

## MCS Product Certificate

Date Issued	1st October 2025	Annual review date	20th November
Issue number	3	Original/Amendment	Original
Certificate number	KIWA00051	Page	1 of 31

## MCS Product Certification Certificate

Issued by Kiwa Ltd

MCS Product Certification Scheme Standards – MCS010, MCS011, MCS012 Issue 3.0  
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

Kiwa Ltd  
Kiwa House  
Malvern View Business Park  
Stella Way  
Bishops Cleeve  
Cheltenham  
GL52 7DQ  
United Kingdom  
T +44 (0)1242 677877

[www.kiwa.co.uk](http://www.kiwa.co.uk)

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



# MCS Product Certificate

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The following products have been assessed and registered by Kiwa Ltd against the provisions of:  
MCS 010, MCS 011, MCS 012 Issue 3.0

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 / <del>No</del>
	Fire performance	<del>Yes</del> / No
	Weather tightness	Yes / <del>No</del>
<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)
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	75 mm, single
	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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NRG209 (MCS F37) – MCS 012 Certificate Template

V2

Approval Date: 10/07/2024

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The following products have been assessed and registered by Kiwa Ltd against the provisions of:  
MCS 010, MCS 011, MCS 012 Issue 3.0

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	• Discontinuous o Plain concrete/clay tile					
Tests Undertaken	Resistance to wind uplift			Yes / <del>No</del>		
	Fire performance			<del>Yes</del> / No		
	Weather tightness			Yes / <del>No</del>		
Resistance to Wind Uplift						
If attached to sub-structure: Compatible substructures	Timber					
Test Preparation	2 Solar PV modules (1134 mm x2093 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					
Weathertightness						
If discontinuous roof covering						
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/m²/5 min					0.100 kPa
Test D (if applicable)	Leakage observed after 2 min					0 g
Fire Performance						
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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The following products have been assessed and registered by Kiwa Ltd against the provisions of:  
MCS 010, MCS 011, MCS 012 Issue 3.0

Product Name	Model Name		MCS Certificate Number			
VarioSole+ (VS+) (RH1 roof hook)	REN_RH1_02		KIWA00051/003 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	• Discontinuous o Profile concrete/clay tile					
Tests Undertaken	Resistance to wind uplift		Yes / <del>No</del>			
	Fire performance		<del>Yes</del> / No			
	Weather tightness		Yes / <del>No</del>			
Resistance to Wind Uplift						
If attached to sub-structure: Compatible substructures	Timber					
Test Preparation	2 Solar PV modules (1134 mm x2333 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 6 roof hooks and mounted using 3 x 6mm x 80 mm screws. The rafters in the test were 35 mm x 120 mm.					
Maximum Design Wind Uplift Resistance	1.96 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 35 mm X depth 120 mm					
Weathertightness						
If discontinuous roof covering						
Reference Roof Covering	Type:	Tiles Double Roman	Pitch:	30 °	Head-lap	100 mm (single)
	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/m²/5 min					0.050 kPa
Test D (if applicable)	Leakage observed after 2 min					0 g
Fire Performance						
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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The following products have been assessed and registered by Kiwa Ltd against the provisions of:  
MCS 010, MCS 011, MCS 012 Issue 3.0

Product Name	Model Name	MCS Certificate Number				
VarioSole+ (VS+) (Medium roof hooks)	REN_VS+_01	KIWA00051/004 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 roof hooks are single piece steel or structural steel items or cast aluminium items.					
Compatible Roof Coverings	• Discontinuous o Plain / Profile concrete/clay tile					
Tests Undertaken	Resistance to wind uplift		Yes / <del>No</del>			
	Fire performance		<del>Yes</del> / No			
	Weather tightness		Yes / <del>No</del>			
Resistance to Wind Uplift						
If attached to sub-structure: Compatible substructures	Timber					
Test Preparation	2 Solar PV modules (1134 mm x2333 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 6 roof hooks and mounted using 2 x 6mm x 80 mm screws. The rafters in the test were 35 mm x 120 mm.					
Maximum Design Wind Uplift Resistance	1.61 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 35 mm X depth 120 mm					
Weathertightness						
If discontinuous roof covering						
Reference Roof Covering	Type:	Tiles Plain / Double Roman	Pitch:	30 ° / 30 °	Head-lap	66 mm (double) / 100 mm (single)
	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 ° / 30 °
Test B (if applicable)	Applied suction at leakage rate 10 g/m²/5 min					0.100 kPa / 0.050 kPa
Test D (if applicable)	Leakage observed after 2 min					0 g
Fire Performance						
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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The following products have been assessed and registered by Kiwa Ltd against the provisions of:  
MCS 010, MCS 011, MCS 012 Issue 3.0

Product Name	Model Name	MCS Certificate Number
VarioSole+ (VS+) (Basic roof hooks)	REN_VS+_02	KIWA00051/005 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 roof hooks are single piece steel or stainless steel items.	
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 / <del>No</del>
	Fire performance	<del>Yes</del> / No
	Weather tightness	Yes / <del>No</del>
<b>Resistance to Wind Uplift</b>		
If attached to sub-structure: Compatible substructures	Timber	
Test Preparation	2 Solar PV modules (1134 mm x 2333 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 6 roof hooks and mounted using 2 x 6mm x 80 mm screws. The rafters in the test were 35 mm x 120 mm.	
Maximum Design Wind Uplift Resistance	1.49 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 35 mm X depth 120 mm	
<b>Weathertightness</b>		
<b>If discontinuous roof covering</b>		
Reference Roof Covering	Type: Tiles Double Roman	Pitch: 30 ° Head-lap 100 mm (single)
	Maximum unprotected gap in reference roof covering (+/- 1mm)	
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 0.050 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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The following products have been assessed and registered by Kiwa Ltd against the provisions of:  
MCS 010, MCS 011, MCS 012 Issue 3.0

