

CENTRAL ELECTRONICS LIMITED

(A Public Sector Enterprise)



TENDER DOCUMENT

for

“Supply of SOLAR PV RIBBON, WIDTH : 5.0 MM”

Tender Notice No. C-2(b)/RC/0700/8292/2021 dated 30-10-2021

General Manager (Materials)
Materials Management Division
Central Electronics Limited,
4, Industrial Area, Saur Urja Marg, Sahibabad–201010(UP)INDIA
Tel.No.0091-120-2895145FaxNo.0091-120-2895148
Email: mmd@celindia.co.in Website: www.celindia.co.in



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e-TENDER NOTICE

Tender Notice No. C-2(b)/RC/0700/8292/2021

Date: 30-10-2021

Central Electronics Limited invites Online bids (Technical & Financial) from eligible bidders which are valid for a minimum period of **90** days from the date of opening (i.e. 13-11-2021) for **"Supply of SOLAR PV RIBBON, WIDTH : 5.0 MM"**

Scope of Work	"Supply of SOLAR PV RIBBON, WIDTH : 5.0 MM"
Bid security declaration	As per Annexure-G

Interested parties may view and submit their bid in the tender document containing the detailed terms & conditions, free of cost from the website <http://etenders.gov.in/>

Please see document control Sheet at Annexure -1.

Note:

1. Any downloading from the website is at the sole risk and responsibility of the user. CEL will not be responsible for delay/difficulty/inaccessibility of downloading facility for any reason what so ever.
2. Corrigendum/ addendum to this tender if any, will be uploaded in website mentioned above. This may kindly be noted by the bidders/prospective bidders.
3. CEL reserves the right to reject any or all the tenders, in part or full without assigning any reason thereof.

For **CENTRAL ELECTRONICS LIMITED**

Sd-

General Manager (Materials)

Materials Management Division

Document Control Sheet& Important Dates

Tender Reference No.	C-2(b)/RC/0700/8292/2021
Name of Organization	Central Electronics Limited
Tender Type (Open/Limited/EOI/Auction/Single)	OPEN- TWO PACKET SYSTEM
Tender Category (Services/Goods/works)	Goods
Type/Form of Contract (Work/Supply/ Auction/Service/Buy/Empanelment/Sell)	Supply
Product Category (Civil Works/Electrical Works/Fleet Management/ Computer Systems)	Others
Re-bid submission allowed (Yes/No)	Yes
Is Offline Submission Allowed (Yes/No)	No
Withdrawal Allowed (Yes/No)	Yes
Is Multi Currency Allowed	Yes
Payment Mode (Online/Offline)	Offline/Online
Date of Issue/Publishing	30-10-2021 (12:00 Hrs)
Document Download/Sale Start Date	30-10-2021 (12:00 Hrs)
Bid submission Start Date	30-10-2021 (12:00 Hrs)
Last Date and Time for Submission of Bids	13-11-2021 (14:00 Hrs)
Date and Time of Opening of Bids	13-11-2021 (15:00 Hrs)

INSTRUCTIONS TO BIDDERS:

The bidders must read all specifications, terms and conditions of tender carefully. Refusing to supply after award of order would be considered as breach of trust and causing harm to CEL.

Bidders who are not approved in CEL must apply for registration with Vendor Development Section of Materials Management Division. The details for Vendor Registration and the Vendor Registration Form is available on CEL's website www.celindia.co.in.

Deviations from specifications, terms and conditions are not allowed. The bid of that bidder who mentions deviations anywhere in the technical bid would not be considered for price bid opening. The bid of bidder who mentions deviation in price bid would be rejected and such bidder may be barred/blacklisted for participation in future tenders.

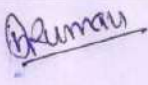


Pre-Qualification:

Pre-Qualification is a must and only suppliers/ bidders meeting them shall be technically evaluated.

	CENTRAL ELECTRONICS LIMITED
	SOLAR PHOTOVOLTAIC PRODUCTION
	TECHNICAL SPECIFICATION
ITEM: PV RIBBON(5.00mm) STRING INTERCONNECT	

ANNEXURE II**ELIGIBILITY CRITERIA FOR TIN COATED PV RIBBON (WIDTH 5.0MM)**

1. Only original manufacturers or their authorized representatives with their valid authorization letter from original manufacturers are eligible to submit quotations.
2. Supplier should have supplied at least worth order for 40% of the tender quantity of similar type of material to solar module manufacturers in India/Abroad during the last two financial years . Proof of the same must be enclosed (such as AWB or B/L or LR copy) along with the bid.


