(भगत सरकार के अधिनियम से सामिनतित)



#### Indian Institution of Engineers

(Incorporate by an Act of Govt. of India)

Registration No. 990000232

Serial No. 351284

#### Certificate of Chartered Engineer

This is to Certify That

#### HALVAWALA SAGAR ASHWIN KUMAR

is Corporate Member of



#### <u>**Indian Institution of Engineers**</u>

has been Registered as a

#### Chartered Engineer (India)

This certificate has been issued upon the recommendations of the executive council, for acquiring essential credits in Engineering.

C.Eng(!)

Secretary

**Chief Executive Officer** 

Suf

Date of Issue

22-Jan-2020

#### इंडियन इंस्टीट्यूशन ऑफ इंजीनियर्स

(मानत सनकान के अधिमतम मे सहिमतित)



#### Indian Institution of Engineers

(Incorporate by an Act of Govt. of India)

Registration No. 990000232

Serial No. 351284

#### Certificate of Chartered Engineer

This is to Certify That

#### **HALVAWALA SAGAR ASHWIN KUMAR**

is Corporate Member of



#### **Indian Institution of Engineers**

has been Registered as a

#### Chartered Engineer (India)

This certificate has been issued upon the recommendations of the executive council, for acquiring essential credits in Engineering.

C.Eng(!)

Secretary

**Chief Executive Officer** 

Date of Issue

22-Jan-2020

# The Institution of Engineers (India)

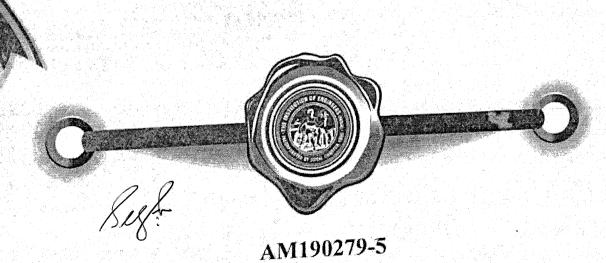
By virtue of Qualification, Professional training and Corporate Membership of this Institution

HALWAWALA SAGAR ASHWIN KUMAR
OF

CIVIL ENGINEERING DIVISION

is hereby authorised to use the style and title of

# Chartered Engineer [India]



Secretary and Director General

the tackery

Dated 26-11-2019

C Eng (India), AMIICEAA, AMIE, AIA (Valuation), MCEV (I), C Engg (I), B Tech (Engg)–Nirma Univ.–A'bad, MBA (Marketing), AIIV (Valuations), AIET (E&T), AISE (Engg), Cert. in Exp-Imp (I.

## Chartered Engineer, Govt. Approved Valuer, Chartered Appraiser - Valuer CHARTERED ENGINEER'S CERTIFICATE

Date: 25/06/2025

To,

The Board of Directors,
Rayzon Solar Limited
1104 to 1107, 1109,1110, Millennium Business Hub,
Sarthana Jakat Naka, Varachha Road,
Surat 395 006
Gujarat, India

#### SBI Capital Markets Limited

Unit No. 1501, 15<sup>th</sup> Floor, Parinee Cresenzo Building, G Block, Bandra Kurla Complex, Bandra East, Mumbai 400 051 Maharashtra, India

#### **Ambit Private Limited**

Ambit House, 449, Senapati Bapat Marg, Lower Parel, Mumbai 400 013 Maharashtra, India

IIFL Capital Services Limited (formerly known as IIFL Securities Limited) 24<sup>th</sup> Floor, One Lodha Place Senapati Bapat Marg, Lower Parel (W) Mumbai 400 013,

Mumbai 400 013, Maharashtra, India

(SBI Capital Markets Limited, Ambit Private Limited and IIFL Capital Services Limited (formerly known as IIFL Securities Limited) are collectively referred to as the "Book Running Lead Managers" or "BRLMs", in relation to the Issue)

Re: Proposed initial public offering of equity shares of face value of ₹ 2 each (the "Equity Shares") of Rayzon Solar Limited (the "Company") comprising a fresh issue of the Equity Shares of the Company ("Fresh Issue" or the "Issue")

Dear Sir/Ma'am,

I Chartered Engineer-ER SH Wala, the undersigned confirm that I am duly registered as a chartered engineer with the Institution of Engineers (India) bearing membership rumber [AM-190279-5] (Certificate of registration enclosed herewith as

Place-Surat,

Er S H Wala

Chartered Engineer,

Govt Approved Valuer, Chartered Appraiser (Valuer), AM-190279-5; A-9100206-01; A-9100207-02; CAT-I-A-5630

R: 2 / 228, Moto Mohallo, Rustompura, Nr Udhna Darwaja, Surat, Gujarat, Pin Code: 395 002; M# 9925680508

Email-shwala93@gmail.com

Er S H Wala

AM-190279-5

A-9100206-01 A-9100207-02 A-9100203-05 M/CAT-I/A-5630

C Eng (India), AMIICEAA, AMIE, AIA (Valuation), MCEV (I), C Engg (I), B Tech (Engg)-Nirma Univ.-A'bad, MBA (Marketing), AIIV (Valuations), AIET (E&T), AISE (Engg), Cert. in Exp-Imp (I.

# Chartered Engineer, Govt. Approved Valuer, Chartered Appraiser - Valuer CHARTERED ENGINEER'S CERTIFICATE

Annexure D), and that I am authorized, and have the required competence and technical knowledge, to issue this certificate. Further, we confirm that the aforesaid registration is valid as on date hereof, and as such, we are duly qualified to issue this certification. We represent that our execution, delivery and performance of this certificate has been duly authorized by all necessary actions (corporate or otherwise).

As of the date of this certificate, the Company operates 2 manufacturing facilities as given below:

Sr. No	Name/ Location	Owned/Controlled by	Type of Facility	Products Manufactured
1.	Karani, Gujarat	Rayzon Solar Limited	Manufacturing	Solar PV Modules
2.	Sava, Gujarat	Rayzon Solar Limited	Manufacturing	Solar PV Modules

Details of facilities including total land area, utilized land area, ownership status of such facilities (freehold/leasehold (including the duration of the lease)

Sr. No	Facility	Total land area (Sq. Mtr.)	Ownership status (Freehold/Leasehold)	Duration of the lease
1.	Karanj, Gujarat	85544	Freehold	NA
2.	Sava, Gujarat	93023.66	Freehold	NA

Place-Surat,



Er S H Wala

Chartered Engineer,

Govt. Approved Valuer, Chartered Appraiser (Valuer), AM-190279-5; A-9100206-01; A-9100207-02; CAT-I-A-5630

C Eng (India), AMIICEAA, AMIE, AIA (Valuation), MCEV (I), C Engg (I), B Tech (Engg)-Nirma Univ.-A'bad, MBA (Marketing), AIIV (Valuations), AIET (E&T), AISE (Engg), Cert. in Exp-Imp (I.

# Chartered Engineer, Govt. Approved Valuer, Chartered Appraiser - Valuer CHARTERED ENGINEER'S CERTIFICATE

Pursuant to the engagement letter dated 10-05-2024, and at the request of the Company, I-ER SH Wala, Chartered Engineer, am required to independently examine, review, verify, confirm and certify the following:

- (a) the installed capacity, available installed capacity, actual production, number of production lines and capacity utilization including utilization and output basis the of the manufacturing facilities located at Karanj, Gujarat and Sava, Gujarat owned and/or controlled by the Company-Rayzon Solar Limited ("Manufacturing Facilities"), material approvals/ licenses obtained by the Company in relation to its Manufacturing Facilities and its operations, details of products manufactured at the Manufacturing Facilities and certain other matters, as appearing in Annexure A; and
- (b) certain other particulars in relation to the Manufacturing Facilities, manufacturing capabilities and technological processes details of which appear in Annexure B of this certificate.
- (c) certain layouts and photographs of the Manufacturing Facilities which appear in Annexure C of this certificate.

Based on our independent review of the information and explanations and representations provided to us by the Company, physical inspection of the machinery and equipment at the Manufacturing Facilities and our verification of the relevant information, records and documents of the Company, including list of machinery and equipments and their capacities, products manufactured and technology involved in production, MIS reports on total monthly production, process description and flow-process diagrams, approvals from/submissions made to governmental authorities or regulatory authorities and applicable licenses specifying licensed capacity, management certified production details and installed capacity for the Manufacturing Facilities and review of actual data at each of the Manufacturing Facilities, capacity additions in the relevant periods, and other necessary procedures and other necessary procedures carried out by us including those as listed in Annexure E in relation to calculation of the installed capacity, available installed capacity, actual production and capacity utilization of the Manufacturing Facilities, we confirm that (a) Annexure A contains true, complete, accurate and fair details of the installed capacity, actual production and capacity utilization at the Manufacturing Facilities for Fiscal 2025, the nine months period ended December 31, 2024, and for Fiscals 2024, 2023 and 2022; (b) the statements mentioned in Annexure B regarding the Manufacturing Facilities are true, complete, accurate and fair. The layout/ pictures of the existing Manufacturing Facilities as on the date of this certificate is attached as Annexure C.

We further confirm that we are an independent organization with no direct or indirect interest in the Company, except for provision of professional services in the ordinary course of our profession in connection with the Issue, and are not related in any manner to the promoters, promoter group, directors, key managerial personnel, its group companies, or directors of its group companies, shareholders, officers, employees, agents, representatives of the Company, the BRLMs or its affiliates and are not a related party of the Company in terms of the Companies Act, 2013 or the applicable accounting standards under applicable law, and that no circumstance subsists that would materially impact our confirmations and findings as expressed in this certificate. Further, we are not and have not been interested or engaged in the formation, promotion or management of the Company.

We consent to the inclusion (in part or full) of the information in this certificate, the annexures hereto and the reference(s) thereto in the draft red herring prospectus ("DRHP"), the fed herring prospectus ("RHP") and the prospectus ("Prospectus")

Er S.H Wala AM-190278-9 A-9100206-81 A-9100207-02 A-9100203-03

M/CAT-1/A-5030

Place-Surat,

Seffr Er S H Wala

Chartered Engineer,

rt. Approved Valuer, Chartered Appraiser (Valuer),

AM-190279-5; A-9100206-01; A-9100207-02; CAT-I-A-5630

C Eng (India), AMIICEAA, AMIE, AIA (Valuation), MCEV (I), C Engg (I), B Tech (Engg)-Nirma Univ.-A'bad, MBA (Marketing), AllV (Valuations), AIET (E&T), AISE (Engg), Cert. in Exp-Imp (I.

#### Chartered Engineer, Govt. Approved Valuer, Chartered Appraiser - Valuer CHARTERED ENGINEER'S CERTIFICATE

intended to be filed by the Company with the Securities and Exchange Board of India (the "SEBI"), Registrar of Companies, Gujarat at Ahmedabad and any relevant stock exchange(s) where the Equity Shares are proposed to be listed (the "Stock Exchanges"), as the case may be, and as well as in addenda or supplements thereto, investor and roadshow presentations, research reports and other documents in relation to the Issue and any other material to be used in relation to the Issue (the "Issue Documents").

We also consent to the inclusion of this certificate as a part of "Material Contracts and Documents for Inspection" in connection with the Issue, which will be available for inspection at the Company's registered office or uploaded on the Company's website from date of the filing of the RHP until the Bid/Issue Closing Date. We hereby consent to the submission of this certificate as may be necessary to the SEBI, the Registrar of Companies, Gujarat at Ahmedabad, the relevant stock exchanges including the repository system of SEBI and/or Stock Exchanges and any other regulatory authority and/or for the records to be maintained by the Book Running Lead Managers and in accordance with applicable law.

We also consent to be named as an 'Expert' in terms of Section 2(38) and Section 26(5) of the Companies Act, 2013, as amended, with respect to this certificate. The following details with respect to us may be disclosed in the Issue Documents:

Name of Chartered Engineer: Halvawala Sagar Ashwinkumar

Name of Organization: ER SH Wala

Address: 2/288, Rustampura Moto Mohallo, Near Moulik Hospital, Behind Udhana Darwaja, Surat

Telephone Number: +91-9925680508

Email: shwala93@gmail.com

Registration Number: AM-190279-5

We hereby confirm that this certificate does not contain any untrue statement of a material fact and does not omit to state any material fact necessary in order to make the statements made herein, in the light of the circumstances under which they were made, not misleading. This certificate may be relied upon (in part or in full) by the Company, the BRLMs and the legal counsels to the Company and the BRLMs, appointed pursuant to the Issue and may be submitted to the Stock Exchanges and any other regulatory or statutory or governmental authority. We hereby consent to this certificate being disclosed by the BRLMs, if required (i) by reason of any law, regulation or order of a court or by any government or competent regulatory authority, or (ii) in seeking to establish a defence in connection with, or to avoid, any actual, potential or threatened legal, arbitral or regulatory proceeding or investigation in relation to the contents of the Issue Documents.

We undertake to immediately inform the BRLMs and the legal counsels in case of any changes or qualifications or any material developments in respect of the matters covered in this certificate (including the annexures hereto) until the date when the Equity Shares pursuant to the Issue commence trading on the Stock Exchanges. In the absence of any such written communication from us until the date when the Equity Shares commence trading on the Stock Exchanges, the above information contained in this certificate herein should be taken as true, correct, accurate and updated and you may assume that there is no change in respect of the matters covered in this certificate.

We agree to keep information regarding the Issue and the contents of this certificate granted by us strictly

Er S H Wala AM-190279-5

A-9100206-01 A-9100207-02

A-9100203-05 M/CAT-I/A-563

confidential.

Place-Surat,

Er S H Wala

Chartered Engineer,

IPPIONS! Govt. Approved Valuer, Chartered Appraiser (Valuer),

AM-190279-5; A-9100206-01; A-9100207-02; CAT-I-A-5630

C Eng (India), AMIICEAA, AMIE, AIA (Valuation), MCEV (I), C Engg (I), B Tech (Engg)–Nirma Univ.–A'bad, MBA (Marketing), AIIV (Valuations), AIET (E&T), AISE (Engg), Cert. in Exp-Imp (I.

# Chartered Engineer, Govt. Approved Valuer, Chartered Appraiser – Valuer CHARTERED ENGINEER'S CERTIFICATE

All capitalized terms used but not defined herein have the meanings ascribed to them in the Issue Documents.

Sincerely,

For and on behalf of ER SH Wala Authorised Signatory Name: Halvawala Sagar Ashwinkumar Designation: Chartered Engineer Encl: As above.

CC:

Legal counsel to the Book Running Lead Managers, as to Indian laws

J. Sagar Associates
One Lodha Place
27<sup>th</sup> Floor, Senapati Bapat Marg,
Lower Parel,
Mumbai 400 013
Maharashtra, India

Legal counsel to the Company as to Indian laws AZB & Partners

AZB House, Peninsula Corporate Park Ganpatrao Kadam Marg, Lower Parel Mumbai 400 013 Maharashtra, India

Legal counsel to the Book Running Lead Managers, as to International laws

Hogan Lovells Lee & Lee 50 Collyer Quay #10-01 OUE Bayfront Singapore 049321

Encl.: As above

Place-Surat,

Er S H Wala
AM-190279-5
A-9100206-01
A-9100207-02
A-9100203-05
LM/CAT-J/A-5630

Er S H Wala

Chartered Engineer,

Govt. Approved Valuer, Chartered Appraiser (Valuer), AM-190279-5; A-9100206-01; A-9100207-02; CAT-I-A-5630

C Eng (India), AMIICEAA, AMIE, AIA (Valuation), MCEV (I), C Engg (I), B Tech (Engg)-Nirma Univ.-A'bad, MBA (Marketing), AIIV (Valuations), AIET (E&T), AISE (Engg), Cert. in Exp-Imp (I.

