



## MCS Product Certificate

Date Issued	12th December 2024	Annual review date	20th November
Issue number	1	Original/Amendment	Errata Correction
Certificate number	KIWA00051	Page	1 of 4

## MCS Product Certification Certificate Issued by Kiwa Ltd

MCS Product Certification Scheme Standards – MCS010, MCS011, MCS012  
Model designations – see Appendix

### Producer:

## Renusol Europe GmbH

Ettore-Bugatti-Str. 51  
51149 Köln  
Germany

### Manufacturer:

## As Above

Kiwa Ltd declares that the products detailed in the Appendices have been assessed by Kiwa and meet the requirements of the above MCS Product Certification Standards.

Signed on behalf of Kiwa Ltd

Mark Crowther  
MCS Certification Director

This certificate is subject to the producer continuing to comply with the Kiwa MCS Product Scheme Rules and ongoing Annual Surveillance



CERTIFICATE

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# MCS Product Certificate

Appendix to Certificate KIWA00051



Page 2 of 4

The following products have been assessed and registered by Kiwa Ltd against the provisions of: MCS 010, MCS 011, MCS 012

Product Name	Model Name	MCS Certificate Number
VarioSole+ (VS+) (with RH1 Roof Hook)	REN_RH1_01	KIWA00051/001 IK
Type	Above Roof: System	
System components	Components for this system are listed in ANNEX I	
System Description	Roof hook based mounting system for use with discontinuous roof coverings. The aluminium alloy roof hooks comprise two parts providing flexibility in positioning.	
Compatible Roof Coverings	<ul style="list-style-type: none"> <li>Discontinuous</li> <li>o Profile concrete/clay tile</li> </ul>	
Tests Undertaken	Resistance to wind uplift	Yes / No
	Fire performance	Yes / No
	Weather tightness	Yes / No
<b>Resistance to Wind Uplift</b>		
If attached to sub-structure: Compatible substructures	Timber	
Test Preparation	2 Solar PV modules (1134 mm x 2093 mm x 30 mm) mounted on two aluminium rails (41 mm x 35 mm) clamped by 4 edge clamps and 2 mid clamps. The two rails were attached to the timber structure by 7 roof hooks and mounted using 2 x 6mm x 80 mm screws. The rafters in the test were 60 mm x 150 mm but the adequacy of attachment to 54 mm x 34 mm was confirmed separately.	
Maximum Design Wind Uplift Resistance	1.174 kPa	Partial (safety) factor(s) 1.0
Failure Mode	Serviceability Limit State	
If attached to timber sub-structure: For certified wind uplift resistance in sound timber - dimensions	width 54 mm X depth 34 mm	
<b>Weathertightness</b>		
<b>If discontinuous roof covering</b>		
Reference Roof Covering	Type: Tiles	Pitch: 22.5 °
	Head-lap	
Maximum unprotected gap in reference roof covering (+/- 1mm)		Not determined
Maximum unprotected gap with mounting system/component installed (+/- 1mm)		Not determined
Minimum Permissible roof Pitch (°)		22.5 °
Test B (if applicable)	Applied suction at leakage rate 10 g/m <sup>2</sup> /5min	n/a
Test D (if applicable)	Leakage observed after 2 min	0 g
<b>Fire Performance</b>		
Fire Classification	Not required	The fire performance of this above roof mounting system is not currently required for MCS 012. Research is ongoing into any influence above roof solar panels could have on the fire classification of the roof mounting system.

Signed on behalf of Kiwa Ltd

Mark Crowther - MCS Certification Director - Kiwa Ltd

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CERTIFICATE

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Appendix to Certificate KIWA00051

Page 3 of 4

The following products have been assessed and registered by Kiwa Ltd against the provisions of: MCS 010, MCS 011, MCS 012

