). Pure zinc is used as an electrode in a Daniell cell and also in dry batteries. Zinc oxide is used as a stabiliser for certain grades of rubbers and plastics, as well as a non-toxic, white pigment used in paint manufacture. Zinc oxide also has astringent and soothing qualities and is used as a constituent of creams and ointments.

Atomic Properties

Atomic number	30
Atomic radius - Goldschmidt	0.137 nm
Atomic weight	65.38 amu
Crystal structure	Hexagonal close packed
Electronic structure	Ar 3d ¹⁰ 4s ²
Photo-electric work function	4.3 eV
Thermal neutron absorption cross-section	1.10 Barns
Valences shown	2

Physical Properties

Boiling point	907 C
Density @20C	7.14 g cm ⁻³
Melting point	419.5 C

Electrical Properties

Electrical resistivity @20C	5.96 μOhmcm
Temperature coefficient @0-100C	0.0042 K ⁻¹
Superconductivity critical temperature	0.85 K
Thermal emf against Pt (cold 0C - hot 100C)	+0.76 mV

Thermal Properties

Coefficient of thermal expansion @0-100C	31.0 x10 ⁻⁶ K ⁻¹
Latent heat of evaporation	1748 J g ⁻¹
Latent heat of fusion	111 J g ⁻¹
Specific heat @25C	388 J K ⁻¹ kg ⁻¹
Thermal conductivity @0-100C	116 W m ⁻¹ K ⁻¹

Mechanical Properties

Material condition	Polycrystalline
Bulk modulus	69.4 GPa
Hardness - Mohs	2.5
Poisson's ratio	0.249
Tensile modulus	104.5 GPa

Natural isotope distribution	Mass No.	%
	64	48.6
	66	27.9
	67	4.1
	68	18.8
	70	0.6
Ionisation potential	No.	eV
	1	9.39
	2	17.96
	3	39.7
	4	59.4
	5	82.6
	6	108



Foil

ZN000060 Thickness **0.001mm** Purity **99.9%**

Sizes LT

Web Code
611-553-780
491-389-592

Quantity		
Size	1pc	2pcs
25 x 25 mm	EUR 422.00	EUR 558.00
50 x 50 mm	EUR 772.00	

Typical Analysis : Ag 40, Al 15, Au 20, B 15, Ba 15, Bi 8, Ca 100, Cd 75, Cr 1, Cu 400, Fe 12, In 8, K 100, Mg 1, Na 40, Ni 25, Pb 180, Si 1, Sn 10.

ZN000080 Thickness **0.0025mm** Purity **99.9%**

Sizes LT

Web Code
013-016-124
614-644-835
577-826-727

Quantity			
Size	1pc	2pcs	5pcs
25 x 25 mm	EUR 324.00	EUR 419.00	EUR 617.00
50 x 50 mm	EUR 532.00	EUR 731.00	
100 x 100 mm	EUR 1328.00		

Discs

Web Code
372-494-768
561-846-552
230-818-350
852-295-453
536-927-025

Quantity			
Diameter	10 discs	20 discs	50 discs
4 mm	EUR 368.00	EUR 450.00	EUR 646.00
6 mm	EUR 427.00	EUR 534.00	EUR 782.00
8 mm	EUR 487.00	EUR 620.00	EUR 920.00
10 mm	EUR 547.00	EUR 706.00	EUR 1079.00
15 mm	EUR 694.00	EUR 915.00	

Typical Analysis : Ag 40, Al 15, Au 20, B 15, Ba 15, Bi 8, Ca 100, Cd 75, Cr 1, Cu 400, Fe 12, In 8, K 100, Mg 1, Na 40, Ni 25, Pb 180, Si 1, Sn 10.

ZN000110 Thickness **0.005mm** Purity **99.9%**

Sizes LT

Web Code
952-892-052
989-821-528
198-557-499

Quantity			
Size	1pc	2pcs	5pcs
25 x 25 mm	EUR 285.00	EUR 365.00	EUR 531.00
50 x 50 mm	EUR 455.00	EUR 651.00	
100 x 100 mm	EUR 1170.00		

Discs

Web Code
552-945-996
118-238-148
779-774-565
471-821-697
977-701-122

Quantity			
Diameter	10 discs	20 discs	50 discs
4 mm	EUR 346.00	EUR 419.00	EUR 598.00
6 mm	EUR 395.00	EUR 488.00	EUR 709.00
8 mm	EUR 443.00	EUR 558.00	EUR 822.00
10 mm	EUR 493.00	EUR 629.00	EUR 988.00
15 mm	EUR 613.00	EUR 820.00	

Typical Analysis : Ag 40, Al 15, Au 20, B 15, Ba 15, Bi 8, Ca 100, Cd 75, Cr 1, Cu 400, Fe 12, In 8, K 100, Mg 1, Na 40, Ni 25, Pb 180, Si 1, Sn 10.

Zinc

Zn



Foil

ZN000160

Thickness **0.01mm**

Purity..... **99.9%**

Sizes LT

Web Code

370-191-018
 946-135-646
 871-144-945

Size	Quantity		
	1pc	2pcs	5pcs
25 x 25 mm	EUR 249.00	EUR 313.00	EUR 450.00
50 x 50 mm	EUR 383.00	EUR 569.00	
100 x 100 mm	EUR 1004.00		

Discs

Web Code

702-982-537
 872-822-543
 102-817-218
 852-160-575
 520-073-858

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	EUR 326.00	EUR 390.00	EUR 552.00
6 mm	EUR 364.00	EUR 445.00	EUR 640.00
8 mm	EUR 403.00	EUR 500.00	EUR 729.00
10 mm	EUR 442.00	EUR 556.00	EUR 893.00
15 mm	EUR 536.00	EUR 736.00	

Typical Analysis : Ag 40, Al 15, Au 20, B 15, Ba 15, Bi 8, Ca 100, Cd 75, Cr 1, Cu 400, Fe 12, In 8, K 100, Mg 1, Na 40, Ni 25, Pb 180, Si 1, Sn 10.

ZN000180

Thickness **0.015mm**

Purity..... **99.9%**

Sizes LT

Web Code

035-147-009
 210-253-140
 891-458-724

Size	Quantity		
	1pc	2pcs	5pcs
25 x 25 mm	EUR 199.00	EUR 243.00	EUR 361.00
50 x 50 mm	EUR 284.00	EUR 461.00	
100 x 100 mm	EUR 789.00		

Discs

Web Code

943-811-625
 976-457-752
 057-214-764
 151-841-221
 980-158-017

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	EUR 298.00	EUR 351.00	EUR 490.00
6 mm	EUR 322.00	EUR 385.00	EUR 545.00
8 mm	EUR 347.00	EUR 420.00	EUR 630.00
10 mm	EUR 371.00	EUR 456.00	EUR 769.00
15 mm	EUR 431.00	EUR 626.00	

Typical Analysis : Ag 40, Al 15, Au 20, B 15, Ba 15, Bi 8, Ca 100, Cd 75, Cr 1, Cu 400, Fe 12, In 8, K 100, Mg 1, Na 40, Ni 25, Pb 180, Si 1, Sn 10.