CHARTERED Valuer Appraiser Chartered Valuer, CERTIFICATE Approved Govt. ENGINEER'S Engineer, Chartered

# Annexure A

A. Details of the installed capacity and capacity utilization of the manufacturing facilities located at Karanj, Gujarat for the nine months period ended on December 31, 2024, Fiscals 2024, 2023 and 2022

# Facility:

	<b>l</b> .												(Capac	ity Menti	(Capacity Mentioned in MW)	M
Category	Nine a	nonths period e	Nine months period anded December 31: 2024	11,2024		<b>78</b> 1	Fiscal 2024			Fiscal 2023	2023			Fiscal Francisco	Fiscal 2022	
	Installed Capacity	Installed Available Capacity Capacity	Actual Production	Capacity utilization (in %)	Installed Capacity	Available Capacity	Actual	Capacity utilization (in %)	Installed Capacity	Available Capacity	Actual	Capacity : utilization (in %)	Installed	Available Capacity	Actual Production	Capacity utilization (in %)
Manual Poly line	0	0	0	0	300	250	109.13	43.65%	500	350	122.08	40.69%	300	300	125.281	41.76%
Auto Line 1 of Mono Perc	009	450	313.865	69.75%		009	406.97	67.83%	009	450	149.89	33.31%				
Line 2 of Topcon/Mono Perc	009	450	367.946	81.77%	009	225	146.12	64.94%								
Line 3 of Topcon/Mono Perc	009	450	333.534	74.12%	009	75	42.55	56.73%								
Line 4 of Topcon \ Mono Perc	009	300	197.301	65.77%												-

Place-Surat,

Chartered Engineer,

M/CAT-1/A-5630

ENS H Wala

Govt. Approved Valuer, Chartered Appraiser (Valuer), AM-190279-5; A-9100206-01; A-9100207-02; CAT-I-A-5630

R:2/228, Moto Mohallo, Rustompura, Nr Udhna Darwaja, Surat, Gujarat, Pin Code: 395 002 M # 9925680508

C Eng (India), AMIICEAA, AMIE, AIA (Valuation), MCEV (I), C Engg (I), B Tech (Engg)-Nirma Univ.-A'bad, MBA (Marketing), AIIV (Valuations), AIET (E&T), AISE (Engg), Cert. in Exp-Imp (I. CHARTERED

Valuer

# Appraiser Chartered Valuer, CERTIFICATE Approved Govt. ENGINEER'S Engineer, Chartered

	<del></del>		
Capacity utilization (in %)			
Fiscal 2022  Available Actual Capacity Capacity Froduction (iii ye)		125.281	
Fisca Available Capacity		300	
installed Capacity		300	
Capacity utilization (in 96)			
Fiscal 2023  Vallable Actual apacity Production		271.97	
Fiscal Fi		800	
Installed Capacity		1100	
Capacity attlization (in %)	·		
Fiscal 2024  Figure 2024  Actual to Production to		704.77	
Ayailal Capac		1150	
to the state of th		2100	, 000
51; 2024 51; 2024 Capacity utilization (m.%)	72.75%		
Nine months period ended December 31, 2024  Nine months period ended December 31, 2024  Interest Available Actual Capacity Capacity Production minit	181.883	1394.52 9	
onths period et	250	1900	
Nine months period e	009	3000	
Category	Line 5 of Topcon/Mono	Total	

Note: There has been no production of manual polyline since April 1, 2024.

	As of December 31.	As of March 31.	As of March 31,	As of March 31,
Particulars	2024	2024	2023	2022
Karani Facility				
,				
Number of production lines	5.00	4.00	2.00	1.00
Installed consoity (GW)(1)	3.00	2.10	1.10	0.30
Installed Capacity (C w )(1)				
Available installed capacity (GW)(2)	1,90	1.15	0.80	0.30
Available illotation outputs ( = 11 /= )			`	1.08

Place-Surat,

**Chartered Engineer** 

Er S H Wala

Govt. Approved Valuer, Chartered Appraiser (Valuer).

AM-190279-5; A-9100206-01; A-9100207-02; CAT-I-A-5630

R:2/228, Moto Mohallo, Rustompura, Nr Udhna Darwaja, Surat, Gujarat, Pin Code: 395 002; M # 9925680508

C Eng (India), AMIICEAA, AMIE, AIA (Valuation), MCEV (I), C Engg (I), B Tech (Engg)–Nirma Univ.–A'bad, MBA (Marketing), AIIV (Valuations), AIET (E&T), AISE (Engg), Cert. in Exp-Imp (I.

CHARTEREL

Valuer Appraiser Chartered Valuer, CERTIFICATE Govt. Approved ENGINEER'S **Engineer**, Chartered

	-			7
Actual production (3)	1.39	0.70	0.27	0.13
Capacity utilization (%)(4)	73.40%	61.28%	34.00%	41.76%

Er S H Wala Co A +910205-05 Co A -9100205-05 Co A -9100203-05 Co A -910020

Er S'H Wala

Chartered Engineer,

Place-Surat,

Govt. Approved Valuer, Chartered Appraiser (Valuer),

AM-190279-5; A-9100206-01; A-9100207-02; CAT-I-A-5630

R:2/228, Moto Mohallo, Rustompura, Nr Udhna Darwaja, Surat, Gujarat, Pin Code: 395 002; M # 9925680508

C Eng (India), AMIICEAA, AMIE, AIA (Valuation), MCEV (I), C Engg (I), B Tech (Engg)-Nirma Univ.-A'bad, MBA (Marketing), AIIV (Valuations), AIET (E&T), AISE (Engg), Cert. in Exp-Imp (I.

# Chartered Engineer, Govt. Approved Valuer, Chartered Appraiser - Valuer CHARTERED ENGINEER'S CERTIFICATE

#### Annexure B

The Company manufactures solar PV modules at two manufacturing facilities located in Karanj and Sava in Surat, Gujarat, India, each with an existing solar PV module manufacturing installed capacity of 3.00 GW. The Company has recently increased it manufacturing capacity by 3.00 GW at a new manufacturing facility in Sava, Gujarat, thereby increasing their aggregate manufacturing capacity to 6.00 GW as of March 31, 2025.

The Company has rapidly expanded the installed manufacturing capacity for solar PV modules from 40 MW as of March 31, 2018 to 2.10 GW as of March 31, 2024, to 3.00 GW as of December 31, 2024, and subsequently to 6.00 GW as of March 31, 2025.

Since the commencement of the commercial operation, the Company has supplied 2.49 GW till December 31, 2024 of high-efficiency solar PV modules, both domestically and internationally.

They manufacture the modules using advanced equipment for automated glass loading, automated cell cutting and stringer, robotic lay-up, automated encapsulant cutting and loading, and auto bussing, which optimizes module performance and enhances electricity generation from sunlight; and TOPCon technology, which enhances overall efficiency and reduces energy loss. Their solar PV modules are designed for utility scale, residential, commercial and industrial installations and optimize space to increase power density.

As of the date of this Report, they operate two manufacturing facilities in Gujarat. The manufacturing facility in Karanj in Surat, Gujarat ("Karanj Facility") commenced commercial production in Fiscal 2018 and is spread across 21.14 acres. As of December 31, 2024, the Karanj Facility recorded a capacity utilization of 73.40%. In March 2025, they have also commenced commercial production at the manufacturing facility in Sava in Mangrol, Surat, Gujarat ("Sava Facility"), which is spread across 22.99 acres.

Their facilities are equipped with advanced machinery and industrial grade automated tools and production processes are designed to ensure the highest standards of quality and efficiency.

This technological investment enables them to meet the increasing demand for reliable solar products while maintaining competitive pricing. This enhances operational efficiency and product quality, ensuring that they produce innovative solutions tailored to the needs of Company's diverse customer base.

Below are the Major Events and Milestones of the company:

Calendar year	Major events and milestones
2017	Commenced manufacturing of Polycrystalline [Mfg] line having capacity of 0.04 GW capacity
2020	Expansion of capacity from 0.04 GW capacity to 0.145 GW
2020	Reached sales amounting to ₹ 1,0,000 million
2021	Expansion of capacity from 0.145 GW capacity to 0.300 GW
2022	Installed Mono-PERC Technology production line of 0.60GW and cumulative capacity stood at 1.10 GW
2022	Commenced export business in US.
2023	Installed TOPCon Technology production line and cumulative capacity stood at 1.70 GW
2024	Achieved sales of additional ₹ 10,000 million in single calendar year
2024	Expansion of capacity to 3 GW
2025	Expansion of manufacturing capacity from 3 GW to 6 GW

Place-Surat,

Ser S H Wala

Chartered Engineer,

DproGovt: Approved Valuer, Chartered Appraiser (Valuer), AM-190279-5; A-9100206-01; A-9100207-02; CAT-I-A-5630

R: 2 / 228, Moto Mohallo, Rustompura, Nr Udhna Darwaja, Surat, Gujarat, Pin Code: 395 002; M # 9925680508

Er S H Wala

AM-190279-5 A-9100206-01 A-9100207-02 A-9100203-05 M/CAT-1/A-5630

C Eng (India), AMIICEAA, AMIE, AIA (Valuation), MCEV (I), C Engg (I), B Tech (Engg)-Nirma Univ.-A'bad, MBA (Marketing), AllV (Valuations), AIET (E&T), AISE (Engg), Cert. in Exp-Imp (1.

#### Chartered Engineer, Govt. Approved Valuer, Chartered Appraiser - Valuer CHARTERED ENGINEER'S CERTIFICATE

2025

Reached cumulative sales amounting to ₹ 50,000 million

#### Annexure C

Karanj Facility



Karanj Facility has received numerous certifications, including ISO 9001:2015 for quality management systems, ISO 14001:2015 for environmental management systems, and ISO 45001:2018 for occupational health and safety management systems. These certifications reflect Their commitment to adhering to international standards, enhancing Company's credibility in the renewable energy sector. Company's Karanj Facility is also ALMM approved, which allows company to participate in bids for government projects and cater to a broader customer base. The facility is involved in developing new inline testing equipment to improve the reliability of solar modules and improving existing products, ensuring maintenance a dependable product line up that meets market demands. It is also committed to researching new testing methodologies, such as employing UV and damp heat tests in a single chamber with customized developed testing equipment, so as to enable the solar PV modules to perform in similar field conditions.

Accordingly, there is an emphasis on the utilization of DCR solar modules supplied by domestic manufacturers for these solar projects.

Er S H Wala

AM-190279-5 A-9100206-01

A-9100207-02 A-9100203-05 .M/CAT-I/A-5630

They are focusing on backward integration through the establishment of a 3.50 GW TOPCon solar cell manufacturing unit through Company's Subsidiary, Rayzon Energy Private Limited in Kathvada, Surat, Gujarat, which is expected to become operational in Fiscal 2027.

For instance, production lines use automated glass loading, cell cutting and stringing, robotic lay-up, automated encapsulant cutting and loading, and auto bussing; and entire line up until lamination of the solar modules is fully automated.

They use co-extruded poly-olefin elastomers ("POE") encapsulant in Company's dual glass modules, which ensures best-in-class PID resistance of solar modules and maximizes energy generation. In addition to these advancements, they are also focusing on the adoption of advanced solar cell manufacturing technologies after TOPCON technology.

#### **Product Portfolio**

Their product portfolio includes (i) bifacial (dual glass or glass) modules with TOPCon cells and Mono PERC cells, (ii) bifacial (glass to transparent backsheet) modules with Mono PERC cells, (iii) monofacial (single glass to white back sheet / black back sheet) modules with Mono PERC cells, (iv) a full black variant of bifacial modules with TOPCon cells, and (v) a full black variant of bifacial and monofacial (glass to glass and glass to transparent backsheet) modules with Mono PERC cells. This varied product line enables them to meet the varied needs of the customers with a wide range of applications such as utility-scale projects, as well as residential and C&I applications...

TOPCon Modules (Also known as N-Type Modules): These modules utilize solar cells based on advanced TOPCon technology which offers high efficiency, a low negative temperature coefficient and low degradation on account of no LID losses, making them ideal for both utility-scale and distributed solar applications. They are available in multiple power ratings, ranging from 570 Wp to 600 Wp, ensuring a fit for different energy requirements. Key specifications include a module efficiency from 22.08% to 23.25% on the front surface of the module, a temperature coefficient (Pmax) of -0.29%/°C, and an operating temperature range of 40°C to +85°C.

Place-Surat,

Er S H Wala

Chartered Engineer,

Govi Approved Valuer, Chartered Appraiser (Valuer), AM-190279-5; A-9100206-01; A-9100207-02; CAT-I-A-5630

R: 2 / 228, Moto Mohallo, Rustompura, Nr Udhna Darwaja, Surat, Gujarat, Pin Code: 395 002; M# 9925680508

C Eng (India), AMIICEAA, AMIE, AIA (Valuation), MCEV (I), C Engg (I), B Tech (Engg)-Nirma Univ.-A'bad, MBA (Marketing), AIIV (Valuations), AIET (E&T), AISE (Engg), Cert. in Exp-Imp (I.

# Chartered Engineer, Govt. Approved Valuer, Chartered Appraiser - Valuer CHARTERED ENGINEER'S CERTIFICATE

Mono PERC Module (Also known as P-Type Module): These modules utilize solar cells based on PERC technology offer high efficiency and reliability, making them ideal for both utility-scale and distributed solar applications. They are available in multiple power ratings, ranging from 540 Wp to 560 Wp, ensuring a fit for different energy requirements. Key specifications include a module efficiency of up to 21.69%, a temperature coefficient of 0.33%/°C, and an operating temperature range of -40°C to +85°C.

Bifacial Modules: These modules are designed to capture sunlight from both sides and significantly enhance energy generation. They are particularly suitable for installations on ground or flat roofs where reflected sunlight incident on back side of solar modules can help in maximizing output. The bifacial design allows for increased energy yield, especially in environments with high albedo surfaces such as white painted cement, sand or snow cover. Key specifications include bifacial power ratings ranging up to 750 Wp ("BNPI") for bifacial gain of 25.00%. These modules can be made with cells from both TOPCon and Mono PERC technologies. We provide a product warranty of 15 years and a performance warranty of 30 years on these

Monofacial Modules: These modules are known for their cost-effectiveness and efficiency and are designed to be ideal for roof-top solar installations, as they capture sunlight from only one side of the module. They are engineered to deliver consistent performance and are available in various power ratings ranging from 400 Wp to 560 Wp, catering to a wide range of applications. Key specifications include a module efficiency of up to 21.69%, a power tolerance of 0 to +4.99 W, making them light in weight due to the use of glass only on the front side of the module, which is ideal for installations on slant roofs. These modules can be made with Mono PERC cell technology. We provide a product warranty of 12 years and a performance warranty of 30 years on these modules.

Black Modules: These modules are designed specifically for residential rooftops, offering a sleek look with black frames without compromising on performance. They are intended to blend with modern architectural designs, providing both functionality and visual appeal. Key specifications include a module efficiency of up to 22.29%, power ratings ranging from 410 Wp to 435 Wp (considering front side power), a black coloured anodized aluminium alloy frame, an ARC coated low iron semi-tempered glass front cover, and a semi-tempered glass back cover with black gridlines. In case of dual-glass black modules, the frame used is black in colour.

Tabulated Data for Product Portfolio as Below.

S. No.	Type of Module	Applied Model	Enlisted Models	Module Efficiency (%)	No. of Cells in Module
			RS385WC	19.72	
			RS390WC	19.96	
			RS395WC	20.22	
			RS400WC	20.47	108 (Half Cut
i	Mono c-Si PERC Modules	RS400WC (400 Wp)	RS405WC	20.75	Cells)
		,	RS410WC	20.97	
			RS415WC	21.22	
			RS420WC	21.48	
			RS425WC	19.67	
			RS430WC	19.88	
			RS435WC	20.12	
			RS440WC	20.37	120 (11-16 ()-1
ii	Mono c-Si PERC Modules	RS445WC (445 Wp)	RS445WC	20.60	120 (Half Cut Cells)
			RS450WC	20.84	
	A**		RS455WC	21.00	
			RS460WC	21.23	
			RS465WC	21.47	
		70 400 VYC (400 VI.)	RS470WC	19.84	132 (Half Cut
iii	Mono c-Si PERC Modules	R\$490WC (490 Wp)	RS475WC	20.02	Cells)

Place-Surat,

Er S H Wala AM-190279-5 A-9100206-01 A-9100207-02 A-9100203-05 LM/CAT-I/A-5630

eff Er S H Wala

Chartered Engineer,

Approved Valuer, Chartered Appraiser (Valuer),

AM-190279-5; A-9100206-01; A-9100207-02; CAT-I-A-5630

C Eng (India), AMIICEAA, AMIE, AIA (Valuation), MCEV (I), C Engg (I), B Tech (Engg)–Nirma Univ.–A'bad, MBA (Marketing), AIIV (Valuations), AIET (E&T), AISE (Engg), Cert. in Exp-Imp (I.