Product Name	Model Name	MCS Certificate Number
VarioSole+ (VS+) (Hanger bolts)	REN_VS+_03	KIWA00051/006 IK
Type	Above Roof:      System	
System components	Components for this system are listed in ANNEX I	
System/Component Description	A hanger bolt based mounting system for use with continuous roof coverings over timber or steel substructures.	
Compatible Roof Coverings	<ul style="list-style-type: none"> <li>• Continuous: <ul style="list-style-type: none"> <li>o Sheet or profiled metal</li> <li>o Other (describe) - profiled fibre cement sheet</li> </ul> </li> </ul>	
Tests Undertaken	Resistance to wind uplift	Yes / <del>No</del>
	Fire performance	<del>Yes</del> / No
	Weather tightness	Yes / <del>No</del>
<b>Resistance to Wind Uplift</b>		
If attached to sub-structure: Compatible substructures	Timber or Steel	
Test Preparation	2 Solar PV modules (1134 mm x 2333 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 (3 wooden purlins of 150 x 56, spaced at 1140 mm) by 6 hanger bolts with brackets, in two columns of three.	
Maximum Design Wind Uplift Resistance	2.49 kPa	Partial (safety) factor(s)      1.1
Failure Mode	Ultimate Limit State • Failure in a metal component	
If attached to timber sub-structure: For certified wind uplift resistance in sound timber - dimensions	width 56 mm X depth 150 mm	
<b>Weathertightness</b>		
<b>If continuous roof covering</b>		
Reference Roof Covering	Type:      Fibre cement corrugated sheet and Metal corrugated sheet	Pitch:      0 °
Impermeability test (if applicable)	According to principles of EN 491:2011	
Leakage observed at end of test	0 g	
Test D (if applicable)	Not Determined	
<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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# MCS Product Certificate

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The following products have been assessed and registered by Kiwa Ltd against the provisions of:  
MCS 010, MCS 011, MCS 012 Issue 3.0

Product Name	Model Name	MCS Certificate Number	
VarioSole+ (VS+) (Round seam clamps)	REN_VS+_04	KIWA00051/007 IK	
Type	Above Roof:      System		
System components	Components for this system are listed in ANNEX I		
System/Component Description	A seam clamp based mounting system for use with 'round' standing seam roof coverings.		
Compatible Roof Coverings	• Continuous: o Sheet or profiled metal		
Tests Undertaken	Resistance to wind uplift	Yes / <del>No</del>	
	Fire performance	<del>Yes</del> / No	
	Weather tightness	<del>Yes</del> / No	
Resistance to Wind Uplift			
If attached to roof covering: Compatible roof covering	Round standing seam roof coverings		
Test Preparation	Six metal panels for 'round' standing seam roof covering were installed and 6 seam clamps attached in two rows. A mounting rail (41 x 35) was attached to each row by three brackets. Two PV modules (2333 x 1134) were mounted on the rails with 4 clamps each (2 end and 2 middle).		
Maximum Design Wind Uplift Resistance	0.96 kPa	Partial (safety) factor(s)	1.0
Failure Mode	Serviceability Limit State		
Fire Performance			
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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The following products have been assessed and registered by Kiwa Ltd against the provisions of:  
MCS 010, MCS 011, MCS 012 Issue 3.0

Product Name	Model Name		MCS Certificate Number
VarioSole+ (VS+) (Double seam clamps)	REN_VS+_05		KIWA00051/008 IK
Type	Above Roof:        System		
System components	Components for this system are listed in ANNEX I		
System/Component Description	A seam clamp based mounting system for use with 'double fold' standing seam roof coverings.		
Compatible Roof Coverings	• Continuous: o Sheet or profiled metal		
Tests Undertaken	Resistance to wind uplift	Yes / <del>No</del>	
	Fire performance	<del>Yes</del> / No	
	Weather tightness	<del>Yes</del> / No	
Resistance to Wind Uplift			
If attached to roof covering: Compatible roof covering	Double folded standing seam roof coverings		
Test Preparation	Five zinc panels for 'double folded' standing seam roof covering were installed and 6 seam clamps attached in two rows. A mounting rail (41 x 35) was attached to each row by three brackets. Two PV modules (2333 x 1134) were mounted on the rails with 4 clamps each (2 end and 2 middle).		
Maximum Design Wind Uplift Resistance	0.87 kPa	Partial (safety) factor(s)	1.0
Failure Mode	Serviceability Limit State		
Fire Performance			
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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The following products have been assessed and registered by Kiwa Ltd against the provisions of:  
MCS 010, MCS 011, MCS 012 Issue 3.0

Product Name	Model Name	MCS Certificate Number
MetaSole+ (MS+) (Sandwich profiles)	REN_MS+_01	KIWA00051/009 IK
Type	Above Roof:      System	
System components	Components for this system are listed in ANNEX I	
System/Component Description	A mounting bracket based mounting system for attachment of pv modules in landscape orientation to continuous trapezoidal sandwich panel roof coverings.	
Compatible Roof Coverings	<ul style="list-style-type: none"> <li>• Continuous: <ul style="list-style-type: none"> <li>o Sheet or profiled metal</li> </ul> </li> </ul>	
Tests Undertaken	Resistance to wind uplift	Yes / <del>No</del>
	Fire performance	<del>Yes</del> / No
	Weather tightness	Yes / <del>No</del>
<b>Resistance to Wind Uplift</b>		
If attached to roof covering: Compatible roof covering	Trapezoidal profiled, metal sandwich panels	
Test Preparation	Two trapezoidal steel roof covering sandwich panels (arranged: half panel at each side of a whole panel in the centre) were fixed to a timber substructure. Six mounting brackets in two columns of 3 were attached (2 screws each) to the steel sheets. Two pv modules (2333 x 1134) were mounted onto the brackets with four clamps each (2 end and 2 mid) in landscape orientation.	
Maximum Design Wind Uplift Resistance	0.91 kPa	Partial (safety) factor(s)      1.25
Failure Mode	<ul style="list-style-type: none"> <li>Ultimate Limit State</li> <li>• Pull out from a metal component</li> </ul>	
<b>Weathertightness</b>		
<b>If continuous roof covering</b>		
Reference Roof Covering	Type:      Trapezoidal sandwich panels	Pitch:      0 °
Impermeability test (if applicable)	According to principles of EN 491:2011	
Leakage observed at end of test	0 g	
Test D (if applicable)	Not Determined	
<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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The following products have been assessed and registered by Kiwa Ltd against the provisions of:  
MCS 010, MCS 011, MCS 012 Issue 3.0