ZN000190

Thickness **0.02mm**

Purity..... **99.9%**

Sizes LT

Web Code

408-675-663
 617-422-460
 751-800-236

Size	Quantity		
	1pc	2pcs	5pcs
25 x 25 mm	EUR 198.00	EUR 241.00	EUR 355.00
50 x 50 mm	EUR 281.00	EUR 451.00	
100 x 100 mm	EUR 770.00		

Discs

Web Code

782-212-576
 776-565-286
 070-652-550
 831-574-426
 946-807-596

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	EUR 298.00	EUR 350.00	EUR 488.00
6 mm	EUR 321.00	EUR 384.00	EUR 543.00
8 mm	EUR 345.00	EUR 418.00	EUR 623.00
10 mm	EUR 370.00	EUR 453.00	EUR 758.00
15 mm	EUR 428.00	EUR 616.00	

Typical Analysis : Ag 40, Al 15, Au 20, B 15, Ba 15, Bi 8, Ca 100, Cd 75, Cr 1, Cu 400, Fe 12, In 8, K 100, Mg 1, Na 40, Ni 25, Pb 180, Si 1, Sn 10.

ZN000220

Thickness **0.025mm**

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

Temper **As rolled**

NLT Sizes

Web Code

409-554-522

Size	Quantity				
	1pc	2pcs	5pcs	10pcs	20pcs
150 x 150 mm	EUR 218.00	EUR 261.00	EUR 347.00		

Sizes LT

Web Code

205-035-832
 388-224-743
 599-930-611
 331-589-658

Size	Quantity				
	1pc	2pcs	5pcs	10pcs	20pcs
25 x 25 mm	EUR 140.00	EUR 149.00	EUR 171.00	EUR 201.00	EUR 251.00
50 x 50 mm	EUR 156.00	EUR 172.00	EUR 206.00	EUR 250.00	EUR 321.00
100 x 100 mm	EUR 187.00	EUR 216.00	EUR 277.00	EUR 350.00	
150 x 150 mm	EUR 382.00	EUR 456.00	EUR 607.00		

Coil

Web Code

925-398-510
 139-423-793
 512-342-416
 468-642-000

Length	Quantity
	1 Reel
0.5 m	EUR 330.00
1 m	EUR 402.00
2 m	EUR 503.00
5 m	EUR 706.00

Discs

Web Code

772-508-659
 563-581-082
 447-630-262
 953-779-111
 222-388-383
 798-545-080
 818-128-313

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	EUR 253.00	EUR 293.00	EUR 354.00
6 mm	EUR 258.00	EUR 300.00	EUR 365.00
8 mm	EUR 263.00	EUR 306.00	EUR 376.00
10 mm	EUR 267.00	EUR 313.00	EUR 386.00
15 mm	EUR 279.00	EUR 330.00	EUR 413.00
25 mm	EUR 303.00	EUR 364.00	EUR 467.00
50 mm	EUR 363.00	EUR 448.00	EUR 600.00

Typical Analysis : Ca 1, Cd 20, Cu 15, Fe 10, In 10, Mg <1, Na 2, Ni 1, Pb 100, Si 2, Sn 8.

Metal - Zinc

Zinc

Zn



Foil

ZN000225

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

High Purity **99.99+%**

NLT Sizes

Web Code
 289-548-849
 403-873-055

Size	Quantity				
	1pc	2pcs	5pcs	10pcs	20pcs
100 x 100 mm	EUR 276.00	EUR 362.00	EUR 508.00	EUR 677.00	
150 x 150 mm	EUR 359.00	EUR 480.00	EUR 694.00		

Sizes LT

Web Code
 925-442-399
 946-848-872

Size	Quantity				
	1pc	2pcs	5pcs	10pcs	20pcs
25 x 25 mm	EUR 151.00	EUR 186.00	EUR 229.00	EUR 282.00	EUR 367.00
50 x 50 mm	EUR 192.00	EUR 245.00	EUR 322.00	EUR 414.00	EUR 553.00

Coil

Web Code
 938-806-593
 384-065-289
 920-779-267

Length	Quantity	
	1 Reel	
0.2 m	EUR 402.00	
0.5 m	EUR 570.00	
1 m	EUR 759.00	

Discs

Web Code
 356-845-344
 605-667-002
 708-380-288
 547-532-176
 441-516-900
 189-617-805

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	EUR 269.00	EUR 315.00	EUR 443.00
6 mm	EUR 281.00	EUR 333.00	EUR 472.00
8 mm	EUR 294.00	EUR 351.00	EUR 500.00
10 mm	EUR 307.00	EUR 369.00	EUR 529.00
15 mm	EUR 338.00	EUR 414.00	EUR 599.00
25 mm	EUR 402.00	EUR 503.00	

Typical Analysis : Ag 15, Bi <1, Ca 2, Cd 5, Cu 10, Fe 5, Mg <1, Pb 10, Si 3, Sn 5.

ZN000235

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

High Purity **99.99+%**

Size

Web Code
 648-620-287
 077-536-209
 692-027-068

Size	Quantity			
	1pc	2pcs	5pcs	10pcs
25 x 25 mm	EUR 142.00	EUR 173.00	EUR 209.00	EUR 255.00
50 x 50 mm	EUR 175.00	EUR 220.00	EUR 283.00	
100 x 100 mm	EUR 240.00	EUR 313.00		

Discs

Web Code
 503-376-153
 922-023-193
 252-898-379
 612-288-185
 536-020-404
 002-556-640

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	EUR 263.00	EUR 307.00	EUR 431.00
6 mm	EUR 273.00	EUR 322.00	EUR 454.00
8 mm	EUR 283.00	EUR 336.00	EUR 476.00
10 mm	EUR 293.00	EUR 350.00	EUR 499.00
15 mm	EUR 318.00	EUR 385.00	
25 mm	EUR 368.00		

Typical Analysis : Ag 15, Bi <1, Ca 2, Cd 5, Cu 10, Fe 5, Mg <1, Pb 10, Si 3, Sn 5.

ZN000230

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

Purity **99.95+%**

Size

Web Code
 702-231-272
 778-900-560
 362-566-318
 320-788-530

Size	Quantity				
	1pc	2pcs	5pcs	10pcs	20pcs
25 x 25 mm	EUR 124.00	EUR 130.00	EUR 143.00	EUR 162.00	EUR 195.00
50 x 50 mm	EUR 132.00	EUR 141.00	EUR 161.00	EUR 187.00	EUR 231.00
100 x 100 mm	EUR 148.00	EUR 164.00	EUR 197.00	EUR 238.00	EUR 303.00
150 x 150 mm	EUR 164.00	EUR 187.00	EUR 233.00	EUR 290.00	EUR 376.00

Coil

Web Code
 098-572-900
 321-619-798
 202-463-853
 307-980-189
 497-517-810

Length	Quantity	
	1 Reel	
0.3 m	EUR 213.00	
0.5 m	EUR 233.00	
1 m	EUR 270.00	
2 m	EUR 324.00	
5 m	EUR 429.00	

Discs

Web Code
 189-735-588
 716-938-604
 617-331-011
 166-384-202
 798-025-010
 753-129-520
 141-188-923

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	EUR 230.00	EUR 259.00	EUR 317.00
6 mm	EUR 233.00	EUR 263.00	EUR 323.00
8 mm	EUR 235.00	EUR 266.00	EUR 328.00
10 mm	EUR 238.00	EUR 270.00	EUR 334.00
15 mm	EUR 244.00	EUR 278.00	EUR 347.00
25 mm	EUR 256.00	EUR 296.00	EUR 375.00
50 mm	EUR 287.00	EUR 339.00	EUR 444.00

Typical Analysis : Ca 1, Cd 20, Cu 15, Fe 10, In 10, Mg <1, Na 2, Ni 1, Pb 100, Si 2, Sn 8.

