

SOLAR-GRADE POLYSILICON

Polysilicon is the feedstock for the solar and semiconductor industries. Solar-grade polysilicon typically has purity levels of 6N (99.9999% pure) to 8N (99.999999%) and it is used to make solar cells; 9N (99.9999999%) polysilicon may also be used in some premium solar cells. Electronic-grade polysilicon has higher purity levels of 9N (99.9999999%) to 11N (99.999999999%) for producing silicon chips/wafer.

The Siemens process is the most widely used method for polysilicon production.

Polysilicon sits on top of the photovoltaic supply chain. It is derived from metallurgical-grade silicon via chemical processes.

One megawatt of photovoltaic power requires seven tonnes, or 7,000kg, of polysilicon material.

Product applications: Solar wafer, solar cell, solar panel/solar module (silicon module, thin film)

Product specifications in the market and which grade(s) ICIS reports on: 6N to 9N (see table below on standard specification in the leading China market)

The detailed specification information of grades 1&2 is:

Item	Grade 1	Grade 2
Res.(N type)-ohm-cm	>100	>40
Res.(P type)-ohm-cm	>500	>200
Lifetime-us	>100	>50
Oxygen-atoms/cm ³	<1.0*10 ¹⁷	<1.0*10 ¹⁷
Carbon- atoms/cm ³	<2.5*10 ¹⁶	<4.0*10 ¹⁶
Donors/ppba	<1.5	<3.76
Acceptors/ppba	<0.5	<1.3
Bulk metals/ppmw	<0.05	<0.1

Frequency

Weekly report published on Wednesday.

Solar-grade polysilicon (ASIA)

Weekly price assessments:

6N-9N grade polysilicon Spot Prices:

- FOB NE ASIA (USD/KG)
- DEL CHINA (CNY/TONNE)

General Information:

Assessment window: Price assessments are based on information supplied by market participants through the week up to close of business on Wednesday at 1800 hours in Singapore.

Specifications: ICIS pricing quotes polysilicon of 6N to 9N.

Timing: Cargoes loading or delivered two to four weeks forward from the date of publication.



Terms: 30-60 days after bill of lading date.

Standard cargo size: Every 9 tonnes of polysilicon is packed in a 20-foot container and every 18 tonnes of polysilicon is packed in 40-foot container. The minimum trade size included in the price assessment is 50 tonnes.

Assessment basis: The ICIS pricing solar-grade polysilicon report examines trade flows to mainly China and exports from NE Asian producers. While business to other markets is covered comprehensively, the report focuses mainly on China as this represents the main market for solar-grade polysilicon.

The price assessment FOB NE Asia indicates current prices of exported material from NE Asia bound for China. The main NE Asian export markets are Japan and South Korea.

DEL China represents the current market price for polysilicon produced within China and delivered to domestic solar downstream producers. DEL China prices are inclusive of VAT.

ICIS pricing's solar-grade polysilicon assessments are derived from details of completed business reported during this period. In the absence of concluded business, the range would be assessed on a combination of price indicators including the last-detected transactions, firm bids and offers, buy and sell indications as well as notional discussions.

The report commentary covers CFR China prices whenever such price assessment can be confirmed. Materials mainly originate from South Korea and Japan. CFR China prices include VAT. The equivalent would be FOB NE Asia that excludes the VAT and shipping costs of \$1/kg. Materials from Europe into China are included at times when such trade flows can be confirmed.

Market commentary also includes details of traced transactions, news on the supply/demand balance, export/import information, contract price negotiations and general sentiment for price direction. Where applicable there is product information, comments on up and downstream market developments and general market intelligence.

