# Specifications guide

## Nonferrous metals

Latest update: May 2020

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| Revision history                                                                 | 25    |
DEFINITIONS OF THE TRADING LOCATIONS FOR WHICH PLATTS PUBLISHES INDEXES OR ASSESSMENTS


These guides are designed to give Platts subscribers as much information as possible about a wide range of methodology and specification questions.

This guide is current at the time of publication. Platts may issue further updates and enhancements to this guide and will announce these to subscribers through its usual publications of record. Such updates will be included in the next version of this guide. Platts editorial staff and managers are available to provide guidance when assessment issues require clarification.

Platts nonferrous metals price assessments are timestamped; the time and location are noted below unless otherwise stated in the specification:

Asia: 4:30 pm Singapore time

US and Mexico: 4:30 pm US Eastern time

Brazil: 4:00 pm Brazil time

Europe: 4:30 pm London time


**ALUMINUM CHAIN**

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<th>Wavg</th>
<th>Qavg</th>
<th>Yavg</th>
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<th>Dimensions</th>
<th>Incoterms</th>
<th>Location</th>
<th>Timing</th>
<th>Payment</th>
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<tbody>
<tr>
<td>Alumina FOB Australia</td>
<td>MMWAU00</td>
<td>MMWAU03</td>
<td>MMWAU04</td>
<td>MMWAU16</td>
<td>Assessment Daily</td>
<td>PMA05</td>
<td>Sandy calcined Metallurgical / Smelter Grade Alumina (SGA)</td>
<td>30,000 mt and 35,000 mt bulk</td>
<td>max 12% -45 microns, min 88% +45 microns</td>
<td>FOB</td>
<td>Kwinana, Bunbury</td>
<td>Shipment 14-60 days</td>
<td>LC 30 days, BL 30 days</td>
<td>$/mt</td>
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<tr>
<td>Alumina FOB Brazil differential to FOB Australia</td>
<td>MMWAD04</td>
<td>MMWAD03</td>
<td>MMWAD04</td>
<td>MMWAD16</td>
<td>Assessment Thursday</td>
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<td>Sandy calcined Metallurgical / Smelter Grade Alumina (SGA)</td>
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<td>max 12% -45 microns, min 88% +45 microns</td>
<td>FOB</td>
<td>Vila do Conde, Sao Luis</td>
<td>Shipment 14-60 days</td>
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<tr>
<td>Alumina Ex-Works China Yuan/mt</td>
<td>MMXCY00</td>
<td>MMXCY03</td>
<td>MMXCY04</td>
<td>MMXCY04</td>
<td>Assessment Daily</td>
<td>PMA05</td>
<td>Smelter Grade Alumina, which meets the latest Chinese official industrial standard under code GB/T24487-2009. Aluminum Oxide (Al2O3) content of minimum 98.4%.</td>
<td>Min 1,000 mt</td>
<td>Bags of 1.5 mt each.Ex-works</td>
<td>Shanxi</td>
<td>Loading within 7 days</td>
<td>Cash</td>
<td>Yuan/mt</td>
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<td>Smelter Grade Alumina, which meets the latest Chinese official industrial standard under code GB/T24487-2009. Aluminum Oxide (Al2O3) content of minimum 98.4%.</td>
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<td>Bags of 1.5 mt each.Ex-works</td>
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<td>Loading within 7 days</td>
<td>Cash</td>
<td>$/mt</td>
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### ALUMINUM CHAIN

- **Assessment**
- **Code**
- **Mavg**
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- **UOM**

#### Alumina CFR China

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<td>Lianyang</td>
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<td>30 days</td>
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<td>AL</td>
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<td>Lianyang</td>
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<td>30 days</td>
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#### Alumina CFR China Yuan/mt

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<td>Lianyang</td>
<td>14-60 days</td>
<td>30 days</td>
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<td>AL</td>
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<td>14-60 days</td>
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<td>Yuan/mt</td>
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### Calcinated Petcoke

- **Assessment**
- **Type**
- **Published Page**
- **Quality**
- **Quantity**
- **Dimensions**
- **Incoterms**
- **Location**
- **Timing**
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#### Calcinated Pet Coke FOB US Gulf Coast

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<td>US Gulf ports</td>
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### ALUMINUM

#### US

- **Assessment**
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- **Quantity**
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- **Incoterms**
- **Location**
- **Timing**
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#### Aluminum US Market (All-in)

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<td>min full 45,000 lb truckloads, typical 100-1,000 mt</td>
<td>ingot, low-profile sow or T-bars</td>
<td>DDP</td>
<td>Midwest consumer works</td>
<td>within 7-30 days</td>
<td>Net 30 days</td>
<td>Cents/lb</td>
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#### US Aluminum Transaction Premium

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<th>Gavg</th>
<th>Yavg</th>
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<td>Min 99.7% high-grade P1020A</td>
<td>min full 45,000 lb truckloads, typical 100-1,000 mt</td>
<td>ingot, low-profile sow or T-bars</td>
<td>DDP</td>
<td>Midwest consumer works</td>
<td>within 7-30 days</td>
<td>Net 30 days</td>
<td>$/mt</td>
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#### Aluminum US Transaction (All-in)

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<td>min full 45,000 lb truckloads, typical 100-1,000 mt</td>
<td>ingot, low-profile sow or T-bars</td>
<td>DDP</td>
<td>Midwest consumer works</td>
<td>within 7-30 days</td>
<td>Net 30 days</td>
<td>Cents/lb</td>
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#### US Aluminum Net-Cash Premium

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<td>Midwest consumer works</td>
<td>within 7-30 days</td>
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#### Aluminum P1020 US Import Duty cents/lb

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<td>Cents/lb</td>
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#### Aluminum P1020 US Import Duty $/mt

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<td>$/mt</td>
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#### Aluminum P1020 MW US Transaction Premium (Implied Duty-Unpaid) delivered US Midwest

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<td>ingot, low-profile sow or T-bars</td>
<td>DDU</td>
<td>Midwest consumer works</td>
<td>within 7-30 days</td>
<td>Net 30 days</td>
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#### Aluminum P1020 MW US Transaction Premium (Implied Duty-Unpaid) delivered US Midwest $/mt

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### ALUMINUM CHAIN

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<td><strong>Aluminum 6 Month P1020 Ingot (Premium)</strong></td>
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<td><strong>Aluminum 6063 (Billet) Upcharge</strong></td>
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<td>Thursday</td>
<td>US spot upcharge over current P1020A transaction price for primary North American General Purpose 6063 billet, to Aluminum Assn, specifications</td>
<td>Min truckload 6063 billet, 7-8&quot; diameter</td>
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<td>US Midwest</td>
<td>within 7-30 days</td>
<td>Net 30</td>
<td>Cents/lb</td>
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<td><strong>Latin America</strong></td>
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<td><strong>Aluminum CIF Brazil premium duty-unpaid</strong></td>
<td>MMABPJ04</td>
<td>Assessment</td>
<td>Friday</td>
<td>Min 99.7% high-grade P1020A</td>
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<td><strong>Aluminum Brazil Premium DDP SE Brazil</strong></td>
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<td><strong>Aluminum Brazil Market,PPABPD08</strong></td>
<td>MMABPS03</td>
<td>Assessment</td>
<td>Friday</td>
<td>Min 99.7% high-grade P1020A</td>
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<tr>
<td><strong>Aluminum Good Western</strong></td>
<td>AAL000</td>
<td>Assessment</td>
<td>Daily</td>
<td>Min 99.7% purity</td>
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## ALUMINUM CHAIN