Product Name	Model Name	MCS Certificate Number
MetaSole+ (MS+) (Trapezoidal profiles)	REN_MS+_02	KIWA00051/010 IK
Type	Above Roof: System	
System components	Components for this system are listed in ANNEX I	
System/Component Description	A mounting bracket based mounting system for attachment of pv modules in landscape orientation to continuous trapezoidal metal sheet roof coverings.	
Compatible Roof Coverings	<ul style="list-style-type: none"> <li>Continuous: <ul style="list-style-type: none"> <li>Sheet or profiled metal</li> </ul> </li> </ul>	
Tests Undertaken	Resistance to wind uplift	Yes / <del>No</del>
	Fire performance	<del>Yes</del> / No
	Weather tightness	Yes / <del>No</del>
<b>Resistance to Wind Uplift</b>		
If attached to roof covering: Compatible roof covering	Trapezoidal profiled, metal panels	
Test Preparation	Two trapezoidal steel roof covering sheets (arranged: half panel at each side of a whole panel in the centre) were fixed to a timber substructure. Six mounting brackets in two columns of 3 were attached (2 screws each) to the steel sheets. Two pv modules (2333 x 1134) were mounted onto the brackets with four clamps each (2 end and 2 mid) in landscape orientation.	
Maximum Design Wind Uplift Resistance	1.42 kPa	Partial (safety) factor(s) 1.0
Failure Mode	Serviceability Limit State	
<b>Weathertightness</b>		
<b>If continuous roof covering</b>		
Reference Roof Covering	Type: Trapezoidal metal sheet	Pitch: 0 °
Impermeability test (if applicable)	According to principles of EN 491:2011	
Leakage observed at end of test	0 g	
Test D (if applicable)	Not Determined	
<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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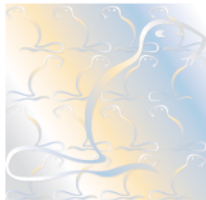
The following products have been assessed and registered by Kiwa Ltd against the provisions of:  
MCS 010, MCS 011, MCS 012 Issue 3.0

Product Name		Model Name		MCS Certificate Number	
MetaSole+ P (MS+P) (Sandwich profiles)		REN_MS+_03		KIWA00051/0011 IK	
Type		Above Roof:            System			
System components		Components for this system are listed in ANNEX I			
System/Component Description		A mounting bracket based mounting system for attachment of pv modules in portrait orientation to continuous trapezoidal sandwich panel roof coverings.			
Compatible Roof Coverings		• Continuous: o Sheet or profiled metal			
Tests Undertaken	Resistance to wind uplift		Yes / <del>No</del>		
	Fire performance		<del>Yes</del> / No		
	Weather tightness		Yes / <del>No</del>		
Resistance to Wind Uplift					
If attached to roof covering: Compatible roof covering		Trapezoidal profiled, metal sandwich panels			
Test Preparation		Two trapezoidal steel roof covering sandwich panels (arranged: half panel at each side a whole panel in the centre) were fixed to a timber substructure. Six mounting brackets in two rows of 3 were attached (4 screws each) to the steel sheets. Two pv modules (2333 x 1134) were mounted onto the brackets with four clamps each (2 end and 2 mid) in portrait orientation.			
Maximum Design Wind Uplift Resistance		1.58 kPa	Partial (safety) factor(s)		1.0
Failure Mode		Serviceability Limit State			
Weathertightness					
If continuous roof covering					
Reference Roof Covering	Type:	Trapezoidal sandwich panels		Pitch:	0 °
Impermeability test (if applicable)		According to principles of EN 491:2011			
Leakage observed at end of test					0 g
Test D (if applicable)					Not Determined
Fire Performance					
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  
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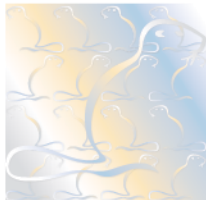


The following products have been assessed and registered by Kiwa Ltd against the provisions of: MCS 010, MCS 011, MCS 012 Issue 3.0

Product Name	Model Name		MCS Certificate Number		
MetaSole+ P (MS+P) (Trapezoidal profiles)	REN_MS+_04		KIWA00051/0012 IK		
Type	Above Roof:                      System				
System components	Components for this system are listed in ANNEX I				
System/Component Description	A mounting bracket based mounting system for attachment of pv modules in portrait orientation to continuous trapezoidal metal sheet roof coverings.				
Compatible Roof Coverings	• Continuous: o Sheet or profiled metal				
Tests Undertaken	Resistance to wind uplift		Yes / <del>No</del>		
	Fire performance		<del>Yes</del> / No		
	Weather tightness		Yes / <del>No</del>		
Resistance to Wind Uplift					
If attached to roof covering: Compatible roof covering	Trapezoidal profiled, metal panels				
Test Preparation	Two trapezoidal steel roof covering sheets (arranged: half panel at each side a whole panel in the centre) were fixed to a timber substructure. Six mounting bracketsin two rows of 3 were attached (2 screws each) to the steel sheets. Two pv modules (2333 x 1134) were mounted onto the brackets with four clamps each (2 end and 2 mid) in landscape orientation.				
Maximum Design Wind Uplift Resistance	1.83 kPa	Partial (safety) factor(s)		1.0	
Failure Mode	Serviceability Limit State				
Weathertightness					
If continuous roof covering					
Reference Roof Covering	Type:	Trapezoidal metal sheet		Pitch:	0 °
Impermeability test (if applicable)		According to principles of EN 491:2011			
Leakage observed at end of test				0 g	
Test D (if applicable)					Not Determined
Fire Performance					
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

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



# MCS Product Certificate

Appendix to Certificate KIWA00051



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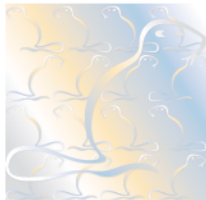
The following products have been assessed and registered by Kiwa Ltd against the provisions of:  
MCS 010, MCS 011, MCS 012 Issue 3.0

