

16572022/GM-SPVP



CENTRAL ELECTRONICS LIMITED
SOLAR PHOTOVOLTAIC PRODUCTION
TECHNICAL SPECIFICATION
ITEM: MULTI CRYSTALLINE SOLAR CELL 5 BUS BAR

Annexure III

TEST PROTOCOL

(A) For approved vendor:

1. All the vendors shall submit copy of specification of cells and their quality report for all parameters mentioned in Annexure V along with each consignment of cells supplies.
2. The cells will be checked for all the specifications (Sl no. 1 to 8) of Annexure I on sample basis as per CELs quality plan.
3. Acceptance criteria for cell lots:
 - a. If defective cells (not as per specifications stated in Sl. no. 1 to 8 of Annexure I) are less than 3%, all such cells shall be replaced free of cost.
 - b. If defective cells (not as per specifications stated in Sl. no. 1 to 8 of Annexure I) are more than 3% then the whole lot shall be rejected.
 - c. In case lot is accepted during sample check, but during production cells are found defective, those cells shall be replaced by the supplier.

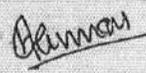
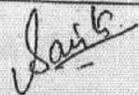
(B) For unapproved vendor:

1. The vendor shall supply sample lot of minimum 200 cells meeting the specification mentioned in Annexure I.
2. The sample cells will be checked at CEL as per the test protocol mentioned above in (A).
3. The sample cells will be evaluated during technical evaluation, if found ok then vendor will become approved vendor for the same tender.
4. The cells supplied against purchase order shall be tested as per the test protocol mentioned above in (A).

PREPARED BY	CHECKED BY	APPROVED BY	ITEM : SOLAR CELL
<i>Pranman</i>	<i>Ass</i>	<i>Saish</i>	ITEM No : 1
			BOM No : 15
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			DATE : 24.12.2020
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CENTRAL ELECTRONICS LIMITED
SOLAR PHOTOVOLTAIC PRODUCTION
TECHNICAL SPECIFICATION
ITEM: MULTI CRYSTALLINE SOLAR CELL 5 BUS BAR

Sl.No (as mentioned in Annexure)	Tender specification	Supplier compliance (Kindly fill YES/NO only)	Annexure-IV Deviated specification offered by vendor (In case compliance in column 3 is marked as NO)
Annexure-I (page 1 of 7)			
1	Dimension : 156.75 x 156.75 ± 0.25 mm or 157 x 157 mm ± 0.25 mm		
2	Cell Wattage : ≥ 4.68 Wp		
3	Cell Thickness : 200 ± 20 microns		
4	Front side: Uniform silicon Nitride (SiN) Anti-reflection coating		
5.1	Shift in printing of the fingers along the whole length of cell : ≤ 0.25 mm for all the cell sides		
5.2	Radial shift in printed fingers : ≤ 1 °		
6	Bow : ≤ 1.5 mm		
7.1	Peel strength : ≥ 1 N		
7.2.1	All five bus bars should have a width 0.8 ± 0.2 mm.		
7.2.2	All five bus bars should have a width 1.5 ± 0.3 mm.		
8.0	All cells should be free from the following defects:		
8.1	Chipping - V shape, edge chip, corner chips.		
8.2	Micro cracks, pin holes and other cracks.		
8.3	Discontinuity of metal printing lines.		
8.4	Colour variation between the cells.		
Annexure II (page 3 of 7)			
1	Only cell manufacturers and their authorized representatives are eligible to submit quotations. The authorized representatives to attach proof of authorization duly signed by the supplier. Bids received from the traders shall be rejected.		
2	Supplier shall confirm that the modules manufactured using the supplier's cells conform to IEC 61215/IS14286, 61730 & 62804.		