<p>| Assessment                          | Code         | Mavg | Wavg | Gavg | Yavg          | Published Page | Quality                        | Quantity      | Dimensions | Incoterms | Location     | Timing         | Payment        | UOM         |
|-------------------------------------|--------------|------|------|------|---------------|----------------|-----------------|-----------------|-------------|------------|------------|--------------|----------------|--------------|------------|
| Aluminum Good Western              | AALV100      |      |      |      | AALVK16       | PMA421          | Min 98.7% purity  | Typical 100-1,000 mt | ingot       | IW         | Rotterdam  | Prompt       | Net 30 days    | $/mt          |
| Aluminum Russian A7E               | AALV100      |      |      |      | AALVK16       | PMA421          | Min 98.7% purity  | Typical 100-1,000 mt | ingot       | FOB        | St Petersburg| Prompt        | Net 30 days    | $/mt          |
| Aluminum Billet DDP                | ABB100       |      |      |      | ABB16         | PMA4310         | Min 99.7% purity  | 6060/6063 billet   | Min 50 mt    | DDP        | Germany    | Within 60 days | $/mt          |
| Aluminum Billet DDP                | ABB100       |      |      |      | ABB16         | PMA4310         | Min 99.7% purity  | 6060/6063 billet   | Min 50 mt    | DDP        | Germany    | Within 60 days | $/mt          |
| Aluminum Billet DDP                | ABB100       |      |      |      | ABB16         | PMA4310         | Min 99.7% purity  | 6060/6063 billet   | Min 50 mt    | DDP        | Germany    | Within 60 days | $/mt          |
| Aluminum Billet DDP                | ABB100       |      |      |      | ABB16         | PMA4310         | Min 99.7% purity  | 6060/6063 billet   | Min 250 mt   | Cash       | Yokohama   | Loading 15-60 days forward | $/mt          | Cash against documents or cash within 3 days of B/L |
| Aluminum Billet DDP                | ABB100       |      |      |      | ABB16         | PMA4310         | Min 99.7% purity  | 6060/6063 billet   | Min 250 mt   | Cash       | Yokohama   | Loading 15-60 days forward | $/mt          | Cash against documents or cash within 3 days of B/L |
| Aluminum Billet DDP                | ABB100       |      |      |      | ABB16         | PMA4310         | Min 99.7% purity  | 6060/6063 billet   | Min 250 mt   | Cash       | Yokohama   | Loading 15-60 days forward | $/mt          | Cash against documents or cash within 3 days of B/L |
| Aluminum Billet DDP                | ABB100       |      |      |      | ABB16         | PMA4310         | Min 99.7% purity  | 6060/6063 billet   | Min 250 mt   | Cash       | Yokohama   | Loading 15-60 days forward | $/mt          | Cash against documents or cash within 3 days of B/L |
| Aluminum Billet DDP                | ABB100       |      |      |      | ABB16         | PMA4310         | Min 99.7% purity  | 6060/6063 billet   | Min 250 mt   | Cash       | Yokohama   | Loading 15-60 days forward | $/mt          | Cash against documents or cash within 3 days of B/L |
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| Aluminum Billet DDP                | ABB100       |      |      |      | ABB16         | PMA4310         | Min 99.7% purity  | 6060/6063 billet   | Min 250 mt   | Cash       | Yokohama   | Loading 15-60 days forward | $/mt          | Cash against documents or cash within 3 days of B/L |
| Aluminum Billet DDP                | ABB100       |      |      |      | ABB16         | PMA4310         | Min 99.7% purity  | 6060/6063 billet   | Min 250 mt   | Cash       | Yokohama   | Loading 15-60 days forward | $/mt          | Cash against documents or cash within 3 days of B/L |
| Aluminum Billet DDP                | ABB100       |      |      |      | ABB16         | PMA4310         | Min 99.7% purity  | 6060/6063 billet   | Min 250 mt   | Cash       | Yokohama   | Loading 15-60 days forward | $/mt          | Cash against documents or cash within 3 days of B/L |
| Aluminum Billet DDP                | ABB100       |      |      |      | ABB16         | PMA4310         | Min 99.7% purity  | 6060/6063 billet   | Min 250 mt   | Cash       | Yokohama   | Loading 15-60 days forward | $/mt          | Cash against documents or cash within 3 days of B/L |
| Aluminum Billet DDP                | ABB100       |      |      |      | ABB16         | PMA4310         | Min 99.7% purity  | 6060/6063 billet   | Min 250 mt   | Cash       | Yokohama   | Loading 15-60 days forward | $/mt          | Cash against documents or cash within 3 days of B/L |
| Aluminum Billet DDP                | ABB100       |      |      |      | ABB16         | PMA4310         | Min 99.7% purity  | 6060/6063 billet   | Min 250 mt   | Cash       | Yokohama   | Loading 15-60 days forward | $/mt          | Cash against documents or cash within 3 days of B/L |
| Aluminum Billet DDP                | ABB100       |      |      |      | ABB16         | PMA4310         | Min 99.7% purity  | 6060/6063 billet   | Min 250 mt   | Cash       | Yokohama   | Loading 15-60 days forward | $/mt          | Cash against documents or cash within 3 days of B/L |
| Aluminum Billet DDP                | ABB100       |      |      |      | ABB16         | PMA4310         | Min 99.7% purity  | 6060/6063 billet   | Min 250 mt   | Cash       | Yokohama   | Loading 15-60 days forward | $/mt          | Cash against documents or cash within 3 days of B/L |
| Aluminum Billet DDP                | ABB100       |      |      |      | ABB16         | PMA4310         | Min 99.7% purity  | 6060/6063 billet   | Min 250 mt   | Cash       | Yokohama   | Loading 15-60 days forward | $/mt          | Cash against documents or cash within 3 days of B/L |
| Aluminum Billet DDP                | ABB100       |      |      |      | ABB16         | PMA4310         | Min 99.7% purity  | 6060/6063 billet   | Min 250 mt   | Cash       | Yokohama   | Loading 15-60 days forward | $/mt          | Cash against documents or cash within 3 days of B/L |
| Aluminum Billet DDP                | ABB100       |      |      |      | ABB16         | PMA4310         | Min 99.7% purity  | 6060/6063 billet   | Min 250 mt   | Cash       | Yokohama   | Loading 15-60 days forward | $/mt          | Cash against documents or cash within 3 days of B/L |
| Aluminum Billet DDP                | ABB100       |      |      |      | ABB16         | PMA4310         | Min 99.7% purity  | 6060/6063 billet   | Min 250 mt   | Cash       | Yokohama   | Loading 15-60 days forward | $/mt          | Cash against documents or cash within 3 days of B/L |</p>
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<th>SCRAP</th>
<th>Assessment</th>
<th>Code</th>
<th>Mavg</th>
<th>Wavg</th>
<th>Qavg</th>
<th>Yavg</th>
<th>Type</th>
<th>Published Page</th>
<th>Quality</th>
<th>Quantity</th>
<th>Dimensions</th>
<th>Incoterms</th>
<th>Location</th>
<th>Timing</th>
<th>Payment</th>
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</tr>
<tr>
<td>Aluminum Cans Scrap Brazil Dom Prod FOT</td>
<td>Assessment Monday</td>
<td>N/A</td>
<td>Bailed used beverage cans, to meet ISRI &quot;taidon&quot; specification</td>
<td>500-2,000 mt</td>
<td>NA</td>
<td>FOT</td>
<td>Southeast Brazil</td>
<td>2-4 weeks</td>
<td>At sight</td>
<td>Real/kg</td>
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<tr>
<td>Aluminum Castings Brazil Dom Prod FOT</td>
<td>Assessment Monday</td>
<td>N/A</td>
<td>New, clean, uncoated and unpainted, low copper aluminum scrap of two or more alloys. Grease and oil not to total more than 1%</td>
<td>500-2,000 mt</td>
<td>NA</td>
<td>FOT</td>
<td>Southeast Brazil</td>
<td>2-4 weeks</td>
<td>At sight</td>
<td>Real/kg</td>
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<tr>
<td>Aluminum Profile Extrusion Brazil Dom Prod FOT</td>
<td>Assessment Monday</td>
<td>N/A</td>
<td>New, clean, uncoated aluminum castings, forgings, and extrusions of one specified alloy only and to be free from sawings, stainless steel, zinc, iron, dirt, oil, grease and other non-metallic items</td>
<td>500-2,000 mt</td>
<td>NA</td>
<td>FOT</td>
<td>Southeast Brazil</td>
<td>2-4 weeks</td>
<td>At sight</td>
<td>Real/kg</td>
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<tr>
<td>Aluminum old cast delivered NE Mexico pesos/kg</td>
<td>Assessment Thursday</td>
<td>PMA201</td>
<td>Old cast aluminum scrap with up to 5% contamination, min 88% recovery</td>
<td>Full truckload, 20 mt</td>
<td>NA</td>
<td>Delivered</td>
<td>Northeast Mexico</td>
<td>Within 30 days</td>
<td>Net 30 days</td>
<td>Pesos/kg</td>
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<tr>
<td>Aluminum old cast delivered NE Mexico cents/lb</td>
<td>Calculation Thursday</td>
<td>PMA201</td>
<td>Old cast aluminum scrap with up to 5% contamination, min 88% recovery</td>
<td>Full truckload, 20 mt</td>
<td>NA</td>
<td>Delivered</td>
<td>Northeast Mexico</td>
<td>Within 30 days</td>
<td>Net 30 days</td>
<td>Cents/lb</td>
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<tr>
<td>Aluminum old sheet delivered NE Mexico pesos/kg</td>
<td>Assessment Thursday</td>
<td>PMA201</td>
<td>Non-cast aluminum scrap items for consumption by secondary aluminum smelters to meet ISRI &quot;taidon/taidor&quot; grade, containing 2-3% Fe</td>
<td>Full truckload, 20 mt</td>
<td>NA</td>
<td>Delivered</td>
<td>Northeast Mexico</td>
<td>Within 30 days</td>
<td>Net 30 days</td>
<td>Pesos/kg</td>
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<tr>
<td>Aluminum old sheet delivered NE Mexico cents/lb</td>
<td>Calculation Thursday</td>
<td>PMA201</td>
<td>Non-cast aluminum scrap items for consumption by secondary aluminum smelters to meet ISRI &quot;taidon/taidor&quot; grade, containing 2-3% Fe</td>
<td>Full truckload, 20 mt</td>
<td>NA</td>
<td>Delivered</td>
<td>Northeast Mexico</td>
<td>Within 30 days</td>
<td>Net 30 days</td>
<td>Cents/lb</td>
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<tr>
<td>Aluminum UBCs delivered NE Mexico pesos/kg</td>
<td>Assessment Thursday</td>
<td>PMA201</td>
<td>Bailed used beverage cans, to meet ISRI &quot;taidon&quot; specification</td>
<td>Full truckload, 20 mt</td>
<td>NA</td>
<td>Delivered</td>
<td>Northeast Mexico</td>
<td>Within 30 days</td>
<td>Net 30 days</td>
<td>Pesos/kg</td>
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<tr>
<td>Aluminum UBCs delivered NE Mexico cents/lb</td>
<td>Calculation Thursday</td>
<td>PMA201</td>
<td>Bailed used beverage cans, to meet ISRI &quot;taidon&quot; specification</td>
<td>Full truckload, 20 mt</td>
<td>NA</td>
<td>Delivered</td>
<td>Northeast Mexico</td>
<td>Within 30 days</td>
<td>Net 30 days</td>
<td>Cents/lb</td>
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<tr>
<td>Aluminum 6063 new bare scrap delivered NE Mexico pesos/kg</td>
<td>Assessment Thursday</td>
<td>PMA201</td>
<td>6063 new bare scrap, free of paint, may be anodized - may include press scrap with butts</td>
<td>Full truckload, 20 mt</td>
<td>NA</td>
<td>Delivered</td>
<td>Northeast Mexico</td>
<td>Within 30 days</td>
<td>Net 30 days</td>
<td>Pesos/kg</td>
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<tr>
<td>Aluminum 6063 new bare scrap delivered NE Mexico cents/lb</td>
<td>Calculation Thursday</td>
<td>PMA201</td>
<td>6063 new bare scrap, free of paint, may be anodized - may include press scrap with butts</td>
<td>Full truckload, 20 mt</td>
<td>NA</td>
<td>Delivered</td>
<td>Northeast Mexico</td>
<td>Within 30 days</td>
<td>Net 30 days</td>
<td>Cents/lb</td>
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<td>US</td>
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<tr>
<td>US Aluminum Old Cast</td>
<td>Assessment Monday/Thursday</td>
<td>PMA201</td>
<td>Less than 1% Mg and Zn, low Fe, low contamination; minimum recovery rate 92%</td>
<td>Full truckload, 20 mt</td>
<td>NA</td>
<td>Delivered</td>
<td>Midwest</td>
<td>Within 30 days</td>
<td>Net 30 days</td>
<td>Cents/lb</td>
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<tr>
<td>US Aluminum Old Sheet</td>
<td>Assessment Monday/Thursday</td>
<td>PMA201</td>
<td>Non-cast aluminum items for consumption by secondary aluminum smelters to meet ISRI &quot;taidon/taidor&quot;</td>
<td>Full truckload, 20 mt</td>
<td>NA</td>
<td>Delivered</td>
<td>Midwest</td>
<td>Within 30 days</td>
<td>Net 30 days</td>
<td>Cents/lb</td>
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<tr>
<td>US Aluminum Mill-Grade Mixed Low Copper Clips (MLCCs)</td>
<td>Assessment Monday/Thursday</td>
<td>PMA201</td>
<td>Mixed-low copper clips able to be consumed by aluminum rolling mills, 1000, 3000, 5000, 6000 series only</td>
<td>Full truckload, 20 mt</td>
<td>NA</td>
<td>Delivered</td>
<td>Midwest</td>
<td>Within 30 days</td>
<td>Net 30 days</td>
<td>Cents/lb</td>
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<td>SCRAP</td>
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<td>Dimensions</td>
<td>Incoterms</td>
<td>Location</td>
<td>Timing</td>
<td>Payment</td>
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<td>US Alum Smelter-Grade MILOCs</td>
<td>AAFBT00</td>
<td>AAFBV00</td>
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<td>AAFBV00</td>
<td>AAFBV00</td>
<td>AAFBV00</td>
<td>AAFBV16</td>
<td>AAFBV16</td>
<td>Mixed low copper clips for consumption by secondary aluminum smelters, loose, bare, new, no contamination, free of 2000 and 7000 series</td>
<td>Full truckload</td>
<td>NA</td>
<td>Delivered</td>
<td>Midwest</td>
<td>Within 30 days</td>
<td>Net 30 days</td>
<td>Cents/lb</td>
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<tr>
<td>US Aluminum Turnings</td>
<td>AAFC900</td>
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<td>AAFC00</td>
<td>AAFC00</td>
<td>AAFC00</td>
<td>AAFC00</td>
<td>AAFC00</td>
<td>Machine and tooling scrap for consumption by secondary aluminum smelters; high grade, clean and dry</td>
<td>Full truckload</td>
<td>NA</td>
<td>Delivered</td>
<td>Midwest</td>
<td>Within 30 days</td>
<td>Net 30 days</td>
<td>Cents/lb</td>
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<tr>
<td>US Low Grade Auto Shreds</td>
<td>AASS000</td>
<td>AASS00</td>
<td>AASS00</td>
<td>AASS00</td>
<td>AASS00</td>
<td>AASS00</td>
<td>AASS00</td>
<td>AASS00</td>
<td>Auto shreds generated through an eddy current-based or hand separation process, containing at least 90% metallics and not more than 4% zinc</td>
<td>Full truckload</td>
<td>NA</td>
<td>Delivered</td>
<td>Midwest</td>
<td>Within 30 days</td>
<td>Net 30 days</td>
<td>Cents/lb</td>
</tr>
<tr>
<td>US High Grade Auto Shreds</td>
<td>AASSP00</td>
<td>AASSP00</td>
<td>AASSP00</td>
<td>AASSP00</td>
<td>AASSP00</td>
<td>AASSP00</td>
<td>AASSP00</td>
<td>AASSP00</td>
<td>Auto shreds generated through a heavy media-based separation process, containing at least 98% metallics and not more than 1% free zinc, to include material from the following suppliers: Huron Valley, Ferrous Processing/SLC Recycling and Fort Wayne OmniSource Corp</td>
<td>Full truckload</td>
<td>NA</td>
<td>Delivered</td>
<td>Midwest</td>
<td>Within 30 days</td>
<td>Net 30 days</td>
<td>Cents/lb</td>
</tr>
<tr>
<td>US Alum UBCs</td>
<td>AAFCD00</td>
<td>AAFCD00</td>
<td>AAFCD00</td>
<td>AAFCD00</td>
<td>AAFCD00</td>
<td>AAFCD00</td>
<td>AAFCD00</td>
<td>AAFCD00</td>
<td>Baled used beverage cans, to meet ISRI &quot;taldon&quot; specification</td>
<td>Full truckload</td>
<td>NA</td>
<td>Delivered</td>
<td>Midwest</td>
<td>Within 30 days</td>
<td>Net 30 days</td>
<td>Cents/lb</td>
</tr>
<tr>
<td>US Aluminum Painted Siding</td>
<td>AASNW02</td>
<td>AASNW02</td>
<td>AASNW02</td>
<td>AASNW02</td>
<td>AASNW02</td>
<td>AASNW02</td>
<td>AASNW02</td>
<td>AASNW02</td>
<td>Siding consisting of clean, low-copper aluminum siding scrap, painted one or two sides, free of plastic coating, iron, dirt, corrosion, fiber, foam or fiberglass backing or other non-metallic items</td>
<td>Full truckload</td>
<td>NA</td>
<td>Delivered</td>
<td>Midwest</td>
<td>Within 30 days</td>
<td>Net 30 days</td>
<td>Cents/lb</td>
</tr>
<tr>
<td>US Aluminum 6063 New Bare Extrusion Scrap Discount</td>
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<td>AAFCE00</td>
<td>AAFCE00</td>
<td>AAFCE00</td>
<td>AAFCE00</td>
<td>AAFCE00</td>
<td>AAFCE00</td>
<td>AAFCE00</td>
<td>New bare 6063 extrusion scrap</td>
<td>Full truckload</td>
<td>NA</td>
<td>Delivered</td>
<td>Midwest</td>
<td>Within 30 days</td>
<td>Net 30 days</td>
<td>Cents/lb</td>
</tr>
<tr>
<td>US Aluminum 6063 New Bare Extrusion Scrap (All-in)</td>
<td>AAFCE00</td>
<td>AAFCE00</td>
<td>AAFCE00</td>
<td>AAFCE00</td>
<td>AAFCE00</td>
<td>AAFCE00</td>
<td>AAFCE00</td>
<td>AAFCE00</td>
<td>New bare 6063 extrusion scrap all-in value</td>
<td>Full truckload</td>
<td>NA</td>
<td>Delivered</td>
<td>Midwest</td>
<td>Within 30 days</td>
<td>Net 30 days</td>
<td>Cents/lb</td>
</tr>
<tr>
<td>US Aluminum 6022 New Bare Scrap Discount</td>
<td>AAXVM04</td>
<td>AAXVM04</td>
<td>AAXVM04</td>
<td>AAXVM04</td>
<td>AAXVM04</td>
<td>AAXVM04</td>
<td>AAXVM04</td>
<td>AAXVM04</td>
<td>New bare 6022 aluminum sheet scrap</td>
<td>Full truckload</td>
<td>NA</td>
<td>Delivered</td>
<td>Midwest</td>
<td>Within 30 days</td>
<td>Net 30 days</td>
<td>Cents/lb</td>
</tr>
<tr>
<td>US Aluminum 6022 New Bare Scrap Discount (All-in)</td>
<td>AAXVM04</td>
<td>AAXVM04</td>
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<td>AAXVM04</td>
<td>New bare 6022 aluminum sheet scrap all-in value</td>
<td>Full truckload</td>
<td>NA</td>
<td>Delivered</td>
<td>Midwest</td>
<td>Within 30 days</td>
<td>Net 30 days</td>
<td>Cents/lb</td>
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<tr>
<td>US Aluminum 5052 New Bare Scrap Discount</td>
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<td>ABD804</td>
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<td>ABD804</td>
<td>ABD804</td>
<td>New bare 5052 aluminum sheet scrap</td>
<td>Full truckload</td>
<td>NA</td>
<td>Delivered</td>
<td>Midwest</td>
<td>Within 30 days</td>
<td>Net 30 days</td>
<td>Cents/lb</td>
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<td>US Aluminum 5052 New Bare Scrap Discount (All-in)</td>
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<td>ABD804</td>
<td>New bare 5052 aluminum sheet scrap all-in value</td>
<td>Full truckload</td>
<td>NA</td>
<td>Delivered</td>
<td>Midwest</td>
<td>Within 30 days</td>
<td>Net 30 days</td>
<td>Cents/lb</td>
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## SECONaRY ALLOYS

