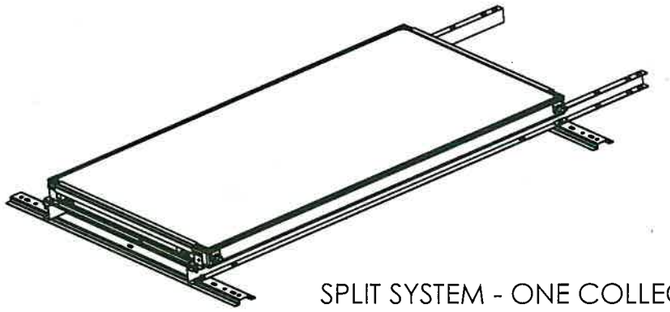
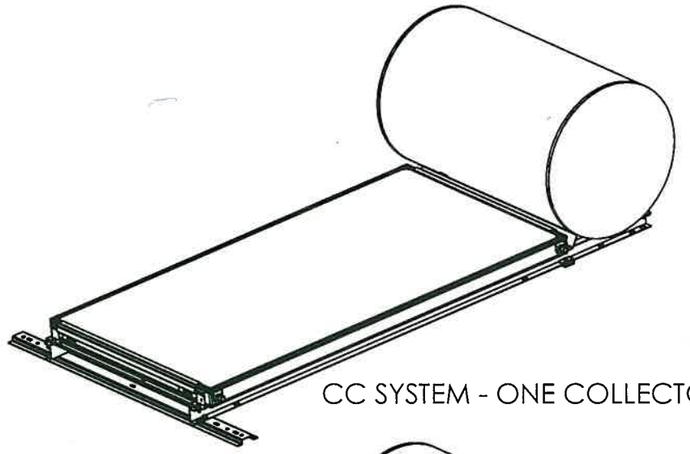
IN ACCORDANCE WITH NCC VOLUME 2 (SECTION P3.10.1), THIS PRODUCT SATISFIES PERFORMANCE REQUIREMENT P2.1.1 FOR CONSTRUCTION IN AHIGH WIND AREA.

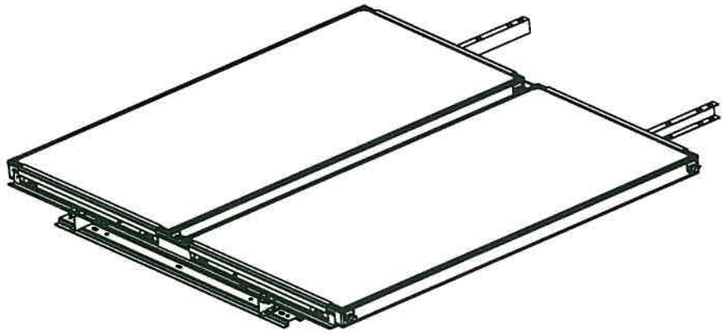
GENERAL SYSTEM IMAGES



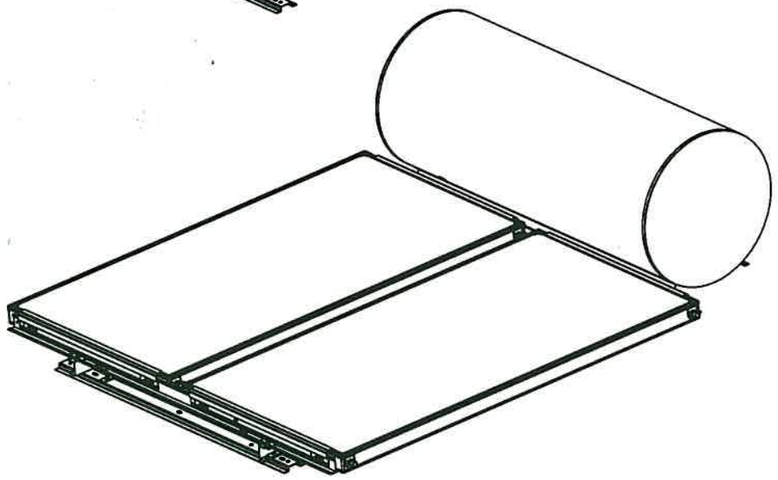
SPLIT SYSTEM - ONE COLLECTOR



CC SYSTEM - ONE COLLECTOR



SPLIT SYSTEM - TWO COLLECTOR



CC SYSTEM - TWO COLLECTORS

SYSTEMS VARIATIONS			
Collectors (WxL mm)	Tank (Ø x L mm)	Max Weight (Empty Collector and Tank)	Max Weight (Full Collector and Tank)
1 Collector (1050±50 x 1960±50)	-	62Kg	64Kg
2 Collectors (1050±50 x 1960±50)	-	105Kg	108Kg
1 Collector (1050±50 x 1960±50)	180L - 200 Litre Ø600-695 x 1140 - 1200	139Kg	341Kg
2 Collectors (1050±50 x 1960±50)	330 Litre Ø600-695 x 1735 - 2090	209Kg	542Kg

Notes covering basis of DTC (Relevant test reports etc)

Vipac Engineers & Scientists: Structural Test Report No: 30V-15-0264-TRP -398866-0. 24 June 2016.
Vistek computations: VST663A_a Rev 0 10-Aug-22

*Checking Engineers Certification
Name: Khim Lim
Registration Number: CPEng 484826
Date: 9/9/22
Signature:
*registered as a structural engineer in **Australia**

*Certifying Engineers Certification
Name: Dr Valdis Svars
NT Registration Number: 47035ES
Date:9/9/22
Signature:
*registered as a structural engineer in the **Northern Territory**

Product Name
Rinnai Solar Water Heaters

Product Description
Cyclone Region Roof Mounting Frame

Manufacturer's Name
Rinnai Australia

Design Criteria

-Class of Building: Class 1 and 10
-Wind Region: Up to and including D
-Terrain Category: 2
-Average Recurrence Interval: 1:500
-Installation Height: Up to and including 10m
-Design Wind Pressures:
Negative pressure: -7.9kPa
Positive pressure: 3.72kPa
-Building importance level up to and including 2

Limitations
- Roof construction must be capable of supporting the additional dead and live loads imposed by the installation of the system.
- Roof pitch: 10° - 30° (Min. 15° for tile roof).
- Not to be installed in exclusion zones (Refer to Sheet 6).
- The proposed 40x40x3.0 (G350) steel batten members to be confirmed by design engineer. Refer to sheet 6 for SHS fixing detail.
- The roof structural elements shown in the fixing details are indicative only as it is based on standard detail for steel and tiled roof system in Australia. All existing roof structural elements must be confirmed by design engineer.
- Frame structure must be installed strictly in accordance with the manufacturer's specification.