Prepared By	Checked By	Approved By	Item : PV Ribbon (5.0)
			Item No. : 07
			BOM No. : 1 to 5
			Revision : 03
			Date : 12.10.2021
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TENDER DOCUMENT for Tender Notice No. C-2(b)/RC/0700/8292/2021**Important Instructions: -**

1.	The following documents/Annexure are part of tender document:	
	i.	Tender notice along with Annexure-1, 2& 3 (eligibility criteria)
	ii.	Details of item, BOM, specifications, etc. Annexure A
	iii.	Standard Terms and conditions Annexure B
	iv.	Special terms and conditions Annexure C
	v.	Format for submission of Vendor Data Annexure D
	vi.	Tender acceptance letter Annexure E
	vii.	BOQ format for submission of price bid Annexure F
2.	Quotations shall be liable to be rejected if there is/are any deviation(s) from the specifications.	
3.	Escalation in price, deviation from delivery schedule, terms and conditions will not be permitted in your quotation. Statutory Taxes & Duties should be shown separately from the price.	
4.	Bidder who is Micro & Small Enterprises should enclose copy of valid Certificate of Registration with DIC or KVIB 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 to avail benefits under the "Public Procurement Policy for Micro & Small Enterprises (MSEs) Order 2012".	
5.	Catalogue, literature, specification details should accompany the quotation. Incomplete quotations are liable to be rejected.	
6.	Quotation should be submitted ONLINE as per BOQ format (refer Annexure -F) and as per instructions given in tender.	
7.	Any deviations whether technical or commercial stated anywhere in the bid shall not be considered and may render the bid non-responsible and liable to be rejected.	
8.	Vendor Data should be submitted in the Format for submission of Vendor Data as per Annexure D.	
9.	Quotation should be submitted in TWO PACKET system as per instructions in Annexure-B & C.	
10.	In case of any ambiguity between any terms given in Standard Terms & Conditions (GCC) at Annexure B and Special Terms and Conditions at Annexure C, the terms given in Special Terms & Conditions at Annexure C will prevail and supersede those at Annexure B.	
11.	Deviations from specifications, terms and conditions are not allowed. The bid of that bidder who mentions deviations anywhere in the technical bid would not be considered for price bid opening. The bid of bidder who mentions deviation in price bid would be rejected and such bidder may be barred/blacklisted for participation in future tenders.	

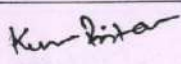


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	CENTRAL ELECTRONICS LIMITED
	SOLAR PHOTOVOLTAIC PRODUCTION
	TECHNICAL SPECIFICATION
ITEM: PV RIBBON(5.00mm) STRING INTERCONNECT	


ANNEXURE-I

1. Width: 5.00 mm \pm 0.05 mm.
2. Bare copper thickness: 0.3 mm \pm 0.01 mm.
3. Ribbon Thickness after coating: 0.335 \pm 0.015mm
4. Base Material: High conductive Annealed ETP Copper ~ 99.9 Cu
5. Resistance: The resistance of the PV ribbon shall not be more than 15 ohm/km at 20 °C.
6. Lead-Tin composition: The coating consisting of 60% tin and 40% lead on each side of the end-strip shall be minimum 15-20 microns.
7. Continuity of coating: The coating on the strip should be uniform and continuous.
8. Camber: camber shall be less than 1.50 mm per 300 mm in length when the solder coated band is allowed to lay itself out the reel.
9. Shelf life: Minimum 12 months at 40° C from date of shipment.
10. Packing:
 - a. 5.0 kgs per 10-S spool. Variation in packing of PV ribbon by weight should be within \pm 10 % of range mentioned.
 - b. Spools should be shrink wrapped or vacuum packed and to be packed in cardboard boxes with EP foam inserts. Consignment must be palletized or packed in metal/wooden Boxes along with P. O. details.
11. Finish: The ribbon should be smooth and uniform. Any branch or streak of exposed copper is not acceptable.

