NORTHERN TERRITORY DEEMED TO COMPLY MANUAL – National Construction Code (NCC) Volume 2

This product has been determined to satisfy NCC Performance Requirement H1P1 for structural resistance of materials and forms of construction in high wind areas

Table of Content

Product Name

ANTAI PITCHED ROOF FLUSH MOUNTING SYSTEM

Product Description

SOLAR MOUNTING SYSTEM ON TRAPEZOIDAL & CURRUGATED METAL DECK & Tile Roof

Manufacturer's Details

ANTAI

ANTAI SOLAR AUSTRALIA PTY LTD

Design Criteria

- IMPORTANCE LEVEL 2
- DESIGN LIFE 25 YEARS
- ULTIMATE WIND RECURRENCE INTERVAL OF 500 YEARS
- WIND REGION A0, B2, C
- TERRAIN CATEGORY 2.0/2.5/3.0
- SHIELDING FACTOR MS=1.0
- TOPOGRAPHIC MULTIPLIER MT=1.0 (FLAT)
- THE SPACING TABLE VALUES GIVEN ARE BASED ON CORROSIVITY CATEGORY C3
- THE RACKING PARTS CAPACITY ARE TAKEN AS PER TEST REPORT NOMINATED IN THE CORRESPONDING GENERAL CERTIFICATE

Limitations

- MAXIMUM ROOF PITCH ANGLE OF 20 DEGREES
- MAXIMUM AVERAGE ROOF HEIGHT 20M
- SELF-WEIGHT OF SOLAR PANEL AND RACKING FRAME IS 0.15KPA TO 0.18KPA
- SOLAR PV PANELS ARE SUPPORTED BY MINIMUM 2 RAILS
- APPLICATION OF FIXING SPACING TABLE MUST FOLLOW THE GENERAL NOTES IN THE FOLLOWING PAGES
- INSTALLATION TO BE CARRIED OUT STRICTLY IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION GUIDELINES (https://www.antaisolar.com.au/roof)
- ROOF STRUCTURE TO BE CHECKED AND CERTIFIED BY A NORTHERN TERRITORY REGISTERED STRUCTURAL ENGINEER AS SUITABLE FOR APPLIED BRACKET UPLIFT LOADS.
- SOLAR PANELS TO BE STRUCTURALLY CERTIFIED AS ABLE TO RESIST WIND LOADS IN ACCORDANCE WITH AS/NZS. 1170.2 - 2021.

Accepted for inclusion in Deemed to Comply Manual

DTCM drawing number: M/475/01-19

Notes covering basis of DTC (Relevant test reports etc)

L Foot FWNY 05 with Rail TYN499 Spacing 1.5m TEST REPORT NO. XMML23090468_EN, by BM Shenghe Testing Technology (Xiamen) Co., Ltd (ISO/IEC 17025:2017 & CNAS-CL01),DATED 19/09/2023

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Tile Hook Load Testing Test Report No. MT-14/473,by Melbourne Testing Services Pty. Ltd (NATA), DATED 14/07/2014

Checking Engineer

Name: Zhichao Zhang

Registration Number: 4430964

Date: 18/07/2025

Signature:

Must be an Australian registered structural engineer

Certifying Engineer

Name: O. van Spaandonk-Hryshko

NT Registration Number: 244137ES

Date: 1/8/2025

Signature:

Must be a registered structural engineer in the Northern Territory

Chairperson Signature:

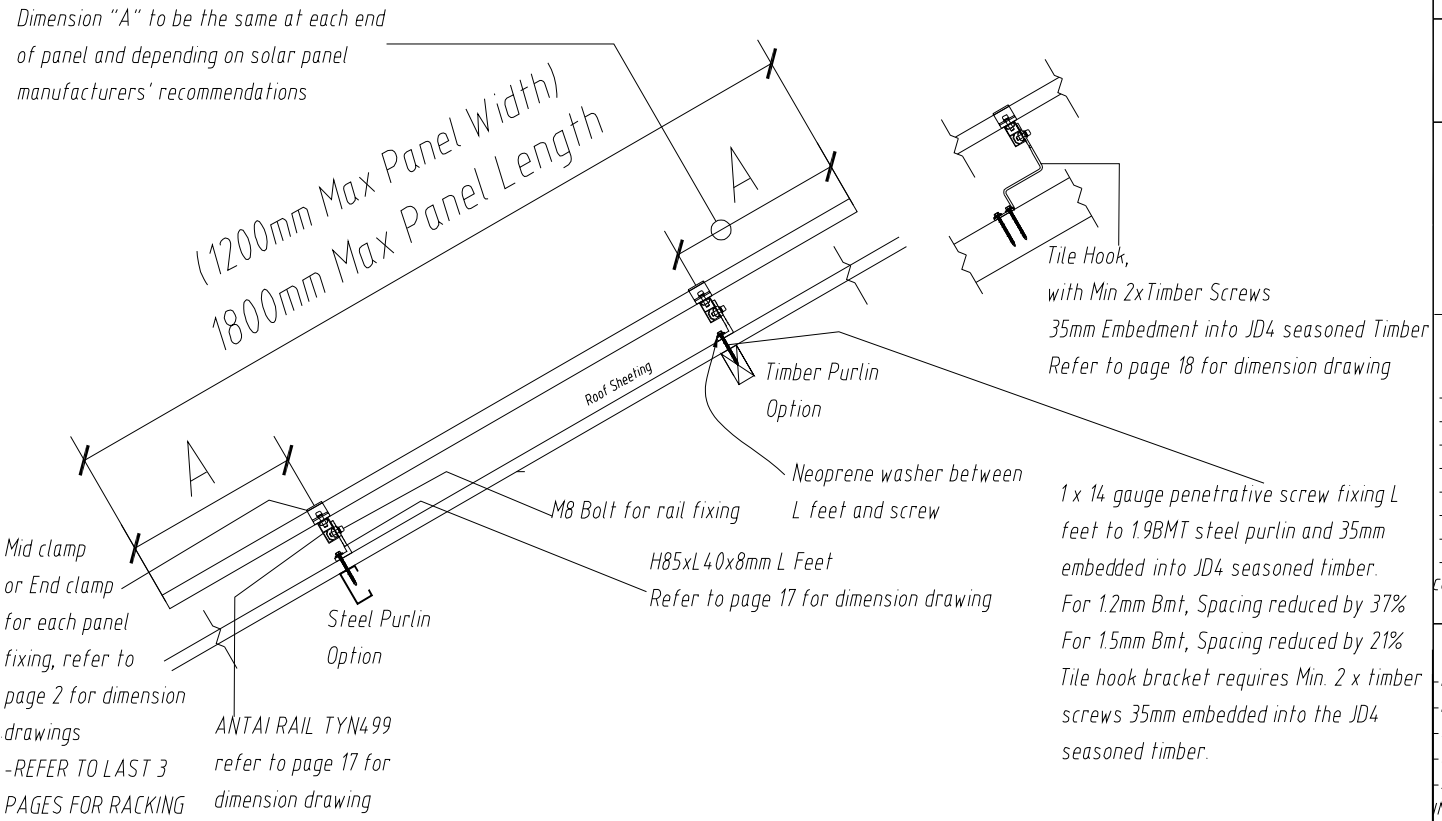
Chairperson Name: Elisha Harris

Date of Approval: 26/03/2026 **Expiry Date:** 26/03/2031

NORTHERN TERRITORY DEEMED TO COMPLY MANUAL – National Construction Code (NCC) Volume 2

This product has been determined to satisfy NCC Performance Requirement H1P1 for structural resistance of materials and forms of construction in high wind areas

C STEEL OR TIMBER PURLIN FIXING METHOD



Corrugated or trapezoidal metal deck installation with ANTI Tin Roof Mounting Kits, Comply with AS/NZS 1170.2: 2021

Note 5 Linear interpolation can be used for determining the spacing values between h/d = 0.5 and h/d = 1.
Example for h/d=0.75
1.Find fixing spacing S1 from "h/d=1" table
2.Find fixing spacing S2 from "h/d=0.5" table
3.Final Fixing Spacing for h/d=0.75
$= S1 + \frac{0.75}{0.5} \times (S2 - S1)$
Note: Linear interpolation can only be used between tables with the same Terrain Category and Roof Zone.

Please refer to the following pages for the spacing tables

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Chairperson Signature: E J Harris

Chairperson Name: Elisha Harris

Date of Approval: 26/03/2026 **Expiry Date:** 26/03/2031

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Name: Zhichao Zhang
Registration Number: 4430964
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Signature:
Must be an Australian registered structural engineer

Certifying Engineer

Name: O. van Spaandonk-Hryshko
NT Registration Number: 244137ES
Date: 1/8/2025
Signature:
Must be a registered structural engineer in the Northern Territory

FIXING SPACING FOR STEEL/TIMBER PURLINS, DEFAULT 1.9BMT OR MIN. 35MM EMBEDMENT INTO JD4 SEASONED TIMBER

Maximum Panel Size: 1800mm x 1200mm									
Fixing Spacing Table for Terrain Category 3, h/d <=0.5 (Unit: mm)									
WIND REGION	Height&Pitch / Roof Zones	H<=5m		5<H<=10m		10<H<=15m		15<H<=20m	
		Φ < 12.5°	12.5°≤ Φ ≤ 20°	Φ < 12.5°	12.5°≤ Φ ≤ 20°	Φ < 12.5°	12.5°≤ Φ ≤ 20°	Φ < 12.5°	12.5°≤ Φ ≤ 20°
B2	Internal Zone	1187	1230	1187	1230	1126	1166	1079	1199
	Intermediate Zone	1014	1052	1014	1052	958	995	915	951
	Edge Zone	901	936	901	936	804	883	721	791
	Corner Zone	617	677	617	677	536	588	-	527
C	Internal Zone	1084	1126	1084	1126	960	1054	861	945
	Intermediate Zone	736	808	736	808	640	702	574	630
	Edge Zone	552	606	552	606	480	527	430	472
	Corner Zone	-	404	-	404	-	-	-	-