Exclusions
The following items are excluded and shall be certified separately:
- Existing roof structure including roof sheeting
- Tiles and cladding as well as battens and rafters
- HWS panel
- Tanks
- Fixing detail of existing batten to existing roof truss.
- Existing battens and rafters supporting the roof sheeting are not part of the solar panel roof mounting system design thus excluded. It is the responsibility of the design engineer that all existing roof structural elements are structurally adequate.

Accepted for Inclusion

DTCM ref: M/327/01

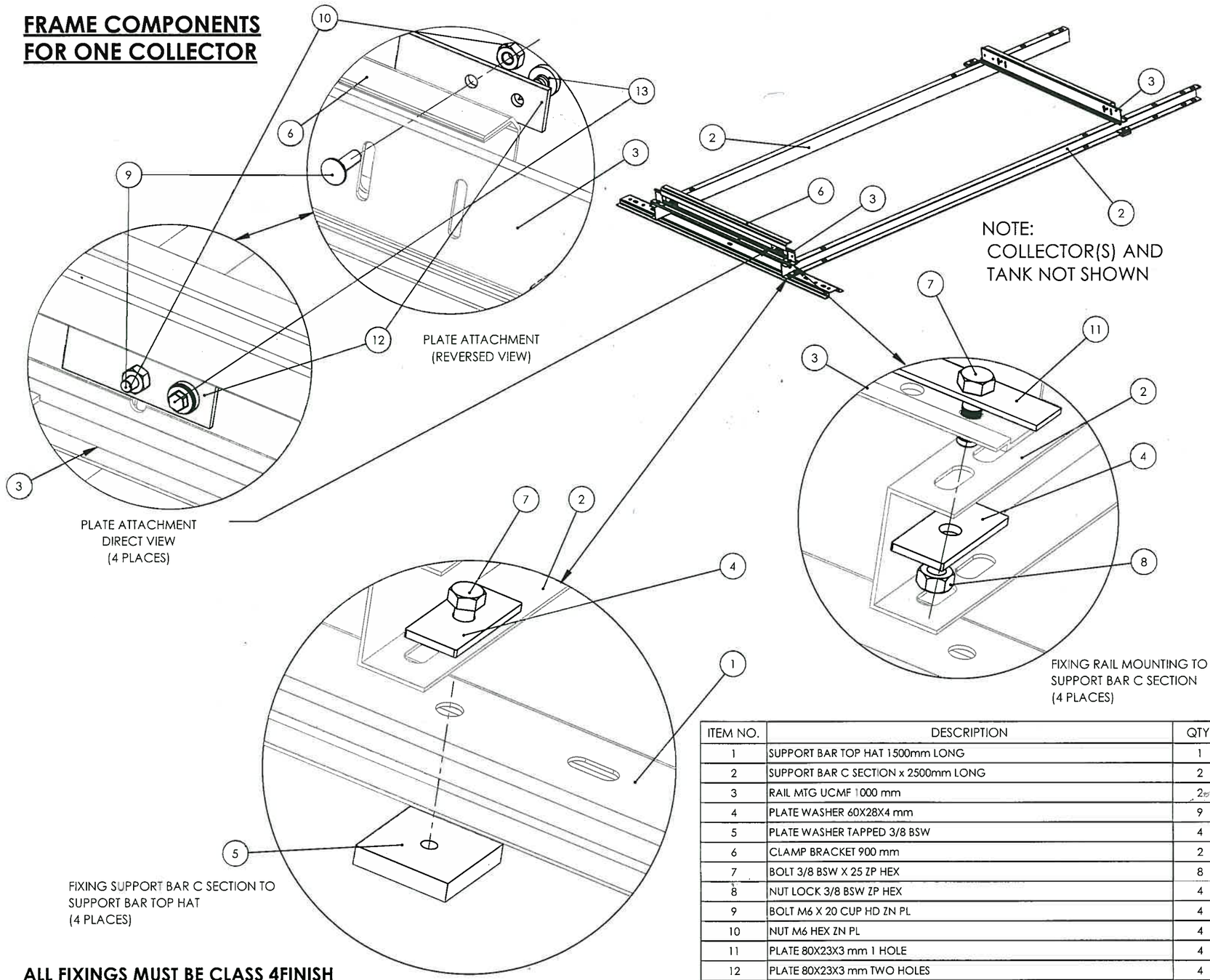
Chairman's Signature:

Chairman's Name: Paul Nowland

Date of Approval: 2/11/2022 Expiry Date: 2/11/2027

IN ACCORDANCE WITH NCC VOLUME 2 (SECTION P3.10.1), THIS PRODUCT SATISFIES PERFORMANCE REQUIREMENT P2.1.1 FOR CONSTRUCTION IN A HIGH WIND AREA.

FRAME COMPONENTS FOR ONE COLLECTOR



ITEM NO.	DESCRIPTION	QTY.
1	SUPPORT BAR TOP HAT 1500mm LONG	1
2	SUPPORT BAR C SECTION x 2500mm LONG	2
3	RAIL MTG UCMF 1000 mm	2
4	PLATE WASHER 60X28X4 mm	9
5	PLATE WASHER TAPPED 3/8 BSW	4
6	CLAMP BRACKET 900 mm	2
7	BOLT 3/8 BSW X 25 ZP HEX	8
8	NUT LOCK 3/8 BSW ZP HEX	4
9	BOLT M6 X 20 CUP HD ZN PL	4
10	NUT M6 HEX ZN PL	4
11	PLATE 80X23X3 mm 1 HOLE	4
12	PLATE 80X23X3 mm TWO HOLES	4
13	SELF TAPPING SCREW BOLT TYPE 17 HEX HEAD 25 mm LONG	4

ALL FIXINGS MUST BE CLASS 4FINISH

Product Name
Rinnai Solar Water Heaters

Product Description
Cyclone Region Roof Mounting Frame

Manufacturer's Name
Rinnai Australia

Design Criteria

-Class of Building: Class 1 and 10
-Wind Region: Up to and including D
-Terrain Category: 2
-Average Recurrence Interval: 1:500
-Installation Height: Up to and including 10m
-Design Wind Pressures:
Negative pressure: -7.9kPa
Positive pressure: 3.72kPa
-Building importance level up to and including 2

Limitations
- Roof construction must be capable of supporting the additional dead and live loads imposed by the installation of the system.
- Roof pitch: 10° - 30° (Min. 15° for tile roof).
- Not to be installed in exclusion zones (Refer to Sheet 6).
- The proposed 40x40x3.0 (G350) steel batten members to be confirmed by design engineer. Refer to sheet 6 for SHS fixing detail.
- The roof structural elements shown in the fixing details are indicative only as it is based on standard detail for steel and tiled roof system in Australia. All existing roof structural elements must be confirmed by design engineer.
- Frame structure must be installed strictly in accordance with the manufacturer's specification.

