

Klip-lok ComT 2.0 Installation Guide

Code-Compliant Planning and Installation Guide V1.1
Complying with AS/NZS 1170.2:2021



Introduction

The PVezRack® Klip-lok ComT is developed for PV installation on flat or pitched roofs. The unique fixing parts can be quickly and easily installed with simple tools. Please review this manual thoroughly before installing PVezRack® Klip-lok ComT.

This manual provides:

- 1) Supporting documentation for building permit applications relating to PVezRack® Klip-lok ComT.
- 2) Planning and installation instructions.

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The PVezRack® Klip-lok ComT parts, when installed in accordance with this guide, will be structurally sound and will meet the "AS/NZS 1170.2:2021 standard. During installation, and especially when working on the roof, please comply with the appropriate Occupational Health and Safety regulations.

Please also pay attention to any other relevant State or Federal regulations. Please check that you are using the latest version of the Installation Manual, which you can do by contacting Clenergy Australia via email on tech@clenergy.com.au, or contacting your local distributor in Australia.

Product Warranty:

Please refer [PVezRack® Product Warranty](#) on our website.

The installer is solely responsible for:

- Complying with all applicable local or national building codes, including any updates that may supersede this manual;
- Ensuring that PVezRack® and other products are appropriate for the particular installation and the installation environment;
- Using only PVezRack® parts and installer-supplied parts as specified by PVezRack® (substitution of parts may void the warranty and invalidate the letter of certification);
- Recycling: Recycle according to the local relative statute;
- Removal: Reverse installation process;
- Ensuring that there are no less than two professionals working on the panel installation;
- Ensuring the installation of related electrical equipment is performed by licenced electricians;
- Ensuring safe installation of all electrical aspects of the PV array. This includes adequate earth bonding of the PV array and PVezRack® SolarRoof components as required in AS/NZS 5033: 2021.
- Ensuring that the roof, its rafters/purlins, connections and other structural support members can support the array under building live load conditions;
- Verifying the compatibility of the installation considering preventing electrochemical corrosion between dissimilar metals. This may occur between structures and the building and also between structures, fasteners and PV modules, as detailed in AS/NZS 5033: 2021;
- Verifying atmospheric corrosivity zone of installation site by referring to AS 4312-2008 or consulting local construction business to determine appropriate products and installations.

Planning

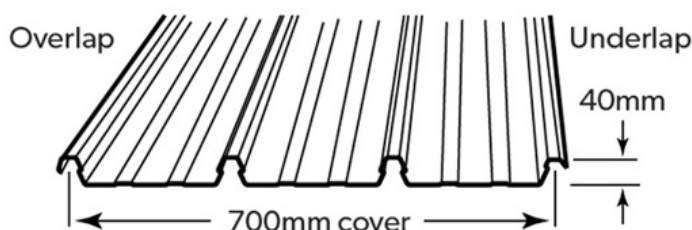
Determine the type of concealed roof

The best way to identify the type of concealed roof installed is to check the label normally located underneath the roofing sheet. Otherwise, you can contact the builder or check the building plan to find out the exact type of the roofing sheet.

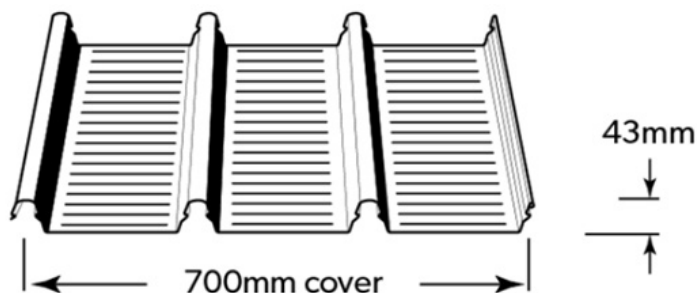
Notes:

- 1) Use of the Clenergy Klip-lok brackets is accredited only on the roof sheet types listed below;
- 2) If the roof sheet type (brand and model) cannot be identified, it is recommended to undertake on-site pull-out capacity test;
- 3) Klip-lok bracket can be direct contact with the majority of roof sheet without use of stand-off material between bracket and roof sheet. Please verify the roof sheet material and its compatibility with bracket (material: anodized aluminium) from the roof sheet manufacturer or refer the Clenergy Technical Bulletin of Dissimilar Metals (available on request) for the details.
- 4) Roof testing of ER-I-34 was completed without using EPDM between roofing sheet and bracket, therefore the generic spacing information for ER-I-34 cannot be applied if EPDM or similar rubber is used between roofing sheet and bracket. In case EPDM or similar rubber is required under Klip-lok bracket for concealed roof installation, please use a different Klip-lok bracket (such as ER-I-09), if this is approved for your specific roofing sheet. An alternative option is to complete a site specific uplift test using ER-I-34 with EPDM based on which a project specific Engineering Certificate can be issued.

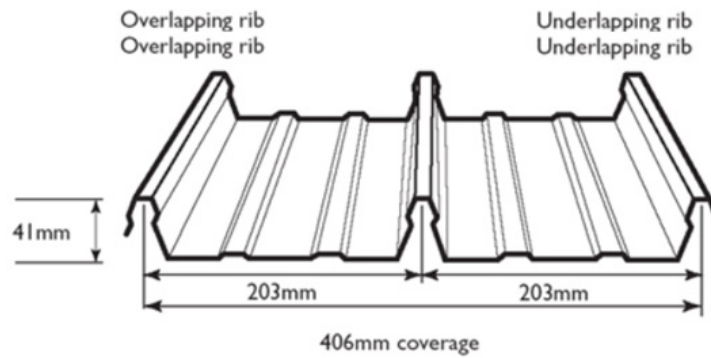
(1) Lysaght Klip Lok 700 Classic (Interface: ER-I-34, ER-I-09)



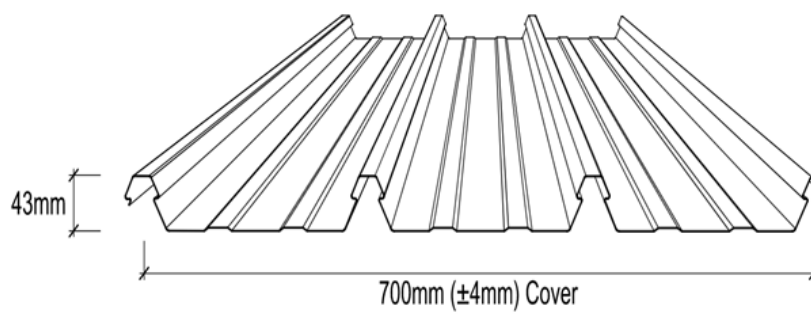
(2) Lysaght Klip-Lok 700 High Strength (Interface: ER-I-34, ER-I-09)



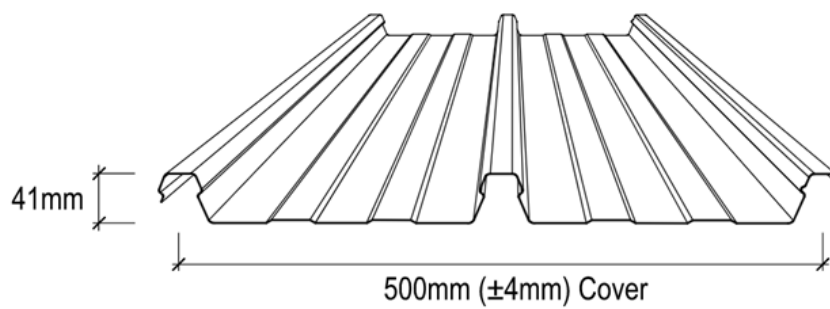
(3) Lysaught Klip-Lok 406 (Interface: ER-I-34, ER-I-32/AU)



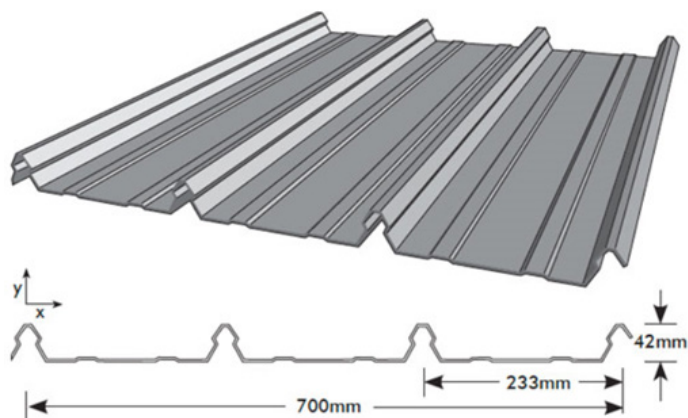
(4) Stramit Speed Deck Ultra (Interface: ER-I-34, ER-I-09)



(5) Stramit Speed Deck 500 (Interface: ER-I-34, ER-I-09)



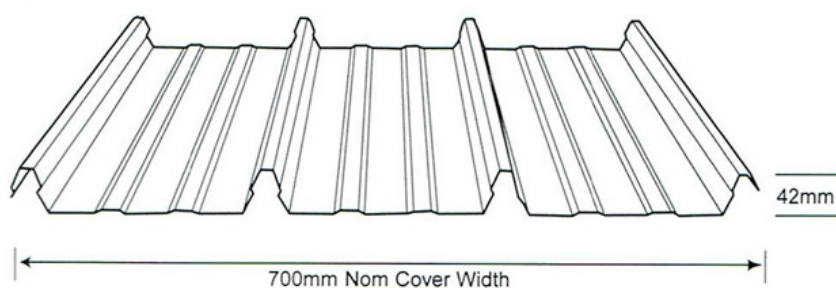
(6) Fielders Kingklip 700 (Interface: ER-I-34, ER-I-09)



(7) Stratco Topdeck 700 (Interface: ER-I-34, ER-I-09)



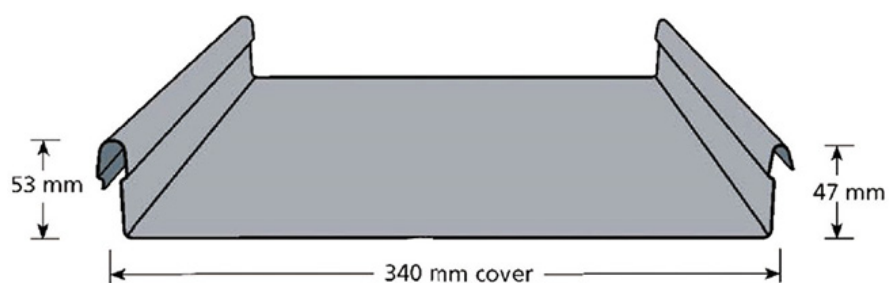
(8) Metroll Metlok 700 (Interface: ER-I-34, ER-I-09)



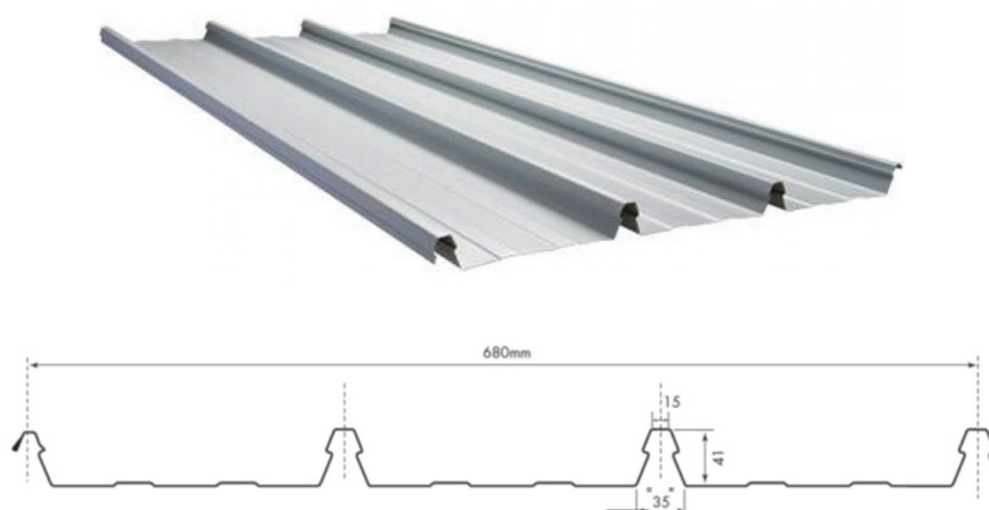
(9) Metroll Metlok 500 (Interface: ER-I-34)



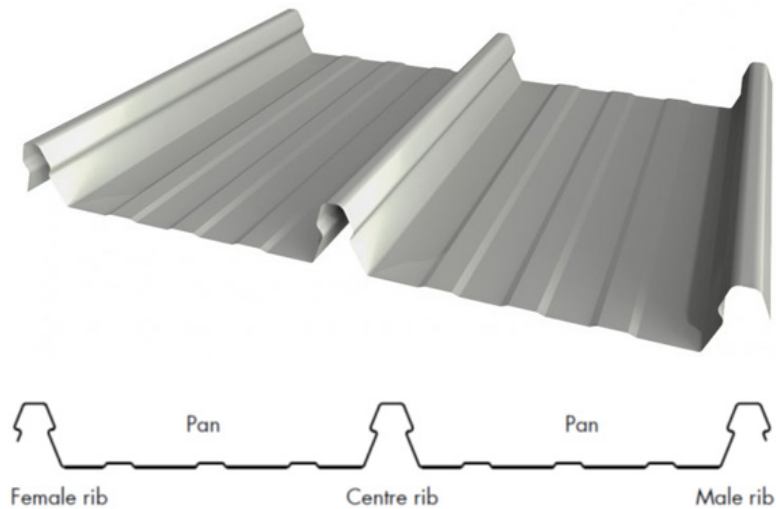
(10) Revolution Maxline 340 (Interface: ER-I-34)



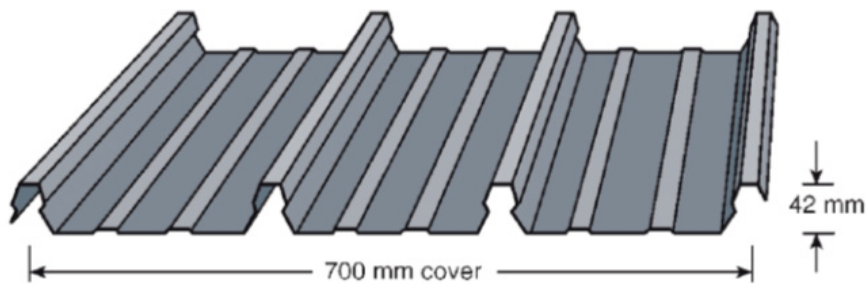
(11) Steeline Lokdek 680 (Interface: ER-I-34)



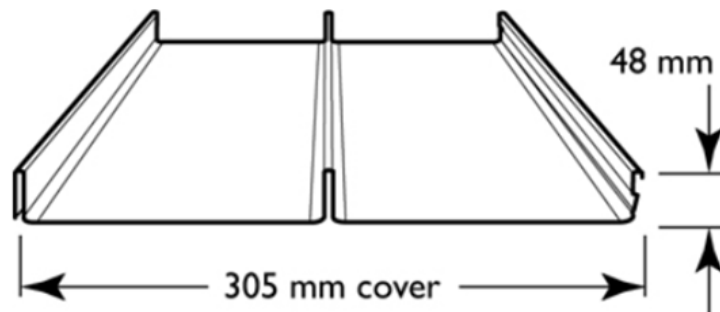
(12) Steeline Steel-Rib 500 (ST28) (Interface: ER-I-34)



(13) Rev-Klip 700 (Interface: ER-I-34)



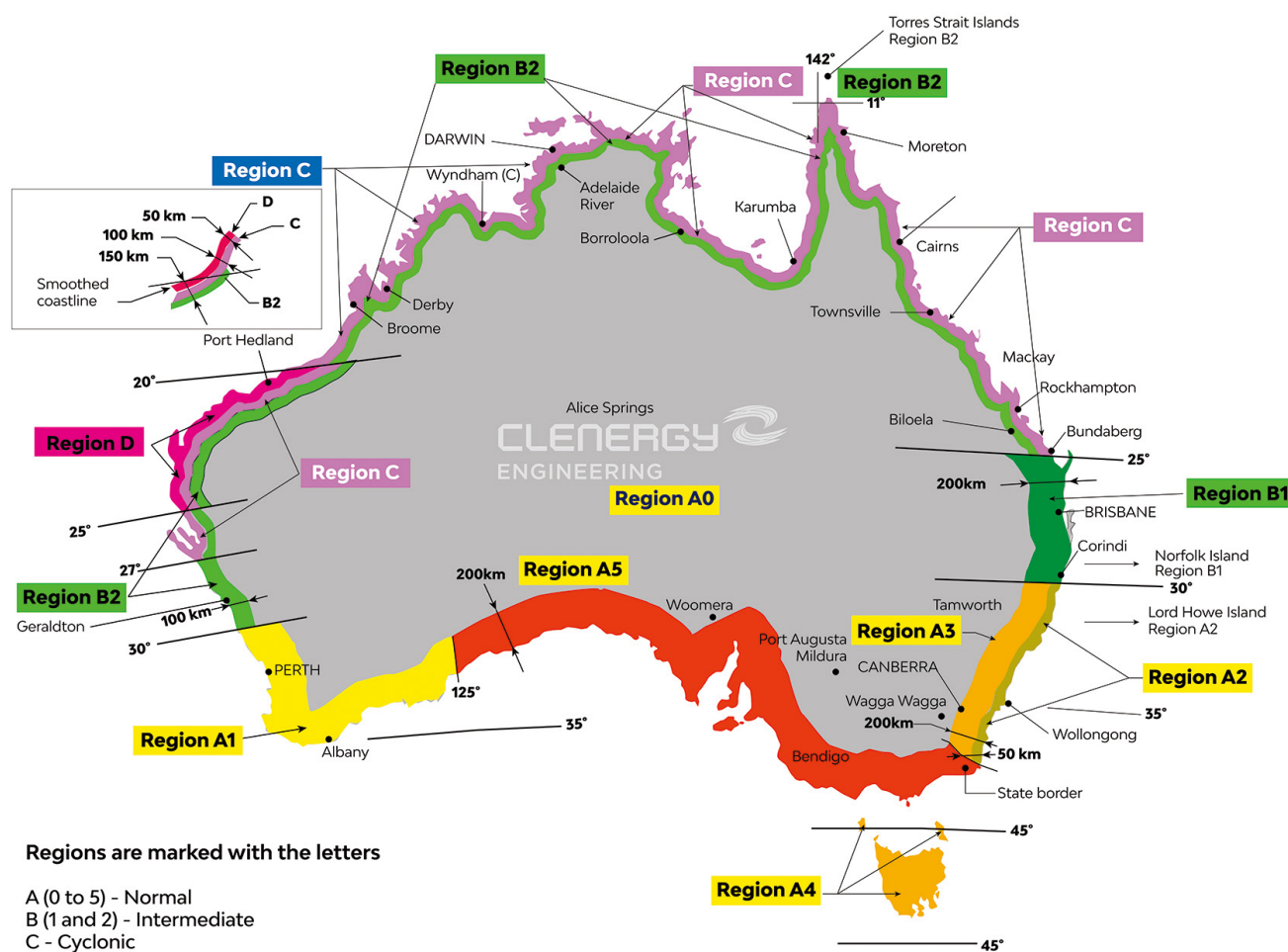
(14) Lysaght LongLine 305 (Interface: ER-I-34, ER-I-29/AU)



Note:

when using ER-I-34 for longline 305 roof sheet installation, please refer to generic note 4 in the engineering letter to apply for interface spacing reduction based on those for ER-I-29/AU.

Determine the wind region of your installation site



Wind Regions – Australia

Wind regions are pre-defined for the whole of Australia by the Australian Standard 1170.2:2021. Comparing to 1170.2:2011, 2021 version has a lot of changes in wind regions.

- Central Australia is now classified as Wind Region A0 and Terrain Classification 2 instead of Wind Region A4.
- Region A1, previously most of the South coast of Australia, now is divided into Regions A1 and A5.
- Tasmania is now Region A4.
- Region B has been divided into regions B1 and B2. This will affect installations in Northern NSW, Gold Coast, Brisbane, Sunshine Coast, and Gladstone.
- Region B1 was increased to include more inland cities around Brisbane. This will likely mean extra structural requirements such as extra rail for installs.

Determine the Terrain Category

It requires to determine the right terrain category to ensure the installation meets the maximum interface spacing specified in the engineering certificate.

In 1170.2-2021, Terrain category 1.5 was removed and Terrain category 2.5 was added. See the definitions below.

Terrain Category 1 (TC1) – Very exposed open terrain with very few or no obstructions, and all water surfaces (e.g. flat, treeless, poorly grassed plains; open ocean, rivers, canals, bays and lakes).

Terrain Category 2 (TC2) – Open terrain, including grassland, with well-scattered obstructions having heights generally from 1.5 m to 5 m, with no more than two obstructions per hectare (e.g. farmland and cleared subdivisions with isolated trees and uncut grass).

Terrain Category 2.5 (TC2.5) – Terrain with some trees or isolated obstructions, terrain in developing outer urban areas with scattered houses, or larger acreage developments with more than two and less than 10 buildings per hectare.

Terrain Category 3 (TC3) – Terrain with numerous closely spaced obstructions having heights generally from 3 m to 10 m. The minimum density of obstructions shall be at least the equivalent of 10 house-size obstructions per hectare (e.g. suburban housing, light industrial estates or dense forests).