# Chartered Engineer, Govt. Approved Valuer, Chartered Appraiser - Valuer CHARTERED ENGINEER'S CERTIFICATE

i	}		RS480WC	20.26	
			RS485WC	20.46	
	·	•	RS490WC	20.66	
			RS495WC	20.87	
1			RS500WC	21.06	
	į		RS505WC	21.28	
			RS510WC	21.49	
			RS515WC	19.96	
			RS520WC	20.17	
	•		RS525WC	20.34	
İ			RS530WC	20.55	
			RS535WC	20.74	144 (Half Cut
iv	Mono c-Si PERC Modules	RS535WC (535 Wp)	RS540WC	20.94	Cells)
.			RS545WC	21.10	
			RS550WC	21.32	1
			RS555WC	21.52	1
			RS560WC	21.71	1
			RSB505W		
			C	19.56	
			RSB510W	19.79	
			С	19.79	
			RSB515W	19.99	
			C		-
			RSB520W C	20.18	
	Different Manage St DEDC		RSB525W		┪ .
	Bifacial Mono c-Si PERC Modules		C C	20.37	144 (Half Cut
V <sub>.</sub>	(Glass to Transparent	RSB530WC (530 Wp)	RSB530W	20.56	Cells)
	Backsheet)		C	20.30	
			RSB535W	20.75	
		•	C		4
			RSB540W C	20.94	
			RSB545W		-
			C	21.13	
			RSB550W	21.32	
			C	21.32	
			RSB460W	19.40	8 8 2 W
			C		4
		٠.	RSB465W C	19.60	
	Bifacial Mono c-Si PERC		RSB470W		1
		,	C	19.84	
	- va En		RSB475W	20.02	7
	/ 019		С	20.02	
ace-Su	rat, Prs H Wal	3/6/	1	01	2

AM-190279-5 A-9100206-01 A-9100207-02 A-9100203-05 Segh Er S H Wala

Chartered Engineer,

Govt. Approved Valuer, Chartered Appraiser (Valuer), AM-190279-5; A-9100206-01; A-9100207-02; CAT-I-A-5630

C Eng (India), AMIICEAA, AMIE, AIA (Valuation), MCEV (I), C Engg (I), B Tech (Engg)-Nirma Univ.-A'bad, MBA (Marketing), AIIV (Valuations), AIET (E&T), AISE (Engg), Cert. in Exp-Imp (I.

# Chartered Engineer, Govt. Approved Valuer, Chartered Appraiser - Valuer CHARTERED ENGINEER'S CERTIFICATE

			RSB480W C	20.26	· .
			RSB485W C	20.46	
vi	Modules (Glass to Transparent	RSB480WC (480 Wp)	RSB490W C	20.66	132 (Half Cut Cells)
	Backsheet)	(400 117)	RSB495W C	20.87	
			RSB500W C	21.08	
			RSB415W C	19.18	•
			RSB420W C	19.42	
			RSB425W C	19.65	
	Bifacial Mono c-Si PERC		RSB430W C	19.86	
vii	Modules (Glass to Transparent	RSB435WC (435 Wp)	RSB435W C	20.10	120 (Half Cut Cells)
	Backsheet)		RSB440W C	20.35	
			RSB445W C	20.58	,
			RSB450W C	20.81	
			RSB455W C	21.02	
			RSB380W C	19.47	
:			RSB385W C	19.72	
	Bifacial Mono c-Si PERC	·	RSB390W C	19.96	
viii	Modules (Glass to Transparent	RSB390WC (390 Wp)	RSB395W C	20.22	108 (Half Cut Cells)
-	Backsheet)		RSB400W C	20.47	
	•		RSB405W C	20.75	
	·		RSB410W C	21.00	
			RSG505W C	19.57	
ix	Bifacial Mono c-Si PERC Modules	RSG530WC (530 Wp)	RSG510W C	19.76	144 (Half Cut Cells)
	(Glass to Glass)	****	RSG515W C	19.95	]

Place-Surat,

Segt E

Er S H Wala

Chartered Engineer,

Govt. Approved Valuer, Chartered Appraiser (Valuer), AM-190279-5; A-9100206-01; A-9100207-02; CAT-I-A-5630

R: 2 / 228, Moto Mohallo, Rustompura, Nr Udhna Darwaja, Surat, Gujarat, Pin Code: 395 002; M # 9925680508

Er S H Wala AM-190279-5 A-9100206-01 A-9100207-02 A-9100203-05

C Eng (India), AMIICEAA, AMIE, AIA (Valuation), MCEV (I), C Engg (I), B Tech (Engg)–Nirma Univ.–A'bad, MBA (Marketing), AIIV (Valuations), AIET (E&T), AISE (Engg), Cert. in Exp-Imp (I.

# Chartered Engineer, Govt. Approved Valuer, Chartered Appraiser - Valuer CHARTERED ENGINEER'S CERTIFICATE

	•				
			RSG520W C	20.15	
			RSG525W C	20.34	
			RSG530W C	20.53	
			RSG535W C	20.73	
			RSG540W C	20.92	
			RSG545W C	21.12	
			RSG550W C	21.31	
			RSG555W C	21.50	
			RSG460W C	19.40	
	· .		RSG465W C	19.60	
	·		RSG470W C	19.84	
	·		RSG475W C	20.02	
x	Bifacial Mono c-Si PERC Modules	RSG480WC (480 Wp)	RSG480W C	20.26	132 (Half Cut Cells)
	(Glass to Glass)		RSG485W C	20.46	
			RSG490W C	20.66	
			RSG495W C	20.87	
			RSG500W C	21.08	
			RSG415W C	19.18	
			RSG420W C	19.42	
			RSG425W C	19.65	
xi	Bifacial Mono c-Si PERC Modules	RSG435WC (435 Wp)	RSG430W C	19.86	120 (Half Cut Cells)
	(Glass to Glass)	+	RSG435W C	20.10	
			RSG440W C	20.35	
	Let od :		RSG445W C	20.58	

Place-Surat,

Sest Ershw

Chartered Engineer,

Govt. Approved Valuer, Chartered Appraiser (Valuer), AM-190279-5; A-9100206-01; A-9100207-02; CAT-I-A-5630

R: 2 / 228, Moto Mohallo, Rustompura, Nr Udhna Darwaja, Surat, Gujarat, Pin Code: 395 002; M # 9925680508

Er S H Wafa AM-190279-5 A-9100206-01 A-9100207-02 A-9100203-05

pprove

C Eng (India), AMIICEAA, AMIE, AIA (Valuation), MCEV (I), C Engg (I), B Tech (Engg)–Nirma Univ.–A'bad, MBA (Marketing), AIIV (Valuations), AIET (E&T), AISE (Engg), Cert. in Exp-Imp (I.

# Chartered Engineer, Govt. Approved Valuer, Chartered Appraiser - Valuer CHARTERED ENGINEER'S CERTIFICATE

			RSG450W C	20.81	
			RSG455W C	21.02	
2			RSG380W C	19.47	
			RSG385W C	19.72	
			RSG390W C	19.96	
xii	Bifacial Mono c-Si PERC Modules	RSG390WC (390 Wp)	RSG395W C	20.22	108 (Half Cut Cells)
	(Glass to Glass)		RSG400W C	20.47	
ļ	•		RSG405W C	20.75	
			RSG410W C	21.00	
			RS535144 TGC	20.73	
			RS540144 TGC	20.92	
·	Bifacial N Type TOPCon		RS545144 TGC	21.12	144 (Half Cut
xii	Module	RS560144TGC	RS550144 TGC	21.31	Cells)
			RS555144 TGC	21.50	
			RS560144 TGC	21.70	
			RS565144 TGC	21.89	
			RS570144 TGC	22.08	
	(Glass to Glass)	(560 Wp)	RS575144 TGC	22.28	
			RS580144 TGC	22.47	
•			RS585144 TGC	22.66	
			RS485132 TGC	20.43	
	Bifacial N Type TOPCon		RS490132 TGC	20.64	132 (Half Cut
xiv	Module (Glass to Glass)	RS510132TGC (510 Wp)	RS495132 TGC	20.85	Cells)
•			RS500132 TGC	21.06	

Place-Surat,

Er S H Wala
AM-190279-5
A-9100206-01
A-9100207-02
A-9100203-05
LM/CAT-I/A-5630

left Er S H Wala

Chartered Engineer,

Govt. Approved Valuer, Chartered Appraiser (Valuer), AM-190279-5; A-9100206-01; A-9100207-02; CAT-I-A-5630

C Eng (India), AMIICEAA, AMIE, AIA (Valuation), MCEV (I), C Engg (I), B Tech (Engg)-Nirma Univ.-A'bad, MBA (Marketing), AIIV (Valuations), AIET (E&T), AISE (Engg), Cert. in Exp-Imp (I.

# Chartered Engineer, Govt. Approved Valuer, Chartered Appraiser - Valuer CHARTERED ENGINEER'S CERTIFICATE

			and the second second		
i	. •		RS505132	21.27	
			TGC	21.27	,
			RS510132		V + 1 + 2 + 2 + 2 + 2 + 2 + 2 + 2 + 2 + 2
			TGC	21.49	
			RS515132	21.70	
			TGC		· 
.		* *	RS520132	21.91	(-1)
			TGC	21.71	
			RS525132	22.12	
			TGC	22.12	
. 1			RS530132		
			TGC	22.33	
ļ				<u></u>	
	·		RS535132	22.54	•
	•		TGC		
			RS445120	20.54	
		•	TGC	20.54	
			RS450120	•• ==	
			TGC	20.77	
		*	RS455120		•
			TGC	21.00	
	•				
	•	•	RS460120	21.23	
	Bifacial N Type TOPCon		TGC	· · · · · · · · · · · · · · · · · · ·	
1		RS465120TGC (465 Wp)	RS465120	21.46	120 (Half Cut
χv	Module	K34031201GC (403 Wp)	TGC	21,40	Cells)
	(Glass to Glass)		RS470120	01.70	
			TGC	21.70	•
			RS475120		
	·		TGC	21.93	
	·		RS480120		
		·.		22.16	
.	· ,		TGC		
			RS485120	22.39	
	·		TGC		
			RS395108	20.24	
	•		TGC	20.24	
	1		RS400108		
	•		TGC	20.50	
	·		RS405108		
			TGC	20.76	
	!				
	Bifacial N Type TOPCon		RS410108	21.01	100 77 107
xvi	Module Module	RS415108TGC (415 Wp)	TGC		108 (Half Cut
XV1	(Glass to Glass)	K54151001GC (415 Wp)	RS415108	21.27	Cells)
	(Glass to Glass)		TGC	21.21	
			RS420108	21.52	
	l tor war en en er		TGC	21.53	La fine to the se
		·	RS425108		1
	• •	Į.	TGC	21.78	
			RS430108 TGC	22.04	
		II	1 1 17 17 17		1

Place-Surat,

Er S H Wala AM-190279-5 A-9100206-01 A-9100207-02 A-9100203-05 LM/CAT-1/A-5630

Seg Er S H Wala

Chartered Engineer,

Govt. Approved Valuer, Chartered Appraiser (Valuer), AM-190279-5; A-9100206-01; A-9100207-02; CAT-I-A-5630

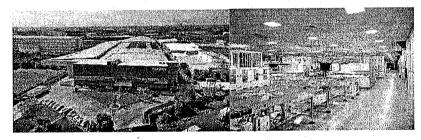
C Eng (India), AMIICEAA, AMIE, AIA (Valuation), MCEV (I), C Engg (I), B Tech (Engg)-Nirma Univ.-A'bad, MBA (Marketing), AIIV (Valuations), AIET (E&T), AISE (Engg), Cert. in Exp-Imp (I.

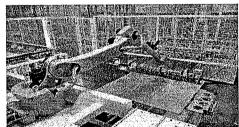
#### Chartered Engineer, Govt. Approved Valuer, Chartered Appraiser - Valuer CHARTERED ENGINEER'S CERTIFICATE

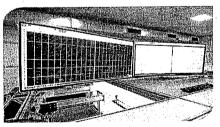
			RS435108 TGC	22.30		
xvii	Bifacial Mono c-Si PERC Modules (Glass to Glass)	RSG560WC (560 Wp)	RSG560W C	21.70	144 (Half Cut Cells)	
xviii	Bifacial Mono c-Si PERC Modules (Glass to Transparent Backsheet)	RSB560WC (560 Wp)	RSB555W C RSB560W C	21.50	144 (Half Cut Cells)	
xix	Bifacial N Type TOPCon Module (Glass to Glass)		RS600144 TGC	23.25		
		RS600144TGC (600 Wp)	RS595144 TGC	23.05	144 (Half Cut Cells)	
			RS590144 TGC	22.86		

#### **Manufacturing Facilities**

As on the date of this Report, they currently operate two manufacturing facilities in Gujarat, namely the Karanj Facility and the Sava Facility, with an existing solar module manufacturing capacity of 3.00 GW each and an aggregate installed manufacturing capacity of 6.00 GW. The energy needs of manufacturing facilities are supplied by the local state power grid, with backup systems in place. Water is sourced from ground water resources and water tankers.







Place-Surat,

A-9100203-Uš

Er S H Wala

Chartered Engineer,

Govt. Approved Valuer, Chartered Appraiser (Valuer), AM-190279-5; A-9100206-01; A-9100207-02; CAT-I-A-5630

C Eng (India), AMIICEAA, AMIE, AIA (Valuation), MCEV (I), C Engg (I), B Tech (Engg)-Nirma Univ.-A'bad, MBA (Marketing), AIIV (Valuations), AIET (E&T), AISE (Engg), Cert. in Exp-Imp (I.

# Chartered Engineer, Govt. Approved Valuer, Chartered Appraiser - Valuer CHARTERED ENGINEER'S CERTIFICATE

Sava & Karanj Facility

The following table sets forth the total installed capacity information relating to Karanj Facility for the periods indicated:

Unit Details	Number of production lines as of March 31, 2025	capacity as of March 31,	THE RESIDENCE OF THE PARTY OF T	capacity as of December 31,	100	apacity as of	
Unit -1 Karanj	5	3.00GW	5	3.00GW	2.10 GW	1.10GW	0.30 GW
Unit – 2 Sava	3	3.00GW	0	0	0	0	0

These assumptions and estimates include standard capacity calculation practice in the diagnostic industry and the capacity of other ancillary equipment installed at the relevant manufacturing facility. Assumptions and estimates taken into account for measuring installed capacity and available capacity include 360 working days in a year at 3 shifts per day operating for 24 hours a day.

The solar PV module manufacturing value chain encompasses a series of critical processes for transforming raw materials into finished solar PV modules. Solar PV modules use sunlight as a source of energy to generate direct current electricity. Company's solar modules are currently assembled using Mono PERC and TopCon cells, which are currently imported from third party suppliers. A solar cell comprises of a semiconductor, usually silicon, which absorbs sunlight and excites electrons. These excited electrons are captured and made to flow through external load, creating an electric current

In addition to solar cells, the following key raw materials are used in the manufacturing of solar modules:

Er S H Wala AM-190279-5

A-9100206:01 A-9100207:02

4-9100203-03

- Aluminium: Aluminium is mined as bauxite and refined to produce high-purity aluminium. It is used for the frame of the solar modules, providing structural support and protection. The alloying and forming processes must be precise to ensure durability and resistance to environmental factors.
- Glass: Glass is made from silica sand and processed to create low-iron tempered glass. It acts as the front cover of the solar modules, protecting the cells from environmental conditions such as humidity, rain and dust, while allowing maximum light transmission. The glass must be coated with anti-reflective layers to enhance light absorption and ensure durability.
- Backsheet: Backsheets help form a current insulation layer between the solar cells and external particles and protects
  against shock, moisture, ultraviolet rays and adverse temperature and weather conditions that could affect the
  performance of the solar cells and module.
- Encapsulation materials: Encapsulation materials, typically made from ethylene-vinyl acetate ("EVA"), POE or a combination of these polymeric materials, are used to encapsulate the solar cells, protecting them from moisture and mechanical damage. Uniform application and curing are essential to ensure long-term stability and performance.

