

# Non-ferrous Prices



Methodology and price  
specifications – February 2019

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## Mission statement

Fastmarkets is a leading commodity price reporting agency (PRA) covering the metals, mining, minerals and forest products industries. Our products include Fastmarkets MB, Fastmarkets AMM, Fastmarkets IM, Fastmarkets RISI, Fastmarkets FOEX and Random Lengths. For more than 100 years we have been providing commodities price reporting services for use by market participants in their day-to-day commercial activities. These services include assessments and indices of commodity prices as well as news, research and commentary on the underlying markets.

Our mission is to meet the market's data requirements honestly and independently, acting with integrity and care to ensure that the trust and confidence placed in the reliability of our pricing methodologies is maintained. We do not have a vested interest in the markets on which we report.

## Introduction

Fastmarkets MB is the leading global provider of pricing intelligence for the non-ferrous metal, steel, steelmaking raw materials, industrial minerals, ferrous and non-ferrous scrap markets, producing price assessments since 1913.

Fastmarkets MB reporters are required to abide by a code of conduct and clear pricing procedures during their market reporting and pricing activities. Fastmarkets is completely independent and has no vested commercial interest in any of the markets it prices.

We are the world's largest dedicated metals price reporting team. We have offices in London, New York, Pittsburgh, Shanghai, Hong Kong, Sao Paulo, Melbourne, Singapore, Mumbai, Dnepr, Istanbul and five other US locations.

The aim of this document is to provide a clear overview of Fastmarkets MB's methodology and specifications for the prices it assesses.

If you have any questions, please contact Fastmarkets Editorial Director Alex Harrison at [aharrison@fastmarkets.com](mailto:aharrison@fastmarkets.com).

## Price discovery and methodology

### Methodology rationale

Fastmarkets MB produces independent, fair and representative price assessments and indices of non-ferrous prices on a daily, bi-weekly, weekly or monthly basis.

Fastmarkets MB's rationale is to adopt and develop the price discovery process and methodology described in this guide to produce assessments that are a consistent and representative indicator of value of the market to which they relate for the trading period they cover.

During the price discovery process, the price reporter's goal is to discover at what representative level market participants have concluded business, made offers or received bids over a certain defined trading period – this is generally the period since the conclusion of the previous price quotation (if, for instance, the last price assessment published by Fastmarkets MB was on Friday 2-3pm London time and our next assessment is due on the following Friday at 2-3pm London time, we will accept price data for business conducted and reported to Fastmarkets MB between Friday afternoon and the following Friday morning).

The time period, or window, identified to assess a market (eg, daily, bi-weekly, weekly, monthly) is determined by Fastmarkets MB after considering the number of data points that Fastmarkets MB can reasonably expect to collect on a consistent basis over the selected period to support the price assessment process.

### Data collection criteria

Fastmarkets MB reporters aim to talk to a broad sample of market participants specifically involved in the buying and selling of the non-ferrous product of interest, with a good representation of both sides of the market, including producers and consumers, as well as traders.

Data is collected from market participants directly involved in spot business primarily by telephone but also by email, digital messaging or by direct submission. All input data received is kept confidential and stored on a secure network.

Fastmarkets MB encourages organisations to submit all their pricing data, especially all the concluded transactions.

Depending on market liquidity, Fastmarkets MB reserves the right to also base its prices on bids, offers, deals heard and market participants' assessments or indications of prevailing values.

Fastmarkets MB welcomes organisations to submit transaction data from authorised back-office functions.

### Price specifications and reference units

Fastmarkets MB has clear specifications for all the price points that it covers. All the reference units, such as currency and volume, are in line with the trading conventions used in the recognised non-ferrous metals markets.

Fastmarkets MB's specifications detail the material's characteristics or quality, location, incoterm, payment terms and the minimum volume accepted. These specifications are determined in consultation with market participants and follow industry convention. Reporters ensure that the information they receive matches these specifications.

### Guidelines that control the exercise of judgment by price reporters during the assessment process

To produce the price assessment, greater weighting is generally given to actual concluded transaction data; bids/offers are second in order of importance; followed by data sources' own assessment of the market when they have no business to report. But other considerations might also intervene such as, the trustworthiness of a data source based on past data submissions or their willingness to provide data on a consistent basis.

All Fastmarkets MB price specifications define the minimum lot size accepted. When volume information is available, this is also taken into consideration in the assessment process. For instance, a deal with a bigger volume will typically carry more weight than a smaller-volume transaction. But price reporters will also consider, for instance, normalizing or discarding a price reported for a deal with an abnormally large or small volume.

Since commodity markets differ in liquidity levels at different periods, the methodology does not set any minimum number, or threshold, of transactions to be gathered on which to base the assessment.

## Third-party price data

Fastmarkets also publishes prices from external sources including:

Exchange prices – London Metal Exchange, Comex and the Shanghai Futures Exchange

For contract specifications and pricing information on these prices please refer to the individual company' website.

## Fastmarkets MB indices

Fastmarkets MB's prices also include the following non-ferrous indices:

- Fastmarkets MB Alumina Index
- Fastmarkets MB Manganese Ore Indices
- Fastmarkets MB Copper Concentrates Index
- Fastmarkets MB Lithium Carbonate Index
- Fastmarkets MB Ferro-chrome Index
- Fastmarkets MB Chrome Ore Index

The methodologies are available on the Fastmarkets MB website.

## Base metals

### Bauxite

Please see **Ores** section.

### Alumina

#### CHINA

Assessment	<b>Alumina metallurgical grade DDP China</b>
Quantity:	Min 1,000 tonnes
Location:	Delivered duty paid China
Unit:	RMB/tonne
Payment terms:	Cash, within one week
Publication:	Weekly. Thursday 2-3pm London

#### AUSTRALIA

Assessment	<b>Alumina fob Bunbury, Australia, Index, single figure</b>
Grade:	Smelter-grade alumina, minimum purity of 98.5% Al <sub>2</sub> O <sub>3</sub>
Quantity:	10,000 tonnes
Location:	FOB Bunbury/Kwinana (other ports normalized)
Timing:	Within 2 months
Unit:	USD/dry metric tonne
Timing:	Bulk carrier
Payment Terms:	30 days after loading
Publication:	Daily at 4pm London time
Notes:	Full methodology available here:

#### BRAZIL

Assessment	<b>Alumina fob Vila do Conde, Brazil (Adjustment), index, single figure</b>
Grade:	Smelter grade alumina, minimum purity of 98.5% Al <sub>2</sub> O <sub>3</sub>
Quantity:	10,000 tonnes
Location:	FOB Vila do Conde, Brazil (other ports normalized)
Timing:	Within 2 months
Timing:	Bulk carrier
Unit:	USD/dry metric tonne
Payment terms:	30 days after loading
Publication:	Fortnightly. Thursday at 4pm London time
Notes:	Full methodology available here

## Aluminium

#### JAPAN

Assessment	<b>Aluminium P1020A quarterly cif main Japanese ports (MJP), single number or range</b>
Grade:	P1020A or 99.7 % Minimum Al purity (Si 0.10% max, Fe 0.20% max)
Quantity:	500 tonnes
Location:	cif main Japanese ports (Yokohama, Nagoya and Osaka), premium on top of LME cash prices
Timing:	Within the quarter
Unit:	USD/tonne
Form:	Ingot, T-bar, sow
Payment terms:	Cash against documents (2 days after Bill of lading date)
Publication:	Quarterly
Notes:	Full methodology available here

#### Assessment

Assessment	<b>Aluminium P1020A, spot cif main Japanese ports (MJP)</b>
Grade:	P1020A or 99.7 % Minimum Al purity (Si 0.10% max, Fe 0.20% max) in line with LME specifications
Quantity:	100 tonnes
Location:	cif in main Japanese ports at Yokohama, Nagoya and Osaka, premium on top of LME cash prices
Unit:	USD/tonne
Origin:	Excluding metal from LME warehouses and metal subject to international sanctions
Timing:	Within 4 weeks
Form:	Ingot, T-bar, sow
Payment terms:	Cash against documents (2 days after Bill of lading date)
Publication:	Twice weekly. Tuesday and Friday by 4pm London time
Notes:	Assessed by Metal Bulletin's Singapore office

## SOUTH KOREA

Assessment	<b>Aluminium P1020A cif South Korea, single number and range</b>
Grade:	P1020A or 99.7 % Minimum Al purity (Si 0.10% max, Fe 0.20% max)
Quantity:	100 tonnes
Location:	Cif in main South Korean ports (Gwangyang, Busan or Incheon), premium on top of LME cash prices
Unit:	USD/tonne
Timing:	Within 4 weeks
Form:	Ingot, T-bar, sow
Payment terms:	Cash against documents (2 days after Bill of lading date)
Publication:	Weekly. Tuesday 3-4pm London

Assessment	<b>Aluminium P1020A fca South Korea</b>
Grade:	P1020A or 99.7 % Minimum Al purity (Si 0.10% max, Fe 0.20% max)
Quantity:	100 tonnes
Location:	FCA South Korea (Gwangyang, Busan or Incheon), premium on top of LME cash prices
Unit:	USD/tonne
Timing:	Within 4 weeks
Form:	Ingot, T-bar, sow
Payment terms:	Cash against documents (2 days after Bill of lading date)
Publication:	Weekly. Tuesday 3-4pm London

## CHINA

Assessment	<b>Aluminium P1020A cif Shanghai</b>
Type:	Assessed single number and range
Location:	Cif Shanghai, premium on top of LME cash prices
Grade:	P1020A or 99.7 % Minimum Al purity (Si 0.10% max, Fe 0.20% max)
Unit:	USD/tonne
Quantity:	100 tonnes
Timing:	Within 4 weeks
Form:	Ingot
Payment terms:	Letter of Credit or Telegraphic Transfer, other payment terms normalised
Publication:	Weekly. Tuesday 3-4pm London

Assessment	<b>Aluminium P1020A bonded in-warehouse Shanghai</b>
Grade:	P1020A or 99.7 % Minimum Al purity (Si 0.10% max, Fe 0.20% max)
Quantity:	100 tonnes
Location:	In-bonded warehouse in Shanghai, premium on top of LME cash prices
Unit:	USD/tonne
Timing:	Within 4 weeks
Form:	Ingot
Payment terms:	Letter of Credit or Telegraphic Transfer, other payment terms normalised
Publication:	Weekly. Tuesday 3-4pm London

## TAIWAN

Assessment	<b>Aluminium P1020A cif Taiwan</b>
Grade:	P1020A or 99.7 % Minimum Al purity (Si 0.10% max, Fe 0.20% max)
Quantity:	100 tonnes
Location:	Cif main Taiwanese ports (Taipei, Kaohsiung or Keelung), premium on top of LME cash prices
Unit:	USD/tonne
Form:	Ingot
Payment terms:	Letter of Credit or Telegraphic Transfer, other payment terms normalised
Publication:	Weekly. Tuesday 3-4pm London

## SOUTHEAST ASIA

Assessment	<b>Aluminium P1020A in-warehouse Southeast Asian warrants</b>
Grade:	P1020A or 99.7 % Minimum Al purity (Si 0.10% max, Fe 0.20% max)
Quantity:	25 tonnes
Location:	In any LME-approved warehouse in Singapore and in Malaysia (Johor, Port Klang), premium on top of LME cash prices
Unit:	USD/tonne
other terms normalised	
Timing:	Prompt release
Form:	Ingot, T-bars, Sow
Payment terms:	Cash against documents (7 days after bill of lading date);
Publication:	Weekly. Tuesday 3-4pm London

### EAST ASIA

Assessment	<b>Aluminium P1020A in-warehouse East Asian warrants</b>
Location:	In any LME-approved warehouse in Taiwan (Kaohsiung) and South Korea (Gwangyang, Busan or Incheon), premium on top of LME cash prices
Grade:	P1020A or 99.7 % Minimum Al purity (Si 0.10% max, Fe 0.20% max)
Unit:	USD/tonne
Quantity:	25 tonnes
Timing:	Prompt release
Form:	Ingot, T-bars, Sow
Payment terms:	Cash against documents (7 days after bill of lading date); other terms normalised
Publication:	Weekly. Tuesday 3-4pm London time

### EUROPE

Assessment	<b>Aluminium P1020A in-warehouse Rotterdam duty-unpaid</b>
Type:	Assessed single number and range
Grade:	P1020A or 99.7 % Minimum Al purity (Si 0.10% max, Fe 0.20% max)
Quantity:	100 tonnes
Location:	In-warehouse Rotterdam duty-unpaid, premium on top of LME cash prices
Unit:	USD/tonne
Timing:	Within 4 weeks
Form:	Ingot
Payment terms:	Cash against documents (7 days after bill of lading date); other terms normalised
Publication:	Daily. 3-4pm London time

Assessment	<b>Aluminium P1020A in-warehouse Rotterdam duty-paid</b>
Grade:	P1020A or 99.7 % Minimum Al purity (Si 0.10% max, Fe 0.20% max)
Quantity:	100 tonnes
Location:	In-warehouse Rotterdam duty-paid, premium on top of LME cash prices
Unit:	USD/tonne
Timing:	Within 4 weeks
Form:	Ingot
Payment terms:	Cash against documents (7 days after bill of lading date); other terms normalised
Publication:	Twice weekly. Tuesday and Friday 3-4pm London

Assessment	<b>Aluminium P1020A fca Italy duty-paid</b>
Grade:	P1020A or 99.7 % Minimum Al purity (Si 0.10% max, Fe 0.20% max)
Quantity:	100 tonnes
Location:	Free-carrier duty-paid Italy (north and south of country), premium on top of LME cash prices
Timing:	Within 4 weeks
Unit:	USD/tonne
Form:	Ingot
Payment terms:	Cash against documents (7 days after bill of lading date); other terms normalised
Publication:	Weekly. Tuesday 3-4pm London time

Assessment	<b>Aluminium P1020A fca Spain duty-paid</b>
Location:	free-carrier duty-paid Spain, premium on top of LME cash prices
Grade:	P1020A or 99.7 % Minimum Al purity (Si 0.10% max, Fe 0.20% max)
Quantity:	100 tonnes
Timing:	Within 4 weeks
Unit:	USD/tonne
Form:	Ingot
Payment terms:	Cash against documents (7 days after bill of lading date); other terms normalised
Publication:	Weekly. Tuesday 3-4pm London time

### TURKEY

Assessment	<b>Aluminium P1020A cif duty-unpaid Turkey</b>
Grade:	P1020A or 99.7 % Minimum Al purity (Si 0.10% max, Fe 0.20% max)
Quantity:	100 tonnes
Location:	CIF duty-unpaid Turkey (Marmara region), premium on top of LME cash prices
Timing:	Within 4 weeks
Unit:	USD/tonne
Payment terms:	Cash against documents (7 days after bill of lading date); other terms normalised
Form:	Ingot
Publication:	Weekly. Tuesday, 3-4pm London time



**UNITED STATES**

Assessment	<b>Aluminium P1020A in-warehouse US warrants</b>
Grade:	P1020A or 99.7 % Minimum Al purity (Si 0.10% max, Fe 0.20% max)
Location:	In any LME-approved warehouse in the USA (10 delivery points in June 2017), premium on top of LME cash prices
Quantity:	25 tonnes
Unit:	USD per ttonne
Timing:	Prompt Release
Form:	Ingot, T-bars, Sow
Payment terms:	Cash against documents (7 days after bill of lading date); other terms normalised
Publication:	Weekly. Tuesday 3-4pm London time

Assessment	<b>Aluminum P1020A delivered US Midwest</b>
Location:	Delivered consumer works Midwest USA, premium on top of LME cash prices
Grade:	P1020A or 99.7 % Minimum Al purity (Si 0.10% max, Fe 0.20% max)
Unit:	USD per lb
Quantity:	25 tonnes
Payment terms:	30 days, other payment terms normalised
Timing:	Within 4 weeks
Form:	Ingot
Publication:	Weekly. Tuesday 3-4pm London time

Assessment	<b>Aluminum P1020 cif Baltimore ports premium</b>
Location:	Shipped to ports in Baltimore, Maryland, premium on top of London Metal Exchange cash prices, net back to Baltimore
Grade:	P1020A or 99.7% minimum aluminium purity (silicon 0.10% maximum, iron 0.20% maximum)
Unit:	US cents per lb
Min quantity:	100 tonnes
Payment terms:	30 days, other payment terms normalized
Timing:	Within 4 weeks
Form:	Ingot
Publication:	Weekly

**BRAZIL**

Assessment	<b>Aluminium P1020A cif Brazil main ports</b>
Location:	CIF Brazil ports duty unpaid, excluding VAT, premium on top of LME cash prices
Origin:	Except China
Grade:	P1020A or 99.7 % Minimum Al purity (Si 0.10% max, Fe 0.20% max)
Unit:	USD/tonne
Quantity:	100 tonnes
Timing:	Within 30-60 days
Form:	Ingot, T-bar, sow
Payment terms:	Cash against documents (7 days after bill of lading date), other payment terms normalized
Publication:	Weekly. Tuesday 3-4pm London

