

PURCHASE CONTRACT

采购合同

Contract No. 合同编号: [TST-A11064-1112-CGC-628-0]

Date 日期: [2011-12-27]

[The Buyer: Trina Solar (Changzhou) Science & Technology Co., Ltd.]

买 方: 天合光能(常州)科技有限公司]

Address: No. 2 Tian He Rd, Electronics Park, New District, Changzhou, Jiangsu, P.R.China 213031
地 址: 江苏省常州市新北区电子园天合路2号

Tel: 0086-519-85482008 Fax: 0086-519-85485869

电话: 0086-519-85482008 传真: 0086-519-85485869

The Seller: [WONIK IPS Co., Ltd.]

卖方: [-]

Address: [332-1, Cheongho-ri, Jinwi-myeon, Pyeongtaek-city, Gyeonggi-do, 450-090, Republic of Korea]

地址: [-]

Tel: [82-31-8047-7000] Fax: [82-31-8047-7081]

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This Purchase Contract (hereinafter referred to as "this Contract) is made by and between the Buyer and the Seller, whereby the Buyer agrees to buy and the Seller agrees to sell the below mentioned Equipment (hereinafter referred to as "Equipment") according to the terms and conditions stipulated as below.

本采购合同(以下简称“本合同”)由买卖双方订立,根据本合同规定的条款,买方同意购买,卖方同意出售下述设备(以下简称“设备”):

1. EQUIPMENT, QUANTITY, UNIT PRICE AND TOTAL AMOUNT

设备名称, 数量, 单价和总价

Item 项	Equipment & Specification 设备及规格	Unit 单位	Quantity 数量	Currency 币种	Unit Price 单价	Total Amount 总价	Remark 备注
The First Equipment	HELITEX-AAS0 including subsidiary	set	1	USD	1,075,000	1,075,000	
The First Equipment	Automatic Cell Transfer System(Loader)	set	1	USD	210,000	210,000	
The Second Equipment	HELITEX-AAS0 including subsidiary with Automatic Cell Transfer System(Loader)	set	1	USD	1,285,000	1,285,000	

TOTAL VALUE: USD CIF Shanghai Seaport Two Million Five Hundred and Seventy Thousand ONLY

Note: The specification of Equipment can be listed in a separate appendix to this Contract.
注：设备规格可以在单独的合同附件中列明。

2. MANUFACTURER AND COUNTRY OF ORIGIN 生产厂家和原产地

[WONIK IPS Co., Ltd. Republic of Korea]

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3. PACKING 包装

To be packed in strong wooden case(s) then in container, suitable for long distance ocean/parcel post/air freight transportation and change of climate, well protected against moisture, corrosion and shocks and roughly portage. The Seller shall be liable for any damage of the Equipment and expenses incurred on account of improper packing and for any rust attributable to inadequate or improper protective measures taken by the Seller in regard to the packing. One full set of service and operation instructions concerned shall be enclosed in the case(s). Wooden package shall have heat treatment together with IPPC mark (IPPC stamps shall be available on each of the wooden packages).

包装件必须坚固，适于远距离海陆空运输及气候变化。卖方应按照设备的特点，采取防潮，防震、防腐蚀并耐粗暴搬运措施。由于包装不良，设备损坏锈蚀，应由卖方赔偿经济损失。一整套保养及使用说明一起装箱。包装如含有木质材料，木质包装材料需经热处理并加施 IPPC 标识。(IPPC 标识必须可见于每个木质包装材料上)

4. SHIPPING MARK 发货标记

The main shipping marks and wording: "KEEP AWAY FROM MOISTURE", "HANDLE WITH CARE", "THIS SIDE UP" must be printed on each wooden case; contract number, place of destination, consignee, name of Equipment, package number, gross weight, net weight and measurement must be stipulated in side shipping marks.

Should any Equipment weigh two (2) or more than two (2) metric tons, the center of gravity and hoisting position shall be marked in English and with the appropriate markings on two sides of each case so as to facilitate loading and handling.

每件设备上用不褪色的涂料注明合同号，目的地，收货人，合同产品名称，箱号，毛重，净重，尺寸及按不同的特点刷上“防潮”，“小心轻放”，“这边朝上”等标记及发货标记。
如果有重量为 2 公吨或超过 2 公吨的设备，则应用英文在每个箱子的两面标明重心、起重位置，并附适当的指示性标记，以便于装卸及操作。

5. TIME OF DELIVERY 交货期限

[The First Equipment with manual Cell Transfer System(Loader) and Subsidiary shall be arrived at Shanghai Seaport no later than February 10th, 2012.

The Automatic Cell Transfer System(Loader) for The First Equipment shall be arrived at Shanghai Seaport no later than March 30th, 2012.

The Second Equipment with Automatic Cell Transfer System(Loader) and Subsidiary shall be arrived at Shanghai Seaport no later than April 15th, 2012.]

[第一台设备含手动上下料机和配件不晚于 2012 年 2 月 10 日到上海。

第一台设备的全自动上下料机不晚于 2012 年 3 月 30 日到上海

第二台设备含全自动上下料机和配件不晚于 2012 年 4 月 15 日到上海

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Upon [30 days] in advance written notice, the Buyer may change the Time of Delivery.
买方提前[30 天]书面通知卖方的情况下，可以改变交期。

6. AIRPORT/SEAPORT OF SHIPMENT: 装运港

[Pusan Seaport]
[韩国釜山港]

7. AIRPORT/SEAPORT OF DESTINATION 目的港

[Shanghai Seaport]
[上海港]

8. INSURANCE 保险

To be effected by the [Seller] covering all risks (no less than 110% of the total contract price) and war risks.

由[卖方]投保一切险（不低于合同总值 110%）、战争险。

9. TERM OF PAYMENT 付款条件

[9.1. Thirty percent (30%) of the total contract price shall be paid by the Buyer to the Seller as advance payment via T/T within 30 days after this contract is signed and the following documents have been received.

Signed Performa Invoice with 1 original & 3 copies showing the Contract value, indicating contract number.

Manually signed Commercial Invoice with 1 original and three copies showing 30% value of the contract value, indicating Contract number.

The letter of guarantee issued by the Seller's bank and acceptable to the Buyer's bank with the same as the amount of down payment. The guarantee shall be expired on May 10th, 2012.

[9.2. Seventy percent (70%) of the each shipped value will be paid through the irrevocable Letter of Credit. The Buyer shall issue a draft of the Irrevocable Letter of Credit for the Seller review. Upon acceptance of the draft of Irrevocable Letter of Credit by both parties, the L/C will be issued by the first class bank in China in favor of the Seller 14 days before each shipment. The L/C is subject to International Chamber of Commerce Publication No.600.]

[9.2.1 60% of the each shipped value is to be negotiated against the presentation of the following shipping documents as described in Clause 10 hereinafter;

[9.2.2 10% of the each shipped value will be negotiated against the presentation of the following documents.

Commercial Invoice showing 10% value of each shipped value in three originals and three copies, indicating contract number and L/C number.

A Final Acceptance Certificate signed and chopped by the Buyer, certifying the acceptance of Equipment according to the acceptance criteria as in Annex 3.

Bank Quality Warranty acceptable to the Buyers bank in the amount of 10% of each shipped value issued by the Seller and acceptable to the Buyer after the Buyer signs the Final Acceptance Certificate, the validity of this Quality Guarantee (refer to ICC Publication No. 758) shall be one (1) year commencing from the date when the Buyer signs the Final Acceptance Certificate. The Bank Quality Guarantee shall be payable at sight unconditionally to the Buyer against the first demand of quality claim(s) issued by the Buyer to the Seller.

