Technical Report No.: 704062605102-00

Date: 2026-02-09

Client:	Zhejiang Sunpro Power Technology co., Ltd Qinggang Technological Ind.Zone 317606 Yuhuan, Zhejiang Province PEOPLE'S REPUBLIC OF CHINA
Manufacturer:	Zhejiang Sunpro Power Technology co., Ltd Qinggang Technological Ind.Zone 317606 Yuhuan, Zhejiang Province PEOPLE'S REPUBLIC OF CHINA
Factory:	Zhejiang Sunpro Power Technology co., Ltd (118771) Qinggang Technological Ind.Zone 317606 Yuhuan, Zhejiang Province PEOPLE'S REPUBLIC OF CHINA
Test object:	Product: Photovoltaic modules Model: See clause 1.4
Test specification:	IEC 61730-2: 2023 MST 23 Fire test (Test method is according to UL790)
Purpose of examination:	• Testing and evaluation (visual / partial) according to the test specification
Test result:	The test results show that the presented product is in compliance with the above listed test specifications.

1. Description of the test object

1.1 Pictures

N/A

1.2 Function

Manufacturer's specification for intended use:
The PV modules for electricity generation systems with max. voltage of 1500 V DC

Manufacturer's specification for predictive use:
N/A

1.3 Consideration of the foreseeable use

☐ Not applicable
☒ Covered through the applied standard
☐ Covered by the following comment*
☐ Covered by attached risk analysis

1.4 Technical Data

Sample No.	Model serial No.	Model type	Remark
YOT010260116-1	D002512261441109	SPDG590-N144M10	2278x1134x30mm
YOT010260116-2	D002512261441105	SPDG590-N144M10	2278x1134x30mm
YOT010260117-1	N002512260960048	SPDG450-N96R12	1762x1134x30mm
YOT010260117-2	N002512260960050	SPDG450-N96R12	1762x1134x30mm
YOT010260117-3	N002512260960043	SPDG450-N96R12	1762x1134x30mm
YOT010260118-1	N002509201320036	SPDG630-N132R12	2382x1134x30mm
YOT010260118-3	N002509201320030	SPDG630-N132R12	2382x1134x30mm
YOT010260119-1	N002511121080806	SPDG500-N108R12	1960x1134x30mm
YOT010260119-3	N002511121080810	SPDG500-N108R12	1960x1134x30mm

2. Order

2.1 Date of Purchase Order, Customer's Reference

The order dated 2026-01-21

2.2 Test Sample(s)

- Reception date(s):
  2026-01-27
- Location(s) of reception:
  Yangzhou Opto-Electrical Products Testing Institute Co., Ltd.
  3/F., Building 2, No.199, Jinhe road,Bali Town, Yangzhou, Jiangsu, China
- Condition of test sample(s):
  In good conditions

2.3 Date(s) of Testing	2026-02-05
2.4 Location(s) of Testing	Yangzhou Opto-Electrical Products Testing Institute Co., Ltd. 3/F., Building 2, No.199, Jinhe road,Bali Town, Yangzhou, Jiangsu, China

2.5 Points of Non-Compliance or Exceptions of the Test Procedure

- None

3. Test Results

- ☒ Decision rule according to ILAC-G8:09/2019 clause 4.2.1 Binary statement for simple acceptance rule or IEC Guide 115:2023, clause 4.3.3 Simple acceptance was applied.

- ☐ Decision rule according to customer's requirements was applied. It is:

- ☐ Decision rule according to ILAC-G8:09/2019 clause 4.2.2 Binary statement with guard band - guard band length = 95 % extended measurement uncertainty, was applied.

- ☒ Decision rule according to ILAC-G8:09/2019 clause 4.2.3 Non-binary statement with guard band - guard band length = 95% extended measurement uncertainty was applied for an upper specification limit (A lower limit or specification with an upper and a lower limit is treated similarly.):

  ☒ Pass - the measured result is below the specification limit minus the guard band.

