



MCS Product Certificate

Date Issued	22nd April 2025	Annual review date	20th November
Issue number	2	Original/Amendment	Original
Certificate number	KIWA00051	Page	1 of 25

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

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



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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"> • Discontinuous o Profile concrete/clay tile 	
Tests Undertaken	Resistance to wind uplift	Yes / No
	Fire performance	Yes / No
	Weather tightness	Yes / No
Resistance to Wind Uplift		
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	
Weathertightness		
If discontinuous roof covering		
Reference Roof Covering	Type:	Tiles Pitch: 22.5 ° Head-lap 75 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 (°)		22.5 °
Test B (if applicable)	Applied suction at leakage rate 10 g/m ² /5min	n/a
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+) (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"> Discontinuous o Plain concrete/clay tile 	
Tests Undertaken	Resistance to wind uplift	Yes / No
	Fire performance	Yes / No
	Weather tightness	Yes / No
Resistance to Wind Uplift		
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	
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)	
	Maximum unprotected gap with mounting system/component installed (+/- 1mm)	
	Minimum Permissible roof Pitch (°)	
Test B (if applicable)	Applied suction at leakage rate 10 g/m ² /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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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	<ul style="list-style-type: none"> • Discontinuous <ul style="list-style-type: none"> o Profile concrete/clay tile 	
Tests Undertaken	Resistance to wind uplift	Yes / No
	Fire performance	Yes / No
	Weather tightness	Yes / No
Resistance to Wind Uplift		
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 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)	
	Maximum unprotected gap with mounting system/component installed (+/- 1mm)	
	Minimum Permissible roof Pitch (°)	
Test B (if applicable)	Applied suction at leakage rate 10 g/m ² /5 min	
Test D (if applicable)	Leakage observed after 2 min	
		0.050 kPa
		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	<ul style="list-style-type: none"> • Discontinuous o Plain / Profile concrete/clay tile 					
Tests Undertaken	Resistance to wind uplift	Yes / No				
	Fire performance	Yes / No				
	Weather tightness	Yes / No				
Resistance to Wind Uplift						
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	1.61 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/m ² /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"> • Discontinuous <ul style="list-style-type: none"> o Profile concrete/clay tile 	
Tests Undertaken	Resistance to wind uplift	Yes / No
	Fire performance	Yes / No
	Weather tightness	Yes / No
Resistance to Wind Uplift		
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	
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)	
	Maximum unprotected gap with mounting system/component installed (+/- 1mm)	
	Minimum Permissible roof Pitch (°)	
Test B (if applicable)	Applied suction at leakage rate 10 g/m ² /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+) (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"> • Continuous: <ul style="list-style-type: none"> o Sheet or profiled metal o Other (describe) - profiled fibre cement sheet 		
Tests Undertaken	Resistance to wind uplift	Yes / No	
	Fire performance	Yes / No	
	Weather tightness	Yes / No	
Resistance to Wind Uplift			
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		
Weathertightness			
If continuous roof covering			
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
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	
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	<ul style="list-style-type: none"> • Continuous: <ul style="list-style-type: none"> o Sheet or profiled metal 		
Tests Undertaken	Resistance to wind uplift	Yes / No	
	Fire performance	Yes / No	
	Weather tightness	Yes / 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	<ul style="list-style-type: none"> • Continuous: <ul style="list-style-type: none"> o Sheet or profiled metal 		
Tests Undertaken	Resistance to wind uplift	Yes / No	
	Fire performance	Yes / No	
	Weather tightness	Yes / 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"> Continuous: <ul style="list-style-type: none"> Sheet or profiled metal 		
Tests Undertaken	Resistance to wind uplift	Yes / No	
	Fire performance	Yes / No	
	Weather tightness	Yes / No	
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 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	Ultimate Limit State <ul style="list-style-type: none"> Pull out from a metal component 		
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
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"> • Continuous: <ul style="list-style-type: none"> o Sheet or profiled metal 		
Tests Undertaken	Resistance to wind uplift	Yes / No	
	Fire performance	Yes / No	
	Weather tightness	Yes / No	
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 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		
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

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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	<ul style="list-style-type: none"> • Continuous: o Sheet or profiled metal 			
Tests Undertaken	Resistance to wind uplift	Yes / No		
	Fire performance	Yes / No		
	Weather tightness	Yes / No		
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.		

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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	<ul style="list-style-type: none"> • Continuous: <ul style="list-style-type: none"> o Sheet or profiled metal 		
Tests Undertaken	Resistance to wind uplift	Yes / No	
	Fire performance	Yes / No	
	Weather tightness	Yes / No	
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 brackets in 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		
Weather tightness			
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.	