Assessment	<b>Aluminium P1020A DDP Domestic Brazil</b>
Location:	Delivered in São Paulo region duty-paid, VAT not included, premium on top of LME cash prices
Grade:	P1020A or 99.7 % Minimum Al purity (Si 0.10% max, Fe 0.20% max)
Unit:	USD/tonne
Min quantity:	100 tonnes
Payment terms:	Cash against documents (7 days after bill of lading date); other payment terms normalised
Timing:	Within 4 weeks
Form:	Ingot
Publication:	Weekly. Tuesday 3-4pm London

## Aluminium billet

### EUROPE

Assessment	<b>Aluminium 6063 extrusion billet in-warehouse Rotterdam</b>
Location:	In-warehouse Rotterdam duty-paid premium on top of LME cash prices
Grade:	Aluminium Assn specification AA6063: Si 0.2-0.6% max, Mg 0.45-0.9% max, Fe 0.35% max, Cu 0.1% max, Cr 0.1% max, Zn 0.1% max, Ti 0.1% max, Others each 0.05% max, total 0.15% max
Unit:	USD/tonne
Quantity:	100 tonnes
Payment terms:	Cash against documents (7 days after bill of lading date)
Timing:	Within 2 months
Form:	Extrusion billet with outside diameter of 6", 7" and 8"
Publication:	Weekly. Friday 3-4pm London

Assessment	<b>Aluminium 6063 extrusion billet DDP North Germany</b>
Location:	Delivered in North Germany (Ruhr region) duty-paid premium on top of LME cash price
Grade:	Extrusion billet AA6063: Si 0.2-0.6% max, Mg 0.45-0.9% max, Fe 0.35% max, Cu 0.1% max, Cr 0.1% max, Zn 0.1% max, Ti 0.1% max, others each 0.05% max, total 0.15% max
Unit:	USD/tonne
Quantity:	100 tonnes
Payment terms:	30-day payment terms, other payment terms normalised
Timing:	Within 2 months
Form:	Billet with diameter of 6", 7" and 8"
Publication:	Weekly. Friday between 3pm and 4pm London time

Assessment	<b>Aluminium 6063 extrusion billet DDP Spain</b>
Location:	Delivered in Spain (Bilbao region), duty-paid premium on top of LME cash prices
Grade:	Extrusion billet AA6063
Unit:	USD/tonne
Quantity:	100 tonnes
Payment terms:	60-day payment, other payments terms normalised
Timing:	Within 2 months
Form:	Billet with diameter of 6", 7" and 8"
Publication:	Fortnightly. Friday between 3pm and 4pm London time

Assessment	<b>Aluminium 6063 extrusion billet DDP Italy</b>
Location:	Delivered in Italy (Brescia region) duty-paid premium on top of LME cash prices
Grade:	Extrusion billet AA6063
Unit:	USD/tonne
Quantity:	25 tonnes
Payment terms:	60-day payment, other payments terms normalised
Timing:	Within 2 months
Form:	Billet with diameter of 6", 7" and 8"
Publication:	Weekly. Friday between 3pm and 4pm London time

### UNITED STATES

Assessment	<b>Aluminium 6063 extrusion billet delivered US Midwest</b>
Location:	Delivered into US Midwest region, duty-unpaid premium on top of the P1020A ingot Midwest premium and LME cash prices
Grade:	Extrusion billet AA6063
Currency:	US cents
Unit:	lb
Quantity:	100 tonnes
Payment terms:	30-day payment, other payments terms normalised
Timing:	Within 2 months
Form:	Billet with diameter of 6", 7" and 8"
Publication:	Fortnightly. Friday between 3pm and 4pm London time

## SOUTHEAST ASIA

Assessment	<b>Aluminium 6063 extrusion billet cif Thailand</b>
Location:	Cif delivery into main Thai ports, duty-paid premium on top of LME cash prices
Grade:	Extrusion billet AA6063
Unit:	USD/tonne
Quantity:	100 tonnes
Payment terms:	Cash against documents (7 days after bill of lading date), other payments terms normalised
Timing:	Within 2 months
Form:	Billet with diameter of 6", 7" and 8"
Publication:	Every 28 days. Friday between 3pm and 4pm London time

## JAPAN

Assessment	<b>Aluminium 6063 extrusion billet cif MJP</b>
Grade:	Extrusion billet AA6063
Location:	CIF in Major Japanese Ports (MJP), duty-paid premium on top of the P1020A ingot MJP premium and LME cash prices
Unit:	USD/tonne
Quantity:	100 tonnes
Payment terms:	Cash against documents (7 days after bill of lading date), other payments terms normalised
Timing:	Within 2 months
Form:	Billet with diameter of 6", 7" and 8"
Publication:	Monthly. 3rd Friday of the month between 3pm and 4pm London time

## TURKEY

Assessment	<b>Aluminium 6063 extrusion billet cif Turkey</b>
Location:	Cif delivery in Turkey (Marmara region), duty-paid premium on top of LME cash prices
Grade:	Extrusion billet AA6063
Unit:	USD/tonne
Quantity:	100 tonnes
Payment terms:	Cash, other payments terms normalised
Timing:	Within 2 months
Form:	Billet with diameter of 6", 7" and 8"
Publication:	Fortnightly. Friday between 3pm and 4pm London time

## BRAZIL

Assessment	<b>Aluminium extrusion billet 6063 and 6060 cif Brazilian ports</b>
Location:	CIF Brazil
Grade:	Extrusion billet AA6063 and AA6060
Unit:	USD/tonne
Quantity:	100 tonnes
Payment terms:	Cash against documents (7 days after bill of lading date), other payments terms normalised
Timing:	Within 2 months
Form:	Billet with diameter of 6", 7" and 8"
Publication:	Fortnightly. Friday between 3pm and 4pm London time

# Aluminium foundry alloy

## EUROPE

Assessment	Aluminium wheel alloy silicon 7 DDP
Germany	
Location:	Delivered in Germany, duty paid premium on top of LME cash prices
Grade:	Primary Foundry Alloy silicon 7 AISi7Mg0.3-0.6 for wheel production
Unit:	USD/tonne
Quantity:	100 tonnes
Payment terms:	30-day payment terms, other payments terms normalised
Timing:	Within 2 months
Form:	Ingot
Publication:	Monthly. 2nd Friday of the month between 3pm and 4pm London time

Assessment	<b>Aluminium wheel alloy silicon 7 DDP Eastern Europe</b>
Location:	Delivered in Eastern Europe (Poland, Slovakia, Austria, Hungary, Czech Republic), duty-paid premium on top of LME cash prices
Grade:	Primary Foundry Alloy silicon 7 AlSi7Mg0.3-0.6 for wheel production
Unit:	USD/tonne
Quantity:	100 tonnes
Payment terms:	30-day payment terms, other payments terms normalised
Timing:	Within 2 months
Form:	Ingot
Publication:	Monthly. 2nd Friday of the month between 3pm and 4pm London time

#### **TURKEY**

Assessment	<b>Aluminium wheel alloy silicon 7 ingot CIF Turkey</b>
Location:	Cif in Turkey (Marmara region), duty-unpaid premium on top of P1020A ingot premium and LME cash prices
Grade:	Primary Foundry Alloy silicon 7 AlSi7Mg0.3-0.6 for wheel production
Unit:	USD/tonne
Quantity:	100 tonnes
Payment terms:	Cash, other terms normalised
Timing:	Within 2 months
Form:	Ingot
Publication:	Monthly. 2nd Friday of the month between 3pm and 4pm London time

#### **UNITED STATES**

Assessment	<b>Aluminium wheel alloy silicon 7 delivered US Midwest</b>
Location:	Delivered in US Midwest region, duty-unpaid premium on top of P1020A ingot Midwest premium and LME cash prices
Grade:	Primary Foundry Alloy silicon 7 A356.2 for wheel production
Unit:	US cents /lb
Quantity:	100 tonnes
Payment terms:	7-30 day payment, other terms normalised
Timing:	Within 2 months
Form:	Ingot or T-bar
Publication:	Monthly. 2nd Friday of the month between 3pm and 4pm London time

## Copper concentrate

### **ASIA PACIFIC**

Index	<b>Copper Concentrate TC/RC Index</b>
Grade:	Copper content 28%; Au 1.1g/dmt; Ag 75g/dmt; S 32%; Fe 28%; Pb 0.07%; Zn 2%; As 0.17%; Sb 0.018%; Hg 2.5ppm; Bi 145ppm
Quantity:	5,000 tonnes
Location:	Treatment and refining charge (TC/RC) on cif basis delivery in Asia Pacific region
Unit:	TC in USD/tonne, RC in US cents/lb
Timing:	Within 13 weeks
Form:	Concentrate
Payment terms:	Letter of Credit, quotation period M+3
Publication:	Twice-monthly. Every 15th and last day of the month 3pm London time
Notes:	Full methodology available <a href="#">here</a> .

## Blister copper

### **CHINA**

Assessment:	<b>Blister copper 98-99% spot RC cif China</b>
Type:	Single number and range
Chemistry:	Blister copper of 98-99% copper content, with varying payables
Location:	CIF China
Unit:	USD per tonne
Delivery:	Within 2 months
Publication:	Monthly, last day of the month, 3-4pm London time
Assessment:	<b>Blister copper 98-99% annual benchmark RC cif China</b>
Type:	Single number and range
Chemistry:	Blister copper of 98-99% copper content, with varying payables
Location:	CIF China
Unit:	USD per tonne
Publication:	Annually, January or February

# Refined copper

**CHINA**

Assessment	<b>Copper Grade A cathode in-warehouse Shanghai</b>
Type:	Assessed range and assessed single number
Location:	In-warehouse Shanghai port, duty-unpaid premium on top of LME cash prices
Grade:	Grade A 99.9935% min copper conforming to LME specifications BS EN 1978:1998 – Cu-CATH-1
Unit:	USD/tonne
Quantity:	25 tonnes
Payment terms:	Letter of credit, telegraphic transfer or documents against payment, other payment terms normalised
Timing:	Within 6 weeks
Form:	Cathode
Publication:	Daily. Between 3pm and 4pm London time

Assessment	<b>Copper Grade A ER cathode in-warehouse Shanghai</b>
Location:	In-warehouse Shanghai port, duty-unpaid premium on top of LME cash prices
Grade:	Electro-Refined Grade A 99.9935% min conforming to LME specifications BS EN 1978:1998 (Cu-CATH-1)
Unit:	USD/tonne
Quantity:	25 tonnes
Payment terms:	Letter of credit, telegraphic transfer or documents against payment, other payment terms normalised
Timing:	Within 6 weeks
Form:	Cathode
Publication:	Daily. Between 3pm and 4pm London time

Assessment	<b>Copper Grade A SX-EW cathode in-warehouse Shanghai</b>
Grade:	Solvent Extraction-Electro winning Grade A cathode 99.9935% min conforming to LME specifications BS EN 1978:1998 (Cu-CATH-1)
Location:	In-warehouse Shanghai port, duty-unpaid premium on top of LME cash prices
Unit:	USD/tonne
Quantity:	25 tonnes
Timing:	Within 6 weeks
Form:	Cathode
Payment terms:	Letter of credit, telegraphic transfer or documents against payment, other payment terms normalized
Publication:	Daily, 3-4pm London time

Assessment	<b>Copper Grade A cathode cif Shanghai</b>
Type:	Range and single number
Grade:	Grade A 99.9935% min copper conforming to LME specifications BS EN 1978:1998 – Cu CATH-1
Quantity:	25 tonnes
Location:	CIF Shanghai port, duty-unpaid premium on top of LME cash prices
Unit:	USD/tonne
Timing:	Within 6 weeks
Form:	Cathode
Payment terms:	Letter of credit, telegraphic transfer or documents against payment, other payment terms normalized
Publication:	Daily, 3-4pm London time

Assessment	<b>Copper Grade A ER cathode cif Shanghai</b>
Grade:	Electro-Refined Grade A 99.9935% min conforming to LME specifications BS EN 1978:1998 (Cu-CATH-1)
Quantity:	25 tonnes
Location:	CIF Shanghai port, duty-unpaid premium on top of LME cash prices
Unit:	USD/tonne
Timing:	Within 6 weeks
Form:	Cathode
Payment terms:	Letter of credit, telegraphic transfer or documents against payment, other payment terms normalised
Publication:	Daily. 3-4pm London time

Assessment	<b>Copper Grade A SX-EW cathode cif Shanghai</b>
Grade:	Solvent Extraction-Electro winning Grade A cathode 9.9935% min conforming to LME specifications BS EN 1978:1998 (Cu-CATH-1)
Location:	Cif delivery in Shanghai port, duty-unpaid premium on top of LME cash prices
Unit:	USD/tonne
Quantity:	25 tonnes
Payment terms:	Letter of credit, telegraphic transfer or documents against payment, other payment terms normalised
Timing:	Within 6 weeks
Form:	Cathode
Publication:	Daily. Between 3pm and 4pm London time

Assessment	<b>Copper Grade A Cathode Cif South Korea</b>
Type:	Assessed range and assessed single number
Location:	Cif delivery in main South Korean ports (Busan, Incheon, Gwangyang, Onsan), duty-unpaid premium on top of LME cash prices
Grade:	Grade A 99.9935% min copper conforming to LME specifications BS EN 1978:1998 – Cu- CATH-1
Unit:	USD/tonne
Quantity:	25 tonnes
Payment terms:	Letter of credit or telegraphic transfer, other payment terms normalised
Timing:	Within 6 weeks
Form:	Cathode
Publication:	Weekly. Tuesday 3-4pm London time

### SOUTHEAST ASIA

Assessment	<b>Copper Grade A Cathode cif Southeast Asia</b>
Location:	Cif delivery in ports of Vietnam (Ho Chi Minh/Haiphong), Thailand (Bangkok, Laem Chabang), Malaysia (Johor, Port Klang), Indonesia (Jakarta), duty-unpaid premium on top of LME cash prices
Grade:	Grade A 99.9935% min copper conforming to LME specifications BS EN 1978:1998 – Cu-CATH-1
Unit:	USD/tonne
Quantity:	25 tonnes
Payment terms:	Letter of credit, telegraphic transfer or documents against payment, other payment terms normalised
Timing:	Within 6 weeks
Form:	Cathode
Publication:	Weekly. Tuesday 3-4pm London time

Assessment	<b>Copper Grade A Cathode Cif Taiwan</b>
Location:	Cif delivery in Taiwanese ports, duty-unpaid premium on top of LME cash prices
Grade:	Grade A 99.9935% min copper conforming to LME specifications BS EN 1978:1998 – Cu-CATH-1
Unit:	USD/tonne
Quantity:	25 tonnes
Payment terms:	Letter of credit, telegraphic transfer or documents against payment, other payment terms normalised
Timing:	Within 6 weeks
Form:	Cathode
Publication:	Weekly. Tuesday 3-4pm London time

Assessment	<b>Copper Grade A cathode in-warehouse Southeast Asian warrants</b>
Location:	In any LME-approved warehouse in Singapore and in Malaysia (Johor, Port Klang), premium on top of LME cash prices
Grade:	Grade A 99.9935% min copper conforming to LME specifications BS EN 1978:1998 – Cu-CATH-1
Unit:	USD/tonne
Quantity:	25 tonnes
Payment terms:	Cash, other payment terms normalised
Timing:	Prompt release
Form:	Cathode
Publication:	Weekly. Tuesday 3-4pm London time

## EAST ASIA

Assessment	<b>Copper Grade A Cathode cif Japan</b>
Location:	CIF delivery in main Japanese ports (Yokohama, Nagoya and Osaka), duty- unpaid premium on top of LME cash prices
Grade:	Grade A 99.9935% min copper conforming to LME specifications BS EN 1978:1998 – Cu- CATH-1
Unit:	USD/tonne
Quantity:	25 tonnes
Payment terms:	Letter of credit or telegraphic transfer, other payment terms normalised
Timing:	Within 6 weeks
Form:	Cathode
Publication:	Weekly. Tuesday 3-4pm London time

Assessment	<b>Copper Grade A cathode in-warehouse East Asian warrants</b>
Location:	In any LME-approved warehouse in Taiwan (Kaohsiung) and South Korea (Gwangyang, Busan or Incheon), premium on top of LME cash prices
Grade:	Grade A 99.9935% min copper conforming to LME specifications BS EN 1978:1998 – Cu-CATH-1
Unit:	USD/tonne
Quantity:	25 tonnes
Payment terms:	Cash, other payment terms normalised
Timing:	Prompt release
Form:	Cathode
Publication:	Weekly. Tuesday 3-4pm London time

## EUROPE

Assessment	<b>Copper Grade A cathode Cif Rotterdam</b>
Location:	CIF delivery in Rotterdam, duty unpaid premium on top of LME cash prices
Grade:	Grade A 99.9935% min copper conforming to LME specifications BS EN 1978:1998 – Cu- CATH-1
Unit:	USD/tonne
Quantity:	25 tonnes
Payment terms:	Cash, other payment terms normalised
Timing:	Within 4 weeks
Form:	Cathode
Publication:	Weekly. Tuesday 3-4pm London time