Exclusions
The following items are excluded and shall be certified separately:
- Existing roof structure including roof sheeting
- Tiles and cladding as well as battens and rafters
- HWS panel
- Tanks
- Fixing detail of existing batten to existing roof truss.
- Existing battens and rafters supporting the roof sheeting are not part of the solar panel roof mounting system design thus excluded. It is the responsibility of the design engineer that all existing roof structural elements are structurally adequate.

Accepted for Inclusion

DTCM ref: m/327/02

Chairman's Signature:

Chairman's Name: Paul Nowland

Date of Approval: 2/11/2022 Expiry Date: 2/11/2027

Notes covering basis of DTC (Relevant test reports etc)

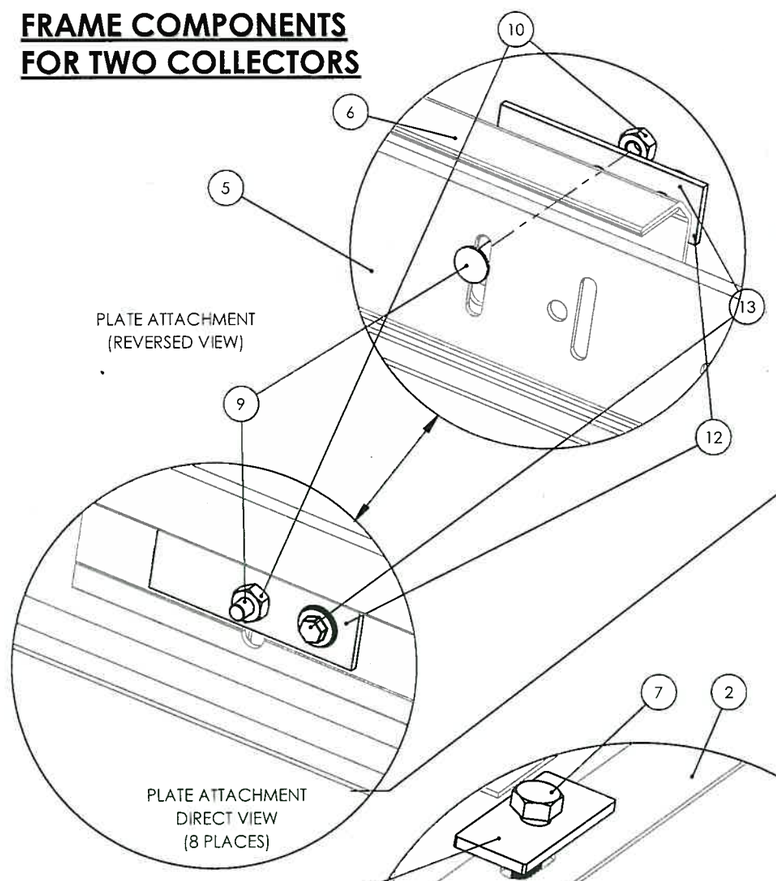
Vipac Engineers & Scientists: Structural Test Report No: 30V-15-0264-TRP -398866-0. 24 June 2016.
Vistek computations: VST663A_a Rev 0 10-Aug-22

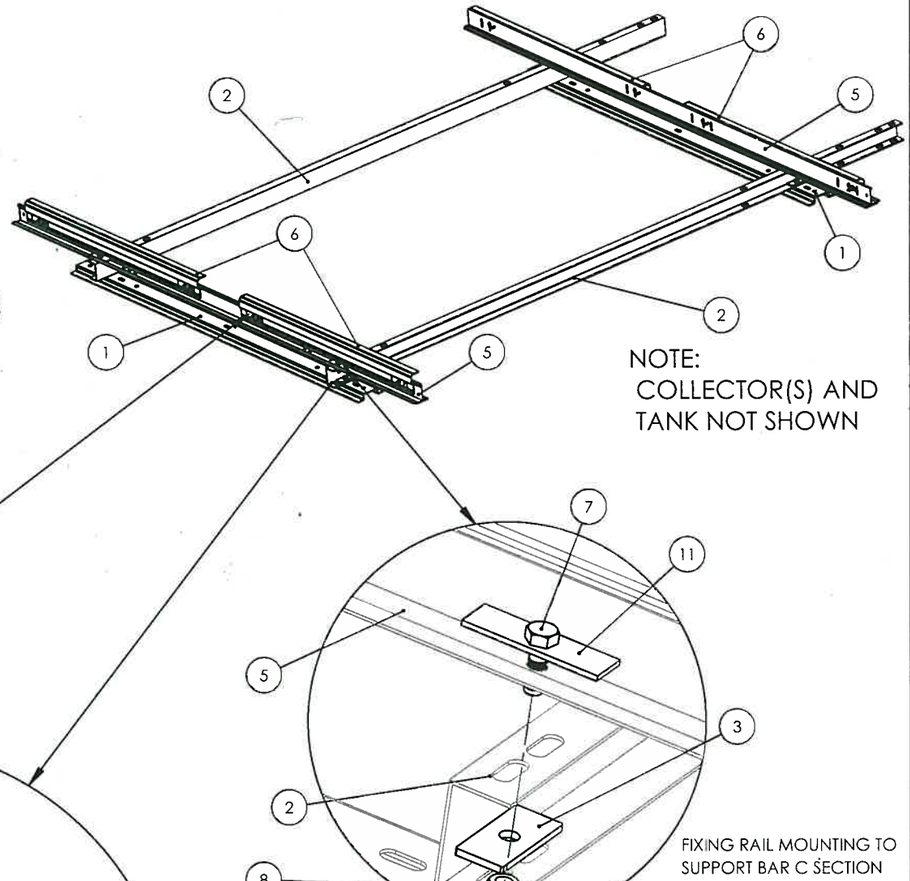
*Checking Engineers Certification
Name: Khim Lim
Registration Number: CPEng 484826
Date: 9/9/22
Signature:
*registered as a structural engineer in **Australia**

*Certifying Engineers Certification
Name: Dr Valdis Svars
NT Registration Number: 47035ES
Date: 9/9/22
Signature:
*registered as a structural engineer in the **Northern Territory**

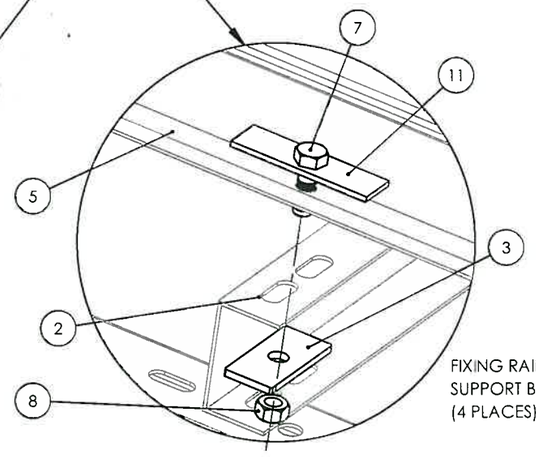
IN ACCORDANCE WITH NCC VOLUME 2 (SECTION P3.10.1), THIS PRODUCT SATISFIES PERFORMANCE REQUIREMENT P2.1.1 FOR CONSTRUCTION IN A HIGH WIND AREA.