  ☐ Fail - the measured result is above the specification limit plus the guard band.

  ☐ Conditional Pass - the measured result is inside the guard band and below the specification limit.

  ☐ Conditional Fail - the measured result is above the specification limit but below the specification limit plus the guard band.

  ☐ There are no statements to conformity or no results with measurand stated in this report, no decision rule has been applied.

3.1 Positive Test Results

3.1.1	TABLE: Visual inspection (Initial)	P
Test Date [YYYY-MM-DD]……..…..:	2026-02-05	—

Sample No.	Nature and position of initial findings – comments or attach photos	Verdict
YOT010260116-1	No major visual defects	P
YOT010260116-2	No major visual defects	P
YOT010260117-1	No major visual defects	P
YOT010260117-2	No major visual defects	P
YOT010260117-3	No major visual defects	P
YOT010260118-1	No major visual defects	P
YOT010260118-3	No major visual defects	P
YOT010260119-1	No major visual defects	P
YOT010260119-3	No major visual defects	P
Supplementary information: N/A		

3.1.2	TABLE: Fire Test - MST 23 (Spread-of-flame test)		P
	Test Date [YYYY/MM/DD]……..…..:	2026-02-05	—
	Module fire resistance class ..... :	Class A	—
	No. of modules provided to create the test assembly ..... :	YOT010260116-1	—
	Testing method..... :	according to UL790	—
	Test environmental conditions..... :	24℃, 31% R.H.	—
	Test temperature (℃)..... :	760±28	—
	Wind speed (m/s)..... :	5.24 (76mm from right)	—
		5.40 (middle)	
		5.20 (76mm from left)	
		5.28 (Average)	
	Test duration time (s)..... :	400	—

Sample No.	Observations	—
YOT010260116-1	☒ Modules comply with the requirements for the fire resistance class	P

Test process description: The backpanel hasn't broken, nothing has been blown off or fall off the test deck in the form of flaming or flowing brands. There was NO OCCURENCE whereby portions of the roof deck or portions of a module or panel intended for installation integral with or forming a part of the building roof structure, fall away in the form of glowing particles There was NO OCCURENCE of lateral spread of flame on both the top surface (surface of which the external flame is applied) and any intermediary channel, such as the space between stand-off or integral modules and the roof During the test, there was no glowing particles being observed. The flaming of the material has not spread beyond 6 feet (1.82 m) (the top of the deck) in 10 minutes. There has been no significant lateral spread of flame from the path directly exposed to the test flame. Supplementary information: Testing samples were stored indoors at temperatures not lower than 16°C (60°F) nor higher than 32°C (90°F) for the period of time necessary to cure the material.
Test photos: YOT010260116-1 

3.1.3	TABLE: Fire Test - MST 23 (Ignition of brands)		P
	Test Date [YYYY/MM/DD]…….....:	2026-02-05	—
	Module fire resistance class .....:	Class A	—
	No. of modules provided to create the test assembly .....:	YOT010260116-2	—
	Testing method.....:	according to UL790	—
	Test environmental conditions.....:	24℃, 31% R.H.	—
	The dry weight of the finished brand (g) .....:	2.008	—
	Test temperature of the igniting flame(℃).....:	888±10	—
	Wind speed (m/s).....:	5.24 (76mm from right)	—
		5.40 (middle)	

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		5.20 (76mm from left)	
		5.28 (Average)	
Sample No.	Observations		—
YOT010260116-2	☒ Modules comply with the requirements for the fire resistance class		P

Test process description:

There was NO OCCURENCE of any portion of the module or panel be blown off or fall off the test sample
in the form of flaming or glowing brands

There was NO OCCURENCE of the burning brand burn a hole through the roof covering or through any part of the module or panel