Maximum Panel Size: 1800mm x 1200mm									
Fixing Spacing Table for Terrain Category 3, h/d >1 (Unit: mm)									
WIND REGION	Height&Pitch / Roof Zones	H<=5m		5<H<=10m		10<H<=15m		15<H<=20m	
		Φ < 12.5°	12.5°≤ Φ ≤ 20°	Φ < 12.5°	12.5°≤ Φ ≤ 20°	Φ < 12.5°	12.5°≤ Φ ≤ 20°	Φ < 12.5°	12.5°≤ Φ ≤ 20°
B2	Internal Zone	1029	1070	1029	1070	973	1012	930	968
	Intermediate Zone	854	907	854	907	743	818	666	733
	Edge Zone	640	705	640	705	557	613	499	550
	Corner Zone	-	-	-	-	-	-	-	-
C	Internal Zone	764	842	764	842	706	732	596	656
	Intermediate Zone	509	561	509	561	470	488	397	437
	Edge Zone	-	421	-	421	-	-	-	-
	Corner Zone	-	-	-	-	-	-	-	-

NOTES:

– "-" *indicates that the wind load has exceeded 5 kPa; therefore, a site-specific assessment is recommended before installation.*

- Linear interpolation can be used for determining the spacing values between h/d>0.5 and h/d<1

Note 5 Linear interpolation can be used for determining the spacing values between h/d > 0.5 and h/d < 1.
Example for h/d=0.75:
1.Find fixing spacing S1 from "h/d=1" table
2.Find fixing spacing S2 from "h/d=0.5" table
3.Final Fixing Spacing for h/d=0.75:

$$= S1 + \frac{0.25}{0.5} X (S2 - S1)$$

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Notes covering basis of DTC (Relevant test reports etc)

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ANTAI PITCHED ROOF FLUSH MOUNTING SYSTEM

Product Description

SOLAR MOUNTING SYSTEM ON TRAPEZOIDAL & CURRUGATED METAL DECK

Manufacturer's Details

ANTAI SOLAR AUSTRALIA PTY LTD

Design Criteria

- IMPORTANCE LEVEL 2
- DESIGN LIFE 25 YEARS
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Limitations

- MAXIMUM ROOF PITCH ANGLE OF 20 DEGREES
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DTCM drawing number: M/475/01-19

Chairperson Signature:

Chairperson Name: Elisha Harris

Date of Approval: 26/03/2026 **Expiry Date:** 26/03/2031

FIXING SPACING FOR STEEL/TIMBER PURLINS, DEFAULT 1.9BMT OR MIN. 35MM EMBEDMENT INTO JD4 SEASONED TIMBER

Maximum Panel Size: 1800mm x 1200mm									
Fixing Spacing Table for Terrain Category 2.5, h/d <=0.5 (Unit: mm)									
WIND REGION	Height&Pitch / Roof Zones	H<=5m		5<H<=10m		10<H<=15m		15<H<=20m	
		Φ < 12.5°	12.5° ≤ Φ ≤ 20°	Φ < 12.5°	12.5° ≤ Φ ≤ 20°	Φ < 12.5°	12.5° ≤ Φ ≤ 20°	Φ < 12.5°	12.5° ≤ Φ ≤ 20°
B2	Internal Zone	1145	1186	1097	1137	1053	1092	1019	1058
	Intermediate Zone	976	1014	932	968	891	927	833	896
	Edge Zone	842	900	753	826	677	743	625	685
	Corner Zone	561	616	502	551	-	495	-	-
C	Internal Zone	1005	1083	898	986	808	887	745	818
	Intermediate Zone	670	735	599	657	539	591	497	545
	Edge Zone	502	551	449	493	404	443	-	409
	Corner Zone	-	-	-	-	-	-	-	-

Maximum Panel Size: 1800mm x 1200mm									
Fixing Spacing Table for Terrain Category 2.5, h/d >1 (Unit: mm)									
WIND REGION	Height&Pitch / Roof Zones	H<=5m		5<H<=10m		10<H<=15m		15<H<=20m	
		Φ < 12.5°	12.5° ≤ Φ ≤ 20°	Φ < 12.5°	12.5° ≤ Φ ≤ 20°	Φ < 12.5°	12.5° ≤ Φ ≤ 20°	Φ < 12.5°	12.5° ≤ Φ ≤ 20°
B2	Internal Zone	991	1031	947	985	906	943	865	912
	Intermediate Zone	777	856	695	766	625	689	576	635
	Edge Zone	583	642	521	574	-	516	-	-
	Corner Zone	-	-	-	-	-	-	-	-
C	Internal Zone	695	766	622	685	559	616	516	568
	Intermediate Zone	463	511	414	457	-	411	-	-
	Edge Zone	-	-	-	-	-	-	-	-
	Corner Zone	-	-	-	-	-	-	-	-

NOTES:

- "-" indicates that the wind load has exceeded 5 kPa; therefore, a site-specific assessment is recommended before installation.

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- IMPORTANCE LEVEL 2
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Maximum Panel Size: 1800mm x 1200mm									
Fixing Spacing Table for Terrain Category 2, h/d <=0.5 (Unit: mm)									
WIND REGION	Height&Pitch / Roof Zones	H<=5m		5<H<=10m		10<H<=15m		15<H<=20m	
		Φ < 12.5°	12.5° ≤ Φ ≤ 20°	Φ < 12.5°	12.5° ≤ Φ ≤ 20°	Φ < 12.5°	12.5° ≤ Φ ≤ 20°	Φ < 12.5°	12.5° ≤ Φ ≤ 20°
A0	Internal Zone	1425	1493	1296	1358	1235	1293	1206	1258
	Intermediate Zone	1178	1219	1097	1137	1055	1095	1032	1071
	Edge Zone	1055	1094	978	1015	936	976	917	953
	Corner Zone	893	929	751	825	681	748	644	707
B2	Internal Zone	1107	1147	1027	1066	988	1026	965	1003
	Intermediate Zone	940	977	850	904	771	846	728	915
	Edge Zone	769	845	637	699	578	634	546	599
	Corner Zone	513	563	-	-	-	-	-	-
C	Internal Zone	918	1008	760	835	690	757	652	715
	Intermediate Zone	612	672	507	556	460	504	434	477
	Edge Zone	459	504	-	417	-	-	-	-
	Corner Zone	-	-	-	-	-	-	-	-

Maximum Panel Size: 1800mm x 1200mm									
Fixing Spacing Table for Terrain Category 2, h/d >=1 (Unit: mm)									
WIND REGION	Height&Pitch / Roof Zones	H<=5m		5<H<=10m		10<H<=15m		15<H<=20m	
		Φ < 12.5°	12.5° ≤ Φ ≤ 15°	Φ < 12.5°	12.5° ≤ Φ ≤ 15°	Φ < 12.5°	12.5° ≤ Φ ≤ 15°	Φ < 12.5°	12.5° ≤ Φ ≤ 15°
A0	Internal Zone	1195	1244	1113	1155	1071	1112	1048	1088
	Intermediate Zone	1022	1062	946	984	908	946	887	924
	Edge Zone	908	945	780	860	708	780	669	737
	Corner Zone	628	692	520	573	-	520	-	-
B2	Internal Zone	955	994	882	919	800	882	756	833
	Intermediate Zone	710	782	588	648	533	588	504	555
	Edge Zone	533	587	-	-	-	-	-	-
	Corner Zone	-	-	-	-	-	-	-	-
C	Internal Zone	636	700	526	580	477	526	451	497
	Intermediate Zone	424	467	-	-	-	-	-	-
	Edge Zone	-	-	-	-	-	-	-	-
	Corner Zone	-	-	-	-	-	-	-	-

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Date: 18/07/2025	**Date:** 1/8/2025
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Chairperson Signature:

Chairperson Name: Elisha Harris

Date of Approval: 26/03/2026 **Expiry Date:** 26/03/2031

FIXING SPACING FOR TILE HOOK, MIN 2 TIMBER SCREWS 35MM EMBEDMENT INTO JD4 SEASONED TIMBER

Maximum Panel Size: 1800mm x 1200mm									
Fixing Spacing Table for Terrain Category 3, h/d <=0.5 (Unit: mm)									
WIND REGION	Height&Pitch / Roof Zones	H<=5m		5<H<=10m		10<H<=15m		15<H<=20m	
		Φ < 12.5°	12.5° ⩽ Φ ⩽ 20°	Φ < 12.5°	12.5° ⩽ Φ ⩽ 20°	Φ < 12.5°	12.5° ⩽ Φ ⩽ 20°	Φ < 12.5°	12.5° ⩽ Φ ⩽ 20°
B2	Internal Zone	1150	1191	1150	1191	1090	1130	1044	1083
	Intermediate Zone	980	1018	980	1018	925	961	871	919
	Edge Zone	838	904	838	904	729	800	653	717
	Corner Zone	559	613	559	613	486	533	435	478
C	Internal Zone	1033	1073	1033	1073	976	1014	900	969
	Intermediate Zone	769	845	769	845	669	734	600	658
	Edge Zone	577	633	577	633	502	551	450	494
	Corner Zone	-	422	-	422	-	-	-	-

Maximum Panel Size: 1800mm x 1200mm									
Fixing Spacing Table for Terrain Category 3, h/d >1 (Unit: mm)									
WIND REGION	Height&Pitch / Roof Zones	H<=5m		5<H<=10m		10<H<=15m		15<H<=20m	
		Φ < 12.5°	12.5° ⩽ Φ ⩽ 20°	Φ < 12.5°	12.5° ⩽ Φ ⩽ 20°	Φ < 12.5°	12.5° ⩽ Φ ⩽ 20°	Φ < 12.5°	12.5° ⩽ Φ ⩽ 20°
B2	Internal Zone	995	1035	995	1035	939	978	897	935
	Intermediate Zone	774	852	774	852	673	741	603	664
	Edge Zone	580	639	580	639	504	556	452	498
	Corner Zone	-	-	-	-	-	-	-	-
C	Internal Zone	799	880	799	880	695	766	623	686
	Intermediate Zone	533	587	533	587	463	510	415	457
	Edge Zone	-	440	-	440	-	-	-	-
	Corner Zone	-	-	-	-	-	-	-	-

NOTES:

– "-" indicates that the wind load has exceeded 5 kPa; therefore, a site-specific assessment is recommended before installation.

- Linear interpolation can be used for determining the spacing values between h/d>0.5 and h/d<1

Note 5 Linear interpolation can be used for determining the spacing values between h/d > 0.5 and h/d < 1

Example for h/d=0.75:

1.Find fixing spacing S1 from "h/d=1" table

2.Find fixing spacing S2 from "h/d=0.5" table

3.Final Fixing Spacing for h/d=0.75:

$$=S1+\frac{1.0-0.75}{1.0-0.5}\times(S2-S1)$$

Note: Linear interpolation can only be used between tables with the same Terrain Category and Roof Zone.