FRAME COMPONENTS FOR TWO COLLECTORS

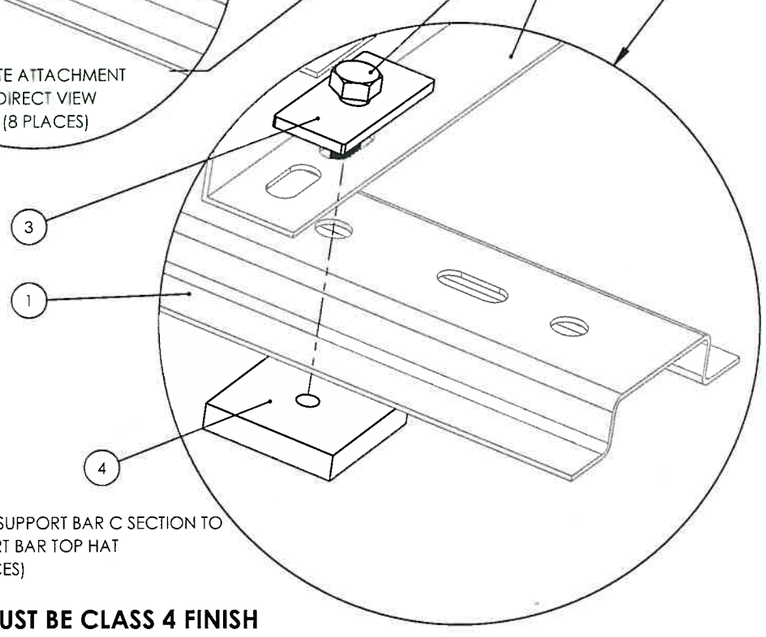




NOTE:
COLLECTOR(S) AND
TANK NOT SHOWN



FIXING RAIL MOUNTING TO
SUPPORT BAR C SECTION
(4 PLACES)



FIXING SUPPORT BAR C SECTION TO
SUPPORT BAR TOP HAT
(4 PLACES)

ALL FIXINGS MUST BE CLASS 4 FINISH

ITEM NO.	DESCRIPTION	QTY.
1	SUPPORT BAR TOP HAT x 1500 mm LONG	2
2	SUPPORT BAR C SECTION x 2500 mm LONG	2
3	PLATE WASHER 60X28X4 mm	8
4	PLATE WASHER TAPPED 3/8 BSW	4
5	RAIL MTG UCMF 2100 mm	2
6	CLAMP BRACKET 900 mm	4
7	BOLT 3/8 BSW X 25 ZP HEX	8
8	NUT LOCK 3/8 BSW ZP HEX	4
9	BOLT M6 X 20 CUP HD ZN PL	8
10	NUT M6 HEX ZN PL	8
11	PLATE 80X23X3 mm ONE HOLE	4
12	PLATE 80X23X3 mm TWO HOLES	8
13	SELF TAPPING SCREW BOLT TYPE 17 HEX HEAD 25mm LONG	8

Notes covering basis of DTC (Relevant test reports etc)

Vipac Engineers & Scientists: Structural Test Report No: 30V-15-0264-TRP -398866-0. 24 June 2016.
Vistek computations: VST663A_a Rev 0 10-Aug-22

*Checking Engineers Certification

Name: Khim Lim
Registration Number: CPEng 484826
Date: 9/9/22
Signature:

*registered as a structural engineer in **Australia**

*Certifying Engineers Certification

Name: Dr Valdis Svars
NT Registration Number: 47035ES
Date: 9/9/22
Signature:

*registered as a structural engineer in the **Northern Territory**

Product Name
Rinnai Solar Water Heaters

Product Description
Cyclone Region Roof Mounting Frame

Manufacturer's Name
Rinnai Australia

Design Criteria

-Class of Building: Class 1 and 10
-Wind Region: Up to and including D
-Terrain Category: 2
-Average Recurrence Interval: 1:500
-Installation Height: Up to and including 10m
-Design Wind Pressures:
Negative pressure: -7.9kPa
Positive pressure: 3.72kPa
-Building importance level up to and including 2

Limitations
- Roof construction must be capable of supporting the additional dead and live loads imposed by the installation of the system.
- Roof pitch: 10° - 30° (Min. 15° for tile roof).
- Not to be installed in exclusion zones (Refer to Sheet 6).
- The proposed 40x40x3.0 (G350) steel batten members to be confirmed by design engineer. Refer to sheet 6 for SHS fixing detail.
- The roof structural elements shown in the fixing details are indicative only as it is based on standard detail for steel and tiled roof system in Australia. All existing roof structural elements must be confirmed by design engineer.
- Frame structure must be installed strictly in accordance with the manufacturer's specification.

Exclusions
The following items are excluded and shall be certified separately:
- Existing roof structure including roof sheeting
- Tiles and cladding as well as battens and rafters
- HWS panel
- Tanks
- Fixing detail of existing batten to existing roof truss.
- Existing battens and rafters supporting the roof sheeting are not part of the solar panel roof mounting system design thus excluded. It is the responsibility of the design engineer that all existing roof structural elements are structurally adequate.