Place-Surat,

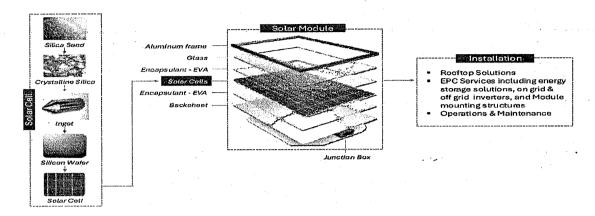
Er S H Wala

Chartered Engineer,

Govt. Approved Valuer, Chartered Appraiser (Valuer), AM-190279-5; A-9100206-01; A-9100207-02; CAT-I-A-5630

C Eng (India), AMIICEAA, AMIE, AIA (Valuation), MCEV (I), C Engg (I), B Tech (Engg)-Nirma Univ.-A'bad, MBA (Marketing), AIIV (Valuations), AIET (E&T), AISE (Engg), Cert. in Exp-Imp (I.

## Chartered Engineer, Govt. Approved Valuer, Chartered Appraiser - Valuer CHARTERED ENGINEER'S CERTIFICATE



#### **Manufacturing Process**

Solar PV modules harness the photovoltaic effect to convert sunlight into electricity. This process employs semiconductor materials that generate an electrical current when exposed to sunlight. Solar modules are crucial components of solar power systems, with applications ranging from ground mounted systems to residential and commercial and industrial solar rooftops.

The process for manufacturing of Company's solar modules is as follows:

#### Step 1: Top Glass Loading

The first step in solar module manufacturing is the loading of the top glass on to the conveyor belt using the glass loader robot. The glass used in solar panels is required to be highly transparent, and capable of wind and snow loads during field operations, for which ARC-coated, tempered or heat-strengthened low-iron glass is used.

#### Step 2: Encapsulant Cutting & Loading

The encapsulant cutting-cum-loading machine cuts the encapsulant sheet and places it on top of the front glass, aligned with the glass edges. The encapsulant is a polymeric sheet of EVA or co-extruded POE or a combination of these polymeric materials. The encapsulation process cushions the cells and provides thermal and UV stability and insulation between the solar cells.

Er S H Wala AM-190279-5

A-9100206-01 A-9100207-02 A-9100203-05

Step 3: Stringing

Place-Surat,

Er S H Wala

Chartered Engineer,

Govt. Approved Valuer, Chartered Appraiser (Valuer),

AM-190279-5; A-9100206-01; A-9100207-02; CAT-I-A-5630

R: 2 / 228, Moto Mohallo, Rustompura, Nr Udhna Darwaja, Surat, Gujarat, Pin Code: 395 002; M # 9925680508

C Eng (India), AMIICEAA, AMIE, AIA (Valuation), MCEV (I), C Engg (I), B Tech (Engg)-Nirma Univ.-A'bad, MBA (Marketing), AIIV (Valuations), AIET (E&T), AISE (Engg), Cert. in Exp-Imp (I.

## Chartered Engineer, Govt. Approved Valuer, Chartered Appraiser - Valuer CHARTERED ENGINEER'S CERTIFICATE

Half-cut solar cells, created by dividing standard solar cells into two parts using a laser cutting process, are interconnected using thin metal ribbons to form a string. This is done using an automatic stringing machine, which aligns and solders the cells together. Multiple strings are then connected to create a solar panel module. The number of cells in a string and the configuration depend on the desired voltage and current output of the module.

#### Step 4: Auto-Layup

The solar cell strings are placed on top of glass and encapsulant sheet, using a robotic arm that ensures precise gaps between the strings so that the strings do not get short-circuited.

#### Step 5: Auto-Bussing

The solar cell strings are soldered to metallic busbars which conduct the current from one string to another, leading to the external circuit outside the solar module. This is done using an automatic soldering machine, which ensures that the soldered contacts are strong enough to survive any thermos-mechanical stresses during field operations.

#### Step 6: Auto-Taping

An automatic taping machine applies adhesive tapes on the solar cells to fix them on the substrate until the lamination process is completed. This process prevents any short circuit between the solar cells inside the module.

#### Step 7: Encapsulant Cutting & Loading

The encapsulant cutting-cum-loading machine cuts the encapsulant sheet of proper length and places it on top of the solar cells, aligned with the glass edges.

#### Step 8: Back Cover Loading

The back cover is usually a polymeric back sheet or heat-strengthened glass (in dual glass modules). The back cover is loaded using a robotic loading machine which aligns the back cover on the laminate with millimetre precision, so as to avoid chances of glass breakage during the framing process later.

#### Step 9: Pre-EL Inspection

The solar cells in the laminate are subjected to electroluminescence ("EL") imaging, which helps identify any hidden defects in the solar cells, like micro-cracks, poor soldering, finger interruptions or dead cells. The laminate is sent for rework in case any critical defect is found during the EL test.

#### Step 10: Laminating

The laminate is heated in a laminator to cure the EVA/EPE, bonding the layers together into a single, durable unit.

#### Step 10: Visual Inspection

Modules are visually inspected for defects, such as cracks or chips in the glass, irregularities in the encapsulation, and alignment issues.

#### Step 11: Framing and Sealing

The laminated module is fitted with an aluminium frame, which provides structural support and facilitates mounting. The frame also helps protect the module's edges from impact and moisture ingress. It includes mounting holes and grounding points to ease installation. Silicone scalant is applied on the frame to scal the panel edges and prevent moisture ingress, which can damage the cells and reduce efficiency.

AM-190279-5 A-9100206-01 A-9100207-02 A-9100203-05

Place-Surat,

Er S H Wala

Chartered Engineer,

Govt. Approved Valuer, Chartered Appraiser (Valuer), AM-190279-5; A-9100206-01; A-9100207-02; CAT-I-A-5630

C Eng (India), AMIICEAA, AMIE, AIA (Valuation), MCEV (I), C Engg (I), B Tech (Engg)–Nirma Univ.–A'bad, MBA (Marketing), AIIV (Valuations), AIET (E&T), AISE (Engg), Cert. in Exp-Imp (I.

# CHARTERED ENGINEER'S CERTIFICATE

Step 12: Junction Box Attachment

A junction box is attached to the back of the solar module to house the electrical connections and protect them from the environment. The junction box contains bypass diodes to protect the module from shading and ensure efficient energy output. It also provides a secure point for connecting the module to the external electrical system.

Step 13: Junction Box Potting

A pottant is filled inside the junction boxes so that the internal components (such as bypass diodes and metallic contacts) are protected from corrosion due to moisture ingress.

Step 14: Curing

The solar module is kept inside a humidity chamber to cure the sealant so that it can seal the edges of the module effectively. This sealing process is critical to ensure the durability and performance of the module, particularly in harsh environmental conditions.

Step 15: Electrical Testing

Each solar module undergoes rigorous electrical testing, which includes performance tests under simulated sunlight conditions (flash testing) to measure the module's power output, voltage, current and efficiency. Modules that pass these tests are labelled with their electrical ratings. EL inspection is also performed on the solar module to check for any hidden defects in panel (like micro-cracks, finger interruptions, poor soldering or dead cells). The modules are also subjected to various safety tests such as the dielectric withstand test, insulation test and ground continuity test, so as to prevent chances of an electric shock to any person operating the solar module

Step 16: Visual Inspection

Modules are visually inspected for defects, such as cracks or chips in the glass, irregularities in the encapsulation and alignment issues.

Step 17: Certification

Solar modules are required to pass industry-standard certifications, such as IEC and BIS standards, to ensure quality and safety. Certification tests include environmental testing for temperature, humidity and UV exposure, mechanical load tests and electrical safety tests.

Step 18: Packaging and Shipping

The finished modules are carefully packaged to prevent damage during transport and are then shipped to distributors and customers. Packaging typically includes protective padding and weather-resistant materials to protect the modules.

Each module undergoes 100% visual and electroluminescence testing to detect any defects or inconsistencies, ensuring that only high-quality products reach Company's customers.

Quality certifications are imperative to Company's customers and Company's solar modules are certified by multiple international certification bodies such as ISO, TÜV, UL and IEC for quality and performance. The certifications received by the solar PV modules include the IEC 61215-1:2016 standard, which lays down requirements for the design and type of

Place-Surat,

Er S H V/ala AM-190279-5 A-9100206-01-A-9100207-02 A-9100203-05 A-910203-05 Er S H Wala

Chartered Engineer,

Govt. Approved Valuer, Chartered Appraiser (Valuer), AM-190279-5; A-9100206-01; A-9100207-02; CAT-I-A-5630

C Eng (India), AMIICEAA, AMIE, AIA (Valuation), MCEV (I), C Engg (I), B Tech (Engg)–Nirma Univ.–A'bad, MBA (Marketing), AIIV (Valuations), AIET (E&T), AISE (Engg), Cert. in Exp-Imp (I.

## Chartered Engineer, Govt. Approved Valuer, Chartered Appraiser - Valuer CHARTERED ENGINEER'S CERTIFICATE

terrestrial PV modules suitable for long-term operation in open-air climates; and the IEC 61730-1:2016 standard, which specifies the fundamental construction and testing requirements for PV modules to provide safe electrical and mechanical operations and includes testing to assess ability to prevent electrical shock, fire hazards and personal injury due to mechanical and environmental stresses. The modules have also cleared certification tests for exposure to salt mist and ammonia corrosion as per the IEC 61701 and IEC 62716 standards, respectively, which make them suitable for harsh environments and further facilitates the generation of business from international customers. In addition, we received the 'top performer' badge in the Kiwa PVEL PV Module Reliability Scorecard in 2025. Further, the modules have also cleared the tests for potential induced degradation or the IEC TS 62804 standard, as prescribed under the guidelines issued by the Ministry of New and Renewable Energy, Government of India.

The solar PV modules are sold, depending on model, with a product warranty on materials and workmanship of up to 15 years and a linear performance warranty of up to 30 years for rated power.

Place-Surat,



Er S H Wala

Chartered Engineer,

Govt. Approved Valuer, Chartered Appraiser (Valuer), AM-190279-5; A-9100206-01; A-9100207-02; CAT-I-A-5630

C Eng (India), AMIICEAA, AMIE, AIA (Valuation), MCEV (I), C Engg (I), B Tech (Engg)-Nirma Univ.-A'bad, MBA (Marketing), AIIV (Valuations), AIET (E&T), AISE (Engg), Cert. in Exp-Imp (I.

# Chartered Engineer, Govt. Approved Valuer, Chartered Appraiser - Valuer CHARTERED ENGINEER'S CERTIFICATE

#### Annexure E: List of Procedures Undertaken

In connection with the preparation of this certificate, the following procedures were undertaken by the undersigned Chartered Engineer:

#### 1. Site Visits & Physical Inspection

- Conducted physical inspections of both manufacturing facilities located at:
  - Karanj, Gujarat
  - Sava, Gujarat
- O Verified operational status of machinery and equipment.
- Assessed layout, space utilization, and production flow.

#### 2. Capacity Evaluation

- Assessed nameplate capacity of production lines.
- Verified available installed capacity and utilization by comparing with historical production data and MIS reports.
- Cross-checked with management-certified statements and production shift logs.

#### 3. Machinery and Equipment Verification

- Verified make, model, and year of manufacture of major machinery.
- Reviewed installation and commissioning records.
- O Verified asset tagging and mapping of machines to production areas.

#### 4. Process & Technology Assessment

- Evaluated manufacturing process flow and adopted technology for PV Module production.
- Reviewed details of raw material usage, intermediate processes, and final assembly.
- O Checked for in-house testing capabilities and quality assurance measures.

#### 5. Approvals and Compliance Check

- O Reviewed government approvals, licenses, and permissions relating to the plant operations and equipment.
- Verified environmental, fire, factory license, and power load approvals where applicable.

#### 6. Interaction with Company Management and Technical Personnel

- O Conducted technical discussions with plant managers, production heads, and quality control personnel.
- O Cross-confirmed installed capacity, working hours, and seasonal fluctuations if any.

#### 7. Historical Production Analysis

Reviewed year-wise production trends and output reports for Fiscal 2022, 2023, 2024, 9 months ending December 31, 2024, and provisional data for Fiscal 2025.

#### 8. Photographic Documentation

- O Captured and catalogued plant layout and operational machinery.
- O Reviewed photographic evidence for conformity with actual layouts.

Place-Surat,

Er S H Wala AM-190279-5 A-9100206-01 A-9100207-02 A-9100203-05 LM/CAT-I/A-5630

Er S H Wala

Chartered Engineer,

Govt. Approved Valuer, Chartered Appraiser (Valuer), AM-190279-5; A-9100206-01; A-9100207-02; CAT-I-A-5630

R: 2 / 228, Moto Mohallo, Rustompura, Nr Udhna Darwaja, Surat, Gujarat, Pin Code: 395 002; M # 9925680508

C Eng (India), AMIICEAA, AMIE, AIA (Valuation), MCEV (I), C Engg (I), B Tech (Engg)–Nirma Univ.–A'bad, MBA (Marketing), AIIV (Valuations), AIET (E&T), AISE (Engg), Cert. in Exp-Imp (I.

# Chartered Engineer, Govt. Approved Valuer, Chartered Appraiser - Valuer CHARTERED ENGINEER'S CERTIFICATE

#### Annexure F: List of Documents Reviewed

The following documents were reviewed and relied upon in the preparation of this certificate:

- 1. Title Documents / Property Records
  - Sale Deeds/Title Deeds for Freehold properties at Karanj and Sava
  - Land maps and layout plans approved by local authorities
- 2. Plant Layout and Building Plans
  - Factory layout drawings
  - O Utility layout, space allocation for production, warehousing, and testing
- 3. Machinery Details
  - List of plant and machinery with year of acquisition, make, model
  - Installation and commissioning certificates
  - Asset register
- 4. Production Records
  - Monthly and annual production reports (MIS reports)
  - Shift-wise production data
  - o Capacity utilization reports
- 5. Approvals and Licenses
  - Factory license and renewal documents
  - O Environmental clearance certificates (if applicable)
  - o Fire NOC, Electricity load sanction letters
  - GST and Udyam Registration
- 6. Technical Documentation
  - Manufacturing process flow charts
  - o Bill of materials (BoM) and input-output ratios
  - Quality control procedures and testing protocols
- 7. Photographic Evidence
  - o Images of the manufacturing plants, key machinery, and assembly lines
- 8. Management Declarations and Certificates
  - O Capacity and production declarations signed by authorized personnel
  - O List of key personnel at manufacturing sites
- 9. Correspondence
  - © Engagement Letter dated 10-05-2024
  - e Email and written communication with management and plant authorities

Place-Surat,



Er S H Wala

Chartered Engineer,

Govt. Approved Valuer, Chartered Appraiser (Valuer), AM-190279-5; A-9100206-01; A-9100207-02; CAT-I-A-5630

R: 2 / 228, Moto Mohallo, Rustompura, Nr Udhna Darwaja, Surat, Gujarat, Pin Code: 395 002; M # 9925680508

C Eng (India), AMIICEAA, AMIE, AIA (Valuation), MCEV (I), C Engg (I), B Tech (Engg)–Nirma Univ.–A'bad, MBA (Marketing), AIIV (Valuations), AIET (E&T), AISE (Engg), Cert. in Exp-Imp (I.

# Chartered Engineer, Govt. Approved Valuer, Chartered Appraiser – Valuer CHARTERED ENGINEER'S CERTIFICATE

Subject: Certification in relation to the proposed Initial Public Offering ("IPO") of equity shares of Rayzon Solar Limited (the "Company")

Dear Sir/Madam,

I, Er. S H Wala, Chartered Engineer (India), the undersigned, confirm that I am duly registered as a Chartered Engineer with The Institution of Engineers (India), holding membership number AM-190279-5. A copy of my certificate of registration is enclosed herewith as Annexure D.

I hereby confirm that I am authorized and possess the requisite technical knowledge and competence to issue this certificate. I further confirm that my registration is valid as of the date hereof and that the execution, delivery, and performance of this certificate have been duly authorized.