Prepared By	Checked By	Approved By	Item : PV Ribbon (5.0)
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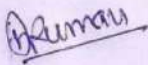
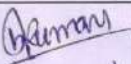
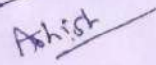

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ANNEXURE II**ELIGIBILITY CRITERIA FOR TIN COATED PV RIBBON (WIDTH 5.0MM)**

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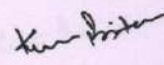


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ANNEXURE – III**TEST PROCEDURE FOR TIN PLATED PV RIBBON (WIDTH 5.00 mm)****(A) For approved vendors:**

1. Supplier shall submit their test /inspection report on the parameters mentioned in the technical specification sheet (S.No. 1 to 9) of Annexure-IV along with each consignment.
2. Solderability and uniformity of the tin-lead coating shall be checked as per IS-9567-1980.
3. Bend Test: The test shall be conducted as per IS-9567 -1980. Material shall withstand a minimum of 10 bends before failure/break. One bend consists of bending the piece through an angle of 90° and then returning it to its original vertical position.
4. The PV ribbon reel shall be rejected, if it does not conform to the quality as specified in technical specifications (S.No. 1 to 9) of Annexure - I.


(B) For unapproved vendor:

1. The vendor shall supply sample lot of minimum 5 kgs of PV Ribbon meeting the specification mentioned in Annexure I.
2. The sample PV Ribbon will be checked at CEL as per the test protocol mentioned above in (A).
3. If the sample lot is approved by the production and QC department, then the vendor will become the approved supplier of PV Ribbon.
4. Subsequent to approval, purchase department shall place order for the balance quantity of PV Ribbon in compliance with the tender conditions.
5. The PV Ribbon supplied against purchase order shall be tested as per the test protocol mentioned above in (A)

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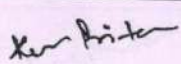

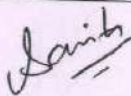
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ANNEXURE-IV**TEST REPORT**


Product	Solar PV Ribbon (5mm)
P.O. No. / Dated	
Quantity	

S. No.	Description	Specification	Observed Value
1	Width	5.0 mm \pm 0.05 mm	
2	Bare Copper Thickness	0.3 mm \pm 0.01 mm	
3	Ribbon Thickness after coating	0.335 \pm 0.015mm	
4	Base Material	High conductive annealed ETP Copper ~ 99.9 Cu	
5	Resistance / Km	15 Ohm at 20° C	
6	Coating Composition/Thickness	Sn : Pb = 60:40 / minimum 15-20 microns on each side	
7	Camber	1.5 mm per 300 mm in length	
8	Material Finish	Bright & Smooth	
9	Shelf life	Minimum 12 month at 40°C from date of shipment	
10	Surface finish	Smooth and uniform	

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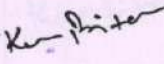

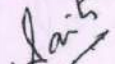
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ANNEXURE-V

Sl. No. (as mentioned in Annexure-I)	Tender Specification	Supplier compliance (Kindly fill YES/NO only)	Deviated specification offered by vendor (In case compliance in column 3 is marked as NO)
1	Width: 5.00 mm \pm 0.05		
2	Bare copper thickness : 0.3 \pm 0.01mm		
3	Ribbon Thickness after coating: 0.335 \pm 0.015mm		
4	Base material: High conductive Annealed ETP Copper ~ 99.9 Cu		
5	Resistance: shall not be more than 15 Ohm/Km at 20 ⁰ C		
6	Coating composition /Thickness: Sn : Pb = 60:40/ minimum 15-20 microns on each side		
7	Continuity of coating: Should be uniform and continuous.		
8	Camber: camber shall be less than 1.50mm per 300 mm in length		
9	Shelf life: Minimum 12 months at 40 ⁰ C from date of shipment		
11	Finish: The ribbon should be smooth and uniform		

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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 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 date of receipt of material in CEL.</p> <p>Option 2: Letter of credit with 45 days usance from the consignment note/LWB/ AWB/BL.</p> <p>LC charges of opener's bank would be borne by opener and LC charges of beneficiary's bank would be borne by the beneficiary in case of foreign bidders.</p> <p>All the LC charges will be borne by beneficiary in case of Indian bidder.</p> <p>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 V either option 1 or option 2. If no option is selected then option 1 would be considered.</p>
9.	Inspection: Inspection will be done by CEL representative. CEL shall have free access to the supplier's works during testing and final inspection. Vendor shall inform the purchase 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 spilt 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>