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本合同下的付款遵循的方式为：

[9.1 合同签订且收到以下单据后 30 天，买方电汇支付合同金额 30% 货款作为预付款。

签署的合同总值的形式发票原件一份，复印件三份，注明合同号。

手签的每批装运设备价值 30% 的商业发票原件一份，复印件三份，注明合同号。

卖方银行出具的并由买方银行认可的与预付款等额的银行保函。

9.2 每批发货设备金额的 70%，将通过不可撤销的信用证支付，信用证将在设备发货前 14 天通过中国一流银行开出并以卖方为受益人。信用证受国际商会第 600 号出版物解释。

9.2.1 每批发货设备金额的 60% 将通过提交以下第 10 款装运单据议付。

9.2.2 每批发货设备金额的 10% 将在卖方提交下列文件后议付。

每批发货设备金额 10% 的商业发票原件三份，复印件三份，注明合同号、信用证号。

买方签署并盖章的最终验收合格证书，证明设备符合附件 3 规定的验收标准。

买方银行接受的每批发货设备金额 10% 的银行保函（参考 ICC Publication No. 758），该质量保函有效期为从买方签署最终验收合格证书之日起 1 年。该银行质量保函应在买方提交其出具给卖方的首次质量索赔函后，无条件见索即付。]

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10. DOCUMENTS 单据

[(1) Full sets of clean on board ocean bills of lading marked "Freight Prepaid" and notify the Buyer.

(2) Commercial Invoices in 3 original and 3 copies indicating 100% of each shipped equipment value, contract number and shipping mark (in case of more than one shipping mark, the invoice shall be issued separately), made out in details as per the relative contract.

(3) Insurance policy or certificate in 2 copies, covering all risks and war risks.

(4) Packing list in 5 copies issued by the Seller.

(5) Certificate of quality and quantity issued by the Seller.

(6) Certificate of place of Origin issued by the manufacturer/the Seller.

(7) Two (2) copies of export licenses issued by the relevant export authority or two (2) copies of the confirmation from the Seller that no export license is required.

If the packing material is in wooden case(s), fumigation Certificate must be presented to the Buyer as a part of negotiation documents; otherwise, the Seller shall offer the Non-Wooden Packing Material Certificate.

(1) 全套清洁提单，注明“运费已付”并通知买方。

(2) 发票 3 份正本，3 份副本，要求注明合同号及发货标记（如发货标记多于一个时，发票要分开填写）。

(3) 保险单或保险证明书 2 份，注明投保一切险，战争险。

(4) 装箱单 5 份

(5) 卖方出具的质量和数量检验证书。

(6) 生产商/卖方出具的产品原产地证明

(7) 出口许可证复印件或卖方签发的表明该批设备无需出口许可证的声明，一式两份。

包装如含有木质材料，卖方必须提供熏蒸证明给买方作为议付单据的一部分；否则，卖方必须提供非木质包装证明。]

11. SHIPMENT 装运条款

The Seller shall ship the Equipment within the shipment time from the airport or seaport of shipment to the airport or seaport of destination.

Trans-shipment is [not allowed] unless the Buyer permits in advance. And partial delivery is: [not allowed].

卖方应于指定期限内将设备由装运机场（港）运送至目的机场（港）。

除非买方事先允许，[不允许]转运；并且，[不允许]分批装运。

12. NOTICE OF SHIPMENT 发货通知

At least [14 days] before making each shipment, the Seller shall send the Buyer written notice of all relevant shipping details, including description, quantity and approximate weight and size of the Equipment in each Shipment, and other information consistent with industry practice.

The Seller shall, immediately upon the completion of the loading of the Equipment, advise by cable /letter/fax the Buyer of Contract No., Equipment, quantity, invoiced value, gross weight etc. (this may not apply for EX Works)

每次装运前[14 天]，卖方应书面通知买方相关运输的细节，包括设备的表述，数量，可能的重量和尺寸及其他依行业惯例应提供的信息。

卖方应在设备装运完毕后立即用电传/信件/传真通知买方，内容包括：合同号，货名，数量，发票总额，毛重，船名及起航日期等。（此条不适合工厂交货）

13. INSTALLATION, TESTING AND ACCEPTANCE 产品安装、调试及验收

[The Seller shall dispatch in total 4 engineers for Installation and 14 days of Field work for installation after the Buyer completes all preparation for installation for each Equipment. The Equipment testing and evaluation shall be finished based on the Acceptance Criteria stipulated in Annex 3 of this Contract in 180 days after installation, excluding facility connection period by the Buyer. During this Period, all the operation parameter should meet Acceptance Criteria as defined in Annex 3 of this Contract. In the event the Equipment does not meet the specifications as defined in Annex 2 and Annex 3 of this Contract after Acceptance Period, the Buyer shall have right to terminate this Contract. In this case, the Buyer shall cease to use the Equipment and shall return the Equipment to the Seller at the Seller's expense. This procedure shall not take more than 30 days from date of written notification to the Seller of the Acceptance failure. Within 30 days upon the date of the written notification delivered to the Seller on the Acceptance failure, the Seller shall return the full amount the Buyer has paid for the equipment via T/T and pick up the equipment without Buyer's bearing any expenses and responsibilities. However, the Buyer shall clean the equipment properly and do its best to help pack the equipment for returning shipment for Seller. In case that the Seller fails to pick up the equipment within 30 days after Buyer's delivering the notification of Acceptance failure, the Buyer shall have the right to disposal the equipment at the expense and risk of the Seller.]

[在买方设置安装准备完成后，卖方需派遣 5 名工程师进行 14 天的设备安装准备。以此合同附件 3 的验收标准为基准，除了买方的设备接续时间，设备需在安装结束后 180 天以内完成验收及评价。在此期间，所有操作参数需满足合同附件 3 的验收条件要求。由于卖方的原因而使设备不能满足合同附件 2 和附件 3 规定的，买方有权解除此合同。此时，买方需停止使用设备并立即将设备还给卖方，一切费用由卖方承担。以上流程需在买方通知卖方验收失败后 30 天之内完成。卖方应在收到买方验收失败通知的 30 天内以电汇方式退还买方已付出的设备货款并自担费用取回设备。买方应尽力帮助卖方包装退还设备。若卖方不能在收到买方通知的 30 天内运走设备，买方有权随意处置该设备。]

14. GUARANTEE OF QUALITY 质量保证

The Seller guarantees that the Equipment hereof is made of the best materials with first class workmanship, brand new and unused, and complies in all respects with the quality and specification stipulated in this Contract which shall satisfy the use of the Buyer. The warranty period shall be [12 months starting from the date which the Final Acceptance Certificate has been signed by the Buyer]. During the Warranty period, the Seller shall provide actual service within [24 hours] from receiving the Buyer's notification for any malfunction or incompliance of the Equipment under normal operation. In case that the Seller fails to respond to the Buyer's notification within [24 hours], the Seller shall pay a fine of [USD 500] per time, which shall NOT prevent the Buyer from launching any claim of compensation based on the other clauses under this Contract. The period of maintenance shall not be counted in the warranty period. Within [5 years] after warranty period, the Seller shall continuously provide technical assistance, maintenance, and necessary replacement for damaged parts. The Buyer shall pay for relative maintenance fee after warranty period which shall be consented by both parties in writing.

