

## Certificate of Compliance

Certificate Number: MCS IK0251 Issue: 03

### Xiamen Fasten Solar Technology Co., Ltd.

T/A Fastensol

4F, No.31, Xiangxing 1st Road

Huli District

Xiamen 361006

P.R. China

having complied with the following MCS product certification scheme requirements:

MCS 010 – Generic Factory Production Control and Product Quality Requirements – Issue 2.0

and

MCS 012 – Pitched Roof Installation Kits

(The issue number is stated in the heading of the table(s) in the appendix)

is authorised to use the BRE Global Certification Mark and the MCS Certification Mark in association with the products listed in the appendix.

The validity of this certificate with appendix is maintained in accordance with MCS scheme requirements which include annual factory production control surveillance assessment.

Please see Appendix for product details

The products listed in the appendix to this certificate are certificated through the agreement between BRE Global Limited and TÜV Rheinland.

Laura Critien

21 September 2023

25 August 2017

Signed for BRE Global Limited

Team Manager

Date of Issue

Date of First Issue



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**Appendix to Certificate No: MCS IK0251 Issue: 03**  
**Xiamen Fasten Solar Technology Co., Ltd. T/A Fastensol**

**Products**

**MCS 012 – Pitched Roof Installation Kits – Issue 2.4**

Product Name	Description	Reference No.
<b>FTH01 Pantile Roof Mounting Rack</b>	<b>Above Roof System</b>	<b>MCS IK0251/01</b>
<i>System information:</i>		
<b>Weathertightness:</b>		
Compatible roof coverings <sup>i</sup>	Pantiles	
Minimum permissible roof pitch	15°	
<b>Resistance to Wind Uplift:</b>		
Compatible roof substrates	Timber rafters and battens (50 mm wide x 25 mm thick)	
Test set-up <sup>ii</sup>	System test <sup>iii</sup> - 2 solar PV modules mounted in portrait using 4 end clamps (FSD370), 2 middle clamps (FSD368), 2 rails (FSD310) and 4 hooks (TH01) each attached with 3 x 6.3*80 mm wood screws (FSD300) on to ungraded timber with no roof covering	
Maximum design wind uplift resistance <sup>iv</sup>	1213.7 Pa	
Partial safety factor	1.0	
<b>Fire Performance:</b>		
Fire classification <sup>v</sup>	Not applicable	
Fire classification achieved with <sup>vi</sup>	Not applicable	

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<b>Certificated system components:</b>	
Pantile Roof Hook (TH01)	Middle Clamp (FSD368)
Wood Screw 6.3*80 mm (FSD300)	Middle Clamp T-bolt (FSD206)
Roof Hook T-bolt (FSD205)	End Clamp (FSD370)
Rail 2100 mm (FSD310)	End Clamp T-bolt (FSD205)



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**MCS 012 – Pitched Roof Installation Kits – Issue 2.4**

Product Name	Description	Reference No.
FTH02 Plain Roof Hook	Above Roof Component	MCS IK0251/02

*System information:*

**Weathertightness:**

Compatible roof coverings <sup>i</sup>	Plain tiles
Minimum permissible roof pitch	15°

**Resistance to Wind Uplift:**

Compatible roof substrates	Timber rafters and battens (50 mm wide x 25 mm thick)
Test set-up <sup>ii</sup>	Component test <sup>iii</sup> - 1 Plain Roof Hook (TH02) attached with 2 x 6.3*80 mm wood screws (FSD300) on to ungraded timber with no roof covering
Maximum design wind uplift resistance <sup>iv</sup>	207 N per hook
Partial safety factor	1.0

**Fire Performance:**

Fire classification <sup>v</sup>	Not applicable
Fire classification achieved with <sup>vi</sup>	Not applicable

**Certificated components:**

Plain Roof Hook (TH02)	Wood Screw 6.3*80 mm (FSD300)
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**MCS 012 – Pitched Roof Installation Kits – Issue 2.4**

Product Name	Description	Reference No.
FTH04 Slate Roof Hook	Above Roof Component	MCS IK0251/03

*System information:*

**Weathertightness:**

Compatible roof coverings <sup>i</sup>	Slates
Minimum permissible roof pitch	15°

**Resistance to Wind Uplift:**

Compatible roof substrates	Timber rafters and battens (50 mm wide x 25 mm thick)
Test set-up <sup>ii</sup>	Component test <sup>iii</sup> - 1 Slate Roof Hook (TH04) attached with 2 x 6.3*80 mm wood screws (FSD300) on to ungraded timber with no roof covering
Maximum design wind uplift resistance <sup>iv</sup>	534 N per hook
Partial safety factor	1.0