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<tr>
<th>Type</th>
<th>Code</th>
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<th>Frequency</th>
<th>Incoterm</th>
<th>Location</th>
<th>Timing</th>
<th>Payment UOM</th>
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</thead>
</table>
### US
#### Aluminum A380 alloy
- MMAAD00, MMAAD02, MMAAD01, MMAAD16
- Assessment Monday/Thursday
- 8.9-9.5% Si, 1% Fe, 3-4% Cu, 0.5% Mn, 0.1% Mg, 0.5% Ni, 2.9% Zn, and 0.35% Sn
- Full truckload
- NA
- Delivered
- Midwest
- Within 30 days
- Net 30 to net 60 days
- Cents/lb

#### Aluminum 319 alloy
- MMAAC00, MMAAC02, MMAAC01, MMAAC16
- Assessment Monday/Thursday
- 5.5-6.5% Si; 0.8% Fe; 3-4% Cu; 0.50% Mn; 0.1% Mg; 0.35% Ni; 1% Zn; 0.25% Ti
- Full truckload
- NA
- Delivered
- Midwest
- Within 30 days
- Net 30 to net 60 days
- Cents/lb

#### Aluminum 356 alloy
- MMAAB00, MMAAB02, MMAAB01, MMAAB16
- Assessment Monday/Thursday
- 6.5-7.56% Si; 0.5% Fe; 0.25% Cu; 0.35% Mn; 0.25-0.45% Mg; 0.35% Zn; 0.25% Ti
- Full truckload
- NA
- Delivered
- Midwest
- Within 30 days
- Net 30 to net 60 days
- Cents/lb

#### Aluminum F132 alloy
- MMAA00, MMAA02, MMAA01, MMAA16
- Assessment Monday/Thursday
- 8.5-10% Si; 0.6% Fe; 2-4% Cu; 0.2% Mn; 0.9-1.3% Mg; 0.1% Ni; 0.1% Zn; 0.2% Ti
- Full truckload
- NA
- Delivered
- Midwest
- Within 30 days
- Net 30 to net 60 days
- Cents/lb

#### Aluminum B390 alloy
- FAALB00, FAALB03, FAALB04, FAALB16
- Assessment Monday/Thursday
- 16-18% Si, 1.3% Fe max, 4-5% Cu, 0.5% Mn, 0.45-0.65% Mg, 0.1% Ni, 1.4% Zn and 0.2% Ti
- Full truckload
- NA
- Delivered
- Midwest
- Within 30 days
- Net 30 to net 60 days
- Cents/lb

#### Aluminum A413 alloy
- MMWUS00, MMWUS03, MMWUS04, MMWUS16
- Assessment Monday/Thursday
- 11-13% Si; 1% Fe max; 0.6% max Cu; 0.35% Full truckload; Mn; 0.1% Mg; 0.5% Ni; 0.5% Zn; 0.15% Sn
- NA
- Delivered
- Midwest
- Within 30 days
- Net 30 to net 60 days
- Cents/lb

### Europe
#### Aluminum Alloy 226 DDP
- Germany
- AALVT00, AALVU00, AALVU16
- Assessment Friday
- 226 LME Grade - DIN standard 1725
- Full truckload
- NA
- DDP
- Germany
- Prompt
- Net 30 days
- Eur/mt

#### Aluminum Alloy 231 DDP
- Germany
- ABLVT04, ABLVT03
- Assessment Friday
- DIN standard 1706
- Full truckload
- NA
- DDP
- Germany
- Prompt
- Net 30 days
- Eur/mt

### Asia
#### Aluminum ADC12 EXW
- China
- AAVSI00, AAVSI03, AAVSI16
- Calculation Tuesday
- JIS standard
- Min 25 mt
- Not specified
- EXW
- China
- Within 14 days
- TT within 5 $/mt days

#### Aluminum ADC12 EXW
- China Yuan/mt
- AAVSI02, AAVSI13
- Assessment Tuesday
- JIS standard
- Min 25 mt
- Not specified
- EXW
- China
- Within 14 days
- TT within 5 Yuan/mt days

#### Aluminum ADC12 FOB
- China
- AAVS00, AAVS03, AAVS16
- Assessment Tuesday
- JIS standard
- Min 25 mt
- Not specified
- FOB
- Shanghai, Tianjin
- Within 14 days
- TT within 5 $/mt days

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Aluminum Chain

Alumina (Aluminum Oxide)

Market Close: 5:30 pm Singapore time (0930 GMT).

Seaborne alumina (FOB Australia, FOB Brazil, and CFR China): The assessments reflect the following specifications: max SiO2 0.025%, max Fe2O3 0.025%, max TiO2 0.007%, max Na2O 0.55%, max ZnO 0.015%, max P2O5 0.003%, max CaO 0.05%, max V2O5 0.005%, max loss on ignition (300–1000 degrees C) 1%, max alpha phase (Alumina Alpha or Alpha content) 12%, specific surface area 60–80 m2/g. The assessments reflect bulk cargoes of 30,000 mt and 35,000 mt lot sizes. Different cargo sizes, as well as bagged shipments may be considered for the assessment after normalization to normal parameters.

FOB Australia: The assessment is based on FOB Australia market information. Pricing information from other locations may be netted back to FOB Australia using assessed spot freight rates for dry bulk carriers on the day of assessment. For netback calculations from CFR destinations, the appropriate Handysize, Handymax or Supramax freight costs are taken into consideration. Spot price bids/offers or trades basis other FOB origins, such as India, Brazil or Jamaica, are not taken directly into account when assessing prices basis FOB Australia. However, they are actively considered for market consistency with prices discovered or implied basis FOB Australia.

CFR China: The assessment is based on CFR China market information, in the absence of which Platts may calculate the CFR China as a net-forward from FOB locations, including the benchmark FOB Australia, using appropriate spot freight rates for bulk carriers.

FOB Brazil: The assessment represents the discount/premium (differential) for alumina in the Atlantic basin to the benchmark Platts Alumina FOB Australia daily assessment (MMWAU00). The assessment reflects cargoes basis FOB Brazil. Material from other countries in the Atlantic region may be price normalized to FOB Brazil.

Ex-works China: Platts normalizes all price information gathered from other major alumina producing Chinese provinces – Henan, Shandong, Guangxi, and Guizhou – back to an ex-works Shanxi basis.

Calcined Petcoke (CPC)

Calcined Petroleum Coke FOB US Gulf Coast: Anode grade calcined petroleum coke (CPC), suitable for aluminum smelters, reflecting the price at which a cargo could be traded on an FOB Gulf Coast/Mississippi River region basis at the close of the assessment period on the day of publishing. In the absence of spot liquidity, Platts considers values where transactions would conclude for the benchmark grade. Negotiations on current-quarter or half-year contracts may be taken into account for trend purposes. Platts global market analysis also takes into account spot bids/offers or trades basis CFR Europe, CFR Canada, CFR Middle East, CFR Russia or FOB US West Coast. These are analyzed to determine whether netting back to a US Gulf Coast basis is possible given the specific ports, taking into consideration the appropriate Handymax or Handysize freight costs. Platts assessments may also take into account demand/supply fundamentals for green petroleum coke, calcined petroleum coke and aluminum in key consumer markets. FOB China prices may also be monitored for trend purposes.

Standard loadings are 10,000 mt to 15,000 mt; larger loadings of up to 25,000-45,000 mt may be price normalized.