Product Name	Model Name	MCS Certificate Number	
MetaSole+ (MS+) (Corrugated profile)	REN_MS+_05	KIWA00051/0013 IK	
Type	Above Roof: System		
System components	Components for this system are listed in ANNEX I		
System/Component Description	A mounting bracket based mounting system for attachment of pv modules in landscape orientation to continuous corrugated metal sheet roof coverings.		
Compatible Roof Coverings	• Continuous: o Sheet or profiled metal		
Tests Undertaken	Resistance to wind uplift	Yes / <del>No</del>	
	Fire performance	<del>Yes</del> / No	
	Weather tightness	Yes / <del>No</del>	
<b>Resistance to Wind Uplift</b>			
If attached to roof covering: Compatible roof covering	Corrugated metal sheet		
Test Preparation	Two corrugated (radius 24) aluminium roof covering sheets were fixed to a timber substructure. Six mounting brackets in two columns of 3 were attached (2 screws each) to the aluminium sheets. Two pv modules (2333 x 1134) were mounted onto the brackets with four clamps each (2 end and 2 mid) in landscape orientation.		
Maximum Design Wind Uplift Resistance	1.01 kPa	Partial (safety) factor(s)	1.25
Failure Mode	Ultimate Limit State • Pull out from a metal component		
<b>Weathertightness</b>			
<b>If continuous roof covering</b>			
Reference Roof Covering	Type:	Corrugated metal sheet	Pitch: 0 °
Impermeability test (if applicable)	According to principles of EN 491:2011		
Leakage observed at end of test	0 g		
Test D (if applicable)	Not Determined		
<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

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

CERTIFICATE



# MCS Product Certificate

Appendix to Certificate KIWA00051



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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	
FS Pro 10-S (ballasted)	REN_FSPRO_01	KIWA00051/014 IK	
Type	Above Roof: System (On Roof Not mechanically attached system)		
System components	Components for this system are listed in ANNEX I		
System/Component Description	Aluminium mounting framework for use on flat roofs to attach two solar PV modules in landscape orientation, and a single aspect to concrete ballast blocks.		
Compatible Roof Coverings	<ul style="list-style-type: none"><li>Continuous:<ul style="list-style-type: none"><li>Other (describe) Continuous flat roof coverings capable of withstanding the mounting system under load.</li></ul></li></ul>		
Tests Undertaken	Resistance to wind uplift	Yes / <del>No</del>	
	Fire performance	<del>Yes</del> / No	
	Weather tightness	<del>Yes</del> / No	
Resistance to Wind Uplift			
If not mechanically attached to roof sub-structure or covering	Continuous flat roof coverings capable of withstanding the mounting system under load.		
Test Preparation	Two PV modules 2333 mm x 1134 mm x 30 mm in landscape orientation, attached by mid (2 between 2 modules) and end (2 per module) clamps via FS Pro eave and ridge supports, to three aluminium base rail sets 1500 mm FS Pro 10-S, which arrangement includes ballast profile connectors, loaded with concrete ballast tiles amounting to 180 kg/module, (360 kg total for system), placed on FS Pro Roof protection pads on a coated concrete deck.		
Maximum Design Wind Uplift Resistance	0.43 kPa	Partial (safety) factor(s)	1
Failure Mode	Serviceability Limit State • System slid > 5 mm		
If attached to timber sub-structure: For certified wind uplift resistance in sound timber - dimensions	N/A		
Resistance to sliding – Coefficient of Friction	Coefficient of Friction is 0.3 unless site specific determination is available		
Pressure coefficients	<ul style="list-style-type: none"><li>Cp values from BRE Digest 489 apply unless the applicable laboratory report is obtained from the manufacturer</li><li>Laboratory report available in accordance with BS EN 1991-1-4:<ul style="list-style-type: none"><li>Wind loads on the “FS10-S gen2” solar ballasted roof-mount system of Renusol Europe GmbH BWA23-40-01-1</li></ul></li></ul>		
Fire Performance			
Fire Classification	BS 476-3: 2004	Not determined	
	CEN TS 1187:2012 Test 4	Not determined	
	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. OR delete	

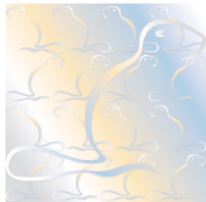
Signed on behalf of Kiwa Ltd

Mark Crowther - MCS Certification Director - Kiwa Ltd

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

CERTIFICATE





# MCS Product Certificate

Appendix to Certificate KIWA00051



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

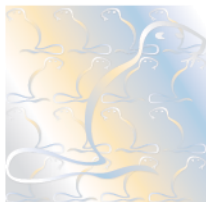
Product Name	Model Name		MCS Certificate Number	
FS Pro 10-EW (ballasted)	REN_FSPRO_02		KIWA00051/015 IK	
Type	Above Roof: System (On Roof Not mechanically attached system)			
System components	Components for this system are listed in ANNEX I			
System/Component Description	Aluminium mounting framework for use on flat roofs to attach four solar PV modules in landscape orientation, and dual aspect, to concrete ballast blocks.			
Compatible Roof Coverings	• Continuous: o Other (describe) Continuous flat roof coverings capable of withstanding the mounting system under load.			
Tests Undertaken	Resistance to wind uplift		Yes / <del>No</del>	
	Fire performance		<del>Yes</del> / No	
	Weather tightness		<del>Yes</del> / No	
Resistance to Wind Uplift				
If not mechanically attached to roof sub-structure or covering	Continuous flat roof coverings capable of withstanding the mounting system under load.			
Test Preparation	Four PV modules 2333 mm x 1134 mm x 30 mm in landscape orientation, attached by mid (2 between 2 modules) and end (2 per module) clamps via FS Pro eave and ridge supports, to three aluminium base rail sets 2300 mm FS Pro 10-EW, which arrangement includes ballast profile connectors, loaded with concrete ballast tiles amounting to 180 kg/module, (720 kg total for system), placed on FS Pro Roof protection pads on a coated concrete deck.			
Maximum Design Wind Uplift Resistance	0.66 kPa	Partial (safety) factor(s)		1
Failure Mode	Serviceability Limit State • System slid > 5 mm			
If attached to timber sub-structure: For certified wind uplift resistance in sound timber - dimensions	N/A			
Resistance to sliding – Coefficient of Friction	Coefficient of Friction is 0.3 unless site specific determination is available			
Pressure coefficients	• Cp values from BRE Digest 489 apply unless the applicable laboratory report is obtained from the manufacturer • Laboratory report available in accordance with BS EN 1991-1-4: o Wind loads on the “FS10-EW” solar ballasted roof-mount system of Renusol Europe GmbH BWA23-40-02			
Fire Performance				
Fire Classification	BS 476-3: 2004		Not determined	
	CEN TS 1187:2012 Test 4		Not determined	
	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. OR delete	

