

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 KVVC 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.	

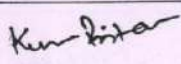

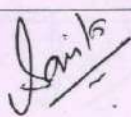
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	CENTRAL ELECTRONICS LIMITED
	SOLAR PHOTOVOLTAIC PRODUCTION
	TECHNICAL SPECIFICATION
ITEM: PV RIBBON(5.00mm) STRING INTERCONNECT	


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)
			Item No. : 07
			BOM No. : 1 to 5
			Revision : 01
			Date : 19.01.2021
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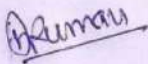
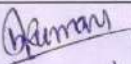

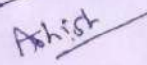
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ANNEXURE II**ELIGIBILITY CRITERIA FOR TIN COATED PV RIBBON (WIDTH 5.0MM)**

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
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			Revision : 03
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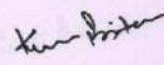

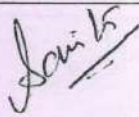
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ANNEXURE – III**TEST PROCEDURE FOR TIN PLATED PV RIBBON (WIDTH 5.00 mm)****(A) For approved vendors:**

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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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	

Prepared By <i>Kem Prater</i>	Checked By <i>[Signature]</i>	Approved By <i>[Signature]</i>	Item : PV Ribbon (5.0)
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