Assessment	<b>Copper Grade A cathode Cif Leghorn</b>
Type:	Assessed range and single number
Location:	Cif delivery in Leghorn (Italy), duty unpaid premium on top of LME cash prices
Grade:	Grade A 99.9935% min copper conforming to LME specifications BS EN 1978:1998 – Cu-CATH-1
Unit:	USD/tonne
Quantity:	25 tonnes
Payment terms:	Cash, other payment terms normalised
Timing:	Within 4 weeks
Form:	Cathode
Publication:	Weekly. Tuesday 3-4pm London time

Assessment	<b>Copper Grade A cathode delivered Germany</b>
Location:	Delivered consumer works in Germany, duty unpaid premium on top of LME cash prices
Grade:	Grade A 99.9935% min copper conforming to LME specifications BS EN 1978:1998 – Cu-CATH-1
Unit:	USD/tonne
Quantity:	25 tonnes
Payment terms:	Cash, other payment terms normalised
Timing:	Within 4 weeks
Form:	Cathode
Publication:	Weekly. Tuesday 3-4pm London time

Assessment	<b>Copper Grade A cathode in-warehouse North European warrants</b>
Location:	In any LME-approved warehouse in North Europe (Belgium, Germany, the Netherlands, Sweden and the UK), premium on top of LME cash prices
Grade:	Grade A 99.9935% min copper conforming to LME specifications BS EN 1978:1998 – Cu-CATH-1
Unit:	USD/tonne
Quantity:	25 tonnes
Payment terms:	Cash, other payment terms normalised
Timing:	Prompt release
Form:	Cathode
Publication:	Weekly. Tuesday 3-4pm London time

Assessment	<b>Copper Grade A cathode in-warehouse South European warrants</b>
Location:	In any LME-approved warehouse in South Europe (Spain, Italy), premium on top of LME cash prices
Grade:	Grade A 99.9935% min copper conforming to LME specifications BS EN 1978:1998 – Cu-CATH-1
Unit:	USD/tonne
Quantity:	25 tonnes
Payment terms:	Cash, other payment terms normalised
Timing:	Prompt release
Form:	Cathode
Publication:	Weekly. Tuesday 3-4pm London time

### UNITED STATES

Assessment	<b>Copper Grade A cathode delivered US Midwest</b>
Location:	Delivered consumer works Midwest US
Grade:	Grade A 99.9935% min copper conforming to LME specifications BS EN 1978:1998 – Cu-CATH-1 or Grade 1 Electrolytic Copper Cathode ASTM B115-00
Quantity:	25 tonnes
Timing:	Within 4 weeks
Unit:	USD/lb
Form:	Cathode
Payment:	30 days, other payment terms normalised
Publication:	Weekly. Tuesday 3-4pm London time

Assessment	<b>Copper Grade A cathode US warrants</b>
Location:	Any LME-approved warehouse in the US, premium on top of LME cash prices
Grade:	Grade A 99.9935% min copper conforming to LME specifications BS EN 1978:1998 – Cu-CATH-1
Unit:	USD/tonne
Quantity:	25 tonnes
Payment terms:	Cash, other payment terms normalised
Timing:	Prompt release
Form:	Cathode
Publication:	Weekly. Tuesday 3-4pm London time

## Copper rod

### INDIA

Assessment	<b>Annual copper wire rod cif Nhava Sheva</b>
Grade:	8mm copper wire rod conforming to the ASTM B49-98 / BS-EN 1977-1998 standard chemical specification; copper content min 99.9%
Quantity:	100 tonnes
Location:	CIF Nhava Sheva (India), premium on top of LME cash prices
Timing:	Within 6 weeks
Unit:	USD/tonne
Payment terms:	Cash against documents or letter of credit, quotation period
Publication time:	Annual, after deals for long-term contracts completed between Indian buyers and international producers and traders.



## Lead concentrate

### CHINA

Assessment	<b>Lead Concentrate spot TC High Silver cif China</b>
Location:	Treatment Charge on cif basis delivery to Chinese ports
Grade:	55-65% lead content, high silver 2-4kg, arsenic below 0.7%, mercury below 0.05%
Unit:	USD/tonne
Quantity:	2,000 tonnes
Payment terms:	Letter of Credit, quotation period M+3
Timing:	Within 13 weeks
Form:	Concentrate
Publication:	Monthly. Last Friday of every month

Assessment	<b>Lead Concentrate spot TC Low Silver Cif China</b>
Location:	Treatment Charge on cif basis delivery to Chinese ports
Grade:	55-65% lead content, low silver below 1kg, arsenic below 0.7%, mercury below 0.05%
Unit:	USD/tonne
Quantity:	2,000 tonnes
Payment terms:	Letter of Credit, quotation period M+3
Timing:	Within 13 weeks
Form:	Concentrate
Publication:	Monthly. Last Friday of every month

## Refined lead

### INDIA

Assessment	<b>Lead 99.97% ingot Cif India</b>
Location:	CIF delivery in Nhava Sheva (India), premium on top of LME cash prices
Grade:	Lead of 99.97% to 99.99% purity conforming to LME specification BS EN 12659:1999, GB/T 469/2005 or ASTM B29-03 (2009)
Unit:	USD/tonne
Quantity:	25 tonnes
Payment terms:	Letter of credit, telegraphic transfer or cash against documents, other terms normalised
Timing:	Within 5 weeks
Form:	Ingot
Publication:	Weekly. Tuesday 3-4pm London time

Assessment	<b>Lead 99.99% ingot Cif India</b>
Location:	CIF Nhava Sheva (India), duty-unpaid premium on top of LME cash prices
Grade:	Lead of 99.99% minimum purity conforming to LME specification BS EN 12659:1999, GB/T 469/2005 or ASTM B29-03 (2009)
Unit:	USD/tonne
Quantity:	25 tonnes
Payment terms:	Letter of credit, telegraphic transfer or cash against documents, other terms normalised
Timing:	Within 5 weeks
Form:	Ingot
Publication:	Weekly. Tuesday 3-4pm London time

### SOUTHEAST ASIA

Assessment	<b>Lead 99.97% ingot cif Southeast Asia</b>
Location:	CIF to ports of Vietnam (Ho Chi Minh/Haiphong), Thailand (Bangkok, Laem Chabang), Malaysia (Johor, Port Klang), Indonesia (Jakarta), duty-unpaid premium on top of LME cash prices
Grade:	Lead 99.97-99.99% purity conforming to LME specification BS EN 12659:1999, GB/T 469/2005 or ASTM B29-03 (2009)
Unit:	USD/tonne
Quantity:	25 tonnes
Payment terms:	Letter of credit, telegraphic transfer or cash against documents, other terms normalised
Timing:	Within 5 weeks
Form:	Ingot
Publication:	Weekly. Tuesday 3-4pm London time

Assessment	<b>Lead 99.99% ingot cif Southeast Asia</b>
Location:	CIF ports of Vietnam (Ho Chi Minh/ Haiphong), Thailand (Bangkok, Laem Chabang), Malaysia (Johor, Port Klang), Indonesia (Jakarta), duty-unpaid premium on top of LME cash prices
Grade:	Lead of 99.99% min purity conforming to LME specification BS EN 12659:1999, GB/T 469/2005 or ASTM B29-03 (2009)
Unit:	USD/tonne
Quantity:	25 tonnes
Timing:	Within 5 weeks
Form:	Ingot
Payment terms:	Letter of credit, telegraphic transfer or cash against documents, other terms normalized
Publication:	Weekly. Tuesday 3-4pm London time

Assessment	<b>Lead 99.97% ingot Cif Taiwan</b>
Location:	Cif delivery in main Taiwanese ports (Taipei, Kaohsiung or Keelung), duty-unpaid premium on top of LME cash prices
Grade:	Lead of 99.97% to 99.99% purity conforming to LME specification BS EN 12659:1999, GB/T 469/2005 or ASTM B29-03 (2009)
Unit:	USD/tonne
Quantity:	25 tonnes
Timing:	Within 5 weeks
Form:	Ingot
Payment terms:	Letter of credit, telegraphic transfer or cash against documents, other terms normalised
Publication:	Weekly. Tuesday 3-4pm London time

Assessment	<b>Lead 99.99% ingot cif Taiwan</b>
Location:	CIF main Taiwanese ports (Taipei, Kaohsiung or Keelung), duty-unpaid premium on top of LME cash prices
Grade:	Lead of 99.99% minimum purity conforming to LME specification BS EN 12659:1999, GB/T 469/2005 or ASTM B29-03 (2009)
Unit:	USD/tonne
Quantity:	25 tonnes
Payment terms:	Letter of credit, telegraphic transfer or cash against documents, other terms normalised
Timing:	Within 5 weeks
Form:	Ingot
Publication:	Weekly. Tuesday 3-4pm London time

Assessment	<b>Lead 99.97% ingot in-warehouse Southeast Asian warrants</b>
Location:	In any LME-approved warehouse in Singapore and in Malaysia (Johor, Port Klang), premium on top of LME cash prices
Grade:	Lead of 99.97% to 99.99% purity conforming to LME specification BS EN 12659:1999, GB/T 469/2005 or ASTM B29-03 (2009)
Unit:	USD/tonne
Quantity:	25 tonnes
Payment terms:	Cash, other payment terms normalised
Timing:	Prompt release
Form:	Ingot
Publication:	Weekly. Tuesday 3-4pm London time

### EAST ASIA

Assessment	<b>Lead 99.97% ingot in-warehouse East Asian warrants</b>
Location:	In any LME-approved warehouse in Taiwan (Kaohsiung) and South Korea (Gwangyang, Busan or Incheon), premium on top of LME cash prices
Grade:	Lead of 99.97% to 99.99% purity conforming to LME specification BS EN 12659:1999, GB/T 469/2005 or ASTM B29-03 (2009)
Unit:	USD/tonne
Quantity:	25 tonnes
Payment terms:	Cash, other terms normalised
Timing:	Prompt release
Form:	Ingot
Publication:	Weekly. Tuesday 3-4pm London time

### EUROPE

Assessment	<b>Lead 99.97% ingot in-warehouse North European warrants</b>
Location:	In any LME-approved warehouse in North Europe (Belgium, Germany, the Netherlands, Sweden and the UK), premium on top of LME cash prices
Grade:	Lead of 99.97% to 99.99% purity conforming to LME specification BS EN 12659:1999, GB/T 469/2005 or ASTM B29-03 (2009)
Unit:	USD/tonne
Quantity:	25 tonnes
Payment terms:	Cash, other payment terms normalised
Timing:	Prompt release
Form:	Cathode
Publication:	Weekly. Tuesday 3-4pm London time

Assessment	<b>Lead 99.97% ingot in-warehouse South European warrants</b>
Location:	In any LME-approved warehouse in South Europe (Spain, Italy), premium on top of LME cash prices
Grade:	Lead of 99.97% to 99.99% purity conforming to LME specification BS EN 12659:1999, GB/T 469/2005 or ASTM B29-03 (2009)
Unit:	USD/tonne
Quantity:	25 tonnes
Payment terms:	Cash, other payment terms normalised
Timing:	Prompt release
Form:	Cathode
Publication:	Weekly. Tuesday 3-4pm London time

Assessment	<b>Lead 99.97% ingot US warrants</b>
Location:	In any LME-approved warehouse in the USA, premium on top of LME cash prices
Grade:	Lead of 99.97% to 99.99% purity conforming to LME specification BS EN 12659:1999, GB/T 469/2005 or ASTM B29-03 (2009)
Unit:	USD/tonne
Quantity:	25 tonnes
Payment terms:	Cash, other payment terms normalised
Timing:	Prompt release
Form:	Cathode
Publication:	Weekly. Tuesday 3-4pm London time

### UNITED STATES

Assessment	<b>Lead 99.97% ingot delivered US Midwest</b>
Location:	Delivered consumer works, US Midwest
Grade:	Lead of 99.97% to 99.99% purity conforming to LME specification BS EN 12659:1999, GB/T 469/2005 or ASTM B29-03 (2009)
Currency:	US cents
Unit:	lb
Quantity:	25 tonnes
Payment terms:	30 days, other payment terms normalised
Timing:	Within 5 weeks
Form:	Ingot
Publication:	Weekly. Tuesday 3-4pm London time
Assessment	<b>Lead 99.99% ingot delivered US Midwest</b>
Location:	Delivered consumer works, US Midwest
Grade:	Lead of 99.99% minimum purity conforming to LME specification BS EN 12659:1999, GB/T 469/2005 or ASTM B29-03 (2009)
Currency:	US cents
Unit:	lb
Quantity:	25 tonnes
Payment terms:	30 days, other payment terms normalized
Timing:	Within 5 weeks
Form:	Ingot
Publication:	Weekly. Tuesday 3-4pm London time

## Nickel ore

Please see **Ores** section.

## Nickel

### CHINA

Assessment	<b>Nickel full plate in-warehouse Shanghai</b>
Type:	Assessed range and single number
Location:	In-warehouse iShanghai bonded zone, premium on top of LME cash prices
Grade:	99.80% min primary nickel conforming to LME specification: ASTM B39-79 (2013) or GB/T 6516-2010 - Ni9990 grade
Unit:	USD/tonne
Quantity:	10 tonnes (under consultation to increase to 60 tonnes)
Payment terms:	Cash against document, Letter of credit, telegraphic transfer, other terms normalised
Timing:	With 2 weeks
Form:	Full plate
Publication:	Weekly. Tuesday 3-4pm London time

Assessment	<b>Nickel full plate cif Shanghai</b>
Type:	Assessed range and single number
Location:	Cif delivery basis Shanghai port, premium on top of LME cash prices
Grade:	99.80% min primary nickel conforming to LME specification: ASTM B39-79 (2013) or GB/T 6516-2010 - Ni9990 grade
Unit:	USD/tonne
Quantity:	10 tonnes (under consultation to increase to 60 tonnes)
Payment terms:	Cash against document, Letter of credit, telegraphic transfer, and other terms normalised
Timing:	With 6 weeks
Form:	Full plate
Publication:	Weekly. Tuesday 3-4pm London time

Assessment:	<b>Duty-free nickel briquette cif Shanghai premium</b>
Grade:	Nickel content 99.8% in line with LME specifications
Min quantity:	6 tonnes
Location:	FOB China
Origin:	Australia and Madagascar
Unit:	USD/tonne
Delivery:	Within 8 weeks
Payment terms:	Letter of credit and telegraphic transfer
Publication:	Last Tuesday of each month

### SOUTHEAST ASIA

Assessment	<b>Nickel full plate in-warehouse Southeast Asian warrants</b>
Location:	Any LME-approved warehouse in Singapore and Malaysia (Johor, Port Klang), premium on top of LME cash prices
Grade:	99.80% min primary nickel conforming to LME specification: ASTM B39-79 (2013) or GB/T 6516-2010 - Ni9990 grade
Unit:	USD/tonne
Quantity:	6 tonnes
Payment terms:	Cash, other terms normalised
Timing:	Prompt release
Form:	Full-plate cathode
Publication:	Weekly. Tuesday 3-4pm London time

Assessment	<b>Nickel briquette in-warehouse Southeast Asian warrants</b>
Grade:	99.80% min primary nickel conforming to LME specification: ASTM B39-79 (2013) or GB/T 6516-2010 - Ni9990 grade
Quantity:	6 tonnes
Location:	Any LME-approved warehouse in Singapore/Malaysia (Johor, Port Klang), premium on top of LME cash prices
Unit:	USD/tonne
Timing:	Prompt release
Form:	Briquette
Payment terms:	Cash, other terms normalised
Publication:	Weekly. Tuesday 3-4pm London time

### EAST ASIA

Assessment	<b>Nickel full plate in-warehouse East Asian warrants</b>
Grade:	99.80% min primary nickel conforming to LME specification: ASTM B39-79 (2013) or GB/T 6516-2010 - Ni9990 grade
Quantity:	6 tonnes
Location:	In any LME-approved warehouse in Taiwan (Kaohsiung) and South Korea (Gwangyang, Busan or Incheon), premium on top of LME cash prices
Unit:	USD/tonne
Payment terms:	Cash, other terms normalised
Timing:	Prompt release
Form:	Full-plate cathode
Publication:	Weekly. Tuesday 3-4pm London time

Assessment	<b>Nickel briquette in-warehouse East Asian warrants</b>
Grade:	99.80% min primary nickel conforming to LME specification: ASTM B39-79 (2013) or GB/T 6516-2010 - Ni9990 grade
Quantity:	6 tonnes
Location:	In any LME-approved warehouse in Taiwan (Kaohsiung) and South Korea (Gwangyang, Busan or Incheon), premium on top of LME cash prices
Unit:	USD/tonne
Timing:	Prompt release
Form:	Briquette
Payment terms:	Cash, other payment terms normalised
Publication:	Weekly. Tuesday 3-4pm London time

### EUROPE

Assessment	<b>Nickel full plate in-warehouse Rotterdam</b>
Location:	In-warehouse Rotterdam, premium on top of LME cash prices
Grade:	99.80% min primary nickel conforming to LME specification: ASTM B39-79 (2013) or GB/T 6516-2010 - Ni9990 grade
Quantity:	20 tonnes
Unit:	USD/tonne
Payment terms:	Cash, other payment terms normalised
Timing:	Within one week
Form:	Full-plate cathode
Publication:	Weekly. Tuesday 3-4pm London time