The assessment reflects CPC in sponge form, excluding shot coke, with the following specification: Sulfur 2.5-3%, Vanadium 300–400 ppm, Nickel max 250 ppm, Iron max 300 ppm, Silicon max 250 ppm, Calcium max 160 ppm, Sodium max 120 ppm, Ash max 0.50%, VBD 0.85–0.87 g/cc (ASTM scale). The assessment is published on the last business day of the month.
physical spot deals, bids and offers reported through a daily survey of spot buyers and sellers, using a representative sample of producers, traders and different types of consumers (sheet mills, remelt billet makers, extruders, rod mills, etc.). Includes business for LME-deliverable, any origin ingot, low-profile sow or T-bars, normalized to sow/T-bar shape. Volumes must be a minimum full 45,000 lb (20 mt) truckload or multiples thereof to be included in the assessment. The typical order size for price normalization is 100-1,000 mt, and price data for volumes that are smaller or larger than the typical order size may be normalized to the standard. The daily assessment reflects delivery to a typical-freight consumer in a broad US Midwest region via truck or rail. Trades, bids and offers that are reported to Platts as FOB, FCA, or for non-Midwest locations may be normalized for assessment purpose. In addition, Platts uses a matrix of typical delivery locations throughout North America and categorizes these locations as "average," "close," or "extra" freights based on market input. The "close" or "extra" freight locations are normalized to "average" based on differential values determined by Platts, which are adjusted on the back of feedback from active market participants on typical locational discounts or extras. The average – or basis – locations include: Anderson, Lafayette, and Warrick, Indiana; Berea, Russellville and Shelbyville, Kentucky; St. Louis, Missouri; Carthage, Huntington and New Johnsonville, Tennessee; Manitowoc, Wisconsin; and Ravenswood, West Virginia. Assessment reflects net 30-day payment terms from delivery. Other payment terms are normalized using typical LIBOR-plus rates or prevailing net-cash versus net-30 spreads, based on a survey. Deals that require a specific shape or chemistry (i.e., T-bars only, no lithium) may be normalized to the stated standard specification. Platts final published MW assessment gives priority to transactions that have clearly been negotiated, concluded and reported as a premium, over a derived premium value that is reported as a part of an original "all-in" trade. Premiums derived from an "all-in" transaction may also be normalized further when the underlying LME reference value may be unclear, only partially confirmed or irrelevant to the original "all-in" transaction. The assessment reflects the most widely tradable and repeatable premium or discount value prevailing at the close of US markets, typically at 4:30pm US Eastern time. On the last business day of the month and some US holidays, the assessment closes at 1pm US East Coast time. The assessment follows the London holiday schedule.

MW US Transaction Price: Daily London Metal Exchange high-grade aluminum cash settlement price, converted into cents/lb, adjusted by US free-market premium or discount for prompt delivery Midwest, arrival within 7-30 days from date of publication. See specification for US Transaction Premium. Premium determined based on physical business reported by a daily survey of major buyers and sellers, using a representative survey sample of producers, traders and different types of consumers. Includes business for LME-deliverable, any-origin min 99.7% North American P1020A ingot, low-profile sow or T-bars, meeting LME specifications, basis delivery US Midwest. Volumes are min full 45,000 lb truckloads, typical quantities 100-1,000 mt.

MW US Net-cash premium: Daily premium or discount to the London Metal Exchange cash price for spot physical min 99.7% high-grade aluminum, delivered, duty-paid US consumer works, arrival within 7-30 days from date of publication, net-cash payment terms, normalized to a broad Midwest region. The premium is determined based on a survey of producers, traders and consumers to determine the prevailing spread between net-cash and net-30 terms, on a cents/lb basis. All other specifications are the same as for the US Transaction Premium.

US P1020A Duty Freight Factor ($/mt: AFLSA00; cts/lb: AFLSB00): Daily assessment determined by adding together inland US freight, Canada-US sea vessel/barge/truck/rail freight and relevant loading and unloading charges to net back to an FOB Canada basis from a delivered US Midwest basis.

P1020A US Import Duty ($/mt: MMOHU00; cts/lb: MMOEU00): Daily value calculated using the following method: 1) deduct the freight factor (AFLSA00; AFLSB00) from the US Midwest Transaction assessment to derive an implied FOB value; 2) divide the FOB value by 1.1, creating an implied duty-unpaid FOB value; 3) multiply this implied duty-unpaid value by 0.1 to generate the “P1020A US Import Duty”.


CIF New Orleans duty-unpaid premium: Daily assessment of the premium or discount, in $/mt, to the LME price for P1020A grade aluminum on a CIF New Orleans basis, free out, duty-unpaid, taking into account breakbulk cargoes, in spot cargo sizes of 1,000 mt to 30,000 mt, normalized to 10,000 mt for price assessment purposes, for arrival 30-60 days from assessment date, payment terms cash against documents (CAD). The CIF New Orleans assessment considers market inputs on a CIF Mobile or CIF Houston basis for normalization to CIF New Orleans basis. Platts also publishes a cents/lb conversion and a derived NOLA to the Midwest Transaction Premium (MMAKE00) differential.

US Six-Months P1020A: Weekly US free-market premium over LME for North American min 99.7% ingot delivered Midwest for a period in time six months forward, based on market information collected during the current week for settlement six months from the date of the assessment. Reflects both physical and financial derivatives business.

US Spot 6063 Billet Upcharge: Weekly US spot upcharge assessment over current P1020A Transaction price for primary or remelt North American general purpose 6063 billet, to Aluminum Association specifications, 7-inch or 8-inch diameter,
basis delivery US Midwest, net-30 day payment terms. The range reflects the majority of spot (non-contract) business based on a survey of primary and remelt producers, traders and extruders.

**Europe**

**Good Western Premium Rotterdam:** $/mt premium over LME cash for Western-origin min 99.7% ingot meeting LME high grade specifications. Assessed on duty-paid and duty-unpaid basis in-warehouse Rotterdam.

**Russian A7E Duty-Unpaid Premium:** $/mt premium over LME cash for min 99.7% Russian-origin ingot on a duty-unpaid basis. Assessed on an FOB St. Petersburg and in-warehouse Rotterdam basis.

**Aluminum Billet 6060/6063:** Weekly assessments of the physical spot market price in $/mt and Eur/mt for min 99.7% aluminum as 6060/6063 billet with a diameter of 7-inch or 8-inch. Other qualities are considered and normalized back to Platts base standard specifications, subject to prevailing market differentials. Mini 50 mt shipments for delivery within 60 days.

**Asia**

**CIF Japan Spot Premium:** Daily assessment of the spot premium or discount to the futures cash settlement price for high-grade aluminum. The assessment reflects all origins, except Iran, India, Egypt and LME warehouses, in line with the market definition of Good Western material. In order to ensure the underlying futures structure is accounted for when assessing the CIF Japan Spot Premium, Platts normalizes all indications to a base month. The base month is the calendar month plus one (M+1). For example, Platts will reflect March as the base month throughout February. Platts also publishes an all-in price, which is calculated as a sum of future cash settlement and the spot CIF Japan premium assessment.

**CIF Japan Forward Quarter Premium (industry-settled):** Industry-negotiated premium or discount to the futures price at time of shipment. The premium range reflects the majority of concluded quarterly price settlements for annual long-term contracts. Cargoes leave ports during the quarter for which the contract has been negotiated. The final value or range is published when a sufficient number of transactions have been concluded to reflect a repeatable value for the quarter in question. This is often the case by the first business day of the calendar quarter. Should contract negotiations extend beyond the first business day of the quarter, no quarterly value would be published until a sufficient number of transactions have been concluded.

**Aluminum CIF Brazil premium duty unpaid:** Weekly assessment of the premium or discount to the LME cash settlement price for spot physical high-grade aluminum P1020A, min 99.7% Al purity, standard ingot, sow and T-Bars. Assessment basis CIF Brazil (to include major ports Santos/SP, Itajai/SC, Itaguaí/RJ and Sao Francisco do Sul/SC), duty unpaid, VAT not included (ICMS, PIS/Cofins and IPI), delivery within 30-60 days, payment net-30 days. Prices for volumes, grade, shape or payment terms that differ from the standard specification may be normalized to the typical range, FOB values from exporting regions may also be considered in the assessment process.

**Aluminum DDP SE Brazil:** Platts assesses premium or discount to the LME cash settlement price for spot physical high-grade aluminum P1020A, min 99.7% Al purity, standard ingot, sow and T-Bars. Delivery within 30 days to customers’ works in the Southeast region of Brazil (including Sao Paulo, Rio de Janeiro, Minas Gerais and Espirito Santo), duty-paid, VAT not included (ICMS, PIS/Cofins and IPI). Payment terms net-7 to net-10 days, prices for 25-500 mt parcels are normalized to typical order size of 100 mt. Other shapes, grades, locations, delivery periods, volumes and payment terms may be normalized to this standard specification. Platts also publishes an all-in, “Market”, price, which is calculated as a sum of the assessed premium and the LME price for a corresponding strip.

**Aluminum Scrap**

**US**

**Old Cast:** Aluminum castings for consumption by secondary aluminum smelters, to meet ISRI “taint/tabor” specification; crushed cast, shreddable, less than 1% Mg and Zn, low Fe, low contamination; minimum recovery rate 92%; cents/lb, within 30-day delivery US Midwest. Assessed twice per week, usually on Mondays and Thursdays, through a survey of secondary aluminum smelters and scrap dealers.

**Old Sheet:** Non-cast aluminum items for consumption by secondary aluminum smelters to meet ISRI “taint/tabor” specification; cents/lb, 30-day delivery US Midwest. Assessed twice per week, usually on Mondays and Thursdays, through a survey of secondary aluminum smelters and scrap dealers.

**Mill-grade MLCCs:** Mixed-low copper clips able to be consumed by aluminum rolling mills, 1000, 3000, 5000, 6000 series only; cents/lb, 30-day delivery US Midwest. Assessed twice per week, usually on Mondays and Thursdays, through a survey of secondary aluminum smelters, scrap dealers and rolling mills.

**Smelter-grade MLCCs:** Mixed-low copper clips for consumption by secondary aluminum smelters, loose, bare, new, no contamination, free of 2000 and 7000 series; cents/lb, 30-day delivery to US Midwest. Assessed twice per week, usually on Mondays and Thursdays, through a survey of secondary aluminum smelters and scrap dealers.

**Turnings:** Machine and tooling scrap for consumption by...
Specifications guide | Nonferrous metals: May 2020

Secondary aluminum smelters: high grade, clean and dry; cents/lb, 30-day delivery US Midwest. Assessed twice per week, usually on Mondays and Thursdays, through a survey of secondary aluminum smelters and scrap dealers.

High-grade auto shreds: Auto shreds generated through a heavy media-based separation process, to meet ISRI “twitch” specification, containing at least 98% metallic, not more than 1% free zinc, and max 0.30% magnesium, with quality comparable to the following suppliers: Huron Valley, Ferrous Processing/SLC Recycling and Fort Wayne OmniSource Corp. for US Midwest delivery within 30 days. Assessed twice a week, usually on Mondays and Thursdays, through a survey of secondary aluminum smelters and scrap dealers/processors.

Low-grade auto shreds: Auto shreds generated through an eddy current based or hand separation process, to meet ISRI “tweak” specification, containing at least 90% metallics and not more than 4% zinc, for US Midwest delivery within 30 days. Assessed twice per week, usually on Mondays and Thursdays, through a survey of secondary aluminum smelters and scrap dealers.

UBCs: Baled used beverage cans, to meet ISRI “taldon” specification; cents/lb, delivered US Midwest. Reflects the range of spot business concluded by mill consumers and mid-to-large scrap dealers/consolidators/brokers. Business that is reported as non-Midwest or FOT/FCA (picked up) is adjusted to reflect average US Midwest delivery.

Painted siding: Siding consisting of clean, low-copper aluminum siding scrap, painted one or two sides, free of plastic coating, iron, dirt, corrosion, fiber, foam or fiberglass backing or other non-metallic items, for US Midwest delivery within 30 days. Assessed through a survey of scrap dealers and rolling mill buyers.

6063 New bare extrusion scrap: Aluminum scrap consisting of one alloy (typically 6063). Material may contain “butt ends” from the extrusion process, but must be free of any foreign contamination. Prior to January 7, 2016, the assessment was for new 6063 press scrap with butts included. Anodized material is acceptable, but free of oil, film, coating or paint, and free of stainless steel, iron or other metals. Price data for straight 6063 press scrap or 6063 scrap containing another alloy, paint or oil may be normalized to the stated specification. Normalized to delivered US Midwest, within 30 days, net-30 day payment terms. Based on a survey of scrap dealers, aluminum producers, aluminum mills, remelt billet makers, extruders, secondary smelters and others active in 6063 spot trading, taking into account market information reported as discounts or all-in prices. The weekly assessment reflects a discount to Thursday’s Platts Aluminum Transaction price. Platts also publishes a daily all-in value, calculated as a sum of the last-assessed discount and the daily Aluminum Transaction assessment.

5052 New bare scrap: New, bare aluminum scrap meeting 5052 specification with the min thickness is 0.015” (0.38 mm). Free of hair wire, wire screen, dirt and other non-metallic items, as well as punchings less than half-inch in diameter. Grease and oil not to total more than 1%. Normalized to delivered US Midwest, within 30 days, net-30 day payment terms. Based on a survey of scrap dealers, aluminum mills, remelt billet makers, extruders, stampers, automotive companies and others active in spot 5052 trading, taking into account market information reported as discounts or all-in prices. The weekly assessment reflects a discount to Thursday’s Platts Aluminum Transaction price. Platts also publishes a daily all-in value, calculated as a sum of the last-assessed discount and the daily Aluminum Transaction assessment.