#### 1. Manufacturing Facilities

As on the date of this certificate, the Company operates two manufacturing facilities as per the details below:

Sr. No.	Name / Location	Owned/Controlled by	Type of Facility	Products Manufactured
1	Karanj, Gujarat	Rayzon Solar Limited	Manufacturing	Solar PV Modules
2	Sava, Gujarat	Rayzon Solar Limited.	Manufacturing	Solar PV Modules

2. Land Details of Manufacturing Facilities

Sr. No. Facility Location Total Land Area (Sq. Mtr.) Ownership Status Lease Duration

1 Karanj, Gujarat 85,544 Freehold Not Applicable
2 Sava, Gujarat 93,023.66 Freehold Not Applicable

Place-Surat,

Er S H Wala AM-190279-5 A-9100206-01 A-9100207-02 A-9100203-05 LM/CAT-I/A-5630

Er S H Wala

Chartered Engineer,

Govt. Approved Valuer, Chartered Appraiser (Valuer), AM-190279-5; A-9100206-01; A-9100207-02; CAT-I-A-5630

C Eng (India), AMIICEAA, AMIE, AIA (Valuation), MCEV (I), C Engg (I), B Tech (Engg)-Nirma Univ.-A'bad, MBA (Marketing), AIIV (Valuations), AIET (E&T), AISE (Engg), Cert. in Exp-Imp (I.

#### Chartered Engineer, Govt. Approved Valuer, Chartered Appraiser - Valuer CHARTERED ENGINEER'S CERTIFICATE

**Assumptions:** 

1) Installed capacity represents the installed capacity as of the last date of the relevant Fiscal and the available capacity has been calculated based on the average of daily available capacity for the relevant Fiscal. The installed capacity and the available capacity are based on various assumptions and estimates, including standard capacity calculation practice in the diagnostic industry and the capacity of other ancillary equipment installed at the relevant manufacturing facility. Assumptions and estimates taken into account for measuring installed capacities and the available capacities include

(1) 360 working days in a year, at 3 shifts per day operating for 24 hours a day.

(2) available installed capacity represents 6 Giga watt).

(3) Actual production represents quantum of production in the relevant Fiscal.

(4) Capacity utilization has been calculated on the basis of actual production in the relevant Fiscal

divided by the available capacity during such Fiscal.

(5) The information relating to the available installed capacity of the manufacturing facilities for the periods indicated are based on various assumptions and estimates that have been taken into account by the Company for calculation of the available installed capacity. These assumptions and estimates include standard capacity calculation practice in the PV module industry, including with respect to the period during which the manufacturing facilities operate in such period and the average efficiency of PV modules to be manufactured during such period. Specific assumptions include: (i) number of solar modules manufactured per day; (ii) watt peak of the solar modules being manufactured, i.e., 550 watt peak, 580 watt peak and 585 watt peak and any other similar models; and (iii) available days per year for manufacturing purposes. For capacity added during the relevant period / year, the remaining available days during the period in which the facility was operational with the increased capacity have been considered for calculation. In the table above, for the nine months ended December 31, 2024, we have presented the available installed capacity, actual production and capacity utilization of the manufacturing facilities.

(6) Capacity utilization has been calculated on the basis of actual production during the relevant period divided by the available installed capacity of the manufacturing facilities for the relevant period as calculated above. In the table above, for the the nine months ended December 31, 2024, the capacity utilization have been calculated on the basis of available installed capacity, and actual production and hence should not be indicative of our actual production and capacity utilization on a full year basis. Actual production levels and utilization rates vary depending on the kind of modules manufactured i.e. efficiency levels of the modules manufactured, size of the modules and processes

undertaken

Place-Surat,

Er S H Wala AM-190279-5 A-9100205-01 A-9100207-02 A-9100203-05 M/CAT-1/A-5630

(Pprove

H Wala

Chartered Engineer,

Govt. Approved Valuer, Chartered Appraiser (Valuer), AM-190279-5; A-9100206-01; A-9100207-02; CAT-I-A-5630

C Eng (India), AMIICEAA, AMIE, AIA (Valuation), MCEV (I), C Engg (I), B Tech (Engg)-Nirma Univ.-A'bad, MBA (Marketing), AIIV (Valuations), AIET (E&T), AISE (Engg), Cert. in Exp-Imp (I.

#### Chartered Engineer, Govt. Approved Valuer, Chartered Appraiser - Valuer CHARTERED ENGINEER'S CERTIFICATE

5. Independence Declaration

#### I further confirm that:

- I am an independent professional with no direct or indirect interest in the Company other than the engagement for professional services for the IPO;
- I have no relation to the promoters, directors, key managerial personnel, employees, group companies, or the BRLMs;
- I am not a related party as defined under the Companies Act, 2013, or applicable accounting standards:
- I am not and have not been involved in the formation, promotion, or management of the Company.

I consent to the inclusion (in part or whole) of the contents of this certificate, along with its annexures, in any communications, disclosures, or Issue documents (including the DRHP/RHP/prospectus) to be submitted to SEBI, stock exchanges, and any other regulatory authority in connection with the Issue.

Place-Surat,

Et S H Wala O AM-190279-5 A-9100206-01 A-9100207-02 A-9100203-05 EM/CAT-I/A-5630

Er S H Wala

Chartered Engineer,

Govt. Approved Valuer, Chartered Appraiser (Valuer), AM-190279-5; A-9100206-01; A-9100207-02; CAT-I-A-5630

R: 2 / 228, Moto Mohallo, Rustompura, Nr Udhna Darwaja, Surat, Gujarat, Pin Code: 395 002; M # 9925680508

C Eng (India), AMIICEAA, AMIE, AIA (Valuation), MCEV (I), C Engg (I), B Tech (Engg)-Nirma Univ.-A'bad, MBA (Marketing), AIIV (Valuations), AIET (E&T), AISE (Engg), Cert. in Exp-Imp (I.

#### Chartered Engineer, Govt. Approved Valuer, Chartered Appraiser - Valuer CHARTERED ENGINEER'S CERTIFICATE

#### Annexure G: Assumptions Relied Upon

In the preparation of this certificate and in arriving at the stated quantities and assessments, the following key assumptions have been made:

Information Provided by Management

- All technical and operational data, including production reports, equipment details, plant layouts, and process flow diagrams provided by Rayzon Solar Ltd.'s management are assumed to be accurate, complete, and up to date.
- No independent verification of accounting records or financials was undertaken as this is outside the scope of a Chartered Engineer's technical evaluation.

Installed Capacity vs. available Capacity

The capacity figures stated are based on nameplate ratings of machinery and industry-standard operating practices under ideal conditions.

available installed capacity has been derived assuming:

- Operational days in a year basis successful implementation of the machines Optimal utility and manpower availability
- Downtime for maintenance and unforeseen interruptions is considered negligible unless otherwise noted by the

**Machinery Utilization and Condition** 

- All machinery and equipment were found to be in good working condition at the time of inspection.
- The assumption is that all critical production lines are operational and capable of performing to their rated

No Change in Regulatory or Market Environment

It is assumed that no significant changes in government policy, taxation, or import/export conditions will materially impact the current production setup in the immediate future.

**Continuity of Operations** 

The certificate assumes that the business operations will continue uninterrupted, with consistent availability of raw materials, skilled labor, utilities (power/water), and required permissions.

No Material Damage or Obsolescence

It is assumed that there has been no hidden damage, significant wear and tear, or technological obsolescence in the machinery that would affect its productivity or capacity.

**Consistency with Industry Norms** 

The assumptions regarding production capacity and process efficiency are based on general engineering knowledge and norms for the solar PV module manufacturing industry.

Photographic and Documented Evidence

All visual/verbal confirmations and photographic evidence reflect the actual situation as on the date of inspection. No retrospective changes are considered.

Provisional Data for FY 2025

The production data for the period April 1, 2024 to March 31, 2025 is provisional and subject to finalization by the company's finance and accounts department. It has been relied upon in good faith.

Place-Surat,



Er S H Wala

Chartered Engineer,

Govt. Approved Valuer, Chartered Appraiser (Valuer), AM-190279-5; A-9100206-01; A-9100207-02; CAT-I-A-5630

C Eng (India), AMIICEAA, AMIE, AIA (Valuation), MCEV (I), C Engg (I), B Tech (Engg)-Nirma Univ.-A'bad, MBA (Marketing), AIIV (Valuations), AIET (E&T), AISE (Engg), Cert. in Exp-Imp (I.

#### Chartered Engineer, Govt. Approved Valuer, Chartered Appraiser - Valuer CHARTERED ENGINEER'S CERTIFICATE

Pursuant to the engagement letter dated May 10, 2024, and at the request of the Company, I have independently examined, reviewed, verified, confirmed, and hereby certify the following:

#### 3. Capacity and Operations

- (a) The installed capacity, available installed capacity, actual production, number of production lines, and capacity utilization for the manufacturing facilities located at Karanj and Sava, Gujarat, including:
  - Material approvals/licenses related to the manufacturing units.
  - Product-wise manufacturing details.

(Refer Annexure A for detailed capacity, production, and utilization data for Fiscal 2022, 2023, 2024, and the nine months ended December 31, 2024, and projections for Fiscal 2025.)

- (b) Additional particulars regarding manufacturing capabilities, technological processes, and systems adopted by the Company, including flow diagrams and machinery lists. (Refer Annexure B)
- 4. Basis of Certification

This certification is based on:

- Information, explanations, and representations provided by the Company;
- Physical inspection of machinery and equipment at the manufacturing sites;
- Verification of relevant documents, such as machinery lists, production reports, MIS records, capacity licenses, and flow-process diagrams;
- Capacity additions and production trends across Fiscal years;
- Approvals or submissions to regulatory bodies;
- Procedures detailed in Annexure E.

Place-Surat,

Er S H Wala AM-190279-5 A-9100206-01 A-9100207-02 A-9100203-05 M/CAT-1/A-5630

Er S H Wala

Chartered Engineer,

Govt. Approved Valuer, Chartered Appraiser (Valuer), AM-190279-5; A-9100206-01; A-9100207-02; CAT-I-A-5630

C Eng (India), AMIICEAA, AMIE, AIA (Valuation), MCEV (I), C Engg (I), B Tech (Engg)–Nirma Univ.–A'bad, MBA (Marketing), AIIV (Valuations), AIET (E&T), AISE (Engg), Cert. in Exp-Imp (I.

# Chartered Engineer, Govt. Approved Valuer, Chartered Appraiser - Valuer CHARTERED ENGINEER'S CERTIFICATE

	Voy Machi	nes of ea	ch Proce	ss of Mo	dule Mai	nufacturi	ng Line	<u></u>		
	Plant Location	lifes of ca	es of each Process of Module Manufacturi Kim			Kosamba				
Sr no	List of Key machines	Line	Line 2	Line 3	Line 4	Line -	Line 6	Line 7	Line 8	Total
51 110	Capacity In MW)	600	600	600	600	600	1000	1000	1000	
1	Stringer	4	3	3	3	3	5	5	3	29
2	Front Eva	1	1	1	1	1	1	1	1	8
3	Front Glass loader	1	1	1	1	1	1	1	1	8
4	Bussing machine	1	1	1	1	1	1	1	3	10
5	Barcode & Patch machine	0	0	0	0	0	11	1	1	3
6	Taping machine	1	1	1	1	1	2	2	2	11
7	Back Eva	1	1	1	1	1	1	1	11	8
8	Backsheet Machine	1	1	1	1	1	1	11	11	8
9	Back glass loader	1	1	1	1	1	1	1	1	8
10	PRE EL	2	2	2	2	2	2	2	2	16
11	Edge sealing machine	0	1	1	1	1	2	2	2	10
12	Laminator	3	3	3	4	4	5	5	5	32
13	Perforated tape remover	0	0	0	0	0	11	1 .	1	3
14	Post EL	0	1	1	1	1	1	1	11	7
15	Trimming machine	1	1	1.	1	1	1	1	1	8
16	Corner trimming	0	0	0	0	0	1	1	1	3
17	VQC	2	2	2	2	2	2	2	2	16
18	Framing Machine	1	1	1	1	1	2	2	2	11
19	Potting Machine	1	1	1	1	1	11	1	1	8
20	Corner Buffing	1	1	1	1	1	1	1	1	8
21	Sun Simulator	1	1	1	1	1	1	1	1 1	8
22	Final EL	1	1	1	1	1	1	1	1	8
23	Hipot	1	1	1	1	1	1	11	1	8
24	FQC	1	1	1	1	1	2	2	2	11
25	Auto Sorter	1	1	1	_1	. 1	_1	1	11	88
Total		27	28	28	29	29	39	39	39	258

Place-Surat,



Er S H Wala

Chartered Engineer,

Govt. Approved Valuer, Chartered Appraiser (Valuer), AM-190279-5; A-9100206-01; A-9100207-02; CAT-I-A-5630

R: 2 / 228, Moto Mohallo, Rustompura, Nr Udhna Darwaja, Surat, Gujarat, Pin Code: 395 002; M # 9925680508

C Eng (India), AMIICEAA, AMIE, AIA (Valuation), MCEV (I), C Engg (I), B Tech (Engg)–Nirma Univ.–A'bad, MBA (Marketing), AIIV (Valuations), AIET (E&T), AISE (Engg), Cert. in Exp-Imp (I.

# Chartered Engineer, Govt. Approved Valuer, Chartered Appraiser - Valuer CHARTERED ENGINEER'S CERTIFICATE

Annexure B

This is to certify that based on the site inspection, review of installed equipment, production lines, technical documentation, and other relevant manufacturing data provided by the management, the following details with respect to the solar PV module manufacturing capacity of the Company are verified:

1. Installed Capacity

The Company operates two manufacturing facilities in the state of Gujarat – one located at Karanj, and the other at Sava.

O As on March 31, 2025, the total installed solar PV module manufacturing capacity of the Company stands at 6.00 GW, with:

• 3.00 GW capacity at the Karanj Facility, and

 3.00 GW capacity at the Sava Facility, which commenced commercial production in Fiscal Year 2025.

The Karanj Facility has progressively expanded its installed capacity from 0.30 GW in FY 2022, to 1.10 GW in FY 2023, and further to 2.10 GW as of March 31, 2024, reaching 3.00 GW as of December 31, 2024, across five production lines.

2. Capacity Utilization

The Karanj Facility recorded a capacity utilization of 73.40% as of December 31, 2024.

3. Proposed Capacity Expansion
As part of its expansion plans, the Company proposes to increase its solar PV module manufacturing capacity by 2.00 GW, from 6.00 GW to 8.00 GW, by October 2025 at the Sava Facility.

Additionally, backward integration is planned through:

Setting up a 3.50 GW solar cell manufacturing unit (TOPCon technology) at Kathvada, Surat, Gujarat, expected to commence operations by Fiscal 2027.

 Establishment of aluminium frame manufacturing capacity of 19,800 MT, expected to be operational by July 2025.

Place-Surat,



Er S H Wala

Chartered Engineer,

Govt. Approved Valuer, Chartered Appraiser (Valuer), AM-190279-5; A-9100206-01; A-9100207-02; CAT-I-A-5630

C Eng (India), AMIICEAA, AMIE, AIA (Valuation), MCEV (I), C Engg (I), B Tech (Engg)–Nirma Univ.–A'bad, MBA (Marketing), AIIV (Valuations), AIET (E&T), AISE (Engg), Cert. in Exp-Imp (I.

# Chartered Engineer, Govt. Approved Valuer, Chartered Appraiser – Valuer CHARTERED ENGINEER'S CERTIFICATE

1. Manufacturing Technology and Infrastructure

The Company utilizes advanced and automated machinery in its production lines, including:

- o Robotic lay-up systems
- Automated cell cutting and stringing
- Auto-bussing and lamination lines
- o Auto-sorters and AI-based inspection systems for quality control
- Usage of co-extruded POE encapsulant in dual glass modules for enhanced PID resistance

The Company manufactures Mono PERC and TOPCon modules, including bifacial, monofacial, and black module variants

2. Certifications and Compliance

The Karanj Facility is ALMM approved and holds:

- o ISO 9001:2015 Quality Management
- o ISO 14001:2015 Environmental Management
- o ISO 45001:2018 Occupational Health & Safety Management

This certification is issued based on available documentation and physical verification carried out as per the applicable engineering standards and in accordance with relevant guidelines.