The warranty does not include damage or malfunctions arising from any of the following: misuse, abuse, inadequate maintenance, normal wear and tear, service or modifications by other than the Seller authorized technicians, use of the Equipment that is inconsistent with the operation manual or labeling.

卖方保证定购的设备系用最上等的材料和头等工艺制成，全新未曾用过，并完全符合本合同规定的质量、规格和性能，符合买方的使用要求。质量保证期为[买方签署验收合格证书后 12 个月]。质保期内，卖方应在收到买方通知[24 小时]内针对正常操作下的设备的故障或不适当提供切实的服务。如果卖方在收到买方通知后的[24 小时]内未作出回应，则每未作出回应一次应承担[USD 500]的罚款，该罚款不影响买方按照本合同其他条款提出索赔的权利。维护期不计算在质保期内。在质保期结束后[5 年]，卖方仍应继续为买方提供技术支持，维护和必要的毁损部件的替换。买方按双方书面认可的标准支付质保期后的维护费。

上述质保期不包括由于以下原因引起的毁坏和故障，包括操作员的误操作，不恰当使用，不充分的定期检修，正常的损耗，或由未经卖方授权的技术人员的检修，以及未按操作书指示。

Note: [-]

备注: [-]

15. CLAIMS 索赔

Within [180 days] after the arrival of the Equipment at the Buyer's warehouse, should the outside quality, specification, or quantity be found not in conformity with the stipulations of this Contract, the Buyer shall have the right to claim for replacement with brand new Equipment, or for compensation, and all the expenses (such as Inspection charges, freight for returning the Equipment and for sending the replacement, insurance premium, storage and loading and unloading charges, etc.) shall be borne by the Seller. The Seller shall, at the same time, guarantee the quality of the replacement Equipment for a further period of [12 months] as specified in Clause 14 of this Contract.

As regards quality, the Seller shall guarantee that if damages occurring in the course of operation by reason of inferior quality, bad workmanship or the use of inferior materials, the Buyer shall within ten days inform the Seller in writing and put forward a claim. The Seller, in accordance with the Buyer's request of claims shall replace the defective Equipment with brand-new Equipment in part

or wholly or devalue the Equipment. Where necessary, the Buyer shall be at liberty to eliminate the defect(s) themselves at the Seller' expenses. If the Seller fails to answer the Buyer within one month after receipt of the aforesaid claim, the claim shall be reckoned as having been accepted by the Seller. If the Seller has any dispute over the claim of the Buyer, the dispute shall be submitted to the dispute settlement body agreed in this Contract.

[If the quality problem arising out of any reason solely attributable to Seller causes production delay or stop or rework by the Buyer, or causes the Buyer delay delivery to its customers or undertake responsibility of quality problem to its customers, the Seller shall undertake all the actual losses.]

在设备到达买方仓库[180 天]内，如果买方发现外观品质，规格，数量等与合同的规定不符，买方有权要求卖方更换或向卖方提出索赔，卖方应无偿地更换或赔偿，所有因更换或索赔所支出的费用（如检查费，次品送返运费，更换设备运费，保险费，仓储，起卸等费用）由卖方承担。对设备质量，卖方仍应按本合同第 14 条的规定，承担[12 个月]的质保责任。

在质量方面，如设备因质量差劣，工艺不精或使用差劣材料所制成，买方需在十天内以书面通知卖方，卖方应立即根据买方的索赔要求，更换部分或全部设备或贬低索赔设备价值；如情况需求买方自行修补索赔设备，费用由卖方负责。如卖方由于收到以上注明的索赔后，一个月内仍不做答复，当被认为卖方接受所有索赔。如果卖方对买方的索赔有异议，应将异议提交本合同约定纠纷解决机构解决。
[如卖方提供的设备因质量问题造成买方生产延误、停产停工、返工、或对买方的客户迟延交货或承担质量责任等，则卖方应承担买方所有实际损失。]

16. LATE DELIVERY AND DEFAULT PENALTY 迟交和违约责任

In case of delayed delivery except for Force Majeure cases, the Seller shall pay to the Buyer for every week of delay penalty amounting to [0.5%] of the total value of the Equipment whose delivery has been delayed. Any fractional part of a week is to be considered a full week. The total amount of penalty for delivery delay shall not, however, exceed [5%] of the total value of the Equipment involved in late delivery.

If the delay is [5 business days] later than the agreed delivery time, or if the delivered equipment cannot pass the Final Acceptance of the Buyer, the Buyer is entitled to terminate this Contract. However the Seller shall still be responsible for above mentioned penalties. The seller shall refund the amount the Buyer has paid and shall pay [20%] of the contract price as liquidated damages within [5 business days] after the contract is terminated.

If the Seller does not deliver Equipment, the Buyer is entitled to withhold any pending payment to the Seller no matter whether such unpaid Equipment is under this Contract.

The Seller shall perform the replacement obligations described hereinabove in Article 14 and 15 with respect to any of the defective delivery within [5 business days] since the Buyer issues a notice to the Seller. Should the Seller fail to do so, the Buyer is entitled to terminate this Contract immediately. When this Contract is terminated, the Seller shall within [30 days] refund the payment that the Buyer has rendered to the Seller. In addition, the Seller shall pay [20%] of the value of the defected Equipment to the Buyer as Liquidated Damages.

如延迟交货除人力不可抗拒事故者外，卖方应付给买方每一星期按迟交设备总值的[0.5%]的迟交罚款，不足一星期的迟交天数按一星期计算，此项罚款总额不超过全部迟交设备总值的[5%]。

如延迟交货超过原定期限[5 个工作日]时，或设备不能通过买方终验的，买方有权终止合同，但卖方仍应向买方缴付以上规定之罚款。卖方应自合同终止之日起[5 个工作日]内返还买方全部已付货款并支付合同总价[20%] 的违约金。

如果卖方不交货，买方有权停止对卖方的任何应付款项，不论该应付款对应的设备是否在本合同下。卖方应在收到买方通知的[5个工作日内]内对任何有质量瑕疵的交付，履行本合同第14条、第15条约定的义务；卖方未能履行替换义务的，买方有权立即解除合同。合同解除后的[30天]内，卖方应返回买方已支付的设备价款；此外，卖方应当向买方支付有质量瑕疵的设备价值的[20%]作为违约金。

17. INTELLECTUAL PROPERTY GUARANTEE 知识产权保证

The Seller hereby guarantees that the Equipment herein will not infringe intellectual property of any third party. Otherwise the Seller shall compensate the Buyer for all losses arising from any claim related to the infringement.

In case that the Equipment involves the Patent Right of either the Seller or any third party, the Seller shall provide the Buyer with the License of Usage granted either by the Seller or the third party to allow the Buyer to use and to sell the products manufactured by the Equipment globally.

卖方保证其提供的产品不侵犯任何第三方知识产权，否则赔偿买方因此受的所有损失。

如果卖方提供的设备涉及卖方所有或第三方的专利，卖方应向买方提供卖方或第三方的使用许可，以便于买方使用该设备并且在全球范围内销售该设备所生产的产品。

18. CONFIDENTIALITY 保密

Either party undertakes that it and its directors, officers, employees, representatives, agents, Contractors or affiliates will fully respect the confidentiality of internal business affairs of the other party. Each of the parties hereby undertakes to treat as confidential all information obtained from the other party or communicated to the receiving party pursuant to this Contract (or through discussions or negotiations prior to this Contract being entered into) or acquired in the performance of this Contract, and will not divulge such information to any person (except to its own employees and then only to employees who need to know the same and have been directed to treat such information confidentially in accordance with this Contract) and will use such information solely in connection with performing its obligations under this Contract and not for its own benefit or for the benefit of any third party, provided that this clause shall not extend to information:

- A. which is rightfully in possession prior to the commencement of the negotiations resulting in this Contract; or,
- B. which is already public knowledge or becomes so at a further date (other than as a result of breach of this clause); or,
- C. which is communicated or disclosed to the receiving party by a third party lawfully in possession thereof and entitled so to disclose it.