Notes covering basis of DTC (Relevant test reports etc)

L Foot FWNY 05 with Rail TYN499 Spacing 1.5m TEST REPORT NO. XMML23090468_EN, by BM Shenghe Testing Technology (Xiamen) Co., Ltd (ISO/IEC 17025:2017 & CNAS-CL01),DATED 19/09/2023

L Foot FWNY 05 with Rail TYN499 Spacing 1.2m TEST REPORT NO. XMML23090455_EN, by BM Shenghe Testing Technology (Xiamen) Co., Ltd (ISO/IEC 17025:2017 & CNAS-CL01),DATED 05/09/2023

Tile Hook Load Testing Test Report No. MT-14/473,by Melbourne Testing Services Pty. Ltd (NATA), DATED 14/07/2014

Checking Engineer

Name: Zhichao Zhang

Registration Number: 4430964

Date: 18/07/2025

Signature:

Must be an Australian registered structural engineer

Certifying Engineer

Name: O. van Spaandonk-Hryshko

NT Registration Number: 244137ES

Date: 1/8/2025

Signature:

Must be a registered structural engineer in the Northern Territory

Product Name

ANTAI PITCHED ROOF FLUSH MOUNTING SYSTEM

Product Description

SOLAR MOUNTING SYSTEM ON Tile Roof

Manufacturer's Details

ANTAI SOLAR AUSTRALIA PTY LTD

Design Criteria

- IMPORTANCE LEVEL 2
- DESIGN LIFE 25 YEARS
- ULTIMATE WIND RECURRENCE INTERVAL OF 500 YEARS
- WIND REGION A0, B2, C
- TERRAIN CATEGORY 2.0/2.5/3.0
- SHIELDING FACTOR MS=1.0
- TOPOGRAPHIC MULTIPLIER MT=1.0 (FLAT)
- THE SPACING TABLE VALUES GIVEN ARE BASED ON CORROSIVITY CATEGORY C3
- THE RACKING PARTS CAPACITY ARE TAKEN AS PER TEST REPORT NOMINATED IN THE CORRESPONDING GENERAL CERTIFICATE

Limitations

- MAXIMUM ROOF PITCH ANGLE OF 20 DEGREES
- MAXIMUM AVERAGE ROOF HEIGHT 20M
- SELF-WEIGHT OF SOLAR PANEL AND RACKING FRAME IS 0.15KPA TO 0.18KPA
- SOLAR PV PANELS ARE SUPPORTED BY MINIMUM 2 RAILS
- APPLICATION OF FIXING SPACING TABLE MUST FOLLOW THE GENERAL NOTES IN THE FOLLOWING PAGES
- INSTALLATION TO BE CARRIED OUT STRICTLY IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION GUIDELINES (https://www.antaisolar.com.au/roof)
- ROOF STRUCTURE TO BE CHECKED AND CERTIFIED BY A NORTHERN TERRITORY REGISTERED STRUCTURAL ENGINEER AS SUITABLE FOR APPLIED BRACKET UPLIFT LOADS.
- SOLAR PANELS TO BE STRUCTURALLY CERTIFIED AS ABLE TO RESIST WIND LOADS IN ACCORDANCE WITH AS/NZS. 1170.2 - 2021.

Accepted for inclusion in Deemed to Comply Manual

DTCM drawing number: M/475/01-19

Chairperson Signature:

Chairperson Name: Elisha Harris

Date of Approval: 26/03/2026 **Expiry Date:** 26/03/2031

FIXING SPACING FOR TILE HOOK, MIN 2 TIMBER SCREWS 35MM EMBEDMENT INTO JD4 SEASONED TIMBER

Maximum Panel Size: 1800mm x 1200mm									
Fixing Spacing Table for Terrain Category 2.5, h/d <=0.5 (Unit: mm)									
WIND REGION	Height&Pitch / Roof Zones	H<=5m		5<H<=10m		10<H<=15m		15<H<=20m	
		Φ < 12.5°	12.5° ⩽ Φ ⩽ 20°	Φ < 12.5°	12.5° ⩽ Φ ⩽ 20°	Φ < 12.5°	12.5° ⩽ Φ ⩽ 20°	Φ < 12.5°	12.5° ⩽ Φ ⩽ 20°
B2	Internal Zone	1109	1150	1062	1101	1018	1056	985	1023
	Intermediate Zone	942	979	899	935	818	895	755	828
	Edge Zone	763	837	682	749	614	673	566	621
	Corner Zone	508	558	455	499	409	449	-	414
C	Internal Zone	994	1033	939	986	845	928	779	855
	Intermediate Zone	700	769	626	687	563	618	519	570
	Edge Zone	525	576	469	515	422	464	-	427
	Corner Zone	-	-	-	-	-	-	-	-

Maximum Panel Size: 1800mm x 1200mm									
Fixing Spacing Table for Terrain Category 2.5, h/d >1 (Unit: mm)									
WIND REGION	Height&Pitch / Roof Zones	H<=5m		5<H<=10m		10<H<=15m		15<H<=20m	
		Φ < 12.5°	12.5° ⩽ Φ ⩽ 20°	Φ < 12.5°	12.5° ⩽ Φ ⩽ 20°	Φ < 12.5°	12.5° ⩽ Φ ⩽ 20°	Φ < 12.5°	12.5° ⩽ Φ ⩽ 20°
B2	Internal Zone	957	996	914	951	850	910	784	863
	Intermediate Zone	704	776	630	694	566	624	522	575
	Edge Zone	528	582	472	520	425	468	-	431
	Corner Zone	-	-	-	-	-	-	-	-
C	Internal Zone	727	801	650	716	585	644	539	594
	Intermediate Zone	485	534	433	477	-	429	-	-
	Edge Zone	-	400	-	-	-	-	-	-
	Corner Zone	-	-	-	238	-	-	-	-

NOTES:

– "-" indicates that the wind load has exceeded 5 kPa; therefore, a site-specific assessment is recommended before installation.

- Linear interpolation can be used for determining the spacing values between h/d>0.5 and h/d<1

Note 5 Linear interpolation can be used for determining the spacing values between h/d > 0.5 and h/d < 1.
Example for h/d=0.75:
1.Find fixing spacing S1 from "h/d>=1" table
2.Find fixing spacing S2 from "h/d<=0.5" table
3.Final Fixing Spacing for h/d=0.75:
$= S1 + \frac{1-0.75}{1-0.5} X (S2 - S1)$
Note: Linear interpolation can only be used between tables with the same Terrain Category and Roof Zone.

Product Name

ANTAI PITCHED ROOF FLUSH MOUNTING SYSTEM

Product Description

SOLAR MOUNTING SYSTEM ON Tile Roof

Manufacturer's Details

ANTAI SOLAR AUSTRALIA PTY LTD

Design Criteria

- IMPORTANCE LEVEL 2
- DESIGN LIFE 25 YEARS
- ULTIMATE WIND RECURRENCE INTERVAL OF 500 YEARS
- WIND REGION A0, B2, C
- TERRAIN CATEGORY 2.0/2.5/3.0
- SHIELDING FACTOR MS=1.0
- TOPOGRAPHIC MULTIPLIER MT=1.0 (FLAT)
- THE SPACING TABLE VALUES GIVEN ARE BASED ON CORROSIVITY CATEGORY C3
- THE RACKING PARTS CAPACITY ARE TAKEN AS PER TEST REPORT NOMINATED IN THE CORRESPONDING GENERAL CERTIFICATE

Limitations

- MAXIMUM ROOF PITCH ANGLE OF 20 DEGREES
- MAXIMUM AVERAGE ROOF HEIGHT 20M
- SELF-WEIGHT OF SOLAR PANEL AND RACKING FRAME IS 0.15KPA TO 0.18KPA
- SOLAR PV PANELS ARE SUPPORTED BY MINIMUM 2 RAILS
- APPLICATION OF FIXING SPACING TABLE MUST FOLLOW THE GENERAL NOTES IN THE FOLLOWING PAGES
- INSTALLATION TO BE CARRIED OUT STRICTLY IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION GUIDELINES (https://www.antaisolar.com.au/roof)
- ROOF STRUCTURE TO BE CHECKED AND CERTIFIED BY A NORTHERN TERRITORY REGISTERED STRUCTURAL ENGINEER AS SUITABLE FOR APPLIED BRACKET UPLIFT LOADS.
- SOLAR PANELS TO BE STRUCTURALLY CERTIFIED AS ABLE TO RESIST WIND LOADS IN ACCORDANCE WITH AS/NZS. 1170.2 - 2021.

Accepted for inclusion in Deemed to Comply Manual

DTCM drawing number: M/475/01-19

Chairperson Signature:

Chairperson Name: Elisha Harris

Date of Approval: 26/03/2026 **Expiry Date:** 26/03/2031

Notes covering basis of DTC (Relevant test reports etc)

L Foot FWNY 05 with Rail TYN499 Spacing 1.5m TEST REPORT NO. XMML23090468_EN, by BM Shenghe Testing Technology (Xiamen) Co., Ltd (ISO/IEC 17025:2017 & CNAS-CL01),DATED 19/09/2023
L Foot FWNY 05 with Rail TYN499 Spacing 1.2m TEST REPORT NO. XMML23090455_EN, by BM Shenghe Testing Technology (Xiamen) Co., Ltd (ISO/IEC 17025:2017 & CNAS-CL01),DATED 05/09/2023
Tile Hook Load Testing Test Report No. MT-14/473,by Melbourne Testing Services Pty. Ltd (NATA), DATED 14/07/2014

Checking Engineer

Name: Zhichao Zhang
Registration Number: 4430964
Date: 18/07/2025
Signature:
Must be an Australian registered structural engineer

Certifying Engineer

Name: O. van Spaandonk-Hryshko
NT Registration Number: 244137ES
Date: 1/8/2025
Signature:
Must be a registered structural engineer in the Northern Territory

FIXING SPACING FOR TILE HOOK, MIN 2 TIMBER SCREWS 35MM EMBEDMENT INTO JD4 SEASONED TIMBER

Maximum Panel Size: 1800mm x 1200mm

Fixing Spacing Table for Terrain Category 2, h/d <=0.5 (Unit: mm)

