

## **Traceability at JA Solar: General Overview & ITS Protocol**

### **Part 1: Integrated Traceability System (ITS) Protocol: Supply Chain Traceability:**

#### **SUPPLY CHAIN TRACEABILITY REQUIREMENTS – ITS PROTOCOL**

JA Solar has taken the lead in traceability with the JA Solar Integrated Traceability System (ITS) mapping and labelling. The system is aimed at determining the geographical locations of the silicon based product used in their Solar Modules and the location of each processing step within the supply chain from Modules, Cells, Wafer, Ingot to Polysilicon. It describes the traceability system in place, ensuring transparency and compliance in sourcing and production, and labelling of modules. Below are the approved suppliers and labelling examples.

##### **1. Restricted Use of Factory, Polysilicon Locations and Labelling**

###### **1.1 Sellers Factories**

The Seller is required to use only the factories listed below for the production of all silicon-based products.

Process/Product	Base	Location
Ingot	Baotou JA Solar Technology Co.,Ltd.	Inner Mongolia
	Ningjin Jingxing Electronic Materials Co., Ltd	Hebei
	Quijing JA Solar Technology Co., Ltd.	Yunnan
	JA SOLAR (XINGTAI) CO., LTD.	Hebei
	Ordos JA Solar Technology Co., Ltd	Inner Mongolia
Wafer	JINGAO SOLAR CO., LTD.	Hebei
	Shijiazhuang JA Solar Technology Co., Ltd.	Hebei
	JA SOLAR (XINGTAI) CO., LTD.	Hebei
	Quijing JA Solar Technology Co., Ltd.	Yunnan
	Baotou JA Solar Technology Co.,Ltd.	Inner Mongolia
	Ordos JA Solar Technology Co., Ltd	Inner Mongolia
Cell	JINGAO SOLAR CO., LTD.	Hebei
	JA Solar Technology Yangzhou Co., Ltd.	Jiangsu
	Yiwu JA Solar Technology Co., Ltd.	Zhejiang
	Shijiazhuang JA Solar Technology Co., Ltd.	Hebei
	Dongtai JA Solar Technology Co., Ltd.	Jiangsu

	Quijing JA Solar Technology Co., Ltd.	Yunnan
	Ordos JA Solar Technology Co., Ltd	Inner Mongolia
Module	Shanghai JA Solar Technology Co.,Ltd	Shanghai
	JA Solar New Energy Yangzhou Co., Ltd.	Jiangsu
	Yiwu JA Solar Technology Co., Ltd.	Zhejiang
	Hefei JA Solar Technology Co., Ltd	Anhui
	JA SOLAR (XINGTAI) CO., LTD.	Hebei
	Dongtai JA Solar Technology Co., Ltd.	Jiangsu
	Baotou JA Solar Technology Co.,Ltd.	Inner Mongolia
	Quijing JA Solar Technology Co., Ltd.	Yunnan

### 1.2 Approved Polysilicon Suppliers

The Seller may procure polysilicon only from the polysilicon suppliers listed below.

GROUP	SUPPLIER'S NAME	Location
TONGWEI	Sichuan Yongxiang New Energy Co., Ltd	Sichuan
	Sichuan Yongxiang Poly-silicon Co., Ltd.	Sichuan
	Sichuan Yongxiang Energy Technology Co., Ltd.	Sichuan
	Inner Mongolia Tongwei High Purity Crystalline Silicon Co., Ltd	Inner Mongolia
	Yunnan Tongwei High Purity Crystalline Silicon Co., Ltd	Yunnan
	Inner Mongolia Tongwei Silicon Energy Co., Ltd	Inner Mongolia
ASIA SILICON	Asia Silicon (Qinghai) Co., Ltd (Intra-group trading company)	Qinghai
	Qinghai AS Polysilicon Co. , Ltd.	Qinghai
	Qinghai Asia Silicon Semiconductor Co., Ltd	Qinghai
	Qinghai AS Silicon Materials Co., Ltd	Qinghai