Zinc

Zn



Foil

ZN000240

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

Purity **99.95+%**

Size

Web Code

948-145-785
 518-219-172
 777-396-324
 174-543-481

Size	Quantity				
	1pc	2pcs	5pcs	10pcs	20pcs
25 x 25 mm	EUR 116.00	EUR 121.00	EUR 134.00	EUR 152.00	EUR 184.00
50 x 50 mm	EUR 123.00	EUR 132.00	EUR 151.00	EUR 176.00	EUR 218.00
100 x 100 mm	EUR 138.00	EUR 153.00	EUR 184.00	EUR 223.00	EUR 285.00
150 x 150 mm	EUR 153.00	EUR 174.00	EUR 218.00	EUR 271.00	EUR 352.00

Coil

Web Code

817-934-804
 241-861-575
 232-694-176
 086-765-138
 845-644-906

Width 150mm

Length

Length	1 Reel
0.3 m	EUR 209.00
0.5 m	EUR 227.00
1 m	EUR 262.00
2 m	EUR 310.00
5 m	EUR 408.00

Quantity

Discs

Web Code

705-621-124
 202-644-868
 330-600-138
 325-012-817
 626-610-454
 326-305-329
 788-168-862

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	EUR 221.00	EUR 250.00	EUR 307.00
6 mm	EUR 223.00	EUR 253.00	EUR 312.00
8 mm	EUR 226.00	EUR 256.00	EUR 318.00
10 mm	EUR 228.00	EUR 260.00	EUR 323.00
15 mm	EUR 234.00	EUR 268.00	EUR 335.00
25 mm	EUR 245.00	EUR 284.00	EUR 361.00
50 mm	EUR 273.00	EUR 324.00	EUR 425.00

Typical Analysis : Ca 1, Cd 20, Cu 15, Fe 10, In 10, Mg < 1, Na 2, Ni 1, Pb 100, Si 2, Sn 8.

ZN000250

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

Purity **99.95+%**

Size

Web Code

521-101-664
 137-706-373
 213-297-829
 662-227-388
 529-597-857

Size	Quantity				
	1pc	2pcs	5pcs	10pcs	20pcs
25 x 25 mm	EUR 116.00	EUR 121.00	EUR 133.00	EUR 151.00	EUR 183.00
50 x 50 mm	EUR 123.00	EUR 131.00	EUR 149.00	EUR 173.00	EUR 214.00
100 x 100 mm	EUR 137.00	EUR 151.00	EUR 181.00	EUR 218.00	EUR 278.00
150 x 150 mm	EUR 151.00	EUR 171.00	EUR 212.00	EUR 263.00	EUR 341.00
300 x 300 mm	EUR 193.00	EUR 231.00	EUR 307.00	EUR 397.00	

Coil

Web Code

778-414-123
 301-769-512
 721-197-291
 149-660-068

Width 300mm

Length

Length	1 Reel
0.3 m	EUR 230.00
0.5 m	EUR 255.00
1 m	EUR 301.00
2 m	EUR 366.00

Quantity

Discs

Web Code

438-947-382
 868-423-347
 552-919-785
 114-974-841
 371-855-322
 481-916-764
 239-590-971

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	EUR 221.00	EUR 250.00	EUR 307.00
6 mm	EUR 223.00	EUR 253.00	EUR 312.00
8 mm	EUR 225.00	EUR 256.00	EUR 316.00
10 mm	EUR 227.00	EUR 259.00	EUR 321.00
15 mm	EUR 233.00	EUR 266.00	EUR 333.00
25 mm	EUR 243.00	EUR 281.00	EUR 357.00
50 mm	EUR 270.00	EUR 320.00	EUR 418.00

Typical Analysis : Ca 1, Cd 20, Cu 15, Fe 10, In 10, Mg < 1, Na 2, Ni 1, Pb 100, Si 2, Sn 8.

ZN000275

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

High Purity **99.99+%**

Size

Web Code

260-142-052
 517-757-132
 719-639-497

Size	Quantity			
	1pc	2pcs	5pcs	10pcs
25 x 25 mm	EUR 136.00	EUR 166.00	EUR 201.00	EUR 243.00
50 x 50 mm	EUR 173.00	EUR 219.00	EUR 285.00	
100 x 100 mm	EUR 248.00	EUR 324.00		

Discs

Web Code

954-931-780
 366-467-686
 808-458-813
 057-353-471
 169-186-233
 148-276-757
 534-598-590

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	EUR 236.00	EUR 263.00	EUR 336.00
6 mm	EUR 247.00	EUR 279.00	EUR 361.00
8 mm	EUR 258.00	EUR 295.00	EUR 387.00
10 mm	EUR 270.00	EUR 311.00	EUR 412.00
15 mm	EUR 298.00	EUR 352.00	EUR 476.00
25 mm	EUR 355.00	EUR 432.00	
50 mm	EUR 498.00		

Typical Analysis : Ag 15, Bi < 1, Ca 2, Cd 5, Cu 10, Fe 5, Mg < 1, Pb 10, Si 3, Sn 5.

Zinc

Zn



Foil

ZN000270

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

Purity **99.95+%**

Size

Web Code

948-871-747
 608-967-286
 120-903-942
 112-994-281
 690-180-826

Size	Quantity				
	1pc	2pcs	5pcs	10pcs	20pcs
25 x 25 mm	EUR 112.00	EUR 117.00	EUR 129.00	EUR 146.00	EUR 177.00
50 x 50 mm	EUR 118.00	EUR 126.00	EUR 143.00	EUR 166.00	EUR 206.00
100 x 100 mm	EUR 131.00	EUR 144.00	EUR 172.00	EUR 207.00	EUR 263.00
150 x 150 mm	EUR 144.00	EUR 162.00	EUR 201.00	EUR 248.00	EUR 321.00
300 x 300 mm	EUR 183.00	EUR 217.00	EUR 288.00	EUR 370.00	

Coil

Web Code

124-287-489
 535-933-971
 991-738-418
 967-304-985
 913-118-691

Length	Quantity
	1 Reel
0.3 m	EUR 214.00
0.5 m	EUR 237.00
1 m	EUR 279.00
2 m	EUR 339.00
5 m	EUR 459.00

Discs

Web Code

139-826-430
 478-300-020
 787-504-673
 438-087-220
 760-911-480
 113-936-690
 242-081-188

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	EUR 217.00	EUR 245.00	EUR 302.00
6 mm	EUR 219.00	EUR 248.00	EUR 307.00
8 mm	EUR 221.00	EUR 251.00	EUR 311.00
10 mm	EUR 223.00	EUR 254.00	EUR 316.00
15 mm	EUR 228.00	EUR 261.00	EUR 327.00
25 mm	EUR 238.00	EUR 275.00	EUR 348.00
50 mm	EUR 262.00	EUR 309.00	EUR 403.00

Typical Analysis : Ca 1, Cd 20, Cu 15, Fe 10, In 10, Mg < 1, Na 2, Ni 1, Pb 100, Si 2, Sn 8.