Signed on behalf of Kiwa Ltd

Mark Crowther - MCS Certification Director - Kiwa Ltd

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# MCS Product Certificate

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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
Console+ / CS+ (ballasted)	REN_CS+_01		KIWA00051/016 IK
Type	Above Roof: System (On Roof Not mechanically attached system)		
System components	Components for this system are listed in ANNEX I		
System/Component Description	Polymer based ballast container and attachment for one PV module to it.		
Compatible Roof Coverings	• Continuous: o Other (describe) Continuous flat roof coverings capable of withstanding the mounting system under load.		
Tests Undertaken	Resistance to wind uplift	Yes / <del>No</del>	
	Fire performance	<del>Yes</del> / No	
	Weather tightness	<del>Yes</del> / No	
Resistance to Wind Uplift			
If not mechanically attached to roof sub-structure or covering	Continuous flat roof coverings capable of withstanding the mounting system under load.		
Test Preparation	One PV module 2333 mm x 1134 mm x 30 mm in landscape orientation, attached to two aluminium U-Profile 1035 mm Console CS+, with Elongation rails XL for 1 CS+ set, and rear grip clamp for CS+, which arrangement attached to one Console CS+, loaded with concrete ballast tiles amounting to 225 kg, on a coated concrete deck.		
Maximum Design Wind Uplift Resistance	0.3 kPa	Partial (safety) factor(s)	1
Failure Mode	Serviceability Limit State • System slid > 5 mm		
If attached to timber sub-structure: For certified wind uplift resistance in sound timber - dimensions	N/A		
Resistance to sliding – Coefficient of Friction	Coefficient of Friction is 0.3 unless site specific determination is available		
Pressure coefficients	• Cp values from BRE Digest 489 apply unless the applicable laboratory report is obtained from the manufacturer • Laboratory report available in accordance with BS EN 1991-1-4: o Wind Tunnel Test for the Photo Voltaic Mounting System ConSole+ of the Company Renusol GmbH: RC 1351/0611-1-e Wind Loads on the Photovoltaic Elements for smaller Roof-Projects for the System ConSole+ of the Company Renusol GmbH: RC 1828/0714-e		
Fire Performance			
Fire Classification	BS 476-3: 2004	Not determined	
	CEN TS 1187:2012 Test 4	Not determined	
	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. OR delete	

Signed on behalf of Kiwa Ltd

Mark Crowther - MCS Certification Director - Kiwa Ltd

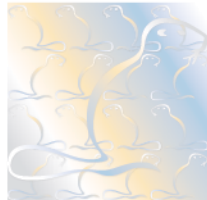
This certificate is subject to the producer continuing to comply with the Kiwa MCS Product Scheme Rules and ongoing Annual Surveillance

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 Issue 3.0

Mounting frame installation components	
REN_RH1_01 - KIWA00051/001 IK	
System component	Part number
Roof Hook RH1	R420171
Wood screw pan head 6.0x80 SIT 30	R900318
VS+ mounting rail 41 x 35 x various lengths	2.4 m, 400534; 3.3 m, 400524, 3.6 m, 400572
VS+ mounting rail 50 x 37 x various lengths (or black)	2.4 m, 400549 (-B); 3.6 m, 400570 (-B), 4.4 m, 400571 (-B)
VS+ mounting rail 60 x 38 x various lengths (or black)	3.3 m, 400535 (-B), 3.6 m, 400536, 4.8 m, 400537
Rail connectors for 41x35, 50x37, 60x38	R400531, R400532, R400533
RS1 / RS1 (black) clamp	R420080 / R420080-BE
End Clamp+ / End Clamp+ (black)	R420081 / R420081-BE
Middle Clamp+ / Middle Clamp+ (black)	R420082 / R420082-BE
Sealing Tape MPA (20 x 4000mm)	R300100
REN_RHFLAT_01 - KIWA00051/002 IK	
System components:	Part number
Roof Hook RH Flat	R420172
Wood screw pan head 6.0x80 SIT 30	R900318
VS+ mounting rail 41 x 35 x various lengths	2.4 m, 400534; 3.3 m, 400524, 3.6 m, 400572
VS+ mounting rail 50 x 37 x various lengths (or black)	2.4 m, 400549 (-B); 3.6 m, 400570 (-B), 4.4 m, 400571 (-B)
VS+ mounting rail 60 x 38 x various lengths (or black)	3.3 m, 400535 (-B), 3.6 m, 400536, 4.8 m, 400537
Rail connectors for 41x35, 50x37, 60x38	R400531, R400532, R400533
RS1 / RS1 (black) clamp	R420080 / R420080-BE
End Clamp+ / End Clamp+ (black)	R420081 / R420081-BE
Middle Clamp+ / Middle Clamp+ (black)	R420082 / R420082-BE
Sealing Tape MPA (20 x 4000mm)	R300100



# MCS Product Certificate

Annex I to Certificate KIWA00051



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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 Issue 3.0

Mounting frame installation components	
REN_RH1_02 - KIWA00051/003 IK	
System component	Part number
End clamp+ (black)	R420081-BE
Middle clamp+ (black)	R420082-BE
End clamp+	R420081
Middle clamp+	R420082
RS1	R420080
RS1 (black)	R420080-BE
RS Pro (black)	R420025-B
RS Pro	R420025
VS+ Mounting rail 41 x 35	R400534
VS+ Mounting rail 41 x 35	R400572
VS+ Mounting rail 41 x 35	R400525
VS+ Mounting rail 50 x 37	R400549
VS+ Mounting rail 50 x 37	R400570
VS+ Mounting rail 50 x 37	R400571
VS+ Mounting rail 50 x 37	R400549-B
VS+ Mounting rail 50 x 37	R400570-B
VS+ Mounting rail 50 x 37	R400571-B
VS+ Mounting rail 60 x 38	R400536
VS+ Rail connector 41 x 35	R400531
VS+ Rail connector 50 x 37	R400532
VS+ Rail connector 60 x 38	R400533
Wood screw pan head 6 x 80 SIT 30	R900318
Wood screw pan head 6 x 80	R900333
Roof hook RH1 (without wood screw)	R420171