Assessment	<b>Nickel 4x4 cathode in-warehouse Rotterdam</b>
Location:	In-warehouse Rotterdam, premium on top of LME cash prices
Grade:	99.80% min primary nickel conforming to LME specification: ASTM B39-79 (2013) or GB/T 6516-2010 - Ni9990 grade
Unit:	USD/tonne
Quantity:	20 tonnes
Payment terms:	Cash, other payment terms normalised
Timing:	Within one week
Form:	4x4 cut cathode
Publication:	Weekly. Tuesday 3-4pm London time

Assessment	<b>Nickel briquette in-warehouse Rotterdam \$/tonne</b>
Location:	In-warehouse Rotterdam, premium on top of LME cash prices
Grade:	99.80% min primary nickel conforming to LME specification: ASTM B39-79 (2013) or GB/T 6516-2010 - Ni9990 grade
Unit:	USD/tonne
Quantity:	20 tonnes
Timing:	Within one week
Form:	briquette
Payment terms:	Cash, other payment terms normalised
Publication:	Weekly. Tuesday 3-4pm London time

Assessment	<b>Nickel in-warehouse North European warrants</b>
Location:	Any LME-approved warehouse in North Europe (Belgium, Germany, the Netherlands, Sweden and the UK), premium on top of LME cash prices
Grade:	99.80% min primary nickel conforming to LME specification: ASTM B39-79 (2013) or GB/T 6516-2010 - Ni9990 grade
Unit:	USD/tonne
Quantity:	6 tonnes
Payment terms:	Cash, other terms normalized
Timing:	Prompt release
Form:	Cathode (full-plate, cut), pellet or briquette
Publication:	Weekly. Tuesday 3-4pm London time

## UNITED STATES

Assessment:	<b>Nickel 4x4 cathode delivered US premium</b>
Grade:	99.8% minimum primary nickel conforming to LME specification: ASTM B39-79 (2013) or GB/T 6516-2010 - Ni9990 grade specification: ASTM B39-79 (2013) or GB/T 6516-2010 - Ni9990 grade
Min quantity:	20 tonnes
Location:	Delivered consumer works US
Timing:	Within four weeks
Unit:	US cents per lb
Form:	4x4 cut cathode
Payment terms:	30 days, other payment terms normalized
Publication:	Weekly. Tuesday 3-4pm London time

Assessment:	<b>Nickel briquette delivered US premium</b>
Grade:	99.8% minimum primary nickel conforming to LME specification: ASTM B39-79 (2013) or GB/T 6516-2010 - Ni9990 grade specification: ASTM B39-79 (2013) or GB/T 6516-2010 - Ni9990 grade
Min quantity:	20 tonnes
Location:	Delivered consumer works US
Timing:	Within four weeks
Unit:	US cents per lb
Form:	Briquette
Payment terms:	30 days, other payment terms normalized
Publication:	Weekly. Tuesday 3-4pm London time

## Tin

### CHINA

Assessment	<b>Tin 99.9% ingot cif Shanghai</b>
Location:	Cif delivery basis Shanghai port, premium on top of LME cash prices
Grade:	99.9% tin purity conforming to LME specification: BS EN 610:1996 with 100-300 ppm lead content
Unit:	USD/tonne
Quantity:	5 tonnes
Payment terms:	Cash against document, telegraphic transfer, other terms normalised
Timing:	Within 2 weeks
Form:	Ingot
Publication:	Weekly. Tuesday 3-4pm London time

Assessment	<b>Tin 99.9% Low Lead ingot cif Shanghai</b>
Location:	Cif delivery basis Shanghai port, premium on top of LME cash prices
Grade:	99.9% tin purity conforming to LME specification: BS EN 610:1996 with less than 100 ppm lead content
Unit:	USD/tonne
Quantity:	5 tonnes
Payment terms:	Cash against document, telegraphic transfer, other terms normalised
Timing:	Within 2 weeks
Form:	Ingot
Publication:	Weekly. Tuesday 3-4pm London time

### SOUTHEAST ASIA

Assessment	<b>Tin 99.9% ingot cif Taiwan</b>
Location:	Cif delivery basis Taiwanese ports (Taipei, Kaohsiung or Keelung), premium on top of LME cash prices
Grade:	99.9% tin purity conforming to LME specification: BS EN 610:1996 with 100-300 ppm lead content
Unit:	USD/tonne
Quantity:	5 tonnes
Payment terms:	Cash against document, telegraphic transfer, other terms normalised
Timing:	Within 2 weeks
Form:	Ingot
Publication:	Weekly. Tuesday 3-4pm London time

Assessment	<b>Tin ingot 99.85% minimum in-warehouse Southeast Asian warrants</b>
Location:	In any LME-approved warehouse in Singapore and in Malaysia (Johor, Port Klang), premium on top of LME cash prices
Grade:	Minimum 99.85% tin purity conforming to LME specification: BS EN 610:1996, max 500ppm lead
Unit:	USD/tonne
Quantity:	5 tonnes
Payment terms:	Cash, other payment terms normalised
Timing:	Prompt release
Form:	Ingot
Publication:	Weekly. Tuesday 3-4pm London time

## EUROPE

Assessment	<b>Tin 99.9% ingot in-warehouse Rotterdam</b>
Location:	In-warehouse Rotterdam, premium on top of LME cash prices
Grade:	99.9% tin purity conforming to LME specification: BS EN 610:1996 with 100-300 ppm lead content
Unit:	USD/tonne
Quantity:	20 tonnes
Payment terms:	Cash against conditional release, other payment terms normalised
Timing:	Within 2 weeks
Form:	Ingot
Publication:	Weekly. Tuesday 3-4pm London time

Assessment	<b>Tin 99.9% Low Lead ingot in-warehouse Rotterdam</b>
Location:	In-warehouse Rotterdam, premium on top of LME cash prices
Grade:	99.9% tin purity conforming to LME specification: BS EN 610:1996 with less than 100 ppm lead content
Unit:	USD/tonne
Quantity:	20 tonnes
Payment terms:	Cash against conditional release, other payment terms normalised
Timing:	Within 2 weeks
Form:	Ingot
Publication:	Weekly. Tuesday 3-4pm London time

## UNITED STATES

Assessment	<b>Tin 99.85% delivered US Midwest</b>
Location:	Delivered consumer works USA
Grade:	Min 99.85% tin purity conforming to LME specification BS EN 610:1996 and ASTM grade A, max 500ppm lead
Unit:	USD/tonne
Quantity:	20 tonnes
Payment terms:	30 days, other payment terms normalised
Timing:	Within 2 weeks
Form:	Ingot
Publication:	Weekly. Tuesday 3-4pm London time

Assessment	<b>Tin 99.85% ingot in-warehouse Baltimore</b>
Location:	In-warehouse Baltimore, premium on top of LME cash prices
Grade:	Minimum 99.85% tin purity conforming to LME specification: BS EN 610:1996, max 500ppm lead, total impurities must not exceed 0.15%
Unit:	USD/tonne
Quantity:	20 tonnes
Payment terms:	Cash against documents, other payment terms normalised
Form:	Ingot
Publication:	Weekly. Tuesday 3-4pm London

# Zinc concentrate

## CHINA

Assessment:	<b>Zinc Concentrate spot TC cif China</b>
Location:	Treatment Charge on cif basis delivery to Chinese ports
Grade:	45-55% zinc content, low silver (0-170g/t), silica 3.5-4.5%, copper below 3% (high copper 4-5%), lead below 3.5% (total copper, lead, silica at max 6-7%), arsenic below 0.6%, cadmium below 0.33% and mercury below 0.06%
Unit:	USD/tonne
Quantity:	2,000 tonnes
Payment terms:	Letter of Credit, quotation period M+3
Timing:	Within 13 weeks
Form:	Concentrate
Publication:	Monthly. Last Friday of every month.

**Assessment:** **Zinc Concentrate spot TC delivered North China**  
**Location:** Treatment Charge on delivered basis  
**Grade:** Zn 50%, As <0.4%, Hg <100ppm, Si <6%, S >26%, Pb <3%, Fe <8%.  
**Currency:** CNY  
**Unit:** Tonne  
**Quantity:** 100 tonnes  
**Payment terms:** Cash against document or prepayment  
**Form:** Concentrate  
**Publication:** Monthly. Last Friday of every month.

**Assessment:** **Zinc Concentrate spot TC delivered South China**  
**Location:** Treatment Charge on delivered basis  
**Grade:** Zn content 50%, As <0.4%, Hg <100ppm, Si <6%, S >26%, Pb <3%, Fe <8%.  
**Currency:** CNY  
**Unit:** Tonne  
**Quantity:** 100 tonnes  
**Payment terms:** Cash against document or prepayments  
**Form:** Concentrate  
**Publication:** Monthly. Last Friday of every month.

**Assessment:** **Zinc SHG ingot Cif Shanghai**  
**Type:** Assessed range  
**Location:** Cif in Shanghai port, premium on top of LME cash prices  
**Grade:** Special High Grade zinc of minimum 99.995% purity, conforming to LME specifications and relevant standards: BS EN 1179:2003, ISO 752:2004 - ZN-1 grade, ASTM B6-12 - LME grade or GB/T 470-2008  
**Unit:** USD/tonne  
**Quantity:** 25 tonnes  
**Payment terms:** Letter of credit, telegraphic transfer or documents against payment, other payment terms normalised  
**Timing:** Within 4 weeks  
**Form:** Ingot  
**Publication:** Weekly. Tuesday 3-4pm London time

**Assessment:** **Zinc SHG ingot cif Taiwan**  
**Type:** Assessed range  
**Location:** Cif delivery in Taiwanese ports, premium on top of LME cash prices  
**Grade:** Special High Grade zinc of minimum 99.995% purity, conforming to LME specifications and relevant standards: BS EN 1179:2003, ISO 752:2004 - ZN-1 grade, ASTM B6-12 - LME grade or GB/T 470-2008  
**Unit:** USD/tonne  
**Quantity:** 25 tonnes  
**Payment terms:** Letter of credit, telegraphic transfer or documents against payment, other payment terms normalised  
**Timing:** Within 4 weeks  
**Form:** Ingot  
**Publication:** Weekly. Tuesday 3-4pm London time

## Refined zinc

### CHINA

**Assessment:** **Zinc SHG ingot in-warehouse Shanghai**  
**Type:** Assessed range and assessed single number  
**Location:** In-warehouse Shanghai bonded zone, premium on top of LME cash prices  
**Grade:** Special High Grade zinc of minimum 99.995% purity, conforming to LME specifications and relevant standards: BS EN 1179:2003, ISO 752:2004 - ZN-1 grade, ASTM B6-12 - LME grade or GB/T 470-2008  
**Unit:** USD/tonne  
**Quantity:** 25 tonnes  
**Payment terms:** Letter of credit, telegraphic transfer or documents against payment, other payment terms normalised  
**Timing:** Within 4 weeks  
**Form:** Ingot  
**Publication:** Weekly. Tuesday 3-4pm London time



### SOUTHEAST ASIA

**Assessment:** **Zinc SHG ingot FCA Singapore**  
**Location:** Free-carrier in Singapore, premium on top of LME cash prices  
**Grade:** Special High Grade zinc of minimum 99.995% purity, conforming to LME specifications and relevant standards: BS EN 1179:2003, ISO 752:2004 - ZN-1 grade, ASTM B6-12 - LME grade or GB/T 470-2008  
**Unit:** USD/tonne  
**Quantity:** 25 tonnes  
**Payment terms:** Letter of credit or telegraphic transfer, other terms normalised  
**Timing:** Within 4 weeks  
**Form:** Ingot  
**Publication:** Weekly. Tuesday 3-4pm London time

**Assessment:** **Zinc SHG ingot FCA Malaysia**  
**Location:** Free-carrier in main Malaysian ports (Johor, Port Klang), premium on top of LME cash prices  
**Grade:** Special High Grade zinc of minimum 99.995% purity, conforming to LME specifications and relevant standards: BS EN 1179:2003, ISO 752:2004 - ZN-1 grade, ASTM B6-12 - LME grade or GB/T 470-2008  
**Unit:** USD/tonne  
**Quantity:** 25 tonnes  
**Payment terms:** Letter of credit or telegraphic transfer, other terms normalised  
**Timing:** Within 4 weeks  
**Form:** Ingot  
**Publication:** Weekly. Tuesday 3-4pm London time

**Assessment:** **Zinc SHG ingot cif Southeast Asia**  
**Location:** CIF ports in Vietnam (Ho Chi Minh/ Haiphong), Thailand (Bangkok, Laem Chabang), Malaysia (Johor, Port Klang), Indonesia (Jakarta), duty-unpaid premium on top of LME cash prices  
**Grade:** Special High Grade zinc of minimum 99.995% purity, conforming to LME specifications and relevant standards: BS EN 1179:2003, ISO 752:2004 - ZN-1 grade, ASTM B6-12 - LME grade or GB/T 470-2008  
**Unit:** USD/tonne  
**Quantity:** 25 tonnes  
**Payment terms:** Letter of credit or telegraphic transfer, other terms normalised  
**Timing:** Within 4 weeks  
**Form:** Ingot  
**Publication:** Weekly. Tuesday 3-4pm London time

### EUROPE

**Assessment:** **Zinc SHG ingot fca DP Rotterdam**  
**Location:** Free-carrier basis delivery in Rotterdam, duty-paid premium on top of LME cash prices  
**Grade:** Special High Grade zinc of minimum 99.995% purity, conforming to LME specifications and relevant standards: BS EN 1179:2003, ISO 752:2004 - ZN-1 grade, ASTM B6-12 - LME grade or GB/T 470-2008  
**Unit:** USD/tonne  
**Quantity:** 25 tonnes  
**Payment terms:** Cash, other payment terms normalised  
**Timing:** Within 4 weeks  
**Form:** Ingot  
**Publication:** Weekly. Tuesday 3-4pm London time

**Assessment:** **Zinc SHG ingot fca DUP Antwerp**  
**Location:** Free-carrier basis delivery in Antwerp, duty-unpaid premium on top of LME cash prices  
**Grade:** Special High Grade zinc of minimum 99.995% purity, conforming to LME specifications and relevant standards: BS EN 1179:2003, ISO 752:2004 - ZN-1 grade, ASTM B6-12 - LME grade or GB/T 470-2008  
**Unit:** USD/tonne  
**Quantity:** 25 tonnes  
**Payment terms:** Cash, other payment terms normalised  
**Timing:** Within 4 weeks  
**Form:** Ingot  
**Publication:** Weekly. Tuesday 3-4pm London time

**Assessment:** **Zinc SHG ingot FCA DP Italy**  
**Location:** Free-carrier basis delivery in Italy, duty-paid premium on top of LME cash prices  
**Grade:** Special High Grade zinc of minimum 99.995% purity, conforming to LME specifications and relevant standards: BS EN 1179:2003, ISO 752:2004 - ZN-1 grade, ASTM B6-12 - LME grade or GB/T 470-2008  
**Unit:** USD/tonne  
**Quantity:** 100 tonnes  
**Payment terms:** Cash, other payment terms normalised  
**Timing:** Within 4 weeks  
**Form:** Ingot  
**Publication:** Weekly. Tuesday 3-4pm London time

**Assessment:** **Zinc SHG ingot DDP Italy**  
**Location:** Delivered duty paid consumer works in Italy, premium on top of LME cash prices  
**Grade:** Special High Grade zinc of minimum 99.995% purity, conforming to LME specifications and relevant standards: BS EN 1179:2003, ISO 752:2004 - ZN-1 grade, ASTM B6-12 - LME grade or GB/T 470-2008  
**Unit:** USD/tonne  
**Quantity:** 100 tonnes  
**Payment terms:** Cash, other terms normalised  
**Timing:** Within 4 weeks  
**Form:** Ingot  
**Publication:** Weekly. Tuesday 3-4pm London time

**Assessment:** **Zinc SHG ingot in-warehouse North European warrants**  
**Location:** In any LME-approved warehouse in North European locations (Belgium, Germany, the Netherlands, Sweden and the UK), premium on top of LME cash prices  
**Grade:** Special High Grade zinc of minimum 99.995% purity, conforming to LME specifications and relevant standards: BS EN 1179:2003, ISO 752:2004 - ZN-1 grade, ASTM B6-12 - LME grade or GB/T 470-2008  
**Unit:** USD/tonne  
**Quantity:** 100 tonnes  
**Payment terms:** Cash, other payment terms normalised  
**Timing:** Prompt release  
**Form:** Ingot  
**Publication:** Weekly. Tuesday 3-4pm London time

**Assessment:** **Zinc SHG ingot delivered UK price**  
**Type:** Partly-assessed single number  
**Location:** Delivered customer works basis in the UK; all-in price including average of LME GBP cash settlements for the last ten days of the previous month and assessed term premiums for UK delivery (either delivered customer works or FCA Rotterdam plus transport, warehousing, delivery and financing costs)  
**Grade:** Special High Grade zinc of minimum 99.995% purity, conforming to LME specifications and relevant standards: BS EN 1179:2003, ISO 752:2004 - ZN-1 grade, ASTM B6-12 - LME grade or GB/T 470-2008  
**Unit:** GBP/tonne  
**Quantity:** 25 tonnes  
**Payment terms:** Cash, other payment terms normalised  
**Form:** Ingot  
**Publication:** Monthly. 1st working day of the month between 1pm and 2pm London time  
**Note:** The price was launched in 2013 as a replacement to the Thyssenkrupp Metallurgie UK SHG zinc price, which had been discontinued.