Terrain Category 4 (TC4) – Terrain with numerous large, high (10 m to 30 m tall) and closely spaced constructions, such as large city centres and well-developed industrial complexes.

If your installation site is not at TC 2, 2.5 or 3, please contact Clenergy to obtain a project specific engineering certificate to support your installation.

Determine the Height of the Installation Site

This document provides sufficient information for the PVezRack® SolarRoof Non-Penetrative with Tilt Legs system installation up to heights of 30 meters. If your installation site is more than 30 meters high please contact Clenergy to obtain project specific engineering certificate to support your installation.

Determine System Tilt Angle

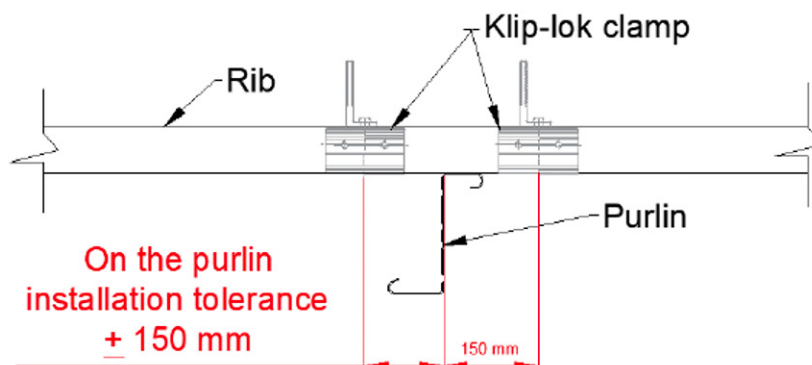
The PVezRack® Kliplok ComT system is fixed 5°, 10° and 15° tilt system.

Determine Roof slope

The PVezRack® Klip-lok ComT system can be used for roof slopes up to 5°.

Determine the Installation Area of Roof

There is an important change on the installation area of roof based on the certification letter (refer to Note 1), which is installation shall be only on top of the purlins with a maximum tolerance of 150mm. See the sketch below.



Also, the system to be installed when using this generic certification letter is limited up to 100kW or 250 panels per roof area at a given building height.

For the general installation area of roof, please refer to the notes of Certification Letter to determine it based on building height, length and width. Please refer to note 16 in Certification Letter for roof sheet specific exclusion of installation of the Klip-lok interfaces. For example, for Metroll Metlok 700 roof sheet, Lapjoints installation is excluded.

If your installation does not meet the requirements above, please contact Clenergy to request a project specific engineering certificate to support your installation.

Determine the Maximum Rail Support Spacing

Please refer to the Certification Letter and Interface Spacing Table. There are many factors affecting maximum interface spacing, such as wind region, building height, panel size... There is one factor specially for ComT, which is row spacing between panels. Please refer to note 22 to find out reduction and increase factors for different row spacing.

Row Spacing	Spacing +/- (North facing)	Spacing +/- (East - West)
0 to ≤ 200 mm	-20 %	-20 %
< 200 to < 400 mm	-10 %	-10 %
≤ 400 to ≤ 650 mm	Apply the same table spacings	
> 650 mm	+ 20 %	+ 10 %

If a project specific Certification Letter has been provided, please refer to the support spacing in this letter.

Verify Maximum Rail End Overhang

Rail end overhang in ComT installation is defined as the distance from last interface to the end of rail. Please refer to note 22 of certification letter for the details by sketch. Maximum rail overhang is 150 mm for interface fixing (or installed) spacings equal or over 700 mm. For interface fixing spacings less than 700 mm, max rail overhang is 50 mm.

Acquire PV Modules Clamping Zone Information

It is recommended to acquire PV modules clamping zone info. from PV modules manufacturer, which can help to plan interfaces positions on the roof and rails orientation and positions.

Tools and Components

Tools

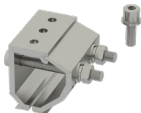
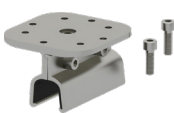
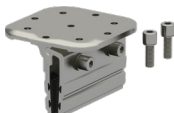
				
Angle Grinder with Stone Disk	Drill Driver (for M8 Hexagon Socket Screw)	Torque Spanner	Tape Measure	String & Marker Pen
				
Spanner				

Components

				
FL-COMT/Z/G/5 Front Leg Assembly, 5°, with Z-Module and Grounding Pins	RL-COMT/Z/G/5 Rear Leg Assembly, 5°, with Z-Module and Grounding Pins	FL-COMT/Z/G/10V2 Front Leg Assembly, 10°, with Z-Module and Grounding Pins, version 2	RL-COMT/Z/G/10V2 Rear Leg Assembly, 10°, with Z-Module and Grounding Pins, version 2	FL-COMT/Z/G/15 Front Leg Assembly, 15°, with Z-Module and Grounding Pins
				
RL-E-COMT/G/15 Rear Leg Extender, 15°, with Grounding Pins	ER-R-ECO ECO-Rail	ER-SP-ECO Splice for ECO-Rail	CRC-R/ECO Cross Connector Clamp of ECO-Rail	K-CRC/PT Cross Connector Clamp and Plate Kit

 ER-I-05 Tin Interface	 ER-I-05A/EZC/ECO Tin Interface A with ezClick connection	 EZ-GL-ST/UC Grounding Lug with U-Shape Copper Channel
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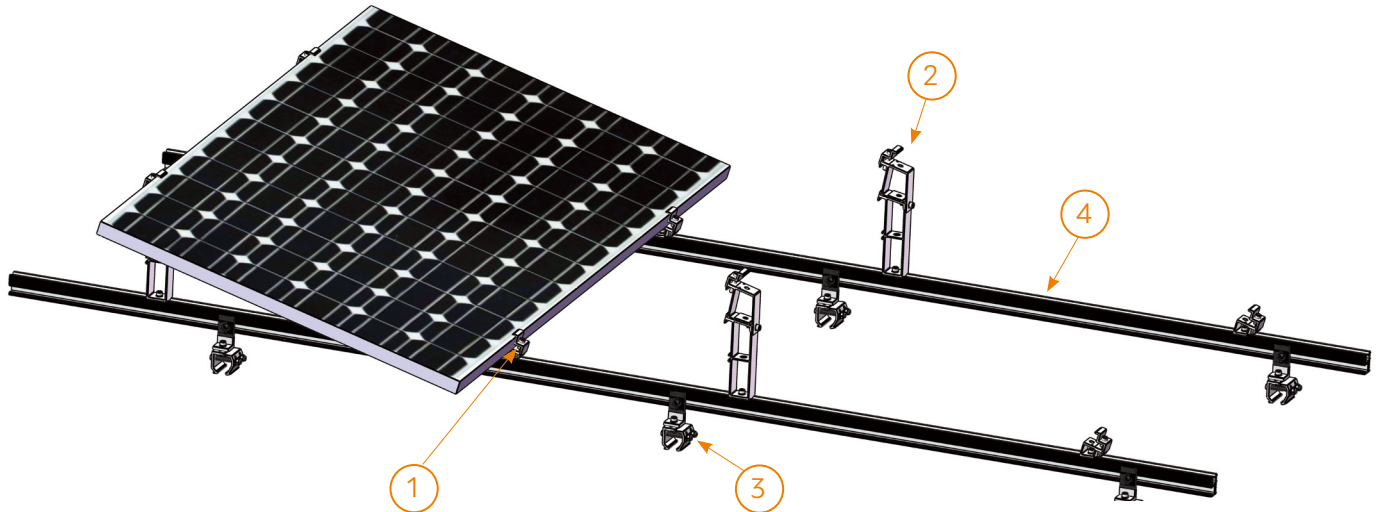
Applicable Klip-lok Interfaces

 ER-I-34 Brooklyn Klip-lok Interface	 ER-I-09 Klip-lok Interface 700	 ER-I-32/AU Klip-lok Interface 406	 ER-I-29/AU SolarRoof, Klip-lok Interface for longline 305	 ER-I-34/CRC Brooklyn Klip-lok Interface pre-assembly with Cross Connector Clamp
 ER-I-34/05A/EZC Brooklyn Klip-lok Interface pre-assembly with Tin Interface A with ezClick module				

System Overview

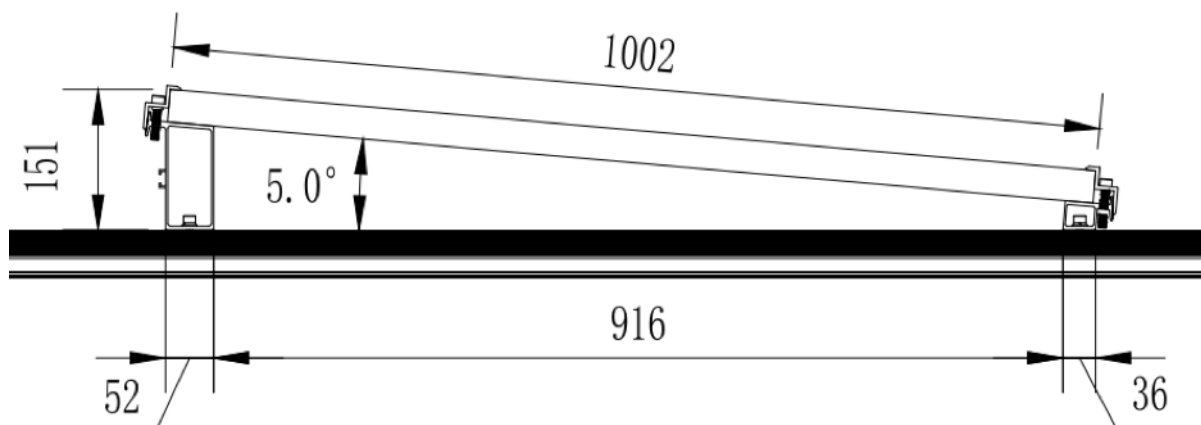
Overview of Klip-lok ComT 2.0 - North Facing

It uses Brooklyn Klip-lok interface (ER-I-34) and 15° tilt ComT 2.0 as an example for system overview below.

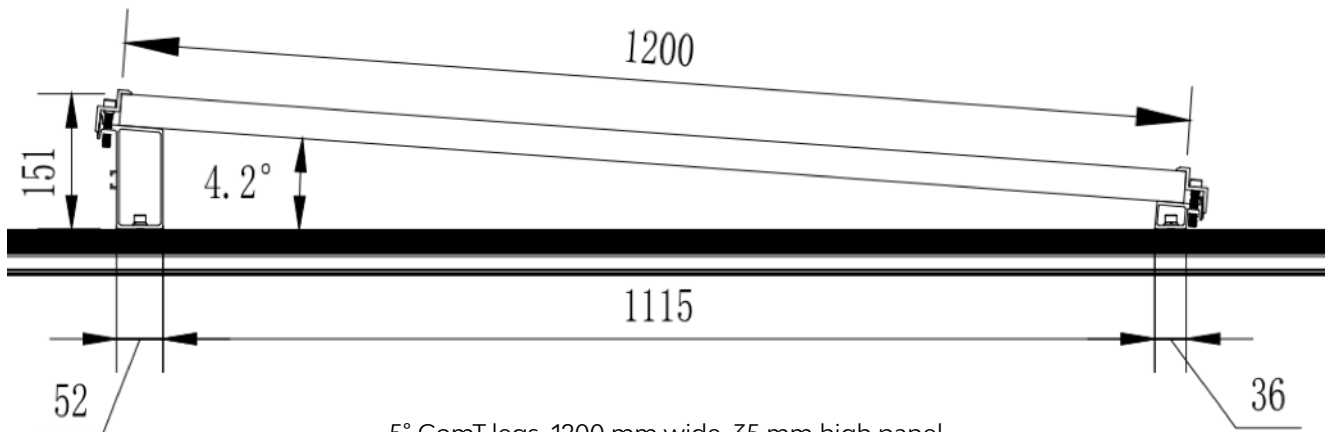


1. Front Leg Assembly 2. Rear Leg Assembly 3. Klip Lok Interface 4. ECO-Rail

Side View Drawing

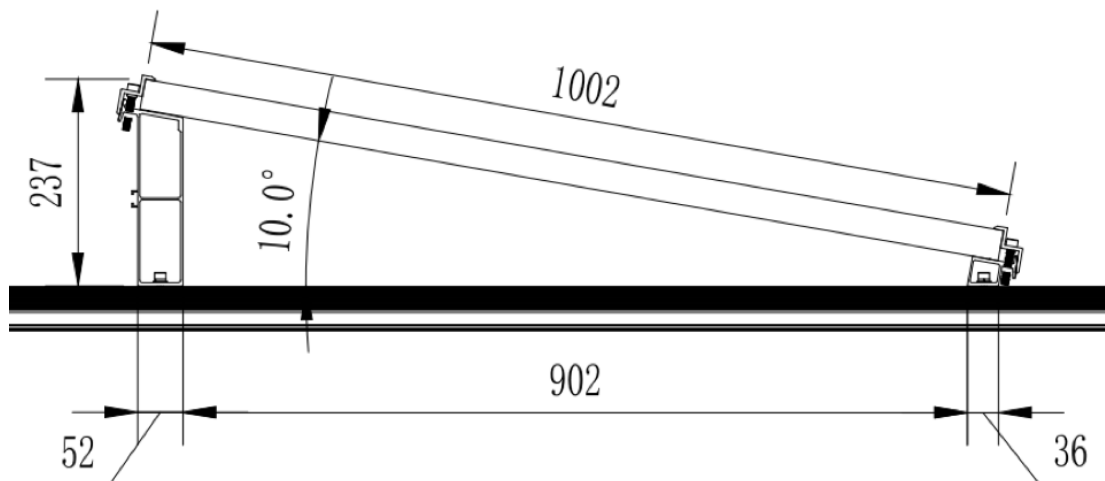


5° ComT legs, 1002 mm wide, 35 mm high panel
Note: 5° tilt angle is designed based on 1002 mm wide panel



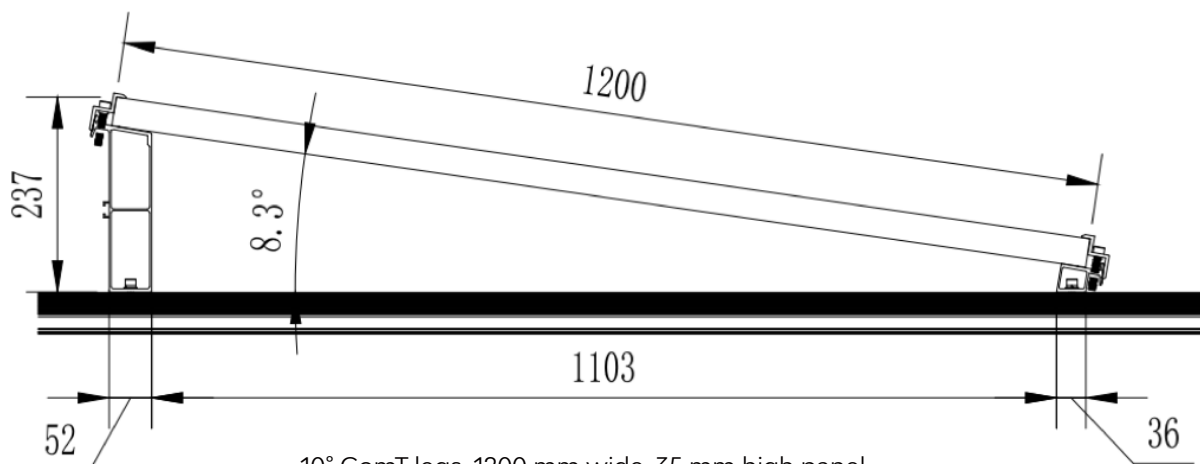
5° ComT legs, 1200 mm wide, 35 mm high panel

Note: 1200 mm wide panel is max panel width considering earthing pins on top of legs plates can provide effective panels earthing



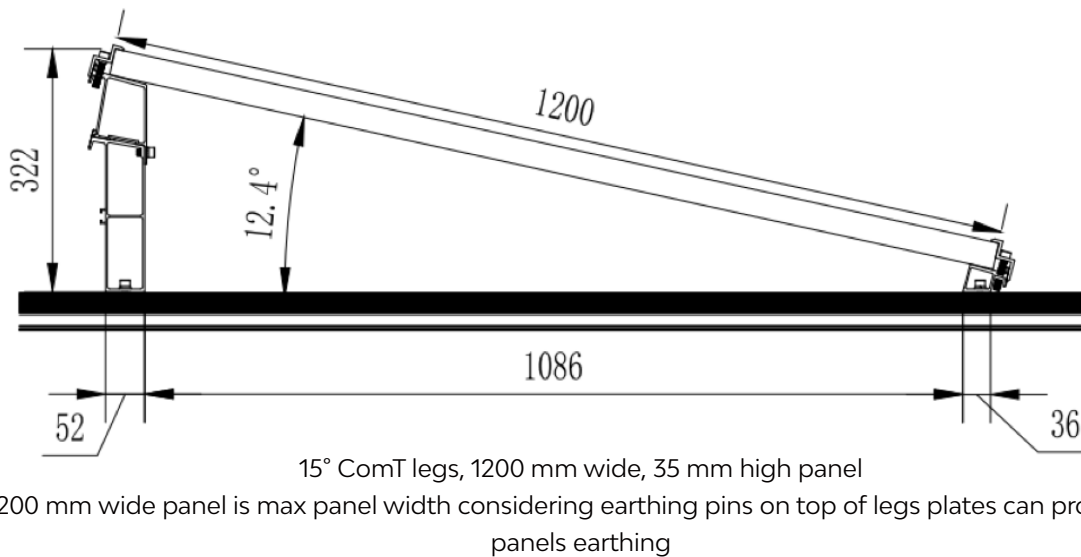
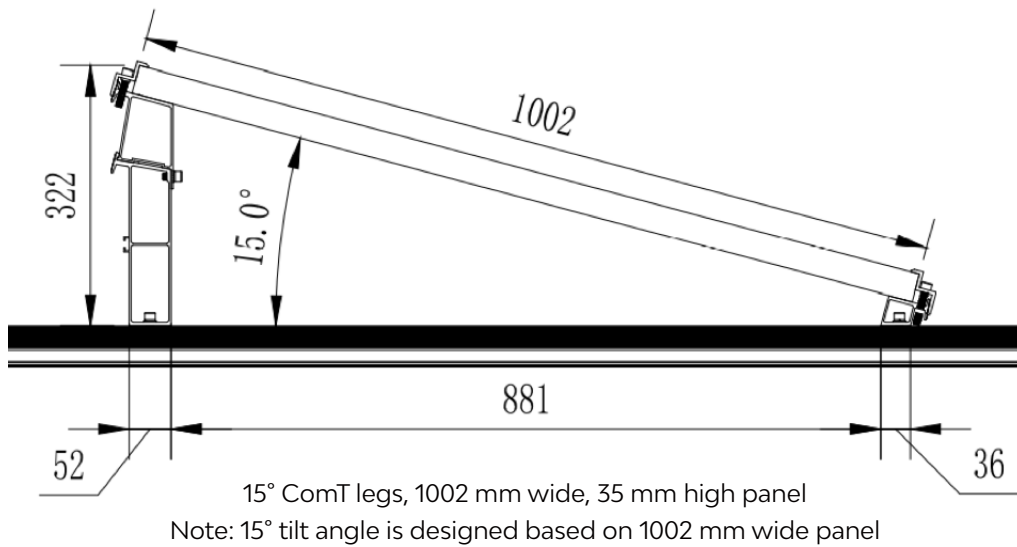
10° ComT legs, 1002 mm wide, 35 mm high panel

Note: 10° tilt angle is designed based on 1002 mm wide panel



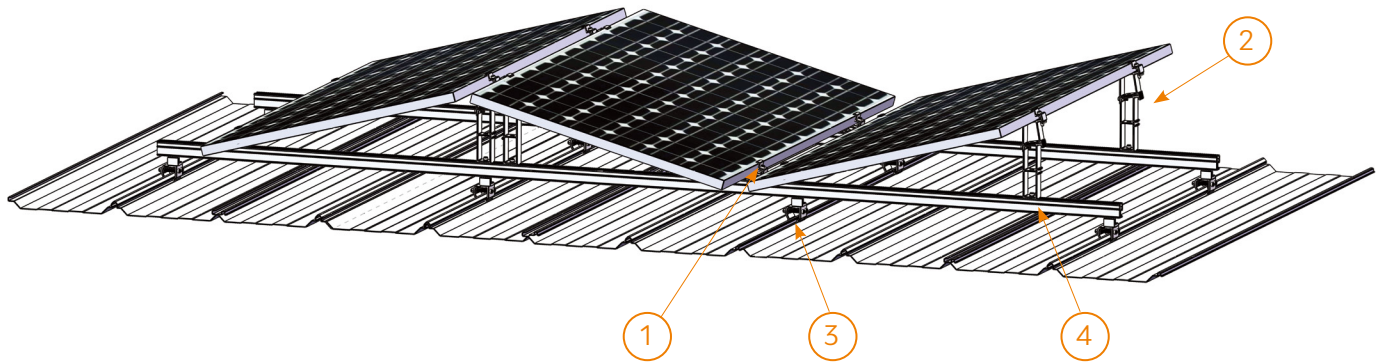
10° ComT legs, 1200 mm wide, 35 mm high panel

Note: 1200 mm wide panel is max panel width considering earthing pins on top of legs plates can provide effective panels earthing



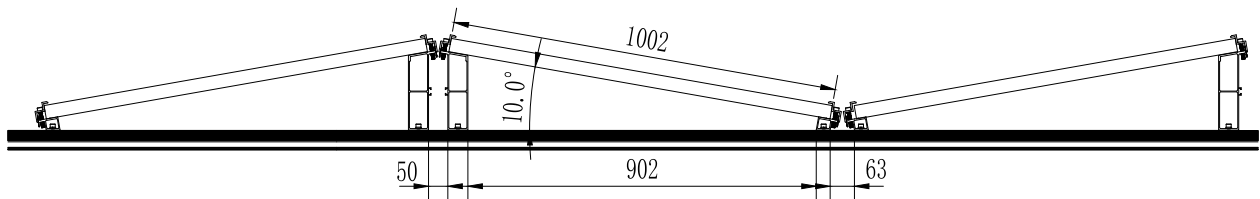
Overview of Klip-lok ComT 2.0 - East / West Facing

It uses Brooklyn Klip-lok interface (ER-I-34) and 15° tilt ComT 2.0 as an example for system overview below.