<b>Haidong</b>	Haidong Hongshi Semiconductor Co., Ltd.	Qinghai
<b>DONGLI</b>	Inner Mongolia Dongli Solar Co, Ltd	Inner Mongolia
<b>GCL</b>	Jiangsu Zhongneng Polysilicon Technology Development Co., Ltd.	Jiangsu
	Leshan GCL New Energy Technology Co., Ltd.	Sichuan
	Inner Mongolia XinYuan Silicon Material Technology Co., Ltd.	Inner Mongolia
	INNER MONGOLIA XIN HUAN SILICON ENERGY TECHNOLOGY CO., LTD.	Inner Mongolia
<b>TIANHONG</b>	Shaanxi Nonferrous Tian Hong REC Silicon Materials Co., Ltd.	Shaanxi
<b>LIHAO</b>	Qinghai Lihao Clean Energy Co., Ltd.	Qinghai
	Zhuhai Lihao Supply Chain Management Co., Ltd	Qinghai
<b>NANBO</b>	Qinghai CSG New Energy Technology Co., Ltd.	Qinghai
<b>BAOFENG</b>	Gansu Guazhou Baofeng silicon material development Co., LTD	Gansu

### 1.3 Product Labelling

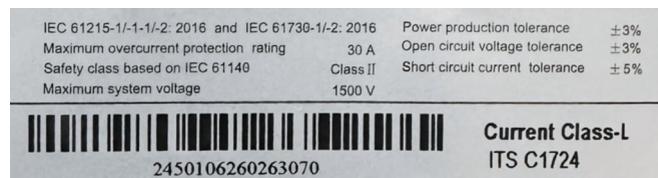
Products will include reasonable and clear labelling on the module indicating the specific seller's factories used in their production. The table below presents the authorized factories for production with the corresponding identifiers for Product labelling, approved for present operations. This list may be updated by the Seller as its production dynamics require.

<b>Polysilicon</b>		<b>Ingot</b>		<b>Wafer</b>		<b>Cell</b>		<b>Module</b>	
<b>Factory</b>	<b>Code</b>	<b>Factory</b>	<b>Code</b>	<b>Factory</b>	<b>Code</b>	<b>Factory</b>	<b>Code</b>	<b>Factory</b>	<b>Code</b>

Customized	C	Baotou JA Solar Technology Co.,Ltd.	1	JINGAO SOLAR CO., LTD.	2	JINGAO SOLAR CO., LTD.	1	Shanghai JA Solar Technology Co.,Ltd	1
		Ningjin Jingxing Electronic Materials Co., Ltd	2	Shijiazhuang JA Solar Technology Co., Ltd.	3	JA Solar Technology Yangzhou Co., Ltd.	2	JA Solar New Energy Yangzhou Co., Ltd.	2
		Quijing JA Solar Technology Co., Ltd.	3	JA SOLAR (XINGTAI) CO., LTD.	4	Yiwu JA Solar Technology Co., Ltd.	3	Yiwu JA Solar Technology Co., Ltd.	3
		JA SOLAR (XINGTAI) CO., LTD.	4	Quijing JA Solar Technology Co., Ltd.	6	Shijiazhuang JA Solar Technology Co., Ltd.	4	Hefei JA Solar Technology Co., Ltd	4
		Ingot OEM	6	Baotou JA Solar Technology Co.,Ltd.	7	Cell OEM	6	JA SOLAR (XINGTAI) CO., LTD.	6
		Ordos JA Solar Technology Co., Ltd	7	Wafer OEM	8	Dongtai JA Solar Technology Co., Ltd.	7	Chinese OEM	7
		Outsourced cell with non-JA Ingot	8	Ordos JA Solar Technology Co., Ltd	9	Quijing JA Solar Technology Co., Ltd.	8	Overseas OEM	8
				Outsourced cell with non-JA Wafer	0	Ordos JA Solar Technology Co., Ltd	9	Dongtai JA Solar Technology Co., Ltd.	9
						Outsourced Cell	0	Baotou JA Solar Technology Co.,Ltd.	0
								Quijing JA Solar Technology Co., Ltd.	A

Where the code for polysilicon identifier “C” can be identified as any Polysilicon Factory locations listed in article 1.2.