Place-Surat,



Er S H Wala

Chartered Engineer,

Govt. Approved Valuer, Chartered Appraiser (Valuer), AM-190279-5; A-9100206-01; A-9100207-02; CAT-I-A-5630

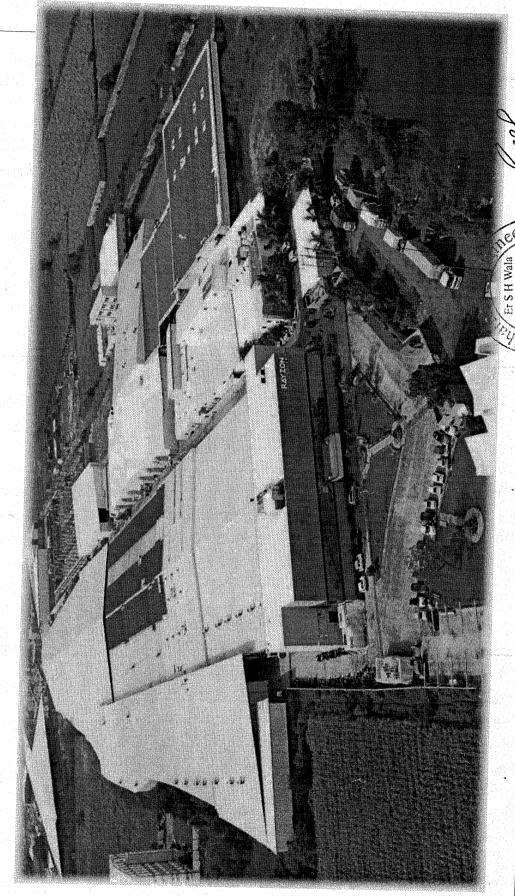
R: 2 / 228, Moto Mohallo, Rustompura, Nr Udhna Darwaja, Surat, Gujarat, Pin Code: 395 002; M # 9925680508



# Manufacturing Capabilities & Technological Process of Solar PV Modules at Rayzon Solar

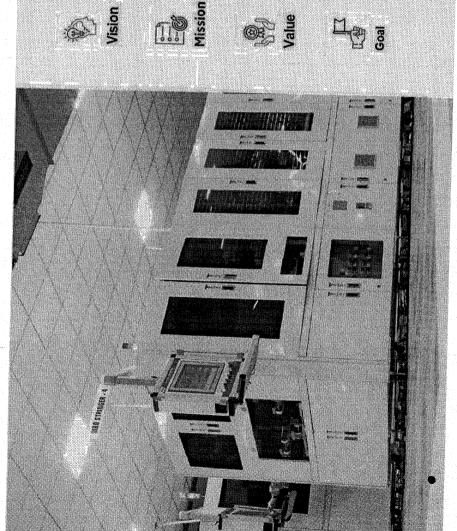


The state of the s



RAYZON Solan A-9100203-05

Maria de la companio de Maria de La



To make our future more vibrant and sustainable by using green energy to save the earth.

Through the utilization of renewable resources, we aim to protect and preserve the Earth for future generations.

We aim to provide our customers with exceptional products

and services that meet their needs and exceed their expectations.

worldwide by attaining a production capacity of 5 GW by 2025. Become a leading provider of green energy solution

Er S H Wala AM-190279-5 A-9100206-01 A-9100203-05 A-9100203-05 I-MI-CAT-LA-5630,

CONORCO



#### MANUFACTURING EXCELLENCE

We take pride in our broad product line and our cutting-edge,fully automated production plant,which is outfitted with cutting-edge robolics for efficient module manufacturing.As a result of our dedication to employing premium materials,we can produce modules that excel in terms of flexibility,efficacy, and cost-effectiveness. We confrol technology. We produce excellent modules that adhere to the highest standards of quality and performance thanks to our unwavering accomplish the quickest cycle times and the highest levels of output thanks to our rigorous production planning and state-of-the-art motion commitment to innovation and perfection,

#### MADE IN INDIA

We are proud to manufacturing our products in India, adhering to world-class standards of quality and utilizing outling-edge technology.

### CERTIFICATION

Our solar panels uphold world-class standards, delivering exceptional quality and performance.

### TESTING FACILITY

Our in-house solar panel testing ensures rigorous quality checks and Our in-house solar paner performance evaluations of English

A-9100203-05 LM/CAT-I/A-5630, Approved



Milestones

2030

256W 106W Modules & Aluminium Frame

20.00

11160

Modules & Aluminium Frame

202

Probably Countries 

300 DATE

150MW

40MW

2017

Established

Er S H Wala Co AM-190279-5 A-9100206-01 A-9100207-02 A-9100203-05 I M CAT-I/A-5630

Successful journey ahead.

RAYZON SOLAR

#### (Setting New Benchmarks) N-TOPCon

leading performance standards. Designed over 22.65% efficiency, setting industry Rayzon's N-Topcon technology achieves to maximize energy output, these panels are ideal for both residential and commercial applications. A-9100206-01 A-9100206-01 A-9100207-02 A-9100207-02 A-9100203-05 A-9100203-05 A-9100203-05

Approved A



#### Certifications **Product**

- IS 14286, IEC: 61215, 61730, 62804, 61583, 61701, 62716
- Environment Management System : ISO 14001; 2015
- Occupational Health and Safety: ISO 45001:2018









A-9100207-02 A-9100203-02 A-9100203-05 (1 M-CAT-I/A-5630)

Er S H Wala 70

RAYZON SOLAR

Management System Certifications



TOV INDIA

TUV NOND GROUP

150 8001;2015 (5014001;2015 (50 45001;2018

A-9100206-01 A-9100203-05 A-9100203-05 A-9100203-05 A-9100203-05 A-9100204-05 A-9100204-05 A-9100204-05 A-9100204-05 A-9100204-05 A-9100204-05 A-9100204-05 A-9100204-05 A-9100204-05 A-9100206-01 A-91002-01 A-9102-01 A-91



# PV Module Offerings



#### Dimension (LXWXT in mm) Split Junction Box (3 nos. with Individual Bypass Diode) 1FC 1998 3 100 100 10 XO III O III O Certification Welghillig) Silver Anodized Aluminum, Alloy Frame and Semi- tempered Glass on front and back, with AR coating on Front Glass 30 Years Linear Performance, 15 Years Product TOPCON N-type solar cell 570W-590W Mattage 144 Half-cut Hea

Er S H Wala (2)
A-9100203-05
A-9100203-05
(2)
A-9100203-05
(3)
A-9100203-05
(4)

Colonial Col

### TOPCon (210R)

#### 

500W-530W

N=1ype solar cell 192 Holl-our

Silver Anodized Aluminum, Alloy Frame and Semi- tempered Gloss on front and back, with AR coating on Front Gloss

#### 

30 Years Linear Performance, 

#### 6

Split Junction Box (3 nos. with Individual Bypass Dlada)

#### Dimension (LxWxT in mm)

#### Welchinger)

#### Certification

IC CON S TO A CO.

### AM-190279-5 A-9100206-01

\ I.M/CAT-I/A-5630 STONE



### Monofacial

Wattage

535W-560W

Cell
144 Half-cut
Mono PERC solar cell

Design

Silver Anodized Aluminum. Alloy Frame and Semi- tempered Glass on front and back, with AR coating on Front Glass

Weirranty

30 Years Linear Performance, 15 Years Product

Junction Box

Split Junction Box (3 nos. with Individual Bypass Diode) Dimension (LXWXT in mm) 2278x1133x35/40

Weighn(kg)

Certification

IEC bras & seo (U) m (G

Ershwala 18

A-9100207-02 CA A-9100203-05 CA IMCAT-IA-5630

Solds)

## Black Mono Perc

Wattage

410 Wp - 435 Wp

8

Dimension (LxWxT in mm)

1/2/2/11/3/3/3/5/4/0

Split Junction Box (3 nos. with Individual Bypass Diode)

Unetion So.

108 Half-cut Mono PERC solar cell

Design

Black Anodized Aluminum Alloy Frame, AR coated Tempered Glass and Black Backsheet

For G2G 25 kg For Glass to Backsheet 21.66 kg

Weight (kg)

Marranty

For G2G 15 Year For Glass to Backsheet 12 Year

Certification

Er S H Wala D

\* A-9100200-01 \* A-9100200-02 \* A-9100203-05 \* A-9100203-05 \* A-9100203-05 \* A-9100203-05 \* A-9100200-01 \* A-91



#### Bifoloio

Montage

570W-590W

lle0

144 Half-cut Mono PERC Bifacial solar cell

Design

Sliver Anodized Aluminum, Alloy Frame and Semi- tempered Glass on front and back, with AR coating on Front Glass

30 Years Linear Performance, 15 Years Product

Minietion Sev

Split Junction Box (3 nos. with individual Bypass Diode)

Dimension (LXWXT in mm) -000 SINO 200

8

Weight (kg)

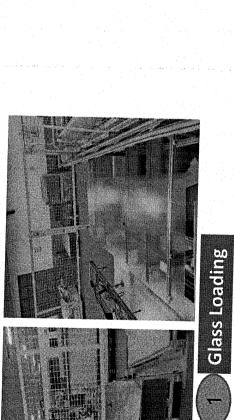
Certification

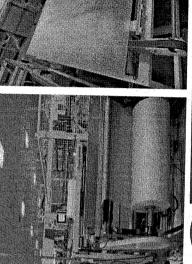
IEC STATE S TO CO. CO.

Ershwais A-9100206-01 A-9100206-01 A-9100206-01 A-9100203-05 A-9100203-05 A-9100203-05 A-9100203-05 Common of the second

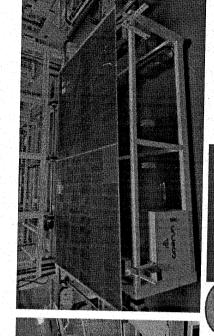






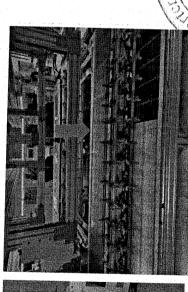


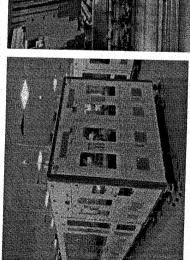






AM-190279-5 A-9100206-01 A-9100207-02 A-9100203-05 LMCAT-I/A-5630



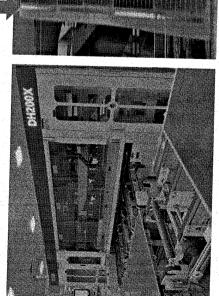




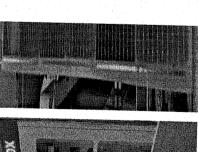
Solar Cell Cutting & Stringing



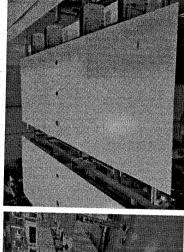


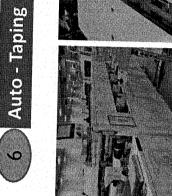


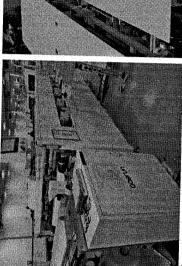






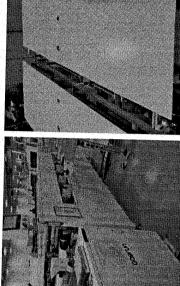






Back sheet Cutting & Loading

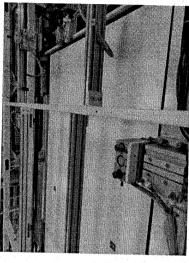
7 Back EVA Cutting & Loading





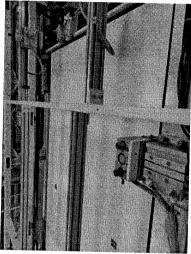




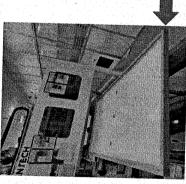


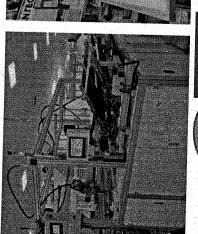


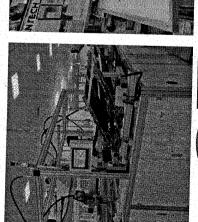
9 Lamination









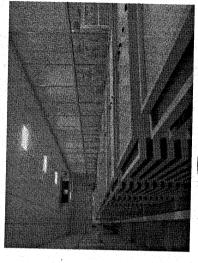






12 Junction Box Fixing & Soldering

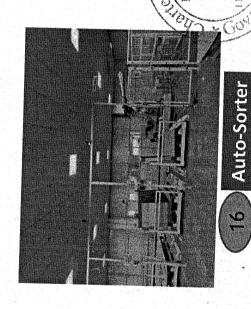




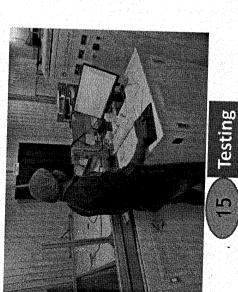
Q



13 Potting









# Quality Control during Module Manufacturing







# Incoming Quality Control (IQC)

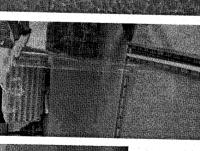
### Solar Glass



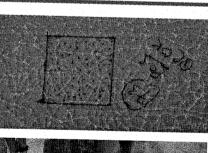




**Iransmittance Test** 

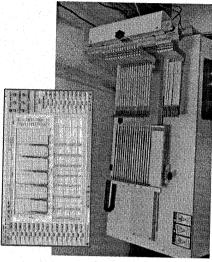








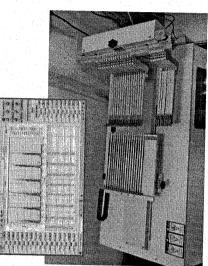
### Solar Cells



**Cell Peel Test** 

**Cell I-V Tester** 

Hot Water Test



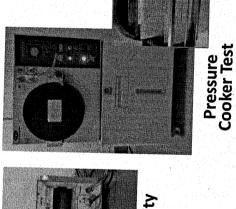


# Incoming Quality Control (IQC)

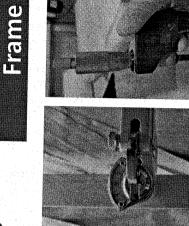
### Encapsulant







Gel Test in Oven



**Hardness Test** 



**Thickness Test** 



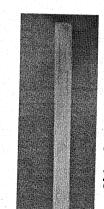
Anodization Test



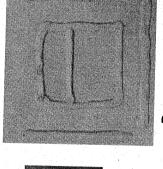


# Incoming Quality Control (IQC)

### Sealant

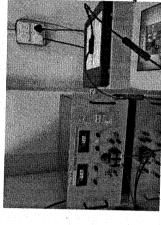


Skin-free Time & Curing rate Test



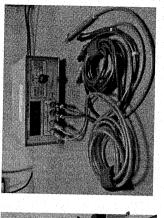
Pressure Cooker Test





Bypass Diode Thermal Test

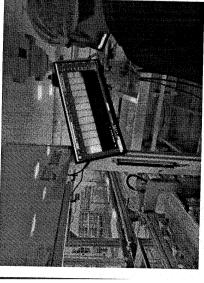
**IP68 Test** 



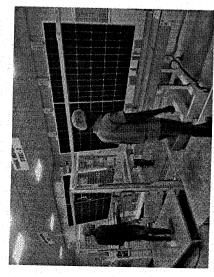
Micro-Ohm Meter



#### RAYZON SOLAR



100% EL inspection at Tabber-Stringer for poor soldering and micro-cracks

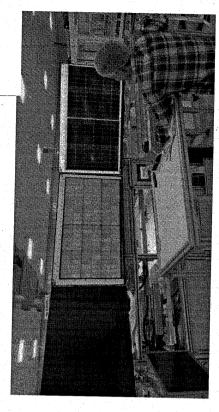


100% Visual inspection after Lamination for cell chips, ribbon cross, etc.