1. Front Leg Assembly 2. Rear Leg Assembly 3. Klip Lok Interface 4. ECO-Rail

Side View Drawing (10° legs, 1002 mm wide panel as an example)



Note: Minimum distance between two rear legs is 50 mm, between two front legs is 63 mm as well for 5° and 15° tilt legs, and for other panel width.

Precautions during Stainless Steel Fastener Installation

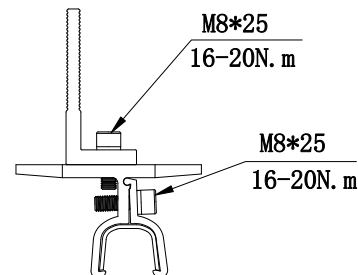
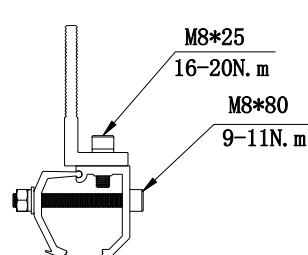
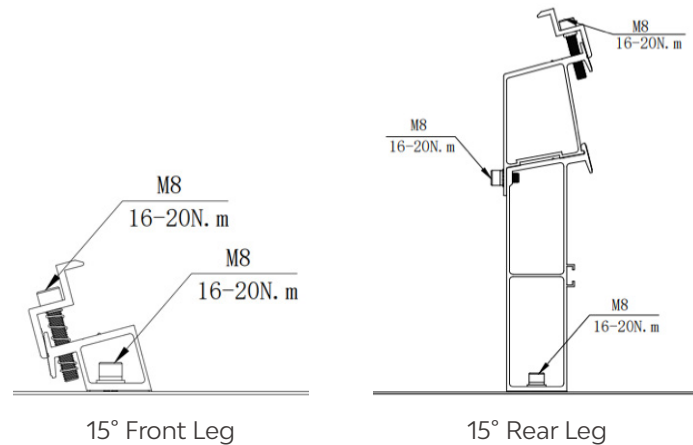
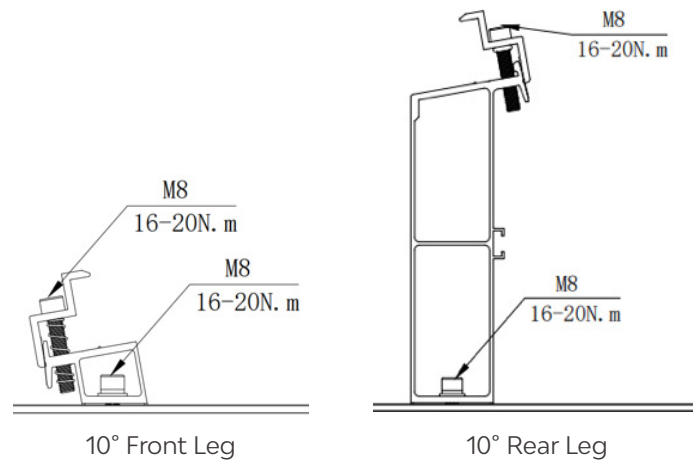
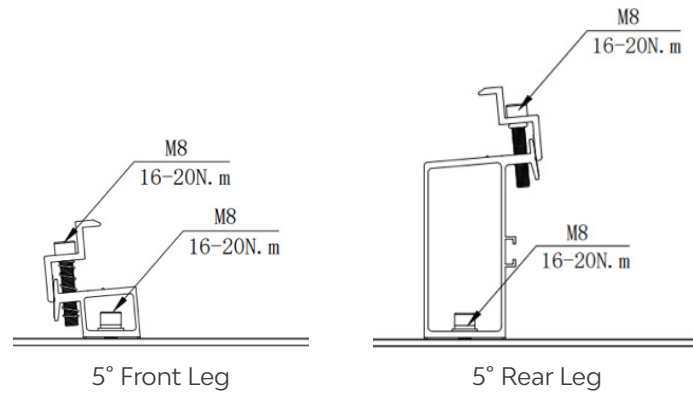
Improper operation may lead to deadlock of Nuts and Bolts. The steps below should be applied to stainless steel nut and bolt assembly to reduce this risk.

General installation instructions

- (1) Apply force to fasteners in the direction of thread
- (2) Apply force uniformly, to maintain the required torque
- (3) Professional tools and tool belts are recommended
- (4) In some cases, fasteners could be seized over time. As an option, if want to avoid galling or seizing of thread, apply lubricant (grease or 40# engine oil) to fasteners prior to tightening.

Safe Torques

Please refer to safe torques defined in this guide as shown in the figures below. If power tools are required, Clenergy recommends the use of low speed only. High speed and impact drivers increase the risk of bolt galling (deadlock). If deadlock occurs and you need to cut fasteners, please make sure that there is no load on the fastener before you cut it. Avoid damaging the anodized or galvanized surfaces.



Note:

When clamping Lysaght LongLine 305 with ER-I-34, the torque shall be 13-17 N.m.

Installation Instructions

Klip-lok Interface Installation

Brooklyn Klip-lok Interface Installation

According to your plan, fix the Brooklyn Klip-lok Interface on the ribs of metal sheet. Fasten the bolts of the Brooklyn Klip-lok Interface within 9-11 N.m (except Lysaght LongLine 305) after adjusted properly.

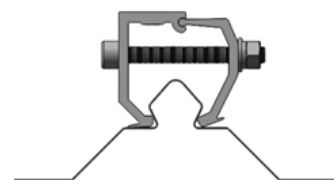


Figure 1

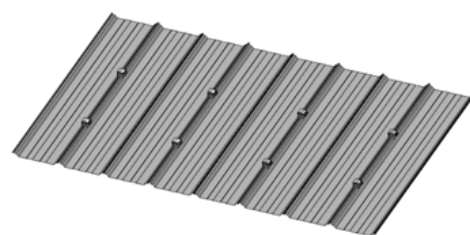


Figure 2

Other Klip-lok Interface Installation

According to the installation plan, after determining the position of the first Klip-lok Interface, fix it on the rib of tin roof and fasten lightly.

Recommended torque for M8 bolts is 16-20N.m.

Fix the other Klip-lok Interfaces on the tin roof with the string as shown in the figure on the right.

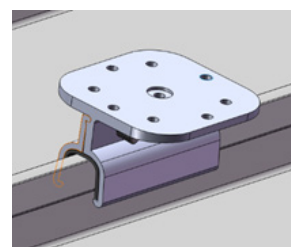


Figure 3

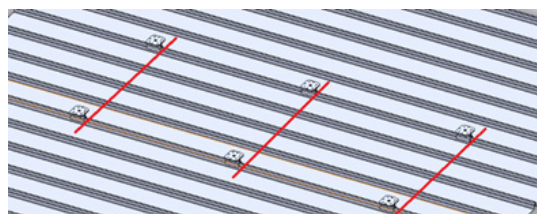


Figure 4

Tin Interface & Cross Connector Clamp with ECO-Rail Installation

Tin Interface Installation

Fix the Tin Interface on the Klip-lok Interfaces according to the installation plan.

Note:

Pre-fitted rubber pad (if applicable) at the bottom surface of Tin Interface shall be taken off to avoid rubber aging effect on fastener torque.

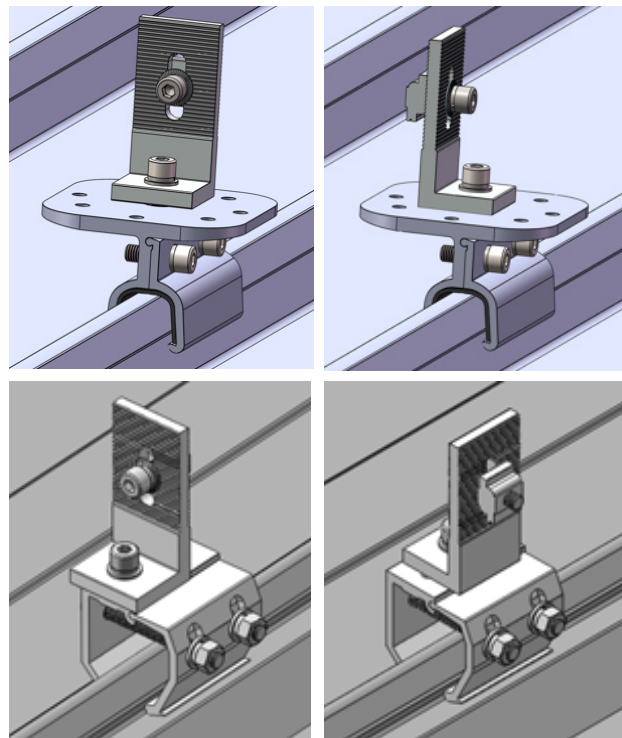
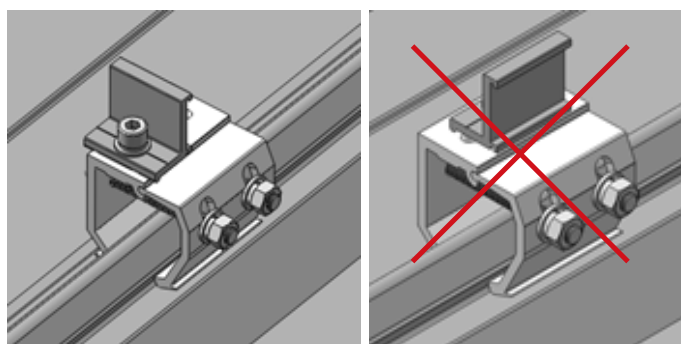


Figure 5

Cross Connector Clamp Installation

When using Cross Connector Clamp of ECO-Rail, fix the Cross Connector Clamp of ECO-Rail on the top face (side hole only) of the Brooklyn Klip-lok Interface. Fasten the bolt of the Cross Connector Clamp slightly before installing the ECO-Rail. Please note the rails can run perpendicular to ribs only.



Cross Connector Clamp and Plate Kit (K-CRC/PT) provides an option of running rails parallel to ribs. Place the Cross Connector Clamp Plate aligning on the central hole of the Brooklyn Klip-lok Clamp.

Fix the Cross Connector Clamp of ECO-Rail on the the Plate. Fasten the bolt of the Cross Connector Clamp slightly before installing the ECO-Rail.

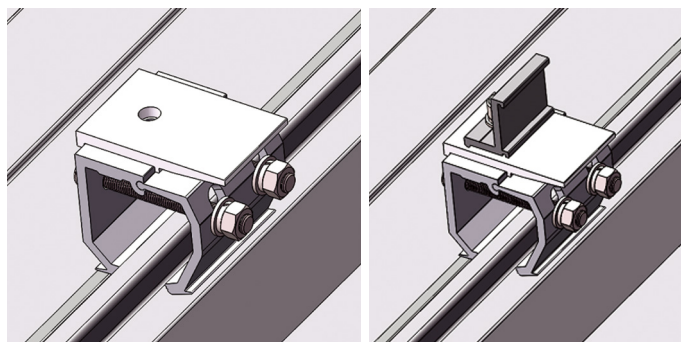


Figure 6

Fix the Rail on the Tin Interface or Cross Connector Clamp as shown in Figure 7.

Recommended torque for M8 bolts is 16-20 N.m.

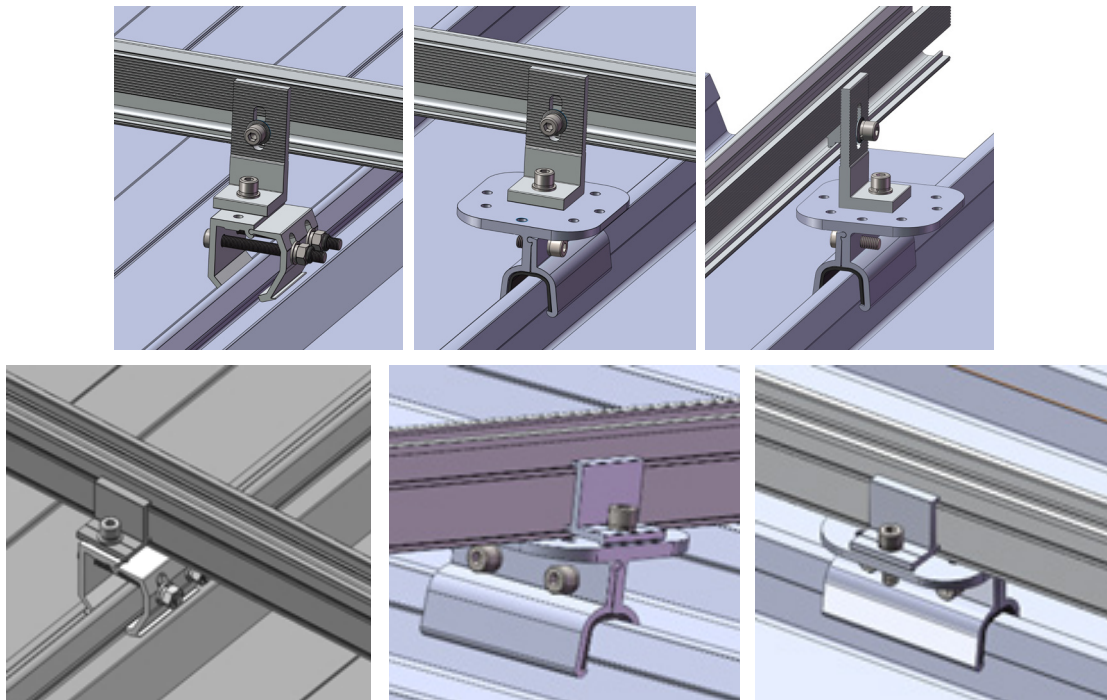


Figure 7

To connect several rails together, slide half of the splice into the rear side of the rail.

Fasten the first M8 Bolt using an Allen key, and slide the next rail into the splice as shown in Figure 8. Tighten the second M8 Bolt using an Allen key.

Recommended torque for M8 bolts is 10-12 N.m.

Splice provides the electrical connection between the 2 rails through the pressure bolts.

This eliminates the need of using 2 earthing lugs in case of large purlin spacing.

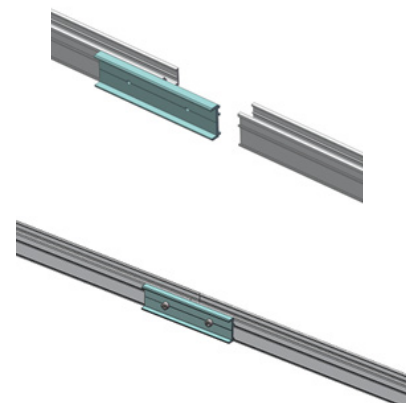


Figure 8

Front and Rear Leg Installation

Fix the Front Leg into the top channel of ECO-Rail, then fasten the Front Leg after the position is adjusted properly as shown in Figures 9 and 10.

Recommended torque for M8 bolts is 16-20 N·m.

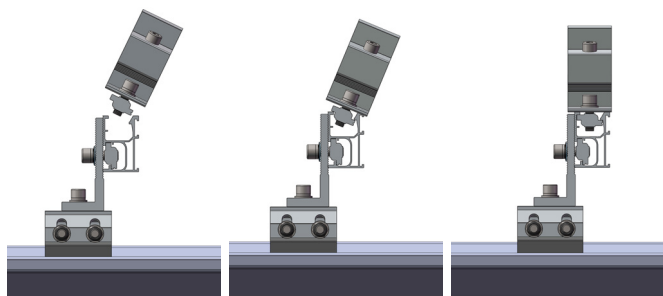


Figure 9

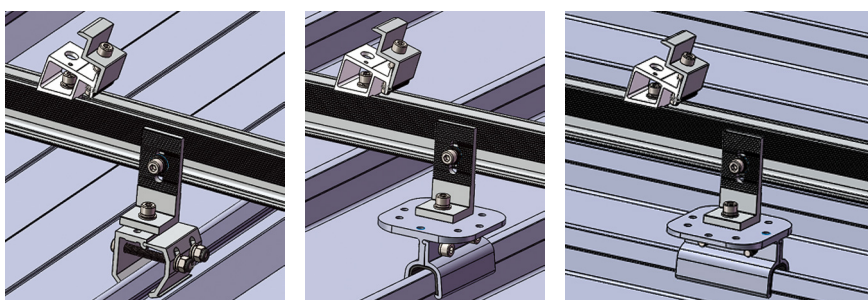


Figure 10

Fix a 5° Rear Leg into the top channel of ECO Rail, then fasten the Rear Leg after the position is adjusted properly as shown in Figure 11. Recommended torques of M8 Bolt:16-20N·m.

The same steps above applies for 10° front and rear legs installations as shown in Figures 9, 10 and 12.

Please follow steps below for 15° front and rear legs installations.

Follow Figure 9 to install a 15° front leg on top of the ECO rail.

There are two ways to install a 15° Rear Leg.

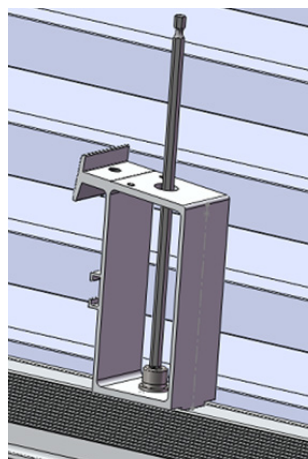


Figure 11
5° Rear Leg

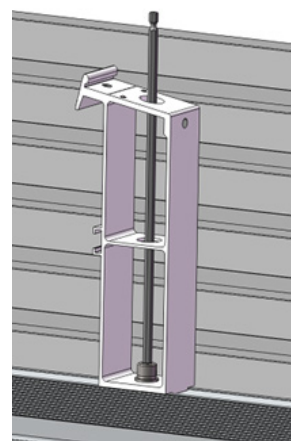


Figure 12
10° Rear Leg

Option 1:

Install 10° Rear Leg on top of the ECO rail as shown in Figure 12. Add a 15° rear leg extender on the 10° Rear Leg as shown in Figures 13-14. Don't forget to use the teeth lock washer when fastening the bolt as shown in Figure 14.

Note:

The teeth lock washer must be placed next to a 15° rear leg extender to achieve earthing continuity between from 15° rear leg extender to the 10° rear leg.

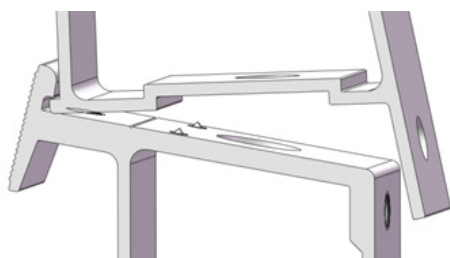


Figure 13

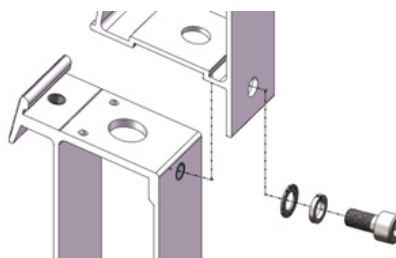


Figure 14

Option 2:

Assemble a 15° rear leg extender on a 10° rear leg before installing it on ECO rail as shown in Figure 15. The teeth lock washer must be placed for earthing continuity purpose. Then, fix the assembled 15° rear leg on ECO rail as shown in Figure 16.

Note: It is important to run visual inspection to make sure the installations above were properly done. It is important to check and correct fasteners torques with torque wrench or similar tool if using tools without torque setting during installations.