Accepted for Inclusion

DTCM ref: M/327/03

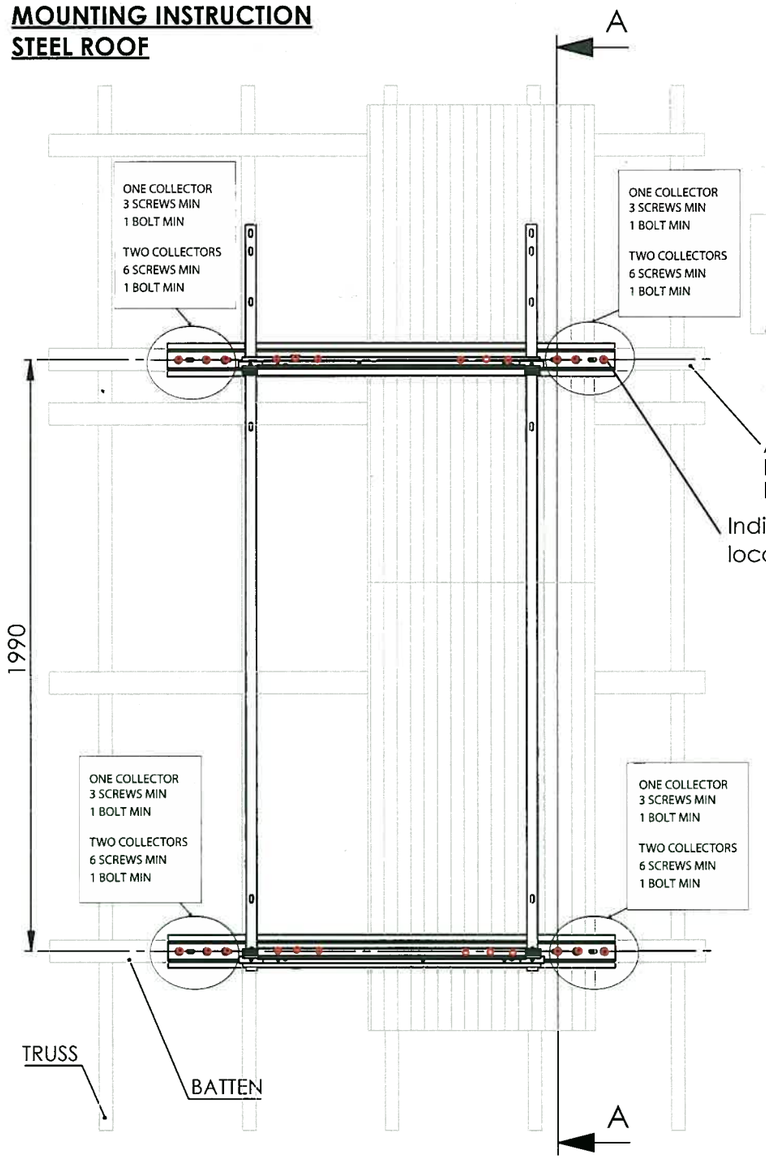
Chairman's Signature:

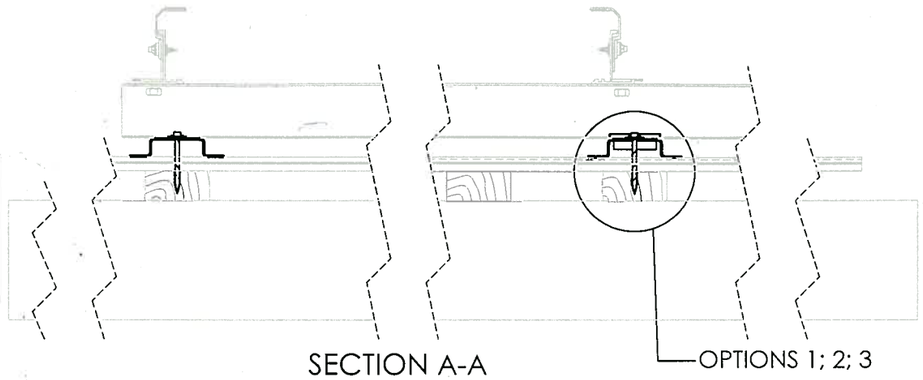
Chairman's Name: Paul Nowland

Date of Approval: 2/11/2022 Expiry Date: 2/11/2027

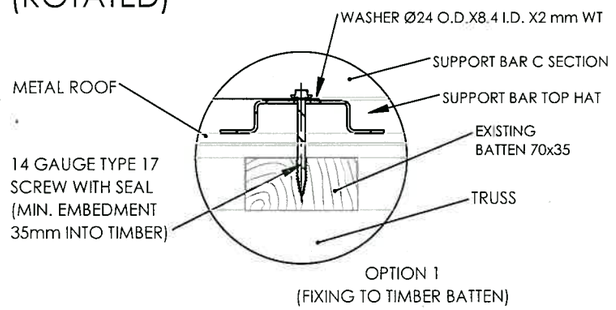
IN ACCORDANCE WITH NCC VOLUME 2 (SECTION P3.10.1), THIS PRODUCT SATISFIES PERFORMANCE REQUIREMENT P2.1.1 FOR CONSTRUCTION IN A HIGH WIND AREA.

MOUNTING INSTRUCTION
STEEL ROOF

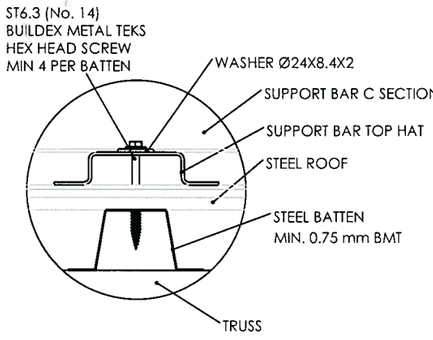




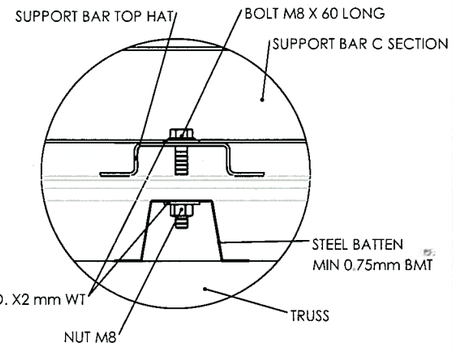
SECTION A-A
(ROTATED)



OPTION 1
(FIXING TO TIMBER BATTEN)



OPTION2
(FIXING TO STEEL
BATTEN WITH SCREW)



OPTION3
(FIXING TO STEEL
BATTEN WITH BOLT)

SYSTEM LAYOUT:

1. ALL FIXINGS MUST BE CLASS 4 FINISH.
2. TRUSS TOP CHORDS OR RAFTERS TO BE 1200 mm MAX CENTRES.
3. ADDITIONAL BATTEN MUST BE PROVIDED WHERE EXISTING BATTEN SPACING DO NOT ALIGN WITH ABOVE DETAIL.
4. REFER TO SHEET 6 FOR ADDITIONAL SHS BATTTEN DETAIL
5. **ALL ROOF PENETRATIONS MUST BE THROUGH CREST, NOT VALLEY AND MUST BE SEALED AND WATER TIGHT.**

Product Name
Rinnai Solar Water Heaters

Product Description
Cyclone Region Roof Mounting Frame

Manufacturer's Name
Rinnai Australia

Design Criteria

-Class of Building: Class 1 and 10
-Wind Region: Up to and including D
-Terrain Category: 2
-Average Recurrence Interval: 1:500
-Installation Height: Up to and including 10m
-Design Wind Pressures:
Negative pressure: -7.9kPa
Positive pressure: 3.72kPa
-Building importance level up to and including 2

Limitations
- Roof construction must be capable of supporting the additional dead and live loads imposed by the installation of the system.
- Roof pitch: 10° - 30° (Min. 15° for tile roof).
- Not to be installed in exclusion zones (Refer to Sheet 6).
- The proposed 40x40x3.0 (G350) steel batten members to be confirmed by design engineer. Refer to sheet 6 for SHS fixing detail.
- The roof structural elements shown in the fixing details are indicative only as it is based on standard detail for steel and tiled roof system in Australia. All existing roof structural elements must be confirmed by design engineer.
- Frame structure must be installed strictly in accordance with the manufacturer's specification.