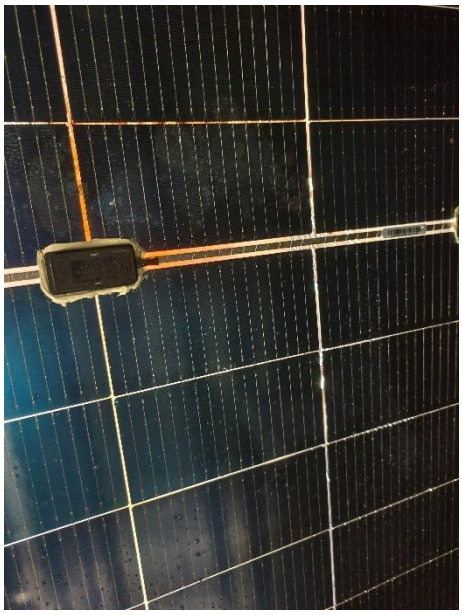
There was NO OCCURENCE of portions of a module or panel intented for installation integral with, or forming part of the building structure fall away in the form of glowing particles.

During the test, there was no substained flaming of the module or panel, no glowing particles and no flame spread being observed.

Supplementary information: Testing samples were stored indoors at temperatures not lower than 16°C (60°F) nor higher than 32°C (90°F) for the period of time necessary to cure the material.

Test photos:

YOT010260116-2



3.1.4	TABLE: Fire Test - MST 23 (Spread-of-flame test)		P
	Test Date [YYYY/MM/DD]…….....:	2026-02-05	—
	Module fire resistance class .....:	Class A	—
	No. of modules provided to create the test assembly .....:	YOT010260117-1&2	—
	Testing method.....:	according to UL790	—
	Test environmental conditions.....:	24℃, 31% R.H.	—
	Test temperature (℃).....:	760±28	—

	Wind speed (m/s) ..... :	5.16 (76mm from right)	—
		5.34 (middle)	
		5.44 (76mm from left)	
		5.31 (Average)	
	Test duration time (s) ..... :	400	—

Sample No.	Observations	—
YOT010260117-1	☒ Modules comply with the requirements for the fire resistance class	P
YOT010260117-2		

Test process description:

The backpanel hasn't broken, nothing has been blown off or fall off the test deck in the form of flaming or flowing brands.

There was NO OCCURENCE whereby portions of the roof deck or portions of a module or

panel intended for installation integral with or forming a part of the building roof structure, fall away in the form of glowing particles

There was NO OCCURENCE of lateral spread of flame on both the top surface (surface of

which the external flame is applied) and any intermediary channel, such as the space between stand-off or integral modules and the roof

During the test, there was no glowing particles being observed.

The flaming of the material has not spread beyond 6 feet (1.82 m) (the top of the deck) in 10 minutes. There has been no significant lateral spread of flame from the path directly exposed to the test flame.

Supplementary information: Testing samples were stored indoors at temperatures not lower than 16°C (60°F) nor higher than 32°C (90°F) for the period of time necessary to cure the material.

Test photos:

YOT010260117-1

3.1.5	**TABLE: Fire Test - MST 23 (Ignition of brands)**	P

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	Test Date [YYYY/MM/DD]……..…..:	2026-02-05	—
	Module fire resistance class ..... :	Class A	—
	No. of modules provided to create the test assembly ..... :	YOT010260117-3	—
	Testing method..... :	according to UL790	—
	Test environmental conditions..... :	24℃, 31% R.H.	—
	The dry weight of the finished brand (g) ..... :	2.004	—
	Test temperature of the igniting flame(℃)..... :	888±10	—
	Wind speed (m/s)..... :	5.16 (76mm from right)	—
		5.34 (middle)	
		5.44 (76mm from left)	
		5.31 (Average)	

Sample No.	Observations	—
YOT010260117-2	☒ Modules comply with the requirements for the fire resistance class	P

Test process description:

There was NO OCCURENCE of any portion of the module or panel be blown off or fall off the test sample
in the form of flaming or glowing brands

There was NO OCCURENCE of the burning brand burn a hole through the roof covering or through any part of the module or panel