# In-Process Quality Control (IPQC)



100% Visual inspection after Cell Taping for string alignment and poor bussing



100% EL and Visual inspection before Lamination for micro-cracks, poor soldering and other defects



Lamination 100% Final Visual inspection ss. etc. for cell chips, ribbon cross, etc.



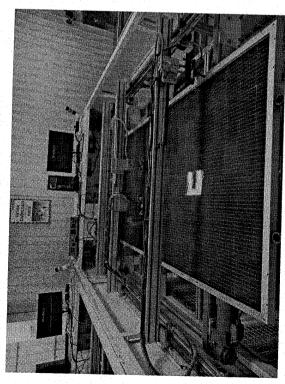
100% Flash Testing of Solar Panels

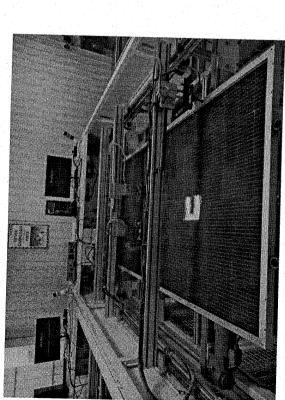
Les of

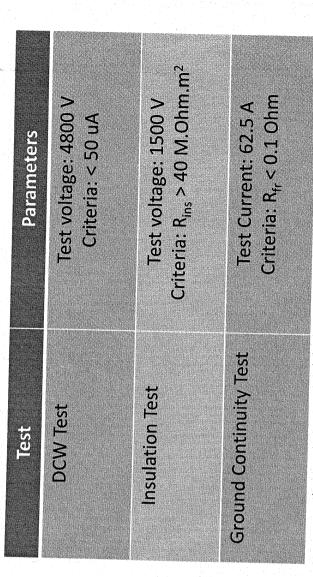


# In-Process Quality Control (IPQC)

# 100% Hi-Pot Testing of Solar Panels





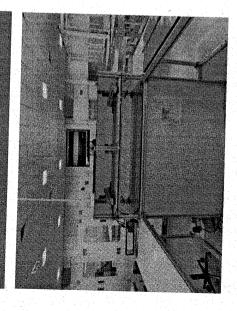






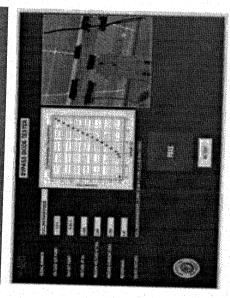
# In-House Developments

### Rework EL Tester



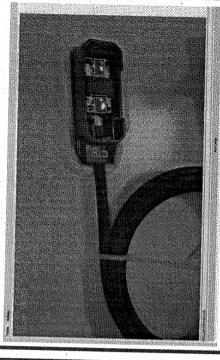
- Voltage Range: 0 12 V
- Current Range: 0 7.A
- Purpose: EL imaging of rework strings

## **Bypass Diode Tester**



- Voltage Range: 0 3 V
- Current Range: 0 15 A
- Purpose: 100% inline Testing of the Junction Box circuit resistance and Bypass Diode Functionality

### JB Visual Checker



Purpose: Checking the Junction Box soldering using AI and CCD cameras.

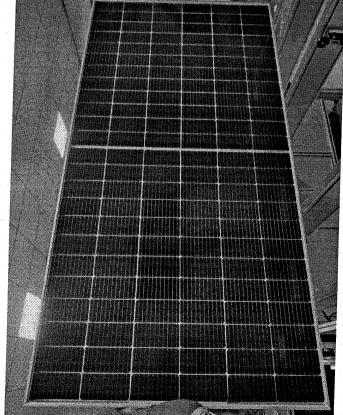
Ershwala 2. Control Ershwa



# Pre-Dispatch Inspection (PDI)







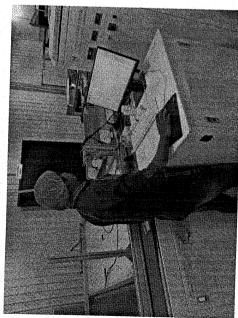
## Visual Inspection

Visual inspection is done to confirm the module is free from visible defects as listed below.

- The lux level at the plane of the test module should be at least 1000 Lux.
  - List of visual defects:
- Cell cracks
- Inconsistent spacing between cells
  - Air bubbles
- Delamination
- Faulty interconnections (open)
  - Cell shorts
- Excess glue marks
- Gap between frame and glass
  - Frame scratches
- Back label misplaced, etc.



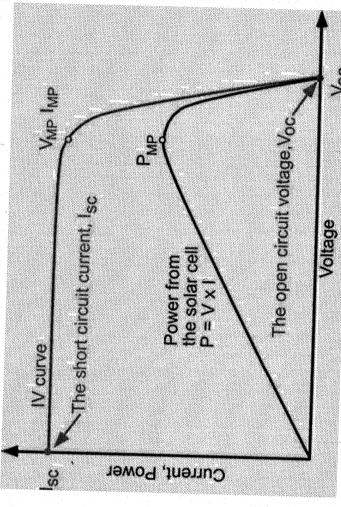




### Flash Test

This test is performed to check the electrical parameters of the PV module and confirm the module's power output under Standard Test Condition (STC):

Module temperature = 25 C, irradiance =  $1000 \text{ W/m}^2$  and light spectrum matches with AM1.5G (i.e. on a class AAA or better sun simulator).



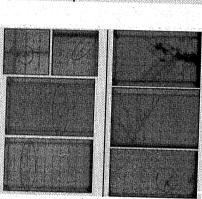


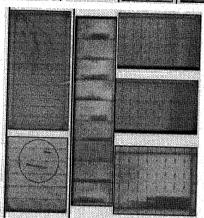


# Electroluminescence (EL) Test

This test is performed to check for defects in the solar cells and interconnections.

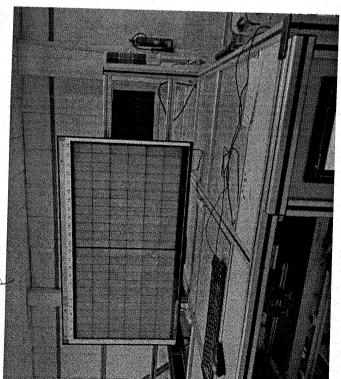
- The positive terminal of the module is connected to the positive terminal of the DC power supply (and similarly for the negative terminals).
- Apply sufficient voltage to the solar panel to flow at least 50% of the module's short circuit current.
  - Please refer to the approved EL image criteria document for the pass criteria.







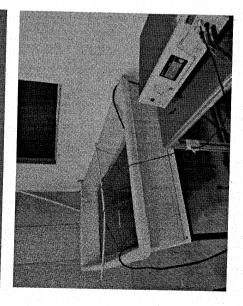






## Other PDI Tests

## Wet Leakage Test



Voltage: 1500 V

Time: 120 sec

• Purpose:



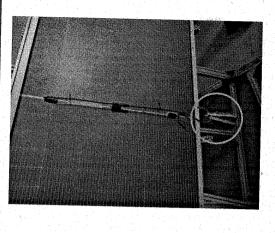
Test Load: 5400 Pa / -2400 Pa

Time: 1 hr x 2

Cycles: 3

Purpose: Test for Wind & Snow load

JB Pull Test



Weight: 4 kg

• Time: 10 sec in each direction

• Purpose:

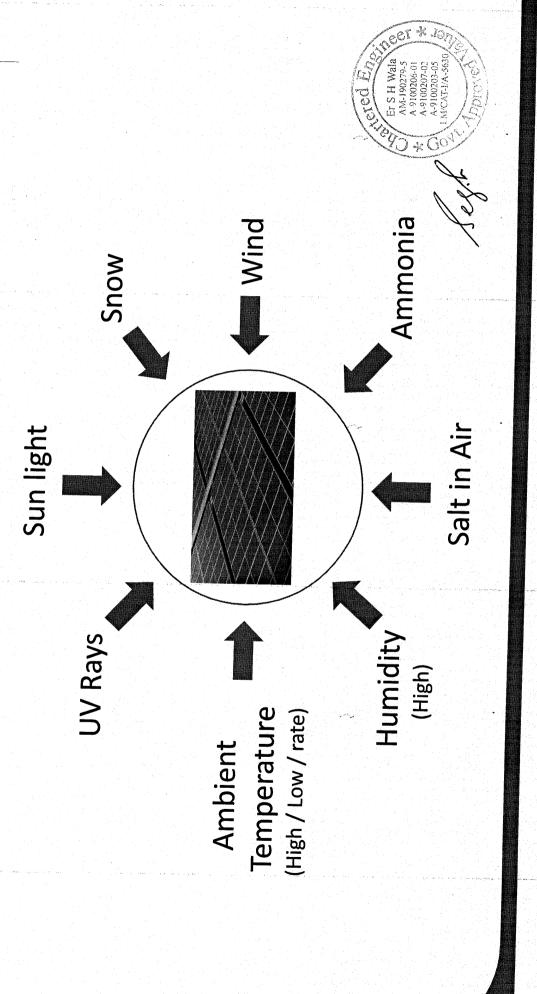


# Reliability Tests of PV Modules





# Weathering Factors





# RAYZON Accelerated Tests for Solar Panels

		T		T		T		1		Γ	T-	- 1	1
Salt in air													Salt Mist Test
Hail stones											1071	ndii lest	
Snow Wind									Static MIT				Ers H Wale
Voltage Sn													
Humidity			Damp Heat Test										
Temperature	UVID Test	LID, LeTID	Thermal Cycling Test	Humidity	Freeze Test	J CIO	רוט ופאנ						
Sunlight			Outdoor Exposure Test										
UV Rays													
	UV Rays	Sunlight	Temperature	Humidity		Voltage		Snow	Wind		Hail stones	Salt in air	



# Reliability Test Plan

480

Yearly

9

)

Backsheet/EVA/Searant

Module

9

Yearly

Internal standard (based #C 61215-2005 (Clause 4.18)

Section 50

Backsheer

8

Yearly

Yearly

Yearly

Reliability Test	Tested Device	Conterned Raw Materials	Tet Souter	Sample Size per Raw Material	Azuantraj	Responsibility	Estended Therm Olding (TROO)
Outdoor Exposure Test	Medille	Glass/Cell	IEC 61215:2021 (Clause 4.8)	2	Yearly	0.58	Extended Damp N. Test (Dritton)
Wet Leakage Test	Nodule	Sealant	#C 61215-2021 (clause 4.15), RC 61730-2016 (Clause 10.14)		į	ą	MLTTE FEE
Static Mechanical Load Test	Modifie	Scalant/Frame	FC 61215:2021 (chause 4.16), FC 61730:2016 (Chause 10.23)	*	į	gg#	Bypars Diode Reliability Test
Hot Spot Enderance Test	ğ	8	EC 61215-2021 (Clause 4.9], FC 61730-2016 (Clause 10 16)	4	į	ą	PCT of tweeting By
PIDTESS	Module	Cell/EVA/Backsheet	ECTS 62804-1.2015	-	į	{	
Thermal Ording	Popular	Cell/interconnect	EC 61215 2021 (Cause				
		rappen .	(Care 10.28)		) (a)	g	Compound to A
Damp Heat (DH1000)	Module	Backsheet/Eva/Sealant	4.13), ICC 61730-2016 (Cause 10.30)	•	i	Q.	UV Exposure test o
MLT Sequence (MLT. TCSO-IFF20)	Module	Cell/Interconnect Ribbun/Frame	EC 61215/2021 (clause 49, 4.11, 4.12)		į	Q#	UV exposure test o
			A CONTRACTOR OF THE CONTRACTOR				Venction Box

ON NREL Oughterto	Internal standard (basion NRE) Consideration Plus	Jak
Backsheet	Junction Box, cables	1 English Wala Wala Wala Wala Wala Wala Wala Wal
Component	Component	Er S H Wala AM-190279-5 A-9100207-02 A-9100207-02 A-9100203-05 I MCAT-1/A-5630
	5 11 3	N/Q.F.09/



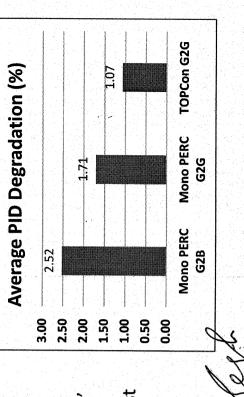
# RAYZON Potential Induced Degradation Test

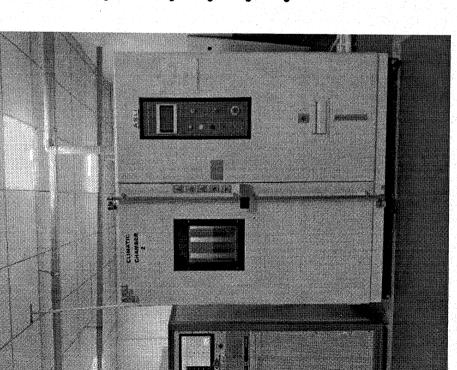
- are both connected to the negative of the DC power Test module positive terminal and negative terminal supply.
- Test module frame is connected to the positive of the DC power supply.
- Chamber conditions: 85 C & 85% humidity
- Test duration: 96 hrs per cycle
- No. of cycles: 3
- Pass criteria:
- No major visual defects,
- Power loss < 5%,
- Pass in Wet Leakage test

UCAT-1/A-5630,

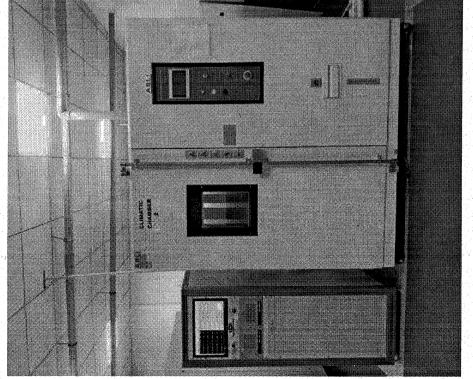
AM-190279-5 A-9100206-01 A-9100207-02 A-9100203-05

Er S H Wala









# Damp Heat Test

- Module terminals are short circuited.
- Chamber condition: 85 C & 85% humidity
- Test duration: 1000 hrs (regular), 3000 hrs (extended)
- Pass criteria:
- No major visual defects,
- Power loss < 5%,</li>
- Pass in Wet Leakage test

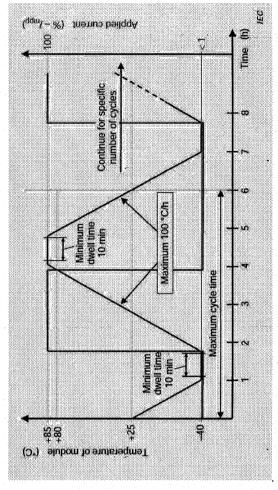


Left.

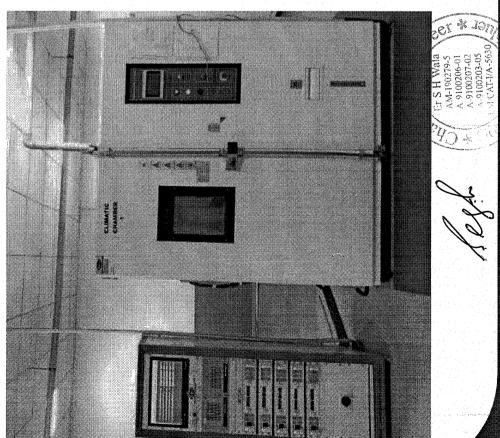


# Thermal Cycling Test

- Temperature range: -40 C to 85 C
- No. of cycles: 200 (regular), 600 (extended)
- Pass criteria:
- Power loss < 5%,</li>
- No major visual defect
- No current interruption
- Pass in Wet Leakage test



BARRE





# **UV Exposure Test**

- Sample size: 2500 x 1400 mm max.
- Module Temperature : 60 ± 5 C
- UV wavelength: 280 ~ 420 nm
- Irradiation intensity: 200 W/m²
- Total UV dose: 15 kWh/m² (pre-conditioning), 60 kWh/m² (extended).