Exclusions
The following items are excluded and shall be certified separately:
- Existing roof structure including roof sheeting
- Tiles and cladding as well as battens and rafters
- HWS panel
- Tanks
- Fixing detail of existing batten to existing roof truss.
- Existing battens and rafters supporting the roof sheeting are not part of the solar panel roof mounting system design thus excluded. It is the responsibility of the design engineer that all existing roof structural elements are structurally adequate.

Accepted for Inclusion

DTCM ref: M/327/04

Chairman's Signature:

Chairman's Name: Paul Nowland

Date of Approval: 2/11/2022 Expiry Date: 2/11/2027

Notes covering basis of DTC (Relevant test reports etc)

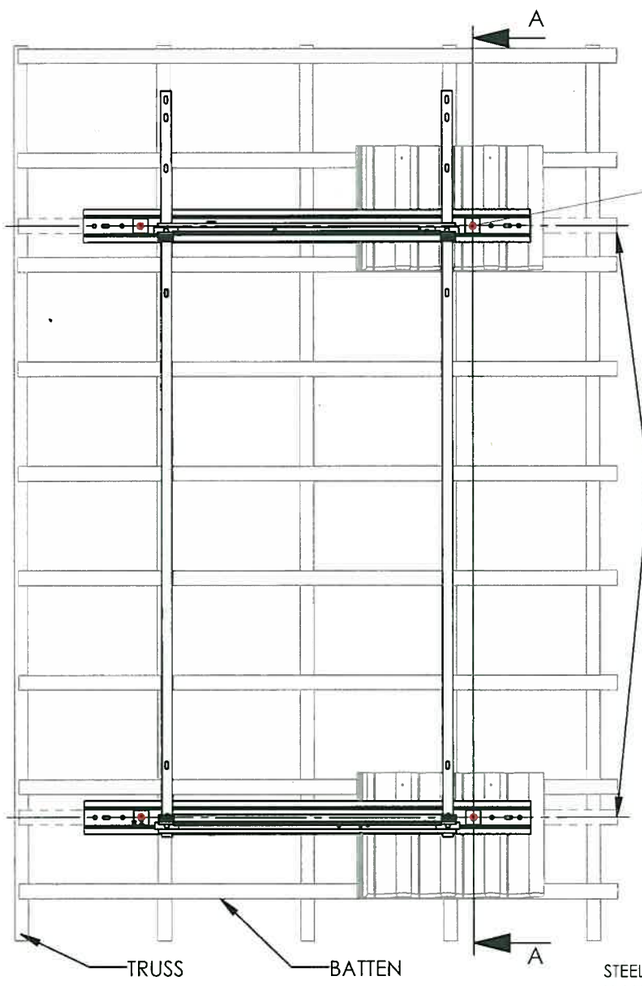
Vipac Engineers & Scientists: Structural Test Report No: 30V-15-0264-TRP -398866-0. 24 June 2016.
Vistek computations: VST663A_a Rev 0 10-Aug-22

*Checking Engineers Certification
Name: Khim Lim
Registration Number: CPEng 484826
Date: 9/9/22
Signature:
*registered as a structural engineer in **Australia**

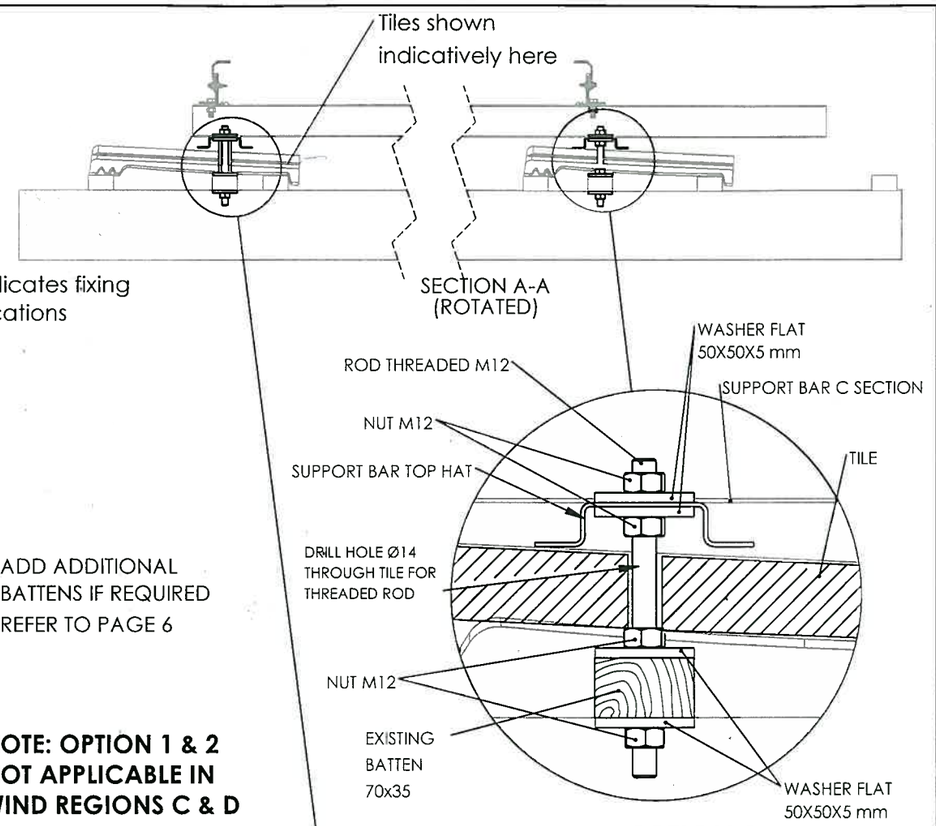
*Certifying Engineers Certification
Name: Dr Valdis Svars
NT Registration Number: 47035ES
Date: 9/9/22
Signature:
*registered as a structural engineer in the **Northern Territory**

IN ACCORDANCE WITH NCC VOLUME 2 (SECTION P3.10.1), THIS PRODUCT SATISFIES PERFORMANCE REQUIREMENT P2.1.1 FOR CONSTRUCTION IN A HIGH WIND AREA.