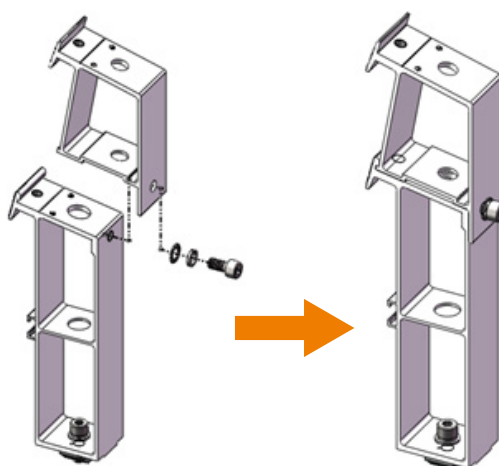


Figure 15

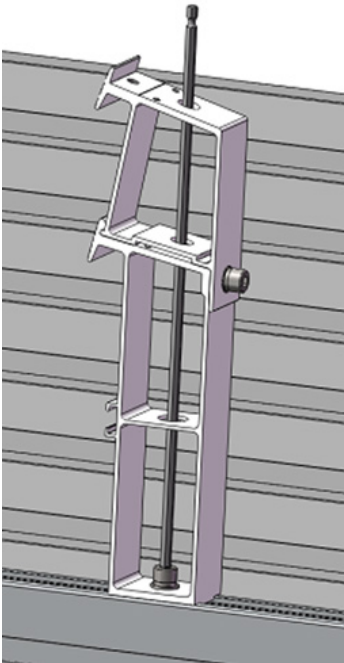


Figure 16

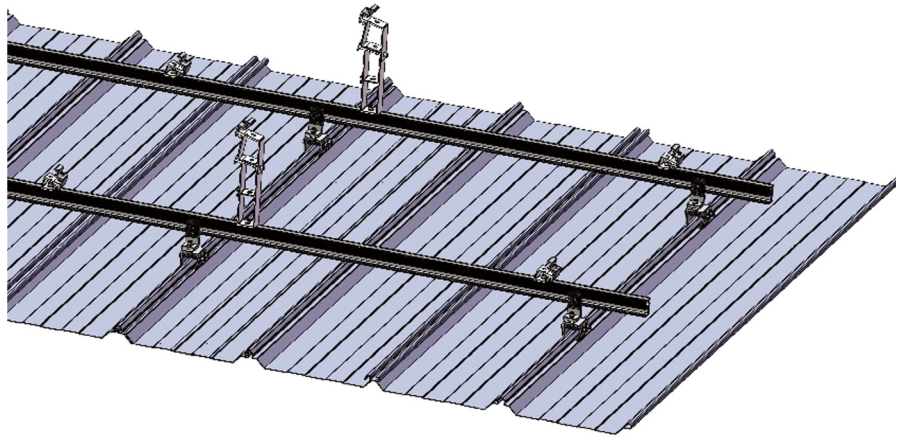


Figure 17

PV Module Installation

Place the PV Modules on the Front and Rear Leg as shown Figure 18. The outside edge of the frame of the PV Modules must overlap the marking lines on the Front and Rear Legs as shown in Figure 19. The pins of Front and Rear legs are used for creating earthing continuity from PV modules to both legs.

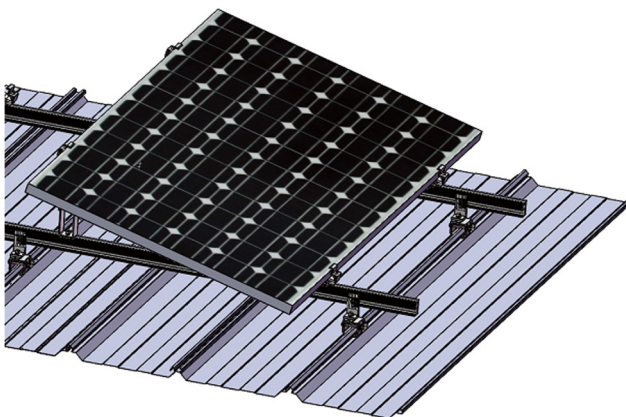


Figure 18

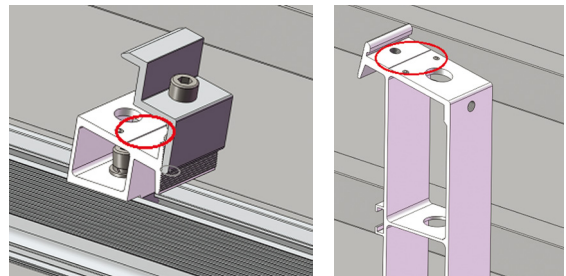


Figure 19

Fix the clamp on the Rear Leg shown in Figure 20 and fasten the clamps of Front and Rear legs till the PV Modules are properly installed in Figure 21.

Recommended torque for M8 bolts is 16-20 N·m.

Repeat the above steps to install other Front and Rear Legs, and PV modules.

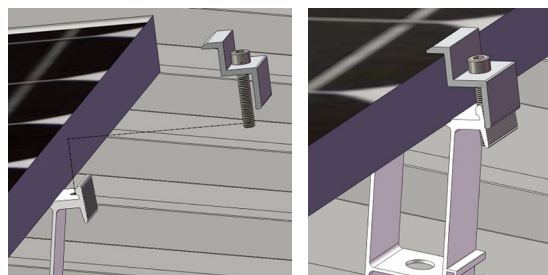


Figure 20

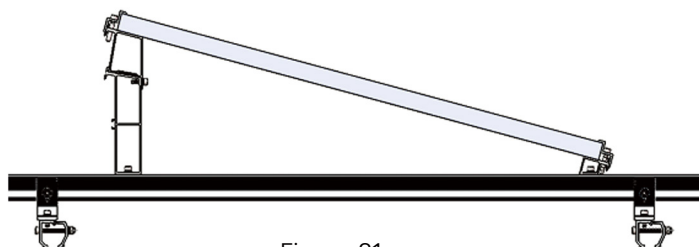


Figure 21

Grounding Lug Installation

The Clenergy provides two types of grounding lugs to meet different installation requirements, such as required earthing cable sizes. In order to meet the minimum earthing electrical resistance requirement by AS/NZS 5033:2021, it is required to install one Grounding Lug per row of rail.

A. Grounding Lug with U-shape Copper Channel (EZ-GL-ST/UC)

The recommended fasten torque of the bolt M8*25 is 16~20 N·m.

Once grounding lug fixing with rail, insert U-Shape Copper Channel into grounding lug as shown in Figure 22. Strip earthing cable (the maximum size is 10 mm²), insert the conductor into the Copper Channel and tighten the bolt M6*14 with 5~6 N·m to ensure the earthing cable is tight.

Note: Please check the electrical resistance between rail and earthing cable conductor to ensure the bonding is made.

There are two options for Grounding Lug installation.

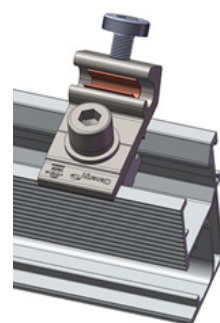


Figure 22

< Solution 1 >

Fix the Grounding Lug into the top channel of the Rail as shown in Figure 23.

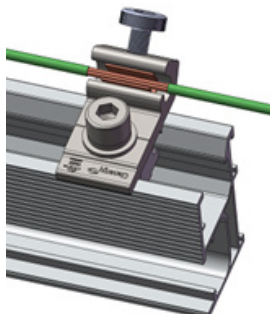


Figure 23

< Solution 2 >

Fix the Grounding Lug at the side channel of Rail as shown in Figure 24.

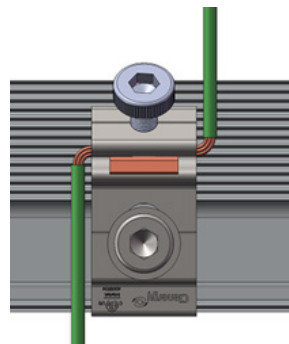


Figure 24

B. The Austin – Commercial Grounding Lug (EZ-GL-AT)

Place the grounding lug on top of rail and ensure z module is on the right position and lug sits flush on the rail surface as shown in Figure 25. Do not fully tighten the bolt.

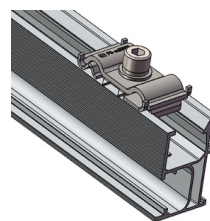


Figure 25

There are two channels to fit different earthing cables.

Channel one is for earthing cable of 4, 6, 10 and 16 mm² and channel two is for earthing cable of 25, 35, 50 mm²

Lift up one side of top plate of lug, insert the conductor of earthing cable into channel and tighten the bolt to ensure lug is well fixed on the rail and earthing cable is tight.

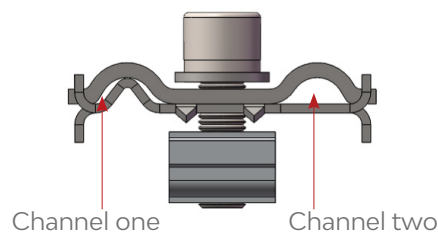
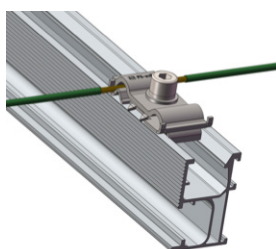


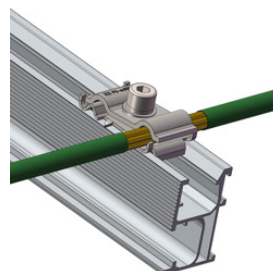
Figure 26

Note:

Please check the electrical resistance between rail and earthing cable conductor to ensure the bonding is made.



Installed in channel one



Installed in channel two

Figure 27

Certification



CIVIL & STRUCTURAL ENGINEERS
RESIDENTIAL - INDUSTRIAL - COMMERCIAL - PRODUCT DEVELOPMENT

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ABN 37 605 815 585

28 August 2023

Clenergy Australia
1/10 Duerdin Street
Clayton, VIC 3168

CERTIFICATION LETTER

Clenergy PV ez-Rack Klip-lok Commercial Tilt V2.0 Certification – TC2, 2.5, 3 – Wind Region A, B1, B2, C, D. Project No.: **CL-620-S-REV 3**. Internal REF: **00630**.

MW Engineering Melbourne, being Structural Engineers within the meaning of Australian regulations, have calculated the maximum spacings for the PV ez-Rack rail system for the following conditions:

- **Wind Loads to AS 1170.2-2021**
 - o Wind Terrain Category 2, 2.5 and 3
 - o Wind average recurrence of 500 years
 - o Wind Region A, B1, B2, C and D
- Solar panel length up to 2.4 m
- Solar panel width up to 1.2m

Attached are the tables showing the spacings according to Wind Region, roof pitch, and building height.

The values shown on these tables will be valid unless an amendment is issued on any of the following codes:

- | | |
|-----------------------------------|--------------------|
| - AS/NZS 1170.0- 2002 AMDT 4-2016 | General Principles |
| - AS/NZS 1170.1- 2002 AMDT 4-2016 | Imposed Loadings |
| - AS/NZS 1170.2- 2021 | Wind Loadings |
| - AS/NZS 1664.1- 1997 AMDT 1:1999 | Aluminium Code |

Should you have any queries, do not hesitate to contact us.

Best Regards,

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August 2023

STRUCTURAL DESIGN CERTIFICATION



PV-ezRack® Klip-lok Commercial Tilt V2.0 Spacing Tables

According to AS/NZS 1170.2:2021

Within Australia

Terrain Category 2, 2.5 & 3

Client: Clenergy Australia

REF: 00630

Date: AUGUST 2023

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REF: 00630

Client: Clenergy Australia

Internal reference: CL-620-S-REV3

Project: PV-ezRack Klip-lok Commercial Tilt 5 degrees spacing tables

Australian Standards

AS/NZS 1170.0:2002 (R2016)

AS/NZS 1170.1:2002 (R2016)

AS/NZS 1170.2:2021

AS/NZS 1664.1:1997-Amdt 1:1999

General Principles

Imposed Loadings

Wind Loadings

Aluminium

Wind Terrain Category: 2, 2.5 & 3

Wind average recurrence: 500 years

Designed: AE

Date: AUGUST 2023

Disclaimer: From the date of publication onwards, any amendment made to any of the above-mentioned Standards will make this report outdated and a new one will have to be released, unless the amendment has no implications on this certificate.

Type of Rail	ER-R-ECO (Refer to Note 6 for other compatible rails)
Type of Interface	ER-I-34 and ER-I-09 (Refer to Note 6 for interface versions)
Solar Panel Dimension	2 m x 1 m (Refer to Note 19 for other panel sizes)

ANGLE TO THE HORIZONTAL	$0^\circ \leq \alpha < 10^\circ$																			
TC	3																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	2009	1366	1025	683	2009	1366	1025	683	1938	1292	969	646	1864	1243	932	621	1499	999	749	500
WRB1	1412	942	706	471	1412	942	706	471	1342	894	671	447	1295	863	647	432	1232	821	616	411
WRB2	1363	848	637	426	1363	848	637	426	1294	807	606	404	1224	779	585	391	1109	741	557	371
WRC	1185	790	592	395	1185	790	592	395	1028	685	514	343	789	526	394	263	694	462	347	231

ANGLE TO THE HORIZONTAL	$0^\circ \leq \alpha < 10^\circ$																			
TC	2.5																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1975	1317	988	658	1901	1267	950	634	1817	1212	909	606	1762	1175	881	587	1436	957	718	479
WRB1	1365	910	683	455	1318	879	659	439	1263	842	632	421	1224	816	612	408	1106	738	553	369
WRB2	1317	821	616	411	1272	793	596	398	1141	760	571	382	1102	737	554	369	997	666	501	334
WRC	1075	717	537	358	965	643	483	322	855	570	428	285	680	453	340	227	619	413	309	206

ANGLE TO THE HORIZONTAL	$0^\circ \leq \alpha < 10^\circ$																			
TC	2																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1910	1273	955	637	1771	1181	886	590	1706	1137	853	569	1678	1119	839	559	1381	921	690	460
WRB1	1326	884	663	442	1232	821	616	411	1122	748	561	374	1059	706	530	353	981	654	490	327
WRB2	1280	797	599	400	1109	741	557	371	1012	676	507	338	956	638	479	320	885	591	444	296
WRC	981	654	490	327	800	534	400	267	722	481	361	241	592	394	296	197	551	367	275	184

Type of Rail	ER-R-ECO (Refer to Note 6 for other compatible rails)
Type of Interface	ER-I-34 and ER-I-09 (Refer to Note 6 for interface versions)
Solar Panel Dimension	2 m x 1 m (Refer to Note 19 for other panel sizes)

ANGLE TO THE HORIZONTAL	$10 \leq \alpha < 15^\circ$																			
TC	3																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1697	1131	848	566	1697	1131	848	566	1613	1076	807	538	1549	1032	774	516	1255	837	628	418
WRB1	1106	738	553	369	1106	738	553	369	949	633	475	316	847	565	424	282	745	497	373	248
WRB2	997	666	500	334	997	666	500	334	856	572	429	286	765	510	383	255	673	449	337	225
WRC	714	476	357	238	714	476	357	238	612	408	306	204	476	317	238	159	422	281	211	141

ANGLE TO THE HORIZONTAL	$10 \leq \alpha < 15^\circ$																			
TC	2.5																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1641	1094	821	547	1586	1057	793	529	1511	1008	756	504	1474	983	759	506	1153	769	577	384
WRB1	996	664	498	332	894	596	447	298	792	528	396	264	730	486	365	243	659	439	330	220
WRB2	899	600	450	300	807	539	405	270	715	478	359	239	659	440	330	220	595	397	298	200
WRC	643	429	322	214	581	387	290	194	518	345	259	173	408	272	204	136	374	249	187	125

ANGLE TO THE HORIZONTAL	$10 \leq \alpha < 15^\circ$																			
TC	2																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1586	1057	793	529	1484	989	742	509	1391	955	716	477	1307	897	673	449	1028	685	514	343
WRB1	910	607	455	303	745	497	373	248	675	450	337	225	636	424	318	212	588	392	294	196
WRB2	821	548	412	275	673	449	337	225	610	407	305	204	574	383	288	192	532	356	267	178
WRC	588	392	294	196	486	324	243	162	439	293	220	146	360	240	180	120	333	222	167	111

LYSAGHT KLIP-LOK 700 CLASSIC (Cont.)

Type of Rail	ER-R-ECO (Refer to Note 6 for other compatible rails)
Type of Interface	ER-I-34 and ER-I-09 (Refer to Note 6 for interface versions)
Solar Panel Dimension	2 m x 1 m (Refer to Note 19 for other panel sizes)

ANGLE TO THE HORIZONTAL	15° ≤ α < 20°																			
TC	3																			
BUILDING HEIGHT (m)	≤ 5				5<H≤10				10<H≤15				15<H≤20				20<H≤30			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1521	1014	760	507	1521	1014	760	507	1437	958	719	479	1280	853	640	427	949	633	475	316
WRB1	800	534	400	267	800	534	400	267	690	460	345	230	620	413	310	207	549	366	275	183
WRB2	721	482	362	241	721	482	362	241	623	416	312	208	559	373	281	187	496	331	248	166
WRC	518	345	259	173	518	345	259	173	447	298	224	149	347	231	173	116	306	204	153	102

ANGLE TO THE HORIZONTAL	15° ≤ α < 20°																			
TC	2.5																			
BUILDING HEIGHT (m)	≤ 5				5<H≤10				10<H≤15				15<H≤20				20<H≤30			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1474	983	737	491	1354	903	677	451	1196	797	598	399	1094	729	547	365	840	560	420	280
WRB1	730	486	365	243	651	434	326	217	581	387	290	194	534	356	267	178	486	324	243	162
WRB2	658	439	330	220	588	392	295	196	524	350	263	175	482	322	241	161	439	293	220	147
WRC	471	314	235	157	424	282	212	141	377	251	188	126	299	199	150	100	272	181	136	91

ANGLE TO THE HORIZONTAL	15° ≤ α < 20°																			
TC	2																			
BUILDING HEIGHT (m)	≤ 5				5<H≤10				10<H≤15				15<H≤20				20<H≤30			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1372	915	686	457	1122	748	561	374	1011	674	505	337	955	637	478	318	745	497	373	248
WRB1	659	439	330	220	549	366	275	183	494	330	247	165	463	309	231	154	432	288	216	144
WRB2	594	397	298	199	496	331	248	166	447	298	224	149	418	279	210	140	390	261	196	130
WRC	432	288	216	144	353	235	177	118	322	214	161	107	265	177	133	88	245	163	122	82

LYSAGHT KLIP-LOK 700 CLASSIC (Cont.)

Type of Rail ER-R-ECO (Refer to Note 6 for other compatible rails)
 Type of Interface ER-I-34 and ER-I-09 (Refer to Note 6 for interface versions)
 Solar Panel Dimension 2 m x 1 m (Refer to Note 19 for other panel sizes)

ANGLE TO THE HORIZONTAL	$\alpha = 20^\circ$																			
TC	3																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1215	810	607	405	1215	810	607	405	1048	699	524	349	937	624	468	312	698	466	349	233
WRB1	588	392	294	196	588	392	294	196	510	340	255	170	463	309	231	154	408	272	204	136
WRB2	531	354	266	178	531	354	266	178	461	308	231	154	418	279	209	140	369	246	184	123
WRC	384	256	192	128	384	256	192	128	337	225	169	112	258	172	129	86	231	154	116	77

ANGLE TO THE HORIZONTAL	$\alpha = 20^\circ$																			
TC	2.5																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1094	729	547	365	992	661	496	331	872	581	436	291	807	538	403	269	620	413	310	207
WRB1	534	356	267	178	486	324	243	162	432	288	216	144	400	267	200	133	361	241	180	120
WRB2	482	321	241	161	439	293	220	147	390	261	195	130	361	241	181	121	326	218	163	109
WRC	353	235	177	118	314	209	157	105	282	188	141	94	224	150	112	75	204	136	102	68

ANGLE TO THE HORIZONTAL	$\alpha = 20^\circ$																			
TC	2																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1001	668	501	334	825	550	413	275	742	495	371	247	705	470	352	235	549	366	275	183
WRB1	486	324	243	162	408	272	204	136	369	246	184	123	345	230	173	115	322	214	161	107
WRB2	439	293	220	147	369	246	184	123	334	223	167	111	312	208	157	104	291	194	146	97
WRC	322	214	161	107	267	178	133	89	243	162	122	81	197	131	99	66	184	122	92	61

Type of Rail	ER-R-ECO (Refer to Note 6 for other compatible rails)
Type of Interface	ER-I-34 and ER-I-09 (Refer to Note 6 for interface versions)
Solar Panel Dimension	2 m x 1 m (Refer to Note 19 for other panel sizes)

ANGLE TO THE HORIZONTAL	$0^\circ \leq \alpha < 10^\circ$																			
TC	3																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	2009	1366	1025	683	2009	1366	1025	683	1938	1292	969	646	1864	1243	932	621	1499	999	749	500
WRB1	1412	942	706	471	1412	942	706	471	1342	894	671	447	1295	863	647	432	1153	769	577	384
WRB2	1363	848	637	426	1363	848	637	426	1294	807	606	404	1224	779	585	391	1039	694	521	348
WRC	1091	727	545	364	1091	727	545	364	942	628	471	314	728	485	364	243	639	426	320	213

ANGLE TO THE HORIZONTAL	$0^\circ \leq \alpha < 10^\circ$																			
TC	2.5																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1975	1317	988	658	1901	1267	950	634	1817	1212	909	606	1762	1175	881	587	1436	957	718	479
WRB1	1365	910	683	455	1318	879	659	439	1232	821	616	411	1130	753	565	377	1012	675	506	337
WRB2	1317	821	616	411	1272	793	596	398	1113	741	557	372	1017	680	511	341	912	609	458	306
WRC	989	659	494	330	887	591	443	296	785	523	392	262	626	417	313	209	564	376	282	188

ANGLE TO THE HORIZONTAL	$0^\circ \leq \alpha < 10^\circ$																			
TC	2																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1910	1273	955	637	1771	1181	886	590	1706	1137	853	569	1678	1119	839	559	1381	921	690	460
WRB1	1326	884	663	442	1153	769	577	384	1036	690	518	345	973	649	486	324	902	602	451	301
WRB2	1280	797	599	400	1039	694	521	348	934	624	468	312	878	586	440	294	814	544	408	273
WRC	902	602	451	301	738	492	369	246	667	445	333	222	544	363	272	181	503	335	252	168

Type of Rail	ER-R-ECO (Refer to Note 6 for other compatible rails)
Type of Interface	ER-I-34 and ER-I-09 (Refer to Note 6 for interface versions)
Solar Panel Dimension	2 m x 1 m (Refer to Note 19 for other panel sizes)

ANGLE TO THE HORIZONTAL	$10 \leq \alpha < 15^\circ$																			
TC	3																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1697	1131	848	566	1697	1131	848	566	1613	1076	807	538	1549	1032	774	516	1208	806	604	403
WRB1	1020	680	510	340	1020	680	510	340	879	586	439	293	785	523	392	262	690	460	345	230
WRB2	919	614	461	308	919	614	461	308	792	529	397	265	708	473	355	236	623	416	312	209
WRC	651	434	326	217	651	434	326	217	565	377	282	188	435	290	218	145	388	258	194	129

ANGLE TO THE HORIZONTAL	$10 \leq \alpha < 15^\circ$																			
TC	2.5																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1641	1094	821	547	1586	1057	793	529	1511	1008	756	504	1391	927	695	464	1059	706	530	353
WRB1	918	612	459	306	824	549	412	275	730	486	365	243	675	450	337	225	612	408	306	204
WRB2	828	553	415	277	743	496	373	248	658	440	331	220	609	407	305	203	553	369	277	185
WRC	596	398	298	199	534	356	267	178	471	314	235	157	381	254	190	127	340	227	170	113

ANGLE TO THE HORIZONTAL	$10 \leq \alpha < 15^\circ$																			
TC	2																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1586	1057	793	529	1428	952	714	476	1280	853	640	427	1205	804	603	402	949	633	475	316
WRB1	840	560	420	280	690	460	345	230	620	413	310	207	588	392	294	196	541	361	271	180
WRB2	757	506	380	253	623	416	312	209	560	374	281	187	532	355	267	178	489	327	245	163
WRC	541	361	271	180	447	298	224	149	400	267	200	133	333	222	167	111	306	204	153	102

LYSAGHT KLIP-LOK 700 HI-STRENGTH (Cont.)