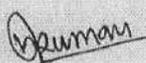
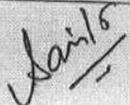
PREPARED BY	CHECKED BY	APPROVED BY	ITEM : SOLAR CELL
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	CENTRAL ELECTRONICS LIMITED
	SOLAR PHOTOVOLTAIC PRODUCTION
	TECHNICAL SPECIFICATION
ITEM: MULTI CRYSTALLINE SOLAR CELL 5 BUS BAR	

Annexure III (page 4 of 7)

3a	If defective cells are less than 3%, all such cells shall be replaced, free of cost.		
3b	If defective cells are more than 3% then the whole lot shall be rejected.		
3c	In case lot is accepted during sample check, but during production cells are found defective, those cells shall be replaced by the supplier.		

PREPARED BY	CHECKED BY	APPROVED BY	ITEM : SOLARCELL
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CEL	CENTRAL ELECTRONICS LIMITED	(2)
	SOLAR PHOTOVOLTAIC PRODUCTION	
	TECHNICAL SPECIFICATION	
ITEM: MULTI CRYSTALLINE SOLAR CELL 5 BUS BAR		

TEST REPORT

Annexure-V

PRODUCT	SOLAR CELL
P. O. No. / DATED	
QUANTITY	

S. No.	DESCRIPTION	SPECIFIED VALUE	OBSERVED VALUE
1	CELL SIZE	156.75 x 156.75 ± 0.25 MM OR 157 x 157 MM ± 0.25 MM	
2	WATTAGE	≥ 4.68 WP	
3	THICKNESS	200 ± 20 MICRON	
4	ARC COATING	UNIFORM OK	
5	PRINT SHIFT FRONT	≤ 0.25 MM	
6	PRINT SHIFT FRONT TO BACK	≤ 0.25 MM	
7	BOW	≤ 1.5 MM	
8	SOLDERABILITY & PEEL STRENGTH	OK, ≥ 1 N	
9	FRONT BUS BAR	0.8 ± 0.2 MM	
10	BACK BUS BAR	1.5 ± 0.3 MM	
11	CHIPPING V SHAPE, EDGE CHIP, CORNER CHIP,	NIL	
	MICRO CRACKS, PINHOLES, CRACKS	NIL	
	METAL PRINT LINE DISCONTINUITY	NIL	
12	PASTE SPOT	NIL	
13	TEMPERATURE COEFFICIENTS (VOLTAGE, CURRENT AND POWER)	AS PER VENDOR SPECS	

PREPARED BY <i>Aruman</i>	CHECKED BY <i>AS</i>	APPROVED BY <i>Varis</i>	ITEM : SOLAR CELL
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Standard terms and conditions:

(Terms and conditions mentioned in Annexure C will supersede these Standard Terms and Conditions wherever there is any difference. Hence please see Annexure C carefully)