However one party or its affiliate (including parent company, branch or subsidiary) may disclose the content of this Contract if so required by local law or relative government where such party or its affiliate is located.

Without consent of the other party, one party shall not disclose this Contract on internet or any other media or utilize this Contract or cooperation relation between parties to make any advertisement or propaganda.

合同各方均承诺，其自身以及其董事、高级管理人员、雇员、代表、代理、承包商和关联企业会充分尊重另一方内部业务事宜的保密性。每一方均在此承诺对根据本合同从另一方得到或者传递给接收方（或者，在合同签订之前的讨论或者协商中）或者在履行本合同的过程中得到的所有信息保密，并不会将该等信息披露给任何人（但是其自身雇员除外，限于需要知悉该等信息并会根据本条的规定对信息保密的雇员），且仅为与履行其在本合同项下的义务有关的目的使用该等信息，不会为其自身的利益或者任何第三方的利益使用。但上述义务不延及下列信息：

- A. 在由本合同产生的协商开始之前已经合法占有的信息；或者，
B. 已经处于公共领域或者后来进入公共领域的信息（但是因为违反本条款而进入公共领域的除外）；或者，
C. 合法持有并有权披露信息的第三方传递或者披露给接收方的信息。

但是一方或其关联企业（包括母公司，分支机构或子公司）可以基于其或其关联企业所在地法律或相关政府要求披露本合同内容。

未经对方同意，一方不得在网络或任何其他媒体披露本合同或利用本合同或双方合作关系做任何广告、宣传。

19. TERM AND TERMINATION 合同期限和终止

This Contract shall automatically terminate and expire upon the full performance or discharge of all the obligations of the Parties hereunder.

At any time prior to the expiration date, a Party ("Notifying Party") may terminate this Contract through notice to the other Party in writing if:

- (i) the other Party materially breaches this Contract (including but not limited to quality defect which may affect purpose of the Buyer), and such breach is not cured within the cure period granted in the notice by the Notifying Party; or
- (ii) the other Party becomes bankrupt, or is the subject of proceedings for liquidation or dissolution, or ceases to carry on business or becomes unable to pay its debts as they come due; or
- (iii) the conditions or consequences of Force Majeure which have a material adverse effect on the affected Party's ability to perform continue for a period in excess of [5 business days] and the Parties have been unable to find an equitable solution.

合同自双方在合同项下所有义务全面履行或被解除之日起自动期满失效。

合同期满之前，如果发生以下情形之一，一方（“通知方”）可随时向另一方发出书面通知后终止本合同：

- (i) 另一方违反本合同某一重要义务（包括但不限于可能影响买方目的的质量缺陷），且未在通知方发出的书面违约通知中规定的补救期内对违约予以补救；或
- (ii) 另一方破产，或者成为解散或清算程序的对象，或者歇业，或者无力偿还到期债务；或
- (iii) 不可抗力事件或其影响持续超过[5 个工作日]，严重影响合同方继续履行的能力，且双方无法达成解决方案。

20. FORCE MAJEURE 不可抗力

The Seller shall not be held responsible for any delay in delivery or non-delivery of the Equipment due to Force Majeure. However, the Seller shall advise the Buyer immediately of such occurrence and within [5 business days] thereafter, shall send by airmail to the Buyer for their acceptance a certificate issued by competent government authorities of the place where the accident occurs as evidence thereof. Under such circumstances, the Seller, however, are still under the obligation to take all necessary measures to hasten the delivery of the Equipment. In case the accident lasts for more than [5 business days], the Buyer shall have the right to cancel this Contract.

由于人力不可抗拒事故，而卖方交货迟延或不能交货时，责任不在卖方。但卖方应立即将事故通知买方，并于事故发生后[5 个工作日]内将事故发生地政府主管机关出给的事故证明书用航空邮寄交买方为证，并取得买方认可。在上述情况下，卖方仍负有采取一切必要措施从速交货的责任。如果事故持续超过[5 个工作日]，买方有权撤销本合同。

21. Governing Law and Dispute Settlement 适用法律和争议解决

[The laws of Singapore (irrespective of its choice of law principles) will govern the validity of this Agreement, the construction of its terms, and the interpretation and enforcement of the rights and duties of the parties hereto. Any dispute or controversy or difference arising out of or in connection with this Agreement between the parties hereto shall be finally settled by arbitration in Singapore in accordance with the Rules of the Singapore International Arbitration Centre ("SIAC Rules") for the time being in force. The award of the arbitration shall be final and binding upon the both parties. The Tribunal shall consist of three arbitrator(s) to be appointed by the Chairman of the SIAC. The language to be used in the arbitration shall be English.

本合同适用新加坡法律并依其解释（不适用冲突法规则）。凡与本合同或执行本合同而发生的一切争执，应通过友好协商解决。如不能解决，则应申请新加坡国际仲裁中心根据其当时有效的仲裁规则在新加坡进行仲裁。该仲裁委员会作出的仲裁是最终的。买卖双方均应受其约束，任何一方不得向法院或其它机关申请变更。仲裁庭由3名仲裁员组成，仲裁员由新加坡国际仲裁中心主席委任。仲裁的语言为英文。]

22. Specially Agreed Clause/特别约定

- [1. Upon 30 days in advance written notice, the Buyer may postpone the Time of Delivery stipulated in Clause 5.
提前 30 天，买方有权推迟条款五中的交货时间。
- 2. Cure Period mentioned in Clause 19.1 means 5 working days.
条款 19.1 中提及的修复期为 5 个工作日。
]

23. Miscellaneous 其他

23.1 Without the Buyer's consent in written form, the Seller is neither allowed to transfer this Contract nor allowed to subcontract any part of the obligations under this Contract. Any revision or modification of this Contract shall be made and agreed in writing by both parties.
未得买方书面同意，卖方不得将本合同转让，亦不得将本合同项下的权利义务的任何部分分包。本协议仅可以双方同意的书面形式予以修改。

23.2 The terms in this Contract governs the final terms, and in the event of any discrepancy between this Contract and the attached annex(es), the terms in this Contract shall prevail.
本合同条款为主导条款，如附件条款与本合同条款抵触，以本合同条款为准。

23.3 If any provision of this Contract is determined invalid or unlawful or unenforceable to any extent, such provision shall be deleted from the body of this Contract and the remains thereof shall continue to be valid and enforceable to the fullest extent permitted by law.
如果本合同的任何条款被认定为无效，不合法或不可执行，该条款应当从合同中删除。合同剩余部分仍将继续有效并应在法律允许的范围内得到最大程度的执行。

23.4 This Contract is written in both Chinese and English and the [English] version shall govern when there is any conflict.
本合同以英文和中文书写，有冲突时以[英语]文本为准。

23.5 This Contract shall become effective after the signature and stamped by both parties.
本合同在双方签字盖章后生效。

23.6 This Contract is made out in two originals, and each party is to hold one original copy.
本合同正本一式贰份，双方各执壹份。

23.7 Without the Buyer's prior written consent, the Seller shall not disclose the signing and content
Page 10 out of 12

of this Contract via PUBLIC ANNOUNCEMENT at any time, including without limitation the disclosure to all media OUTLETS, internal or external websites or other third parties. Where required by local government or stock exchange regulation, the Buyer asks to be informed in advance of the required reporting date.