Type of Rail	ER-R-ECO (Refer to Note 6 for other compatible rails)
Type of Interface	ER-I-34 and ER-I-09 (Refer to Note 6 for interface versions)
Solar Panel Dimension	2 m x 1 m (Refer to Note 19 for other panel sizes)

ANGLE TO THE HORIZONTAL	15° ≤ α < 20°																			
TC	3																			
BUILDING HEIGHT (m)	≤ 5				5<H≤10				10<H≤15				15<H≤20				20<H≤30			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1521	1014	760	507	1521	1014	760	507	1326	884	663	442	1178	785	589	393	871	581	435	290
WRB1	738	492	369	246	738	492	369	246	636	424	318	212	573	382	286	191	502	335	251	167
WRB2	664	444	334	223	664	444	334	223	573	383	287	192	517	345	259	173	453	302	227	152
WRC	479	319	239	160	479	319	239	160	416	277	208	139	320	213	160	107	286	190	143	95

ANGLE TO THE HORIZONTAL	15° ≤ α < 20°																			
TC	2.5																			
BUILDING HEIGHT (m)	≤ 5				5<H≤10				10<H≤15				15<H≤20				20<H≤30			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1391	927	695	464	1243	828	621	414	1103	736	552	368	1011	674	505	337	769	513	384	256
WRB1	667	445	333	222	604	403	302	201	534	356	267	178	494	330	247	165	447	298	224	149
WRB2	602	402	301	201	545	364	273	182	481	322	242	161	446	298	223	149	404	270	203	135
WRC	432	288	216	144	392	262	196	131	345	230	173	115	279	186	139	93	252	168	126	84

ANGLE TO THE HORIZONTAL	15° ≤ α < 20°																			
TC	2																			
BUILDING HEIGHT (m)	≤ 5				5<H≤10				10<H≤15				15<H≤20				20<H≤30			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1261	841	631	420	1029	686	515	343	927	618	464	309	881	587	440	294	690	460	345	230
WRB1	612	408	306	204	502	335	251	167	455	303	228	152	432	288	216	144	400	267	200	133
WRB2	552	369	277	185	453	302	227	152	411	274	206	138	390	260	196	131	362	242	181	121
WRC	400	267	200	133	330	220	165	110	298	199	149	99	245	163	122	82	224	150	112	75

LYSAGHT KLIP-LOK 700 HI-STRENGTH (Cont.)

Type of Rail	ER-R-ECO (Refer to Note 6 for other compatible rails)
Type of Interface	ER-I-34 and ER-I-09 (Refer to Note 6 for interface versions)
Solar Panel Dimension	2 m x 1 m (Refer to Note 19 for other panel sizes)

ANGLE TO THE HORIZONTAL	$\alpha = 20^\circ$																			
TC	3																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1113	742	556	371	1113	742	556	371	964	643	482	321	862	575	431	287	643	429	322	214
WRB1	541	361	271	180	541	361	271	180	471	314	235	157	424	282	212	141	377	251	188	126
WRB2	489	326	245	163	489	326	245	163	425	284	213	142	383	256	191	128	340	227	170	114
WRC	353	235	177	118	353	235	177	118	306	204	153	102	238	159	119	79	211	141	105	70

ANGLE TO THE HORIZONTAL	$\alpha = 20^\circ$																			
TC	2.5																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1011	674	505	337	909	606	454	303	807	538	403	269	742	495	371	247	573	382	286	191
WRB1	494	330	247	165	447	298	224	149	400	267	200	133	369	246	184	123	330	220	165	110
WRB2	446	298	224	149	404	269	202	135	362	242	181	121	333	223	167	111	298	199	149	99
WRC	322	214	161	107	290	194	145	97	259	173	129	86	211	141	105	70	190	127	95	63

ANGLE TO THE HORIZONTAL	$\alpha = 20^\circ$																			
TC	2																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	918	612	459	306	760	507	380	253	686	457	343	229	649	433	325	216	510	340	255	170
WRB1	455	303	228	152	377	251	188	126	337	225	169	112	322	214	161	107	298	199	149	99
WRB2	411	275	206	137	340	227	170	114	305	204	153	102	291	194	146	97	270	180	135	90
WRC	298	199	149	99	243	162	122	81	220	146	110	73	184	122	92	61	170	113	85	57

Type of Rail ER-R-ECO (Refer to Note 6 for other compatible rails)
 Type of Interface ER-I-32/AU
 Solar Panel Dimension 2 m x 1 m (Refer to Note 19 for other panel sizes)

ANGLE TO THE HORIZONTAL	$0^\circ \leq \alpha < 10^\circ$																			
TC	3																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	2009	1366	1025	683	2009	1366	1025	683	1938	1292	969	646	1864	1243	932	621	1499	999	749	500
WRB1	1412	942	706	471	1412	942	706	471	1342	894	671	447	1295	863	647	432	1232	821	616	411
WRB2	1363	848	637	426	1363	848	637	426	1294	807	606	404	1224	779	585	391	1109	741	557	371
WRC	1216	811	608	405	1216	811	608	405	1153	769	577	384	966	644	483	322	877	585	439	292

ANGLE TO THE HORIZONTAL	$0^\circ \leq \alpha < 10^\circ$																			
TC	2.5																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1975	1317	988	658	1901	1267	950	634	1817	1212	909	606	1762	1175	881	587	1436	957	718	479
WRB1	1365	910	683	455	1318	879	659	439	1263	842	632	421	1224	816	612	408	1185	790	592	395
WRB2	1317	821	616	411	1272	793	596	398	1141	760	571	382	1102	737	554	369	1067	713	536	358
WRC	1177	785	588	392	1138	781	586	390	1107	703	527	351	857	571	428	286	775	517	388	258

ANGLE TO THE HORIZONTAL	$0^\circ \leq \alpha < 10^\circ$																			
TC	2																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1910	1273	955	637	1771	1181	886	590	1706	1137	853	569	1678	1119	839	559	1381	921	690	460
WRB1	1326	884	663	442	1232	821	616	411	1193	795	596	398	1169	779	585	390	1138	781	586	390
WRB2	1280	797	599	400	1109	741	557	371	1075	719	539	360	1055	704	529	353	1027	706	530	354
WRC	1138	758	586	390	992	662	496	331	937	595	446	297	748	499	374	249	694	462	347	231

Type of Rail	ER-R-ECO (Refer to Note 6 for other compatible rails)
Type of Interface	ER-I-32/AU
Solar Panel Dimension	2 m x 1 m (Refer to Note 19 for other panel sizes)

ANGLE TO THE HORIZONTAL	$10 \leq \alpha < 15^\circ$																			
TC	3																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1697	1131	848	566	1697	1131	848	566	1613	1076	807	538	1549	1032	774	516	1255	837	628	418
WRB1	1185	790	592	395	1185	790	592	395	1130	753	565	377	1067	732	549	366	942	646	485	323
WRB2	1067	713	536	357	1067	713	536	357	1019	680	511	341	963	662	497	331	850	584	438	293
WRC	894	596	447	298	894	596	447	298	777	518	388	267	598	399	299	199	530	354	265	177

ANGLE TO THE HORIZONTAL	$10 \leq \alpha < 15^\circ$																			
TC	2.5																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1641	1094	821	547	1586	1057	793	529	1511	1008	756	504	1474	983	759	506	1200	800	600	400
WRB1	1146	764	573	382	1106	738	569	380	1004	689	517	345	918	630	473	315	832	571	428	285
WRB2	1033	690	518	345	998	667	515	343	906	624	468	312	829	570	427	285	751	516	388	259
WRC	808	539	404	269	730	486	365	243	651	434	326	217	517	345	258	172	469	313	235	156

ANGLE TO THE HORIZONTAL	$10 \leq \alpha < 15^\circ$																			
TC	2																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1586	1057	793	529	1484	989	742	509	1470	980	735	467	1373	915	686	458	1153	769	577	384
WRB1	1114	743	557	382	942	646	485	323	847	582	436	291	800	549	412	275	767	512	384	256
WRB2	1005	671	504	346	850	584	438	293	766	526	395	264	723	497	373	249	694	464	348	231
WRC	738	492	369	246	612	408	306	204	549	366	275	183	449	299	224	150	422	281	211	141

Type of Rail	ER-R-ECO (Refer to Note 6 for other compatible rails)
Type of Interface	ER-I-32/AU
Solar Panel Dimension	2 m x 1 m (Refer to Note 19 for other panel sizes)

ANGLE TO THE HORIZONTAL	15° ≤ α < 20°																			
TC	3																			
BUILDING HEIGHT (m)	≤ 5				5<H≤10				10<H≤15				15<H≤20				20<H≤30			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1521	1014	760	507	1521	1014	760	507	1447	964	723	482	1391	927	695	464	1130	753	565	377
WRB1	1012	675	506	337	1012	675	506	337	871	581	435	290	785	523	392	262	690	460	345	230
WRB2	912	609	458	305	912	609	458	305	785	524	394	263	708	473	355	236	623	416	312	209
WRC	651	434	326	217	651	434	326	217	565	377	282	188	442	295	221	147	388	258	194	129

ANGLE TO THE HORIZONTAL	15° ≤ α < 20°																			
TC	2.5																			
BUILDING HEIGHT (m)	≤ 5				5<H≤10				10<H≤15				15<H≤20				20<H≤30			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1474	983	737	491	1419	946	709	473	1363	909	682	454	1326	884	663	442	1059	706	530	353
WRB1	918	612	459	306	824	549	412	275	730	486	365	243	675	450	337	225	612	408	306	204
WRB2	828	553	415	277	743	496	373	248	658	440	331	220	609	407	305	203	553	369	277	185
WRC	596	398	298	199	534	356	267	178	479	319	239	160	381	254	190	127	347	231	173	116

ANGLE TO THE HORIZONTAL	15° ≤ α < 20°																			
TC	2																			
BUILDING HEIGHT (m)	≤ 5				5<H≤10				10<H≤15				15<H≤20				20<H≤30			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1428	952	714	476	1335	890	668	445	1270	847	635	423	1205	804	603	402	942	628	471	314
WRB1	832	554	416	277	690	460	345	230	620	413	310	207	588	392	294	196	541	361	271	180
WRB2	750	501	376	251	623	416	312	209	560	374	281	187	532	355	267	178	489	327	245	163
WRC	541	361	271	180	447	298	224	149	408	272	204	136	333	222	167	111	306	204	153	102

Type of Rail ER-R-ECO (Refer to Note 6 for other compatible rails)
 Type of Interface ER-I-32/AU
 Solar Panel Dimension 2 m x 1 m (Refer to Note 19 for other panel sizes)

ANGLE TO THE HORIZONTAL	$\alpha = 20^\circ$																			
TC	3																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1363	909	682	454	1363	909	682	454	1298	865	649	433	1178	785	589	393	879	586	439	293
WRB1	745	497	373	248	745	497	373	248	643	429	322	214	581	387	290	194	510	340	255	170
WRB2	673	449	337	225	673	449	337	225	581	388	291	194	525	350	262	176	461	308	230	154
WRC	486	324	243	162	486	324	243	162	424	282	212	141	326	218	163	109	292	195	146	97

ANGLE TO THE HORIZONTAL	$\alpha = 20^\circ$																			
TC	2.5																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1326	884	663	442	1243	828	621	414	1103	736	552	368	1020	680	510	340	777	518	388	259
WRB1	675	450	337	225	612	408	306	204	541	361	271	180	502	335	251	167	455	303	228	152
WRB2	609	406	305	203	552	369	277	185	489	327	245	164	454	303	227	152	412	274	206	137
WRC	439	293	220	146	400	267	200	133	353	235	177	118	286	190	143	95	258	172	129	86

ANGLE TO THE HORIZONTAL	$\alpha = 20^\circ$																			
TC	2																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1261	841	631	420	1039	692	519	346	937	624	468	312	881	587	440	294	698	466	349	233
WRB1	620	413	310	207	510	340	255	170	463	309	231	154	439	293	220	146	408	272	204	136
WRB2	560	374	281	187	461	308	230	154	419	280	210	140	398	265	199	133	369	246	185	124
WRC	400	267	200	133	337	225	169	112	306	204	153	102	252	168	126	84	231	154	116	77

Type of Rail	ER-R-ECO (Refer to Note 6 for other compatible rails)
Type of Interface	ER-I-34 and ER-I-09 (Refer to Note 6 for interface versions)
Solar Panel Dimension	2 m x 1 m (Refer to Note 19 for other panel sizes)

ANGLE TO THE HORIZONTAL	$0^\circ \leq \alpha < 10^\circ$																			
TC	3																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1879	1252	939	626	1879	1252	939	626	1777	1184	888	592	1709	1139	854	570	1499	999	749	500
WRB1	1412	942	706	471	1412	942	706	471	1342	894	671	447	1295	863	647	432	1232	821	616	411
WRB2	1363	848	637	426	1363	848	637	426	1294	807	606	404	1224	779	585	391	1109	741	557	371
WRC	1216	811	608	405	1216	811	608	405	1153	769	577	384	938	626	469	313	823	549	411	274

ANGLE TO THE HORIZONTAL	$0^\circ \leq \alpha < 10^\circ$																			
TC	2.5																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1811	1207	905	603	1743	1162	871	581	1666	1111	833	555	1615	1077	808	538	1436	957	718	479
WRB1	1365	910	683	455	1318	879	659	439	1263	842	632	421	1224	816	612	408	1185	790	592	395
WRB2	1317	821	616	411	1272	793	596	398	1141	760	571	382	1102	737	554	369	1067	713	536	358
WRC	1177	785	588	392	1138	781	586	390	1012	695	521	347	809	539	405	270	728	485	364	243

ANGLE TO THE HORIZONTAL	$0^\circ \leq \alpha < 10^\circ$																			
TC	2																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1751	1167	875	584	1624	1082	812	541	1564	1043	782	521	1539	1026	769	513	1381	921	690	460
WRB1	1326	884	663	442	1232	821	616	411	1193	795	596	398	1169	779	585	390	1138	781	586	390
WRB2	1280	797	599	400	1109	741	557	371	1075	719	539	360	1055	704	529	353	1027	706	530	354
WRC	1138	758	586	390	949	652	489	326	855	587	440	293	700	467	350	233	653	435	326	218

Type of Rail	ER-R-ECO (Refer to Note 6 for other compatible rails)
Type of Interface	ER-I-34 and ER-I-09 (Refer to Note 6 for interface versions)
Solar Panel Dimension	2 m x 1 m (Refer to Note 19 for other panel sizes)

ANGLE TO THE HORIZONTAL	$10 \leq \alpha < 15^\circ$																			
TC	3																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1556	1037	778	519	1556	1037	778	519	1479	986	740	493	1420	946	710	473	1255	837	628	418
WRB1	1185	790	592	395	1185	790	592	395	1130	753	565	377	1004	670	502	335	887	591	443	296
WRB2	1067	713	536	357	1067	713	536	357	1019	680	511	341	906	605	454	303	800	534	401	268
WRC	840	560	420	280	840	560	420	280	730	486	365	243	564	376	282	188	496	331	248	165

ANGLE TO THE HORIZONTAL	$10 \leq \alpha < 15^\circ$																			
TC	2.5																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1505	1003	752	502	1454	969	727	485	1386	924	693	462	1352	901	676	451	1200	800	600	400
WRB1	1146	764	573	382	1067	711	534	356	942	628	471	314	863	575	432	288	785	523	392	262
WRB2	1033	690	518	345	963	643	483	322	850	568	427	284	779	520	390	260	709	473	355	238
WRC	761	507	381	254	690	460	345	230	612	408	306	204	490	326	245	163	442	295	221	147

ANGLE TO THE HORIZONTAL	$10 \leq \alpha < 15^\circ$																			
TC	2																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1454	969	727	485	1360	907	680	453	1309	873	655	436	1284	856	661	440	1153	769	577	384
WRB1	1075	717	537	358	887	591	443	296	800	534	400	267	753	502	377	251	698	466	349	233
WRB2	969	647	486	324	800	534	401	268	723	483	362	242	681	454	341	228	631	422	317	211
WRC	698	466	349	233	573	382	286	191	518	345	259	173	422	281	211	141	394	263	197	131

Type of Rail	ER-R-ECO (Refer to Note 6 for other compatible rails)
Type of Interface	ER-I-34 and ER-I-09 (Refer to Note 6 for interface versions)
Solar Panel Dimension	2 m x 1 m (Refer to Note 19 for other panel sizes)

ANGLE TO THE HORIZONTAL	15° ≤ α < 20°																			
TC	3																			
BUILDING HEIGHT (m)	≤ 5				5<H≤10				10<H≤15				15<H≤20				20<H≤30			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1394	929	697	465	1394	929	697	465	1326	884	663	442	1275	850	638	425	1122	748	561	374
WRB1	949	633	475	316	949	633	475	316	824	549	412	275	738	492	369	246	643	429	322	214
WRB2	855	572	429	286	855	572	429	286	743	496	372	248	666	444	334	222	581	388	291	194
WRC	612	408	306	204	612	408	306	204	534	356	267	178	415	277	207	138	367	245	184	122

ANGLE TO THE HORIZONTAL	15° ≤ α < 20°																			
TC	2.5																			
BUILDING HEIGHT (m)	≤ 5				5<H≤10				10<H≤15				15<H≤20				20<H≤30			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1352	901	676	451	1301	867	650	434	1250	833	625	417	1190	793	595	397	996	664	498	332
WRB1	863	575	432	288	777	518	388	259	690	460	345	230	636	424	318	212	573	382	286	191
WRB2	779	520	390	260	701	468	352	234	623	417	313	209	574	383	287	192	517	345	259	173
WRC	557	371	279	186	502	335	251	167	447	298	224	149	360	240	180	120	326	218	163	109

ANGLE TO THE HORIZONTAL	15° ≤ α < 20°																			
TC	2																			
BUILDING HEIGHT (m)	≤ 5				5<H≤10				10<H≤15				15<H≤20				20<H≤30			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1309	873	655	436	1216	810	608	405	1097	731	548	366	1037	691	519	346	887	591	443	296
WRB1	785	523	392	262	643	429	322	214	588	392	294	196	549	366	275	183	510	340	255	170
WRB2	708	473	355	237	581	388	291	194	532	355	266	178	496	331	249	166	461	308	231	154
WRC	510	340	255	170	424	282	212	141	384	256	192	128	313	209	156	104	292	195	146	97

Type of Rail	ER-R-ECO (Refer to Note 6 for other compatible rails)
Type of Interface	ER-I-34 and ER-I-09 (Refer to Note 6 for interface versions)
Solar Panel Dimension	2 m x 1 m (Refer to Note 19 for other panel sizes)

ANGLE TO THE HORIZONTAL	$\alpha = 20^\circ$																			
TC	3																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1250	833	625	417	1250	833	625	417	1139	759	570	380	1012	674	506	337	824	549	412	275
WRB1	698	466	349	233	698	466	349	233	604	403	302	201	541	361	271	180	479	319	239	160
WRB2	631	421	316	211	631	421	316	211	546	364	274	182	489	327	245	164	433	289	216	144
WRC	455	303	228	152	455	303	228	152	400	267	200	133	306	204	153	102	272	181	136	91