ZN000280

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

Purity **99.95+%**

Size

Web Code

824-815-648
 101-956-462
 744-559-373
 069-914-870
 850-584-994

Size	Quantity				
	1pc	2pcs	5pcs	10pcs	20pcs
25 x 25 mm	EUR 112.00	EUR 118.00	EUR 130.00	EUR 148.00	EUR 179.00
50 x 50 mm	EUR 119.00	EUR 127.00	EUR 145.00	EUR 169.00	EUR 210.00
100 x 100 mm	EUR 133.00	EUR 147.00	EUR 176.00	EUR 213.00	EUR 272.00
150 x 150 mm	EUR 147.00	EUR 167.00	EUR 208.00	EUR 257.00	EUR 334.00
300 x 300 mm	EUR 189.00	EUR 225.00	EUR 301.00	EUR 389.00	

Coil

Web Code

418-898-085
 362-256-934
 282-120-057
 265-009-353

Length	Quantity
	1 Reel
0.5 m	EUR 245.00
1 m	EUR 290.00
2 m	EUR 354.00
5 m	EUR 491.00

Discs

Web Code

126-171-426
 771-431-818
 428-978-864
 622-358-621
 794-825-614
 353-212-173
 151-524-423

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	EUR 217.00	EUR 246.00	EUR 303.00
6 mm	EUR 219.00	EUR 249.00	EUR 308.00
8 mm	EUR 221.00	EUR 252.00	EUR 313.00
10 mm	EUR 224.00	EUR 255.00	EUR 317.00
15 mm	EUR 229.00	EUR 262.00	EUR 329.00
25 mm	EUR 239.00	EUR 277.00	EUR 353.00
50 mm	EUR 266.00	EUR 314.00	EUR 412.00

Typical Analysis : Ca 1, Cd 20, Cu 15, Fe 10, In 10, Mg < 1, Na 2, Ni 1, Pb 100, Si 2, Sn 8.

ZN000290

Thickness **0.175mm**
 Temper **As rolled**

Purity **99.95+%**

Size

Web Code

940-550-815
 568-851-474
 106-425-311
 303-173-969

Size	Quantity				
	1pc	2pcs	5pcs	10pcs	20pcs
25 x 25 mm	EUR 113.00	EUR 118.00	EUR 131.00	EUR 149.00	EUR 181.00
50 x 50 mm	EUR 120.00	EUR 129.00	EUR 148.00	EUR 173.00	EUR 215.00
100 x 100 mm	EUR 135.00	EUR 150.00	EUR 181.00	EUR 220.00	EUR 281.00
150 x 150 mm	EUR 150.00	EUR 171.00	EUR 214.00	EUR 267.00	EUR 348.00

Coil

Web Code

896-747-893
 093-479-914
 684-997-471
 624-684-660
 085-577-132

Length	Quantity
	1 Reel
0.3 m	EUR 199.00
0.5 m	EUR 218.00
1 m	EUR 252.00
2 m	EUR 300.00
5 m	EUR 397.00

Discs

Web Code

697-140-077
 142-501-815
 812-726-736
 590-844-771
 855-599-891
 949-987-170
 748-397-319

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	EUR 218.00	EUR 246.00	EUR 304.00
6 mm	EUR 220.00	EUR 249.00	EUR 309.00
8 mm	EUR 222.00	EUR 253.00	EUR 314.00
10 mm	EUR 224.00	EUR 256.00	EUR 319.00
15 mm	EUR 230.00	EUR 264.00	EUR 332.00
25 mm	EUR 241.00	EUR 280.00	EUR 357.00
50 mm	EUR 270.00	EUR 320.00	EUR 420.00

Typical Analysis : Ca 1, Cd 20, Cu 15, Fe 10, In 10, Mg < 1, Na 2, Ni 1, Pb 100, Si 2, Sn 8.

Zinc

Zn



Foil

ZN000295

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

Purity **99.95+%**

Size

Web Code

549-672-584
 709-067-215
 633-407-588
 175-939-605
 992-457-280

Size	Quantity				
	1pc	2pcs	5pcs	10pcs	20pcs
25 x 25 mm	EUR 100.00	EUR 105.00	EUR 118.00	EUR 135.00	EUR 167.00
50 x 50 mm	EUR 107.00	EUR 115.00	EUR 133.00	EUR 157.00	EUR 197.00
100 x 100 mm	EUR 121.00	EUR 134.00	EUR 163.00	EUR 200.00	EUR 258.00
150 x 150 mm	EUR 134.00	EUR 154.00	EUR 194.00	EUR 243.00	EUR 319.00
300 x 300 mm	EUR 175.00	EUR 211.00	EUR 285.00	EUR 372.00	

Coil

Web Code

144-867-556
 108-440-292
 555-033-345

Width 300mm

Length 1 Reel

0.5 m EUR 227.00
 1 m EUR 271.00
 2 m EUR 334.00

Discs

Web Code

379-172-326
 396-549-840
 568-736-618
 092-075-586
 509-446-975
 680-864-795
 108-091-217

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	EUR 203.00	EUR 231.00	EUR 289.00
6 mm	EUR 205.00	EUR 234.00	EUR 293.00
8 mm	EUR 207.00	EUR 237.00	EUR 298.00
10 mm	EUR 209.00	EUR 240.00	EUR 303.00
15 mm	EUR 214.00	EUR 248.00	EUR 314.00
25 mm	EUR 225.00	EUR 262.00	EUR 337.00
50 mm	EUR 251.00	EUR 299.00	EUR 395.00

Typical Analysis : Ca 1, Cd 20, Cu 15, Fe 10, In 10, Mg < 1, Na 2, Ni 1, Pb 100, Si 2, Sn 8.

ZN000305

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

High Purity **99.99+%**

Size

Web Code

112-689-630
 086-200-178
 775-013-473
 108-841-574

Size	Quantity			
	1pc	2pcs	5pcs	10pcs
25 x 25 mm	EUR 142.00	EUR 174.00	EUR 214.00	EUR 261.00
50 x 50 mm	EUR 184.00	EUR 235.00	EUR 310.00	EUR 396.00
100 x 100 mm	EUR 270.00	EUR 356.00	EUR 501.00	
150 x 150 mm	EUR 356.00	EUR 477.00		

Discs

Web Code

876-684-217
 585-525-442
 190-680-379
 835-045-270
 380-654-731
 581-845-893
 730-726-274

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	EUR 239.00	EUR 268.00	EUR 343.00
6 mm	EUR 252.00	EUR 286.00	EUR 373.00
8 mm	EUR 265.00	EUR 305.00	EUR 402.00
10 mm	EUR 278.00	EUR 324.00	EUR 432.00
15 mm	EUR 311.00	EUR 370.00	EUR 505.00
25 mm	EUR 376.00	EUR 463.00	
50 mm	EUR 542.00		

Typical Analysis : Ag 15, Bi < 1, Ca 2, Cd 5, Cu 10, Fe 5, Mg < 1, Pb 10, Si 3, Sn 5.

ZN000301

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

Purity **99.95+%**

Size

Web Code

417-153-126
 144-148-688
 018-586-205
 323-284-467

Size	Quantity				
	1pc	2pcs	5pcs	10pcs	20pcs
25 x 25 mm	EUR 100.00	EUR 105.00	EUR 117.00	EUR 134.00	EUR 165.00
50 x 50 mm	EUR 106.00	EUR 114.00	EUR 131.00	EUR 154.00	EUR 194.00
100 x 100 mm	EUR 119.00	EUR 132.00	EUR 160.00	EUR 195.00	EUR 251.00
150 x 150 mm	EUR 132.00	EUR 150.00	EUR 189.00	EUR 236.00	EUR 309.00

Coil

Web Code

410-558-582
 319-816-535
 977-068-961
 133-612-951
 664-753-902

Width 203mm

Length 1 Reel

0.3 m EUR 185.00
 0.5 m EUR 204.00
 1 m EUR 238.00
 2 m EUR 287.00
 5 m EUR 407.00

Discs

Web Code

701-621-859
 702-725-814
 840-725-402
 090-680-146
 335-013-941
 876-743-271
 592-901-514

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	EUR 203.00	EUR 231.00	EUR 288.00
6 mm	EUR 205.00	EUR 234.00	EUR 292.00
8 mm	EUR 206.00	EUR 237.00	EUR 297.00
10 mm	EUR 208.00	EUR 239.00	EUR 301.00
15 mm	EUR 213.00	EUR 246.00	EUR 312.00
25 mm	EUR 223.00	EUR 260.00	EUR 334.00
50 mm	EUR 248.00	EUR 295.00	EUR 389.00

Typical Analysis : Ca 1, Cd 20, Cu 15, Fe 10, In 10, Mg < 1, Na 2, Ni 1, Pb 100, Si 2, Sn 8.