未经买方事先书面许可，卖方在任何时候均不得将合同的签订以及合同内容做公开披露，包括但不限于披露给各种媒体、内外部网站或其他任何第三方。如果当地政府部门或证券交易法规要求进行披露，披露方应在披露日之前告知买方。

23.8 The annex under this Contract includes:

[Annex 1: Quotation

Annex 2: Specification

Annex 3: Final Acceptance Criteria

]

本合同附件包含：

[Annex 1: 报价单

Annex 2: 设备规格书

Annex 3: 验收标准

]

[End of the text of this Contract and signature page follows]

[以下无正文]

[Signature page]

[签署页]

[The Buyer: Trina Solar (Changzhou) Science & Technology Co., Ltd.

买方: 天合光能(常州)科技有限公司

By: 

Title/职位: V.P.

Date/日期: 2011.12.29



The Seller: [WONIK IPS Co., Ltd.]

卖方: [-]

By: PARK JONG DAE (Handwritten)

Title/职位: Executive V.P.

Date/日期: 2011. 12. 29



QUOTATION



WONIK IPS Co., Ltd

332-1, Cheongho-ri, Jinwi-myeon, Pyeongtaek-city, Gyeonggi-do,
Republic of Korea

TEL: 82-31-8047-7720
FAX: 82-31-8047-7091

PAGE 1 OF 1

REFER TO THIS NUMBER ON
ANY PURCHASE ORDER CORRESPONDENCE

QUOTATION No	Date
WONIK IPS-1111117-1	27-Dec-11

Customer	P/O NUMBER
TRINA SOLAR	

Destination		Recommended Ship Method	EST Shipment Weight			Prices Are In	
China		Ship	-			USD	
ITEM	Q'ty	DESCRIPTION	P/N	UNIT PRICE	AMOUNT	DELIVERY	
1	2	HEЛИTEX-AAS0 SRIE, 10X10, Cell Size:156mmx156mm Max. Throughput 3,600 wfs/hr(=1,800wfs/hr x 2systems) HEЛИTEX Chamber Ass'y - Hard Anodized Aluminum Chamber - Top Lid Ass'y with Showerhead - Lift Pin Ass'y - Side Chamber Ass'y - Automatic Pressure Control System - RF Matching Network - RF Generator - Gas Box with MFC - Vacuum Gauge - Capacitance Manometer - Rough Vacuum Line - Utility with Gas & Vent Line - Gate Valve - Control Rack - Manual Loader				1) The first equipment including subsidiary with manual loader : Feb 10. 2012 2) Auto cell transfer of the first equipment : Mar 30. 2012 3) The second equipment including subsidiary with auto cell transfer : Apr 15. 2012 The above equipments will be arrived at Shanghai Seaport on the delivery date	
(1) Amount of Chamber Assembly					US\$ 1,900,000		
2	2	Automatic Cell Transfer System(Loader) Auto Cell Transfer System					
(2) Amount of Automatic Cell Transfer System					US\$ 500,000		
3	2 1	Subsidiary Items Dry Pump Ass'y Scrubber(Plasma Type for 2 Systems) Exclude Items : Gas Cabinet, Cl ₂ Gas Leak Detector and Cassette					
(3) Amount of Subsidiary Items					US\$ 311,400		
TERMS OF PAYMENT : TT 30%, LC 70%		QUOTATION TOTAL			US\$ 2,711,400		
THIS QUOTATION EXPIRES : Jan 6, 2012		FINAL PRICE			US\$ 2,570,000	-5% Discount	
Trade Terms CIF Shanghai Seaport							

Certified True and Correct

WONIK IPS Co., Ltd.

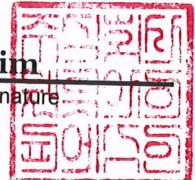
© NOTE

1. Warranty : 1 Year after sign-off
2. Payment Terms: : 30% upon the contract, 60 % on delivery, 10% after final acceptance
3. Shipment Condition : CIF Shanghai Seaport
4. Consumable & Spare Parts are not included in this quote.
5. The manual loader of the first equipment shall be return at the time of shipment of automatic loader.
6. The above delivery is valid only in case the purchase order of customer will be issued within Dec 29, 2011

WONIK IPS-0701-05

WONIK IPS Co., Ltd

KH. Kim
Authorized Signature



R0(04-04-01)

SPECIFICATION

OF

REACTIVE ION ETCHING SYSTEM

HEЛИTEX-AASO

Dec. 2011

Shaojin Qiang

General Manager

Shane Kim

Dec. 28, 2011

[Signature]

[Signature]



The material in this Specification is confidential, and any reproduction or redistribution is prohibited.

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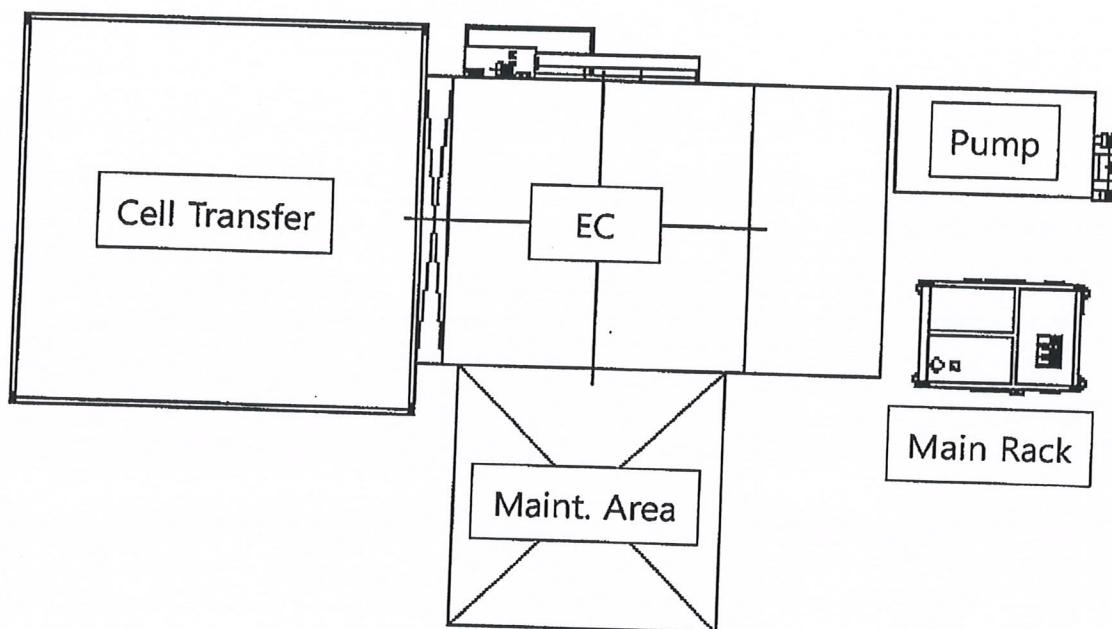
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*Shane Kim
FEB 13*

1. Summary

Reactive Ion Etching System was developed to improve the texturing process of solar cell manufacturing. The standalone type of RIE has the following characteristics.



[System Layout]

Note

- (1) The layout of automatic cell transfer could be changeable according to kind of applied cassette.