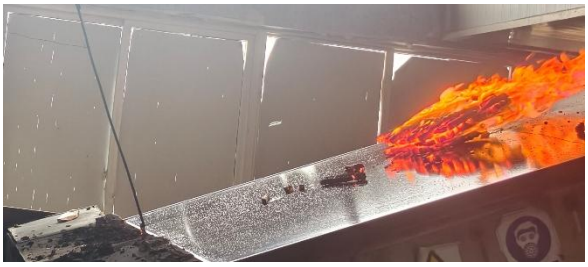
There was NO OCCURENCE of portions of a module or panel intented for installation integral with, or forming part of the building structure fall away in the form of glowing particles.

During the test, there was no substained flaming of the module or panel, no glowing particles and no flame spread being observed.

Supplementary information: Testing samples were stored indoors at temperatures not lower than 16°C (60°F) nor higher than 32°C (90°F) for the period of time necessary to cure the material.

Test photos:

YOT010260117-3



3.1.6	TABLE: Fire Test - MST 23 (Spread-of-flame test)		P
	Test Date [YYYY/MM/DD]……..:	2026-02-05	—
	Module fire resistance class ..... :	Class A	—
	No. of modules provided to create the test assembly ..... :	YOT010260118-1	—
	Testing method..... :	according to UL790	—
	Test environmental conditions..... :	24℃, 31% R.H.	—
	Test temperature (℃)..... :	760±28	—
	Wind speed (m/s)..... :	5.24 (76mm from right)	—
		5.17 (middle)	
		5.36 (76mm from left)	
		5.26 (Average)	
	Test duration time (s)..... :	400	—
Sample No.	Observations		—

YOT010260118-1	☒ Modules comply with the requirements for the fire resistance class	P

Test process description:

The backpanel hasn't broken, nothing has been blown off or fall off the test deck in the form of flaming or flowing brands.

There was NO OCCURENCE whereby portions of the roof deck or portions of a module or

panel intended for installation integral with or forming a part of the building roof structure, fall away in the form of glowing particles

There was NO OCCURENCE of lateral spread of flame on both the top surface (surface of

which the external flame is applied) and any intermediary channel, such as the space between stand-off or integral modules and the roof

During the test, there was no glowing particles being observed.

The flaming of the material has not spread beyond 6 feet (1.82 m) (the top of the deck) in 10 minutes. There has been no significant lateral spread of flame from the path directly exposed to the test flame.

Supplementary information: Testing samples were stored indoors at temperatures not lower than 16°C (60°F) nor higher than 32°C (90°F) for the period of time necessary to cure the material.

Test photos:

YOT010260118-1

3.1.7	**TABLE: Fire Test - MST 23 (Ignition of brands)**		P
	Test Date [YYYY/MM/DD]……..:	2026-02-05	—
	Module fire resistance class ..... :	Class A	—
	No. of modules provided to create the test assembly ..... :	YOT010260118-3	—
	Testing method..... :	according to UL790	—
	Test environmental conditions..... :	24℃, 31% R.H.	—
	The dry weight of the finished brand (g) ..... :	2006	—
	Test temperature of the igniting flame(℃)..... :	888±10	—
	Wind speed (m/s)..... :	5.24 (76mm from right)	—
		5.17 (middle)	

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		5.36 (76mm from left)	
		5.26 (Average)	
Sample No.	Observations		—
YOT010260118-2	☒ Modules comply with the requirements for the fire resistance class		P

Test process description:

There was NO OCCURENCE of any portion of the module or panel be blown off or fall off the test sample
in the form of flaming or glowing brands

There was NO OCCURENCE of the burning brand burn a hole through the roof covering or through any part of the module or panel

There was NO OCCURENCE of portions of a module or panel intented for installation integral with, or forming part of the building structure fall away in the form of glowing particles.

During the test, there was no substained flaming of the module or panel, no glowing particles and no flame spread being observed.