## UNITED STATES

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**Assessment:** **Zinc SHG ingot delivered US Midwest**  
**Location:** Delivered consumer works Midwest USA  
**Grade:** Min 99.995% special high grade zinc, conforming to LME specifications and relevant BS EN standards  
**Unit:** USD/tonne  
**Quantity:** 25 tonnes  
**Payment terms:** 30 days, other payment terms normalised  
**Timing:** Within 4 weeks  
**Form:** Ingot  
**Publication:** Weekly. Tuesday 3-4pm London time

**Assessment:** **Zinc SHG ingot US warrants**  
**Location:** In any LME-approved warehouse in the USA, premium on top of LME cash prices  
**Grade:** Special High Grade zinc of minimum 99.995% purity, conforming to LME specifications and relevant standards: BS EN 1179:2003, ISO 752:2004 - ZN-1 grade, ASTM B6-12 - LME grade or GB/T 470-2008  
**Unit:** USD/tonne  
**Quantity:** 25 tonnes  
**Payment terms:** Cash, other payment terms normalised  
**Timing:** Prompt release  
**Form:** Ingot  
**Publication:** Weekly. Tuesday 3-4pm London time

# Bulk alloys

## Ferro-chrome

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**CHINA**

Index:	<b>Ferro-chrome Index</b>
Type:	Index single figure
Basis:	CIF Shanghai, duty unpaid
Currency:	USD per lb contained Cr
Chrome:	Basis 50% Cr, range 48-52% Cr
Carbon:	Base 7.0%, max 9.0%
Silicon:	Base 3.0%, max 6.0%
Phosphorous:	Max 0.03%
Sulphur:	Max 0.06%
Material form:	Lump
Delivered:	Port Shanghai. Other delivery ports normalised to Shanghai
Material origin:	All origins
Delivered window:	Within 6 weeks
Delivered method:	Seaborne
Payment terms:	LC at sight
Publication:	Weekly. Friday 3pm London time
Data History:	From May 2012

Assessment:	<b>Ferro-chrome China Contract 6-8% C, basis 50% Cr delivered duty paid China CNY/tonne</b>
Basis:	Delivered duty paid China
Unit:	CNY/tonne, normalised to Cr 50%
Min lot size:	1,000 tonnes
Payment terms:	Cash, other payment terms normalised
Quality:	Cr: 50% min, C: 6-8%, Si: 5% max, P: 0.04% max, S: 0.04% max
Form:	Lump
Publication:	Weekly. Friday between 2pm and 3pm London time

Assessment:	<b>Ferro-chrome China Spot 6-8% C, basis, 50% Cr delivered duty paid China yuan per tonne</b>
Basis:	Delivered duty paid China
Unit:	CNY/tonne, normalised to Cr 50%
Min lot size:	1,000 tonnes
Payment terms:	Cash, other payment terms normalised
Quality:	Cr: 50% min, C: 6-8%, Si: 5% max, P: 0.04% max, S: 0.04% max
Form:	Lump
Publication:	Weekly. Friday between 2pm and 3pm London time

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**JAPAN**

Assessment:	<b>High-carbon Ferro-chrome Japan import 8-9% C, basis 60% Cr, cif Japan, duty-unpaid, \$ per lb contained chrome</b>
Type:	Assessed range
Basis:	Cif Japan
Unit:	USD per lb of chrome contained
Min lot size:	100 tonnes
Payment terms:	LC at sight and TT
Quality:	Cr: 60% min, C: 8-9% max, Si 3-4% max, P: 0.04% max, S: 0.05% max; size 10-50mm
Form:	Lump
Publication:	Weekly. Thursday between 2pm and 3pm London time

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**SOUTHEAST ASIA**

Assessment:	<b>High-carbon Ferro-chrome South Korea import 8-9% C, basis 60% Cr, cif South Korea, duty unpaid, \$per lb contained chrome</b>
Type:	Assessed range
Basis:	CIF South Korea
Unit:	USD per lb of chrome contained
Min lot size:	100 tonnes
Payment terms:	LC at sight and TT
Quality:	Cr: 60% min, C: 8-9% max, Si 3-4% max, P: 0.04% max, S: 0.06% max; size 10-50mm
Form:	Lump
Publication:	Weekly. Thursday between 2pm and 3pm London time

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**UNITED STATES**

Assessment:	<b>Ferro-chrome, high carbon, US</b>
Type:	Assessed range
Unit:	US cents per pound
Basis:	Fob Pittsburgh
Quality:	Cr min: 62.00%, si: max. 3.00%, Ca: 6.00- 8.00%
Minimum Lot size:	20 tons
Publication:	Weekly. Thursday

### EUROPE

Assessment: **High carbon ferro-chrome (6-8.5% C basis 60-70% Cr max 1.5% Si) major European destinations \$/lb Cr**

Basis: Delivered consumer works Europe  
 Unit: USD per lb of chrome contained  
 Min lot size: 24 tonnes  
 Payment terms: 30 days, other payment terms normalised  
 Quality: Cr: 60-70%, C: 6-8.5%, Si: 1.5%. High carbon ferro-chrome of the following brands and origins: Kazakhstan (Kazchrome); Russia (Tikhvin, Chelyabinsk); Turkey (Eti Krom); Sweden (Vargon Alloys); Albania (Albchrome)  
 Form: Lump  
 Publication: Weekly. Friday between 2pm and 3pm London time

Assessment: **Low carbon ferro-chrome (0.06% C max - 65% Cr) Delivered consumer works \$/ lb Cr, Europe**

Type: Assessed range  
 Basis: Delivered consumer works Europe  
 Unit: USD per lb of chrome contained  
 Min lot size: 25 tonnes  
 Payment terms: 30 days, other payment terms normalised  
 Quality: Cr: 65% basis (range 60-70% Cr); C: 0.06% max; Si: 1.5% max; P: 0.05% max; S: 0.05% max  
 Form: Lump  
 Publication: Fortnightly. Friday between 2pm and 3pm London time

Assessment: **Low carbon ferro-chrome (0.10% C avg 65-70% Cr) Delivered consumer works Europe \$/lb Cr**

Quality: Cr: 65% basis (range 65-70% Cr); C: 0.10% excluding material up to 0.06% C; Si: 1.5% max; P: 0.05% max; S: 0.05% max  
 Quantity: Min 25 tonnes  
 Location: Delivered consumer works Europe  
 Unit: USD per lb of chrome contained  
 Form: Lump  
 Payment terms: 30 days, other payment terms normalised  
 Publication: Fortnightly. Friday 2-3pm London time

Assessment: **Low phosphorous ferro-chrome (Cr min 65% P max 0.015%) delivered consumer works Europe \$/lb**

Location: Delivered consumer works Europe  
 Unit: USD per lb of chrome contained  
 Min lot size: 25 tonnes  
 Payment terms: 30 days, other payment terms normalised  
 Quality: Cr: 65% min, Si: 1% max, C: 6-8%, P: 0.015% max, Ti:0.05%  
 Form: Lump  
 Publication: Fortnightly. Friday 2-3pm London time

Assessment: **Ferro-chrome lumpy cr charge basis 52 Cr and high carbon delivered consumer works Europe \$/lb Cr quarterly**

Price type: Industry-settled single figure  
 Basis: Delivered consumer works Europe  
 Unit: US cents per lb of chrome contained  
 Min lot size: Not specified  
 Payment terms: Not specified  
 Quality: N/A  
 Form: Lump  
 Publication: Quarterly as per industry announcement to Johannesburg Stock Exchange

Note: Metal Bulletin does not independently assess this price, but publishes it as a reference. The price is settled every quarter by leading ferro-chrome producers and consumers and is then announced by a leading producer to the Johannesburg Stock Exchange. Metal Bulletin obtains the benchmark number from market participants and/or from the official announcement.

Assessment:	<b>European ferro-chrome quarterly benchmark indicator</b>
Type:	Indicator, single figure
Quality:	Ferro-chrome lumpy, basis 52% chrome content
Currency:	US cents per lb of chrome content to major European destinations
Publication:	Weekly. Friday 3pm London time
Note:	The price indicates a representative level for the European ferro-chrome benchmark if it were to be settled on that Friday. It does so by using a proprietary Metal Bulletin formula based on the historical relationship between the European ferro-chrome benchmark and Metal Bulletin market data.

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**UNITED STATES**

Assessment:	<b>Ferro-chrome, low carbon, 0.05%C-65% min Cr, US</b>
Quality:	Cr min: 65.00%, Ca: 0.05%, Si: max 1.00%
Quantity:	20 tons
Location:	FOB Pittsburgh
Unit:	US cents per pound
Publication:	Weekly. Thursday

Assessment:	<b>Ferro-chrome, low carbon, 0.10%C-62% min Cr, US</b>
Type:	Assessed range
Currency:	US cents per pound
Basis:	Fob Pittsburgh
Quality:	Cr min 62.00%, C: 0.10%, Si max: 1.00%
Minimum lot size:	20 tons
Publication:	Weekly. Thursday

Assessment:	<b>Ferro-chrome, low carbon, 0.15%C-60% min Cr, US</b>
Type:	Assessed range
Currency:	US cents per pound
Basis:	Fob Pittsburgh
Quality:	Cr: min. 60.00%, C: 0.15%, Si: max. 1.00%
Minimum lot size:	20 tons
Publication:	Weekly. Thursday

## Ferro-manganese

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**EUROPE**

Assessment:	<b>Ferro-manganese 78% Mn max standard 7.5% C Delivered consumer works Europe €/tonne</b>
Basis:	Delivered consumer works Europe
Unit:	EUR/tonne
Min lot size:	100 tonnes
Payment terms:	Cash, other payment terms normalised
Quality:	Mn: 75% min 78% max , Si: 2% max, C: 6% min 8% max, P: 0.35% max, S: 0.04% max
Form:	Lump in the range of 10-100mm, 90% min
Publication:	Weekly. Friday between 2pm and 3pm London time

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**CHINA**

Assessment:	<b>Ferro-manganese, min 65% Mn max 7.0% C, China CNY/tonne</b>
Location:	China
Unit:	CNY/tonne, all Mn grades normalised to 65% on pro rata basis
Min lot size:	100 tonnes
Payment terms:	Cash, other payment terms normalised
Quality:	Mn: 65-72%, Si: 4.5% max, C: 7.0% max, P: 0.4% max, S: 0.03% max
Form:	Lump
Publication:	Weekly, Friday 2-3pm London time

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**UNITED STATES**

Assessment:	<b>Ferro-manganese, high carbon, US</b>
Currency:	US dollars per long ton
Basis:	In-warehouse Pittsburgh
Quality:	Mn: 78.00%, C: 7.50%
Minimum lot size:	20 tons
Frequency:	Weekly, Thursday

Assessment:	<b>Ferro-manganese, medium carbon, US</b>
Currency:	US cents per pound
Basis:	Fob Pittsburgh
Quality:	Manganese min. 80.00%, carbon max. 1.50%
Minimum lot size:	20 tons
Frequency:	Weekly, Thursday

## Ferro-silicon

### CHINA

Assessment:	<b>Ferro-silicon min 75% Si China CNY/ tonne</b>
Quality:	Si: 75-80%; Mn: 0.4% max; Al: 2.0% max; Cr: 0.3% max; P: 0.035% max; S: 0.02% max; C: 0.1% max
Quantity:	100 tonnes
Location:	China
Unit:	CNY/tonne, price for all Si grades normalised to 75% on pro rata basis
Payment terms:	Cash, other payment terms normalised
Form:	Lump
Publication:	Weekly. Friday between 2pm and 3pm London time

Assessment:	<b>Ferro-silicon export min 75% Si Fob China main ports \$/tonne</b>
Basis:	Fob China main ports
Unit:	USD/tonne, normalised to 75% Si on pro rata basis
Quantity:	100 tonnes
Payment terms:	Cash, other payment terms normalised
Quality:	Si: 75-80%; Mn: 0.4% max; Al: 2.0% max; Cr: 0.3% max; P: 0.035% max; S: 0.02% max; C: 0.1% max
Form:	Lump
Publication:	Weekly. Friday between 2pm and 3pm London time

### EUROPE

Assessment:	<b>Ferro-silicon lumpy basis 75% Si (Scale pro-rata) Delivered consumer works Europe €/tonne</b>
Quality:	Si: 75% basis (scale pro rata); Al: 1.5% max; C: 0.10-0.15% max, Ca: 0.6% max; Ti: 0.15% max; P: 0.02% max; S: 0.025% max
Quantity:	100 tonnes
Location:	Delivered consumer works Europe
Unit:	EUR/tonne
Payment terms:	Cash, other payment terms normalised
Form:	Lump
Publication:	Weekly. Friday between 2pm and 3pm London time

### UNITED STATES

Assessment:	<b>Ferro-silicon, US</b>
Type:	Assessed range
Currency:	US cents per pound
Basis:	In-warehouse Pittsburgh
Quality:	Silicon 75.00%
Minimum lot size:	20 tons
Frequency:	Weekly. Thursday

## Silico-manganese

### EUROPE

Assessment:	<b>Silico-manganese lumpy 65-75% Mn basis 15-19% Si Delivered consumer works Europe €/tonne</b>
Quality:	Mn: 65-75% (Scale pro rata), Si: 15-19%, C: 2.0-2.5%, P:0.3%, S:0.03%
Quantity:	100 tonnes
Location:	Delivered consumer works Europe
Unit:	EUR/tonne
Form:	Lump
Payment terms:	Cash, other payment terms normalised
Publication:	Weekly. Friday between 2pm and 3pm London time

### CHINA

Assessment:	<b>Silico-manganese min 65% Mn max 17% Si, delivered duty paid China CNY/tonne</b>
Basis:	Delivered duty paid China
Unit:	CNY/tonne, all Mn grades normalised to 65% basis on pro rata basis
Min lot size:	100 tonnes
Payment terms:	Cash, other terms normalised
Quality:	Mn: 65-72%; Si: 17%; C: 1.8% max; P: 0.25% max; S: 0.04% max
Form:	Lump
Publication:	Weekly. Friday between 2pm and 3pm London time

**INDIA**

Assessment:	<b>Silico-manganese 65% min Mn 16% min Si Fob India \$/tonne</b>
Location:	Fob India
Unit:	USD/tonne
Min lot size:	100 tonnes
Quality:	Mn: 65% Si: 16% C: 2% P:0.35% S:0.03%
Form:	Lump
Payment terms:	Letter of Credit
Publication:	Weekly. Friday between 2pm and 3pm London time

**UNITED STATES**

Assessment:	<b>Silico-manganese, US</b>
Quality:	Manganese min. 65.00%; silicon min. 16.00%
Quantity:	20 tons
Location:	In-warehouse Pittsburgh
Unit:	US cents per pound
Publication:	Weekly. Thursday

## Ferro-nickel

**CHINA**

Assessment:	<b>Ferro-nickel 26-32% nickel content cif China</b>
Basis:	Cif China
Unit:	USD/tonne
Quality:	Ni typical 30% (range 26%-32%), P 0.0045% max, S 0.060% max
Calculation:	Ferro-nickel price = (LME Ni price + premium/ discount) x nickel content
Min lot size:	At least 100 nickel metal tonnes per lot
Payment terms:	Cash, other payment terms normalised
Publication:	Last Monday of each month between 2pm to 3pm London time

## Nickel Pig Iron

**CHINA**

Assessment:	<b>High-grade NPI Ni content 10-15% Contract price delivered duty paid China CNY/tonne</b>
Basis:	Delivered duty paid China
Currency:	CNY
Unit:	Tonne
Quality:	Ni10-15%, Fe 80%, P 0.04% max, S 0.03% max, Si 4.5% max, C 4% max
Form:	Lump
Packaging:	Big bag of 1 tonne
Min lot size:	1,000 tonnes
Payment terms:	Cash
Publication:	Weekly. Tuesday between 2pm and 3pm UK time

Assessment:	<b>High-grade NPI Ni content 10- 15%, spot price delivered duty- paid China CNY/ tonne</b>
Basis:	Delivered duty paid China
Currency:	Yuan
Unit:	tonne
Quality:	Ni10-15%, Fe 80%,P 0.04% max, S 0.03% max, Si 4.5% max, C 4% max
Form:	Lump
Packaging:	Big bag of 1 tonne
Min lot size:	500 tonnes
Payment terms:	Cash
Publication:	Weekly. Tuesday between 2pm and 3pm UK time