WIND REGION	Height&Pitch / Roof Zones	H<=5m		5<H<=10m		10<H<=15m		15<H<=20m	
		Φ < 12.5°	12.5° ≤ Φ ≤ 20°	Φ < 12.5°	12.5° ≤ Φ ≤ 20°	Φ < 12.5°	12.5° ≤ Φ ≤ 20°	Φ < 12.5°	12.5° ≤ Φ ≤ 20°
A0	Internal Zone	1392	1441	1294	1342	1245	1292	1213	1264
	Intermediate Zone	1139	1232	943	1035	855	939	808	887
	Edge Zone	854	937	707	776	641	704	606	665
	Corner Zone	569	625	471	517	427	469	404	443
B2	Internal Zone	1060	1098	984	1021	946	982	924	960
	Intermediate Zone	900	936	832	865	770	830	728	799
	Edge Zone	769	830	636	699	577	634	546	599
	Corner Zone	512	562	424	466	-	422	-	-
C	Internal Zone	950	987	877	913	795	873	751	825
	Intermediate Zone	706	775	584	641	530	582	501	550
	Edge Zone	538	581	438	481	-	436	-	-
	Corner Zone	-	-	-	-	-	-	-	-

Maximum Panel Size: 1800mm x 1200mm

Fixing Spacing Table for Terrain Category 2, h/d >=1 (Unit: mm)

WIND REGION	Height&Pitch / Roof Zones	H<=5m		5<H<=10m		10<H<=15m		15<H<=20m	
		Φ < 12.5°	12.5° ≤ Φ ≤ 15°	Φ < 12.5°	12.5° ≤ Φ ≤ 15°	Φ < 12.5°	12.5° ≤ Φ ≤ 15°	Φ < 12.5°	12.5° ≤ Φ ≤ 15°
A0	Internal Zone	1183	1253	979	1079	888	979	840	925
	Intermediate Zone	788	869	653	719	592	652	560	616
	Edge Zone	591	651	489	539	444	489	420	462
	Corner Zone	394	434	326	359	296	326	-	308
B2	Internal Zone	915	952	845	860	799	887	756	832
	Intermediate Zone	709	782	587	647	533	587	504	555
	Edge Zone	532	586	440	485	-	440	-	416
	Corner Zone	-	-	-	-	-	-	-	-
C	Internal Zone	733	807	607	668	550	606	520	573
	Intermediate Zone	488	538	-	445	-	-	-	-
	Edge Zone	-	-	-	-	-	-	-	-
	Corner Zone	-	-	-	-	-	-	-	-

NOTES:
- "-" indicates that the wind load has exceeded 5 kPa; therefore, a site-specific assessment is recommended before installation.

- Linear interpolation can be used for determining the spacing values between h/d>0.5 and h/d<1

Note 5 Linear interpolation can be used for determining the spacing values between h/d > 0.5 and h/d < 1
Example for h/d=0.75:
1.Find fixing spacing S1 from "h/d=≤1" table
2.Find fixing spacing S2 from "h/d=≤0.5" table
3.Final Fixing Spacing for h/d=0.75:

$$=S1+\frac{1-0.75}{1-0.5}\times(S2-S1)$$

Note: Linear interpolation can only be used between tables with the same Terrain Category and Roof Zone.

Notes covering basis of DTC (Relevant test reports etc)

L Foot FWNY 05 with Rail TYN499 Spacing 1.5m TEST REPORT NO. XMML23090468_EN, by BM Shenghe Testing Technology (Xiamen) Co., Ltd (ISO/IEC 17025:2017 & CNAS-CL01),DATED 19/09/2023

L Foot FWNY 05 with Rail TYN499 Spacing 1.2m TEST REPORT NO. XMML23090455_EN, by BM Shenghe Testing Technology (Xiamen) Co., Ltd (ISO/IEC 17025:2017 & CNAS-CL01),DATED 05/09/2023

Tile Hook Load Testing Test Report No. MT-14/473,by Melbourne Testing Services Pty. Ltd (NATA), DATED 14/07/2014

Checking Engineer
Name: Zhichao Zhang
Registration Number: 4430964
Date: 18/07/2025
Signature:
Must be an Australian registered structural engineer

Certifying Engineer
Name: O. van Spaandonk-Hryshko
NT Registration Number: 244137ES
Date: 1/8/2025
Signature:
Must be a registered structural engineer in the Northern Territory

Product Name

ANTAI PITCHED ROOF FLUSH MOUNTING SYSTEM

Product Description

SOLAR MOUNTING SYSTEM ON Tile Roof

Manufacturer's Details

ANTAI SOLAR AUSTRALIA PTY LTD

Design Criteria

- IMPORTANCE LEVEL 2
- DESIGN LIFE 25 YEARS
- ULTIMATE WIND RECURRENCE INTERVAL OF 500 YEARS
- WIND REGION A0, B2, C
- TERRAIN CATEGORY 2.0/2.5/3.0
- SHIELDING FACTOR MS=1.0
- TOPOGRAPHIC MULTIPLIER MT=1.0 (FLAT)
- THE SPACING TABLE VALUES GIVEN ARE BASED ON CORROSIVITY CATEGORY C3
- THE RACKING PARTS CAPACITY ARE TAKEN AS PER TEST REPORT NOMINATED IN THE CORRESPONDING GENERAL CERTIFICATE

Limitations

- MAXIMUM ROOF PITCH ANGLE OF 20 DEGREES
- MAXIMUM AVERAGE ROOF HEIGHT 20M
- SELF-WEIGHT OF SOLAR PANEL AND RACKING FRAME IS 0.15KPA TO 0.18KPA
- SOLAR PV PANELS ARE SUPPORTED BY MINIMUM 2 RAILS
- APPLICATION OF FIXING SPACING TABLE MUST FOLLOW THE GENERAL NOTES IN THE FOLLOWING PAGES
- INSTALLATION TO BE CARRIED OUT STRICTLY IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION GUIDELINES (https://www.antaisolar.com.au/roof)
- ROOF STRUCTURE TO BE CHECKED AND CERTIFIED BY A NORTHERN TERRITORY REGISTERED STRUCTURAL ENGINEER AS SUITABLE FOR APPLIED BRACKET UPLIFT LOADS.
- SOLAR PANELS TO BE STRUCTURALLY CERTIFIED AS ABLE TO RESIST WIND LOADS IN ACCORDANCE WITH AS/NZS. 1170.2 - 2021.

Accepted for inclusion in Deemed to Comply Manual

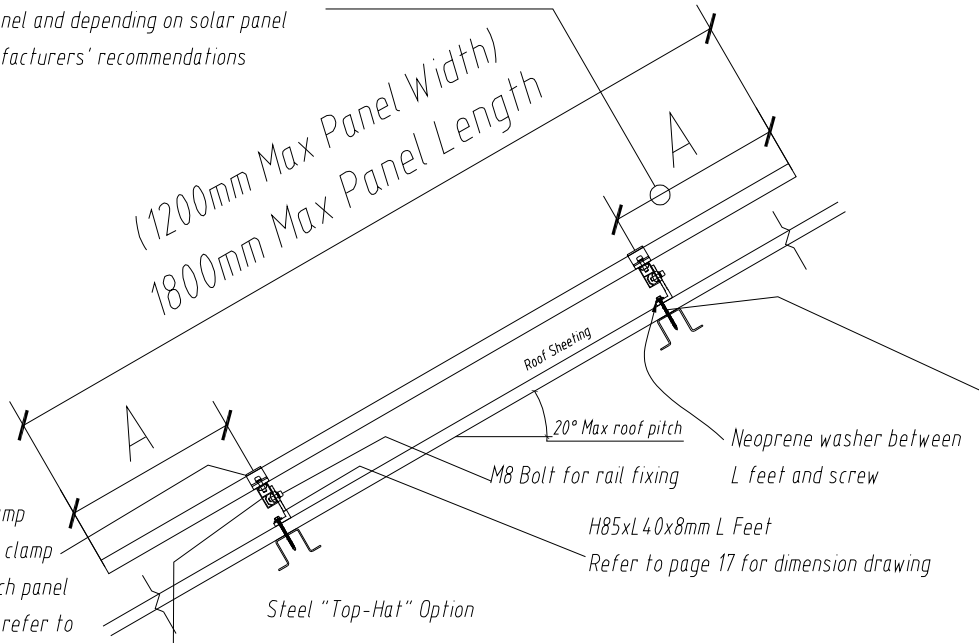
DTCM drawing number: M/475/01-19

Chairperson Signature:

Chairperson Name: Elisha Harris

Date of Approval: 26/03/2026 **Expiry Date:** 26/03/2031

"TOP-HAT" PURLIN FIXING METHOD



Steel "Top-Hat" Option

For 0.42BMT, reduce spacing by 24%
For 0.48BMT, reduce spacing by 13%
For 0.6BMT, increase spacing by 9%
For 0.75BMT, increase spacing by 36%
For thickness >= 0.9BMT, increase spacing by 60%
-FOR TOP HAT BATTENS, THE MAXIMUM ALLOWABLE FIXING SPACING SHALL NOT EXCEED 1800MM AFTER APPLYING ADJUSTMENT FACTORS

Note 5 Linear interpolation can be used for determining the spacing values between h/d = 0.5 and h/d = 1.
Example for h/d=0.75:
1.Find fixing spacing S1 from "h/d=1" table
2.Find fixing spacing S2 from "h/d=0.5" table
3.Final Fixing Spacing for h/d=0.75:
$= S1 + \frac{0.75}{1.0-0.5} \times (S2 - S1)$
Note: Linear interpolation can only be used between tables with the same Terrain Category and Roof Zone

Corrugated or trapezoidal metal deck installation with ANTI Tin Roof Mounting Kits, Comply with AS/NZS 1170.2: 2021