Metal - Zinc

Zinc

Zn



Foil

ZN000308

Thickness **0.35mm**
 Temper **As rolled**

Purity **99.95+%**

Size

Web Code

731-155-133
 098-996-890
 763-996-441
 863-500-808
 311-191-403

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
EUR	101.00	EUR 107.00	EUR 119.00	EUR 138.00	EUR 170.00	
EUR	109.00	EUR 117.00	EUR 137.00	EUR 162.00	EUR 204.00	
EUR	124.00	EUR 139.00	EUR 171.00	EUR 210.00	EUR 272.00	
EUR	139.00	EUR 160.00	EUR 205.00	EUR 258.00		
EUR	185.00	EUR 225.00	EUR 307.00			

Coil

Web Code
 141-284-993
 014-694-823
 224-691-374

Width 300mm

		Quantity
		1 Reel
Length	0.5 m	EUR 239.00
	1 m	EUR 289.00
	2 m	EUR 359.00

Discs

Web Code
 658-817-830
 611-176-027
 884-422-196
 220-602-133
 346-432-243
 933-383-870
 221-963-811

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

		Quantity		
		10 discs	20 discs	50 discs
EUR	203.00	EUR 232.00	EUR 290.00	
EUR	206.00	EUR 235.00	EUR 295.00	
EUR	208.00	EUR 239.00	EUR 300.00	
EUR	210.00	EUR 242.00	EUR 305.00	
EUR	216.00	EUR 250.00	EUR 318.00	
EUR	228.00	EUR 266.00	EUR 344.00	
EUR	257.00	EUR 308.00	EUR 409.00	

Typical Analysis : Ca 1, Cd 20, Cu 15, Fe 10, In 10, Mg < 1, Na 2, Ni 1, Pb 100, Si 2, Sn 8.

ZN000315

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

High Purity **99.99+%**

Size

Web Code
 630-605-553
 825-687-950
 210-988-209

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

		Quantity		
		1pc	2pcs	5pcs
EUR	155.00	EUR 194.00	EUR 245.00	
EUR	212.00	EUR 274.00	EUR 371.00	
EUR	325.00	EUR 434.00		

Discs

Web Code
 373-532-258
 691-531-389
 441-417-126
 177-145-508
 143-197-493
 899-675-047
 459-377-949

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

		Quantity		
		10 discs	20 discs	50 discs
EUR	248.00	EUR 280.00	EUR 362.00	
EUR	265.00	EUR 304.00	EUR 401.00	
EUR	282.00	EUR 329.00	EUR 441.00	
EUR	300.00	EUR 354.00	EUR 480.00	
EUR	343.00	EUR 415.00	EUR 578.00	
EUR	430.00	EUR 538.00		
EUR	649.00			

Typical Analysis : Ag 15, Bi < 1, Ca 2, Cd 5, Cu 10, Fe 5, Mg < 1, Pb 10, Si 3, Sn 5.

ZN000312

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

Purity **99.95+%**

Size

Web Code
 847-500-716
 937-587-542
 198-438-367
 804-797-724
 901-783-191

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
EUR	109.00	EUR 116.00	EUR 132.00	EUR 156.00	EUR 197.00	
EUR	118.00	EUR 129.00	EUR 153.00	EUR 184.00	EUR 238.00	
EUR	136.00	EUR 154.00	EUR 193.00	EUR 241.00	EUR 318.00	
EUR	154.00	EUR 180.00	EUR 233.00	EUR 298.00		
EUR	208.00	EUR 256.00	EUR 354.00			

Coil

Web Code
 599-723-940
 965-497-883
 687-231-960
 903-991-900

Width 300mm

		Quantity
		1 Reel
Length	0.3 m	EUR 244.00
	0.5 m	EUR 282.00
	1 m	EUR 355.00
	2 m	EUR 466.00

Discs

Web Code
 874-204-499
 275-551-505
 443-940-593
 492-573-339
 571-665-223
 458-152-387
 269-044-834

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

		Quantity		
		10 discs	20 discs	50 discs
EUR	220.00	EUR 258.00	EUR 343.00	
EUR	223.00	EUR 262.00	EUR 350.00	
EUR	226.00	EUR 266.00	EUR 356.00	
EUR	229.00	EUR 270.00	EUR 362.00	
EUR	235.00	EUR 280.00	EUR 377.00	
EUR	249.00	EUR 299.00	EUR 408.00	
EUR	283.00	EUR 348.00	EUR 485.00	

Typical Analysis : Ca 1, Cd 20, Cu 15, Fe 10, In 10, Mg < 1, Na 2, Ni 1, Pb 100, Si 2, Sn 8.

Zinc

Zn



Foil

ZN000311

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

Purity **99.7%**

Size	Quantity			
	1pc	2pcs	5pcs	10pcs
Web Code				
319-966-150	EUR 152.00	EUR 195.00	EUR 231.00	EUR 277.00
057-181-135	EUR 183.00	EUR 239.00	EUR 300.00	
268-644-001	EUR 315.00	EUR 538.00		
334-529-732	EUR 508.00			

Typical Analysis : Ag 20, Cd 30, Cu 20, Fe 7, Mg <1, Mn <1, Ni 1000, Pb 1300.

ZN000322

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

Purity **99.95%**

Size	Quantity				
	1pc	2pcs	5pcs	10pcs	20pcs
Web Code					
968-951-422	EUR 105.00	EUR 113.00	EUR 131.00	EUR 156.00	EUR 201.00
118-933-497	EUR 117.00	EUR 129.00	EUR 156.00	EUR 192.00	EUR 251.00
866-678-124	EUR 139.00	EUR 160.00	EUR 206.00	EUR 262.00	EUR 351.00
334-766-879	EUR 161.00	EUR 192.00	EUR 256.00	EUR 333.00	
686-526-038	EUR 228.00	EUR 287.00	EUR 406.00		

Coil

Web Code
 845-853-142
 731-638-535
 454-822-839
 852-855-471

Width 300mm

Length	1 Reel
0.3 m	EUR 260.00
0.5 m	EUR 301.00
1 m	EUR 381.00
2 m	EUR 497.00

Discs

Web Code
 866-585-866
 323-233-396
 404-165-993
 520-741-874
 092-734-611
 591-835-455
 979-428-546

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	EUR 214.00	EUR 253.00	EUR 339.00
6 mm	EUR 218.00	EUR 258.00	EUR 347.00
8 mm	EUR 221.00	EUR 263.00	EUR 354.00
10 mm	EUR 225.00	EUR 267.00	EUR 362.00
15 mm	EUR 233.00	EUR 279.00	EUR 381.00
25 mm	EUR 250.00	EUR 304.00	EUR 419.00
50 mm	EUR 293.00	EUR 364.00	EUR 515.00

Typical Analysis : Cd 20, Ca <1, Cu 30, Fe <1, Pb 200, Si <1, Ag 2, Sn 10.