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2. General Specification

2-1. Hardware Specification

2-1-1. Available wafer of poly silicon wafer :

156mm×156mm($\pm 0.5\text{mm}$) and 156.5mm×156.5mm($\pm 0.5\text{mm}$) / t 0.2

2-1-2. Plasma Mode: RIE (RF)

2-1-3. Cell arrangement: 10 × 10 (100 wafers)

2-1-4. System Configuration

(1) RIE Chamber Assembly (EC)

(2) Main Control Rack

2-1-5. System Layout : 8,007mm(W) x 3,000(L) x 3,620 mm(H) [24.0 m²]

Except for maintenance area

2-2. Performance

2-2-1. Uniformity of reflectance %⁽¹⁾

wafer uniformity $\leq 20\%$ ($\pm 10\%$);

In-batch uniformity $\leq 20\%(\pm 10\%)$;

Batch to batch uniformity $\leq 10\%(\pm 5\%)$

2-2-2. Maximum UPEH : 1,800 wfs/hr⁽²⁾⁽³⁾

Note

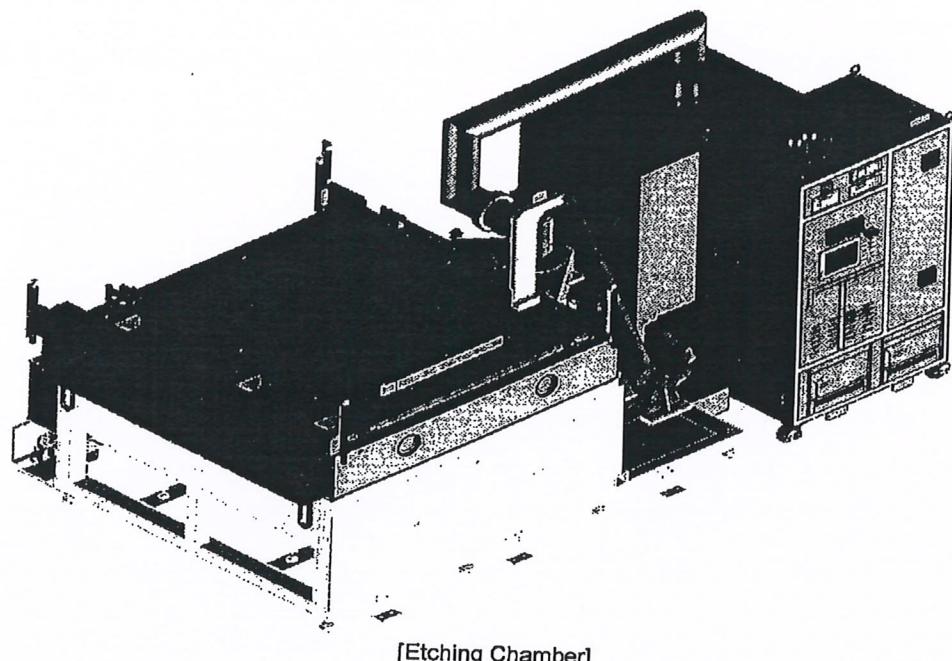
(1) Calculation method: (Max.-Min.)/(2*Average.)

(2) No consider for maintenance terms, cleaning time and troubleshooting

(3) Based on the standard recipe of WONIK IPS

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3. Configuration and Function



3-1. RIE Chamber Assembly

3-1-1. RIE Chamber

- (1) Material: Aluminum
- (2) Chamber Size: 2,272mm x 2,192mm x 360mm
- (3) View Port: 4ea
- (4) Gate Valve with air cylinder

3-1-2. Top Lid with Shower Head

- (1) Top Lid Material: Aluminum
- (2) Shower Head Material: Aluminum
- (4) Top Lid: Power cylinder for easy open & close, Support to prevent from sudden dropping and Interlock system using area sensors.

3-1-3. Bottom Electrode Assembly

- (1) RF Matching Network
- (2) Shield Cover
- (3) Guide Rail for easy maintenance of bottom electrode

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FEB 13*

3-1-4. Lift Pin Assembly

3-1-5. Side Chamber Assembly

- (1) Chamber Material: SUS
- (2) Roughing & Pressure Control Valve
 - Type: Butterfly Valve Type
 - Flange Size: ISO 200
 - Position Indicator

3-1-6. Vacuum Gauge

- (1) Rough Vacuum Gauge
 - Pirani Gauge
 - Measurement Range: 1.0×10^{-3} to 1.0×10^{-3} Torr (1.3×10^{-1} to 1.3×10^{-5} Pa)
 - Operating Temperature: 0 °C to 50 °C
- (2) High Vacuum Gauge
 - Cold Cathode Gauge
 - Measurement Range: 1.0×10^{-11} to 1.0×10^{-2} Torr (1.3×10^{-9} to 1.3 Pa)
 - Operating Temperature : 0 °C to 70 °C
- (3) Capacitance Manometer(Baratron)
 - Full Scale Range: 1 Torr
 - Operating Temperature: 15 °C to 50 °C
 - Accuracy: 0.25 % of Reading
- (4) ATM Switch
 - Pressure Setting Range: -100 ~ 100 kpa
 - Operating Temperature: 0 °C to 50 °C
- (5) Dry Pump
 - Inlet Connection: ISO 160
 - Outlet Connection: NW50
- (6) Material of Exhausting pipe: SUS
- (7) Supply & Return Manifold for water cooling
 - Manual valve installed at port of supply manifold
 - Flow meter installed at port of return manifold for water flow detecting
- (8) Paint Color
 - Frame Weldments: Gray(Paint No: EX4504(S)-TX-GY119)
 - Cover: Ivory (Paint No: EX4504(S)SR-BE006)

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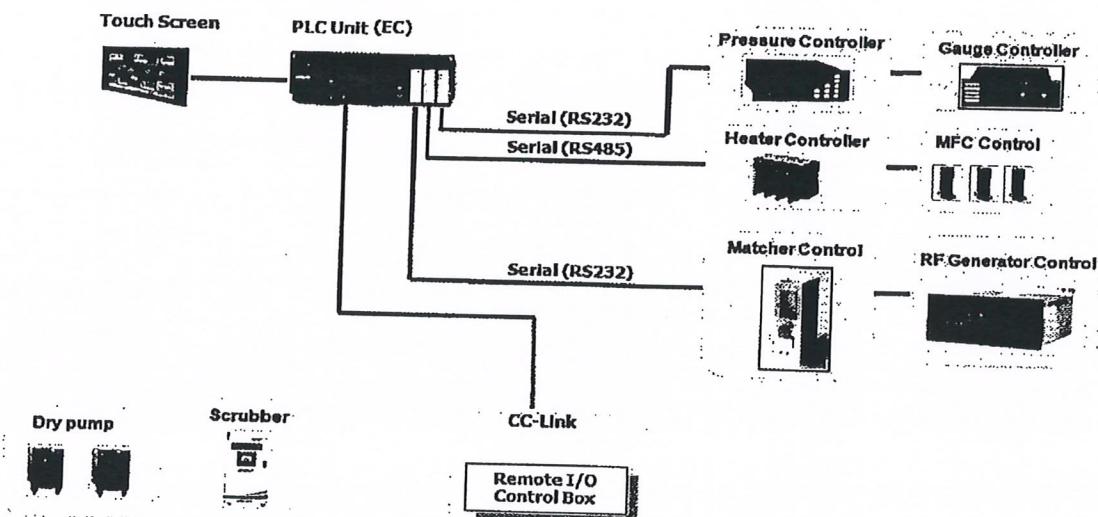
3-2. Gas Box