Please refer to the following pages for the spacing tables

Product Name

ANTAI PITCHED ROOF FLUSH MOUNTING SYSTEM

Product Description

SOLAR MOUNTING SYSTEM ON TRAPEZOIDAL & CURRUGATED METAL DECK

Manufacturer's Details

ANTAI SOLAR AUSTRALIA PTY LTD

Design Criteria

- IMPORTANCE LEVEL 2
- DESIGN LIFE 25 YEARS
- ULTIMATE WIND RECURRENCE INTERVAL OF 500 YEARS
- WIND REGION A0, B2, C
- TERRAIN CATEGORY 2.0/2.5/3.0
- SHIELDING FACTOR MS=1.0
- TOPOGRAPHIC MULTIPLIER MT=1.0 (FLAT)
- THE SPACING TABLE VALUES GIVEN ARE BASED ON CORROSIVITY CATEGORY C3
- THE RACKING PARTS CAPACITY ARE TAKEN AS PER TEST REPORT NOMINATED IN THE CORRESPONDING GENERAL CERTIFICATE

Limitations

- MAXIMUM ROOF PITCH ANGLE OF 20 DEGREES
- MAXIMUM AVERAGE ROOF HEIGHT 20M
- SELF-WEIGHT OF SOLAR PANEL AND RACKING FRAME IS 0.15KPA TO 0.18KPA
- SOLAR PV PANELS ARE SUPPORTED BY MINIMUM 2 RAILS
- APPLICATION OF FIXING SPACING TABLE MUST FOLLOW THE GENERAL NOTES IN THE FOLLOWING PAGES
- INSTALLATION TO BE CARRIED OUT STRICTLY IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION GUIDELINES (https://www.antaisolar.com.au/roof)
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Notes covering basis of DTC (Relevant test reports etc)

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Tile Hook Load Testing Test Report No. MT-14/473,by Melbourne Testing Services Pty. Ltd (NATA), DATED 14/07/2014

Checking Engineer

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Name: O. van Spaandonk-Hryshko
NT Registration Number: 244137ES
Date: 1/8/2025
Signature:
Must be a registered structural engineer in the Northern Territory

Chairperson Signature:

Chairperson Name: Elisha Harris

Date of Approval: 26/03/2026 **Expiry Date:** 26/03/2031

FIXING SPACING FOR STEEL TOP HATS WITH DEFAULT 0.55BMT

Maximum Panel Size: 1800mm x 1200mm									
Fixing Spacing Table for Terrain Category 3, h/d <=0.5 (Unit: mm)									
WIND REGION	Height&Pitch / Roof Zones	H<=5m		5<H<=10m		10<H<=15m		15<H<=20m	
		Φ < 12.5°	12.5°≤ Φ ≤ 20°	Φ < 12.5°	12.5°≤ Φ ≤ 20°	Φ < 12.5°	12.5°≤ Φ ≤ 20°	Φ < 12.5°	12.5°≤ Φ ≤ 20°
B2	Internal Zone	613	673	613	673	533	586	478	525
	Intermediate Zone	409	449	409	449	355	390	319	350
	Edge Zone	306	336	306	336	266	293	239	262
	Corner Zone	204	224	204	224	177	195	159	175
C	Internal Zone	366	402	366	402	318	349	285	313
	Intermediate Zone	244	268	244	268	212	233	190	208
	Edge Zone	183	201	183	201	159	174	142	156
	Corner Zone	-	134	-	134	-	-	-	-

Maximum Panel Size: 1800mm x 1200mm									
Fixing Spacing Table for Terrain Category 3, h/d >1 (Unit: mm)									
WIND REGION	Height&Pitch / Roof Zones	H<=5m		5<H<=10m		10<H<=15m		15<H<=20m	
		Φ < 12.5°	12.5°≤ Φ ≤ 20°	Φ < 12.5°	12.5°≤ Φ ≤ 20°	Φ < 12.5°	12.5°≤ Φ ≤ 20°	Φ < 12.5°	12.5°≤ Φ ≤ 20°
B2	Internal Zone	425	468	425	468	369	407	331	365
	Intermediate Zone	283	312	283	312	246	271	220	243
	Edge Zone	212	234	212	234	184	203	165	182
	Corner Zone	-	-	-	-	-	-	-	-
C	Internal Zone	253	279	253	279	220	243	197	217
	Intermediate Zone	169	186	169	186	147	162	131	145
	Edge Zone	-	139	-	139	-	-	-	-
	Corner Zone	-	-	-	-	-	-	-	-

NOTES:
– "-" indicates that the wind load has exceeded 5 kPa; therefore, a site-specific assessment is recommended before installation.

- Linear interpolation can be used for determining the spacing values between h/d>0.5 and h/d<1

Note 5 Linear interpolation can be used for determining the spacing values between h/d > 0.5 and h/d < 1.
Example for h/d=0.75:
1.Find fixing spacing S1 from "h/d=1" table
2.Find fixing spacing S2 from "h/d=0.5" table
3.Final Fixing Spacing for h/d=0.75:
$= S1 + \frac{1-0.75}{1-0.5} \times (S2 - S1)$
Note: Linear interpolation can only be used between tables with the same Terrain Category and Roof Zone.

Product Name

ANTAI PITCHED ROOF FLUSH MOUNTING SYSTEM

Product Description

SOLAR MOUNTING SYSTEM ON TRAPEZOIDAL & CURRUGATED METAL DECK

Manufacturer's Details

ANTAI SOLAR AUSTRALIA PTY LTD

Design Criteria

- IMPORTANCE LEVEL 2
- DESIGN LIFE 25 YEARS
- ULTIMATE WIND RECURRENCE INTERVAL OF 500 YEARS
- WIND REGION A0, B2, C
- TERRAIN CATEGORY 2.0/2.5/3.0
- SHIELDING FACTOR MS=1.0
- TOPOGRAPHIC MULTIPLIER MT=1.0 (FLAT)
- THE SPACING TABLE VALUES GIVEN ARE BASED ON CORROSIVITY CATEGORY C3
- THE RACKING PARTS CAPACITY ARE TAKEN AS PER TEST REPORT NOMINATED IN THE CORRESPONDING GENERAL CERTIFICATE

Limitations

- MAXIMUM ROOF PITCH ANGLE OF 20 DEGREES
- MAXIMUM AVERAGE ROOF HEIGHT 20M
- SELF-WEIGHT OF SOLAR PANEL AND RACKING FRAME IS 0.15KPA TO 0.18KPA
- SOLAR PV PANELS ARE SUPPORTED BY MINIMUM 2 RAILS
- APPLICATION OF FIXING SPACING TABLE MUST FOLLOW THE GENERAL NOTES IN THE FOLLOWING PAGES
- INSTALLATION TO BE CARRIED OUT STRICTLY IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION GUIDELINES (https://www.antaisolar.com.au/roof)
- ROOF STRUCTURE TO BE CHECKED AND CERTIFIED BY A NORTHERN TERRITORY REGISTERED STRUCTURAL ENGINEER AS SUITABLE FOR APPLIED BRACKET UPLIFT LOADS.
- SOLAR PANELS TO BE STRUCTURALLY CERTIFIED AS ABLE TO RESIST WIND LOADS IN ACCORDANCE WITH AS/NZS. 1170.2 - 2021.

Accepted for inclusion in Deemed to Comply Manual

DTCM drawing number: M/475/01-19

Chairperson Signature:

Chairperson Name: Elisha Harris

Date of Approval: 26/03/2026 **Expiry Date:** 26/03/2031

Notes covering basis of DTC (Relevant test reports etc)

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Checking Engineer
Name: Zhichao Zhang
Registration Number: 4430964
Date: 18/07/2025
Signature:
Must be an Australian registered structural engineer

Certifying Engineer
Name: O. van Spaandonk-Hryshko
NT Registration Number: 244137ES
Date: 1/8/2025
Signature:
Must be a registered structural engineer in the Northern Territory

FIXING SPACING FOR STEEL TOP HATS WITH DEFAULT 0.55BMT

Maximum Panel Size: 1800mm x 1200mm									
Fixing Spacing Table for Terrain Category 2.5, h/d <=0.5 (Unit: mm)									
WIND REGION	Height&Pitch / Roof Zones	H<=5m		5<H<=10m		10<H<=15m		15<H<=20m	
		Φ < 12.5°	12.5° ≤ Φ ≤ 20°	Φ < 12.5°	12.5° ≤ Φ ≤ 20°	Φ < 12.5°	12.5° ≤ Φ ≤ 20°	Φ < 12.5°	12.5° ≤ Φ ≤ 20°
B2	Internal Zone	558	613	499	548	449	493	414	455
	Intermediate Zone	372	408	333	365	299	328	276	303
	Edge Zone	279	306	249	274	224	246	207	227
	Corner Zone	186	204	166	182	-	164	-	-
C	Internal Zone	333	365	298	327	268	294	247	271
	Intermediate Zone	222	243	198	218	178	196	164	181
	Edge Zone	166	182	149	163	134	147	-	135
	Corner Zone	-	-	-	-	-	-	-	-

Maximum Panel Size: 1800mm x 1200mm									
Fixing Spacing Table for Terrain Category 2.5, h/d >1 (Unit: mm)									
WIND REGION	Height&Pitch / Roof Zones	H<=5m		5<H<=10m		10<H<=15m		15<H<=20m	
		Φ < 12.5°	12.5° ≤ Φ ≤ 20°	Φ < 12.5°	12.5° ≤ Φ ≤ 20°	Φ < 12.5°	12.5° ≤ Φ ≤ 20°	Φ < 12.5°	12.5° ≤ Φ ≤ 20°
B2	Internal Zone	386	426	345	381	311	342	287	316
	Intermediate Zone	257	284	230	254	207	228	191	210
	Edge Zone	193	213	172	190	-	171	-	-
	Corner Zone	-	-	-	-	-	-	-	-
C	Internal Zone	230	254	206	227	185	204	171	188
	Intermediate Zone	153	169	137	151	-	136	-	-
	Edge Zone	-	127	-	-	-	-	-	-
	Corner Zone	-	-	-	-	-	-	-	-

NOTES:

– "-" indicates that the wind load has exceeded 5 kPa; therefore, a site-specific assessment is recommended before installation.

