

Bharat Heavy Electricals Ltd.,
(A Government of India undertaking)
Electronics Division
PB No.2606, Mysore Road, Bangalore-560026, India

Sealed quotations are invited under two part bid system for manufacturing and supply of Back Aluminium paste for solar cells as per BHEL requirement.

RFQ NO and date	MDSSCPV058 dated 12.09.2019
RFQ due date & time	04.10.2019 up to 13.00 hrs (IST)
Date, Time & Venue of Part-I Bid Opening	04.10.2019 after 13.30 hrs (IST) New Engineering Building 2nd Floor Bharat Heavy Electricals Limited PB NO 2606, Mysore road, Bangalore-560 026. INDIA
Date, Time & Venue of Price Bid opening	Will be intimated later for technically accepted vendors
Address for Communication & Contact Person in BHEL	Mr. Muhammed Shakir/ Mr. Ramachandra, SC&PV MM Department, BHEL Electronics Division, PB NO 2606, Mysore road, Bangalore-560 026. INDIA Email: muhammedshakir@bhel.in , ramachandra@bhel.in Telephone number: +91 80 26989665, +91 80 26998476

Signature of Tenderer with Seal

REQUEST FOR QUOTATION

	BHARAT HEAVY ELECTRICALS LIMITED Electronics Division PB No. 2606, Mysore Road Bangalore - 560026 INDIA	RFQ NUMBER: MDSSCPV058 RFQ DATE : 12.09.2019	Due Date/Day: 04.10.2019 FRI Time : 13:00 HRS Tender Box : Reception Area Opening Venue: NEW ENGG. BLDG
MMI:PU:RF:003			
(address for communication) :		(for all correspondence) Purchase Executive : MUHAMMEDSHAKIR M K Phone : 080 26989665 Fax : E-mail: muhammedshakir@bhel.in	

SI No.	Description	Qty	Unit	Delivery qty	Delivery Date
1	PV0679039678 Back Aluminium Paste for solar cells * HSN/SAC : 9032 Doc No.- PS439356 Rev - 02 Back Aluminium Paste for solar cells as per specification no PS 439-356	5,000	KG	5,000	31.10.2019

Total Number of Items - 1

1.
2.

TWO PART BID - SUBMIT TECHNICAL AND PRICE BID IN SEPARATE SEALED COVERS

NOTES:

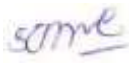
1. This RFQ is governed by:
 - a) INSTRUCTIONS TO BIDDERS/SELLERS and GENERAL CONDITIONS OF CONTRACT FOR PURCHASE available at <http://edn.bhel.com> (**RFQ-PO Terms & Conditions**)
 - b) Any other specific Terms and Conditions mentioned.
 2. Bidders / Representatives who would like to be present during opening of offers are required to furnish authorization letter for the same.
- * The HSN/SAC no mentioned against the line items in the RFQ are indicative only.

For and On behalf of BHEL.

MUHAMMEDSHAKIR M K
Semiconductors & Pho

1 OF 1

	PURCHASE SPECIFICATION GROUP: PHOTOVOLTAICS	Spec. No	PS-439-356
		Rev. No	02
		Page 1 of 1	