Example of Label (ITS -C1724)



## Part 2: JA SOLAR TRACEABILITY SYSTEM OVERVIEW

JA Solar has implemented a comprehensive traceability system to ensure product quality and customer satisfaction. The system has been tested and verified by numerous third parties, and JA Solar has a high level of integration across its supply chain in the industry, as well as stable relationships with its suppliers. The Integrated Traceability System (ITS) badge indicates with codes the provenance of the modules and assures the purchaser of the locations of factories and suppliers down to polysilicon.

The traceability system universal across all JA Solar Group entities from Module, Cell, Wafer and Ingot. It covers all aspects of the supply chain from supplier management to post-delivery, and includes unique identification codes, rigorous supplier evaluation and selection, strict incoming material inspection, and detailed production and warehouse management procedures. By implementing this system, JA Solar ensures that its products meet international standards and regulations, and customers can have complete confidence in the quality, safety and proper Chain of Custody of their solar panels.

## 2.1 Supplier Management

JA Solar actively communicates traceability requirements to suppliers and integrates them into the supplier selection process. Supplier compliance is monitored regularly, and non-conformances are addressed promptly. The regulations on Supplier Development, Evaluation, and Improvement Management specify the supplier selection process and traceability requirements. The annual audit report of Polysilicon supplier includes nonconformance items and QPA scores.

## 2.2 Incoming Material Management

JA Solar requires that all shipments and units received are described in a record to enable traceability. The incoming material inspection report specifies the inspection requirements for materials upon arrival, including checking the outer package and verifying the inspection report provided by the supplier. The Warehouse Delivery Record includes project ID, product name, batch, quantity, supplier name, and other relevant information. The raw materials in the warehouse are physically separated according to pre-defined criteria.

## 2.3 Production

JA Solar strictly controls the use of materials during the manufacturing process to ensure traceability. The company inputs all BOM material information and production process into the MES system, and employees can query all information of products to ensure product traceability. The production records and spot checklists are retained to achieve traceability. The Quality Control Plan manages the traceability of the product production process.

## 2.4 Warehouse Management

JA Solar has implemented rules to handle finished products to preserve traceability requirements. The identification and traceability control procedure requires entering information about finished products, packaging, and other materials into the MES system to achieve traceability. The Warehouse Management Control Procedure requires that finished products are placed at designated locations, and warehousing notices are provided with relevant information. The electronic storage is provided before the product put into storage. The finished product warehouse adopts the ERP system to trace all information about materials.

## 2.5 Shipping

JA Solar has a logistics management system that includes requirements for the entire shipment process. The Warehouse Management Control Procedures and Logistics Management System Control Procedures specify these requirements. Note that all products are mainly supplied to the downstream production base of JA Group making traceability simple. The checklist of the loading process is checked, and traceability management is conducted on the on-site delivery. Relevant customs declaration documents are checked for overseas shipments. The product COA report is checked for product information after shipment.

## 2.6 Post-Delivery

JA Solar's Customer Complaints and Complaints Handling Procedure includes the implementation and control of activities after product delivery and traceability issues. All documents and records from raw materials, storage, production to shipment are stored through software or paper documents. The procurement system, raw material storage system, production system, finished product warehouse

### Summary

JA Solar's traceability system is a comprehensive system that ensures the quality, safety and traceability of its products. The company actively communicates traceability requirements to its suppliers, controls the use of materials during production, implements physical separation of incoming materials, and manages the storage and shipment of finished products to achieve traceability. JA Solar's post-delivery traceability system links information to customers and ensures traceability of products after delivery. The company has various documents and procedures in place to manage traceability and ensure compliance with regulations and customer expectations.