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 Issue 3.0

Mounting frame installation components	
REN_VS+_01- KIWA00051/004 IK	
System component	Part number
End clamp+ (black)	R420081-BE
Middle clamp+ (black)	R420082-BE
End clamp+	R420081
Middle clamp+	R420082
RS1	R420080
RS1 (black)	R420080-BE
RS Pro (black)	R420025-B
RS Pro	R420025
VS+ Mounting rail 41 x 35	R400572
VS+ Mounting rail 41 x 35	R400525
VS+ Mounting rail 50 x 37	R400549
VS+ Mounting rail 50 x 37	R400570
VS+ Mounting rail 50 x 37	R400571
VS+ Mounting rail 50 x 37	R400549-B
VS+ Mounting rail 50 x 37	R400570-B
VS+ Mounting rail 50 x 37	R400571-B
VS+ Mounting rail 60 x 38	R400536
VS+ Rail connector 41 x 35	R400531
VS+ Rail connector 50 x 37	R400532
VS+ Rail connector 60 x 38	R400533
Wood screw pan head 6 x 80 SIT 30	R900318
Wood screw pan head 6 x 80	R900333
Roof hook UK Plain tiles/slates HL (without wood screw) AND SolarFlash® Small Flat	R420184
Roof hook UK Plain tiles/slates (without wood screw) AND SolarFlash® Small Flat	R420181
(SolarFlash® Small Flat)	SFS011
Roof hook aluminium (without wood screw)	R420151

# MCS Product Certificate

Annex I to Certificate KIWA00051



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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 Issue 3.0

Mounting frame installation components	
REN_VS+_02- KIWA00051/005 IK	
System component	Part number
End clamp+ (black)	R420081-BE
Middle clamp+ (black)	R420082-BE
End clamp+	R420081
Middle clamp+	R420082
RS1	R420080
RS1 (black)	R420080-BE
RS Pro (black)	R420025-B
RS Pro	R420025
VS+ Mounting rail 41 x 35	R400572
VS+ Mounting rail 41 x 35	R400525
VS+ Mounting rail 50 x 37	R400549
VS+ Mounting rail 50 x 37	R400570
VS+ Mounting rail 50 x 37	R400571
VS+ Mounting rail 50 x 37	R400549-B
VS+ Mounting rail 50 x 37	R400570-B
VS+ Mounting rail 50 x 37	R400571-B
VS+ Mounting rail 60 x 38	R400536
VS+ Rail connector 41 x 35	R400531
VS+ Rail connector 50 x 37	R400532
VS+ Rail connector 60 x 38	R400533
Wood screw pan head 6 x 80 SIT 30	R900318
Wood screw pan head 6 x 80	R900333
Roof hook ECO Basic (without wood screw)	R420165
Roof hook stainless steel (without wood screw)	R420150
Roof hook UK Flexible (without wood screw)	R420182
Roof hook UK Pantile (without wood screw)	R420180

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 Issue 3.0

<b>Mounting frame installation components</b>	
<b>REN_VS+_03- KIWA00051/006 IK</b>	
<b>System component</b>	<b>Part number</b>
<i>End clamp+ (black)</i>	<i>R420081-BE</i>
<i>Middle clamp+ (black)</i>	<i>R420082-BE</i>
<i>End clamp+</i>	<i>R420081</i>
<i>Middle clamp+</i>	<i>R420082</i>
<i>RS1</i>	<i>R420080</i>
<i>RS1 (black)</i>	<i>R420080-BE</i>
<i>RS Pro (black)</i>	<i>R420025-B</i>
<i>RS Pro</i>	<i>R420025</i>
<i>VS+ Mounting rail 41 x 35</i>	<i>R400534</i>
<i>VS+ Mounting rail 41 x 35</i>	<i>R400572</i>
<i>VS+ Mounting rail 41 x 35</i>	<i>R400525</i>
<i>VS+ Mounting rail 50 x 37</i>	<i>R400549</i>
<i>VS+ Mounting rail 50 x 37</i>	<i>R400570</i>
<i>VS+ Mounting rail 50 x 37</i>	<i>R400571</i>
<i>VS+ Mounting rail 50 x 37</i>	<i>R400549-B</i>
<i>VS+ Mounting rail 50 x 37</i>	<i>R400570-B</i>
<i>VS+ Mounting rail 50 x 37</i>	<i>R400571-B</i>
<i>VS+ Mounting rail 60 x 38</i>	<i>R400536</i>
<i>VS+ Rail connector 41 x 35</i>	<i>R400531</i>
<i>VS+ Rail connector 50 x 37</i>	<i>R400532</i>
<i>VS+ Rail connector 60 x 38</i>	<i>R400533</i>
<i>Bracket M10</i>	<i>R420014</i>
<i>Bracket M12</i>	<i>R420012</i>
<i>Bracket M10 (offset connection)</i>	<i>R420131</i>
<i>Bracket M12 (offset connection)</i>	<i>R420130</i>
<i>Bracket IFP M8/M10</i>	<i>R420024</i>
<i>Sealing plate 15/95 used with R300000</i>	<i>R900274</i>
<i>Ubiflex High-Tack MS adhesive used only with R900274</i>	<i>R300000</i>
<i>Hanger bolt M10 x 160 (offset)</i>	<i>R920159</i>



# MCS Product Certificate

Annex I to Certificate KIWA00051

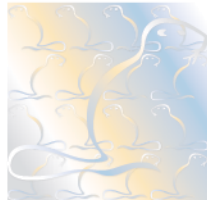


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The following components are common for the product systems that have been assessed and registered by Kiwa Ltd against the provisions of:

MCS 010, MCS 011, MCS 012 Issue 3.0

Mounting frame installation components	
REN_VS+_03- KIWA00051/006 IK	
System component	Part number
Hanger bolt M10x180	R860020
Hanger bolt M10 x 200	R860006
Hanger bolt M10 x 250	R860021
Hanger bolt M12 x 250	R860007
Hanger bolt M12 x 300	R860017
Hanger bolt M12 x 350	R920136
Hanger bolt M12 x 400	R920137
Hanger bolt M10x200 (offset)	R920008
Hanger bolt M10 x 250 (offset)	R860022
Hanger bolt M12 x 250 (offset)	R920002
Solar fastener for steel substructure 80/50	R900181
Solar fastener for steel substructure 100/50	R900182
Solar fastener for steel substructure 125/50	R900183
Solar fastener for steel substructure 150/50	R900184
Solar fastener for steel substructure 160/50	R900185
Solar fastener for steel substructure 200/50	R900186
Solar fastener for wood substructure 80/50	R900187
Solar fastener for wood substructure 100/50	R900188
Solar fastener for wood substructure 130/50	R900189
Solar fastener for wood substructure 150/50	R900190
Solar fastener for wood substructure 180/50	R900191
Solar fastener for wood substructure 200/50	R900192



