

NORTHERN TERRITORY OF AUSTRALIA

STRUCTURAL ENGINEERING CERTIFICATE OF COMPLIANCE

SECA REFERENCE: 26149 – JKMXXXN-48QL6 1.6mm glass

Date of Issue: 7 August 2026

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The Recommended Ultimate Design Strength of the Jinko **JKMXXXN-48QL6 1.6mm glass - 1762 x 1134 x 30mm** Solar Panel Module can resist wind force at the Limit State Design Capacity for the following support conditions:

When supported at 800mm centres	5.07 kPa
When supported at 1000mm centres	5.07 kPa

SCOPE

Structural Engineering Consultants Australia (SECA) Pty Ltd were engaged by Alif Shahriar of Jinko Solar Australia Holdings CO Pty Ltd to carry out and witness four individual mechanical load tests (simulated static, wind load strength test). The test procedure followed was similar to the method outlined in AS4040.2:1992, Static Strength Test Regime. The testing was performed on new panels supplied by the client.

TEST PROCEDURE

The solar panel module(s) were mounted front side up and were free to deflect, this was to imitate a real-world situation. The electrical continuity or the cells themselves were not monitored during or after the tests. The load was applied by an airbag to the back of the panel and the centre deflection was monitored at 1kPa intervals as the load was applied by slowly inflating an air bag. A calibrated digital manometer was used to measure and track the test pressures, while a calibrated digital deflection meter was used to measure the centre (vertical) deflection of the solar panel.

A total of four panels were tested. Each test was carried out once and tested on 1st August 2026.

2 individual test samples with 2 supports/ clamps at 800 mm centres
2 individual test samples with 2 supports/ clamps at 1000 mm centres

Material Variability Factor AS/NZS 1170.0, Table B1 – kt:

The applied factor for variability for 1 individual test sample (1 individual units tested per support centre) and adopting a coefficient of variation of structural characteristics of 10% in accordance with AS/NZS 1170.0, Table B1 (when determining the allowable design capacity) is 1.46.

The applied factor for variability for 2 individual test samples (2 individual units tested per support centre) and adopting a coefficient of variation of structural characteristics of 10% in accordance with AS/NZS 1170.0, Table B1 (when determining the allowable design capacity) is 1.38.

The applied factor for variability for 3 individual test samples (3 individual units tested per support centre) and adopting a coefficient of variation of structural characteristics of 10% in accordance with AS/NZS 1170.0, Table B1 (when determining the allowable design capacity) is 1.33

Test Results

Test 1:

Model: Jinko JKM475N-48QL6-DB, Serial Number: K7FXT126F037515632903571

The panel **1762 x 1134 x 30mm** was mounted to the test rig with support points **1000mm** centres apart on each side with a cantilever/overhang of approximately **381mm** at each end of the panel.

The solar panel was observed to be able to support an equivalent design test pressure of **7.5 kPa** with a centre vertical deflection of **75mm**.

Test 2:

Model: Jinko JKM475N-48QL6-DB, Serial Number: K7FXT126F037515632903402

The panel **1762 x 1134 x 30mm** was mounted to the test rig with support points **1000mm** centres apart on each side with a cantilever/overhang of approximately **381mm** at each end of the panel.

The solar panel was observed to be able to support an equivalent design test pressure of **7 kPa** with a centre vertical deflection of **75.5mm**.

Test 3:

Model: Jinko JKM475N-48QL6-DB, Serial Number: K7FXT126F037515632903396

The panel **1762 x 1134 x 30mm** was mounted to the test rig with support points **800mm** centres apart on each side with a cantilever/overhang of approximately **481mm** at each end of the panel.

The solar panel was observed to be able to support an equivalent design test pressure of **7 kPa** with a centre vertical deflection of **80.6mm**.

Test 4:

Model: Jinko JKM475N-48QL6-DB, Serial Number: K7FXT126F037515632903595

The panel **1762 x 1134 x 30mm** was mounted to the test rig with support points at **800mm** centres apart on each side with a cantilever/ overhang of approximately **481mm** at each end (measured from centre of supports).

The solar panel was observed to be able to support an equivalent design test pressure of **7 kPa** with a centre vertical deflection of **81.5mm**.