- Linear interpolation can be used for determining the spacing values between h/d>0.5 and h/d<1

Note 5 Linear interpolation can be used for determining the spacing values between h/d > 0.5 and h/d < 1

Example for h/d=0.75:

1.Find fixing spacing S1 from "h/d=≤1" table

2.Find fixing spacing S2 from "h/d=≤0.5" table

3.Final Fixing Spacing for h/d=0.75:

$$= S1 + \frac{1-0.75}{1-0.5} \times (S2 - S1)$$

Note: Linear interpolation can only be used between tables with the same Terrain Category and Roof Zone

Notes covering basis of DTC (Relevant test reports etc)

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Product Name

ANTAI PITCHED ROOF FLUSH MOUNTING SYSTEM

Product Description

SOLAR MOUNTING SYSTEM ON TRAPEZOIDAL & CURRUGATED METAL DECK

Manufacturer's Details

ANTAI SOLAR AUSTRALIA PTY LTD

Design Criteria

- IMPORTANCE LEVEL 2
- DESIGN LIFE 25 YEARS
- ULTIMATE WIND RECURRENCE INTERVAL OF 500 YEARS
- WIND REGION A0, B2, C
- TERRAIN CATEGORY 2.0/2.5/3.0
- SHIELDING FACTOR MS=1.0
- TOPOGRAPHIC MULTIPLIER MT=1.0 (FLAT)
- THE SPACING TABLE VALUES GIVEN ARE BASED ON CORROSIVITY CATEGORY C3
- THE RACKING PARTS CAPACITY ARE TAKEN AS PER TEST REPORT NOMINATED IN THE CORRESPONDING GENERAL CERTIFICATE

Limitations

- MAXIMUM ROOF PITCH ANGLE OF 20 DEGREES
- MAXIMUM AVERAGE ROOF HEIGHT 20M
- SELF-WEIGHT OF SOLAR PANEL AND RACKING FRAME IS 0.15KPA TO 0.18KPA
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Accepted for inclusion in Deemed to Comply Manual

DTCM drawing number: M/475/01-19

Chairperson Signature:

Chairperson Name: Elisha Harris

Date of Approval: 26/03/2026 **Expiry Date:** 26/03/2031

FIXING SPACING FOR STEEL TOP HATS WITH DEFAULT 0.55BMT

Maximum Panel Size: 1800mm x 1200mm									
Fixing Spacing Table for Terrain Category 2, h/d <=0.5 (Unit: mm)									
WIND REGION	Height&Pitch / Roof Zones	H<=5m		5<H<=10m		10<H<=15m		15<H<=20m	
		Φ < 12.5°	12.5° ≤ Φ ≤ 20°	Φ < 12.5°	12.5° ≤ Φ ≤ 20°	Φ < 12.5°	12.5° ≤ Φ ≤ 20°	Φ < 12.5°	12.5° ≤ Φ ≤ 20°
A0	Internal Zone	903	991	748	821	678	744	641	704
	Intermediate Zone	602	661	498	547	452	496	427	469
	Edge Zone	451	495	374	410	339	372	320	352
	Corner Zone	301	330	249	273	226	248	213	234
B2	Internal Zone	510	560	422	464	383	421	362	397
	Intermediate Zone	340	373	281	309	255	280	241	265
	Edge Zone	255	280	211	232	191	210	181	198
	Corner Zone	170	186	-	-	-	-	-	-
C	Internal Zone	304	334	252	276	228	251	216	237
	Intermediate Zone	203	222	168	184	152	167	144	158
	Edge Zone	152	167	126	138	-	-	-	-
	Corner Zone	-	-	-	-	-	-	-	-

Maximum Panel Size: 1800mm x 1200mm									
Fixing Spacing Table for Terrain Category 2, h/d >=1 (Unit: mm)									
WIND REGION	Height&Pitch / Roof Zones	H<=5m		5<H<=10m		10<H<=15m		15<H<=20m	
		Φ < 12.5°	12.5° ≤ Φ ≤ 15°	Φ < 12.5°	12.5° ≤ Φ ≤ 15°	Φ < 12.5°	12.5° ≤ Φ ≤ 15°	Φ < 12.5°	12.5° ≤ Φ ≤ 15°
A0	Internal Zone	625	689	517	570	469	517	444	489
	Intermediate Zone	416	459	345	380	313	345	296	326
	Edge Zone	312	344	258	285	234	258	222	244
	Corner Zone	208	229	172	190	-	172	-	-
B2	Internal Zone	353	389	292	322	265	292	251	276
	Intermediate Zone	235	259	195	215	177	195	167	184
	Edge Zone	176	194	-	-	-	-	-	-
	Corner Zone	-	-	-	-	-	-	-	-
C	Internal Zone	210	232	174	192	158	174	149	165
	Intermediate Zone	140	154	-	-	-	-	-	-
	Edge Zone	-	-	-	-	-	-	-	-
	Corner Zone	-	-	-	-	-	-	-	-

NOTES:

– "-" indicates that the wind load has exceeded 5 kPa; therefore, a site-specific assessment is recommended before installation.

- Linear interpolation can be used for determining the spacing values between h/d>0.5 and h/d<1

Note 5 Linear interpolation can be used for determining the spacing values between h/d = 0.5 and h/d = 1
Example for h/d=0.75:
1 Find fixing spacing S1 from "h/d=1" table
2 Find fixing spacing S2 from "h/d=0.5" table
3 Final Fixing Spacing for h/d=0.75:
$= S1 + \frac{1-0.75}{1-0.5} \times (S2 - S1)$
Note: Linear interpolation can only be used between tables with the same Terrain Category and Roof Zone

Product Name

ANTAI PITCHED ROOF FLUSH MOUNTING SYSTEM

Product Description

SOLAR MOUNTING SYSTEM ON TRAPEZOIDAL & CURRUGATED METAL DECK

Manufacturer's Details

ANTAI SOLAR AUSTRALIA PTY LTD

Design Criteria

- IMPORTANCE LEVEL 2
- DESIGN LIFE 25 YEARS
- ULTIMATE WIND RECURRENCE INTERVAL OF 500 YEARS
- WIND REGION A0, B2, C
- TERRAIN CATEGORY 2.0/2.5/3.0
- SHIELDING FACTOR MS=1.0
- TOPOGRAPHIC MULTIPLIER MT=1.0 (FLAT)
- THE SPACING TABLE VALUES GIVEN ARE BASED ON CORROSIVITY CATEGORY C3
- THE RACKING PARTS CAPACITY ARE TAKEN AS PER TEST REPORT NOMINATED IN THE CORRESPONDING GENERAL CERTIFICATE

Limitations

- MAXIMUM ROOF PITCH ANGLE OF 20 DEGREES
- MAXIMUM AVERAGE ROOF HEIGHT 20M
- SELF-WEIGHT OF SOLAR PANEL AND RACKING FRAME IS 0.15KPA TO 0.18KPA
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- APPLICATION OF FIXING SPACING TABLE MUST FOLLOW THE GENERAL NOTES IN THE FOLLOWING PAGES
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Accepted for inclusion in Deemed to Comply Manual

DTCM drawing number: M/475/01-19

Chairperson Signature:

Chairperson Name: Elisha Harris

Date of Approval: 26/03/2026 **Expiry Date:** 26/03/2031

Notes covering basis of DTC (Relevant test reports etc)

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Signature:
Must be an Australian registered structural engineer

Certifying Engineer
Name: O. van Spaandonk-Hryshko
NT Registration Number: 244137ES
Date: 1/8/2025
Signature:
Must be a registered structural engineer in the Northern Territory

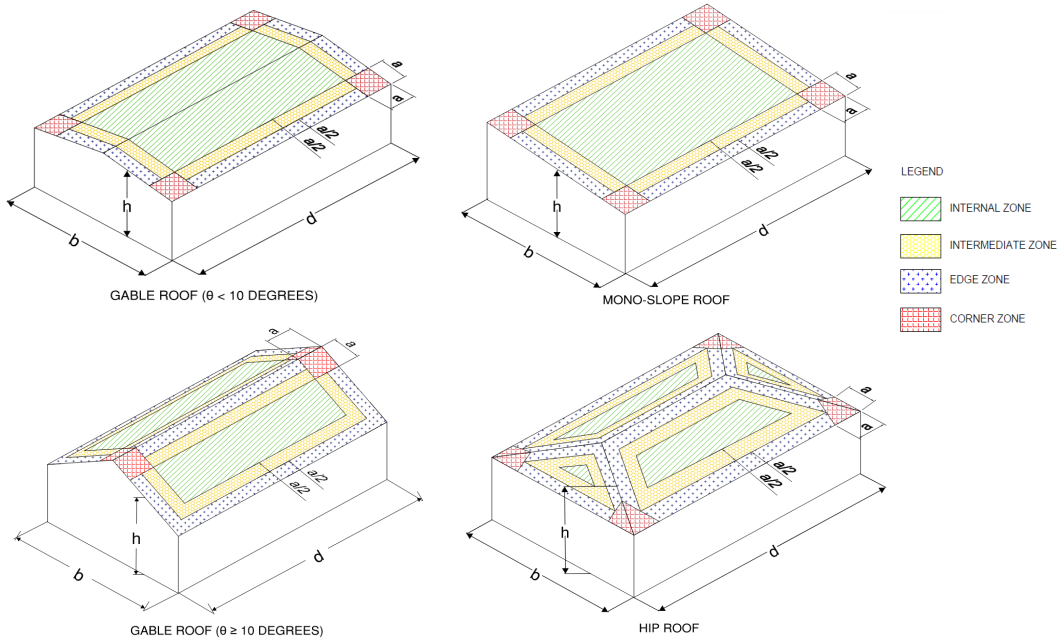
NORTHERN TERRITORY DEEMED TO COMPLY MANUAL – National Construction Code (NCC) Volume 2

This product has been determined to satisfy NCC Performance Requirement H1P1 for structural resistance of materials and forms of construction in high wind areas

GENERAL NOTES

Note 1 Notion of Roof Zone examples are shown in the following figures.

(Note: As specified by Antai Technology Co., Ltd., this certificate is limited to 4-zone scenario only and it is not applicable for 2-zone scenarios. Refer to AS/NZS 1170.2:2021 section B6.1 for 2 zone scenario)



Refer to AS/NZS 1170.2:2021 – Chapter 5.4.4 and AS4055 - Section 3.1 for more accurate Roof Zone notion and cases.

To determine the zone dimension "a", follow the steps:

1) Determine building height (h), building length (b) and building width (d).
2) Determine (h/d) and (h/b)
3) If (h/b) or (h/d) ⩾ 0.2, a is the minimum of 0.2b or 0.2d
4) If (h/b) and (h/d) < 0.2, a is equal to 2h

Note: "h" represents the average roof height. Average roof height = (pitch height + gutter height)/2

Note 5 Linear interpolation can be used for determining the spacing values between h/d = 0.5 and h/d = 1

Example for h/d=0.75:

1.Find fixing spacing S1 from "h/d=1" table

2.Find fixing spacing S2 from "h/d=0.5" table

3.Final Fixing Spacing for h/d=0.75:

$$=S1+\frac{1-0.75}{1-0.5}\times(S2-S1)$$

Note: Linear interpolation can only be used between tables with the same Terrain Category and Roof Zone.