## Noble alloys

# Molybdenum

### EUROPE

Assessment:	<b>Molybdenum drummed molybdic oxide, Rotterdam \$/lb Mo</b>
Quality:	Mo: 57% min. Cu: 0.5% max. S: 0.1% max. P: 0.05% max. Pb: 0.05% max. C: 0.1% max. All other elements should each be 0.10% max, with the exception of Si, which should be 6% max.
Quantity:	10 tonnes (+/- 2%)
Location:	Rotterdam
Unit:	USD per lb Mo
Form:	Sandy powder (0-4 mm)
Payment terms:	Cash; other terms normalised
Publication:	Twice weekly. Wednesday and Friday between 2pm and 3pm London time

Assessment	<b>Ferro-molybdenum 65% min Rotterdam \$/kg Mo</b>
Basis:	Rotterdam
Unit:	USD per kg Mo
Min lot size:	10 tonnes (+/- 2%)
Payment terms:	Cash; other payment terms normalised
Quality:	Mo: 65% min Si: 1.50% max Cu: 0.50% max C: 0.10% max S: 0.10% max P: 0.05% max All other elements should be each 0.10% max, with the exception of Fe
Form:	Lump, in range from 5-50mm, 90% minimum
Publication:	Twice weekly. Wednesday and Friday 2-3pm London time

### UNITED STATES

Assessment:	<b>Molybdenum canned molybdic oxide, US</b>
Quality:	Mo min. 57.00%, copper max. 0.50%; phosphorus 0.05%; lead 0.05%; sulphur 0.10%; carbon 0.10%; moisture 0.10%
Quantity:	10 tons
Location:	In-warehouse US
Unit:	USD per pound
Publication:	Weekly. Thursday

Assessment:	<b>Ferro-molybdenum, US</b>
Quality:	Mo: 65.00-70.00%
Quantity:	10 tons
Location:	In-warehouse Pittsburgh
Unit:	USD per pound
Publication:	Weekly. Thursday

# Titanium

### CHINA

Assessment:	<b>Ferro-titanium min 70% Ti (max 4.5% Al), delivered duty paid Europe \$/kg Ti</b>
Quality:	Ti: 70%; Al: 4.5%; V: 3%; O2: 2%; C: 0.2%; S: 0.05%; P: 0.05%; Si: 0.5%; N:0.5%; Sn: 0.5%; Ni:0.05%; Cr: 0.5%; Pb: 0.01%; Bi: 0.01%
Quantity:	10-tonne lots (+/- 2%)
Location:	DDP Europe
Unit:	USD per kg Ti
Form:	Lump
Payment terms:	Cash; other payment terms normalised
Publication:	Weekly. Wednesday 2-3pm London

# Tungsten

## EUROPE

Assessment:	<b>Tungsten APT Europe min 88.5 WO3 cif Rotterdam duty free \$/mtu WO3</b>
Basis:	CIF Rotterdam, duty free
Unit:	USD per mtu WO3
Min lot size:	20 tonnes (+/- 2%)
Payment terms:	Cash; Delivered up to three months in advance considered spot business
Quality:	WO3: 88.5% min; Al: 0.001% max; As: 0.0005% max; Bi: 0.0005% max; Ca: 0.001% max; Cd: 0.0005% max; Co: 0.0005% max; Cr: 0.0005% max; Cu: 0.0005% max; Fe: 0.001% max; K: 0.001% max; Mn: 0.001% max; Mg: 0.001% max; Mo: 0.002% max; Na: 0.001% max; Ni: 0.0005% max; P: 0.001% max; Pb: 0.0005% max; S: 0.001% max; Sb: 0.0005% max; Si: 0.001% max; Sn: 0.0005% max; Ti: 0.0005% max; V: 0.0005% max
Form:	White finely divided free flowing crystals
Publication:	Weekly. Friday 2-3pm London

## CHINA

Assessment:	<b>Tungsten APT China min 88.5% WO3 Fob China main ports \$/mtu WO3</b>
Basis:	Fob China main ports
Unit:	USD per mtu WO3
Min lot size:	17 tonnes
Quality:	WO3 88.5% min, Al 0.0005% max, As 0.001% max, Bi 0.0001% max, Ca 0.001% max, Cd 0.001% max, Co 0.005% max, Cr 0.001% max, Cu 0.0005% max, Fe 0.001% max, K 0.001% max, Mn 0.0005% max, Mg 0.0005% max, Mo 0.002% max, Na 0.001% max, Ni 0.0005% max, P 0.0007% max, Pb 0.0001% max, S 0.0008% max, Sb 0.0002% max, Si 0.001% max, Sn 0.0002% max, Ti 0.0005% max, V 0.001% max
Form:	White finely divided free-flowing crystals
Payment terms:	Cash or 30 days
Publication:	Weekly. Wednesday 2-3pm London

Assessment:	<b>Tungsten concentrate 65% WO3 China</b>
	CNY/tonne
Basis:	China
Currency:	CNY
Unit:	tonne
Min lot size:	50 tonnes
Payment terms:	Cash or 30 days
Quality:	WO3 65% min, S 0.8% max, P 0.10% max, As 0.15% max, Mo 0.05% max, Ca 5% max, Mn 1.5% max, Cu 0.25% max, Sn 0.25% max, SiO2 7.0% max
Form:	Powder
Publication:	Weekly. Wednesday 2pm to 3pm London time

# Ferro-tungsten

## EUROPE

Assessment:	<b>Ferro-tungsten basis 75% W Rotterdam duty unpaid \$/kg W</b>
Quality:	W: 75.00% min. C: 0.40% max. S: 0.08% max. Mn: 0.50% max. As: 0.10% max. Sn: 0.08% max. P: 0.05% max. Si: 0.70% max. Cu: 0.15% max. Sb: 0.05% max.
Quality:	Minimum 3-tonne lots
Location:	Rotterdam duty unpaid
Unit:	USD per kg W
Form:	Lump
Payment terms:	Cash, other payment terms normalised
Publication:	Twice weekly. Wednesday and Friday 2-3pm London

## CHINA

Assessment:	<b>Ferro-tungsten basis 75% W Fob China \$/kg W</b>
Quality:	W: 75.00% min. C: 0.40% max. S: 0.08% max. Mn: 0.50% max. As: 0.10% max. Sn: 0.08% max. P: 0.05% max. Si: 0.70% max. Cu: 0.15% max. Sb: 0.05% max.
Quantity:	5 tonnes
Location:	FOB China main port
Unit:	USD per kg W
Form:	Lump
Payment terms:	Cash, other terms normalised
Publication:	Weekly. Wednesday 2-3pm London

# Vanadium

## EUROPE

Assessment:	<b>Ferro-vanadium 78% min delivered consumer works Europe duty paid \$/kg V</b>
Quality:	V: 78%; Al: 1.5%; Si: 1.5%; C: 0.25%; S: 0.05%; P: 0.06%; Mn: 0.5%. Other elements: trace only, with the exception of Fe
Quantity:	Minimum 5-tonne lots
Location:	Delivered consumer works Europe
Unit:	USD per kg V
Form:	Lumps
Payment terms:	Cash; other payment terms normalised
Publication:	Twice weekly. Wednesday and Friday between 2pm and 3pm London time

Assessment:	<b>Vanadium pentoxide min 98% Rotterdam \$/lb V2O5</b>
Quality:	98.00 % min Si: 0.25 % max. Fe: 0.30 % max. S: 0.03 % max. P: 0.05 % max. As: 0.02 % max. Na2+K2O: 1.50 % max
Location:	In-warehouse Rotterdam
Unit:	USD per lb V2O5
Min lot size:	Min 5 tonnes (+/- 5%)
Payment terms:	Cash, other payment terms normalised
Form:	Brown flake
Publication:	Weekly. Friday between 2pm and 3pm London time

## UNITED STATES

Assessment:	<b>Ferro-vanadium, US \$/lb</b>
Unit:	USD per lb
Location:	In-warehouse Pittsburgh
Quality:	V: 70.00-80.00%
Quantity:	10 tons
Publication:	Weekly. Thursday

## CHINA

Assessment:	<b>Description: Ferro-vanadium, 78% min \$/kg V, fob China</b>
Quality:	V: 78% min. Al: 1.5% max. Si: 2% max. C: 0.06%. S: 0.05%. P: 0.05%. As: 0.06%. Mn: 0.5%. Cu: 0.1%. Ni: 0.15%. Mesh size: 10-50mm, 90% min.
Quantity:	Min 5 tonnes (+/- 5%)
Location:	FOB China (other delivery terms normalized)
Delivery:	Within 20 days
Unit:	\$/kg V
Form:	Lump
Payment terms:	L/C, T/T, other payment terms normalized
Publication:	Weekly, Thursday 2-3pm London time
Notes:	Assessed by Fastmarkets in London and Shanghai

Assessment:	<b>Vanadium pentoxide, 98% min, \$/lb V2O5, fob China</b>
Quality:	V: 98.00% min. Si: 0.25% max. Fe: 0.30% max. S: 0.03% max. P: 0.05% max. As: 0.02% max. Na2+K2O: 1.50% max.
Unit:	\$/lb V2O5
Quantity:	Min 5 tonnes (+/- 5%)
Location:	FOB China (other delivery terms normalized)
Delivery:	Within 20 days
Form:	Brown flake
Payment terms:	L/C, T/T, other payment terms normalized
Publication:	Weekly, Thursday, 2-3pm London time
Notes:	Assessed by Fastmarkets in London and Shanghai

## Ores

### Bauxite

#### AFRICA

Assessment:	<b>Bauxite Fob Kamsar, Guinea, single figure</b>
Units:	USD per tonne per dmtu
Basis:	FOB Guinea (other delivered terms normalised)
Chemistry:	Total alumina: 48.5% min, 53% max; total silica 1.20% min, 2.10% max; reactive silica 3.2% max; Fe 22% max; Ti 4% max; organic carbon 0.15% max; moisture content 5.5% min, 7.5% max
Trade size:	Minimum 20,000 tonnes
Loading port:	Kamsar (other ports normalised)
Loading window:	Within two months
Delivered method:	Bulk carrier
Payment terms:	30 days after loading (other payment terms normalised)
Publication:	Fortnightly. Thursdays between 2pm and 3pm London time

#### BRAZIL

Assessment:	<b>Bauxite Fob Trombetas, Brazil, single figure</b>
Units:	USD per tonne per dmtu
Basis:	FOB Brazil (other Delivered terms normalised)
Chemical spec:	Total alumina 50.5% min, 55% max; total silica 4.3% min; 5.6% max; reactive silica 4% min, 5% max; Fe 12 % max; Ti 1.5% max; moisture content 9% min; 10% max
Trade size:	Minimum 20,000 tonnes
Payment terms:	30 days after loading (other payment terms normalised)
Loading port:	Trombetas (other ports normalised)
Loading window:	Within two months
Delivered method:	Bulk carrier
Publication:	Fortnightly. Thursdays between 2pm and 3pm London time

### Chrome ore

#### AFRICA

Index:	<b>South African UG2 chrome ore Concentrates, single figure</b>
Unit:	USD per dry metric tonne unit
Basis:	CIF China
Chrome:	Base 42%, range 40-43%
Silica:	Maximum 6%
Alumina:	Maximum 18%
Magnesium oxide:	Maximum 0.15%
Phosphorous:	Maximum 0.01%
Sulphur:	Maximum 0.01%
Chrome: Iron ratio:	1.2:1 minimum
Form:	Sizing up to 1mm (95% min)
Packaging:	Bulk (xontainer deals normalised)
Trade Size:	Minimum 2,000 tonnes
Payment terms:	Payment at sight
Publication:	Weekly. Friday 3pm London time

#### CHINA

Assessment:	<b>Chrome ore Turkish lumpy 40-42% cfr main Chinese ports \$/tonne</b>
Location:	CIF China main ports
Unit:	USD per tonne
Min lot size:	1,000 tonnes
Quality:	Cr: 40-42;, SiO2: 15% max; Al2O3: 16% max; MgO: 26% max; S: 0.02%; P: 0.01%, Cr:Fe: 2.6:1 basis, 2.5:1 min
Form:	Lump
Payment terms:	Payment at sight
Publication:	Weekly. Friday Between 2pm and 3pm London time

# Manganese ore

## SOUTH AFRICA

Index:	<b>MnOI37 FOB</b>
Unit:	US\$ per dry metric tonne unit, fob Port Elizabeth, South Africa
Contents:	
Manganese:	Base 37%, Range 35-39%
Iron:	Base 5%, Maximum 10%
Silica:	Base 5.5%, Maximum 12%
Phosphorous:	Base 0.025%, Maximum 0.160%
Alumina:	Base 0.2%, Maximum 2%
Moisture content:	Base 4%, Maximum 12%
Form:	Lump
Delivery:	Port Elizabeth (South Africa)
Granularity:	5.5-75mm
Quantity:	5,000 tonnes
Delivery window:	Within nine weeks
Payment:	Cash or equivalent
Publication:	Friday, 3pm London

## CHINA

Index:	<b>MnOI44 CIF</b>
Unit:	US\$ per dry metric tonne unit, cif Tianjin, China
Content	
Manganese:	Base 44%, Range 42-48%
Iron:	Base 5%, Maximum 16%
Silica:	Base 11%, Maximum 12%
Phosphorous:	Base 0.10%, Maximum 0.16%
Alumina:	Base 5%, Maximum 14%
Moisture:	Base 4%, Maximum 12%
Form:	Lump
Delivery:	Tianjin (China) – normalized for any Chinese mainland sea port
Granularity:	5.5-75mm
Quantity:	Min 5,000 tonnes
Delivery window:	Within nine weeks
Payment:	Cash or equivalent
Publication:	Friday, 3pm London

Index:	<b>MnOI37 CIF</b>
Unit:	US\$ per dry metric tonne unit, fot Tianjin, China
Content	
Manganese:	Base 37%, Range 35-39%
Iron content:	Base 5%, Maximum 10%
Silica content:	Base 5.5%, Maximum 12%
Phosphorous:	Base 0.025%, Maximum 0.16%
Alumina:	Base 0.2%, Maximum 2%
Moisture:	Base 4%, Maximum 12%
Form:	Lump
Delivery:	Tianjin (China) – normalized for any Chinese mainland sea port
Granularity:	5.5-75mm
Quantity:	Min 5,000 tonnes
Delivery window:	Within nine weeks
Payment:	Cash or equivalent
Publication:	Friday, 3pm London

Index:	<b>MnOI44 FOT</b>
Unit:	Yuan per dry metric tonne, fot Tianjin port, China
Content	
Manganese:	Base 44%, Range 42-48%
Iron content:	Base 5%, Maximum 16%
Silica content:	Base 11%, Maximum 12%
Phosphorous:	Base 0.10%, Maximum 0.16%
Alumina:	Base 5%, Maximum 14%
Moisture:	Base 4%, Maximum 12%
Form:	Lump
Delivery:	Tianjin (China) – normalized for any Chinese mainland sea port
Granularity:	5.5-75mm
Quantity:	Min 1,000 tonnes
Delivery window:	Immediate
Payment:	Cash or equivalent
Publication:	Friday, 3pm London

Index: **MnOI37 FOT**  
 Unit: Yuan per dry metric tonne unit, fot  
 Tianjin, China

Content  
 Manganese: Base 37%, Range 35-39%  
 Iron content: Base 5%, Maximum 10%  
 Silica content: Base 5.5%, Maximum 12%  
 Phosphorous: Base 0.025%, Maximum 0.16%  
 Alumina: Base 0.2%, Maximum 2%  
 Moisture: Base 4%, Maximum 12%  
 Form: Lump  
 Delivery: Tianjin (China) – normalized for any  
 Chinese mainland sea port  
 Granularity: 5.5-75mm  
 Quantity: Min 1,000 tonnes  
 Delivery window: Immediate  
 Payment: Cash or equivalent  
 Publication: Friday, 3pm London

## Manganese ore stocks

### CHINA

Assessment: **Manganese ore inventories at the main Chinese ports of Tianjin and Qinzhou, range based on survey**  
 Basis: Million tonnes  
 Assessed by: Metal Bulletin's ores & alloys team in Singapore  
 Publication time: Fortnightly. Wednesday between 2pm and 3pm London time

## Nickel ore

### CHINA

Assessment: **Laterite nickel ore 1.8% cif China \$/tonne**  
 Quality: 1.8% Ni, 15-20% Fe, Water content 30-35%, Si:Mg ratio <2  
 Quantity: 50,000 tonnes  
 Location: CIF China  
 Unit: USD per tonne  
 Payment terms: Letter of Credit  
 Publication: Weekly. Tuesday between 2pm and 3pm UK time

Assessment: **Laterite nickel ore with 1.5% nickel content cif China**  
 Quality: Nickel ore: 1.5% Ni, 15-20% Fe, Water content 30-35%  
 Quantity: 50,000 tonnes  
 Location: CIF China  
 Unit: USD per tonne  
 Payment terms: Cash, other payment terms normalised  
 Publication: Weekly. Tuesday between 2pm and 3pm UK time

## Minor metals

Metal Bulletin's antimony, arsenic, bismuth, cadmium, chromium, gallium, hafnium, indium, manganese, mercury, rhenium and selenium prices are produced in line with the specifications published by the Minor Metals Trade Association.