Product Name	Model Name	MCS Certificate Number				
VarioSole+ (VS+) (with RHFLAT Roof Hook)	REN_RHFLAT_01	KIWA00051/002 IK				
Type	Above Roof: System					
System components	Components for this system are listed in ANNEX I					
System/Component Description	Roof hook based mounting system for use with discontinuous roof coverings. The aluminium alloy roof hooks comprise two parts providing flexibility in positioning.					
Compatible Roof Coverings	<ul style="list-style-type: none"> <li>• Discontinuous                             <ul style="list-style-type: none"> <li>o Plain concrete/clay tile</li> </ul> </li> </ul>					
Tests Undertaken	Resistance to wind uplift	Yes / No				
	Fire performance	Yes / No				
	Weather tightness	Yes / No				
<b>Resistance to Wind Uplift</b>						
If attached to sub-structure: Compatible substructures	Timber					
Test Preparation	2 Solar PV modules (1134 mm x 2093 mm x 30 mm) mounted on two aluminium rails (41 mm x 35 mm) clamped by 4 edge clamps and 2 mid clamps. The two rails were attached to the timber structure by 7 roof hooks and mounted using 2 x 6mm x 80 mm screws. The rafters in the test were 60 mm x 150 mm but the adequacy of attachment to 54 mm x 34 mm was confirmed separately.					
Maximum Design Wind Uplift Resistance	1.174 kPa	Partial (safety) factor(s)	1.0			
Failure Mode	Serviceability Limit State					
If attached to timber sub-structure: For certified wind uplift resistance in sound timber - dimensions	width 54 mm X depth 34 mm					
<b>Weathertightness</b>						
<b>If discontinuous roof covering</b>						
Reference Roof Covering	Type:	Plain tiles	Pitch:	30 °	Head-lap	65mm, double
	Maximum unprotected gap in reference roof covering (+/- 1mm)					Not determined
Maximum unprotected gap with mounting system/component installed (+/- 1mm)					Not determined	
Minimum Permissible roof Pitch (°)					30 °	
Test B (if applicable)	Applied suction at leakage rate 10 g/m <sup>2</sup> /5 min				100 kPa	
Test D (if applicable)	Leakage observed after 2 min				0 g	
<b>Fire Performance</b>						
Fire Classification	Not required		The fire performance of this above roof mounting system is not currently required for MCS 012. Research is ongoing into any influence above roof solar panels could have on the fire classification of the roof mounting system.			

Signed on behalf of Kiwa Ltd  
Mark Crowther - MCS Certification Director - Kiwa Ltd

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CERTIFICATE

The following components are common for the product systems that have been assessed and registered by Kiwa Ltd against the provisions of:

MCS 010, MCS 011, MCS 012

<b>Mounting frame installation components</b>	
<b>REN_RH1_01</b>	
<b>System component</b>	<b>Part number</b>
<i>Roof Hook RH1</i>	<i>R420171</i>
<i>Wood screw pan head 6.0x80 SIT 30</i>	<i>R900318</i>
<i>VS+ mounting rail 41 x 35 x various lengths</i>	<i>2.4 m, 400534; 3.3 m, 400524, 3.6 m, 400572</i>
<i>VS+ mounting rail 50 x 37 x various lengths (or black)</i>	<i>2.4 m, 400549 (-B); 3.6 m, 400570 (-B), 4.4 m, 400571 (-B)</i>
<i>VS+ mounting rail 60 x 38 x various lengths (or black)</i>	<i>3.3 m, 400535 (-B), 3.6 m, 400536, 4.8 m, 400537</i>
<i>Rail connectors for 41x35, 50x37, 60x38</i>	<i>R400531, R400532, R400533</i>
<i>RS1 / RS1 (black) clamp</i>	<i>R420080 / R420080-BE</i>
<i>End Clamp+ / End Clamp+ (black)</i>	<i>R420081 / R420081-BE</i>
<i>Middle Clamp+ / Middle Clamp+ (black)</i>	<i>R420082 / R420082-BE</i>
<i>Sealing Tape MPA (20 x 4000mm)</i>	<i>R300100</i>
<b>REN_RHFLAT_01</b>	
<b>System components:</b>	<b>Part number</b>
<i>Roof Hook RH Flat</i>	<i>R420172</i>
<i>Wood screw pan head 6.0x80 SIT 30</i>	<i>R900318</i>
<i>VS+ mounting rail 41 x 35 x various lengths</i>	<i>2.4 m, 400534; 3.3 m, 400524, 3.6 m, 400572</i>
<i>VS+ mounting rail 50 x 37 x various lengths (or black)</i>	<i>2.4 m, 400549 (-B); 3.6 m, 400570 (-B), 4.4 m, 400571 (-B)</i>
<i>VS+ mounting rail 60 x 38 x various lengths (or black)</i>	<i>3.3 m, 400535 (-B), 3.6 m, 400536, 4.8 m, 400537</i>
<i>Rail connectors for 41x35, 50x37, 60x38</i>	<i>R400531, R400532, R400533</i>
<i>RS1 / RS1 (black) clamp</i>	<i>R420080 / R420080-BE</i>
<i>End Clamp+ / End Clamp+ (black)</i>	<i>R420081 / R420081-BE</i>
<i>Middle Clamp+ / Middle Clamp+ (black)</i>	<i>R420082 / R420082-BE</i>
<i>Sealing Tape MPA (20 x 4000mm)</i>	<i>R300100</i>