6022 New bare scrap: New, bare aluminum sheet scrap meeting 6022 specification with a min thickness of 0.050 inches. Free of hair wire, wire screen, dirt and other non-metallic items, as well as punchings less than half-inch in diameter. Grease and oil not to total more than 1%. Normalized to delivered US Midwest, within 30 days, net-30 day payment terms. Based on a survey of scrap dealers, aluminum producers, aluminum mills, remelt billet makers, extruders, secondary smelters and others active in 6022 spot trading, taking into account market information reported as discounts or all-in prices. The weekly assessment reflects a discount to Thursday’s Platts Aluminum Transaction price. Platts also publishes a daily all-in value, calculated as a sum of the last-assessed discount and the daily Aluminum Transaction assessment.

Aluminum scrap FOT SE Brazil: Platts assesses domestic prices of aluminum cans, castings and profile extrusion. For full specifications please see the table.

Secondary Aluminum Alloys

US

Secondary aluminum alloys are assessed twice a week on Mondays and Thursdays, except in the case of national holidays, where they may be assessed on the next-closest business day.
During certain holiday weeks where market activity is more limited, the assessments are carried out once per week. The assessments are based on a survey of US secondary aluminum smelters, diecasters, foundries, automotive companies, traders and brokers and reflect spot deliveries to US Midwest customer works, payment net-30 to net-60 days, min 45,000-lb truckload amounts.

The A380 assessment reflects new A380 specification alloy produced by smelters with reverberatory furnaces, not warehoused LME North American Special Aluminium Alloy Contract (NASAAC). Other alloys are aligned with the Aluminum Association specifications or typical market specifications for A319, A356, and A332.2 (for F132), A413 and B390.

Platts assessments represent the following qualities:

**A380 Alloy** - 8-9.5% Si, 1% Fe, 3-4% Cu, 0.5% Mn, 0.1% Mg, 0.5% Ni, 2.9% Zn, and 0.35% Sn.

**319** – 5.5-6.5% Si; 0.8% Fe, 3-4% Cu; 0.50% Mn, 0.1% Mg, 0.35% Ni; 1% Zn, 0.25% Ti.

**356** – 6.5-7.56% Si; 0.5% Fe; 0.26% Cu; 0.35% Mn; 0.25-0.45% Mg; 0.35% Zn; 0.25% Ti.

**F132** – 8.5-10% Si; 0.6% Fe; 2-4% Cu; 0.2% Mn; 0.9-1.3% Mg; 0.1% Ni; 0.1% Zn; 0.2% Ti.

**B390** – 16-18% Si, 1.3% max Fe, 4-5% Cu, 0.5% Mn, 0.45-0.65% Mg, 0.1% Ni, 1.4% Zn; 0.2% Ti.

**A413** – 11-13% Si; 1% Fe max; 0.6% Cu max; 0.35% Mn; 0.1% Mg; 0.5% Ni; 0.5% Zn; and 0.15% Sn.

**Europe**

**Aluminum Alloy 226, 231:** Secondary aluminum alloys are assessed in Eur/mt on a delivered German works basis, prompt delivery in full truck loads. Other qualities are considered and normalized back to Platts base standard specifications, subject to prevailing market differentials. The 226 LME grade alloy is produced in conformity with GBD-AlSi9Cu3 as described in DIN standard 1725 (1986). The 231 alloy conforms to AlSi12(Cu) as described in DIN 1706.

**Asia**

**ADC12 ex-works China:** The assessment reflects the domestic spot market price in yuan/mt and converted into a $/mt value, ex-plant from a typical supplier. The spot price represents information reported by physical market participants, including Chinese secondary aluminum smelters, diecasters, foundries, automotive companies, and traders.

**ADC12 FOB China:** The assessment reflects the export spot market price in $/mt, FOB Chinese ports, mainly Shanghai and Tianjin. The spot price represents information reported by physical market participants, including secondary aluminum smelters, diecasters, foundries, automotive companies, and traders.
### Copper

**Copper NY Delivered Premium over spot cathode**
- **Assessment**: MMACP00
- **Published**: MMACP08
- **Type**: Assessment Thursday
- **Published Page**: MPA316
- **Quality**: Premium to COMEX spot for Grade 1 or Grade A copper cathodes
- **Quantity**: 200-1,000 mt
- **Dimensions**: Not specified
- **Incoterms**: Delivered
- **Location**: Midwest
- **Timing**: Within 30 days
- **Payment**: Cash
- **UDM**: Cents/lb

**Copper US Transaction (All-in)**
- **Assessment**: MMUTC00
- **Published**: MMUTC04
- **Type**: Calculation Daily
- **Published Page**: MPA616
- **Quality**: COMEX copper first position (spot) for Grade 1 or Grade A copper cathode, (DMAAD10) plus the mean of the weekly copper NY Dealer Cathode Premium (MMACP00)
- **Quantity**: 200-1,000 mt
- **Dimensions**: Not specified
- **Incoterms**: Delivered
- **Location**: Midwest
- **Timing**: Within 30 days
- **Payment**: Cash
- **UDM**: Cents/lb

### Lead

**Lead US Premium**
- **Assessment**: MMXCD00
- **Published**: MMXCD08
- **Type**: Assessment Wednesday
- **Published Page**: MPA350
- **Quality**: Typical 97-98% Cu
- **Quantity**: Min truckload
- **Dimensions**: wire, pipe and tubing
- **Incoterms**: Delivered
- **Location**: Midwest
- **Timing**: Within 30 days
- **Payment**: Net 30 days
- **UDM**: Cents/lb

**Lead NA Market (All-in)**
- **Assessment**: MMALF01
- **Published**: MADDN00
- **Type**: Calculation Daily
- **Published Page**: MPA350
- **Quality**: Typical 96-96% Cu
- **Quantity**: Min truckload
- **Dimensions**: wire and miscellaneous scrap
- **Incoterms**: FAS
- **Location**: Major US ports
- **Timing**: Within 30 days
- **Payment**: Cash against documents
- **UDM**: Cents/lb

### Copper Scrap

**Copper No1 Burnt Scrap Discount**
- **Assessment**: MMACJ10
- **Published**: MMACJ02
- **Type**: Assessment Wednesday
- **Published Page**: MPA350
- **Quality**: Typical 97-98% Cu
- **Quantity**: Min truckload
- **Dimensions**: wire, pipe and tubing
- **Incoterms**: Delivered
- **Location**: Midwest
- **Timing**: Within 30 days
- **Payment**: Net 30 days
- **UDM**: Cents/lb

**Copper No1 Bare Bright Discount**
- **Assessment**: MMACL10
- **Published**: MMACL02
- **Type**: Assessment Wednesday
- **Published Page**: MPA350
- **Quality**: Typical 98-99% Cu
- **Quantity**: Min truckload
- **Dimensions**: bricks, blocks
- **Incoterms**: Delivered
- **Location**: Midwest
- **Timing**: Within 30 days
- **Payment**: Net 30 days
- **UDM**: Cents/lb

**Copper No2 Birch/Cliff Scrap Discount**
- **Assessment**: MMACR10
- **Published**: MMACR02
- **Type**: Assessment Wednesday
- **Published Page**: MPA350
- **Quality**: Typical 94-96% Cu
- **Quantity**: Min truckload
- **Dimensions**: 20 foot containers
- **Incoterms**: FAS
- **Location**: Major US ports
- **Timing**: Within 30 days
- **Payment**: Cash against documents
- **UDM**: Cents/lb
### BASE METALS

#### Zinc

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Code</th>
<th>Mavg</th>
<th>Wavg</th>
<th>Yavg</th>
<th>Type</th>
<th>Published</th>
<th>Page</th>
<th>Quality</th>
<th>Quantity</th>
<th>Dimensions</th>
<th>Incoterms</th>
<th>Location</th>
<th>Timing</th>
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<th>UOM</th>
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<tr>
<td>Zinc MW SHG Premium</td>
<td>MMYHY00</td>
<td>MMYHY03</td>
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<td>Assessment</td>
<td>Thursday</td>
<td>Special high grade zinc</td>
<td>Min truckload, typical 200-400 mt</td>
<td>Delivered</td>
<td>Midwest</td>
<td>Within 30 days</td>
<td>Net 30 days</td>
<td>Cents/lb</td>
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<tr>
<td>Zinc NA SHG (All-in)</td>
<td>MMYBD10</td>
<td>MMYBD02</td>
<td>MMYBD01</td>
<td>MMYBD16</td>
<td>Calculation</td>
<td>Daily</td>
<td>Special high grade zinc</td>
<td>Min truckload, typical 200-400 mt</td>
<td>Delivered</td>
<td>Midwest</td>
<td>Within 30 days</td>
<td>Net 30 days</td>
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<td>Zinc US Dealer SHG (All-in)</td>
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<td>Assessment</td>
<td>Thursday</td>
<td>Special high grade zinc</td>
<td>Min truckload, typical 200-400 mt</td>
<td>Delivered</td>
<td>Midwest</td>
<td>Within 30 days</td>
<td>Net 30 days</td>
<td>Cents/lb</td>
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<td>Zinc US Galvanizer Premium</td>
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<td>Assessment</td>
<td>Thursday</td>
<td>Special high-grade zinc or continuous galvanizing grade zinc in jumbo form</td>
<td>1-2 railcars, or W 2426 lb (1100-49 truckloadskg), L 31.5&quot; (80 cm), D 20&quot; (50 cm), H 20&quot; (50 cm)</td>
<td>Delivered</td>
<td>Midwest</td>
<td>Within 30 days</td>
<td>Net 30 days</td>
<td>Cents/lb</td>
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<td>Zinc NA Galvanizer (All-in)</td>
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<td>Special high-grade zinc or continuous galvanizing grade zinc in jumbo form</td>
<td>1-2 railcars, or W 2426 lb (1100-49 truckloadskg), L 31.5&quot; (80 cm), D 20&quot; (50 cm), H 20&quot; (50 cm)</td>
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<td>Zinc (SHG) FCA Rotterdam Premium</td>
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<td>FCA Rotterdam</td>
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<td>All-in price for special high-grade zinc Min truckload Not specified LME plus premium</td>
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<td>0-60-day terms</td>
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#### Zinc Secondary Alloys

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<th>Timing</th>
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<tr>
<td></td>
<td>MMYAQ10</td>
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<td>MMYAQ01</td>
<td>MMYAQ16</td>
<td>Assessment</td>
<td>Monday/Thursday</td>
<td>Tuesday</td>
<td>New York Grade A tin</td>
<td>Min 20 mt truckload</td>
<td>Not specified</td>
<td>IW duty paid US</td>
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<td>Cents/lb</td>
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#### Nickel