1.	CEL will prefers to get offers directly from the original domestic manufacturers and prefer to deal directly with manufacturer.
2.	Terms of Price: The terms of Price would be FOR CEL, Sahibabad unless specified otherwise in special terms & conditions of Annexure C.
3.	No Deviation from Specifications, Terms & Conditions of the tender is allowed. Quotations having deviation from our specifications, standard terms & conditions would be rejected.
4.	All requirements of export licensing, Govt. permissions or any other statutory clearance from the country of export as per regulations existing in the supplier's country shall be the responsibility of supplier, if required as per the terms of the purchase order.
5.	In a tender either the Indian agent on behalf of the foreign Principal/OEM or foreign Principal/OEM itself can bid but both cannot bid simultaneously in the same tender. If an agent submit bid on behalf of the Principal/OEM, the same agent shall not submit a bid on behalf of another Principal/OEM in the same tender. Agent quoting on behalf of OEM /Principal shall submit valid authorization certificate along with their offer.
6.	Taxes and duties: The taxes and duties are to be clearly mentioned, if any.
7.	Delivery schedule: As per Special Terms and conditions of Annexure C.
8.	<p>Payment terms:</p> <p>Option 1: Within 45 days from the consignment note/LWB/ AWB/ Bill of Lading.</p> <p>Option 2: Letter of credit with 45 days usance from the AWB/Bill of Lading. LC charges of opener's bank would be borne by opener and LC charges of beneficiary's bank would be borne by the beneficiary. A loading of 1% on the total amount will be done for comparison of landing cost to CEL, if option 2 is ticked/accepted by the bidder</p> <p>Please tick <input type="checkbox"/> either option 1 or option 2. If no option is selected then option 1 would be considered.</p> <p>Quotation with payment terms other than these 2 options will be rejected.</p>
9.	Inspection: Inspection will be done by CEL representative in CEL premises or supplier's works. CEL shall have free access to the supplier's works during testing and final inspection. Vendor shall inform the MMD not less than one week in advance. All testing arrangements shall be the responsibility of the vendor. CEL reserves the right to inspect the material during manufacturing and/or before dispatch as per specifications and test protocols. Internal inspection report and inspection certificate must accompany the supply. (This clause will be superseded by Inspection clause, if any, in Annexure C).
10.	Price variation Clause: Price variation will not be permitted and quotations having Price variation clause will be rejected. (This clause will be superseded by Price Variation Clause, if any, in Annexure C).
11.	Price reduction for delayed delivery: In the event of delay in affecting the delivery within agreed period, a reduction in the price shall be levied @ 0.5% of the total order value per week or part thereof subject to maximum of 5% of the total order value.
12.	Validity of offer: The quotation/tender/bid submitted by the bidder/supplier shall be valid for a minimum period of 90 days from date of opening.
13.	Determination of Lowest quoting bidder: The lowest quoting bidder would be decided on the basis of lowest landing cost of items to CEL.
14.	<p>Splitting of tender quantity in two or more bidders: CEL reserve the right to split the quantity and award on two or more vendors as per the production / project requirement. The following norms would be adopted in case of split of quantity:</p> <p>If the lowest quoting vendor is an approved vendor and the second lowest and third lowest bidders are also approved vendors to CEL 100% of tender quantity would be split amongst the approved vendors</p>

	<p>only. In case of split of quantity in two approved vendors, the same shall be applicable for lowest (L1) & second lowest (L2) in the ratio of 70:30 at the rate & terms applicable to L1 approved vendor, keeping in view the objective that the per unit landed cost to CEL in case of purchase from L1 or L2 approved vendor remains same. In case of split of quantity in three approved vendors 60% quantity would be awarded to L1 approved vendor and balance 40% quantity will be awarded to the L2 approved vendor and L3 approved vendors in the ratio of L2's quantity > L3's quantity subject to acceptance of L1 rate by L2 and L3 vendor. If the L2 vendor does not accept the L1 approved vendor's rate and terms then the quantity will be split between L1 approved vendors and L3 approved vendors.</p> <p>Micro & Small Enterprises quoting price within price band of L1+15 per cent shall also be allowed to supply a portion upto 20% of requirement by bringing down their price to L1 price where L1 is non MSEs (as per "Public Procurement Policy for Micro & Small Enterprises (MSEs) Order 2012"). If price quoted by a MSE is within L1+15% and such MSE is L4 or higher (provided L1, L2 and L3 are not the MSEs) and agrees to the rates & terms quoted/agreed by L1 bidder, then the splitting of quantities may be done as: MSE bidder: 20%, other bidders: 80% of tender quantity as given in above paragraph.</p>
15.	<p>NEW / UNAPPROVED VENDOR POLICY:Bidders who are not in the approved vendor list of CEL and are unapproved in CEL would be allowed to participate in open tenders. However, the quotation of such bidders would be evaluated based on the eligibility criteria defined in the tenders. If the bidders satisfies the eligibility criteria and meets the specifications and terms and conditions given in the tender then that bidder may be awarded with purchase order/work order of maximum 10% of the tendered quantity in order to develop that bidder as a vendor to CEL for participation in future tenders subject to the following conditions:-</p> <ol style="list-style-type: none"> The bidder should be either the 1st lowest quoting bidder or 2nd lowest quoting or 3rd lowest quoting bidder. The bidder should agree to supply the tendered material at the lowest quoting bidder's rate if the bidder is unapproved and is L2 or L3 bidder. The bidder must fill up the vendor registration form and follows the vendor approval procedure. The maximum quantity to be divided between the unapproved bidders would be 10% of the total tendered quantity. Supply from unapproved bidders who are awarded purchase/work order would be taken only after approval of samples, wherever applicable. In case of Capital items/Projects/EPC/Works Contract or even regular procurement for production where splitting of tender is not possible, purchase/work order would be placed on lowest eligible & technically qualified vendor only. <p>However to develop new vendors, a perpetually open EOI No. C-2(b)/EOI/707/68/2015 is also uploaded on our website and CPP with detailed specifications.</p>
16.	<p>Any corrections/alterations in the tender/quotation/bid should be duly signed by the bidder. CEL does not take any responsibility for delay in receipt or non-receipt or loss of tender(s).</p>
17.	<p>Earnest money deposit (EMD): EMD amount of NIL(and also in tender notice) must be submitted through demand draft/RTGS/NEFT/TT/SWIFT favoring Central Electronics Limited. The demand draft must be valid for three months and should be payable at Delhi. The EMD amount must be submitted on or before the due date of opening of quotations. No interest shall be payable on the EMD. The details of CEL's bank account for RTGS/NEFT of EMD amount are as below:</p> <p>Beneficiary Name: Central Electronics Limited Beneficiary Account Number/IBAN: 87761250000014 Beneficiary Bank SWIFT Address/BIC: SYNBINBB161 Beneficiary Bank Name: Syndicate Bank Beneficiary Bank Address: Sahibabad Branch, CEL Complex, Plot No. 1, Site 4, Sahibabad 201010, U.P., INDIA</p> <p>The EMD (after deduction of bank charges, if any) of unsuccessful bidder will be refunded within one month of finalization of tender. The earnest money of successful bidder would be converted into security</p>