ANGLE TO THE HORIZONTAL	$\alpha = 20^\circ$																			
TC	2.5																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1190	793	595	397	1071	714	536	357	952	635	476	317	875	584	438	292	730	486	365	243
WRB1	636	424	318	212	573	382	286	191	510	340	255	170	471	314	235	157	424	282	212	141
WRB2	574	383	287	192	517	345	259	173	461	308	231	154	425	284	213	142	383	255	192	128
WRC	416	277	208	139	377	251	188	126	337	225	169	112	265	177	133	88	245	163	122	82

ANGLE TO THE HORIZONTAL	$\alpha = 20^\circ$																			
TC	2																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1088	725	544	363	892	595	446	298	808	538	404	269	765	510	383	255	651	434	326	217
WRB1	581	387	290	194	479	319	239	160	432	288	216	144	408	272	204	136	384	256	192	128
WRB2	524	350	263	175	433	289	216	144	390	261	196	130	369	246	185	123	348	232	174	116
WRC	377	251	188	126	314	209	157	105	282	188	141	94	231	154	116	77	218	145	109	73

Type of Rail	ER-R-ECO (Refer to Note 6 for other compatible rails)
Type of Interface	ER-I-34 and ER-I-09 (Refer to Note 6 for interface versions)
Solar Panel Dimension	2 m x 1 m (Refer to Note 19 for other panel sizes)

ANGLE TO THE HORIZONTAL	$0^\circ \leq \alpha < 10^\circ$																			
TC	3																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1833	1222	916	611	1833	1222	916	611	1659	1106	829	553	1460	973	730	487	1200	800	600	400
WRB1	1004	670	502	335	1004	670	502	335	863	575	432	288	761	507	381	254	667	445	333	222
WRB2	969	603	453	303	969	603	453	303	833	519	390	260	719	458	344	230	601	401	301	201
WRC	636	424	318	212	636	424	318	212	549	366	275	183	422	281	211	141	374	249	187	125

ANGLE TO THE HORIZONTAL	$0^\circ \leq \alpha < 10^\circ$																			
TC	2.5																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1750	1167	875	583	1559	1039	780	520	1360	907	680	453	1244	829	622	415	1051	701	526	350
WRB1	902	602	451	301	808	539	404	269	714	476	357	238	659	439	330	220	588	392	294	196
WRB2	871	543	407	272	780	486	365	244	645	429	323	216	593	397	298	199	530	354	266	178
WRC	573	382	286	191	518	345	259	173	455	303	228	152	367	245	184	122	333	222	167	111

ANGLE TO THE HORIZONTAL	$0^\circ \leq \alpha < 10^\circ$																			
TC	2																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1576	1050	788	525	1269	846	634	423	1136	757	568	379	1070	713	535	357	934	622	467	311
WRB1	824	549	412	275	667	445	333	222	604	403	302	201	565	377	282	188	526	350	263	175
WRB2	795	495	372	248	601	401	301	201	545	364	273	182	510	340	255	171	474	317	238	159
WRC	526	350	263	175	432	288	216	144	392	262	196	131	320	213	160	107	292	195	146	97

Type of Rail	ER-R-ECO (Refer to Note 6 for other compatible rails)
Type of Interface	ER-I-34 and ER-I-09 (Refer to Note 6 for interface versions)
Solar Panel Dimension	2 m x 1 m (Refer to Note 19 for other panel sizes)

ANGLE TO THE HORIZONTAL	$10 \leq \alpha < 15^\circ$																			
TC	3																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1111	741	556	370	1111	741	556	370	954	636	477	318	846	564	423	282	698	466	349	233
WRB1	588	392	294	196	588	392	294	196	510	340	255	170	455	303	228	152	400	267	200	133
WRB2	530	354	266	178	530	354	266	178	460	307	231	154	411	274	206	137	361	241	181	121
WRC	384	256	192	128	384	256	192	128	330	220	165	110	258	172	129	86	224	150	112	75

ANGLE TO THE HORIZONTAL	$10 \leq \alpha < 15^\circ$																			
TC	2.5																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1003	669	502	334	896	597	448	299	788	525	394	263	721	481	361	240	620	413	310	207
WRB1	534	356	267	178	479	319	239	160	424	282	212	141	392	262	196	131	353	235	177	118
WRB2	481	321	241	161	432	288	217	144	382	256	192	128	354	237	177	118	319	213	160	107
WRC	345	230	173	115	314	209	157	105	275	183	137	92	224	150	112	75	204	136	102	68

ANGLE TO THE HORIZONTAL	$10 \leq \alpha < 15^\circ$																			
TC	2																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	912	608	456	304	738	492	369	246	663	442	332	221	630	420	315	210	549	366	275	183
WRB1	486	324	243	162	400	267	200	133	361	241	180	120	345	230	173	115	314	209	157	105
WRB2	439	293	220	147	361	241	181	121	326	218	163	109	312	208	156	105	284	190	142	95
WRC	314	209	157	105	259	173	129	86	235	157	118	78	190	127	95	63	177	118	88	59

STRATCO TOPDECK 700 (Cont.)

Type of Rail	ER-R-ECO (Refer to Note 6 for other compatible rails)
Type of Interface	ER-I-34 and ER-I-09 (Refer to Note 6 for interface versions)
Solar Panel Dimension	2 m x 1 m (Refer to Note 19 for other panel sizes)

ANGLE TO THE HORIZONTAL	$15^\circ \leq \alpha < 20^\circ$																			
TC	3																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	796	531	398	265	796	531	398	265	688	459	344	229	614	409	307	205	510	340	255	170
WRB1	432	288	216	144	432	288	216	144	369	246	184	123	330	220	165	110	290	194	145	97
WRB2	389	260	195	130	389	260	195	130	333	222	167	111	297	198	149	99	262	175	131	88
WRC	282	188	141	94	282	188	141	94	243	162	122	81	190	127	95	63	163	109	82	54

ANGLE TO THE HORIZONTAL	$15^\circ \leq \alpha < 20^\circ$																			
TC	2.5																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	721	481	361	240	647	431	323	216	572	381	286	191	522	348	261	174	447	298	224	149
WRB1	392	262	196	131	353	235	177	118	314	209	157	105	290	194	145	97	259	173	129	86
WRB2	354	236	177	118	319	213	160	106	283	189	142	95	262	175	131	88	234	156	117	78
WRC	251	167	126	84	228	152	114	76	204	136	102	68	163	109	82	54	150	100	75	50

ANGLE TO THE HORIZONTAL	$15^\circ \leq \alpha < 20^\circ$																			
TC	2																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	655	437	328	218	539	359	270	180	481	321	240	160	456	304	228	152	400	267	200	133
WRB1	353	235	177	118	290	194	145	97	267	178	133	89	251	167	126	84	235	157	118	78
WRB2	318	213	160	107	262	175	131	88	241	161	121	81	227	151	114	76	213	142	107	71
WRC	235	157	118	78	188	126	94	63	173	115	86	58	143	95	71	48	136	91	68	45

Type of Rail ER-R-ECO (Refer to Note 6 for other compatible rails)
 Type of Interface ER-I-34 and ER-I-09 (Refer to Note 6 for interface versions)
 Solar Panel Dimension 2 m x 1 m (Refer to Note 19 for other panel sizes)

ANGLE TO THE HORIZONTAL	$\alpha = 20^\circ$																			
TC	3																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	580	387	290	193	580	387	290	193	506	337	253	169	448	299	224	149	377	251	188	126
WRB1	322	214	161	107	322	214	161	107	275	183	137	92	251	167	126	84	220	146	110	73
WRB2	290	194	145	97	290	194	145	97	248	166	124	83	227	151	113	76	199	133	99	66
WRC	212	141	106	71	212	141	106	71	180	120	90	60	143	95	71	48	122	82	61	41

ANGLE TO THE HORIZONTAL	$\alpha = 20^\circ$																			
TC	2.5																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	522	348	261	174	473	315	236	158	423	282	211	141	390	260	195	130	330	220	165	110
WRB1	290	194	145	97	259	173	129	86	235	157	118	78	212	141	106	71	196	131	98	65
WRB2	262	175	131	88	234	156	117	78	213	142	106	71	191	128	96	64	177	118	89	59
WRC	188	126	94	63	173	115	86	58	149	99	75	50	122	82	61	41	109	73	54	36

ANGLE TO THE HORIZONTAL	$\alpha = 20^\circ$																			
TC	2																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	481	321	240	160	398	265	199	133	357	238	178	119	340	227	170	113	298	199	149	99
WRB1	267	178	133	89	220	146	110	73	196	131	98	65	188	126	94	63	173	115	86	58
WRB2	241	161	121	80	199	133	99	66	177	118	89	59	170	114	85	57	156	104	78	52
WRC	173	115	86	58	141	94	71	47	133	89	67	44	109	73	54	36	102	68	51	34

Type of Rail	ER-R-ECO (Refer to Note 6 for other compatible rails)
Type of Interface	ER-I-34 and ER-I-09 (Refer to Note 6 for interface versions)
Solar Panel Dimension	2 m x 1 m (Refer to Note 19 for other panel sizes)

ANGLE TO THE HORIZONTAL	$0^\circ \leq \alpha < 10^\circ$																			
TC	3																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1879	1252	939	626	1879	1252	939	626	1649	1099	825	550	1454	969	727	485	1161	774	581	387
WRB1	973	649	486	324	973	649	486	324	832	554	416	277	738	492	369	246	651	434	326	217
WRB2	939	584	439	293	939	584	439	293	802	500	376	251	697	444	333	223	586	392	294	196
WRC	620	413	310	207	620	413	310	207	534	356	267	178	408	272	204	136	360	240	180	120

ANGLE TO THE HORIZONTAL	$0^\circ \leq \alpha < 10^\circ$																			
TC	2.5																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1734	1156	867	578	1547	1031	774	516	1352	901	676	451	1233	822	616	411	1020	680	510	340
WRB1	879	586	439	293	785	523	392	262	690	460	345	230	636	424	318	212	573	382	286	191
WRB2	848	528	397	265	757	472	355	237	624	415	312	209	572	382	287	192	516	345	259	173
WRC	557	371	279	186	502	335	251	167	447	298	224	149	354	236	177	118	320	213	160	107

ANGLE TO THE HORIZONTAL	$0^\circ \leq \alpha < 10^\circ$																			
TC	2																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1564	1043	782	521	1258	839	629	419	1131	754	565	377	1063	708	531	354	902	602	451	301
WRB1	792	528	396	264	651	434	326	217	581	387	290	194	549	366	275	183	510	340	255	170
WRB2	765	476	358	239	586	392	294	196	523	350	262	175	495	331	248	166	460	307	231	154
WRC	510	340	255	170	416	277	208	139	377	251	188	126	306	204	153	102	286	190	143	95

Type of Rail ER-R-ECO (Refer to Note 6 for other compatible rails)
 Type of Interface ER-I-34 and ER-I-09 (Refer to Note 6 for interface versions)
 Solar Panel Dimension 2 m x 1 m (Refer to Note 19 for other panel sizes)

ANGLE TO THE HORIZONTAL	$10 \leq \alpha < 15^\circ$																			
TC	3																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1105	737	553	368	1105	737	553	368	943	629	472	315	842	561	421	281	675	450	337	225
WRB1	573	382	286	191	573	382	286	191	494	330	247	165	439	293	220	146	384	256	192	128
WRB2	516	345	259	173	516	345	259	173	446	298	223	149	397	265	199	132	347	232	174	116
WRC	369	246	184	123	369	246	184	123	322	214	161	107	245	163	122	82	218	145	109	73

ANGLE TO THE HORIZONTAL	$10 \leq \alpha < 15^\circ$																			
TC	2.5																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	994	663	497	332	892	595	446	298	782	521	391	261	723	482	361	241	596	398	298	199
WRB1	518	345	259	173	463	309	231	154	416	277	208	139	377	251	188	126	345	230	173	115
WRB2	467	312	234	156	418	279	210	140	375	251	188	126	340	227	170	114	312	208	156	105
WRC	337	225	169	112	306	204	153	102	267	178	133	89	211	141	105	70	197	131	99	66

ANGLE TO THE HORIZONTAL	$10 \leq \alpha < 15^\circ$																			
TC	2																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	901	601	451	300	731	487	366	244	663	442	332	221	621	414	310	207	534	356	267	178
WRB1	471	314	235	157	384	256	192	128	353	235	177	118	330	220	165	110	306	204	153	102
WRB2	425	284	213	142	347	232	174	116	319	213	160	107	298	199	149	100	277	185	139	92
WRC	306	204	153	102	251	167	126	84	228	152	114	76	190	127	95	63	177	118	88	59

STRATCO TOPDECK 700 (Cont.)

Type of Rail	ER-R-ECO (Refer to Note 6 for other compatible rails)
Type of Interface	ER-I-34 and ER-I-09 (Refer to Note 6 for interface versions)
Solar Panel Dimension	2 m x 1 m (Refer to Note 19 for other panel sizes)

ANGLE TO THE HORIZONTAL	15° ≤ α < 20°																			
TC	3																			
BUILDING HEIGHT (m)	≤ 5				5<H≤10				10<H≤15				15<H≤20				20<H≤30			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	791	527	395	264	791	527	395	264	680	453	340	227	604	402	302	201	494	330	247	165
WRB1	416	277	208	139	416	277	208	139	361	241	180	120	322	214	161	107	282	188	141	94
WRB2	375	250	188	125	375	250	188	125	325	217	163	109	290	194	146	97	255	170	128	85
WRC	275	183	137	92	275	183	137	92	235	157	118	78	184	122	92	61	163	109	82	54

ANGLE TO THE HORIZONTAL	15° ≤ α < 20°																			
TC	2.5																			
BUILDING HEIGHT (m)	≤ 5				5<H≤10				10<H≤15				15<H≤20				20<H≤30			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	714	476	357	238	646	431	323	215	570	380	285	190	519	346	259	173	439	293	220	146
WRB1	377	251	188	126	337	225	169	112	306	204	153	102	275	183	137	92	251	167	126	84
WRB2	340	227	170	114	304	203	153	102	276	185	139	92	248	166	124	83	227	151	114	76
WRC	243	162	122	81	220	146	110	73	196	131	98	65	156	104	78	52	143	95	71	48

ANGLE TO THE HORIZONTAL	15° ≤ α < 20°																			
TC	2																			
BUILDING HEIGHT (m)	≤ 5				5<H≤10				10<H≤15				15<H≤20				20<H≤30			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	655	436	327	218	536	357	268	179	485	323	242	162	451	300	225	150	392	262	196	131
WRB1	345	230	173	115	282	188	141	94	259	173	129	86	243	162	122	81	228	152	114	76
WRB2	311	208	156	104	255	170	128	85	234	156	117	78	220	147	110	74	206	137	103	69
WRC	228	152	114	76	188	126	94	63	165	110	82	55	136	91	68	45	129	86	65	43

STRATCO TOPDECK 700 (Cont.)

Type of Rail	ER-R-ECO (Refer to Note 6 for other compatible rails)
Type of Interface	ER-I-34 and ER-I-09 (Refer to Note 6 for interface versions)
Solar Panel Dimension	2 m x 1 m (Refer to Note 19 for other panel sizes)

ANGLE TO THE HORIZONTAL	$\alpha = 20^\circ$																			
TC	3																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	578	385	289	193	578	385	289	193	502	334	251	167	442	295	221	147	361	241	180	120
WRB1	306	204	153	102	306	204	153	102	267	178	133	89	243	162	122	81	212	141	106	71
WRB2	276	184	138	92	276	184	138	92	241	161	121	81	220	147	110	74	192	128	96	64
WRC	204	136	102	68	204	136	102	68	173	115	86	58	136	91	68	45	122	82	61	41

ANGLE TO THE HORIZONTAL	$\alpha = 20^\circ$																			
TC	2.5																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	519	346	259	173	468	312	234	156	417	278	208	139	383	255	191	128	322	214	161	107
WRB1	282	188	141	94	251	167	126	84	228	152	114	76	204	136	102	68	188	126	94	63
WRB2	255	170	128	85	227	151	114	76	206	137	103	69	184	123	92	62	170	113	85	57
WRC	180	120	90	60	165	110	82	55	149	99	75	50	116	77	58	39	109	73	54	36

ANGLE TO THE HORIZONTAL	$\alpha = 20^\circ$																			
TC	2																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	476	317	238	159	391	261	196	130	357	238	179	119	332	221	166	111	290	194	145	97
WRB1	259	173	129	86	212	141	106	71	188	126	94	63	180	120	90	60	165	110	82	55
WRB2	234	156	117	78	192	128	96	64	170	114	85	57	163	109	82	54	149	99	75	50
WRC	165	110	82	55	141	94	71	47	126	84	63	42	102	68	51	34	95	63	48	32

Type of Rail	ER-R-ECO (Refer to Note 6 for other compatible rails)
Type of Interface	ER-I-29/AU and ER-I-34 (refer to Note 4)
Solar Panel Dimension	2 m x 1 m (Refer to Note 19 for other panel sizes)

ANGLE TO THE HORIZONTAL	$0^\circ \leq \alpha < 10^\circ$																			
TC	3																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1818	1212	909	606	1818	1212	909	606	1719	1146	860	573	1653	1102	827	551	1349	899	674	450
WRB1	1412	942	706	471	1412	942	706	471	1342	894	671	447	1193	795	596	398	939	626	470	313
WRB2	1363	848	637	426	1363	848	637	426	1294	807	606	404	1127	718	539	360	846	565	425	283
WRC	989	659	494	330	989	659	494	330	855	570	428	285	660	440	330	220	520	347	260	173

ANGLE TO THE HORIZONTAL	$0^\circ \leq \alpha < 10^\circ$																			
TC	2.5																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1752	1168	876	584	1686	1124	843	562	1612	1075	806	537	1563	1042	781	521	1292	862	646	431
WRB1	1365	910	683	455	1263	842	632	421	1114	743	557	371	1020	680	510	340	826	551	413	275
WRB2	1317	821	616	411	1219	760	571	381	1007	670	503	337	918	614	461	307	744	497	374	249
WRC	894	596	447	298	808	539	404	269	714	476	357	238	571	381	286	190	465	310	233	155

ANGLE TO THE HORIZONTAL	$0^\circ \leq \alpha < 10^\circ$																			
TC	2																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1695	1130	847	565	1571	1047	786	524	1514	1009	757	505	1489	993	744	496	1243	829	621	414
WRB1	1279	853	639	426	1044	696	522	348	942	628	471	314	887	591	443	296	734	490	367	245
WRB2	1235	769	577	386	940	628	472	315	849	567	426	284	800	534	401	268	663	443	332	222
WRC	816	544	408	272	667	445	333	222	604	403	302	201	496	331	248	165	410	273	205	137

Type of Rail ER-R-ECO (Refer to Note 6 for other compatible rails)
 Type of Interface ER-I-29/AU and ER-I-34 (refer to Note 4)
 Solar Panel Dimension 2 m x 1 m (Refer to Note 19 for other panel sizes)

ANGLE TO THE HORIZONTAL	$10 \leq \alpha < 15^\circ$																			
TC	3																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1505	1004	753	502	1505	1004	753	502	1431	954	716	477	1308	872	654	436	982	654	491	327
WRB1	918	612	459	306	918	612	459	306	792	528	396	264	706	471	353	235	558	372	279	186
WRB2	827	553	415	277	827	553	415	277	715	477	358	239	637	425	320	213	504	336	252	169
WRC	596	398	298	199	596	398	298	199	510	340	255	170	394	263	197	131	318	212	159	106

ANGLE TO THE HORIZONTAL	$10 \leq \alpha < 15^\circ$																			
TC	2.5																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1456	971	728	485	1390	927	695	463	1226	817	613	409	1119	746	559	373	869	579	434	290
WRB1	832	554	416	277	753	502	377	251	667	445	333	222	612	408	306	204	494	330	247	165
WRB2	750	501	376	251	680	454	341	227	602	402	302	201	552	369	277	185	446	298	224	150
WRC	541	361	271	180	486	324	243	162	432	288	216	144	347	231	173	116	282	188	141	94

ANGLE TO THE HORIZONTAL	$10 \leq \alpha < 15^\circ$																			
TC	2																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1407	938	703	469	1143	762	572	381	1028	685	514	343	971	647	485	324	770	513	385	257
WRB1	761	507	381	254	620	413	310	207	565	377	282	188	534	356	267	178	445	297	222	148
WRB2	686	458	344	230	559	373	280	187	511	341	256	171	482	322	242	162	402	269	202	134
WRC	494	330	247	165	408	272	204	136	369	246	184	123	299	199	150	100	251	167	125	84

Type of Rail ER-R-ECO (Refer to Note 6 for other compatible rails)
 Type of Interface ER-I-29/AU and ER-I-34 (refer to Note 4)
 Solar Panel Dimension 2 m x 1 m (Refer to Note 19 for other panel sizes)

ANGLE TO THE HORIZONTAL	15° ≤ α < 20°																			
TC	3																			
BUILDING HEIGHT (m)	≤ 5				5<H≤10				10<H≤15				15<H≤20				20<H≤30			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1234	823	617	411	1234	823	617	411	1061	707	531	354	946	631	473	315	713	475	357	238
WRB1	667	445	333	222	667	445	333	222	581	387	290	194	518	345	259	173	410	273	205	137
WRB2	601	402	302	201	601	402	302	201	524	350	263	175	467	312	234	156	370	247	185	124
WRC	432	288	216	144	432	288	216	144	377	251	188	126	292	195	146	97	233	155	116	78