ZN000325

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

High Purity **99.99+%**

Size	Quantity			
	1pc	2pcs	5pcs	10pcs
Web Code				
428-566-569	EUR 166.00	EUR 209.00	EUR 270.00	EUR 340.00
570-815-406	EUR 234.00	EUR 305.00	EUR 421.00	EUR 554.00
351-936-855	EUR 370.00	EUR 497.00	EUR 856.00	
502-876-757	EUR 505.00	EUR 777.00		
582-979-992	EUR 1426.00			

Discs

Web Code
 992-111-811
 013-975-382
 746-922-558
 365-315-369
 664-424-285
 053-027-632
 628-452-969

Diameter	Quantity		
	10 discs	20 discs	50 discs
4 mm	EUR 254.00	EUR 289.00	EUR 377.00
6 mm	EUR 275.00	EUR 319.00	EUR 424.00
8 mm	EUR 296.00	EUR 348.00	EUR 472.00
10 mm	EUR 317.00	EUR 378.00	EUR 519.00
15 mm	EUR 368.00	EUR 451.00	EUR 636.00
25 mm	EUR 472.00	EUR 599.00	EUR 871.00
50 mm	EUR 736.00		

Typical Analysis : Ag 15, Bi <1, Ca 2, Cd 5, Cu 10, Fe 5, Mg <1, Pb 10, Si 3, Sn 5.

ZN000318

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

Purity **99.7%**

Size	Quantity		
	1pc	2pcs	5pcs
Web Code			
864-320-692	EUR 193.00	EUR 253.00	EUR 357.00
780-457-903	EUR 316.00	EUR 540.00	
557-249-915	EUR 510.00		

Typical Analysis : Ag 20, Cd 30, Cu 20, Fe 7, Mg <1, Mn <1, Ni 1000, Pb 1300.

Metal – Zinc

Zinc

Zn



Foil

ZN000350

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

Purity **99.95+%**

Size

Web Code

151-100-976
 887-621-807
 952-736-684
 092-077-725
 509-715-185

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
EUR	117.00	EUR 117.00	EUR 126.00	EUR 146.00	EUR 171.00	EUR 214.00
EUR	134.00	EUR 134.00	EUR 149.00	EUR 183.00	EUR 223.00	EUR 287.00
EUR	166.00	EUR 166.00	EUR 196.00	EUR 256.00	EUR 327.00	
EUR	199.00	EUR 199.00	EUR 242.00	EUR 329.00		
EUR	298.00	EUR 298.00	EUR 381.00			

Coil

Web Code
 307-673-953

Width 300mm
Length
 0.5 m

		Quantity
		1 Reel
EUR	376.00	EUR 376.00

Typical Analysis : Ca 1, Cd 20, Cu 15, Fe 10, In 10, Mg <1, Na 2, Ni 1, Pb 100, Si 2, Sn 8.
 Prices for 300mm wide coil on request.

ZN000370

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

Purity **99.95%**

Size

Web Code

191-110-922
 888-868-287
 108-528-264
 566-030-440
 753-804-309

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
EUR	120.00	EUR 120.00	EUR 130.00	EUR 152.00	EUR 180.00
EUR	139.00	EUR 139.00	EUR 156.00	EUR 194.00	EUR 239.00
EUR	177.00	EUR 177.00	EUR 210.00	EUR 279.00	EUR 359.00
EUR	214.00	EUR 214.00	EUR 264.00	EUR 363.00	
EUR	328.00	EUR 328.00	EUR 449.00		

Coil

Web Code
 225-544-466

Width 300mm
Length
 0.5 m

		Quantity
		1 Reel
EUR	415.00	EUR 415.00

Typical Analysis : Cd 20, Ca <1, Cu 30, Fe <1, Pb 200, Si <1, Ag 2, Sn 10.

ZN000375

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

Purity **99.99+%**

Size

Web Code

415-444-027
 930-510-758
 313-845-934

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

		Quantity		
		1pc	2pcs	5pcs
EUR	207.00	EUR 207.00	EUR 272.00	EUR 361.00
EUR	293.00	EUR 293.00	EUR 394.00	
EUR	465.00	EUR 465.00		

Typical Analysis : Ag 2, Cd 10, Cu 5, Fe 1, Pb 20, Sn 10.

ZN000380

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

High Purity **99.99+%**

Size

Web Code

230-744-339
 843-041-778
 380-224-542

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

		Quantity		
		1pc	2pcs	5pcs
EUR	215.00	EUR 215.00	EUR 284.00	EUR 379.00
EUR	309.00	EUR 309.00	EUR 417.00	
EUR	497.00	EUR 497.00		

Typical Analysis : Ag 2, Cd 10, Cu 5, Fe 1, Pb 20, Sn 10.

ZN000381

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

High Purity **99.99+%**

Condition **Polished on both sides**

Size

Web Code

940-223-118
 238-001-597

Size
 50 x 50 mm
 100 x 100 mm

		Quantity	
		1pc	2pcs
EUR	351.00	EUR 351.00	EUR 477.00
EUR	643.00	EUR 643.00	

Typical Analysis : Ag 2, Cd 10, Cu 5, Fe 1, Pb 20, Sn 10.



Sputtering Target

ZN009300

Thickness **3.0mm**

Purity **99.99+%**

Size

Web Code

001-521-548
 347-905-310
 488-169-407

Disc diam.
 25 mm
 50 mm
 75 mm

		Quantity
		1disc
POA		POA
POA		POA
POA		POA

Typical Analysis : Ag 2, Cd 10, Cu 5, Fe 1, Pb 20, Sn 10.

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

ZN009500

Thickness **5mm**

Purity **99.99+%**

Size

Web Code

265-208-366

Disc diam.
 31 mm

		Quantity
		1disc
POA		POA

Typical Analysis : Ag 2, Cd 10, Cu 5, Fe 1, Pb 20, Sn 10.

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

Metal - Zinc

Zinc

Zn



Wire

ZN005090

Diameter **0.05mm** Purity **99.0%**
 Temper **As drawn**

Length		Quantity	
Web Code	Length	1 Reel	
573-661-866	1 m	EUR	155.00
707-731-835	2 m	EUR	184.00
466-484-792	5 m	EUR	244.00
310-591-108	10 m	EUR	305.00
194-400-082	25 m	EUR	436.00

Typical Analysis : Al 170, Ca 2400, Cd 1400, Cu 5, Fe 280, Mg 35, Pb 1900, Si 120.

ZN005100

Diameter **0.125mm** Purity **99.0%**
 Temper **As drawn**

Length		Quantity	
Web Code	Length	1 Reel	
987-247-302	1 m	EUR	138.00
405-918-637	2 m	EUR	160.00
739-833-692	5 m	EUR	207.00
479-203-058	10 m	EUR	252.00
900-380-990	25 m	EUR	344.00

Typical Analysis : Al 170, Ca 2400, Cd 1400, Cu 5, Fe 280, Mg 35, Pb 1900, Si 120.

ZN005115

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

Length		Quantity	
Web Code	Length	1 Reel	
498-147-362	5 m	EUR	156.00
268-413-609	10 m	EUR	200.00
551-703-894	25 m	EUR	289.00
962-983-073	50 m	EUR	335.00
372-877-045	100 m	EUR	461.00

Typical Analysis : Ag 5, Cd 7, Cu 5, Fe 25, Mn <1, Pb 15, Si <1.

ZN005120

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

Length		Quantity	
Web Code	Length	1 Reel	
609-634-538	0.5 m	EUR	132.00
204-320-676	1 m	EUR	150.00
540-080-638	2 m	EUR	178.00
510-075-209	5 m	EUR	240.00
759-408-708	10 m	EUR	364.00

Typical Analysis : Ag 15, Bi <1, Ca 2, Cd 5, Cu 10, Fe 5, Mg <1, Pb 10, Si 3, Sn 5.