	<p>deposit and would be returned (after deduction of bank charges, if any) to the bidder after two months of successful completion of order.</p> <p>Exemption from submission of EMD: The following type of bidders are exempted from submission of EMD subject to submission of relevant documents mentioned herein:</p> <p>a) Micro & Small Enterprise registered with DIC or KVIC or KVIB or Coir Board or NSIC or DHH or any other body specified by Ministry of Micro, Small and Medium Enterprises, Govt. of India. A copy of valid registration certificate should be submitted with technical bid of quotation.</p> <p>b) Approved vendors of CEL or vendors who have supplied stores to CEL in the last 3 years (attach a copy of Purchase Orders received from CEL with the technical bid).</p>
<p>18.</p>	<p>Tender/Quotation/Bid should be submitted in Online mode. Last date of receiving of tenders/quotations is 28-01-2022 up to 14:00 hrs IST. The following are to be submitted in your quotation duly signed and stamped on all pages:</p> <p>Part A and inline to Pre-Qualification Criteria</p> <ul style="list-style-type: none"> i. Filled up Format for Submission of Vendor Data as per format at Annexure D. ii. Data sheet/catalogue clearly showing that the offered material is meeting the specifications given in the tender. iii. Tender acceptance letter as per format at Annexure E. iv. Original Signed and stamped tender document (photocopy document is liable to be rejected). v. Compliance and acceptance of all the Annexures is a must and any bid without compliance will be liable to be rejected. <p>Part B: (Financial Bid) and inline to Annexure 'F' :</p> <p>Price Bid as per As per Annexure 'F' as asked in the relevant columns.</p> <p>Note: The rates should be quoted in figures (typed or printed) and cutting should be avoided. The final amount should be in figures as well as in words. Changing of heading or title or modification to any part of the price bid may render the bid as invalid and such bids are liable to be rejected.</p> <p>Details of tender:</p> <ul style="list-style-type: none"> a. Tender notice no. C-2(b)/RC/0700/8303/2022 b. Name of the item: c. Due Date: 28-01-2022 d. Nature of Bid : Technical & Commercial (TWO PACKET). <p>Office of the Assistant General Manager, Materials Management Division Central Electronics Limited, 4, Industrial Area, Saur Urja Marg, Sahibabad – 201010 (U.P) INDIA</p>
<p>19.</p>	<p>Opening of Tenders: Technical bid will be opened on as per document control sheet.</p> <p>Note 1: The bidders or their authorized representatives may also be present during the opening of the Technical Bid, if they desire so, at their own expenses.</p> <p>Note 2: The technical bids will be opened and evaluated by a duly constituted committee. After evaluation of the technical bid, Price bids of only those bidders will be opened whose technical bids are found suitable. Date and time of opening of price bids will be decided after technical bids have been evaluated by the committee</p>