ANGLE TO THE HORIZONTAL	15° ≤ α < 20°																			
TC	2.5																			
BUILDING HEIGHT (m)	≤ 5				5<H≤10				10<H≤15				15<H≤20				20<H≤30			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1119	746	559	373	1004	669	502	335	888	592	444	296	814	543	407	271	628	419	314	209
WRB1	604	403	302	201	549	366	275	183	486	324	243	162	447	298	224	149	367	245	184	122
WRB2	545	364	273	182	496	331	249	166	439	294	220	147	404	270	202	135	332	221	166	111
WRC	392	262	196	131	353	235	177	118	314	209	157	105	252	168	126	84	208	139	104	69

ANGLE TO THE HORIZONTAL	15° ≤ α < 20°																			
TC	2																			
BUILDING HEIGHT (m)	≤ 5				5<H≤10				10<H≤15				15<H≤20				20<H≤30			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1012	675	506	337	831	554	415	277	749	499	374	250	707	472	354	236	565	377	282	188
WRB1	557	371	279	186	455	303	228	152	416	277	208	139	392	262	196	131	325	217	162	108
WRB2	502	336	252	168	411	274	206	137	376	251	188	126	355	237	178	119	294	196	147	98
WRC	361	241	180	120	298	199	149	99	267	178	133	89	218	145	109	73	184	122	92	61

Type of Rail	ER-R-ECO (Refer to Note 6 for other compatible rails)
Type of Interface	ER-I-29/AU and ER-I-34 (refer to Note 4)
Solar Panel Dimension	2 m x 1 m (Refer to Note 19 for other panel sizes)

ANGLE TO THE HORIZONTAL	$\alpha = 20^\circ$																			
TC	3																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	897	598	448	299	897	598	448	299	773	515	387	258	691	461	345	230	523	348	261	174
WRB1	494	330	247	165	494	330	247	165	432	288	216	144	384	256	192	128	304	202	152	101
WRB2	446	298	224	149	446	298	224	149	390	260	195	130	347	232	174	116	274	183	137	92
WRC	322	214	161	107	322	214	161	107	282	188	141	94	218	145	109	73	171	114	86	57

ANGLE TO THE HORIZONTAL	$\alpha = 20^\circ$																			
TC	2.5																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	814	543	407	271	732	488	366	244	650	433	325	217	600	400	300	200	466	311	233	155
WRB1	447	298	224	149	408	272	204	136	361	241	180	120	330	220	165	110	268	179	134	89
WRB2	404	269	202	135	368	246	185	123	326	218	163	109	298	199	149	100	243	162	121	81
WRC	290	194	145	97	267	178	133	89	235	157	118	78	190	127	95	63	153	102	77	51

ANGLE TO THE HORIZONTAL	$\alpha = 20^\circ$																			
TC	2																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	740	494	370	247	609	406	304	203	551	367	276	184	518	345	259	173	417	278	208	139
WRB1	408	272	204	136	337	225	169	112	306	204	153	102	290	194	145	97	240	160	120	80
WRB2	368	246	185	123	305	204	152	102	277	185	139	92	263	175	132	88	217	145	109	73
WRC	267	178	133	89	220	146	110	73	204	136	102	68	163	109	82	54	141	94	70	47

Type of Rail	ER-R-ECO (Refer to Note 6 for other compatible rails)
Type of Interface	ER-I-34 and ER-I-09 (Refer to Note 6 for interface versions)
Solar Panel Dimension	2 m x 1 m (Refer to Note 19 for other panel sizes)

ANGLE TO THE HORIZONTAL	$0^\circ \leq \alpha < 10^\circ$																			
TC	3																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1910	1274	955	637	1910	1274	955	637	1807	1204	903	602	1737	1158	869	579	1499	999	749	500
WRB1	1412	942	706	471	1412	942	706	471	1342	894	671	447	1295	863	647	432	1232	821	616	411
WRB2	1363	848	637	426	1363	848	637	426	1294	807	606	404	1224	779	585	391	1109	741	557	371
WRC	1216	811	608	405	1216	811	608	405	1153	769	577	384	966	644	483	322	925	617	462	308

ANGLE TO THE HORIZONTAL	$0^\circ \leq \alpha < 10^\circ$																			
TC	2.5																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1841	1227	921	614	1772	1181	886	591	1694	1129	847	565	1642	1095	821	547	1436	957	718	479
WRB1	1365	910	683	455	1318	879	659	439	1263	842	632	421	1224	816	612	408	1185	790	592	395
WRB2	1317	821	616	411	1272	793	596	398	1141	760	571	382	1102	737	554	369	1067	713	536	358
WRC	1177	785	588	392	1138	781	586	390	1069	713	535	356	918	612	473	315	910	578	433	289

ANGLE TO THE HORIZONTAL	$0^\circ \leq \alpha < 10^\circ$																			
TC	2																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1781	1187	890	594	1651	1101	826	550	1591	1060	795	530	1565	1043	782	522	1381	921	690	460
WRB1	1326	884	663	442	1232	821	616	411	1193	795	596	398	1169	779	585	390	1138	781	586	390
WRB2	1280	797	599	400	1109	741	557	371	1075	719	539	360	1055	704	529	353	1027	706	530	354
WRC	1138	758	586	390	1046	697	523	349	989	649	483	320	847	564	423	282	787	524	393	262

Type of Rail	ER-R-ECO (Refer to Note 6 for other compatible rails)
Type of Interface	ER-I-34 and ER-I-09 (Refer to Note 6 for interface versions)
Solar Panel Dimension	2 m x 1 m (Refer to Note 19 for other panel sizes)

ANGLE TO THE HORIZONTAL	$10 \leq \alpha < 15^\circ$																			
TC	3																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1582	1055	791	527	1582	1055	791	527	1504	1003	752	501	1444	962	722	481	1255	837	628	418
WRB1	1185	790	592	395	1185	790	592	395	1130	753	565	377	1115	743	557	372	1023	682	512	341
WRB2	1067	713	536	357	1067	713	536	357	1019	680	511	341	1006	671	504	336	923	616	463	309
WRC	1000	667	500	333	1000	667	500	333	877	585	438	292	694	462	347	231	612	408	306	204

ANGLE TO THE HORIZONTAL	$10 \leq \alpha < 15^\circ$																			
TC	2.5																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1530	1020	765	510	1478	985	739	493	1409	939	704	470	1374	916	687	458	1200	800	600	400
WRB1	1146	764	573	382	1106	738	569	380	1090	692	519	346	1015	677	508	338	946	627	467	309
WRB2	1033	690	518	345	998	667	515	343	984	627	471	314	916	612	459	306	855	567	423	280
WRC	923	615	462	308	831	554	415	277	738	492	369	246	598	399	299	199	544	363	272	181

ANGLE TO THE HORIZONTAL	$10 \leq \alpha < 15^\circ$																			
TC	2																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1478	985	739	493	1383	922	692	461	1331	887	666	444	1305	896	672	448	1153	769	577	384
WRB1	1114	743	557	382	1023	682	512	341	962	639	476	315	908	604	449	297	846	560	417	276
WRB2	1005	671	504	346	923	616	463	309	869	579	431	286	820	546	407	270	765	507	378	250
WRC	838	559	419	279	692	462	346	231	623	415	312	208	524	349	262	175	483	322	241	161

Type of Rail	ER-R-ECO (Refer to Note 6 for other compatible rails)
Type of Interface	ER-I-34 and ER-I-09 (Refer to Note 6 for interface versions)
Solar Panel Dimension	2 m x 1 m (Refer to Note 19 for other panel sizes)

ANGLE TO THE HORIZONTAL	15° ≤ α < 20°																			
TC	3																			
BUILDING HEIGHT (m)	≤ 5				5<H≤10				10<H≤15				15<H≤20				20<H≤30			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1418	945	709	473	1418	945	709	473	1348	899	674	449	1297	864	648	432	1130	753	565	377
WRB1	1067	711	534	356	1067	711	534	356	1012	675	506	337	902	602	451	301	792	528	396	264
WRB2	961	643	483	322	961	643	483	322	913	609	458	305	814	543	408	272	715	477	358	239
WRC	761	507	381	254	761	507	381	254	659	439	330	220	510	340	255	170	449	299	224	150

ANGLE TO THE HORIZONTAL	15° ≤ α < 20°																			
TC	2.5																			
BUILDING HEIGHT (m)	≤ 5				5<H≤10				10<H≤15				15<H≤20				20<H≤30			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1374	916	687	458	1323	882	661	441	1271	847	635	424	1236	824	618	412	1083	722	541	361
WRB1	1028	685	514	343	957	638	479	319	847	565	424	282	777	518	388	259	706	471	353	235
WRB2	927	619	465	310	864	577	433	289	765	511	384	256	701	468	351	234	638	426	320	214
WRC	690	460	345	230	620	413	310	207	549	366	275	183	442	295	221	147	401	267	201	134

ANGLE TO THE HORIZONTAL	15° ≤ α < 20°																			
TC	2																			
BUILDING HEIGHT (m)	≤ 5				5<H≤10				10<H≤15				15<H≤20				20<H≤30			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1331	887	666	444	1245	830	622	415	1202	801	601	401	1176	784	588	392	1044	696	522	348
WRB1	965	643	483	322	792	528	396	264	722	481	361	241	683	455	341	228	628	418	314	209
WRB2	870	581	437	291	715	477	358	239	653	435	327	218	617	412	309	207	567	379	285	189
WRC	628	418	314	209	518	345	259	173	471	314	235	157	388	258	194	129	360	240	180	120

Type of Rail	ER-R-ECO (Refer to Note 6 for other compatible rails)
Type of Interface	ER-I-34 and ER-I-09 (Refer to Note 6 for interface versions)
Solar Panel Dimension	2 m x 1 m (Refer to Note 19 for other panel sizes)

ANGLE TO THE HORIZONTAL	$\alpha = 20^\circ$																			
TC	3																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1271	847	635	424	1271	847	635	424	1210	807	605	403	1167	778	583	389	1012	675	506	337
WRB1	863	575	432	288	863	575	432	288	745	497	373	248	667	445	333	222	588	392	294	196
WRB2	779	520	390	261	779	520	390	261	673	450	338	225	603	402	301	202	532	355	266	177
WRC	565	377	282	188	565	377	282	188	486	324	243	162	381	254	190	127	333	222	167	111

ANGLE TO THE HORIZONTAL	$\alpha = 20^\circ$																			
TC	2.5																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1236	824	618	412	1193	795	596	398	1141	761	571	380	1098	732	549	366	902	602	451	301
WRB1	785	523	392	262	706	471	353	235	628	418	314	209	581	387	290	194	526	350	263	175
WRB2	709	473	355	237	637	425	319	214	567	379	284	190	524	350	262	175	475	317	238	159
WRC	510	340	255	170	463	309	231	154	408	272	204	136	326	218	163	109	299	199	150	100

ANGLE TO THE HORIZONTAL	$\alpha = 20^\circ$																			
TC	2																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1193	795	596	398	1115	743	558	372	1011	674	506	337	959	640	480	320	808	539	404	269
WRB1	714	476	357	238	588	392	294	196	534	356	267	178	502	335	251	167	471	314	235	157
WRB2	645	431	323	215	532	355	266	177	483	322	242	161	454	303	228	152	426	284	214	143
WRC	471	314	235	157	384	256	192	128	353	235	177	118	286	190	143	95	265	177	133	88

Type of Rail	ER-R-ECO (Refer to Note 6 for other compatible rails)
Type of Interface	ER-I-34 and ER-I-09 (Refer to Note 6 for interface versions)
Solar Panel Dimension	2 m x 1 m (Refer to Note 19 for other panel sizes)

ANGLE TO THE HORIZONTAL	$0^\circ \leq \alpha < 10^\circ$																			
TC	3																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1894	1263	947	631	1894	1263	947	631	1791	1194	896	597	1723	1149	861	574	1499	999	749	500
WRB1	1350	900	675	450	1350	900	675	450	1161	774	581	387	1028	685	514	343	902	602	451	301
WRB2	1302	811	609	407	1302	811	609	407	1120	698	524	350	972	618	465	310	813	543	408	272
WRC	855	570	428	285	855	570	428	285	738	492	369	246	571	381	286	190	503	335	252	168

ANGLE TO THE HORIZONTAL	$0^\circ \leq \alpha < 10^\circ$																			
TC	2.5																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1826	1217	913	609	1757	1171	879	586	1680	1120	840	560	1629	1086	814	543	1420	947	710	473
WRB1	1216	811	608	405	1091	727	545	364	965	643	483	322	879	586	439	293	792	528	396	264
WRB2	1173	731	549	366	1053	656	493	329	872	581	436	292	791	529	398	265	714	477	359	239
WRC	777	518	388	259	698	466	349	233	620	413	310	207	490	326	245	163	442	295	221	147

ANGLE TO THE HORIZONTAL	$0^\circ \leq \alpha < 10^\circ$																			
TC	2																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1766	1177	883	589	1637	1091	819	546	1577	1051	789	526	1483	989	741	494	1255	837	628	418
WRB1	1106	738	553	369	902	602	451	301	816	544	408	272	761	507	381	254	706	471	353	235
WRB2	1068	665	499	334	813	543	408	272	736	492	369	246	687	459	344	230	637	425	320	213
WRC	706	471	353	235	581	387	290	194	526	350	263	175	428	286	214	143	394	263	197	131

Type of Rail	ER-R-ECO (Refer to Note 6 for other compatible rails)
Type of Interface	ER-I-34 and ER-I-09 (Refer to Note 6 for interface versions)
Solar Panel Dimension	2 m x 1 m (Refer to Note 19 for other panel sizes)

ANGLE TO THE HORIZONTAL	$10 \leq \alpha < 15^\circ$																			
TC	3																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1551	1034	776	517	1551	1034	776	517	1329	886	664	443	1183	789	591	394	942	628	471	314
WRB1	792	528	396	264	792	528	396	264	690	460	345	230	612	408	306	204	541	361	271	180
WRB2	714	477	358	239	714	477	358	239	623	416	312	208	552	369	277	184	489	326	245	164
WRC	510	340	255	170	510	340	255	170	447	298	224	149	347	231	173	116	306	204	153	102

ANGLE TO THE HORIZONTAL	$10 \leq \alpha < 15^\circ$																			
TC	2.5																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1397	931	699	466	1251	834	626	417	1097	731	549	366	1011	674	506	337	832	554	416	277
WRB1	722	481	361	241	651	434	326	217	573	382	286	191	526	350	263	175	479	319	239	160
WRB2	651	435	326	218	588	392	295	196	517	346	260	173	474	317	238	159	432	289	217	145
WRC	463	309	231	154	416	277	208	139	369	246	184	123	299	199	150	100	272	181	136	91

ANGLE TO THE HORIZONTAL	$10 \leq \alpha < 15^\circ$																			
TC	2																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1269	846	634	423	1029	686	514	343	926	617	463	309	874	583	437	291	738	492	369	246
WRB1	659	439	330	220	541	361	271	180	486	324	243	162	463	309	231	154	424	282	212	141
WRB2	594	397	298	199	489	326	245	164	440	293	220	147	418	279	210	140	383	256	192	128
WRC	424	282	212	141	353	235	177	118	314	209	157	105	258	172	129	86	238	159	119	79

STRAMIT SPEED DECK 500 (Cont.)

Type of Rail	ER-R-ECO (Refer to Note 6 for other compatible rails)
Type of Interface	ER-I-34 and ER-I-09 (Refer to Note 6 for interface versions)
Solar Panel Dimension	2 m x 1 m (Refer to Note 19 for other panel sizes)

ANGLE TO THE HORIZONTAL	15° ≤ α < 20°																			
TC	3																			
BUILDING HEIGHT (m)	≤ 5				5<H≤10				10<H≤15				15<H≤20				20<H≤30			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1114	743	557	371	1114	743	557	371	960	640	480	320	849	566	424	283	683	455	341	228
WRB1	581	387	290	194	581	387	290	194	502	335	251	167	447	298	224	149	392	262	196	131
WRB2	523	350	263	175	523	350	263	175	453	302	227	151	404	269	202	135	354	236	177	119
WRC	377	251	188	126	377	251	188	126	330	220	165	110	252	168	126	84	224	150	112	75

ANGLE TO THE HORIZONTAL	15° ≤ α < 20°																			
TC	2.5																			
BUILDING HEIGHT (m)	≤ 5				5<H≤10				10<H≤15				15<H≤20				20<H≤30			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1003	669	501	334	900	600	450	300	797	531	399	266	729	486	364	243	604	403	302	201
WRB1	526	350	263	175	471	314	235	157	416	277	208	139	384	256	192	128	353	235	177	118
WRB2	474	317	238	159	425	284	213	142	375	251	188	126	347	232	174	116	319	213	160	107
WRC	345	230	173	115	306	204	153	102	275	183	137	92	218	145	109	73	197	131	99	66

ANGLE TO THE HORIZONTAL	15° ≤ α < 20°																			
TC	2																			
BUILDING HEIGHT (m)	≤ 5				5<H≤10				10<H≤15				15<H≤20				20<H≤30			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	909	606	454	303	746	497	373	249	677	451	339	226	634	423	317	211	541	361	271	180
WRB1	479	319	239	160	392	262	196	131	353	235	177	118	337	225	169	112	314	209	157	105
WRB2	432	288	216	144	354	236	177	119	319	213	160	107	305	203	153	102	284	190	142	95
WRC	314	209	157	105	259	173	129	86	235	157	118	78	190	127	95	63	177	118	88	59

Type of Rail	ER-R-ECO (Refer to Note 6 for other compatible rails)
Type of Interface	ER-I-34 and ER-I-09 (Refer to Note 6 for interface versions)
Solar Panel Dimension	2 m x 1 m (Refer to Note 19 for other panel sizes)

ANGLE TO THE HORIZONTAL	$\alpha = 20^\circ$																			
TC	3																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	806	537	403	269	806	537	403	269	703	469	351	234	626	417	313	209	502	335	251	167
WRB1	424	282	212	141	424	282	212	141	369	246	184	123	330	220	165	110	290	194	145	97
WRB2	383	255	192	128	383	255	192	128	333	222	167	111	298	199	149	100	262	175	131	88
WRC	282	188	141	94	282	188	141	94	243	162	122	81	190	127	95	63	170	113	85	57

ANGLE TO THE HORIZONTAL	$\alpha = 20^\circ$																			
TC	2.5																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	729	486	364	243	660	440	330	220	583	389	291	194	540	360	270	180	447	298	224	149
WRB1	384	256	192	128	353	235	177	118	314	209	157	105	290	194	145	97	259	173	129	86
WRB2	347	232	174	116	319	213	160	107	284	189	142	95	262	175	131	88	234	156	117	78
WRC	251	167	126	84	228	152	114	76	204	136	102	68	163	109	82	54	150	100	75	50

ANGLE TO THE HORIZONTAL	$\alpha = 20^\circ$																			
TC	2																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	669	446	334	223	549	366	274	183	497	331	249	166	471	314	236	157	400	267	200	133
WRB1	353	235	177	118	290	194	145	97	267	178	133	89	251	167	126	84	235	157	118	78
WRB2	319	213	160	107	262	175	131	88	241	161	121	81	227	151	114	76	213	142	107	71
WRC	235	157	118	78	196	131	98	65	173	115	86	58	143	95	71	48	136	91	68	45

Type of Rail	ER-R-ECO (Refer to Note 6 for other compatible rails)
Type of Interface	ER-I-34 and ER-I-09 (Refer to Note 6 for interface versions)
Solar Panel Dimension	2 m x 1 m (Refer to Note 19 for other panel sizes)

ANGLE TO THE HORIZONTAL	$0^\circ \leq \alpha < 10^\circ$																			
TC	3																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1943	1296	972	648	1943	1296	972	648	1838	1225	919	613	1767	1178	884	589	1499	999	749	500
WRB1	1412	942	706	471	1412	942	706	471	1216	811	608	405	1083	722	541	361	942	628	471	314
WRB2	1363	848	637	426	1363	848	637	426	1173	731	549	367	1024	652	489	327	848	567	426	284
WRC	894	596	447	298	894	596	447	298	777	518	388	259	598	399	299	199	524	349	262	175

ANGLE TO THE HORIZONTAL	$0^\circ \leq \alpha < 10^\circ$																			
TC	2.5																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1873	1249	936	624	1803	1202	901	601	1723	1149	862	574	1671	1114	835	557	1436	957	718	479
WRB1	1279	853	639	426	1146	764	573	382	1004	670	502	335	926	617	463	309	832	554	416	277
WRB2	1234	769	577	385	1106	689	518	346	907	604	454	303	834	557	419	279	749	501	376	251
WRC	816	544	408	272	730	486	365	243	643	429	322	214	517	345	258	172	462	308	231	154

ANGLE TO THE HORIZONTAL	$0^\circ \leq \alpha < 10^\circ$																			
TC	2																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1811	1208	906	604	1679	1120	840	560	1618	1079	809	539	1592	1061	796	531	1318	879	659	439
WRB1	1161	774	581	387	942	628	471	314	847	565	424	282	800	534	400	267	745	497	373	248
WRB2	1121	698	524	350	848	567	426	284	764	511	383	256	722	482	362	242	673	449	337	225
WRC	738	492	369	246	604	403	302	201	549	366	275	183	449	299	224	150	415	277	207	138