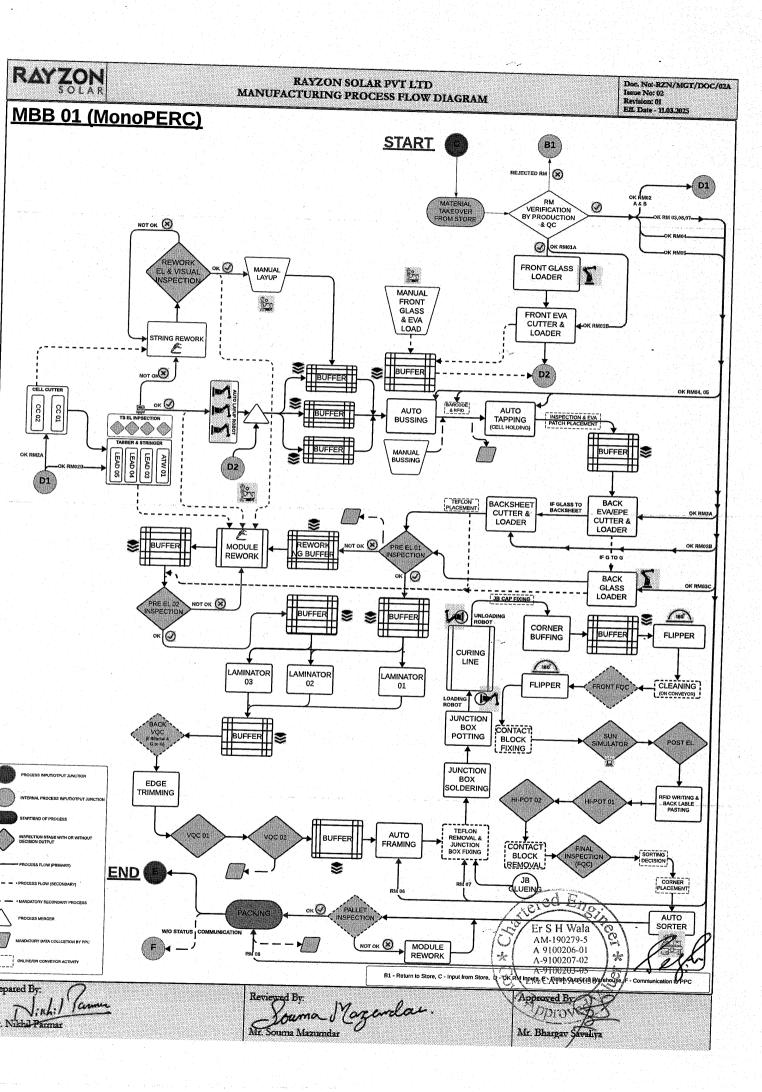
# PV Module Certifications

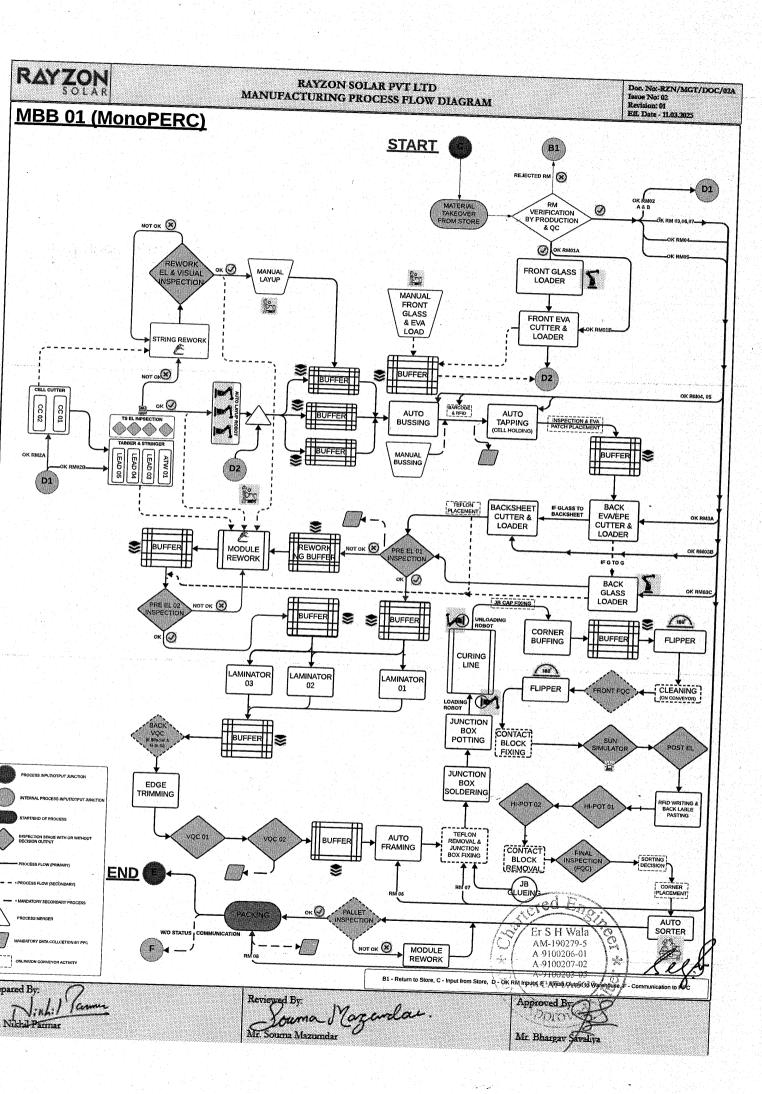
Remarks	Ensures the PV module design will not suffer infant mortality (fail within 5 years of outdoor operation)	Ensures the module is safe to operate and would not cause any electric shock or other injury.	Ensures the module is not susceptible to PID defect.	Specifies the procedure for determining the climate specific energy rating of module	Test to evaluate possible faults caused in PV modules when operating under wet atmospheres having high concentration of dissolved salt (NaCl), like near sea shore.	Test to determine the resistance of PV modules to ammonia (NH3), found in agricultural farms having livestock.
Sl. Standard Title No.	1 IS 14286 / Crystalline Silicon Terrestrial Photovoltaic IEC 61215 (PV) Modules – <b>Design Qualification</b> and Type Approval	2 IS/IEC Photovoltaic (PV) module Safety 61730 Qualification	3 IEC 62804 Photovoltaic (PV) modules - Test methods for the detection of potential- induced degradation	4 IEC 61583 Photovoltaic (PV) module performance testing and energy rating	5 IEC 61701 Photovoltaic (PV) modules – Salt Mist Corrosion test	6 IEC 62716 Photovoltaic (PV) modules - Ammonia corrosion testing

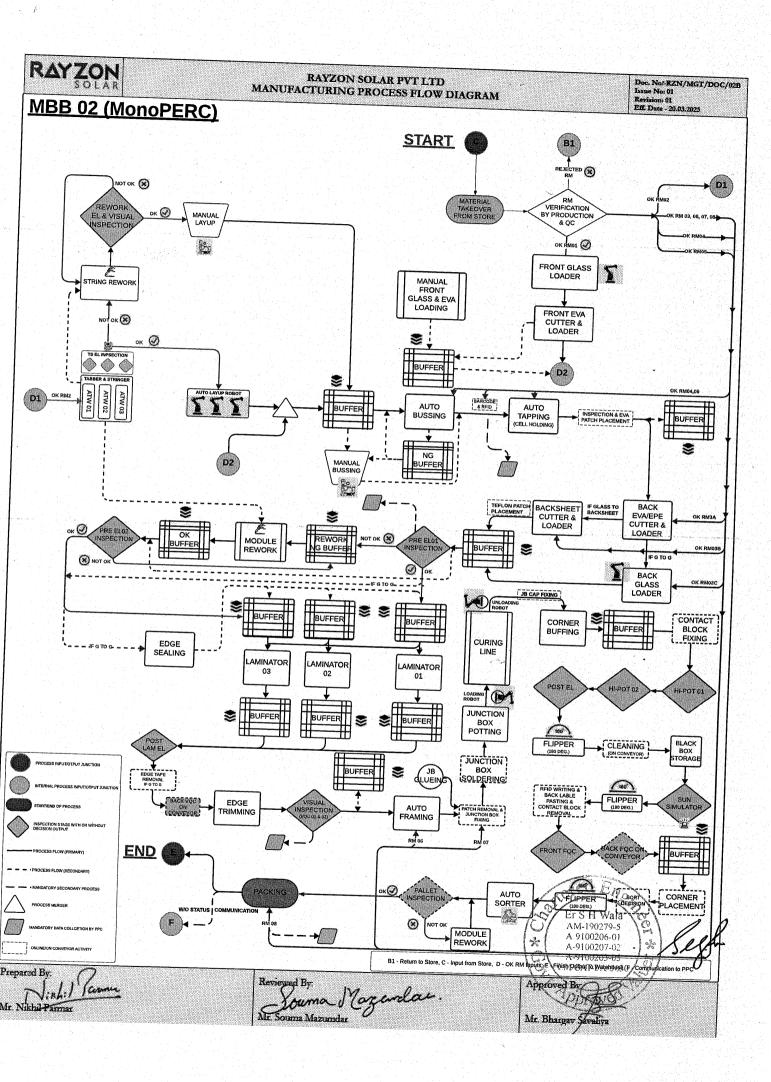


Thanks for Your Attention !!









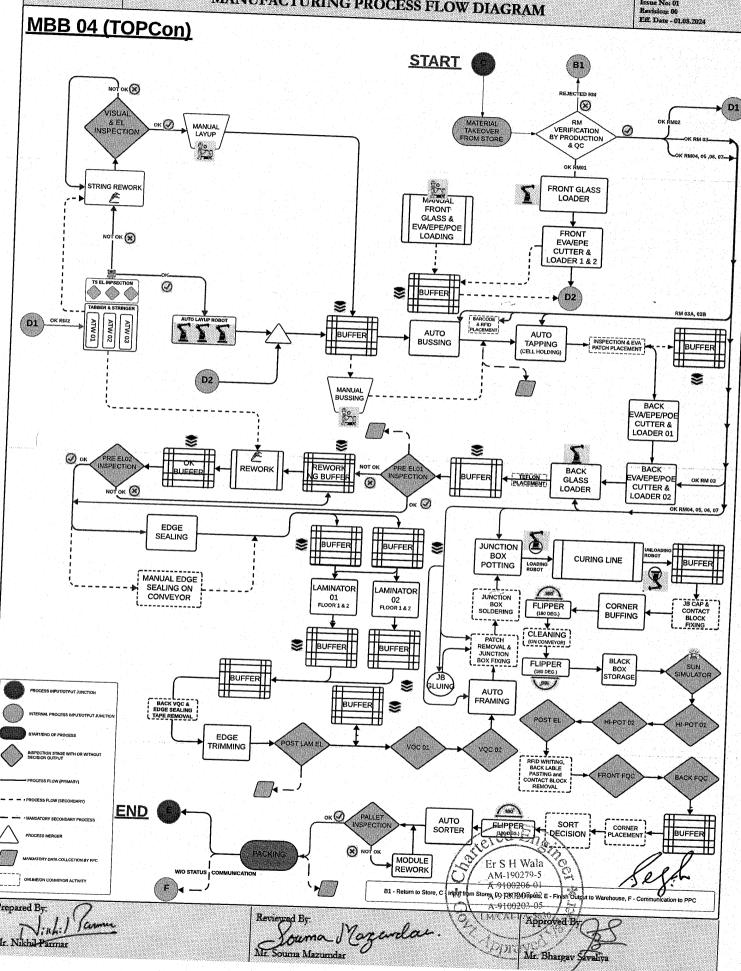
RAYZON SOLAR Dac. Not RZN/MGT/DOC/02C Issue Not 01 RAYZON SOLAR PVT LTD MANUFACTURING PROCESS FLOW DIAGRAM MBB 03 (MonoPERC/TOPCON) Revision: 01 Eff. Date - 03.63.2025 <u>START</u> B1 REJECTED (8) NOT ОК 🛞 D1 RM VERIFICATION BY PRODUCTION MATERIAL TAKEOVER FROM STORE REWOR EL & VISUAI MANUAL LAYUP & OC OK RM01 FRONT GLASS LOADER MANUAL STRING REWOR FRONT GLASS & EVA/EPE/POE LOADING FRONT EVA ок 🛞 CUTTER & LOADER 0 BUFFFF ▶ D2 ATW 01 ATW 02 ATW 03 BUFFER AUTO BUFFER AUTO BUSSING TAPPING (CELL HOLDING) D2 ΜΑΝυΔΙ BUSSING TEFLON PLACEMENT BACKSHEET IF GLASS TO BACKSHEET BACK VA/EPE/PO 3 CUTTER & LOADER OK RM3 CUTTER & PRE ELOZ INSPECTION LOADER OK REWOR MODULE BUFFER BUFFE моток 🛞 0 BACK FGTOG ок кмзс GLASS JB CAP FIXING LOADER **3 3** BUFFER BUFFER CONTACT BUFFER CORNER BUFFER BUFFING FIXING CURING EDGE LINE SEALING LAMINATOR -AMINATOR LAMINATOR 03 02 01 POSTE LOADING ROBOT HI-POT 01 JUNCTION BUFFFF BUFFEF BOX POTTING BUFFER 180 POST LAME BLACK BOX STORAGE CLEANING JUNCTION ] JB BUFFE BOX SOLDERING RFID WRITING & BACK LABLE PASTING & CONTACT BLOCK 180 FLIPPER EDGE TRIMMING PATCH REMOVAL JUNCTION BOX FIXING AUTO REMOVAL FRAMING RM 06 CORNER **END** PLACEMENT ок 🥝 PALLET NSPECTI PACKING BUFFE

AUTO SORTER SORT Er S H Wala (R) MODULE AM-190279-5 e REWORK A 9100206-01 0100207 03 puts A= Pilish 2013ut 15 w LM/CAT-1/A-563 usë, F Approved By come Mr. Souma Mazumdar Mr. Bharpav Şavaliya

Prepared By: Mr. Nikhil Parmar RAYZON

#### RAYZON SOLAR PVT LTD MANUFACTURING PROCESS FLOW DIAGRAM

Doc: Not-RZN/MGT/DOC/02D Issue No: 01 Revisiog: 00 Eff. Date - 01.05.2024



RAYZON RAYZON SOLAR PVT LTD Doc. No.-RZN/MGT/DOC/02E Issue No. 01 Revision 00 Eff. Date - 01.07,2024 MANUFACTURING PROCESS FLOW DIAGRAM MBB 05 (TOPCon) START B1 NOT OK (8) D1 (2) & EL INSPECTION RM MANUAL VERIFICATION BY PRODUCTION & QC LAYUP OK STRING REWORK FRONT GLASS LOADER FRONT GLASS & EVA/EPE/POF FRONT NOT OK (\*) LOADING **EVA/EPF** CUTTER & LOADER 1 & 2 0 BUFFER **►** D2 BARCODE & RFID
PLACEMENT D1 ATW 02 ATW 03 AUTO BUFFER AUTO BUSSING TAPPING (CELL HOLDING) BUFFER Ш D2 2 MANUAL BUSSING BACK EVA/EPE/POE CUTTER & LOADER 01 3 (2) REWORK NG BUFFER BACK GLASS BACK BUFFER VA/EPE/PO CUTTER & LOADER 02 NOTOK (8) LOADER ж 🕢 SEALING. BUFFER BUFFER JUNCTION BOX POTTING CURING LINE MANUAL EDGE SEALING ON LAMINATOR LAMINATOR 180 JUNCTION BOX SOLDERING 01 FLOOR 1 & 2 CONVEYOR 02 FLOOR 1 & 2 FLIPPER PATCH REMOVAL & JUNCTION BOX FIXING BUFFING CLEANING BUFFER BUFFER BLACK BOX FLIPPER SUN SIMULATOI BUFFER STORAG AUTO FRAMING BACK VQC & EDGE SEALING TAPE REMOVAL BUFFER POSTEL HI-POT 03 EDGE POSTLAME RIMMING VQC 02 FRONTEC BACK FOO END ок 🕢 AUTO ELIPPER (180 dec) SORTER DECISION BUFFER A STORY ® N PACKING MODULE Er S H Wala REWORK AM-190279-5 A-9100206-01 ore, DAORRMARDUS, E2Finish A-9100203-05 Reviewed By Yazarlar. Approved By Nikhil Parmar Mr. Bhargay Şavaliya