Supplementary information: Testing samples were stored indoors at temperatures not lower than 16°C (60°F) nor higher than 32°C (90°F) for the period of time necessary to cure the material.

Test photos:

YOT010260118-3

3.1.8	TABLE: Fire Test - MST 23 (Spread-of-flame test)		P
	Test Date [YYYY/MM/DD]……..:	2026-02-05	—
	Module fire resistance class ..... :	Class A	—
	No. of modules provided to create the test assembly ..... :	YOT010260119-1&2	—
	Testing method..... :	according to UL790	—
	Test environmental conditions..... :	24℃, 31% R.H.	—
	Test temperature (℃)..... :	760±28	—
	Wind speed (m/s)..... :	5.36 (76mm from right)	—
		5.44 (middle)	
		5.45 (76mm from left)	
		5.42 (Average)	
	Test duration time (s)..... :	400	—

Sample No.	Observations	
YOT010260119-1	☒ Modules comply with the requirements for the fire resistance class	P

Test process description:

The backpanel hasn't broken, nothing has been blown off or fall off the test deck in the form of flaming or flowing brands.

There was NO OCCURENCE whereby portions of the roof deck or portions of a module or

panel intended for installation integral with or forming a part of the building roof structure, fall away in the form of glowing particles

There was NO OCCURENCE of lateral spread of flame on both the top surface (surface of

which the external flame is applied) and any intermediary channel, such as the space between stand-off or integral modules and the roof

During the test, there was no glowing particles being observed.

The flaming of the material has not spread beyond 6 feet (1.82 m) (the top of the deck) in 10 minutes. There has been no significant lateral spread of flame from the path directly exposed to the test flame.

Supplementary information: Testing samples were stored indoors at temperatures not lower than 16°C (60°F) nor higher than 32°C (90°F) for the period of time necessary to cure the material.

Test photos:

YOT010260119-1

3.1.9	TABLE: Fire Test - MST 23 (Ignition of brands)		P
	Test Date [YYYY/MM/DD]……..:	2026-02-05	—
	Module fire resistance class ……..:	Class A	—
	No. of modules provided to create the test assembly ……..:	YOT010260119-3	—
	Testing method……..:	according to UL790	—
	Test environmental conditions……..:	24℃, 31% R.H.	—
	The dry weight of the finished brand (g) ……..:	2.010	—
	Test temperature of the igniting flame(℃)……..:	888±10	—
	Wind speed (m/s)……..:	5.36 (76mm from right)	—
		5.44 (middle)	
		5.45 (76mm from left)	
		5.42 (Average)	

Sample No.	Observations	—
YOT010260119-3	☒ Modules comply with the requirements for the fire resistance class	P

Test process description: There was NO OCCURENCE of any portion of the module or panel be blown off or fall off the test sample in the form of flaming or glowing brands There was NO OCCURENCE of the burning brand burn a hole through the roof covering or through any part of the module or panel There was NO OCCURENCE of portions of a module or panel intented for installation integral with, or forming part of the building structure fall away in the form of glowing particles. During the test, there was no substained flaming of the module or panel, no glowing particles and no flame spread being observed. Supplementary information: Testing samples were stored indoors at temperatures not lower than 16°C (60°F) nor higher than 32°C (90°F) for the period of time necessary to cure the material.
Test photos: YOT010260119-3       

3.2 Points of Non-Compliance according to the test specification

- N/A

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4. Remarks

N/A

5. Documentation

Equipment ID	Description	Type	Date of due calibration
SB11086	Spread-of-flame tester	Custom	2026-04-16
SB11087	Burning brand tester	Custom	2026-04-16
SB11016	Drying oven	Custom	2026-08-01

6. Summary

"The test specifications are met."

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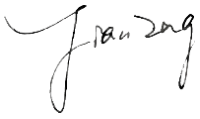
Tested by: Jian Zeng



Approved by: Gang Huang