Notes covering basis of DTC (Relevant test reports etc)

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Product Description

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Manufacturer's Details

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- WIND REGION A0, B2, C
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Chairperson Signature:

Chairperson Name: Elisha Harris

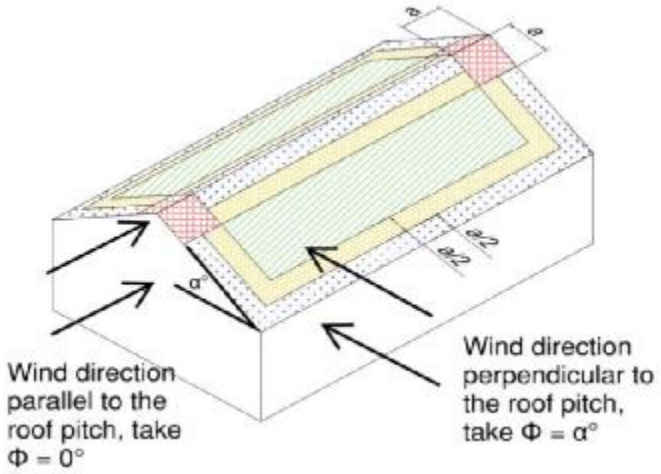
Date of Approval: 26/03/2026 **Expiry Date:** 26/03/2031

NORTHERN TERRITORY DEEMED TO COMPLY MANUAL – National Construction Code (NCC) Volume 2

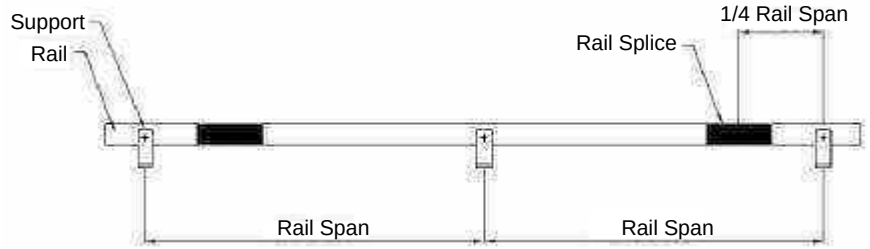
This product has been determined to satisfy NCC Performance Requirement H1P1 for structural resistance of materials and forms of construction in high wind areas

GENERAL NOTES

Note 2 The pitch angle Φ in the spacing table shall be determined based on the wind direction and the roof pitch angle by following the figure illustration below.



Note 3 To ensure the fixing spacing in above tables are valid, rail splice connectors must not be installed at the support point or at the middle span point between two adjacent supports. It is recommended to install the connector at 1/4 span points from the supports. The rail splice can only be the two separated components with the code name ATL-TYN-304/54, which are fixed both inside and outside of the rail at the connection point as shown below. Other types of rail splices are not covered by this certification.



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NT Registration Number: 244137ES

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Signature:

Must be a registered structural engineer in the Northern Territory

Chairperson Signature: E.J. Harris

Chairperson Name: Elisha Harris

Date of Approval: 26/03/2026 **Expiry Date:** 26/03/2031

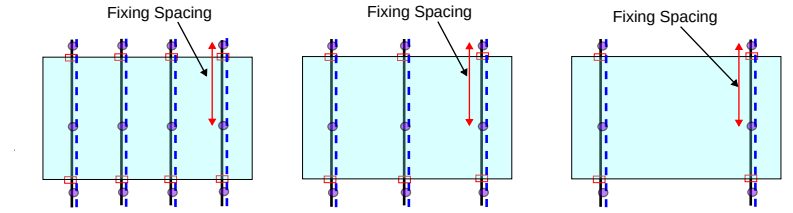
GENERAL NOTES

Note 4 Number of panel clamps required per panel for installation

		TC3			TC2.5			TC2		
		H≤10m	10m< H ≤ 15m	15m< H ≤ 20m	H≤10m	10m< H ≤ 15m	15m< H ≤ 20m	H≤10m	10m< H ≤ 15m	15m< H ≤ 20m
Region A0	Internal	4	4	4	4	4	4	4	4	4
	Intermediate	4	4	4	4	4	4	4	4	4
	Edge	4	4	4	4	4	4	4	6	6
	Corner	4	6	6	6	6	6	6	8	8
Region B2	Internal	4	4	4	4	4	4	4	4	4
	Intermediate	4	4	4	4	4	6	6	6	6
	Edge	6	6	6	6	6	8	8	8	8
	Corner	8	8	8	8	NA	NA	NA	NA	NA
Region C	Internal	4	4	4	4	4	6	6	6	6
	Intermediate	6	6	6	6	6	8	8	8	8
	Edge	6	8	8	8	8	10	10	10	10
	Corner	NA	NA	NA	NA	NA	NA	NA	NA	NA

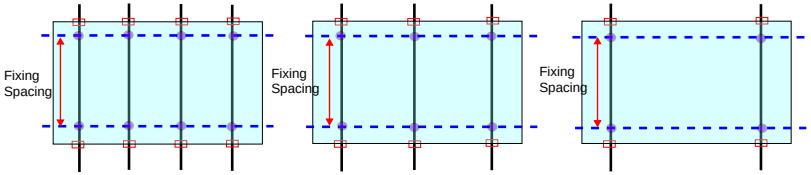
Notes:
1. NA denotes the situations where an excessive amount of panel clamps are required and the installation is no longer practical.
2. A site-specific engineering assessment must be carried out to determine the number of panel clamps required for situations not covered in this table.
3. Relationship between clamps and rails(Please see indicative plan as shown):
   - 4 clamps = 2 rails (standard configuration)
   - When more than 4 clamps are required (i.e. 6 or 8 clamps), additional rails must be installed to support the extra clamp points.
   - Each additional rail shall be placed directly beneath the outermost clamp positions and run parallel to the existing rails, maintaining the same spacing and connection details as the standard layout.
   - Typical configurations:
     – 6 clamps = 3 rails
     – 8 clamps = 4 rails

Parallel Installation (Rail parallel to purlin / battern)



Indicative Plan (8 clamps on 4 rails) | Indicative Plan (6 clamps on 3 rails) | Indicative Plan (4 clamps on 2 rails)

Perpendicular Installation (Rail perpendicular to purlin / battern)



Indicative Plan (8 clamps on 4 rails) | Indicative Plan (6 clamps on 3 rails) | Indicative Plan (4 clamps on 2 rails)

Legend

Panel Clamp | Purlin / battern | Rail
Fixing along rail | PV Panel

Technical Note: Rail Support & Spacing Requirements
Whether additional purlins or battens are required depends on the installation orientation relative to the fixing spacing table:

1. Parallel Installation (Rail // Purlin/Batten):

Requirement: Additional purlins/battens are required if the rail location does not align directly with an existing structural member.

Fixing Spacing: Attachments along the rail must strictly follow the limits specified in the fixing spacing table.

2. Perpendicular Installation (Rail ⊥ Purlin/Batten):

Requirement: Additional purlins/battens are only required if the existing purlin spacing exceeds the maximum allowable fixing spacing defined in the fixing spacing table.

Note: In this configuration, the purlin spacing effectively becomes the fixing spacing.

Important: If any fixing spacing requirements cannot be met by the existing or proposed roof structure, a site-specific assessment is required.

Notes covering basis of DTC (Relevant test reports etc)

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Checking Engineer
Name: Zhichao Zhang
Registration Number: 4430964
Date: 18/07/2025
Signature:
Must be an Australian registered structural engineer

Certifying Engineer
Name: O. van Spaandonk-Hryshko
NT Registration Number: 244137ES
Date: 1/8/2025
Signature:
Must be a registered structural engineer in the Northern Territory

Product Name

ANTAI PITCHED ROOF FLUSH MOUNTING SYSTEM

Product Description

SOLAR MOUNTING SYSTEM ON TRAPEZOIDAL & CURRUGATED METAL DECK

Manufacturer's Details

ANTAI SOLAR AUSTRALIA PTY LTD

Design Criteria

- IMPORTANCE LEVEL 2
- DESIGN LIFE 25 YEARS
- ULTIMATE WIND RECURRENCE INTERVAL OF 500 YEARS
- WIND REGION A0, B2, C
- TERRAIN CATEGORY 2.0/2.5/3.0
- SHIELDING FACTOR MS=1.0
- TOPOGRAPHIC MULTIPLIER MT=1.0 (FLAT)
- THE SPACING TABLE VALUES GIVEN ARE BASED ON CORROSIVITY CATEGORY C3
- THE RACKING PARTS CAPACITY ARE TAKEN AS PER TEST REPORT NOMINATED IN THE CORRESPONDING GENERAL CERTIFICATE

Limitations

- MAXIMUM ROOF PITCH ANGLE OF 20 DEGREES
- MAXIMUM AVERAGE ROOF HEIGHT 20M
- SELF-WEIGHT OF SOLAR PANEL AND RACKING FRAME IS 0.15KPA TO 0.18KPA
- SOLAR PV PANELS ARE SUPPORTED BY MINIMUM 2 RAILS
- APPLICATION OF FIXING SPACING TABLE MUST FOLLOW THE GENERAL NOTES IN THE FOLLOWING PAGES
- INSTALLATION TO BE CARRIED OUT STRICTLY IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION GUIDELINES (https://www.antaisolar.com.au/roof)
- ROOF STRUCTURE TO BE CHECKED AND CERTIFIED BY A NORTHERN TERRITORY REGISTERED STRUCTURAL ENGINEER AS SUITABLE FOR APPLIED BRACKET UPLIFT LOADS.
- SOLAR PANELS TO BE STRUCTURALLY CERTIFIED AS ABLE TO RESIST WIND LOADS IN ACCORDANCE WITH AS/NZS. 1170.2 - 2021.