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<th>Type</th>
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<th>Page</th>
<th>Quality</th>
<th>Quantity</th>
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<th>Incoterms</th>
<th>Location</th>
<th>Timing</th>
<th>Payment</th>
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<tr>
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<td>MMYAZ36</td>
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<td>Assessment</td>
<td>Thursday</td>
<td>Min 99.8% Ni</td>
<td>Min 20 mt truckload</td>
<td>4x4&quot; cut cathodes</td>
<td>Delivered</td>
<td>Midwest</td>
<td>within 30 days</td>
<td>Net 30 days</td>
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<td>Nickel Plate Premium Spot US</td>
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<td>MMYAZ30</td>
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<td>Assessment</td>
<td>Thursday</td>
<td>Min 99.8% Ni</td>
<td>Min 20 mt truckload</td>
<td>full plate uncut cathode</td>
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<td>Midwest</td>
<td>within 30 days</td>
<td>Net 30 days</td>
<td>Cents/lb</td>
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<td>Nickel NY Dealer Cathode (All-in)</td>
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<td>MMYAQ03</td>
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<td>Calculation</td>
<td>Thursday</td>
<td>Min 99.8% Ni</td>
<td>Min 20 mt truckload</td>
<td>4x4&quot; cut cathodes</td>
<td>Delivered</td>
<td>Midwest</td>
<td>within 30 days</td>
<td>Net 30 days</td>
<td>Cents/lb</td>
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<td>Nickel NY Dealer Melt (All-in)</td>
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<td>MMYAQ53</td>
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<td>Calculation</td>
<td>Thursday</td>
<td>Min 99.8% Ni</td>
<td>Min 20 mt truckload</td>
<td>cathode and other forms</td>
<td>Delivered</td>
<td>Midwest</td>
<td>within 30 days</td>
<td>Net 30 days</td>
<td>Cents/lb</td>
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<table>
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<tr>
<th>Nickel US Cathode Premium Spot</th>
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<th>Timing</th>
<th>Payment</th>
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<td>Min 99.8% Ni</td>
<td>Min 20 mt truckload</td>
<td>4x4&quot; cut cathodes</td>
<td>Delivered</td>
<td>Midwest</td>
<td>within 30 days</td>
<td>Net 30 days</td>
<td>Cents/lb</td>
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<td>Nickel Plate Premium Spot US</td>
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<td>Thursday</td>
<td>Min 99.8% Ni</td>
<td>Min 20 mt truckload</td>
<td>full plate uncut cathode</td>
<td>Delivered</td>
<td>Midwest</td>
<td>within 30 days</td>
<td>Net 30 days</td>
<td>Cents/lb</td>
</tr>
<tr>
<td>Nickel NY Dealer Cathode (All-in)</td>
<td>MMYAQ00</td>
<td>MMYAQ03</td>
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<td>Calculation</td>
<td>Thursday</td>
<td>Min 99.8% Ni</td>
<td>Min 20 mt truckload</td>
<td>4x4&quot; cut cathodes</td>
<td>Delivered</td>
<td>Midwest</td>
<td>within 30 days</td>
<td>Net 30 days</td>
<td>Cents/lb</td>
</tr>
<tr>
<td>Nickel NY Dealer Melt (All-in)</td>
<td>MMYAQ50</td>
<td>MMYAQ53</td>
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<td></td>
<td>Calculation</td>
<td>Thursday</td>
<td>Min 99.8% Ni</td>
<td>Min 20 mt truckload</td>
<td>cathode and other forms</td>
<td>Delivered</td>
<td>Midwest</td>
<td>within 30 days</td>
<td>Net 30 days</td>
<td>Cents/lb</td>
</tr>
</tbody>
</table>
Base metals

Copper

NY Dealer Premium over spot cathode: Typical market premium above First Position (spot) COMEX being charged by New York metal merchants on the next to last business day of the week. Platts also publishes a daily all-in value calculated as a sum of the last-assessed premium and the daily COMEX copper first position.

Copper C&F China: Premium for Grade A min 99.95% cathode, mostly of Chilean origin, over LME cash for C&F China copper business. Cargo leaves port upon receipt of letter of credit, usually within one month following the transaction.

Copper Scrap

No. 1 Burnt Scrap: US-delivered burnt wire, including wire, pipe and tubing, discount/premium spread to the COMEX copper active month. Normalized to delivered US Midwest basis.

No. 1 Bare Bright Scrap: US-delivered bare bright scrap, in bricks or blocks, discount/premium spread to the COMEX copper active month. Normalized to delivered US Midwest basis.

Lead

US Lead: Platts assesses US premium to the LME settlement price for 99.97% pure corroding grade lead, in 2,000-lb blocks (sows) or 55-100 lb pigs (ingots), max 0.025% Bi, max 0.005% Ag, max 0.001% Cu, max 0.001% Fe. Minimum quantity one truckload (42,000-44,000 lb), typical order size one to five truckloads, packaged in shrink-wrapped pallets or skids, pallet size 40” or 44” by 48”, maximum 3,600 lb per skid, no more than three battery layers separated by cardboard sheets.

US Used Lead-Acid Batteries picked up US Midwest: Weekly assessment for used 50% lead-acid, starter lighter ignition automotive batteries, picked up US Midwest, normalized to a Midwest region for price normalization will include New York, New Jersey, Pennsylvania, Delaware, Maryland, Connecticut, Massachusetts, Vermont, New Hampshire, Rhode Island and Maine. Suitable for delivery to secondary smelters. Minimum quantity one truckload (42,000-44,000 lb), with typical order size one to five truckloads, packaged in shrink-wrapped pallets or skids, pallet size 40” or 44” by 48”, maximum 3,600 lb per skid, no more than three battery layers separated by cardboard sheets.

Zinc

US Special High Grade: Weekly assessment of the spot premium or discount to LME zinc cash settlement price for SHG zinc, delivered US Midwest. Platts also publishes corresponding daily and weekly all-in values, calculated as a sum of the last-assessed premium/discount and the daily LME cash settlement price, converted into cents/lb.
Galvanized: Weekly assessment of the spot premium or discount to the LME SHG cash settlement price for zinc in jumbo form, with typical physical properties including weight of 2,426 lb (1,100 kg), length of 31.5 inches (80 cm), depth of 20 inches (50 cm) and height of 20 inches (50 cm), including special high-grade zinc with composition of 99.995% Zn or continuous galvanizing grade containing 0.22% to 1.1% aluminum. The assessment is normalized to a typical spot quantity of 1-2 railcars, or 4-9 truckloads. Platts also publishes a corresponding daily all-in value, calculated as a sum of the last-assessed premium/discount and the daily LME cash settlement price, converted into cents/lb.

Alloy No. 3: Weekly assessment of the premium or discount to the London Metal Exchange cash settlement price for No. 3 die casting zinc alloy. Platts also publishes a corresponding daily all-in value, calculated as a sum of the last-assessed premium/discount and the daily LME cash settlement price, converted into cents/lb.

Europe
Special High Grade Rotterdam: Monthly assessment of the $/mt premium over LME cash for SHG zinc on an FCA Rotterdam basis, 0-60-day payment terms, prompt delivery. Assessed on the third Wednesday of each month. Platts also publishes the all-in price reflecting the LME cash settlement price for the third Wednesday of each month plus the premium range.

Nickel
US
Cathode/Melt/Plate Spot: Premium/discount to LME cash for nickel 4x4 inch cut cathodes, full plate uncut cathodes and other forms. LME grade min 99.8% Ni. In addition to differentials Platts also publishes corresponding outright (all-in) prices.

Europe
Cathodes/Briquettes Spot Premiums: Premium/discount to LME cash for nickel 4x4 inch cut cathodes, briquettes and full plate uncut cathodes. LME grade min 99.8% Ni.
# Battery Metals

## Lithium

**Lithium Carbonate CIF North Asia**
- **Assessment**: Friday
- **Published**: PMA8888
- **Quality**: Min 99.5% Li2CO3
- **Quantity**: Containers 5-40 mt
- **Dimensions**: Powder packed in bags
- **Location**: CIF China / Japan / South Korea
- **Timing**: 15-60 days
- **Payment**: Letter of Credit
- **UOM**: $/mt

**Lithium Carbonate CIF North Asia (import parity)**
- **Assessment**: Friday
- **Published**: PMA8888
- **Quality**: Min 99.5% Li2CO3
- **Quantity**: Containers 5-40 mt
- **Dimensions**: Powder packed in bags
- **Location**: CIF China / Japan / South Korea
- **Timing**: 15-60 days
- **Payment**: Letter of Credit
- **UOM**: $/mt

**Lithium Carbonate DDP China**
- **Assessment**: Friday
- **Published**: PMA8888
- **Quality**: Min 99.5% Li2CO3
- **Quantity**: Min 1 truckload
- **Dimensions**: Powder packed in bags
- **Location**: DDP China
- **Timing**: Within 14 days
- **Payment**: Cash or LC
- **UOM**: Yuan/mt

**Lithium Hydroxide CIF North Asia**
- **Assessment**: Friday
- **Published**: PMA8888
- **Quality**: Min 56.5% LiOH H2O
- **Quantity**: Containers 5-150 mt
- **Dimensions**: Powder packed in bags
- **Location**: CIF China / Japan / South Korea
- **Timing**: 15-60 days
- **Payment**: Letter of Credit
- **UOM**: $/mt

**Lithium Hydroxide CIF North Asia (import parity)**
- **Assessment**: Friday
- **Published**: PMA8888
- **Quality**: Min 56.5% LiOH H2O
- **Quantity**: Containers 5-150 mt
- **Dimensions**: Powder packed in bags
- **Location**: CIF China / Japan / South Korea
- **Timing**: 15-60 days
- **Payment**: Letter of Credit
- **UOM**: Yuan/mt

**Lithium Hydroxide DDP China**
- **Assessment**: Friday
- **Published**: PMA8888
- **Quality**: Min 56.5% LiOH H2O
- **Quantity**: Min 1 truckload
- **Dimensions**: Powder packed in bags
- **Location**: DDP China
- **Timing**: Within 14 days
- **Payment**: Cash or LC
- **UOM**: Yuan/mt

**Lithium Spodumene FOB Australia**
- **Assessment**: Monthly
- **Published**: PMA8888
- **Quality**: Min 6% Li2O
- **Quantity**: Min 1,000 mt
- **Dimensions**: Concentrate
- **Location**: FOB Australia
- **Timing**: Within 30 days
- **Payment**: Letter of Credit
- **UOM**: $/mt

## Cobalt

**Cobalt Sulfate CIF North Asia**
- **Assessment**: Thursday
- **Published**: PMA8890
- **Quality**: Min 20.5% Co
- **Quantity**: Containers 5-150 mt
- **Dimensions**: Powder packed in bags
- **Location**: CIF China / Japan / South Korea
- **Timing**: 15-60 days
- **Payment**: Letter of Credit
- **UOM**: $/mt

**Cobalt Sulfate DDP China**
- **Assessment**: Thursday
- **Published**: PMA8890
- **Quality**: Min 20.5% Co
- **Quantity**: Min 1 truckload
- **Dimensions**: Powder packed in bags
- **Location**: DDP China
- **Timing**: Within 14 days
- **Payment**: Cash or LC
- **UOM**: Yuan/mt

**Cobalt Hydroxide CIF China**
- **Assessment**: Thursday
- **Published**: PMA8890
- **Quality**: Co 30%, Mn 2-6%, Mg max. 6%, Fe max. 3%, moisture 10%
- **Quantity**: 50-150mt of Co contained
- **Dimensions**: Powder packed in bags
- **Location**: CIF China
- **Timing**: 14-60 days
- **Payment**: Letter of Credit at sight
- **UOM**: $/lb

**Cobalt Hydroxide CIF China**
- **Calculation**: Thursday
- **Published**: PMA8890
- **Quality**: Co 30%, Mn 2-6%, Mg 50-150mt of Co max. 6%, Fe max. 3%, moisture 10%
- **Dimensions**: Powder packed in bags
- **Location**: CIF China
- **Timing**: 14-60 days
- **Payment**: Letter of Credit at sight
- **UOM**: $/mt

**Battery Metals**

### Lithium

**Lithium Carbonate**: Assessed on CIF North Asia and DDP China basis, reflecting physical spot market prices for min 99.5% purity battery grade lithium carbonate. Other qualities are considered, and may be normalized back to Platts base standard specifications, subject to prevailing market differentials. Platts also publishes an import parity price on CIF North Asia basis, which is calculated by converting the CIF North China assessment into Yuan/mt, adding Chinese VAT, port and logistics costs.

**Lithium Hydroxide**: Assessed on CIF North Asia and DDP China basis, reflecting physical spot market prices for min 56.5% purity battery grade lithium hydroxide. Other qualities are considered, and may be normalized back to Platts base standard specifications, subject to prevailing market differentials. Platts also publishes an import parity price on CIF North Asia basis, which is calculated by converting the CIF North China assessment into Yuan/mt, adding Chinese VAT, port and logistics costs.

**Lithium Spodumene**: Assessed on FOB Australia basis, reflecting physical spot market price for lithium spodumene with a min 6% lithium oxide content exported on a free on board basis of a min volume of 1,000mt from Western Australian ports within 30 days of the date of publication. Other qualities are considered, and may be normalized back to Platts base standard specifications, subject to prevailing market differentials. Lithium spodumene is assessed every month on the final business day.

### Cobalt

**Cobalt Sulfate**: Assessed on CIF North Asia and DDP China basis, reflecting physical spot market prices for min 20.5% cobalt content. Other qualities are considered, and may be normalized back to Platts base standard specifications, subject to prevailing market differentials.
to prevailing market differentials. In the absence of information for the international market, the CIF North Asia assessment is assessed as an import parity calculation from the domestic cobalt sulfate DDP China price.