3-2-1. MFC

- (1) Digital Type, RS485, Normal Close
 - Accuracy: <±1% of Full Scale
- (2) Pneumatic valve installed on back & forth of MFC

3-3. Control System

3-3-1. Touch Screen + PLC



[Control Diagram]

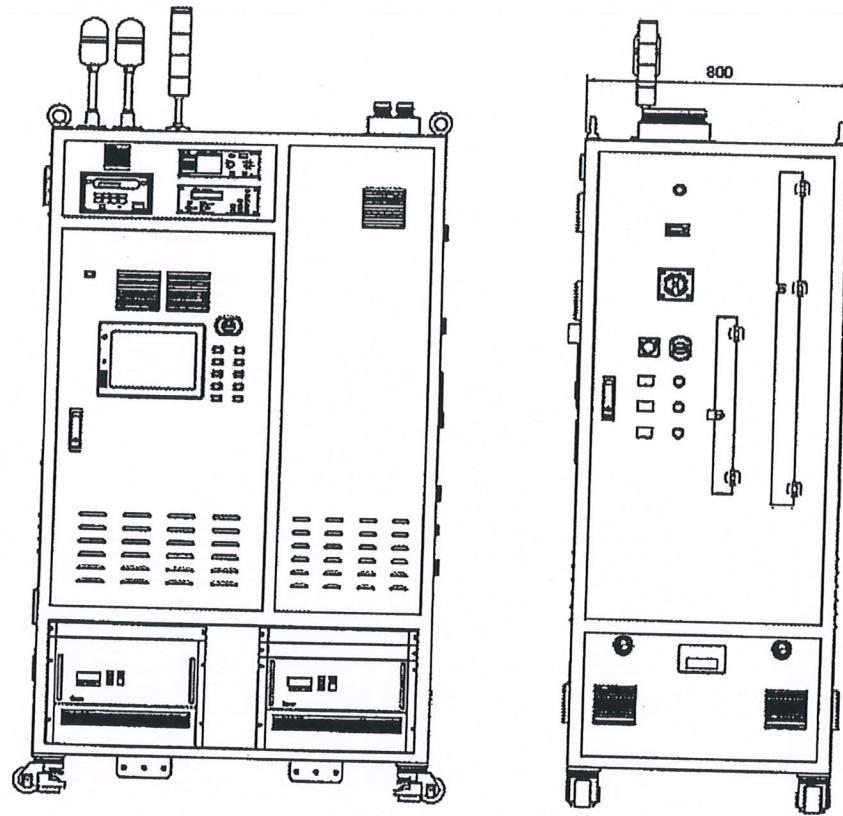
3-3-2. Main Control Rack

- (1) Touch Panel: 12.1 Inch LCD
- (2) PLC Unit
- (3) Gauge Controller with readout
- (4) Throttle Valve Controller
- (5) TMP Controller
- (6) Heater Controller
- (7) RF Generator
- (8) Size: 800mm(W) X 1,200mm(D) X 2,590mm(H)

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*Shure Kim
1/15/13*

Specification of SRIE System



<Main Control Rack>

3-3-3. Remote I/O Box

- (1) CC Link(DIO) Remote Control
- (2) Water Leak Sensor

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*Shane kim
Frisig*

4. Quotation Scope

The below items are not included in this quoted specification and should be performed by customer.

4-1. Facilities connection

- 4-1-1. Customer facilities to WONIK IPS equipment(Process Gas, PCW, Air, GN₂, Power, Exhaust)
- 4-1-2. Dry pump to the scrubber line(Exhaust line)
- 4-1-3. Scrubber facilities(Power, N₂, CDA, City Water, PCW, Waste Water Drain)

4-2. Subsidiary items

- 4-2-1. Gas Cabinet(Cl₂, SF₆, O₂) & VMB
- 4-2-2. Cl₂ Gas Detector
- 4-2-3. Cassette

4-3. Consumable Parts, Parts Cleaning, Overhaul and Preventive maintenance

End.

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FEB 13*



Purchase specification & FAT for RIE

General

1. The system is specified to run $156 \times 156 (\pm 0.5\text{mm})$ and $156.5 \times 156.5 (\pm 0.5\text{mm})$ multicrystal wafers. All the components and software must be fully compatible.
2. System performance and function ability must be verified by TRINA's and Vendor's engineer before shipment and the pre-shipment test report must come to TRINA with machine.
3. After the system is shipped to TRINA, TRINA will connect the necessary facilities to the system and Vendor must hook up all interconnect cable and pipes. (from remote system to mainframe)

Configuration requirement

1. The system power requirement must be : 208 or 380 VAC , 50 Hz, 3 phase 5 wires.
2. Space must be reserved for easy access to each component, pipe fitting, pump for maintenance.
3. The system must be equipped with atmospheric switch to verify venting completion for the purpose of reducing particulate contamination due to air surge caused by opening the chamber under uncompleted venting.
4. Software: TRINA reserves the right to upgrade the software by vendor without any charge if the upgrade is due to software bugs, incomplete safety interlock function or for system unification.

General guides

The supplier should provide to TRINA complete manuals covering the following items. TRINA will consider the completion of this section as part of equipment acceptance issue.

- 1 Instruction guides such as: standard operation procedure with recommended operating conditions, corrective and preventive maintenance procedures and troubleshooting methods.
- 2 Wiring and control logic diagrams, flowchart diagrams, and circuit schematics.
- 3 Factory inspection (pre-shipment test) report.

Spare parts and components

General Manager

Shane Kim

Dec 27, 2011

WONILIC ZPS CO., Ltd.

FAT test 1
Jeffrey 2011/12/28
Jeffrey 2011/12/28
Jeffrey 2011/12/28
Jeffrey 2011/12/28





- 1 Spare/Consumable parts list: vendor should provide to TRINA a complete list of:
 - Consumable parts with part description, and part number.
 - Local inventory parts list. The list should be update to TRINA in a quarterly base at least.
- 2 Quality assurance of parts
 - If any parts failed within its life time because of bad quality, poor design or any unexpected defects of the parts according to the failure analysis report, vendor should provide the defected parts/assembly free of charge to TRINA until corrective retrofit implemented.
 - Any components, modules or sub-assembly which utilized in pressure, flow measure such as MFC, manometer etc, should arrive together with its calibration QA report.

Clean room information

1. TRINA will provide fab information for system installation to vendor.
2. The manufacturer should provide all necessary information to TRINA for installation after the contract is awarded.
3. The vendor should response to all additional cost associated with installing the equipment should there be a need to make special provisions not mentioned beforehand.

Installation procedure

Vendor should provide full installation procedure and drawings to TRINA and prepare the installation schedule to TRINA after the contract is awarded. All special tools and/or instruments required for proper setup or repair should be prepared by vendor. The documents should include the following items:

1. Concise unpacking information.
2. The footprint such as dimensions, weight and elevations of all assemblies and supporting equipment.
3. All dimensions and information such as gases, water, electrically and safety provision required for hookups.
4. Maintenance and service access requirements surrounding the equipment.
5. The method of field assembly when the equipment is delivered in sub-assemblies.

Shane Cain

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FEB 17.18



6. Instructions regarding site storage, protection, and preparation of equipment prior to installation and operation.

Installation plan

1. The vendor should provide an installation plan to complete the installation, start-up, and qualify the system within the time table that mutually agreed by TRINA and the Vendor.
2. The installation release schedule from move-in to Tier II (process tuning) must within two weeks.(RIE process only) On condition that the delay of the installation is caused by TRINA, the delay period(s) will not be counted.
3. A checklist should be provided and followed to ensure that from the preparatory work throughout the installation period has been properly completed.