# MCS Product Certificate

Annex I to Certificate KIWA00051



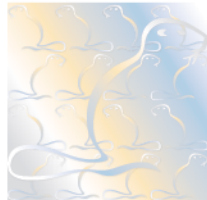
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The following components are common for the product systems that have been assessed and registered by Kiwa Ltd against the provisions of:

MCS 010, MCS 011, MCS 012 Issue 3.0

Mounting frame installation components	
REN_VS+_04- KIWA00051/007 IK	
System component	Part number
End clamp+ (black)	R420081-BE
Middle clamp+ (black)	R420082-BE
End clamp+	R420081
Middle clamp+	R420082
RS1	R420080
RS1 (black)	R420080-BE
RS Pro (black)	R420025-B
RS Pro	R420025
VS+ Mounting rail 41 x 35	R400534
VS+ Mounting rail 41 x 35	R400572
VS+ Mounting rail 41 x 35	R400525
VS+ Mounting rail 50 x 37	R400549
VS+ Mounting rail 50 x 37	R400570
VS+ Mounting rail 50 x 37	R400571
VS+ Mounting rail 50 x 37	R400549-B
VS+ Mounting rail 50 x 37	R400570-B
VS+ Mounting rail 50 x 37	R400571-B
VS+ Mounting rail 60 x 38	R400536
VS+ Rail connector 41 x 35	R400531
VS+ Rail connector 50 x 37	R400532
VS+ Rail connector 60 x 38	R400533
Bracket M10	R420014
Bracket M12	R420012
Bracket M10 (offset connection)	R420131
Bracket M12 (offset connection)	R420130
Bracket IFP M8/M10	R420024
M8 screw	R900025
M8 nut	R900001
S5!® Stehfalzklemme Z-mini	R420255
Round seam clamp for Kalzip and similar	R400362
Kalzip clamp for standing seam Typ FS	R400256

CERTIFICATE



# MCS Product Certificate

Annex I to Certificate KIWA00051



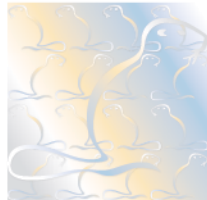
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The following components are common for the product systems that have been assessed and registered by Kiwa Ltd against the provisions of:

MCS 010, MCS 011, MCS 012 Issue 3.0

Mounting frame installation components	
REN_VS+_05- KIWA00051/008 IK	
System component	Part number
End clamp+ (black)	R420081-BE
Middle clamp+ (black)	R420082-BE
End clamp+	R420081
Middle clamp+	R420082
RS1	R420080
RS1 (black)	R420080-BE
RS Pro (black)	R420025-B
RS Pro	R420025
VS+ Mounting rail 41 x 35	R400534
VS+ Mounting rail 41 x 35	R400572
VS+ Mounting rail 41 x 35	R400525
VS+ Mounting rail 50 x 37	R400549
VS+ Mounting rail 50 x 37	R400570
VS+ Mounting rail 50 x 37	R400571
VS+ Mounting rail 50 x 37	R400549-B
VS+ Mounting rail 50 x 37	R400570-B
VS+ Mounting rail 50 x 37	R400571-B
VS+ Mounting rail 60 x 38	R400536
VS+ Rail connector 41 x 35	R400531
VS+ Rail connector 50 x 37	R400532
VS+ Rail connector 60 x 38	R400533
Bracket M10	R420014
Bracket M12	R420012
Bracket M10 (offset connection)	R420131
Bracket M12 (offset connection)	R420130
Bracket IFP M8/M10	R420024
M8 screw	R900025
M8 nut	R900001
S5!® Stehfalzklemme S-mini	R420259
S5! Stehfalzklemme E-mini	R420254

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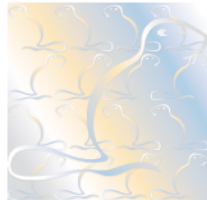


The following components are common for the product systems that have been assessed and registered by Kiwa Ltd against the provisions of:

MCS 010, MCS 011, MCS 012 Issue 3.0

Mounting frame installation components	
REN_MS+_01 - KIWA00051/009 IK	
System component	Part number
End clamp+ (black)	R420081-BE
Middle clamp+ (black)	R420082-BE
End clamp+	R420081
Middle clamp+	R420082
RS1	R420080
RS1 (black)	R420080-BE
RS Pro (black)	R420025-B
RS Pro	R420025
MetaSole+	R420402
MS+H (Set)	R420423
Self drilling screw 5,5x25 SW 8 E16	R400301
REN_MS+_02 - KIWA00051/010 IK	
System component	Part number
End clamp+ (black)	R420081-BE
Middle clamp+ (black)	R420082-BE
End clamp+	R420081
Middle clamp+	R420082
RS1	R420080
RS1 (black)	R420080-BE
RS Pro (black)	R420025-B
RS Pro	R420025
MetaSole+	R420402
MS+H (Set)	R420423
Self drilling screw 5,5x25 SW 8 E16	R400301

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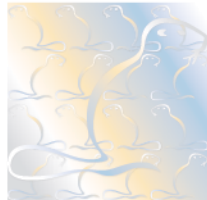
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The following components are common for the product systems that have been assessed and registered by Kiwa Ltd against the provisions of:

MCS 010, MCS 011, MCS 012 Issue 3.0

Mounting frame installation components	
REN_MS+_03 - KIWA00051/011 IK	
System component	Part number
End clamp+ (black)	R420081-BE
Middle clamp+ (black)	R420082-BE
End clamp+	R420081
Middle clamp+	R420082
RS1	R420080
RS1 (black)	R420080-BE
RS Pro (black)	R420025-B
RS Pro	R420025
MS+ Portrait 350mm (Set)	R420420
MS+ Portrait 400mm (Set)	R420421
MS+ Portrait 3600mm (without EPDM)	R400405
MS+ Portrait 4200mm (without EPDM)	R400406
EPDM Roll 5m for MS+ Portrait	R300224
Self drilling screw 5,5x25 SW 8 E16	R400301
REN_MS+_04 - KIWA00051/012 IK	
System component	Part number
End clamp+ (black)	R420081-BE
Middle clamp+ (black)	R420082-BE
End clamp+	R420081
Middle clamp+	R420082
RS1	R420080
RS1 (black)	R420080-BE
RS Pro (black)	R420025-B
RS Pro	R420025
MS+ Portrait 350mm (Set)	R420420
MS+ Portrait 400mm (Set)	R420421
MS+ Portrait 3600mm (without EPDM)	R400405
MS+ Portrait 4200mm (without EPDM)	R400406
EPDM Roll 5m for MS+ Portrait	R300224
Self drilling screw 5,5x25 SW 8 E16	R400301