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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+) (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	<ul style="list-style-type: none"> Continuous: <ul style="list-style-type: none"> Sheet or profiled metal 		
Tests Undertaken	Resistance to wind uplift	Yes / No	
	Fire performance	Yes / No	
	Weather tightness	Yes / No	
Resistance to Wind Uplift			
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 <ul style="list-style-type: none"> Pull out from a metal component 		
Weathertightness			
If continuous roof covering			
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
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

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
<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>
REN_RHFLAT_01 - KIWA00051/002 IK	
System components:	Part number
<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>

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
<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>Wood screw pan head 6 x 80 SIT 30</i>	<i>R900318</i>
<i>Wood screw pan head 6 x 80</i>	<i>R900333</i>
<i>Roof hook RH1 (without wood screw)</i>	<i>R420171</i>

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
<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>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>Wood screw pan head 6 x 80 SIT 30</i>	<i>R900318</i>
<i>Wood screw pan head 6 x 80</i>	<i>R900333</i>
<i>Roof hook UK Plain tiles/slates HL (without wood screw) AND SolarFlash® Small Flat</i>	<i>R420184</i>
<i>Roof hook UK Plain tiles/slates (without wood screw) AND SolarFlash® Small Flat</i>	<i>R420181</i>
<i>(SolarFlash® Small Flat)</i>	<i>SFS011</i>
<i>Roof hook aluminium (without wood screw)</i>	<i>R420151</i>

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
<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>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>Wood screw pan head 6 x 80 SIT 30</i>	<i>R900318</i>
<i>Wood screw pan head 6 x 80</i>	<i>R900333</i>
<i>Roof hook ECO Basic (without wood screw)</i>	<i>R420165</i>
<i>Roof hook stainless steel (without wood screw)</i>	<i>R420150</i>
<i>Roof hook UK Flexible (without wood screw)</i>	<i>R420182</i>
<i>Roof hook UK Pantile (without wood screw)</i>	<i>R420180</i>

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
<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>

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

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
<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>M8 screw</i>	<i>R900025</i>
<i>M8 nut</i>	<i>R900001</i>
<i>S5!® Stehfalzklemme Z-mini</i>	<i>R420255</i>
<i>Round seam clamp for Kalzip and similar</i>	<i>R400362</i>
<i>Kalzip clamp for standing seam Typ FS</i>	<i>R400256</i>



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
<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>M8 screw</i>	<i>R900025</i>
<i>M8 nut</i>	<i>R900001</i>
<i>S5!® Stehfalzklemme S-mini</i>	<i>R420259</i>
<i>S5! Stehfalzklemme E-mini</i>	<i>R420254</i>

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
<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>MetaSole+</i>	<i>R420402</i>
<i>MS+H (Set)</i>	<i>R420423</i>
<i>Self drilling screw 5,5x25 SW 8 E16</i>	<i>R400301</i>
REN_MS+_02 - KIWA00051/010 IK	
System component	Part number
<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>MetaSole+</i>	<i>R420402</i>
<i>MS+H (Set)</i>	<i>R420423</i>
<i>Self drilling screw 5,5x25 SW 8 E16</i>	<i>R400301</i>

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
<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>MS+ Portrait 350mm (Set)</i>	<i>R420420</i>
<i>MS+ Portrait 400mm (Set)</i>	<i>R420421</i>
<i>MS+ Portrait 3600mm (without EPDM)</i>	<i>R400405</i>
<i>MS+ Portrait 4200mm (without EPDM)</i>	<i>R400406</i>
<i>EPDM Roll 5m for MS+ Portrait</i>	<i>R300224</i>
<i>Self drilling screw 5,5x25 SW 8 E16</i>	<i>R400301</i>
REN_MS+_04 - KIWA00051/012 IK	
System component	Part number
<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>MS+ Portrait 350mm (Set)</i>	<i>R420420</i>
<i>MS+ Portrait 400mm (Set)</i>	<i>R420421</i>
<i>MS+ Portrait 3600mm (without EPDM)</i>	<i>R400405</i>
<i>MS+ Portrait 4200mm (without EPDM)</i>	<i>R400406</i>
<i>EPDM Roll 5m for MS+ Portrait</i>	<i>R300224</i>
<i>Self drilling screw 5,5x25 SW 8 E16</i>	<i>R400301</i>

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	
<i>System component</i>	<i>Part number</i>
<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>MetaSole+</i>	<i>R420402</i>
<i>MS+ Adapter corrugated sheet radius 24</i>	<i>R420401</i>
<i>MS+ corrugated sheet radius 24</i>	<i>R420411</i>