

CERTIFICATE

TÜV NORD CERT GmbH
herewith declares that

ZheJiang GangHang Solar Technology Co., Ltd.
No.2, West Xintiandi Business Centre, Xiacheng Zone
Hangzhou City, Zhejiang Province, 310006
P.R. China

is authorized to provide the product mentioned below with the mark as illustrated:

Description of product (details see Annex 2):

Double Glass PV Modules with 6" Half-cut Mono Bifacial Solar Cells

Single Glass PV Modules with 6" Half-cut Mono Solar Cells

Shingled Single Glass PV Modules with 6" 1/6-cut Mono Solar Cells



Valid from: 2020-09-23

Valid until: 2025-08-20

Tested according to: IEC / EN 61215-1:2016;
IEC / EN 61215-1-1:2016;
IEC 61215-2:2016 / EN 61215-2:2017 + AC:2017 + AC:2018;
IEC 61730-1:2016 / EN IEC 61730-1:2018 + AC:2018;
IEC 61730-2:2016 / EN IEC 61730-2:2018 + AC:2018.

Registered No.: 44 780 20 406749 - 184
Manufacturer: see Annex 1
Test Report No.: 492011506.001
File No.: PVP08049/20P



TÜV NORD CERT GmbH
Certification Body
Consumer Products



Essen, 2020-09-23

Please also pay attention to the information stated overleaf.

Anlage 1 zum Zertifikat Nr.: / Annex 1 to Certificate No.: 44 780 20 406749 - 184

Seite / Page 1 von / of 1

Aktenzeichen: / File reference: PVP08049/20P

2020-09-23

Manufacturer:

Manufacturer: Coded by debtor no. 55450058
Factory inspection report no.: 862010455.001

Remark:

Factory inspection is mandatory to be performed annually. Please refer to factory inspection report for detailed information.

A handwritten signature in blue ink, appearing to read "Rogier K.".

TÜV NORD CERT GmbH
Certification Body
Consumer Products

Description of product(s):

Module types:	Double Glass PV Modules with 6" Half-cut Mono Bifacial Solar Cells: 144 cells: MSxxxMD-72H (xxx=360-415, in increment of 5) 120 cells: MSxxxMD-60H (xxx=300-345, in increment of 5) 144 cells: MSxxxMD-72H6 (xxx=420-445, in increment of 5) 120 cells: MSxxxMD-60H6 (xxx=350-370, in increment of 5) Remark: The output power only contains the front output power.
Maximum system voltage:	1500V
Fuse rating:	20A
Electrical protection class:	Class II
Pollution degree:	1
Material group:	I
Design load (positive / negative):	3600Pa / 1600Pa
Safety factors:	1.5
Fire safety class:	Class C according to ANSI/UL 1703-2018 (as per ANSI/UL 790-2018)
Module types:	Double Glass PV Modules with 6" Half-cut Mono Bifacial Solar Cells: 144 cells: MSxxxMDG-72H (xxx=420-465, in increment of 5) 120 cells: MSxxxMDG-60H (xxx=350-385, in increment of 5) 144 cells: MSxxxMDG-72H6 (xxx=475-500, in increment of 5) 120 cells: MSxxxMDG-60H6 (xxx=395-415, in increment of 5) Remark: The output power contains the front and rear output power.
Maximum system voltage:	1500V
Fuse rating:	20A
Electrical protection class:	Class II
Pollution degree:	1
Material group:	I
Design load (positive / negative):	3600Pa / 1600Pa
Safety factors:	1.5
Fire safety class:	Class C according to ANSI/UL 1703-2018 (as per ANSI/UL 790-2018)
Albedo:	20%
*Bifaciality coefficient (φ):	80% \pm 5%



TÜV NORD CERT GmbH
Certification Body
Consumer Products

Module types:	Single Glass PV Modules with 6" Half-cut Mono Solar Cells: 144 cells: MSxxxM-72H (xxx=370-410, in increment of 5) 120 cells: MSxxxM-60H (xxx=310-340, in increment of 5) 144 cells: MSxxxMB-72H (xxx=425-445, in increment of 5) 120 cells: MSxxxMB-60H (xxx=355-370, in increment of 5)
Maximum system voltage:	1000V
Fuse rating:	15A
Electrical protection class:	Class II
Pollution degree:	1
Material group:	I
Design load (positive / negative):	3600Pa / 1600Pa
Safety factors:	1.5
Fire safety class:	Class C according to ANSI/UL 1703-2018 (as per ANSI/UL 790-2018)

Module types:	Shingled Single Glass PV Modules with 6" 1/6-cut Mono Solar Cells: 486 cells: MSxxxM-81HD (xxx=385-425, in increment of 5) 396 cells: MSxxxM-66HD (xxx=315-345, in increment of 5)
Maximum system voltage:	1000V
Fuse rating:	15A
Electrical protection class:	Class II
Pollution degree:	1
Material group:	I
Design load (positive / negative):	3600Pa / 1600Pa
Safety factors:	1.5
Fire safety class:	Class C according to ANSI/UL 1703-2018 (as per ANSI/UL 790-2018)

Remark:

For detailed product information, please refer to CDF (Constructional Data Form) in Annex 1 of test report.

*Bifaciality coefficient (ϕ) = ($I_{sc rear} / I_{sc front}$) or ($P_{mp rear} / P_{mp front}$), whichever is smaller.

*The tolerance of bifaciality coefficient (ϕ) is claimed by client.



TÜV NORD CERT GmbH
Certification Body
Consumer Products