## Antimony

### CHINA

Assessment:	<b>Antimony metal MMTA Standard Grade II delivered duty paid China CNY/tonne</b>
Quality:	MMTA standard Grade II. Sb: 99.65% min, As: 0.1% max, Pb: 0.2% max, Se: 0.002% max, Cd: 0.002% max, Sn: 0.005% max, Te: 0.005% max, Bi: 0.01% max, Cu: 0.02% max, Fe: 0.02% max
Quantity:	1 tonne
Location:	Delivered duty paid China
Unit:	CNY/tonne
Form:	Ingot
Payment terms:	Cash
Publication:	Weekly. Wednesday between 2pm and 3pm London time

### EUROPE

Assessment:	<b>Antimony metal MMTA Standard Grade II Rotterdam \$/tonne</b>
Quality:	Sb: Min 99.65% As: Max 0.15% Se: Max 50ppm
Quantity:	10 tonnes (+/-2%)
Locations:	Rotterdam
Timing:	Prompt, within ten calendar days
Unit:	USD per tonne
Form:	Ingot
Packaging:	Original producer's packing, on pallets or in wooden cases
Payment terms:	Cash, other payment terms normalised
Publication:	Twice weekly. Wednesday and Friday between 2pm and 3pm London time

Assessment:	<b>Antimony max 100 ppm Bi Rotterdam \$/tonne</b>
Type:	Assessed range
Basis:	Rotterdam
Currency:	USD
Unit:	Tonne
Min lot size:	10 tonnes (+/-2%)
Payment terms:	Cash, other payment terms normalised
Quality:	Sb: Min 99.65% Bi: Max 100ppm Se: Max 50ppm Cu: Max 200ppm Fe: Max 200ppm Pb: Max 0.2%
Form:	Ingot
Publication:	Twice weekly. Wednesday and Friday between 2pm and 3pm London time
Packaging:	Original producer's packing, on pallets or in wooden cases
Delivery time:	Prompt, within ten calendar days

## Arsenic

### EUROPE

Assessment:	<b>Arsenic 99% min Rotterdam \$/lb</b>
Quality:	As: 99% min, no other elements specified
Quantity:	1 tonne (+/-2%)
Location:	Rotterdam
Timing:	Prompt release
Unit:	USD per lb
Form:	Lumpy, fist-sized and downwards
Packaging:	Original producer's poly-lined steel drums, each 50kg net, in accordance with the IMDG code and RID & ADR rules
Payment terms:	Cash, other payment terms normalised
Publication:	Twice weekly. Wednesday and Friday 2-3pm London

# Bismuth

## EUROPE

Assessment:	<b>Bismuth 99.99% min Rotterdam \$/lb</b>
Quality:	Bi: 99.99%, no other elements specified
Quantity:	1 tonne
Location:	Rotterdam
Timing:	Prompt release
Unit:	USD/lb
Form:	Ingot
Packaging:	Original producers' packaging
Payment terms:	Cash, other payment terms normalised
Publication:	Twice weekly. Wednesday and Friday between 2pm and 3pm London time

## CHINA

Assessment:	<b>Bismuth 99.99% min China CNY/tonne</b>
Quality:	Bi: 99.99% min, no other elements specified
Quantity:	1 tonne
Location:	China
Unit:	CNY/tonne
Form:	Ingot
Payment terms:	Cash, other payment terms normalised
Publication:	Weekly. Friday between 2pm and 3pm London time

# Cadmium

## GLOBAL

Assessment:	<b>Cadmium 99.95% min cif global ports US cents/lb</b>
Quality:	Cd: 99.95%, no other elements specified
Quantity:	10 tonnes
Location:	ClF global port basis
Timing:	Prompt release
Unit:	US cents per lb
Payment terms:	Cash, other payment terms normalised
Form:	Sticks or ingots
Publication:	Twice weekly. Wednesday and Friday between 2pm and 3pm London

Assessment:	<b>Cadmium 99.99% min cif global ports US cents/lb</b>
Quality:	Cd: 99.99%, no other elements specified
Quantity:	10 tonnes
Location:	ClF global port basis
Timing:	Prompt release
Unit:	US cents per lb
Form:	Sticks or ingots
Payment terms:	Cash, other terms normalised
Publication:	Twice weekly. Wednesday and Friday between 2pm and 3pm London time

# Chromium

## EUROPE

Assessment:	<b>Chromium alumino-thermic 99% min Rotterdam \$/tonne</b>
Quality:	Conforming to MMTA Russian X99H4 specification. Cr: 99.0 min % Fe: 0.5 max % Al: 0.2 max % Si: 0.2 max % C: 0.03 max % S: 0.02 max % Pb: 0.0008 max % Cu: 0.01 max % P: 0.02 max % Zn: 0.006 max % Sb: 0.008 max % Sn: 0.004 max % Bi: 0.0005 max % As: 0.01 max % Co: 0.005 max % N: 0.04 max %
Quantity:	10 tonnes (+/-2%)
Location:	Rotterdam
Timing:	Prompt release
Unit:	USD per tonne
Form:	Lump
Packaging:	In steel drums of uniform net weight, usually 300kg
Payment terms:	Cash, other terms normalised
Publication:	Weekly. Friday between 2pm and 3pm London time

## UNITED STATES

Assessment:	<b>Chromium alumino-thermic, min 99% ex-warehouse United States, US\$/pound</b>
Quality:	Min 99% chromium
Quantity:	3 tonnes
Location:	Ex-warehouse, US
Unit:	USD per pound
Form:	Lump, packaged in drums
Publication:	Once a week every Thursday



## Cobalt

### CHINA

Assessment:	<b>Cobalt tetroxide min 72.6% Co delivered China CNY/tonne</b>
Basis:	Delivered China
Unit:	CNY/tonne
Min lot size:	1 tonne
Payment terms:	Cash
Quality:	Min 72.6% Co
Publication:	Twice weekly. Wednesday and Friday between 2pm and 3pm London time

Assessment:	<b>Cobalt metal min 99.8% domestic China CNY/tonne</b>
Basis:	Ex-works China
Unit:	CNY/tonne
Min lot size:	1 tonne
Payment terms:	Cash
Quality:	Cobalt metal, Co 99.8% min
Form:	Cathode
Publication:	Twice weekly. Wednesday and Friday between 2pm and 3pm London time

### EUROPE

Assessment:	<b>Cobalt high grade Rotterdam \$/lb</b>
Basis:	Rotterdam
Unit:	USD/tonne
Min lot size:	1 tonne
Max lot size:	100 tonnes
Payment terms:	Cash; other terms normalised
Quality:	High-grade cobalt metal, 99.8% minimum cobalt content. Falconbridge (Xstrata Nickel) cut cathodes, Vale Inco rounds, SMM cut cathode, Jinchuan cut cathode, Jiangsu (KLK) broken cathodes, Sherritt briquettes
Form:	Cut cathodes, rounds, broken cathodes, briquettes
Packaging:	Original packaging
Timing:	Within 30 days, other terms normalised
Publication:	Twice weekly. Wednesday and Friday at 3pm London time

Assessment:	<b>Cobalt low grade Rotterdam \$/lb</b>
Basis:	Rotterdam
Unit:	USD/Tonne
Quantity:	Min 1 tonne, max 100 tonnes
Payment terms:	Cash; other terms normalised
Quality:	Low-grade cobalt metal, 99.3% minimum cobalt content. Katanga cathodes, Chambishi broken cathodes, CTT broken cathodes, Norilsk ingots (K1A and K1AY), Tocantins broken cathodes, Minara briquettes, Ambatovy briquettes
Form:	Broken cathodes, ingots, briquettes
Packaging:	Original packaging
Delivery time:	Within 30 days, other terms normalised
Publication:	Twice weekly. Wednesday and Friday at 3pm London time

## Cobalt sulfate

Please see **Battery Raw Materials** section.

## Gallium

### EUROPE

Assessment:	<b>Gallium min 99.99% Ga Rotterdam \$/kg</b>
Basis:	Rotterdam
Unit:	USD/kg
Min lot size:	100kg (+/- 2%)
Quality:	Ga: 99.99% min, no other elements specified
Form:	Ingot
Packaging:	Packed in plastic sleeves, original producers' cases
Delivery time:	Prompt release
Payment terms:	Cash, other payment terms normalised
Publication:	Twice weekly. Wednesday and Friday between 2pm and 3pm London time

Assessment:	<b>Gallium min 99.99% Ga China</b> <b>CNY/kg</b>
Basis:	China
Currency:	CNY
Unit:	CNY/kg
Min lot size:	50kg
Payment terms:	Cash, other payment terms normalised
Quality:	Ga: 99.99% min, no other elements specified
Form:	Ingot
Publication:	Weekly. Wednesday by 3pm London time.

Assessment:	<b>Germanium Dioxide Rotterdam</b> <b>\$/kg</b>
Location:	Rotterdam
Unit:	USD/kg
Min lot size:	100 kg (+/- 2%)
Payment terms:	Cash, other payment terms normalised
Quality:	GeO <sub>2</sub> 99.99 % min, Ge 69 % approx
Form:	White powder
Packaging:	Original producer cases, normally 25kg each
Delivery time:	Prompt release
Publication:	Twice-weekly. Wednesday and Friday between 2pm and 3pm London time

## Germanium

### CHINA

Assessment:	<b>Germanium 99.99% Ge China</b> <b>CNY/kg</b>
Basis:	China
Unit:	CNY/kg
Min lot size:	50 kg
Payment terms:	Cash, other payment terms normalised
Quality:	Ge: 99.99% min, 50ohm/cm; no other elements specified
Form:	Ingot with no specific dimension or weight
Publication:	Weekly. Wednesday by 3pm London time

### EUROPE

Assessment:	<b>Germanium 99.99% Ge Rotterdam</b> <b>\$/kg</b>
Type:	Assessed range
Basis:	Rotterdam
Currency:	USD
Unit:	kg
Min lot size:	100 kg (+/- 2%)
Quality:	Ga: 99.999%, no other elements specified
Form:	Ingot
Packaging:	Packed in plastic sleeves, original producer cases
Delivery:	Prompt release
Payment:	Cash, other payment terms normalised
Publication:	Twice-weekly. Wednesday and Friday between 2pm and 3pm London time

## Hafnium

### GLOBAL

Assessment:	<b>Hafnium, 1% Zr max, global</b> <b>locations, \$/kg</b>
Location:	Global
Unit:	USD/per kg
Min lot size:	50kg
Payment terms:	Cash, other payment terms normalised
Quality:	Hf+Zr 99.8% min; Zr 1%
Form:	Uniform lots of 5kg max cut ingot, plate, sheet or bar
Publication:	Fortnightly. Friday between 2pm and 3pm London time
Notes:	Hafnium is classed as a 'dual use' metal under the Non-proliferation of Nuclear Weapons Treaty and may require end-user statements and import/export licences

# Indium

## EUROPE

Assessment:	<b>Indium 99.99% Rotterdam \$/kg</b>
Basis:	Rotterdam
Unit:	USD/kg
Min lot size:	100kg
Payment terms:	Cash, other payment terms normalised
Quality:	In: 99.99%, no other elements specified
Form:	Ingots, usually between 0.5kg and 3.5 kg; also 10 kg ingots
Packaging:	Original producer wooden cases
Delivery time:	Prompt release
Publication:	Twice-weekly. Wednesday and Friday between 2pm and 3pm London time

Assessment:	<b>Indium 99.99% ex-works China CNY/kg</b>
Basis:	Ex-works China
Unit:	CNY per kg
Min lot size:	1kg
Payment terms:	Cash on spot
Quality:	In: 99.995% min, Cu: 0.0005% max, Pb: 0.0005% max, Zn: 0.0005% max, Cd: 0.0005% max, Fe: 0.0005% max, TI: 0.0005% max, Sn: 0.0010% max, As: 0.0005% max, Al: 0.0005% max
Form:	Ingot of 500g
Publication:	Weekly. Wednesday between 2pm and 3pm London time

# Magnesium

## EUROPE

Assessment:	<b>Magnesium 99.9% Rotterdam \$/tonne</b>
Basis:	Rotterdam
Unit:	USD/tonne
Min lot size:	20 tonnes (+/- 2%)
Payment terms:	Cash, other payment terms normalised
Quality:	Mg 99.9% min, Fe 0.04% max, Si 0.02% max, Ni 0.002% max, Cu 0.01% max, AL 0.02% max, Mo 0.03% max, Cl 0.05% max, others 0.1% max
Form:	Ingots, free from oxidation, of uniform size and weight
Publication:	Weekly. Friday 2-3pm London time

## CHINA

Assessment:	<b>Magnesium 99% ex-works China RMB/tonne</b>
Basis:	Ex-works China
Unit:	CNY/Tonne
Min lot size:	20 tonnes (+/- 2%)
Payment terms:	Cash on spot
Quality:	Mg 99.9% min
Form:	Ingot
Publication:	Weekly. Friday between 2pm and 3pm London time

Assessment:	<b>Magnesium 99.8% Fob China main ports \$/tonne</b>
Basis:	Fob China main ports
Unit:	USD/tonne
Min lot size:	10 tonnes (+/-2%)
Payment terms:	LC or TT
Quality:	Mg 99.8% min
Form:	Ingot
Publication:	Weekly. Friday between 2pm and 3pm London time

# Manganese

## EUROPE

Assessment:	<b>Manganese 99.7% electrolytic manganese flake \$/tonne Rotterdam</b>
Basis:	Rotterdam
Unit:	USD/tonne
Min lot size:	25 tonnes (+/-2%)
Payment terms:	Cash, other payment terms normalised
Quality:	Mn: 99.7% S: 500 ppm max P: 50 ppm max C: 400 ppm max Fe+Se+Si: 0.205% max
Form:	Flake
Publication:	Twice-weekly. Wednesday and Friday by 3pm London time
Packaging:	Big bags or steel drums
Delivery time:	Prompt, within ten calendar days

### UNITED STATES

Assessment:	<b>Manganese 99.7% electrolytic cents per pound, ex-warehouse, US</b>
Type:	Assessed range
Basis:	Ex-warehouse, US
Unit:	US cents per pound
Min lot size:	10 tonnes
Payment terms:	Cash, other payment terms normalised
Quality:	Min 99.7% manganese
Form:	Flake
Packaging:	Bulk
Publication:	Weekly, every Thursday

Assessment:	<b>Rhenium metal pellets min 99.9% Rotterdam duty unpaid \$/lb</b>
Basis:	Rotterdam, duty unpaid
Unit:	USD/lb
Min lot size:	10 kg (+/-2%)
Payment terms:	Cash, other payment terms normalised
Quality:	Rhenium pellets, Re 99.9% min.
Form:	White, free flowing powder/crystals
Publication:	Fortnightly. Friday by 3pm London time
Packaging:	In uniform IMDG approved containers, individually sealed and numbered
Delivery time:	Within one calendar month

## Mercury

### GLOBAL

Assessment:	<b>Mercury 99.99% Hg global locations \$/flask</b>
Quality:	Hg: 99.99%, no other elements specified
Quantity:	50 flasks with zero tolerance
Location:	Global
Timing:	Within one calendar month
Unit:	USD per flask
Form:	Free-flowing liquid
Packaging:	34.5kg UN-approved steel flasks
Payment terms:	Cash, other payment terms normalised
Publication:	Fortnightly. Friday between 2pm and 3pm London time

### EUROPE

Assessment:	<b>Selenium min 99.5 Se Rotterdam \$/lb</b>
Basis:	Rotterdam
Unit:	USD/lb
Min lot size:	250kg (+/-2%)
Quality:	Se: 99.5% min, no other elements specified
Form:	Powder of minus 200 mesh or granules sizing 1-5 mm
Packaging:	Original producers' packaging, normally 25kg net
Delivery time:	Prompt release
Payment terms:	Cash, other payment terms normalised
Publication:	Twice-weekly. Wednesday and Friday between 2pm and 3pm London time

## Rhenium

### EUROPE

Assessment:	<b>Rhenium APR Catalytic grade Rotterdam duty unpaid \$/kg</b>
Quality:	Ammonium perrhenate, Re 68.5 - 69.8% min.
Quantity:	20 kg (+/-2%)
Basis:	Rotterdam, duty unpaid
Unit:	USD/kg
Form:	White, free flowing powder/crystals
Packaging:	Uniform IMDG-approved containers, individually sealed and numbered
Delivery time:	Within one calendar month
Payment terms:	Cash, other terms normalised
Publication:	Fortnightly. Friday 2-3pm London

### CHINA

Assessment:	<b>Selenium min 99.9% Se China RMB/kg</b>
Basis:	China
Unit:	CNY/kg
Min lot size:	100 kg
Payment terms:	Cash, other payment terms normalised
Quality:	Se: 99.9% min, no other elements specified
Form:	Powder of minus 200 mesh or granules size 1-5 mm
Publication:	Weekly. Friday by 3pm London time

Assessment:	<b>Selenium dioxide min 98% China</b> <b>CNY/kg</b>
Basis:	China
Unit:	CNY/kg
Min lot size:	100 kg
Payment terms:	Cash, other payment terms normalised
Quality:	Selenium dioxide: 98% min, no other elements specified
Form:	Powder
Publication:	Weekly. Friday by 3pm London time