Accepted for inclusion in Deemed to Comply Manual

DTCM drawing number: M/475/01-19

Chairperson Signature:

Chairperson Name: Elisha Harris

Date of Approval: 26/03/2026 **Expiry Date:** 26/03/2031

GENERAL NOTES

Note 5 Linear interpolation can be used for determining the spacing values between h/d > 0.5 and h/d < 1:

Example for h/d=0.75:

1.Find fixing spacing S1 from "h/d>=1" table

2.Find fixing spacing S2 from "h/d<=0.5" table

3.Final Fixing Spacing for h/d=0.75:

$$=S1+\frac{1-0.75}{1-0.5}X\,(S2-S1)$$

Note: Linear interpolation can only be used between tables with the same Terrain Category and Roof Zone.

RACKING FRAME PARTS:

Part Category	Included Parts	Part Material
Rail	ATL-TYN-499	AL 6005-T6
Rail Splice	ATL-TYN-304/54	AL 6005-T6
Tin Interface Bracket	ATL-FWNY-05	AL 6005-T6
Tin Hook Bracket	ATL-TYN-HOOK01	SUS 304
Inter/End Panel Clamp Kit	ATL-FWNY-09	AL 6005-T6
	ATL-GN-003	AL 6005-T6
	ATL-TYN-381	AL 6005-T6

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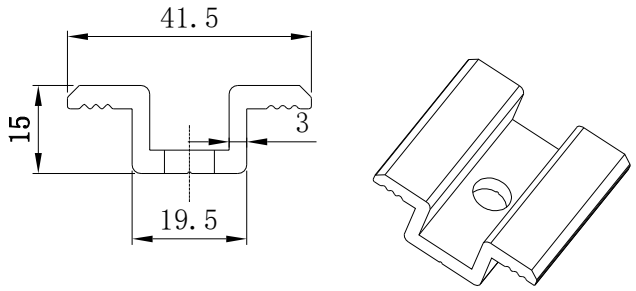
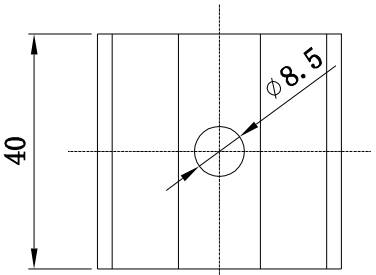
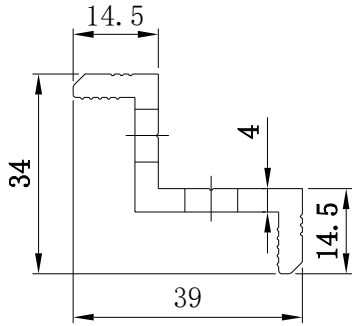
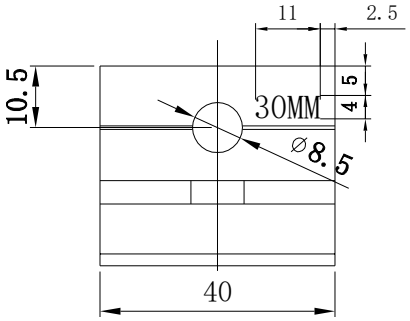


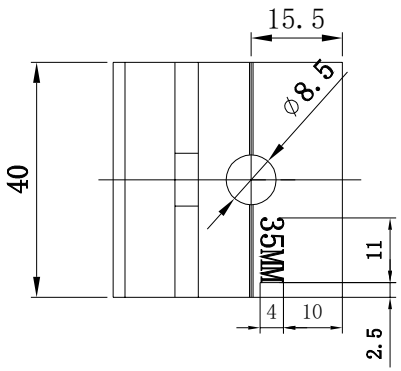


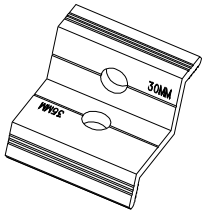
Mid Clamp

Aluminum 6005-T6









End Clamp

Aluminum 6005-T6

Product Name

ANTAI PITCHED ROOF FLUSH MOUNTING SYSTEM

Product Description

SOLAR MOUNTING SYSTEM ON TRAPEZOIDAL & CURRUGATED METAL DECK & Tile Roof

Manufacturer's Details

ANTAI SOLAR AUSTRALIA PTY LTD

Design Criteria

- IMPORTANCE LEVEL 2
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DTCM drawing number: M/475/01-19

Chairperson Signature:

Chairperson Name: Elisha Harris

Date of Approval: 26/03/2026 **Expiry Date:** 26/03/2031

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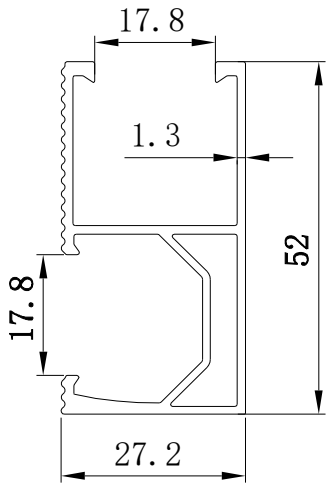
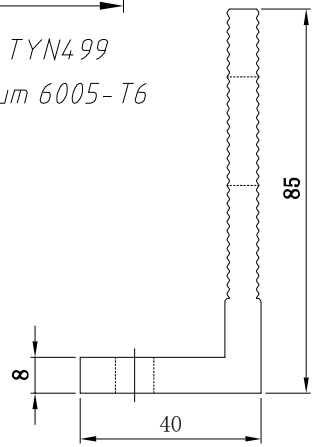
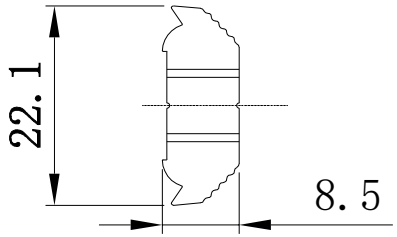
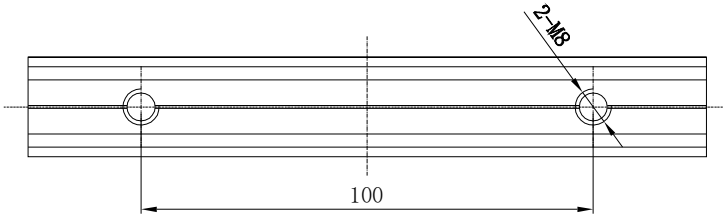


Rail TYN499
Aluminum 6005-T6

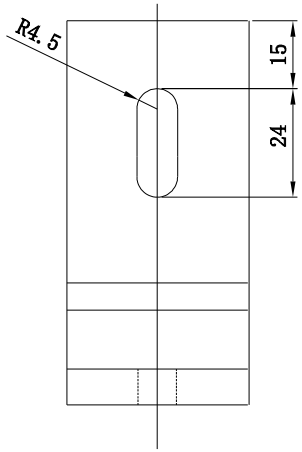


END VIEW

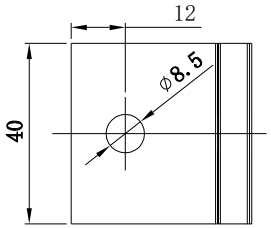




Rail Splice TYN304/54
Aluminum 6005-T6



REAR VIEW
Tin L Feet FWNY05
Aluminum 6005-T6



PLAN

Product Name

ANTAI PITCHED ROOF FLUSH MOUNTING SYSTEM

Product Description

SOLAR MOUNTING SYSTEM ON TRAPEZOIDAL & CURRUGATED METAL DECK & Tile Roof

Manufacturer's Details

ANTAI SOLAR AUSTRALIA PTY LTD

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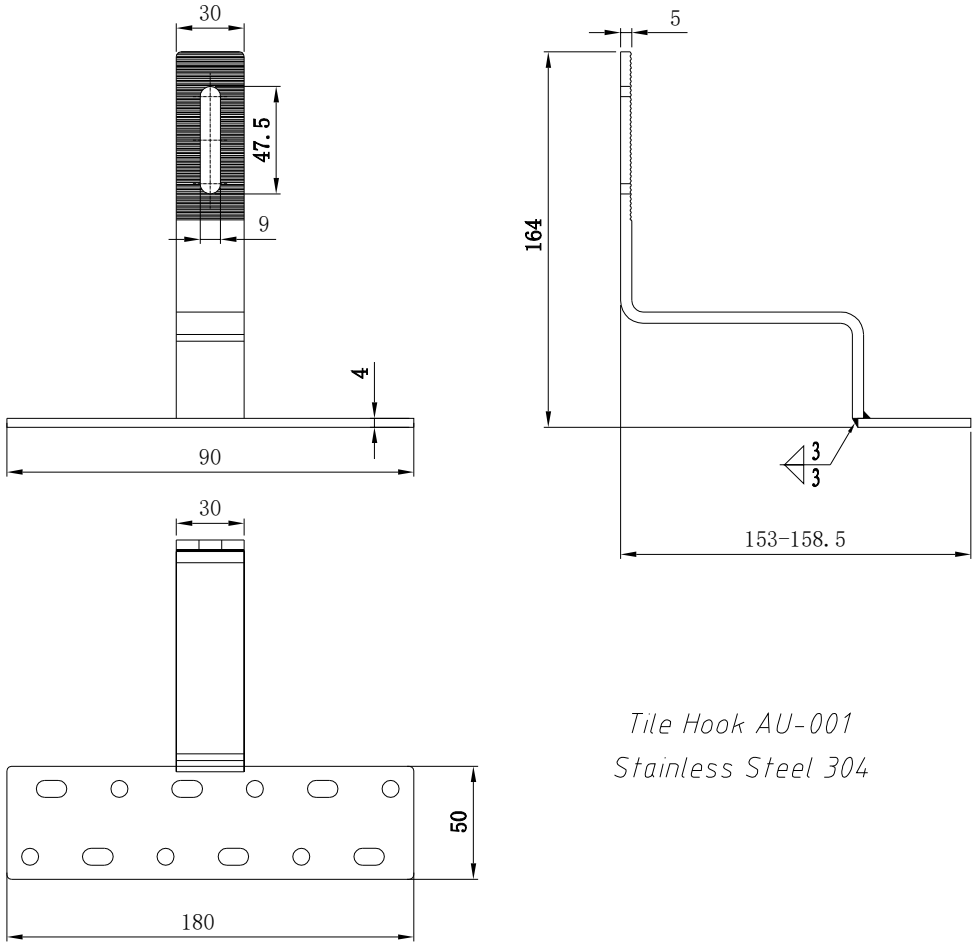

Tile Hook AU-001
Stainless Steel 304

Product Name

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