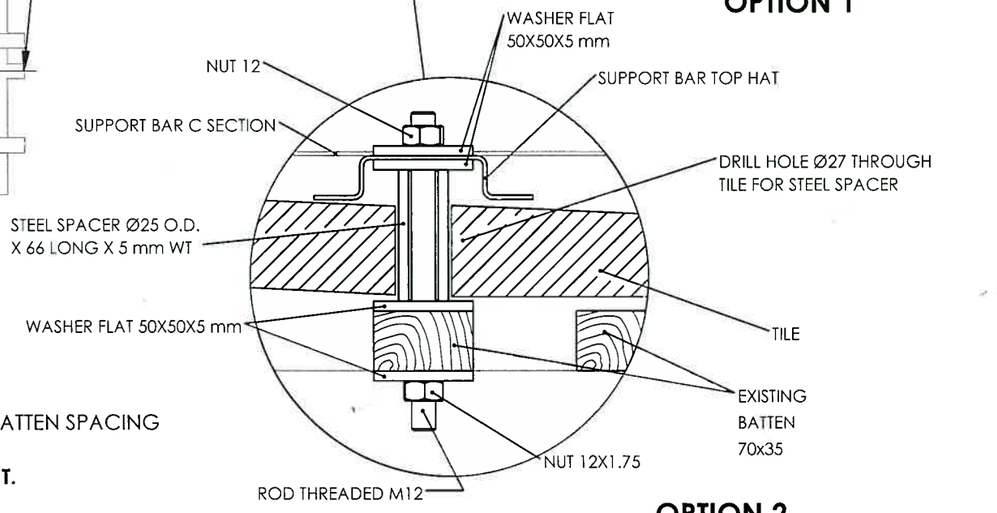
MOUNTING INSTRUCTIONS
TILED ROOF



NOTE: OPTION 1 & 2 NOT APPLICABLE IN WIND REGIONS C & D



OPTION 1



OPTION 2

SYSTEM LAYOUT:

1. ALL FIXINGS MUST BE CLASS 4 FINISH.
2. TRUSS TOP CHORDS OR RAFTERS TO BE 1200MAX CENTRES.
3. ADDITIONAL BATTEN MUST BE PROVIDED WHERE EXISTING BATTEN SPACING DO NOT ALIGN WITH ABOVE DETAIL.
4. **ALL ROOF PENETRATIONS MUST BE SEALED AND WATER TIGHT.**

Product Name
Rinnai Solar Water Heaters

Product Description
Cyclone Region Roof Mounting Frame

Manufacturer's Name
Rinnai Australia

Design Criteria

-Class of Building: Class 1 and 10
-Wind Region: Up to and including D
-Terrain Category: 2
-Average Recurrence Interval: 1:500
-Installation Height: Up to and including 10m
-Design Wind Pressures:
Negative pressure: -7.9kPa
Positive pressure: 3.72kPa
-Building importance level up to and including 2

Limitations
- Roof construction must be capable of supporting the additional dead and live loads imposed by the installation of the system.
- Roof pitch: 10° - 30° (Min. 15° for tile roof).
- Not to be installed in exclusion zones (Refer to Sheet 6).
- The proposed 40x40x3.0 (G350) steel batten members to be confirmed by design engineer. Refer to sheet 6 for SHS fixing detail.
- The roof structural elements shown in the fixing details are indicative only as it is based on standard detail for steel and tiled roof system in Australia. All existing roof structural elements must be confirmed by design engineer.
- Frame structure must be installed strictly in accordance with the manufacturer's specification.

Exclusions
The following items are excluded and shall be certified separately:
- Existing roof structure including roof sheeting
- Tiles and cladding as well as battens and rafters
- HWS panel
- Tanks
- Fixing detail of existing batten to existing roof truss.
- Existing battens and rafters supporting the roof sheeting are not part of the solar panel roof mounting system design thus excluded. It is the responsibility of the design engineer that all existing roof structural elements are structurally adequate.

Accepted for Inclusion

DTCM ref: M/327/05

Chairman's Signature:

Chairman's Name: Paul Nowland

Date of Approval: 2/11/2022 Expiry Date: 2/11/2027

Notes covering basis of DTC (Relevant test reports etc)

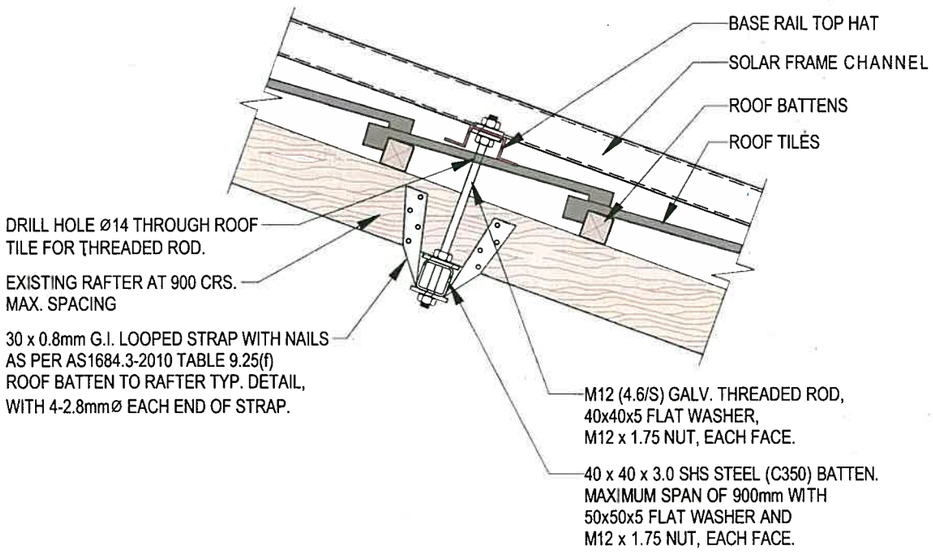
Vipac Engineers & Scientists: Structural Test Report No: 30V-15-0264-TRP -398866-0. 24 June 2016.
Vistek computations: VST663A_a Rev 0 10-Aug-22

*Checking Engineers Certification
Name: Khim Lim
Registration Number: CPEng 484826
Date: 9/9/22
Signature:
*registered as a structural engineer in **Australia**