Table 1: Test Summary
Recommended Ultimate Design Strength, Limit Design Capacity

Tests	Panel Manufacturer, Model & Size (mm)	Support Points (mm) c/c	Maximum Applied Load (kPa)	Material Variability Factor AS/NZS 1170.0 Table B1 – kt	Recommended Ultimate Design Strength Limit State Design Capacity (kPa)
1,2	Jinko JKM475N-48QL6-DB 1762 x 1134 x 30mm 2 test samples 1.6mm glass	2 supports at 1000mm	7.0	1.38	5.07
3,4	Jinko JKM475N-48QL6-DB 1762 x 1134 x 30mm 2 test samples 1.6mm glass	2 supports at 800mm	7.0	1.38	5.07

In accordance with AS/NZS 1170.0 Table B1, where no reliable data for the co-efficient of variation of structural characteristics (V_{sc}) are available, a value of 10.0% maybe adopted for roof assembly cyclic testing, as recommended in Clause 6.1 of *The Draft Guide to LHL Cyclic Testing (Version 1)*, dated 9 April 2009 and issued by the Cyclone Testing Station.

Summary

The Recommended Ultimate Design Strength of the Jinko **JKMXXXN-48QL6 1.6mm glass - 1762 x 1134 x 30mm** Solar Panel Module, can resist vertical wind force at the Limit State Design Capacity for the following support conditions:

**Refer to Attached: Jinko Solar Panel Mechanical Statement*

xxx = wattage of panel

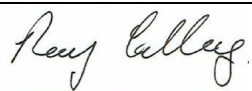
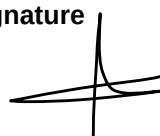
When supported at 800mm centres
When supported at 1000mm centres

5.07 kPa
5.07 kPa

Limitations

This certificate of compliance has been prepared on behalf of and for the exclusive use of Jinko Solar Australia Holdings CO Pty Ltd and forms part of the A.I.P certificate of compliance. These design capacities are only applicable for the panel size, model and support spacing as used in these tests. We accept that the wattage of the panel may vary, however this certificate is no longer valid if the any of the applicable Mechanical Properties used in the manufacture of these solar panel modules or if the manufacturing processes or techniques is changed or altered in any way. It is the responsibility of the manufacturer to advise or confirm if they are altered in any way as new tests and certification will be required.

Please note: The panel fixing clamps, the support rail or their associated fixings, may limit the structural design for installation.

<div>Ray Colley Director Structural Engineering Consultants Australia Pty Ltd</div> <div></div>		<div>Company NT Registration Number 169894ES</div>	
I certify that reasonable care has been taken to ensure that the structural engineering aspects of the works as described above have been designed in accordance with the requirements of the Building Code of Australia and the Northern Territory Building Regulations			
<div>Name Wisnu Lim</div> <div>Nominee for Structural Engineering Consultants Australia Pty Ltd</div>	<div>Nominee/Individual NT Registration Number 145651ES</div>	<div>Signature </div>	<div>Date 7 August 2026</div>

Appendix A

Test Results

Test Pressure	Test 1 1000mm C/C supports	Test 2 1000mm C/C supports
Load Applied (kPa)	Recorded Deflection (mm)	Recorded Deflection (mm)
1	8.7	14.5
2	22.0	26.9
3	34.5	39.2
4	45.1	49.9
5	54.5	59.3
6	62.6	67.3
7	70.1	75.5
7.5	75.0	

Test Pressure	Test 3 800mm C/C Supports	Test 4 800mm C/C Supports
Load Applied (kPa)	Recorded Deflection (mm)	Recorded Deflection (mm)
1	16.9	16.2
2	31.5	31.5
3	44.8	44.9
4	55.2	55.5
5	64.0	65.0
6	72.2	73.2
7	80.6	81.5

Statement – Jinko Solar Panel Mechanical Properties Issue

Jinko Solar Co., Ltd. (**'Jinko Solar'**) hereby confirms that the PV Modules (Module type: See below list) share the same panel size 1762×1134×30mm and similar BOMs for applicable Mechanical Properties.

- JKMxxxN-48QL6-DV (XXX=460W-485W) (1.6+1.6mm glass thickness)
- JKMxxxN-48QL6- DB (XXX=460W-485W) (1.6+1.6mm glass thickness)

* DB- stands for Monofacial Dual glass-Black module property;

* DV- stands for Monofacial Dual glass property;

The wattage and efficiency of each PV Module may vary, however Jinko Solar confirms the applicable Mechanical Properties used during the manufacture of the PV modules and the Manufacturing Process and techniques have been not changed or altered in any way.

If you have any questions regarding the above statement, please contact with Jinko Solar Technical Support Team.

Add: Level 23, 171 Sussex St, Sydney NSW 2000 Contact Number: 1300 326 182

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Yours sincerely,

Jinko Tech Team Support

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