## Silicon

### EUROPE

Assessment:	<b>Silicon grade 4-4-1, min 99% Si</b> <b>Rotterdam €/tonne</b>
Basis:	Rotterdam
Unit:	EUR/tonne
Min lot size:	25 tonnes (+/- 2%)
Payment terms:	Cash, other payment terms normalised
Quality:	Si 99% min, Fe 0.4% max, Al 0.4% max, Ca 0.1% max
Form:	10-100mm lumps 90% min
Packaging:	1 tonne big bag
Publication:	Weekly. Friday between 2pm and 3pm London time

Assessment:	<b>Silicon grade 5-5-3, min 98.5% Si</b> <b>Rotterdam €/tonne</b>
Basis:	Rotterdam
Unit:	EUR/Tonne
Min lot size:	25 tonnes (+/- 2%)
Payment terms:	Cash, other payment terms normalised
Delivery time:	Prompt
Quality:	Silicon 98.50%, iron 0.50% max, aluminium 0.50% max, calcium 0.30% max
Form:	Lump, between 10 mm and 100 mm
Packaging:	1 tonne big bag
Publication:	Once a week. Friday between 2pm and 3pm London time

### CHINA

Assessment:	<b>Silicon export China min 98.5% Si</b> <b>Fob China main ports \$/tonne</b>
Basis:	FOB China main ports
Unit:	USD/tonne
Min lot size:	20 tonnes
Payment terms:	TT
Quality:	Si: 98.5% Min, Fe: 0.5% Max, Al: 0.5% Max, Ca: 0.3% Max
Form:	Lump
Publication:	Weekly. Friday between 2pm and 3pm London time

### UNITED STATES

Assessment:	<b>Silicon metal, US</b>
Quality:	Si: 98.50%, Fe: 0.50%, Al: 0.50%, Ca: 0.30%
Location:	Delivered US
Unit:	US cents per lb
Quantity:	20 tons
Publication:	Monthly

## Tellurium

### EUROPE

Assessment:	<b>Tellurium, min 99.9-99.99%</b> <b>Rotterdam \$/kg</b>
Basis:	Rotterdam
Unit:	USD/kg
Min lot size:	100 kg (+/-2%)
Payment terms:	Cash, other payment terms normalised
Quality:	Te: 99.9-99.99%, no other elements specified
Form:	Ingots, sticks or powder
Packaging:	Original producer packaging
Delivery time:	Prompt
Publication:	Twice-weekly. Wednesday and Friday between 2pm and 3pm London time

Assessment:	<b>Tellurium min 99.99% China</b> <b>CNY/kg</b>
Basis:	China
Unit:	CNY/kg
Min lot size:	500kg
Payment terms:	Cash, other payment terms normalised
Quality:	Te 99.99% min, no other elements specified
Form:	Ingots, sticks or powder
Frequency:	Weekly. Friday 2-3pm London time

# Battery raw materials

## Lithium

### Cobalt sulfate

**CHINA**

Assessment:	<b>China cobalt sulfate, Co 20.5% min, ex-works</b>
Unit:	CNY/tonne
Quality/shape:	crystal; feed from cobalt ores & concentrates, cobalt intermediates, such as crude cobalt hydroxide (materials produced from cobalt scrap are excluded)
Chemistry:	Co: 20.5% min, Ni: 0.001% max, Cu: 0.001% max, Fe: 0.001% max, Zn: 0.001% max
Minimum Lot size:	one tonne
Delivery window:	within 30 days
Payment terms:	On bank acceptance (other payments normalized)
Publication:	twice a week on Wednesday and Friday, between 2pm and 3pm London time

Assessment:	<b>China cobalt sulfate, Co 20.5% min, ex-works, adjustment to low-grade cobalt low-end price at Co 20.5% basis, \$/lb</b>
Unit:	USD/lb
Quality/shape:	Crystal; feed from cobalt ores & concentrates, cobalt intermediates, such as crude cobalt hydroxide (materials produced from cobalt scrap are excluded)
Chemistry:	Co: 20.5% min, Ni: 0.001% max, Cu: 0.001% max, Fe: 0.001% max, Zn: 0.001% max
Lot size:	one tonne
Payment terms:	On bank acceptance (other payment normalized)
Delivery window:	within 30 days
Publication:	Twice a week on Wednesday and Friday, between 2pm and 3pm London time

**CHINA**

Assessment:	<b>Battery grade lithium carbonate min 99.5% Li<sub>2</sub>CO<sub>3</sub>, ex-works China</b>
Type:	Assessment and Index (to run concurrently from August 2018)
Basis:	China ex-works, VAT included
Currency:	CNY
Unit:	Tonne
Delivery window:	30 days
Min lot size:	5 tonnes
Quality:	Min 99.5% Li <sub>2</sub> CO <sub>3</sub> (delivery of Min 99.2% Li <sub>2</sub> CO <sub>3</sub> also accepted, qualified for use in battery applications)
Form:	Powder
Publication:	Weekly. Thursday by 4pm London
Notes:	It is intended that the new index will run in parallel with the existing assessment until at least January 2019. Metal Bulletin intends to review the continued utility of the assessment and its publication, in consultation with the lithium market, and will notify the market of its decision in October 2018.

Assessment:	<b>Lithium hydroxide monohydrate min 56.5% LiOH.H<sub>2</sub>O battery grade spot price CNY per tonne, ex works China</b>
Basis:	China ex-works, VAT included
Unit:	CNY /tonne
Min lot size:	5 tonnes
Quality:	Min 56.5% LiOH.H <sub>2</sub> O (qualified for use in battery applications)
Form:	Powder
Publication:	Weekly. Thursday by 4pm London

## EAST ASIA, SOUTHEAST ASIA

Assessment:	<b>Lithium carbonate min 99.5% Li<sub>2</sub>CO<sub>3</sub> battery grade spot price US\$ per kg CIF China, Japan &amp; South Korea</b>
Type:	Assessed range
Basis:	CIF main Chinese Japanese & South Korean ports (other ports normalized)
Unit:	USD/kg
Min lot size:	5 tonnes
Quality:	Min 99.2-99.5% Li <sub>2</sub> CO <sub>3</sub> (delivery of Min 99.2% Li <sub>2</sub> CO <sub>3</sub> also accepted, qualified for use in battery applications)
Form:	Powder
Publication:	Weekly. Thursday by 4pm London

Assessment:	<b>Lithium hydroxide monohydrate min 56.5% LiOH.H<sub>2</sub>O battery grade spot price CIF China, Japan &amp; South Korea</b>
Basis:	CIF main Chinese Japanese & South Korean ports (other ports normalized)
Unit:	CNY/Tonne
Min lot size:	5 tonnes
Quality:	Min 56.5% LiOH.H <sub>2</sub> O (qualified for use in battery applications)
Form:	Powder
Publication:	Weekly. Thursday by 4pm London

Assessment:	<b>Graphite flake 94-97% C, -100 Mesh, FCL, FOB Qingdao, China</b>
Basis:	FOB China
Unit:	USD/tonne
Min lot size:	20 tonnes
Quality:	94-97% C, -100 Mesh
Publication:	Weekly. Thursday by 4pm London

## Nickel Sulfate

### CHINA

Assessment:	<b>China nickel sulfate, ex-works</b>
Grade:	Nickel content min 21%, max: 22.5%; cobalt 10ppm max
Unit:	CNY/tonne
Min Lot size:	1 tonne
Payment terms:	Bank acceptance (other payments normalized)
Publication:	Weekly. Tuesdays by 4pm London time

## Graphite

### CHINA

Assessment:	<b>Graphite spherical 99.95% C, 15 microns uncoated</b>
Basis:	FOB China
Unit:	USD/tonne
Min lot size:	20 tonnes
Quality:	99.95% C, 15 microns, uncoated
Publication:	Weekly. Thursday by 4pm London

## Scrap

### Copper scrap

#### CHINA

Assessment:	<b>No. 2 copper (Birch/Cliff) imported into China</b>
Basis:	CIF in China ports (Shanghai, Guangdong, Zhejiang, Tianjin and Shandong)
Grade:	94-96% copper content, US or European origin; discount to LME or Comex
Unit:	US cents/lb
Min Lot size:	25 tonnes
Payment:	Cash against documents, letter of credit, telegraphic transfer; other terms normalised
Delivery window:	Within 5 weeks
Publication:	Monthly. Last Monday of each month 3-4pm London time

### Aluminium scrap

#### EUROPE

Assessment:	<b>Aluminium scrap baled old rolled UK</b>
Basis:	Delivered consumer works, UK
Grade:	Wrought scrap of alloyed and unalloyed aluminium. Maximum 2% calcareous and other non-metallic substances
Unit:	GBP/tonne
Min lot size:	5 tonnes
Payment terms:	Net monthly account
Delivery window:	Within 4 weeks
Publication:	Weekly. Wednesday 3-4pm London time

Assessment:	<b>Aluminium scrap cast wheels UK</b>
Basis:	Delivered consumer works, UK
Grade:	Cast aluminium wheels
Currency:	GBP
Unit:	Tonne
Min lot size:	5 tonnes
Payment terms:	Net monthly account
Delivery window:	Within 4 weeks
Publication:	Weekly. Wednesday 3-4pm London

Assessment:	<b>Aluminium scrap clean HE9 extrusions UK</b>
Basis:	Delivered consumer works, UK
Grade:	Clean HE9 extrusion scrap. Cu 0.1% max, Zn 0.1% max, free from deleterious materials, oil, grease, non-metallic coatings max 1%
Unit:	GBP/tonne
Min lot size:	5 tonnes
Payment terms:	Net monthly account
Delivery window:	Within 4 weeks
Publication:	Weekly. Wednesday 3-4pm London time

Assessment:	<b>Aluminium scrap commercial cast UK £/tonne</b>
Basis:	Delivered consumer works, UK
Grade:	Whole or broken aluminium castings of all kinds
Unit:	GBP/tonne
Min lot size:	5 tonnes
Payment terms:	Net monthly account
Delivery window:	Within 4 weeks
Publication:	Weekly. Wednesday 3-4pm London time

Assessment:	<b>Aluminium scrap commercial pure cuttings UK</b>
Basis:	Delivered consumer works, UK
Grade:	New, uncoated, mixed alloys, pure sheet scrap. May contain proportion of one or more aluminium alloys, none of which shall contain more than 0.1% Cu and 0.1% each of Pb, Zn, Sn, antimony, bismuth. Mg 0.5% max. No 2000 or 7000 series metal
Unit:	GBP/tonne
Min lot size:	5 tonnes
Payment terms:	Net monthly account
Delivery window:	Within 4 weeks
Publication:	Weekly. Wednesday 3-4pm London time



Assessment: **Aluminium scrap commercial turnings UK**

Basis: Delivered consumer works, UK

Grade: Clean, uncorroded aluminium borings, millings and turnings of two or more specified alloys. Zn 2% max, Fe fines 3% max, oil/moisture/free iron 10% max

Unit: GBP/tonne

Min lot size: 5 tonnes

Payment terms: Net monthly account

Delivery window: Within 4 weeks

Publication: Weekly. Wednesday 3-4pm London time

Assessment: **Aluminium Scrap Floated Frag delivered consumer works Europe**

Basis: Delivered consumer works, Europe

Grade: Twitch floated fragmentiser aluminium scrap  
(from automobile shredders). Free Zn 1% max, free Mg 1% max, analytical Fe 1% max. Non-metallics 2% max (of which rubber & plastics 1% max)

Unit: EUR/tonne

Min lot size: 25 tonnes

Payment terms: 30 days, other payment terms normalised

Delivery window: Within 4 weeks

Publication: Weekly. Friday 3-4pm London time

Assessment: **Aluminium scrap group 7 turnings UK**

Basis: Delivered consumer works, UK

Grade: Clean, uncorroded aluminium borings, millings and turnings of two or more specified alloys. Zn 7.5% max, Fe fines 3% max, oil/moisture/free iron 10% max

Currency: GBP

Unit: Tonne

Min lot size: 5 tonnes

Payment terms: Net monthly account

Delivery window: Within 4 weeks

Publication: Weekly. Wednesday 3-4pm London time

Assessment: **Aluminium scrap group 1 pure 99% & litho UK**

Basis: Delivered consumer works, UK

Grade: New, uncoated, unalloyed aluminium sheet, wire and cable scrap, not burnt or corroded, baled. Al content minimum 99.9% (oil, grease, non-metallic coatings max 1%)

Currency: GBP

Unit: Tonne

Min lot size: 5 tonnes

Payment terms: Net monthly account

Delivery window: Within 4 weeks

Publication: Weekly. Wednesday 3-4pm London time

Assessment: **Aluminium scrap loose old rolled cuttings UK**

Type: Assessed range

Basis: Delivered consumer works, UK

Grade: Wrought scrap of alloyed and unalloyed aluminium. Maximum 2% calcarious and other non-metallic substances

Unit: GBP/tonne

Min lot size: 5 tonnes

Payment terms: Net monthly account

Delivery window: Within 4 weeks

Publication: Weekly. Wednesday 3-4pm London time

Assessment: **Aluminium scrap mixed turnings Europe**

Basis: Delivered consumer works, Europe

Grade: Clean, uncorroded aluminium borings, millings and turnings of two or more specified alloys. Zn 2% max. Fines 3% max, oil/moisture/free iron 10% max

Unit: EUR/tonne

Min lot size: 25 tonnes

Payment terms: 30 days, other payment terms normalised

Delivery window: Within 4 weeks

Publication: Weekly. Wednesday 3-4pm London time

**Assessment:** Aluminium scrap tense mixed aluminium castings (Cast) Europe  
**Basis:** Delivered consumer works, Europe  
**Grade:** Whole or broken aluminium castings of all kinds. Oil and grease not to total more than 2%  
**Unit:** EUR./tonne  
**Min lot size:** 25 tonnes  
**Payment terms:** 30 days, other payment terms normalised  
**Delivery window:** Within 4 weeks  
**Publication:** Weekly. Friday 3-4pm London time

**Assessment:** Aluminium pressure diecasting ingot DIN226/A380 DDP Europe  
**Basis:** Delivered consumer works in Europe, most consumers in Northern Europe, in particular Germany  
**Grade:** Cu 2-4%, Mg 0.15-0.55%, Si 8-11%, Fe 0.6-1.1%, Mn 0.55% max, Ni 0.55% max, Zn 1.2% max, Cr 0.15% max, others each 0.05% max/total 0.25% max  
**Unit:** EUR/tonne  
**Min lot size:** 25 tonnes  
**Payment terms:** 30 days, other payment terms normalised  
**Delivery window:** Within 2 months  
**Form:** Ingot  
**Publication:** Weekly. Friday 3-4pm London time

## Secondary aluminium scrap

### EUROPE

**Assessment:** Aluminium LM24 pressure diecasting ingot UK  
**Basis:** Delivered consumer works, UK  
**Grade:** Cu 3-4%, Mg 0.1% max, Si 7.5-9.5%, Fe 2% max, Mn 0.5% max, Ni 0.5% max, Zn 3% max.  
**Unit:** GBP/tonne  
**Min lot size:** 5 tonnes  
**Payment terms:** Net monthly account  
**Delivery window:** Within 2 months  
**Form:** Ingot  
**Publication:** Weekly. Wednesday 3-4pm London time

**Assessment:** Aluminium LM6/LM25 gravity diecasting ingot UK  
**Basis:** Delivered consumer works, UK  
**Grade:** LM6 - Cu 0.1%, Mg 0.1% max, Si 10-13%, Fe 0.06% max, Mn 0.5% max, Ni 0.1% max, Zn 0.1% max, Pb 0.1% max, Tin 0.05% max, Ti 0.2% max. LM25 - Cu 0.2%, Mg 0.2-0.4%, Si 6.5-7.5% max, Fe 0.2% max, Mn 0.1% max, Zn 0.1% max  
**Unit:** GBP/tonne  
**Min lot size:** 5 tonnes  
**Payment terms:** Net monthly account  
**Delivery window:** Within 2 months  
**Form:** Ingot  
**Publication:** Weekly. Wednesday 3-4pm London time

## Titanium scrap

### EUROPE

**Assessment:** Titanium scrap turnings unprocessed (90/6/4) (0.5% Sn) cif major European ports \$/lb  
**Basis:** Cif major European ports  
**Unit:** USD/per lb Ti  
**Min lot size:** 18-22 tonne lots  
**Payment terms:** Cash; other payment terms normalised  
**Quality:** Ti: 90% Al: 6%V: 4% Sn: 0.5%  
**Form:** Turnings  
**Publication:** Weekly. Wednesday 3-4pm London time

**Assessment:** Titanium scrap turnings unprocessed (90/6/4) (0.5%-2% Sn) cif major European ports \$/lb  
**Basis:** Cif major European ports  
**Unit:** USD/per lb Ti  
**Min lot size:** 18-22 tonne lots  
**Payment terms:** Cash; other payment terms normalised  
**Quality:** Titanium: 90% Al: 6%V: 4% Sn: 0.5-2%  
**Form:** Turnings  
**Publication:** Weekly. Wednesday 3-4pm London time

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