

Annexure – I

PR No.: 30026423, Dated: 20.09.2017

Item : PET based fluoro-polymer back sheet

Qty. : 5,16,052 SQM

	A. PRE-QUALIFICATION CRITERIA	Bidder's Confirmation (Please indicate deviations, if any)
1	The offer shall be quoted only by the original PET based fluoro-polymer back sheet. Manufacturers. However OEMs can also quote through their authorized channel partners/ dealers / representatives with a valid authorization certificate.	Manufacturing Plant Location: (Complete Address & Contact Details)
2	Vendors should have a minimum of 1,000,000 (one million) SQM per annum production capacity for PET based fluoro-polymer back sheet.	Annual in-house manufacturing capacity for PET based fluoro-polymer back sheet :SQM Vendors should provide Documentary evidence for demonstrating their plant capacity published by the way of published annual reports, licenses, third party certification etc...
3	Vendors should have supplied PET based fluoro-polymer back sheet of minimum 330,000 (three hundred thirty thousand) SQM equivalent per annum to reputed SPV Module manufacturers. The reputed module manufacturer should have manufactured module of rating 250 Wp or above and shall be IEC certified.	Vendors should provide copies of purchase order/ contracts/ delivery documents, performance certificate from their customer's etc., PV module manufacturers for supply of PET based fluoro-polymer back sheet.
	BHEL RESERVES THE RIGHT FOR INDEPENDENT VERIFICATION OF THE CLAIMS MADE FOR CONFORMANCE TO THE PRE-QUALIFICATION CRITERION. BIDDERS TO ENSURE PROVIDING AUTHENTIC CERTIFICATES / DOCUMENTATION AND CREDENTIALS IN ORDER TO QUALIFY FOR BHEL TENDER PROCESS.	
	B. TECHNICAL	
1.	PET based fluoro-polymer back sheet offered shall comply with BHEL Technical Specification No. PS-901-02-0007, Rev. 02.	Acceptable/Not Acceptable
2.	Certificate of conformance to the specification shall be provided with each lot mentioning BHEL Purchase Order number and quantity supplied.	Acceptable/Not Acceptable
3.	Supplier has to replace defective back sheet found during opening of the package at the time of actual use at BHEL.	Acceptable/Not Acceptable
	C. Price Basis	
1	The price is to be quoted on per Metre Square basis.	Acceptable/Not Acceptable
	D. Quantity Splitting	

Prepared By

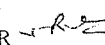
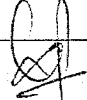
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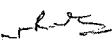
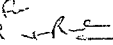
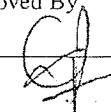
Checked By

Ananda Rao N.

Approved By

Purushotham C.N.

 BHEL-EPD	ELECTROPORCELAINS DIVISION BENGALURU – 560012, INDIA Purchase Specification Group : Photovoltaic Module				SPEC. NO: PS-901-02-0007 REV. 02 JOB NO.- STD. PAGE 01 OF 02	
BACK SHEET – PET BASED SHEET						
COPY RIGHT 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 company.	1.0 PARAMETERS:					
	1.1 Item		: Laminated composite back sheet for photovoltaic module (The back sheet shall be of Three layered structure with Outer layer of fluoropolymer, Middle layer Polyester (PET) based and Inner layer of fluoropolymer or UV resistant polymer sheet with additional layer of Aluminium also will be considered.)			
	1.2 Application		: As back cover for lamination of PV module along with EVA			
	1.3 Width		: 985 ± 2 mm			
	1.4 Thickness		: 300 microns min. ± 10 microns min.			
	1.5 Colour		: White			
	1.6 Adhesion Strength (with EVA)		: ≥ 40N / 10mm			
	1.7 Tensile Strength @ max. load		: MD 100 MPa TD 100 MPa			
	1.8 Elongation @ Break		: MD 100 % min. TD 90 % min.			
	1.9 Thermal Shrinkage		: MD 1.50 % max. TD 0.50 % max.			
	1.10 Transmission rate		: < 2.0 g/m2/day			
	1.11 Dielectric Strength		: ≥ 18 kV			
1.12 Partial Discharge		: ≥ 1000 VDC				
Revision (01):		Issued By	Prepared By	Checked By	Approved By	Date
3 rd Issue		SPV Eng.	RKP 	NAR 	CNP 	20.09.17

	 BHEL-EPD	ELECTROPORCELAINS DIVISION BENGALURU – 560012, INDIA Purchase Specification Group : Photovoltaic Module				SPEC. NO: PS-901-02-0007	
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						PAGE 02 OF 02	
BACK SHEET – PET BASED SHEET							
2.0 PACKING CONDITIONS:							
2.1 Material shall be packed in aluminium foil / polythene cover to avoid possible material degradation.							
2.2 Roll length : not more than 100 linear metres							
2.3 Each roll shall have manufacturer label containing manufacturer name, lot no., date of manufacture, date of expiry, width, quantity.							
2.4 Outside carton/ plywood box shall have BHEL PO number & date and Specification No. - BHEL / PS-901-02-0007.							
2.5 Each lot must be accompanied with a test certificate for conformance to the this specification.							
2.6 Air side to be identified on the roll with printed letters.							
3.0 INSPECTION AT BHEL:							
3.1 Visual Inspection, Dimensional & Properties evaluation							
3.2 Single Sampling Plan as per IS:10673-1983, Special Inspection Level S-4, AQL 1.0							
NOTE:							
▪ Certificate for partial discharge test for permissible system voltage ≥ 1000 VDC as per IEC standards to be provided by the supplier along with the offer. ▪ The backsheet shall be UL / TUV Certified.							
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