20.	CEL reserves the right to reject any or all tenders/quotations/bids received or accept any or all tenders/quotation/bids wholly or in part. Further, CEL reserves the right to order a lesser quantity without assigning any reason(s) thereof. CEL also reserves the right to cancel any order placed on basis of this tender in case of strike, accident or any other unforeseen contingencies causing stoppage of production at CEL or to modify the order without liability for any compensation and or claim of any description. CEL reserves the right to cancel this tender at its discretion without stating any reason.
21.	In case an order placed by the CEL based on the quotation/bid/tender submitted by the bidder/supplier is not executed by the supplier/bidder, CEL may buy the ordered goods from elsewhere and recover the additional amount that CEL may have to spend in procuring the stores plus 10% to cover the overhead & incidental expenses.
22.	Quantity Enhancement: CEL Reserves the right to enhance the quantity of material ordered by amending the purchase order(s) within a year, if any, awarded on the basis of this tender at the rate and terms and conditions mentioned in such purchase order(s) depending on the production requirement and Delegation of Power authorized.
23.	Replacement of Rejected Material: Any material supplied against order place on basis of this tender and found to be defective on inspection or differing from approved samples or make or specifications will be replaced by the supplier free of cost or full refund made for the amount paid by Central Electronics Limited including freight and insurance and other incidental charges at our discretion.
24.	<p style="text-align: center;">Termination for Default :</p> <p>CEL may, without prejudice to any other remedy for breach of contract, by written notice of default sent to the Supplier, terminate the Contract in whole or in part:</p> <p>9.1 If the Supplier fails to deliver any or all of the Goods within the period(s) specified in the Contract, or within any extension thereof granted by the Purchaser; or</p> <p>9.2 If the Supplier fails to perform any other obligation(s) under the Contract.</p> <p>9.3 If the supplier, in the judgment of the purchaser, has engaged in corrupt or fraudulent practices in competing for or in executing the contract.</p> <p>For the purpose of this clause:</p> <p>“Corrupt practice” means the offering, giving, receiving, or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution. “fraudulent practice” means a misrepresentation of facts in order to influence a procurement process or the execution or a contract to the detriment of the borrower, and includes collusive practice among bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the borrower of the benefits of free and open competition. In the event the Purchaser terminates the Contract in whole or in part, the Purchaser may procure, upon such terms and in such manner as it deems appropriate, Goods or services similar to those undelivered, and the Supplier shall be liable to the Purchaser for any excess costs for such similar Goods or services. However, the Supplier shall continue the performance of the Contract to the extent not terminated.</p> <p>The contractor/bidder shall not display the photographs & content of the work and also will not take advantage through publicity of the work without written permission of CEL. Noncompliance to this may result in the blacklisted of firm.</p>
25.	Force Majeure: In no event shall either Party have any liability for failure to comply with this Agreement, if such failure results directly from the occurrence of any contingency beyond the reasonable control of the Party, including, without limitation, strike or other labor disturbance, riot, major power failure, war, natural calamities including but not limited to floods, earthquakes, fire, volcanic eruptions, epidemics, National Emergency, interference by any government or governmental agency, embargo, seizure, or enactment or abolition of any law, statute, ordinance, rule, or regulation (each a " Force Majeure Event"). In the event that either Party is unable to perform any of its obligations under this Agreement because of a Force