		<u>BACK ALUMINUM PASTE FOR SOLAR CELLS</u>																																									
		1. Description: Back side aluminum paste for mono and polycrystalline silicon solar cell wafers. Should be designed to form excellent back surface field, good adhesion properties, lower bowing, no bubbles on sintering and wider process window. 2. Application: For Screen printing (metallisation) of back aluminium paste on Silicon Solar Cells. 3. Technical Specifications:																																									
COPYRIGHT AND CONFIDENTIAL The information on this document is the property of Bharat Heavy Electricals Limited. It must not be used directly or indirectly in anyway detrimental to the interest of the		<table><tr><th>Parameter</th><th>Range</th><th>Supplier's Confirmation</th></tr><tr><td>1. Viscosity (Haake, RV-1, Cone 35/⁰1, D=12 s⁻¹, T = 25 ° C)</td><td>20 – 50 Pa.s</td><td></td></tr><tr><td>2. Fineness of Grind</td><td>< 25 μm</td><td></td></tr><tr><td>3. Solid content</td><td>73 -80 % mass</td><td></td></tr><tr><td>4. Rheology</td><td>Thixotropic, screen printable paste</td><td></td></tr><tr><td>5. Appearance</td><td>Grey</td><td></td></tr><tr><td>6. Resistivity</td><td>< 50 m.ohm/Sq.</td><td></td></tr><tr><td>7. Bowing on 156.75 mm wafers</td><td>< = 1.5 mm</td><td></td></tr><tr><td>8. MSDS, Data Sheet, Storage conditions to be submitted along with the offer</td><td></td><td></td></tr><tr><td>9. Test Certificate – To be provided along with each lot supplied</td><td></td><td></td></tr><tr><td>10. Supplier shall indicate lot number, type number, item description, date of manufacture, date of expiry, Quantity on each Jar.</td><td></td><td></td></tr><tr><td>11. Shelf Life in months</td><td></td><td></td></tr><tr><td>12. Is the product RoHS compliant?</td><td></td><td></td></tr></table>	Parameter	Range	Supplier's Confirmation	1. Viscosity (Haake, RV-1, Cone 35/ ⁰ 1, D=12 s ⁻¹ , T = 25 ° C)	20 – 50 Pa.s		2. Fineness of Grind	< 25 μm		3. Solid content	73 -80 % mass		4. Rheology	Thixotropic, screen printable paste		5. Appearance	Grey		6. Resistivity	< 50 m.ohm/Sq.		7. Bowing on 156.75 mm wafers	< = 1.5 mm		8. MSDS, Data Sheet, Storage conditions to be submitted along with the offer			9. Test Certificate – To be provided along with each lot supplied			10. Supplier shall indicate lot number, type number, item description, date of manufacture, date of expiry, Quantity on each Jar.			11. Shelf Life in months			12. Is the product RoHS compliant?				
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	REVISION: (02)		APPROVED BY : 																																								
		SR																																									
		PREPARED	ISSUED	DATE																																							
		SC 	SC&PV Engg	01.04.2019																																							

RFQ No. : MDSSCPV058 dated 12.09.2019

Supplier Name :

Offer Ref :

Contact Details

Registered Office:-

Address :

Telephone No. :

Email :

Manufacturing plant:-

Address :

Telephone No. :

Email :

Contact person :-

Name:

Office Address :

Telephone No. :

Mobile No. :

Email :

Contact person in India (if any) :-

Name:

Office Address :

Telephone No. :

Mobile No. :

Email :

Signature of Tenderer with Seal

RFQ No. : MDSSCPV058 dated 12.09.2019

Supplier Name :

Offer Ref :

Pre Qualification Criteria

PQC Criteria		
	Particulars	Bidder's Confirmation
1	The offer shall be quoted by original manufacturer of back aluminium paste for solar cell processing.	Name of back aluminium paste manufacturer, complete address & contact details with email address, website. Data sheet of paste to be enclosed.
2	The bidder must have cumulatively supplied at least 5000 kgs of back aluminium paste to solar cell manufacturers in India during the period 01.04.2017 to 31.08.2019	Documentary evidence to be provided (PO copy, delivery details, AWB, Packing list,etc.)