ZN005133

Diameter **1.0mm** High Purity **99.999%**

Length		Quantity	
Web Code	Length	1 Reel	
727-141-028	0.1 m	EUR	155.00
892-631-980	0.2 m	EUR	172.00
578-987-601	0.5 m	EUR	213.00
373-456-084	1 m	EUR	269.00
682-009-492	2 m	EUR	365.00

Typical Analysis :

ZN005132

Diameter **1.0mm** High Purity **99.99+%**

Length		Quantity	
Web Code	Length	1 Reel	
589-113-859	0.5 m	EUR	138.00
639-235-081	1 m	EUR	160.00
904-382-842	2 m	EUR	193.00
047-854-532	5 m	EUR	269.00
981-817-154	10 m	EUR	391.00

Typical Analysis : Ag 5, Cd 7, Cu 5, Fe 25, Mn <1, Pb 15, Si <1.

ZN005131

Diameter **1.0mm** Purity **99.9%**
 Condition **Extruded**

Length		Quantity	
Web Code	Length	1 Reel	
926-092-649	5 m	EUR	127.00
761-579-160	20 m	EUR	158.00
197-398-078	50 m	EUR	198.00
674-755-374	100 m	EUR	247.00
344-421-752	200 m	EUR	326.00
052-712-961	500 m	EUR	516.00

Typical Analysis : As <5, Cd <200, Fe <100, Pb <300, Sn <10.

Metal – Zinc

Zinc

Zn



Wire

ZN005135	Diameter..... 2.0mm	Purity..... 99.9%
	Temper..... As drawn	
	Length	Quantity
	Web Code	Length 1 Reel
	251-187-048	2 m EUR 124.00

Typical Analysis : As < 5, Cd < 200, Fe < 100, Pb < 300, Sn < 10.

ZN005140	Diameter..... 2.0mm	High Purity..... 99.99+%
	Length	Quantity
	Web Code	Length 1 Reel
	729-043-277	0.5 m EUR 158.00
	130-409-741	1 m EUR 190.00
	301-212-760	2 m EUR 240.00
	651-593-986	5 m EUR 363.00
	449-245-649	10 m EUR 575.00

Typical Analysis : Ag 5, Cd 7, Cu 5, Fe 25, Mn < 1, Pb 15, Si < 1.

ZN005145	Diameter..... 3.0mm	Purity..... 99.9%
	Condition..... Extruded	
	Length	Quantity
	Web Code	Length 1 Reel
	379-288-073	2 m EUR 137.00
	765-230-258	5 m EUR 164.00
	979-346-643	10 m EUR 195.00
	684-676-741	20 m EUR 240.00
	961-310-557	50 m EUR 365.00

Typical Analysis : As < 5, Cd < 200, Fe < 100, Pb < 300, Sn < 10.

ZN005150	Diameter..... 6.35mm	High Purity..... 99.99+%
	Length	Quantity
	Web Code	Length 1 Reel
	155-704-796	0.1 m EUR 171.00
	463-089-773	0.2 m EUR 210.00
	886-221-073	0.5 m EUR 295.00
	777-633-037	1 m EUR 429.00

Typical Analysis : Ag 5, Cd 7, Cu 5, Fe 25, Mn < 1, Pb 15, Si < 1.



Rod

ZN007902	Diameter..... 2.0mm	High Purity..... 99.99+%
	Size	Quantity
	Web Code	Length 1pc 2pcs 5pcs
	498-074-803	100 mm EUR 141.00 EUR 163.00 EUR 208.00
	245-508-378	200 mm EUR 162.00 EUR 193.00 EUR 286.00
	817-764-814	500 mm EUR 203.00 EUR 282.00
	789-576-028	1000 mm EUR 281.00 EUR 472.00

Typical Analysis : Ag 5, Cd 7, Cu 5, Fe 25, Mn < 1, Pb 15, Si < 1.

ZN007906	Diameter..... 3.0mm	Purity..... 99.99+%
	Size	Quantity
	Web Code	Length 1pc
	259-304-926	92 mm EUR 139.00
	723-840-821	93 mm EUR 140.00
	649-310-924	100 mm EUR 141.00
	104-599-643	798 mm EUR 243.00

Typical Analysis : Ag 5, Cd 7, Cu 5, Fe 25, Mn < 1, Pb 15, Si < 1.

ZN007905	Diameter..... 4.8mm	High Purity..... 99.99+%
	Size	Quantity
	Web Code	Length 1pc 2pcs 5pcs
	025-071-163	100 mm EUR 141.00 EUR 163.00 EUR 208.00
	927-880-263	200 mm EUR 162.00 EUR 193.00 EUR 286.00
	356-423-037	500 mm EUR 203.00 EUR 282.00
	092-920-790	1000 mm EUR 281.00 EUR 472.00

Typical Analysis : Ag 5, Cd 7, Cu 5, Fe 25, Mn < 1, Pb 15, Si < 1.

Metal – Zinc

Zinc

Zn



Rod

ZN007911

Diameter **7.0mm**

High Purity **99.99+%**

Size

Web Code
 791-324-514
 915-565-129
 445-642-838

Length	Quantity		
	1pc	2pcs	5pcs
100 mm	EUR 152.00	EUR 175.00	EUR 237.00
200 mm	EUR 170.00	EUR 201.00	
500 mm	EUR 219.00		

Typical Analysis : Ag 5, Cd 7, Cu 5, Fe 25, Mn <1, Pb 15, Si <1.

ZN007914

Diameter **7.62mm**

Purity **99.9%**

Size

Web Code
 806-445-072
 015-197-816
 742-603-912
 075-843-853

Length	Quantity				
	1pc	2pcs	5pcs	10pcs	20pcs
100 mm	EUR 148.00	EUR 176.00	EUR 221.00	EUR 301.00	EUR 498.00
200 mm	EUR 168.00	EUR 205.00	EUR 293.00	EUR 483.00	
500 mm	EUR 208.00	EUR 289.00			
1000 mm	EUR 281.00	EUR 471.00			

Typical Analysis : As <5, Cd <200, Fe <100, Pb <300, Sn <10.

ZN007915

Diameter **8mm**

High Purity **99.999%**

Size

Web Code
 219-656-098
 457-010-413
 126-306-640

Length	Quantity		
	1pc	2pcs	5pcs
50 mm	EUR 202.00	EUR 251.00	EUR 443.00
100 mm	EUR 236.00	EUR 346.00	EUR 706.00
245 mm	EUR 378.00	EUR 651.00	

Typical Analysis : Ag <1, Cd <1, Cu <1, Fe <1, Mg <1, Pb 1, Si <1.

ZN007920

Diameter **10.0mm**

Purity **99.9%**

Size

Web Code
 788-329-740
 541-218-234
 652-277-093
 534-629-213

Length	Quantity			
	1pc	2pcs	5pcs	10pcs
100 mm	EUR 155.00	EUR 190.00	EUR 239.00	EUR 299.00
200 mm	EUR 175.00	EUR 218.00	EUR 284.00	EUR 392.00
500 mm	EUR 215.00	EUR 275.00		
1000 mm	EUR 260.00	EUR 368.00		

Typical Analysis : As <5, Cd <200, Fe <100, Pb <300, Sn <10.