*Certifying Engineers Certification
Name: Dr Valdis Svars
NT Registration Numt 47035ES
Date:9/9/22
Signature:
*registered as a structural engineer in the **Northern Territory**

IN ACCORDANCE WITH NCC VOLUME 2 (SECTION P3.10.1), THIS PRODUCT SATISFIES PERFORMANCE REQUIREMENT P2.1.1 FOR CONSTRUCTION IN A HIGH WIND AREA

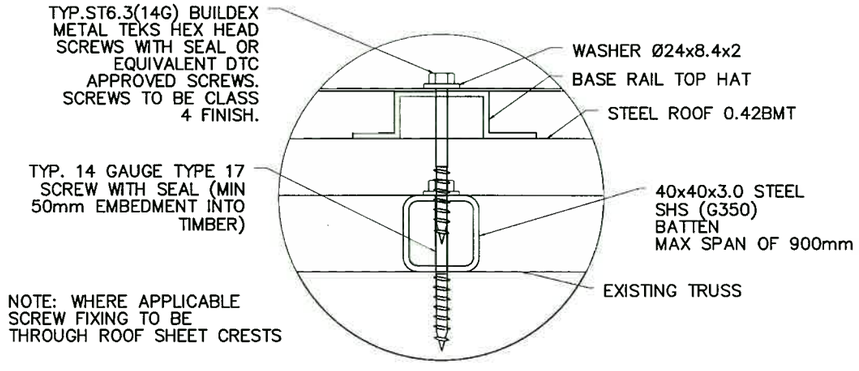
OPTIONAL DETAIL FOR REPLACING EXISTING BATTEN TO 40x40x3.0 STEEL SHS (G350) (IF EXISTING BATTEN IS DEEMED INADEQUATE)



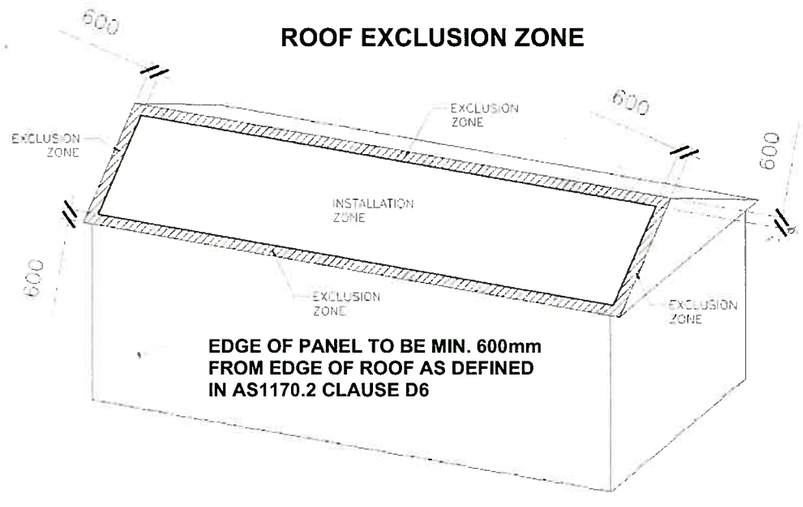
NOTE:

- THE NEW 40x40x3.0 (G350) STEEL BATTEN MEMBERS TO BE CONFIRMED BY BUILDING DESIGNER.
- THE FIXINGS OF NEW 40x40x3.0 (G350) STEEL BATTEN MEMBERS TO EXISTING TRUSS MEMBERS AND THE EXISTING TRUSS THEMSELVES TO BE CONFIRMED BY BUILDING DESIGNER.
- THE PROPOSED NEW 40x40x3.0 (G350) STEEL BATTEN MEMBERS ARE REQUIRED ONLY WHEN EXISTING BATTEN IS DEEMED INADEQUATE.
- THE REMOVAL OF TILES FOR ACCESS TO COMPLETE THE REQUIRED WORK MUST BE UNDERTAKEN BY A SUITABLY QUALIFIED PERSON. ALL TILES MUST BE REINSTALLED AND MADE GOOD.

OPTIONAL DETAIL FOR REPLACING EXISTING BATTEN TO 40x40x3.0 STEEL SHS (G350) (IF EXISTING BATTEN IS DEEMED INADEQUATE)



ROOF EXCLUSION ZONE



EDGE OF PANEL TO BE MIN. 600mm FROM EDGE OF ROOF AS DEFINED IN AS1170.2 CLAUSE D6

Product Name
Rinnai Solar Water Heaters

Product Description
Cyclone Region Roof Mounting Frame

Manufacturer's Name
Rinnai Australia

Design Criteria

-Class of Building: Class 1 and 10
-Wind Region: Up to and including D
-Terrain Category: 2
-Average Recurrence Interval: 1:500
-Installation Height: Up to and including 10m
-Design Wind Pressures:
Negative pressure: -7.9kPa
Positive pressure: 3.72kPa
-Building importance level up to and including 2

Limitations
- Roof construction must be capable of supporting the additional dead and live loads imposed by the installation of the system.
- Roof pitch: 10° - 30° (Min. 15° for tile roof).
- Not to be installed in exclusion zones (Refer to Sheet 6).
- The proposed 40x40x3.0 (G350) steel batten members to be confirmed by design engineer. Refer to sheet 6 for SHS fixing detail.
- The roof structural elements shown in the fixing details are indicative only as it is based on standard detail for steel and tiled roof system in Australia. All existing roof structural elements must be confirmed by design engineer.
- Frame structure must be installed strictly in accordance with the manufacturer's specification.

Exclusions
The following items are excluded and shall be certified separately:
- Existing roof structure including roof sheeting
- Tiles and cladding as well as battens and rafters
- HWS panel
- Tanks
- Fixing detail of existing batten to existing roof truss.
- Existing battens and rafters supporting the roof sheeting are not part of the solar panel roof mounting system design thus excluded. It is the responsibility of the design engineer that all existing roof structural elements are structurally adequate.

Accepted for Inclusion

DTCM ref: m/327/06

Chairman's Signature:

Chairman's Name: Paul Nowland

Date of Approval: 2/11/2022 Expiry Date: 2/11/2027

Notes covering basis of DTC (Relevant test reports etc)

Vipac Engineers & Scientists: Structural Test Report No: 30V-15-0264-TRP -398866-0. 24 June 2016.
Vistek computations: VST663A_a Rev 0 10-Aug-22

*Checking Engineers Certification
Name: Khim Lim
Registration Number: CPEng 484826
Date: 9/9/22
Signature:
*registered as a structural engineer in **Australia**

*Certifying Engineers Certification
Name: Dr Valdis Svars
NT Registration Number: 47035ES
Date: 9/9/22
Signature: Valdis Svars
*registered as a structural engineer in the **Northern Territory**