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# MCS Product Certificate

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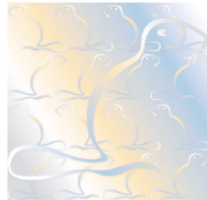
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The following components are common for the product systems that have been assessed and registered by Kiwa Ltd against the provisions of:

MCS 010, MCS 011, MCS 012 Issue 3.0

Mounting frame installation components	
REN_MS+_05 - KIWA00051/013 IK	
System component	Part number
End clamp+ (black)	R420081-BE
Middle clamp+ (black)	R420082-BE
End clamp+	R420081
Middle clamp+	R420082
RS1	R420080
RS1 (black)	R420080-BE
RS Pro (black)	R420025-B
RS Pro	R420025
MetaSole+	R420402
MS+ Adapter corrugated sheet radius 24	R420401
MS+ corrugated sheet radius 24	R420411

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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 Issue 3.0

Mounting frame installation components	
REN_FSPRO_01 - KIWA00051/014 IK	
System component	Part number
End clamp+ (black)	R420081-BE
Middle clamp+ (black)	R420082-BE
End clamp+	R420081
Middle clamp+	R420082
RS1	R420080
RS1 (black)	R420080-BE
RS Pro (black)	R420025-B
RS Pro	R420025
FS Pro End clamp LS	R520283
FS Pro 10-S Base rail 1500 (Set)	R520220
FS Pro 10-S-P Base rail 3000	R500224
FS Pro 10-S Base rail 1500	R500220
FS Pro 10-S-P Base rail 3000 (Set)	R520224
FS Pro Ridge support	R500230
FS Pro Securing clip ridge support	R500228
FS Pro Eave support 10-S	R500231
FS Pro Securing bolt	R500227
FS Pro Ballast profile 1900	R500250
FS Pro Ballast profile connector	R500251
FS Pro Ballast profile support	R500252
FS Pro Securing clip ballast support	R500253
FS Pro Roof protection pad 55	R500272
FS Pro Roof protection pad 300	R500270
FS Pro adapter LS	R500235
Non-structural system components	Part number
FS Pro Streamliner 10-S 1900	R500240
FS Pro Streamliner 10-S 2300	R500236
FS Pro Streamliner bracket	R500241
Self Drilling Screw 4,8x19 A2	R900229
FS Pro Potential equalisation clip S	R500260
FS Pro Cable tray 450	R500262
FS Pro Side deflector 10 (Set)	R520265

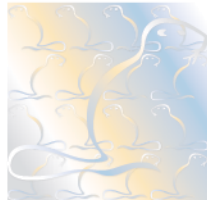
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The following components are common for the product systems that have been assessed and registered by Kiwa Ltd against the provisions of:

MCS 010, MCS 011, MCS 012 Issue 3.0

<b>Mounting frame installation components</b>	
<b>REN_FSPRO_02 - KIWA00051/015 IK</b>	
<b>System component</b>	<b>Part number</b>
<i>End clamp+ (black)</i>	<i>R420081-BE</i>
<i>Middle clamp+ (black)</i>	<i>R420082-BE</i>
<i>End clamp+</i>	<i>R420081</i>
<i>Middle clamp+</i>	<i>R420082</i>
<i>RS1</i>	<i>R420080</i>
<i>RS1 (black)</i>	<i>R420080-BE</i>
<i>RS Pro (black)</i>	<i>R420025-B</i>
<i>RS Pro</i>	<i>R420025</i>
<i>FS Pro Mid clamp EW</i>	<i>R520282</i>
<i>FS Pro End clamp LS</i>	<i>R520283</i>
<i>FS Pro 10-EW Base rail 2100</i>	<i>R500222</i>
<i>FS Pro 10-EW Base rail 2100 (Set)</i>	<i>R520222</i>
<i>FS Pro 10-EW Base rail 2300</i>	<i>R500223</i>
<i>FS Pro 10-EW Base rail 2300 (Set)</i>	<i>R520223</i>
<i>FS Pro 10-EW Base rail 2380</i>	<i>R500244</i>
<i>FS Pro 10-EW Base rail 2380 (Set)</i>	<i>R520244</i>
<i>FS Pro 10-EW Base rail 2700</i>	<i>R500229</i>
<i>FS Pro 10-EW Base rail 2700 (Set)</i>	<i>R520229</i>
<i>FS Pro 10-EW-P Base rail 3600</i>	<i>R500225</i>
<i>FS Pro 10-EW-P Base rail 3600 (Set)</i>	<i>R520225</i>
<i>FS Pro Ridge support</i>	<i>R500230</i>
<i>FS Pro Securing clip ridge support</i>	<i>R500228</i>
<i>FS Pro Eave support 10-EW</i>	<i>R500232</i>
<i>FS Pro Securing bolt</i>	<i>R500227</i>
<i>FS Pro Ballast profile 1900</i>	<i>R500250</i>
<i>FS Pro Ballast profile connector</i>	<i>R500251</i>
<i>FS Pro Ballast profile support</i>	<i>R500252</i>
<i>FS Pro Securing clip ballast support</i>	<i>R500253</i>
<i>FS Pro Roof protection pad 110</i>	<i>R500271</i>
<i>FS Pro Roof protection pad 300</i>	<i>R500270</i>
<i>FS Pro adapter LS</i>	<i>R500235</i>
<b>Non-structural system components</b>	<b>Part number</b>
<i>FS Pro Potential equalisation clip EW</i>	<i>R500261</i>
<i>FS Pro Cable tray 450</i>	<i>R500262</i>
<i>FS Pro Side deflector 10 (Set)</i>	<i>R520265</i>



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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 Issue 3.0

Mounting frame installation components	
REN_CS+_01 - KIWA00051/016 IK	
System component	Part number
ConSole+, SET	R520075-K
Elongation rails XL for 1 CS, SET	R460196
Rear grip clamp for CS+	R420023
ConSole+	R500075
Aluminium U-Profile 1035 mm ConSole CS+	R400005
Mounting material for ConSole CS+	R420022
Non-structural system components	Part number
Streamliner+	R520076

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