**Cobalt Hydroxide:** Assessed on a CIF China basis, reflecting physical spot market prices for any-origin cobalt hydroxide with 30% cobalt content, 2-6% manganese content, max. 6% magnesium content, max. 3% iron content and 10% moisture. Other qualities may be normalised back to Platts base standards. Platts assessment reflects responsibly sourced material, which sellers should be able to demonstrate in line with standard industry practice, upon buyers’ request.
## LIGHT/MINOR METALS

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<th>Assessment</th>
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<tr>
<td>Magnesium US Die Cast Alloy</td>
<td>MMAHR00</td>
<td>MMAHR03</td>
<td>MMAHR16</td>
<td>Assessment</td>
<td>Thursday</td>
<td>PA368</td>
<td>A2910, AM50 or AM60 on-spec diecast alloys</td>
<td>Full 40,000 lb truckload</td>
<td>Ingot, sow or T-bars</td>
<td>Delivered</td>
<td>US customer works</td>
<td>Delivery within 30 days</td>
<td>Net 30 or Net 60 days</td>
<td>Cents/lb</td>
</tr>
<tr>
<td>Magnesium US Spot Western</td>
<td>MMAHP00</td>
<td>MMAHP03</td>
<td>MMAHP16</td>
<td>Assessment</td>
<td>Thursday</td>
<td>PA368</td>
<td>Min 99.8% pure, ASTM Grade 9980A</td>
<td>Min full 40,000 lb truckload</td>
<td>Ingot, sow or T-bars</td>
<td>Delivered</td>
<td>US customer works</td>
<td>Delivery within 30 days</td>
<td>Net 30 days</td>
<td>Cents/lb</td>
</tr>
<tr>
<td>Magnesium US Dealer Import</td>
<td>MMAHQ00</td>
<td>MMAHQ03</td>
<td>MMAHQ16</td>
<td>Assessment</td>
<td>Thursday</td>
<td>PA368</td>
<td>Min 99.8% pure, non-oxidized</td>
<td>Min full 40,000 lb truckload</td>
<td>Ingot, sow or T-bars</td>
<td>Delivered</td>
<td>US customer works</td>
<td>Delivery within 30 days</td>
<td>Net 30 days</td>
<td>Cents/lb</td>
</tr>
<tr>
<td>Magnesium Europe Free Market</td>
<td>MMAJZ00</td>
<td></td>
<td></td>
<td>Assessment</td>
<td>Thursday</td>
<td>PA368</td>
<td>99.9% pure, unoxidized</td>
<td>Typical 1-5 truckloads</td>
<td>Ingot, sow or T-bars</td>
<td>IW</td>
<td>Rotterdam, duty unpaid</td>
<td>Shipment within Net 30 days</td>
<td>30 days</td>
<td>$/mt</td>
</tr>
<tr>
<td><strong>Silicon</strong></td>
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<tr>
<td>Silicon 553 grade delivered US</td>
<td>MMAJF00</td>
<td>MMAJF03</td>
<td>MMAJF16</td>
<td>Assessment</td>
<td>Wednesday</td>
<td>PA407</td>
<td>Min 98.5% Si, max 0.5% iron, max 0.3% Ca, 0.2-0.5% Al</td>
<td>Typical 1-5 truckloads 4-inch lumps, in bulk or 2,000-3,000 lb supersacks</td>
<td>Delivered Midwest</td>
<td>Midwest</td>
<td>Delivery within 30 days</td>
<td>Net 30 days</td>
<td>Cents/lb Si contained</td>
<td></td>
</tr>
<tr>
<td>Silicon 553 grade in-warehouse</td>
<td>AA1U00</td>
<td>MMAJZ03</td>
<td>MMAJZ16</td>
<td>Assessment</td>
<td>Thursday</td>
<td>PA407</td>
<td>98.5% Si, max 0.5% Fe, max 0.3% Ca, 0.2-0.5% Al</td>
<td>Three truckloads Lumps 50-100 mm, in bulk 1 mt big bags</td>
<td>IW, duty paid European ports</td>
<td>Shipment within Net-30 days</td>
<td>60 days</td>
<td>Eur/mt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Silicon 553 grade FOB China</td>
<td>MMAJF00</td>
<td>MMAJF03</td>
<td>MMAJF16</td>
<td>Assessment</td>
<td>Thursday</td>
<td>PA407</td>
<td>98.5% Si, max 0.5% Fe, max 0.3% Ca, 0.2-0.5% Al</td>
<td>Min 20mt Lumps 50-100mm, in bulk 1 mt big bags</td>
<td>FOB Main Chinese ports</td>
<td>Loading within 30 days</td>
<td>Telegraphic transfer, cash against documents, including original bill of lading and irrevocable letter of credit drawn against approved bank at site or equivalent.</td>
<td>$/mt</td>
<td></td>
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<tr>
<td><strong>Titanium</strong></td>
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<tr>
<td>Titanium 0.5% US Turning</td>
<td>MMAJZ00</td>
<td>MMAJZ03</td>
<td>MMAJZ16</td>
<td>Assessment</td>
<td>Thursday</td>
<td>PA371</td>
<td>90% Ti, 6% Al, 4% V, 0.5% Sn</td>
<td>Full 40,000 lb truckload</td>
<td>DDP US</td>
<td>Delivery within 30 days</td>
<td>Net 30 days</td>
<td>$/lb</td>
<td></td>
<td></td>
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<tr>
<td>Titanium 0.5% European Turning</td>
<td>MMAJY00</td>
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<td></td>
<td>Assessment</td>
<td>Thursday</td>
<td>PA371</td>
<td>90% Ti, 6% Al, 4% V, 0.5% Sn</td>
<td>Full 20 mt container</td>
<td>DDP Europe</td>
<td>Delivery within 30 days</td>
<td>Net 30 days</td>
<td>$/lb</td>
<td></td>
<td></td>
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<tr>
<td><strong>Minor Metals</strong></td>
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<tr>
<td>Cobalt 99.8% European</td>
<td>MMAJX00</td>
<td></td>
<td></td>
<td>Assessment</td>
<td>Thursday</td>
<td>PA375</td>
<td>Min 99.8% Co</td>
<td>1-5 mt 1&quot;x1&quot; cut cathodes</td>
<td>IW Europe</td>
<td>Shipment within Net 30 days</td>
<td>30 days</td>
<td>$/lb</td>
<td></td>
<td></td>
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<tr>
<td>Cobalt US Spot Cathode</td>
<td>MMAEO00</td>
<td>MMAEO03</td>
<td>MMAEO16</td>
<td>Assessment</td>
<td>Thursday</td>
<td>PA375</td>
<td>Min 99.8% Co</td>
<td>1-5 mt 1 inch cathodes and/or roundelies</td>
<td>DDP US</td>
<td>Shipment within Net 30 days</td>
<td>30 days</td>
<td>$/lb</td>
<td></td>
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<tr>
<td>Cobalt Russian</td>
<td>MMAE04</td>
<td></td>
<td></td>
<td>Assessment</td>
<td>Thursday</td>
<td>PA375</td>
<td>Min 99.3%-99.35% Co</td>
<td>12-15 kg ingots</td>
<td>DDP US</td>
<td>Shipment within Net 30 days</td>
<td>30 days</td>
<td>$/lb</td>
<td></td>
<td></td>
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<tr>
<td>Cobalt Zambian</td>
<td>MMAF00</td>
<td></td>
<td></td>
<td>Assessment</td>
<td>Thursday</td>
<td>PA375</td>
<td>Min 99.6% Co</td>
<td>1-5 mt broken cathodes</td>
<td>DDP US</td>
<td>Shipment within Net 30 days</td>
<td>30 days</td>
<td>$/lb</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Light/Minor Metals

#### Cobalt

**European 99.8%**: Weekly assessed spot price for min 99.8% cobalt, 1"x1" cut, electrolytic, cobalt cathodes, packed in 250 kg steel drums, four drums per wooden pallet, strapped to pallet. The price is assessed on an in-warehouse Europe basis.

**US 99.8% Spot Cathode**: Weekly assessed US spot market price for cobalt, min 99.8%, 1"x1" cut, electrolytic, cobalt cathodes, packed in 250 kg steel drums, four drums per wooden pallet, strapped to pallet. Delivered, duty-paid US. All Cuban-origin material excluded from US cobalt assessments.

**Russian 99.3%**: Weekly assessed US spot market price for cobalt of Russian origin, K1A/K1Ay electrolytic ingot/granules, min 99.30% Co and 99.35% Co, K1A and K1Ay respectively, ingot sizes 370x110x60 mm or 270x150x50 mm for K1A, typical ingot weight 12-15 kg, or granules 5-50 mm for K1Ay, certified suitable for use in aerospace, packed in 250 kg steel drums, or packed in metal containers up to 4,500 kg net. Basis delivered duty-paid US within 30 days, payment net-30 days. Note: Russian K1 (99.25% Co) and K2 (98.30% Co) excluded from this assessment.

**Zambian 99.6%**: Weekly assessed US spot market price for cobalt of Zambian origin, thin/broken, electrolytic cathode, min 99.6% Co, packed in 250 kg steel drums. Assessed in $/lb, delivered duty-paid US within 30 days, payment net-30 days.

#### Silicon

**Silicon 553 grade, delivered US Midwest**: US and imported 553 grade silicon metal, duty-paid delivered Midwest. In-warehouse or picked-up transactions normalized to delivered US Midwest. Fines normalized to stated lump specifications. Special packaging, payment terms, smaller or larger quantities to be normalized to meet stated specifications and quantity.

**Silicon, 553 grade, in-warehouse Europe**: EU origin and imported 553 grade silicon metal, duty-paid European main ports, producer plants and major EU warehousing hubs. Reported delivered, CFR and ex-works indications are

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**Specifications guide Nonferrous metals: May 2020**

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normalized back to in-warehouse basis. Special packaging, payment terms, smaller or larger quantities to be normalized to meet stated specifications and quantity.

**Silicon 553 grade, FOB China:** Chinese origin and imported 553 grade silicon metal, FOB main Chinese sea ports loaded on oceangoing vessel or packed in seagoing 20-ft or 40-ft containers and customs sealed, export tariff-paid. Special packaging, payment terms and other quantities to be normalized to meet stated specifications and quantity.

**Titanium**
**US Turnings 0.5%:** US unprocessed turnings, delivered US, duty paid.

**European Turnings 0.5%:** US- or European-generated turnings, delivered Europe, duty paid.

**Antimony**
**NY Dealer:** Weekly assessment for min 99.65% antimony ingot, 0.15% max. arsenic, 5-mt lots, DDP US buyer’s works.

**Bismuth**
**NY Dealer:** Weekly assessment for min 99.99% purity, prompt delivery DDP US buyer’s works within 30 days, net 30-day payment terms.

**Indium**
**NY Dealer:** Min 99.99% purity indium DDP US, in min lots of 50kg.

**Rhenium**
**MW NY Dealer:** 69.4% Re contained (ammonium perrhenate), DDP US.

**Selenium**
**NY Dealer:** Selenium metal powder, minus 200 mesh, min. Se 99.5% DDP US, 5-mt lots.

For all other assessment specifications please refer to the table above.
### Precious Metals

<table>
<thead>
<tr>
<th>Precious Metals</th>
<th>Assessment</th>
<th>Code</th>
<th>Mavg</th>
<th>Qavg</th>
<th>Type</th>
<th>Published</th>
<th>Page</th>
<th>Quality</th>
<th>Quantity</th>
<th>Dimensions</th>
<th>Incoterms</th>
<th>Location</th>
<th>Timing</th>
<th>Payment</th>
<th>UOM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Palladium NY Dealer</td>
<td>MMBV00, MMBV03, MMBV06, MMBV16</td>
<td>Assessment Thursday</td>
<td>PMA356</td>
<td>Min 99.95%</td>
<td>Not specified</td>
<td>Sponge</td>
<td>DDP</td>
<td>US</td>
<td>Within 30 days</td>
<td>Net 10 days or less</td>
<td>$/oz</td>
<td></td>
<td></td>
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<tr>
<td>Platinum NY Dealer</td>
<td>MMAHX00, MMAHX03, MMAHX06, MMAHX16</td>
<td>Assessment Thursday</td>
<td>PMA356</td>
<td>Min 99.95%</td>
<td>Not specified</td>
<td>Sponge</td>
<td>DDP</td>
<td>US</td>
<td>Within 30 days</td>
<td>Net 10 days or less</td>
<td>$/oz</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rhodium NY Dealer</td>
<td>MMAID00, MMAID03, MMAID06, MMAID16</td>
<td>Assessment Thursday</td>
<td>PMA353</td>
<td>Min 99.9%</td>
<td>Not specified</td>
<td>Sponge</td>
<td>DDP</td>
<td>US</td>
<td>Within 30 days</td>
<td>Net 10 days or less</td>
<td>$/oz</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Ruthenium NY Dealer</td>
<td>MMAIH00</td>
<td>Assessment Thursday</td>
<td>PMA353</td>
<td>Min 99.9%</td>
<td>Not specified</td>
<td>Sponge</td>
<td>DDP</td>
<td>US</td>
<td>Within 30 days</td>
<td>Net 10 days or less</td>
<td>$/oz</td>
<td></td>
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<tr>
<td>Iridium NY Dealer</td>
<td>MMAIJ00</td>
<td>Assessment Thursday</td>
<td>PMA353</td>
<td>Min 99.9%</td>
<td>Not specified</td>
<td>Sponge</td>
<td>DDP</td>
<td>US</td>
<td>Within 30 days</td>
<td>Net 10 days or less</td>
<td>$/oz</td>
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</tr>
</tbody>
</table>

#### Palladium

**NY Dealer:** Min 99.95% purity palladium, DDP US within 30 days, max net-10 day payment, $/oz. The assessment reflects sponge form, with pricing information for ingots normalized back to the sponge form.