**Fire Performance:**

Fire classification <sup>v</sup>	Not applicable
Fire classification achieved with <sup>vi</sup>	Not applicable

**Certificated components:**

Slate Roof Hook (TH04)	Wood Screw 6.3*80 mm (FSD300)
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**MCS 012 – Pitched Roof Installation Kits – Issue 2.4**

Product Name	Description	Reference No.
A-SLATE	Above Roof Component	MCS IK0251/04

*System information:*

**Weathertightness:**

Compatible roof coverings <sup>i</sup>	Slates
Minimum permissible roof pitch	15°

**Resistance to Wind Uplift:**

Compatible roof substrates	Timber (50mm minimum rafter or batten thickness)
Test set-up <sup>ii</sup>	Component test <sup>iii</sup> - 1 A-Slate base (FSD460) including L-bracket (FSD461) attached with 2 x 6.5*100 mm screws (FSD465) on to ungraded timber with slate roof covering
Maximum design wind uplift resistance <sup>iv</sup>	4928.5 N per bracket
Partial safety factor	1.1

**Fire Performance:**

Fire classification <sup>v</sup>	Not applicable
Fire classification achieved with <sup>vi</sup>	Not applicable

**Certificated components:**

A-Slate base [265*164*5 mm] (FSD460)	Neoprene gasket [265*164*2 mm] (FSD464)
A-Slate L-bracket (FSD461)	Screw [6.5*100 mm] (FSD465)
L-bracket nut (YGG123937)	Nylon spacer [20 mm, 10 mm OD, 8.2 mm ID] (Spacer)
L-bracket bolt [A2 M8*25 mm] (YGG100048)	C-Tec CT1 sealant (CT1 sealant)

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**MCS 012 – Pitched Roof Installation Kits – Issue 2.4**

Product Name	Description	Reference No.
P-SLATE	Above Roof Component	MCS IK0251/05
<i>System information:</i>		
<b>Weathertightness:</b>		
Compatible roof coverings <sup>i</sup>	Slates	
Minimum permissible roof pitch	15°	
<b>Resistance to Wind Uplift:</b>		
Compatible roof substrates	Timber (50mm minimum rafter or batten thickness)	
Test set-up <sup>ii</sup>	Component test <sup>iii</sup> - 1 P-Slate base (FSD356) including L-bracket (FSD357) attached with 2 x 6.5*100 mm screws (FSD465) on to ungraded timber with slate roof covering	
Maximum design wind uplift resistance <sup>iv</sup>	1059.9 N per bracket	
Partial safety factor	1.44	
<b>Fire Performance:</b>		
Fire classification <sup>v</sup>	Not applicable	
Fire classification achieved with <sup>vi</sup>	Not applicable	

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<b>Certificated components:</b>	
P-Slate base [265*164*10 mm] (FSD356)	Neoprene gasket [265*164*2 mm] (FSD464)
P-Slate L-bracket (FSD357)	Screw [6.5*100 mm] (FSD465)
L-bracket washer (SHD141667)	Nylon spacer [20 mm, 10 mm OD, 8.2 mm ID] (Spacer)
L-bracket nut (SLF100138)	C-Tec CT1 sealant (CT1 sealant)
L-bracket bolt [A2 M8*35 mm] (215607)	



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Notes:

- <sup>i</sup> The 'Compatible roof coverings' may include roof coverings that have not been tested but could be considered as providing weathertightness equal to the tested roof covering.
- <sup>ii</sup> The 'Maximum design wind uplift resistance' was achieved when the system was installed on the test rig as described.
- <sup>iii</sup> Where a 'System test' is carried out on an 'Above Roof System' or a 'Roof Integrated System', the list of 'Certificated system components' comprise a complete solar panel mounting system. Where a 'Component test' is carried out on an 'Above Roof Component' or a 'Roof Integrated Component', only the component is certificated and the list of 'Certificated components' do not comprise a complete solar panel mounting system.
- <sup>iv</sup> The 'Maximum design wind uplift resistance' has been calculated by dividing the characteristic wind uplift resistance by the partial safety factor. The value stated in Pascals (Pa) applies to a system of one or more solar panels.
- <sup>v</sup> An 'Above Roof System' is considered not to have any influence on the fire performance of the existing roof covering. Therefore, the fire performance of compatible roof coverings is not normally assessed for 'Above Roof System' certification.
- <sup>vi</sup> The fire classification only applies when the 'Roof Integrated System' is installed in combination with the module(s) listed in this certificate with which it was fire tested.

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