Signature of Tenderer with Seal

Techno-Commercial bid

RFQ No. : MDSSCPV058 dated 12.09.2019

Supplier Name :

Offer Ref :

TECHNICAL		
Sl. No.	Particulars	Bidder's Confirmation (Acceptable / Not Acceptable) Please indicate deviations, if any.
1.	Aluminium Paste offered shall be suitable for solar cell back side metallization.	Please confirm
2.	Please specify suppliers part number	Part no
3.	Certificate of conformance/ Test report to be issued for each lot mentioning technical details and the same to be shared with BHEL before material dispatch, thus to obtain clearance from BHEL for shipment. The Certificate of conformance/ Test report shall mention BHEL Purchase Order Number, invoice number and quantity supplied.	Please confirm
COMMERCIAL		
Sl. No.	Particulars	Bidder's Confirmation Please indicate deviations, if any.
1	Currency of offer: Please specify the currency of your offer	
2.	Terms of Payment	
	i) For Foreign Vendors a) 100% against sight draft with 45 days Credit Note: Deviated payment terms and corresponding loading factors mentioned in clause I (ii) of instructions to bidders (DOC No. BHEL: EDN: ITB-SHOP: REV 03), are not applicable for this tender.	☐
	ii) For Indigenous Vendors a) 100% direct payment with 45 days credit. Note: Deviated payment terms and corresponding loading factors mentioned in clause I (ii) of instructions to bidders (DOC No. BHEL: EDN: ITB- SHOP: REV 03), are not applicable for this tender.	☐

Signature of Tenderer with Seal

3.	Terms of Delivery	
	i) For Foreign Vendors a. CIP Bangalore (Incoterms 2010)	☐
	ii) For Indigenous Vendors a. Door Delivery to BHEL Stores, Bangalore with Freight and Insurance paid.	☐
4	Order Splitting: BHEL reserve the right to Split the order quantity in the ratio of 60:40 to L1, and L2 vendors respectively subjected to L2 vendor accept to supply as per L1 negotiated price. In case, L2 vendor does not accept to supply as per L1 negotiated price, the counter offer will be extended to subsequent vendors ie L3,L4,L5.... In case no subsequent vendor accept to supply in L1 price, balance quantity will be ordered on L1 only. The decision of BHEL shall be final on this matter.	Acceptable / Not Acceptable
5.	Validity: Quotation should remain valid for 90 days from the RFQ due date.	Quotation Validity :
6.	Delivery Schedule required by BHEL: First delivery of 2500 Kgs within a month from the date of purchase order. And balance 2500 Kgs within 3 months from date of PO.	Vendor delivery schedule :
7.	Price basis: Price shall remain same till completion of supply of total ordered quantity. Offers with price on per watt basis shall be rejected.	Please confirm
8.	BHEL Guidelines for Indian Agents of Foreign Suppliers: Supplier shall adhere to “BHEL Guidelines for Indian Agents of Foreign Suppliers “in case the supplier has Indian Agent.	Acceptable / Not Acceptable
9.	Acceptance of Reverse Auction: BHEL EDN reserves the right to adopt Reverse Auction at any point of time after technical evaluation, at its discretion. BHEL may also open the price bids at its discretion.	Acceptable / Not Acceptable
15	Taxes and Duties: (To be filled by Indian vendors) Please indicate percentage of applicable taxes and duties Please specify whether the unit price offered is inclusive/ exclusive of taxes and duties	GST: Others if any (please specify): Inclusive/ Exclusive
16	Eligibility under Preference to Make in India Order: For this procurement, Public Procurement (Preference to Make in India), Order 2017 dated 15.06.2017 & 28.05.2018 and subsequent orders. Please specify if you are eligible to claim the benefits of Indian vendor for supply of PV Modules to BHEL against Public Procurement (Preference to Make in India), Order 2017 dated 15.06.2017. If yes, the required documents evidencing the eligibility as per the order, has to be submitted.	Yes/No, If yes, required documents to be submitted

Place:

Date:

Signature of Tenderer with Seal

PRICE BID

RFQ No. : MDSSCPV058 dated 12.09.2019

Supplier Name :

Offer Ref :

Sl. No.	Item Description	Quantity offered	Price per Kg	Currency
1	Aluminium Paste as per BHEL Specification	5000 Kgs		

NOTE:

1. Technical and Commercial terms shall be as per Techno-commercial bid.

Place:

Date:

Signature of Tenderer with Seal