#### Platinum

**NY Dealer:** Min 99.95% platinum metal, in ingot or sponge form, DDP US within 30 days, max net-10 day payment, $/oz. The assessment reflects sponge form, with pricing information for ingots normalized back to the sponge form.

#### Rhodium

**NY Dealer:** Min 99.9% purity rhodium, in sponge form, DDP US within 30 days, max net-10 day payment, $/oz.

#### Ruthenium

**NY Dealer:** Min 99.9% ruthenium metal, in sponge form, DDP US within 30 days, max net-10 day payment terms, $/oz.

#### Iridium

**NY Dealer:** Min 99.9% iridium purity, in sponge form, DDP US within 30 days, max net-10 day payment terms, in $/oz.
## PRODUCTION STATISTICS

<table>
<thead>
<tr>
<th>Description</th>
<th>Code</th>
<th>Type</th>
<th>Published</th>
<th>Page</th>
<th>UOM</th>
</tr>
</thead>
<tbody>
<tr>
<td>IAI PrimAlum Africa Prod Mo</td>
<td>MMPAF00</td>
<td>Third-party data</td>
<td>Monthly</td>
<td>PRA715</td>
<td>0'000 mt of primary Aluminum</td>
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<tr>
<td>IAI PrimAlum Asia Prod Mo</td>
<td>MMPAS00</td>
<td>Third-party data</td>
<td>Monthly</td>
<td>PRA715</td>
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<tr>
<td>IAI PrimAlum China Prod Dly Avg</td>
<td>MMPCD00</td>
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<td>IAI PrimAlum China Prod Mo</td>
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<td>0'000 mt of primary Aluminum</td>
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<tr>
<td>IAI PrimAlum E/C Eur Prod Mo</td>
<td>MMPCE00</td>
<td>Third-party data</td>
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<tr>
<td>IAI PrimAlum GAC/Gulf Prod Mo</td>
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<td>IAI PrimAlum LatAm Prod Mo</td>
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<td>Monthly</td>
<td>PRA715</td>
<td>0'000 mt of primary Aluminum</td>
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<tr>
<td>IAI PrimAlum N.Amer Prod Mo</td>
<td>MMPNA00</td>
<td>Third-party data</td>
<td>Monthly</td>
<td>PRA715</td>
<td>0'000 mt of primary Aluminum</td>
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<tr>
<td>IAI PrimAlum Oceania Prod Mo</td>
<td>MMPOC00</td>
<td>Third-party data</td>
<td>Monthly</td>
<td>PRA715</td>
<td>0'000 mt of primary Aluminum</td>
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<tr>
<td>IAI PrimAlum W.Europe Prod Mo</td>
<td>MMPWE00</td>
<td>Third-party data</td>
<td>Monthly</td>
<td>PRA715</td>
<td>0'000 mt of primary Aluminum</td>
</tr>
<tr>
<td>IAI PrimAlum World Prod Mo</td>
<td>MMPWT00</td>
<td>Third-party data</td>
<td>Monthly</td>
<td>PRA715</td>
<td>0'000 mt of primary Aluminum</td>
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<tr>
<td>IAI PrimAlum World Prod Mo Avg TMT/Day</td>
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<td>Third-party data</td>
<td>Monthly</td>
<td>PRA715</td>
<td>0'000 mt of primary Aluminum</td>
</tr>
</tbody>
</table>

* IAI production figures
REVISION HISTORY

May 2020: Platts conducted annual review of the specifications guide and made clarifications and stylistic changes throughout. The clarifications included a more detailed description of all-in prices across all metals and fuller description of such assessment parameters as; quantities, payment terms, location, loading/delivery timing etc. References to P1020 aluminum were replaced with the more exact “P1020A” and the specifications of global primary aluminum assessments were updated to reflect minimum 99.7% purity in line with the LME specification. Platts also clarified the timestamp of cobalt assessments as 16.30 London time and of the US aluminum assessments during some US holidays. Platts launched CIF China cobalt hydroxide assessment.

March 2020: Platts launched alumina FOB Brazil differential to FOB Australia assessment.

February 2020: Platts clarified the data treatment in the US Midwest aluminum methodology.

December 2019: Clarified and amended the cargo sizes for alumina FOB Australia assessment to 30,000 mt and 35,000 mt lots.

November 2019: Platts conducted annual review of the specifications guide and made clarifications and stylistic changes throughout. The changes included aligning specifications described in tables and the associated text, clearer labelling of sections, removal of duplication, assessments’ launch dates and generic description of the methodology, which can be found in a standalone Platts Assessments Methodology guide. Platts also added previously omitted codes and their descriptions and removed the description of discontinued assessments, such as gold and MW oxide Transaction. Platts also clarified in the tables the frequency of publication of each price and the fixed page number for the Platts Metals Alert.

November 2019: Changed incoterm for Brazilian aluminum scrap assessments (UBCs, Castings, Profile) to FOT from delivered.

August 2019: Updated to add US 5052 new bare scrap assessments and reflect the discontinuation of the Copper Grade A CIF Rotterdam, Copper Standard CIF Rotterdam, Copper Grade A CIF Italy, Lead 99.985% IW R’dam, Tin 99.90% IW R’dam and Tin 99.85% IW R’dam assessments effective August 1, 2019. Amended a typo in the description of the Aluminum Italy DDP, added codes for the $-denominated assessments for Aluminum billet in Italy and Germany.

May 2019: Updated the shipment timing in the FOB Australia and CFR China alumina daily assessments to 14-60 days forward from the assessment day, from 30-60 days.

May 2019: Updated to introduce Battery Metals - Cobalt Sulfate DDP China.

May 2019: Platts completed an annual update to sections 1 to 6 of Platts Methodology and Specifications Guides in April 2019, and moved these sections into a standalone Methodology Guide. Updated to reflect discontinuation of CIF South Korea aluminum premium weekly assessment (MMAMX00 weekly, MMAMX03 monthly average). Updated to reflect discontinuation of Magnesium 98.8% FOB China weekly assessment (AAVSK00 weekly, AAVSK03 monthly, AAVSK16 yearly average). Updated to reflect discontinuation of Die Cast Alloy FOB China premium weekly assessment (MMDCH04 weekly, MMDCH03 monthly, MMDCH16 yearly average).

April 2019: Updated to reflect change in SHG Zinc premium assessment specs to FCA Rotterdam from in-warehouse Rotterdam (MMAYNG04).

February 2019: Updated to clarify the specifications for Copper Standard Grade CIF Rotterdam (MMAQ104).

January 2019: Updated to introduce Battery Metals – Cobalt Sulfate and Lithium Spodumene and reflect discontinuation of Copper Concentrate: Cu 30%, CIF Japan.

November 2018: Updated to remove in-warehouse Singapore premium for aluminum (MMAMY00, MMASW00, MMASW03).

October 2018: Updated to clarify the use of freight rates and location normalization in the US Aluminum Midwest Transaction premium assessment (MMAKE00). Methodology & Specifications Guide Annual Review was conducted and clarifications made.

September 2018: Updated to introduce Battery Grade Lithium Carbonate DDP China, Battery Grade Lithium Hydroxide CIF North Asia and Battery Grade Lithium Hydroxide DDP China assessments. Added Aluminum Billet 6060/6063 DDP Germany and Aluminum Billet 6090/6063 DDP Italy assessments.


June 2018: Updated to reflect introduction of base month to CIF Japan Spot Premium P1020A assessment.

May 2018: Introduced Battery Metals heading and added Lithium Carbonate CIF North Asia assessment.

Updated to reflect change in China’s VAT rate.


November 2017: Methodology & Specifications Guide Annual Review was conducted and clarifications made.
Review was conducted and clarifications made. Updated to reflect change in calculation for Aluminum CIF China All-in assessment.

October 2017: IWH Singapore premiums for copper, nickel & zinc discontinued.

April 2017: updated CIF Japan spot aluminum premium to reflect change in loading window under assessment.

January 2017: Changed methodology and specification for US zinc galvanizing premium to reflect SHG or CGG in “jumbo” form.

September 2016: Conducted annual review, updated to correct typographical errors, add missing specifications to assessments such as China alumina assessment, CIF Japan all-in prices and European cobalt. Updated language to ensure abbreviations for quantities and INCO terms were consistent throughout.

August 2016: Updated to reflect change in frequency of European lead, zinc and tin assessments to monthly. Updated to clarify aluminum CIF Japan quarterly premium assessment reflects cargoes shipping in the quarter for which contracts were negotiated and clarified publication norms for this assessment.

July 2016: Updated to show change of publishing day for weekly China magnesium ingot and magnesium alloy assessments to Fridays from Tuesdays.

June 2016: Updated the description for US A380 aluminum alloy to clarify standard practice with regard to assessment timings, changes during holiday weeks and A380 specifications.

February 2016: Updated to add new Mexican aluminum scrap price assessments for old cast, old sheet, UBCs and 6063 new bare extrusion scrap delivered Northeast Mexico.

January 2016: Discontinued US arsenic, cadmium and mercury assessments after the last price assessments on December 30, 2015. Added new price assessments for 6022 new bare aluminum scrap delivered US Midwest. Amended the specification for US 6063 scrap to new bare extrusion scrap, plus added daily calculated all-in value.

December 2015: Updated ex-works China alumina price assessment specification to basis ex-works Shanxi instead of ex-works Henan.

November 2015: Updated to remove the discontinued C&F China Western and C&F China Russian aluminum price assessments and to add the new CFR China All-in Import Price. Changed time stamp on the India 995 Gold Premium to 1700 IST.

September 2015: Methodology guide updated to correct the omission of Ruthenium from the detailed specifications and other typographical errors such as frequency of in-warehouse Singapore premiums and lack of timestamp on Australian alumina.

August 2015: Methodology guide was updated to add new assessment for US used lead-acid batteries picked up US Northeast, and to clarify the Midwest region for the US Midwest lead-acid batteries assessment.

July 2015: Updated to add CIF Korea spot aluminum premium assessment and to clarify that the In-warehouse Singapore aluminum premium is assessed weekly.

May 2015: This methodology guide was updated to show changes to the frequency and methodology for US Aluminum Market price assessment.

April 2015: This methodology guide was updated to show change in methodology for US Aluminum Transaction P1020A premium and discontinuation of the US osmium price assessment.

February 2015: This methodology guide was updated to include further description of Platts' processes and practices in survey assessment environments. Launch of Platts Gold Premium 995 India – PGI995 – with corresponding methodology included in this document. This daily assessment reflects the India physical spot market premium/discount to the international spot rates for 99.5% Gold, in kilo bar form, DDP Ahmadabad secure vault within 2 days, $/troy oz.

January 2015: Platts updated the Metals Methodology and Specifications guide to remove some Asian price assessments that were discontinued as of December 31, 2014 and to update the US Aluminum Transaction premium typical freight range.

July 2014: Platts revamped all Metals Methodology and Specification guides, including its Nonferrous guide, in July 2014. This revamp was completed to enhance the clarity and usefulness of all guides, and to introduce greater consistency of layout and structure across all published methodology guides. Methodologies for market coverage were not changed through this revamp, unless specifically noted in the methodology guide itself.