ZN007930

Diameter **10.0mm**

High Purity **99.99+%**

Size

Web Code
 828-660-118
 582-518-877
 814-858-260
 857-277-513

Length	Quantity		
	1pc	2pcs	5pcs
100 mm	EUR 205.00	EUR 243.00	EUR 404.00
200 mm	EUR 229.00	EUR 321.00	EUR 599.00
500 mm	EUR 346.00	EUR 555.00	
1000 mm	EUR 540.00		

Typical Analysis : Ag 5, Cd 7, Cu 5, Fe 25, Mn <1, Pb 15, Si <1.

ZN007936

Diameter **12.0mm**

Purity **99.9%**

Size

Web Code
 742-418-622
 697-970-754
 005-953-919
 928-926-847

Length	Quantity			
	1pc	2pcs	5pcs	10pcs
100 mm	EUR 167.00	EUR 208.00	EUR 262.00	EUR 332.00
200 mm	EUR 188.00	EUR 237.00	EUR 309.00	EUR 439.00
500 mm	EUR 230.00	EUR 296.00	EUR 484.00	
1000 mm	EUR 276.00	EUR 404.00		

Typical Analysis : As <5, Cd <200, Fe <100, Pb <300, Sn <10.

ZN007940

Diameter **19mm**

Purity **99.9%**

Size

Web Code
 282-419-061
 302-381-416
 797-684-901
 710-616-567

Length	Quantity			
	1pc	2pcs	5pcs	10pcs
100 mm	EUR 173.00	EUR 219.00	EUR 293.00	EUR 394.00
200 mm	EUR 195.00	EUR 250.00	EUR 342.00	EUR 515.00
500 mm	EUR 238.00	EUR 310.00	EUR 534.00	
900 mm	EUR 278.00	EUR 403.00		

Typical Analysis : As <5, Cd <200, Fe <100, Pb <300, Sn <10.

ZN007950

Diameter **19.0mm**

High Purity **99.99+%**

Size

Web Code
 827-062-949
 382-873-122
 859-141-420

Length	Quantity		
	1pc	2pcs	5pcs
100 mm	EUR 230.00	EUR 324.00	EUR 607.00
200 mm	EUR 310.00	EUR 483.00	
500 mm	EUR 548.00		

Typical Analysis : Ag 5, Cd 7, Cu 5, Fe 25, Mn <1, Pb 15, Si <1.

Metal – Zinc

Zinc

Zn



Rod

ZN007960

Diameter **38mm**
 Condition **Cast**

Purity **99.9%**

Size

Web Code

579-780-739
 347-881-450
 797-498-159
 700-475-366

Length
 50 mm
 100 mm
 200 mm
 500 mm

Quantity			
1pc	2pcs	5pcs	10pcs
EUR 195.00	EUR 250.00	EUR 342.00	EUR 515.00
EUR 226.00	EUR 293.00	EUR 463.00	
EUR 269.00	EUR 374.00		
EUR 408.00			

Typical Analysis : As < 5, Cd < 200, Fe < 100, Pb < 300, Sn < 10.



Powder

ZN006021

Max. Particle size **5micron**
 Purity **99.0%**

Min. Particle size **1micron**



Web Code

672-221-117
 476-931-220
 874-200-890
 097-830-180

Quantity

Weight
 100 g
 200 g
 500 g
 1000 g

1 Pot
 EUR 149.00
 EUR 174.00
 EUR 226.00
 EUR 295.00

Typical Analysis : As < 1, Cd 500 - 1500, Fe 30 - 150, Pb 1000 - 1500.

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

ZN006010

Mean Particle size **7.5micron**

Purity **98.8%**



Web Code

204-137-182
 517-147-720
 643-464-744
 433-090-872
 136-359-186

Quantity

Weight
 100 g
 200 g
 500 g
 1000 g
 2000 g

1 Pot
 EUR 107.00
 EUR 117.00
 EUR 138.00
 EUR 170.00
 EUR 257.00

Typical Analysis : As < 1, Cd 500 - 1500, Fe 30 - 150, Pb 1000 - 1500.

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

ZN006040

Max. Particle size **150micron**

Purity **99.9%**



Web Code

528-257-430
 032-178-231
 022-284-862
 785-607-819
 200-980-096

Quantity

Weight
 100 g
 200 g
 500 g
 1000 g
 2000 g

1 Pot
 EUR 129.00
 EUR 143.00
 EUR 170.00
 EUR 201.00
 EUR 263.00

Typical Analysis : Al 3, Cd 30, Cu 2, Fe 10, Mg < 1, Na 2, Ni < 1, Pb 200, Si < 1, Sn 2.

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

ZN006030

Max. Particle size **150micron**

High Purity **99.999%**



Web Code

094-210-954
 776-371-347
 046-423-322

Quantity

Weight
 20 g
 50 g
 100 g

1 Pot
 EUR 466.00
 EUR 781.00
 EUR 1282.00

Typical Analysis : Cd 2, Cu 1, Fe 3, Pb 3.

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



Lump

ZN006100

Max. Lump size **2mm**
 Condition **Shot**

Purity **99.98%**

Web Code

313-176-457
 147-059-400
 382-427-849
 803-485-645
 435-706-943

Quantity

Weight
 100 g
 200 g
 500 g
 1000 g
 2000 g

1 Pot
 EUR 155.00
 EUR 181.00
 EUR 235.00
 EUR 296.00
 EUR 385.00

Typical Analysis : As 10, Cd 100, Cu 250, Fe 200, Pb 400, S 10, Sn 100.

Zinc

Zn



Lump

ZN006110

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

High Purity **99.9998%**

Web Code

463-365-188
 920-642-703
 042-859-973
 357-488-384

Quantity

Weight

1 Pot

10 g	EUR 167.00
20 g	EUR 198.00
50 g	EUR 260.00
100 g	EUR 330.00

Typical Analysis : Cd 0.1, Fe 0.3, Pb 0.7.

ZN006120

Max. Lump size **10mm**

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

Web Code

755-486-940
 435-874-230
 484-286-351
 535-796-272
 377-893-526

Quantity

Weight

1 Pot

100 g	EUR 174.00
200 g	EUR 208.00
500 g	EUR 277.00
1000 g	EUR 356.00
2000 g	EUR 491.00

Typical Analysis :

ZN006125

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

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

Web Code

194-651-955
 395-570-435
 214-480-210

Quantity

Weight

1 Pot

50 g	EUR 208.00
100 g	EUR 257.00
200 g	EUR 326.00

Typical Analysis :

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



Single Crystal

Although this crystal is normally held in stock ready for immediate shipment it is an example of crystals which may be grown to order with a delivery forecast of 4-10 weeks. When requesting a quotation please specify the material, dimensions, orientation, type and concentration of dopants, surface finish and quantity required.

ZN002118

Oriented **(0001)**
 Length..... **10mm**

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

Web Code

965-055-996

Quantity

1pc

EUR POA

Typical Analysis : Not applicable

ZN002111

Oriented **(0001)**
 Diameter..... **12mm**
 Condition..... **Polished on 1 side to 1 micron**

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

Web Code

351-395-518

Quantity

1pc

EUR POA

Typical Analysis : Not applicable

ZN002110

Oriented **(0001)**
 Diameter..... **12mm**
 Condition..... **Unpolished**

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

Web Code

882-240-153

Quantity

1pc

EUR POA

Typical Analysis : Not applicable

ZN002119

Oriented **(0001)**
 Length..... **25mm**

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

Web Code

094-059-854

Quantity

1pc

EUR POA

Typical Analysis : Not applicable

ZN002120

Oriented **(0001)**
 Length..... **50mm**

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

Web Code

528-067-530

Quantity

1pc

EUR POA

Typical Analysis : Not applicable

Metal – Zinc

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