System Startup

The startup team should include at least one Vendor engineer and at least one Local service engineer plus other experts as Vendor and TRINA mutually agree are necessary. Vendor will guarantee to have the manpower necessary for starting the system up within the period which mutually agreed by TRINA and vendor after facilities hookup.

Performance improving Meetings

Upon TRINA's request, TRINA and the Seller should regularly review any open issues and generates an action plan to improve system performance. Action items might include recommendations for hardware design improvements (retrofit kits), software upgrades, additional training for TRINA or Vendor's Local service engineers, an increase in Vendor's PM and parts for repair inventory, etc.

TRAINING PLAN AND SUPPORT SERVICES

Training

1. Training material must be delivered to TRINA 2 weeks prior to the training course.
2. Vendor should help TRINA set up a preventive maintenance schedule and procedures, which should be tailored to TRINA process and production schedule.
3. Vender should provide TRINA with a series of on-site training courses in the period of machine installation.

Shane Kim

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Feb 13 12.7K



4. Vendor's engineers will demonstrate periodically wet clean maintenance procedures and skills and process information during system installation to train the TRINA engineers to maintain the system correctly.

Support service

1. During start up period, Vendor must provide experienced engineer to work with TRINA's engineer in 7days * 24 hours work time. TRINA reserves the right to require Vendor's engineer to work overtime to meet start up schedule. Also TRINA reserves the right to request supplier change on site engineers if the engineer is regarded disqualified by TRINA.
2. During start up and warranty period, at least one experienced engineer must dedicate in Trina for tool troubleshooting.(on site, Agency eng'r is available also)
3. The Seller shall provide 7x24 hotline support within warranty from warranty starts and the Seller's staff shall arrive at the Trina's fab for troubleshooting. Field support (including hotline service) and parts service must be available 7 day per week, 24 hours per day, during warranty period. Technical support must be available during normal business time.
4. If there is any change in both software and hardware of system a formal revised manual must be given at that portion and without any charge.

Acceptance criteria

1. Acceptance criteria monitor will start after tool released to production and will last for 6 months.
2. Automation should be certified for all the listed items in combination with mainframe. Also the automation should be designed to be compatible to the cassettes for loader and unloader respectively used by Trina solar. Trina should provide the drawing of cassette and sample to IPS.
3. If any of the tests fail at the first time, and pass in the next trial then these tests should be confirmed by a repeated test. If the repeated test fails again, it will be considered as a failure of the test for the second time. If the system fails in 3 continuous trials, it will be considered as fail the test item.
4. During acceptance period, vendor should take full responsibility to the system but also should pass his authority to TRINA engineers who are engaged in this machine.

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T.S.

Shivam

Hardware acceptance:

1	Tool appearance	tidy, no stain or serious damage	observe
2	Tool dimension	match well with the drawing	Observe/measure by tape.
3	Tool integrity	All segment and parts arrived at Trina and assembly completed	Observe/verify by parts list.
4	Uptime	$\geq 95\%$	
5	Wafer breakage	$\leq 0.15\%$	breakage = broken wafers/total output. Thickness 200 μm
6	Chamber/ Corrosive gas line Leak rate	Process chamber $\leq 2\text{mT/min}$ Loadlock chamber $\leq 10\text{mT/min}$, gas line $\leq 0.03\text{mTorr/min}$	LR verify
8	MFC	Actual value within $\pm 1\%$ of full scale	Verify at setpoint of 100% of full scale and record the data.
9	RF power	Forward $< \pm 3\%$, reflect $< 3\%$	observe
10	Temperature	Chamber temperature $\leq 40^\circ\text{C}$	Observe/measure by tool
11	Interlock function	Function active	Test to verify all interlocks function activated (RF, Vacuum, gas cabinet....).
12	Arcing	No components serious damage/wafer scrap due to arcing issue.	Record base on mutual recognize

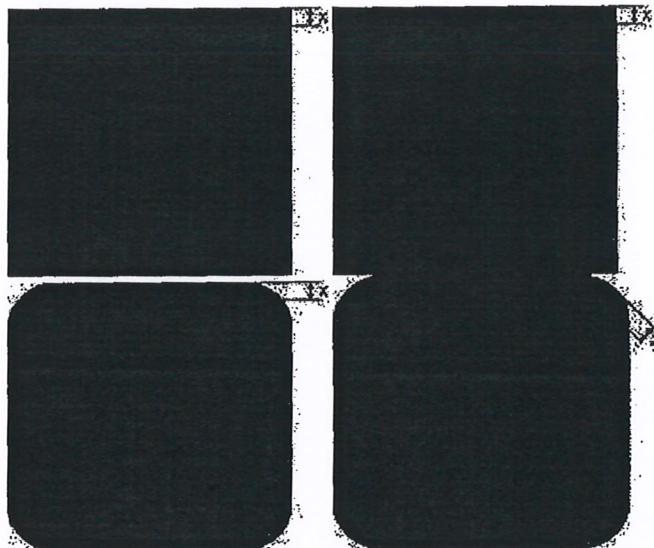
Process acceptance criteria:

1. RIE process: efficiency guaranty for Multi 156mm×156mm($\pm 0.5\text{mm}$) and 156.5×156.5($\pm 0.5\text{mm}$).
2. Average efficiency gain by RIE process comparing to baseline at Trina: $\geq 0.4\%$ With yield $\geq 99.5\%$ (by RIE process only)
3. The definition for process test:

Take 60000 Wafers from the same source out of standard production and run 30000 of the 60000 Wafers through RIE process. Then measure the 30000 wafers with RIE process and the other 30000 Wafers without RIE process (which go through baseline process) and compare the average efficiency.

4. The method of measurement: 5 points measurement for Poly-Si wafer, 1 point at the center, 4 points at the edge, Edge exclusion X=20mm

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Notes: the Reflectance value is absolute; the processed wafer is from Trinasolar

1	Uniformity: (测五点, 距离 Wafer 边缘 5mm) 2.0 mm Scale bar	Within wafer uniformity<=20 % (+/-10%); In-batch uniformity<=20% (+/-10%); Batch-to-batch uniformity<=10%(+/-5%)	50% numbers of process wafers will be measured, which can be adjusted with agreement by both party Uniformity=(Max.-Min.)/(2*Average.)
2	Tolerance of Reflectance % (target %)	±2% of Target reflectance (Average data of each batch, Target reflectance could be changeable for approaching the 0.4% of cell efficiency gain)	Run 100 batch wafers (100pcs/batch) through RIE process, then measure the Reflectance(below picture show the measured way),
3	效率 Cell Eff. Gain	0.40%	According to vendor's recommendation, the each of pre & post process conditions could be changeable for approaching the 0.4% of cell efficiency gain.
4	组件功率 Module Power Gain	The power gain of module with RIE process should be higher than those without RIE process while under the same conditions of all the other process steps.	Module manufacturing process and materials could be optimized in order to gain the power from module with RIE process.

1. Warranty will start right after the system pass all acceptance test items and will last for 1 year.

Shane Kim

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2. All labor and all parts should be free of charge during 1 year warranty except for consumable parts.
3. If there's still any remaining outstanding reliability issues after warranty ends, vendor must take full responsibility to correct these issues and a field support at TRINA will still need until these issues are corrected via mutual agreement.

Shue Lam

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