Type of Rail	ER-R-ECO (Refer to Note 6 for other compatible rails)
Type of Interface	ER-I-34 and ER-I-09 (Refer to Note 6 for interface versions)
Solar Panel Dimension	2 m x 1 m (Refer to Note 19 for other panel sizes)

ANGLE TO THE HORIZONTAL	$10 \leq \alpha < 15^\circ$																			
TC	3																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1609	1073	805	536	1609	1073	805	536	1424	950	712	475	1266	844	633	422	989	659	494	330
WRB1	832	554	416	277	832	554	416	277	722	481	361	241	643	429	322	214	565	377	282	188
WRB2	749	501	376	251	749	501	376	251	651	435	326	218	581	387	291	194	510	340	255	171
WRC	534	356	267	178	534	356	267	178	463	309	231	154	360	240	180	120	320	213	160	107

ANGLE TO THE HORIZONTAL	$10 \leq \alpha < 15^\circ$																			
TC	2.5																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1504	1002	752	501	1345	897	673	448	1187	791	594	396	1082	721	541	361	871	581	435	290
WRB1	753	502	377	251	683	455	341	228	604	403	302	201	549	366	275	183	502	335	251	167
WRB2	679	454	340	227	616	411	309	206	545	365	274	183	496	331	248	166	454	303	227	152
WRC	486	324	243	162	439	293	220	146	392	262	196	131	313	209	156	104	279	186	139	93

ANGLE TO THE HORIZONTAL	$10 \leq \alpha < 15^\circ$																			
TC	2																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1363	909	681	454	1108	739	554	369	994	662	497	331	941	627	470	314	777	518	388	259
WRB1	690	460	345	230	565	377	282	188	510	340	255	170	479	319	239	160	447	298	224	149
WRB2	623	416	312	208	510	340	255	171	461	308	231	154	433	289	217	145	404	270	203	135
WRC	447	298	224	149	369	246	184	123	330	220	165	110	272	181	136	91	252	168	126	84

Type of Rail	ER-R-ECO (Refer to Note 6 for other compatible rails)
Type of Interface	ER-I-34 and ER-I-09 (Refer to Note 6 for interface versions)
Solar Panel Dimension	2 m x 1 m (Refer to Note 19 for other panel sizes)

ANGLE TO THE HORIZONTAL	15° ≤ α < 20°																			
TC	3																			
BUILDING HEIGHT (m)	≤ 5				5<H≤10				10<H≤15				15<H≤20				20<H≤30			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1196	797	598	399	1196	797	598	399	1029	686	514	343	914	610	457	305	714	476	357	238
WRB1	604	403	302	201	604	403	302	201	526	350	263	175	471	314	235	157	416	277	208	139
WRB2	544	364	273	182	544	364	273	182	474	317	238	159	425	284	213	142	375	250	188	126
WRC	392	262	196	131	392	262	196	131	345	230	173	115	265	177	133	88	231	154	116	77

ANGLE TO THE HORIZONTAL	15° ≤ α < 20°																			
TC	2.5																			
BUILDING HEIGHT (m)	≤ 5				5<H≤10				10<H≤15				15<H≤20				20<H≤30			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1082	721	541	361	967	645	484	322	853	569	426	284	783	522	391	261	636	424	318	212
WRB1	549	366	275	183	494	330	247	165	439	293	220	146	408	272	204	136	369	246	184	123
WRB2	495	331	248	166	446	298	224	149	396	265	199	133	368	246	184	123	333	222	167	112
WRC	361	241	180	120	322	214	161	107	290	194	145	97	231	154	116	77	211	141	105	70

ANGLE TO THE HORIZONTAL	15° ≤ α < 20°																			
TC	2																			
BUILDING HEIGHT (m)	≤ 5				5<H≤10				10<H≤15				15<H≤20				20<H≤30			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	985	657	492	328	800	533	400	267	721	481	361	240	686	457	343	229	565	377	282	188
WRB1	502	335	251	167	416	277	208	139	377	251	188	126	353	235	177	118	330	220	165	110
WRB2	453	302	227	152	375	250	188	126	340	227	170	114	319	213	160	107	298	199	149	99
WRC	330	220	165	110	267	178	133	89	243	162	122	81	197	131	99	66	184	122	92	61

Type of Rail	ER-R-ECO (Refer to Note 6 for other compatible rails)
Type of Interface	ER-I-34 and ER-I-09 (Refer to Note 6 for interface versions)
Solar Panel Dimension	2 m x 1 m (Refer to Note 19 for other panel sizes)

ANGLE TO THE HORIZONTAL	$\alpha = 20^\circ$																			
TC	3																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	871	580	435	290	871	580	435	290	747	498	374	249	668	446	334	223	526	350	263	175
WRB1	447	298	224	149	447	298	224	149	384	256	192	128	345	230	173	115	306	204	153	102
WRB2	404	269	202	135	404	269	202	135	347	232	174	116	312	208	156	105	277	185	138	92
WRC	290	194	145	97	290	194	145	97	251	167	126	84	197	131	99	66	177	118	88	59

ANGLE TO THE HORIZONTAL	$\alpha = 20^\circ$																			
TC	2.5																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	791	528	396	264	712	475	356	237	624	416	312	208	580	387	290	193	471	314	235	157
WRB1	408	272	204	136	369	246	184	123	330	220	165	110	298	199	149	99	275	183	137	92
WRB2	368	246	184	123	333	222	167	111	298	199	149	100	269	180	135	90	248	166	124	83
WRC	267	178	133	89	243	162	122	81	212	141	106	71	170	113	85	57	156	104	78	52

ANGLE TO THE HORIZONTAL	$\alpha = 20^\circ$																			
TC	2																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	721	481	361	240	589	393	295	196	536	358	268	179	501	334	251	167	416	277	208	139
WRB1	369	246	184	123	306	204	153	102	275	183	137	92	259	173	129	86	243	162	122	81
WRB2	333	222	167	111	277	185	138	92	248	166	125	83	234	156	118	78	220	147	110	74
WRC	243	162	122	81	204	136	102	68	180	120	90	60	150	100	75	50	143	95	71	48

Type of Rail	ER-R-ECO (Refer to Note 6 for other compatible rails)
Type of Interface	ER-I-34 and ER-I-09 (Refer to Note 6 for interface versions)
Solar Panel Dimension	2 m x 1 m (Refer to Note 19 for other panel sizes)

ANGLE TO THE HORIZONTAL	$0^\circ \leq \alpha < 10^\circ$																			
TC	3																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1720	1147	860	573	1720	1147	860	573	1459	973	730	486	1281	854	640	427	1169	779	585	390
WRB1	981	654	490	327	981	654	490	327	840	560	420	280	745	497	373	248	651	434	326	217
WRB2	946	589	442	296	946	589	442	296	810	505	379	253	705	449	337	225	586	392	294	196
WRC	620	413	310	207	620	413	310	207	534	356	267	178	415	277	207	138	367	245	184	122

ANGLE TO THE HORIZONTAL	$0^\circ \leq \alpha < 10^\circ$																			
TC	2.5																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1534	1022	767	511	1362	908	681	454	1191	794	596	397	1087	725	544	362	1028	685	514	343
WRB1	887	591	443	296	792	528	396	264	698	466	349	233	643	429	322	214	581	387	290	194
WRB2	855	533	400	267	765	477	358	239	631	420	316	211	579	387	291	194	523	350	263	175
WRC	565	377	282	188	502	335	251	167	447	298	224	149	354	236	177	118	320	213	160	107

ANGLE TO THE HORIZONTAL	$0^\circ \leq \alpha < 10^\circ$																			
TC	2																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1385	923	692	462	1109	740	555	370	998	665	499	333	938	625	469	313	910	607	455	303
WRB1	800	534	400	267	651	434	326	217	588	392	294	196	557	371	279	186	518	345	259	173
WRB2	773	481	361	241	586	392	294	196	531	355	266	178	503	336	252	168	467	312	234	157
WRC	510	340	255	170	424	282	212	141	377	251	188	126	313	209	156	104	286	190	143	95

Type of Rail	ER-R-ECO (Refer to Note 6 for other compatible rails)
Type of Interface	ER-I-34 and ER-I-09 (Refer to Note 6 for interface versions)
Solar Panel Dimension	2 m x 1 m (Refer to Note 19 for other panel sizes)

ANGLE TO THE HORIZONTAL	$10 \leq \alpha < 15^\circ$																			
TC	3																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	983	655	491	328	983	655	491	328	841	561	421	280	745	496	372	248	690	460	345	230
WRB1	581	387	290	194	581	387	290	194	502	335	251	167	447	298	224	149	392	262	196	131
WRB2	523	350	263	175	523	350	263	175	453	302	227	151	404	269	202	135	354	236	177	119
WRC	377	251	188	126	377	251	188	126	322	214	161	107	252	168	126	84	224	150	112	75

ANGLE TO THE HORIZONTAL	$10 \leq \alpha < 15^\circ$																			
TC	2.5																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	886	591	443	295	789	526	395	263	700	467	350	233	640	427	320	213	604	403	302	201
WRB1	526	350	263	175	471	314	235	157	416	277	208	139	384	256	192	128	345	230	173	115
WRB2	474	317	238	159	425	284	213	142	375	251	188	126	347	232	174	116	312	208	156	105
WRC	337	225	169	112	306	204	153	102	275	183	137	92	218	145	109	73	197	131	99	66

ANGLE TO THE HORIZONTAL	$10 \leq \alpha < 15^\circ$																			
TC	2																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	804	536	402	268	655	437	328	218	588	392	294	196	551	367	275	184	541	361	271	180
WRB1	479	319	239	160	392	262	196	131	353	235	177	118	337	225	169	112	314	209	157	105
WRB2	432	288	216	144	354	236	177	119	319	213	160	107	305	203	153	102	284	190	142	95
WRC	306	204	153	102	259	173	129	86	228	152	114	76	190	127	95	63	177	118	88	59

METROLL METLOK 500 (Cont.)

Type of Rail	ER-R-ECO (Refer to Note 6 for other compatible rails)
Type of Interface	ER-I-34 and ER-I-09 (Refer to Note 6 for interface versions)
Solar Panel Dimension	2 m x 1 m (Refer to Note 19 for other panel sizes)

ANGLE TO THE HORIZONTAL	15° ≤ α < 20°																			
TC	3																			
BUILDING HEIGHT (m)	≤ 5				5<H≤10				10<H≤15				15<H≤20				20<H≤30			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	692	462	346	231	692	462	346	231	596	397	298	199	529	352	264	176	494	330	247	165
WRB1	416	277	208	139	416	277	208	139	361	241	180	120	322	214	161	107	282	188	141	94
WRB2	375	250	188	125	375	250	188	125	325	217	163	109	290	194	146	97	255	170	128	85
WRC	0.267	0.178	0.133	0.089	0.267	0.178	0.133	0.089	0.235	0.157	0.118	0.078	0.184	0.122	0.092	0.061	0.163	0.109	0.082	0.054

ANGLE TO THE HORIZONTAL	15° ≤ α < 20°																			
TC	2.5																			
BUILDING HEIGHT (m)	≤ 5				5<H≤10				10<H≤15				15<H≤20				20<H≤30			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	625	417	313	208	566	377	283	189	499	333	249	166	454	303	227	151	432	288	216	144
WRB1	377	251	188	126	337	225	169	112	298	199	149	99	275	183	137	92	251	167	126	84
WRB2	340	227	170	114	304	203	153	102	269	180	135	90	248	166	124	83	227	151	114	76
WRC	243	162	122	81	220	146	110	73	196	131	98	65	156	104	78	52	143	95	71	48

ANGLE TO THE HORIZONTAL	15° ≤ α < 20°																			
TC	2																			
BUILDING HEIGHT (m)	≤ 5				5<H≤10				10<H≤15				15<H≤20				20<H≤30			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	573	382	287	191	469	313	235	156	424	283	212	141	395	263	197	132	384	256	192	128
WRB1	345	230	173	115	282	188	141	94	259	173	129	86	243	162	122	81	228	152	114	76
WRB2	311	208	156	104	255	170	128	85	234	156	117	78	220	147	110	74	206	137	103	69
WRC	228	152	114	76	188	126	94	63	165	110	82	55	136	91	68	45	129	86	65	43

METROLL METLOK 500 (Cont.)

Type of Rail	ER-R-ECO (Refer to Note 6 for other compatible rails)
Type of Interface	ER-I-34 and ER-I-09 (Refer to Note 6 for interface versions)
Solar Panel Dimension	2 m x 1 m (Refer to Note 19 for other panel sizes)

ANGLE TO THE HORIZONTAL	$\alpha = 20^\circ$																			
TC	3																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	514	342	257	171	514	342	257	171	439	293	220	146	395	263	197	132	369	246	184	123
WRB1	314	209	157	105	314	209	157	105	267	178	133	89	243	162	122	81	212	141	106	71
WRB2	283	189	142	95	283	189	142	95	241	161	121	81	220	147	110	74	192	128	96	64
WRC	204	136	102	68	204	136	102	68	173	115	86	58	136	91	68	45	122	82	61	41

ANGLE TO THE HORIZONTAL	$\alpha = 20^\circ$																			
TC	2.5																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	462	308	231	154	417	278	208	139	372	248	186	124	342	228	171	114	322	214	161	107
WRB1	282	188	141	94	251	167	126	84	228	152	114	76	212	141	106	71	188	126	94	63
WRB2	255	170	128	85	227	151	114	76	206	137	103	69	191	128	96	64	170	113	85	57
WRC	188	126	94	63	165	110	82	55	149	99	75	50	116	77	58	39	109	73	54	36

ANGLE TO THE HORIZONTAL	$\alpha = 20^\circ$																			
TC	2																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	424	283	212	141	350	233	175	117	313	208	156	104	298	199	149	99	290	194	145	97
WRB1	259	173	129	86	212	141	106	71	196	131	98	65	180	120	90	60	173	115	86	58
WRB2	234	156	117	78	192	128	96	64	177	118	89	59	163	109	82	54	156	104	78	52
WRC	173	115	86	58	141	94	71	47	126	84	63	42	102	68	51	34	95	63	48	32

Type of Rail	ER-R-ECO (Refer to Note 6 for other compatible rails)
Type of Interface	ER-I-34 and ER-I-09 (Refer to Note 6 for interface versions)
Solar Panel Dimension	2 m x 1 m (Refer to Note 19 for other panel sizes)

ANGLE TO THE HORIZONTAL	$0^\circ \leq \alpha < 10^\circ$																			
TC	3																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	2009	1366	1025	683	2009	1366	1025	683	1938	1292	969	646	1864	1243	932	621	1452	968	726	484
WRB1	1216	811	608	405	1216	811	608	405	1044	696	522	348	926	617	463	309	808	539	404	269
WRB2	1174	730	549	367	1174	730	549	367	1007	627	471	315	875	557	419	279	728	486	365	244
WRC	769	513	384	256	769	513	384	256	667	445	333	222	517	345	258	172	449	299	224	150

ANGLE TO THE HORIZONTAL	$0^\circ \leq \alpha < 10^\circ$																			
TC	2.5																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1975	1317	988	658	1901	1267	950	634	1817	1212	909	606	1678	1119	839	559	1279	853	639	426
WRB1	1098	732	549	366	981	654	490	327	863	575	432	288	792	528	396	264	714	476	357	238
WRB2	1060	661	496	331	947	590	443	296	780	519	390	261	714	477	358	239	643	430	323	216
WRC	698	466	349	233	628	418	314	209	557	371	279	186	442	295	221	147	401	267	201	134

ANGLE TO THE HORIZONTAL	$0^\circ \leq \alpha < 10^\circ$																			
TC	2																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1910	1273	955	637	1715	1144	858	572	1539	1026	770	513	1447	964	723	482	1130	753	565	377
WRB1	996	664	498	332	808	539	404	269	730	486	365	243	690	460	345	230	636	424	318	212
WRB2	962	599	450	300	728	486	365	244	658	440	330	220	623	416	312	209	574	383	288	192
WRC	636	424	318	212	518	345	259	173	471	314	235	157	388	258	194	129	360	240	180	120

Type of Rail	ER-R-ECO (Refer to Note 6 for other compatible rails)
Type of Interface	ER-I-34 and ER-I-09 (Refer to Note 6 for interface versions)
Solar Panel Dimension	2 m x 1 m (Refer to Note 19 for other panel sizes)

ANGLE TO THE HORIZONTAL	$10 \leq \alpha < 15^\circ$																			
TC	3																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1511	1008	756	504	1511	1008	756	504	1289	859	644	430	1150	767	575	383	847	565	424	282
WRB1	714	476	357	238	714	476	357	238	620	413	310	207	549	366	275	183	486	324	243	162
WRB2	643	430	323	215	643	430	323	215	559	373	280	187	496	331	249	166	439	293	220	147
WRC	463	309	231	154	463	309	231	154	400	267	200	133	313	209	156	104	272	181	136	91

ANGLE TO THE HORIZONTAL	$10 \leq \alpha < 15^\circ$																			
TC	2.5																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1363	909	682	454	1215	810	607	405	1076	717	538	359	983	655	491	328	753	502	377	251
WRB1	651	434	326	217	581	387	290	194	518	345	259	173	479	319	239	160	432	288	216	144
WRB2	587	392	294	196	524	350	263	175	467	312	235	156	432	289	216	144	390	260	195	131
WRC	416	277	208	139	377	251	188	126	337	225	169	112	265	177	133	88	245	163	122	82

ANGLE TO THE HORIZONTAL	$10 \leq \alpha < 15^\circ$																			
TC	2																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1233	822	617	411	1001	668	501	334	899	600	450	300	853	569	427	284	667	445	333	222
WRB1	588	392	294	196	486	324	243	162	439	293	220	146	416	277	208	139	384	256	192	128
WRB2	531	354	266	178	439	293	220	147	397	265	199	133	376	251	188	126	347	232	174	116
WRC	384	256	192	128	314	209	157	105	282	188	141	94	231	154	116	77	218	145	109	73

STEELINE STELL-RIB 500 (ST28) (Cont.)

Type of Rail	ER-R-ECO (Refer to Note 6 for other compatible rails)
Type of Interface	ER-I-34 and ER-I-09 (Refer to Note 6 for interface versions)
Solar Panel Dimension	2 m x 1 m (Refer to Note 19 for other panel sizes)

ANGLE TO THE HORIZONTAL	15° ≤ α < 20°																			
TC	3																			
BUILDING HEIGHT (m)	≤ 5				5<H≤10				10<H≤15				15<H≤20				20<H≤30			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1085	723	542	362	1085	723	542	362	937	624	468	312	825	550	413	275	612	408	306	204
WRB1	518	345	259	173	518	345	259	173	447	298	224	149	400	267	200	133	353	235	177	118
WRB2	467	312	234	156	467	312	234	156	403	269	202	135	361	241	181	121	319	213	160	107
WRC	337	225	169	112	337	225	169	112	290	194	145	97	224	150	112	75	204	136	102	68

ANGLE TO THE HORIZONTAL	15° ≤ α < 20°																			
TC	2.5																			
BUILDING HEIGHT (m)	≤ 5				5<H≤10				10<H≤15				15<H≤20				20<H≤30			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	983	655	491	328	881	587	440	294	779	519	389	260	714	476	357	238	541	361	271	180
WRB1	471	314	235	157	424	282	212	141	377	251	188	126	345	230	173	115	314	209	157	105
WRB2	425	283	213	142	382	255	192	128	340	227	171	114	312	208	156	104	283	189	142	95
WRC	306	204	153	102	275	183	137	92	243	162	122	81	197	131	99	66	177	118	88	59

ANGLE TO THE HORIZONTAL	15° ≤ α < 20°																			
TC	2																			
BUILDING HEIGHT (m)	≤ 5				5<H≤10				10<H≤15				15<H≤20				20<H≤30			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	890	593	445	297	723	482	362	241	658	439	329	219	621	414	311	207	486	324	243	162
WRB1	432	288	216	144	353	235	177	118	322	214	161	107	306	204	153	102	282	188	141	94
WRB2	389	260	195	130	319	213	160	107	291	194	146	97	277	184	139	93	255	171	128	85
WRC	282	188	141	94	235	157	118	78	212	141	106	71	170	113	85	57	163	109	82	54

STEELINE STELL-RIB 500 (ST28) (Cont.)

Type of Rail ER-R-ECO (Refer to Note 6 for other compatible rails)
 Type of Interface ER-I-34 and ER-I-09 (Refer to Note 6 for interface versions)
 Solar Panel Dimension 2 m x 1 m (Refer to Note 19 for other panel sizes)

ANGLE TO THE HORIZONTAL	$\alpha = 20^\circ$																			
TC	3																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	788	525	394	263	788	525	394	263	677	451	338	226	612	408	306	204	455	303	228	152
WRB1	384	256	192	128	384	256	192	128	337	225	169	112	298	199	149	99	267	178	133	89
WRB2	347	232	174	116	347	232	174	116	305	203	153	102	269	180	135	90	241	161	121	80
WRC	251	167	126	84	251	167	126	84	220	146	110	73	170	113	85	57	150	100	75	50

ANGLE TO THE HORIZONTAL	$\alpha = 20^\circ$																			
TC	2.5																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	714	476	357	238	640	427	320	213	566	377	283	189	529	352	264	176	400	267	200	133
WRB1	353	235	177	118	314	209	157	105	282	188	141	94	259	173	129	86	235	157	118	78
WRB2	319	213	160	106	283	189	142	95	255	171	128	85	234	156	117	78	213	142	107	71
WRC	228	152	114	76	204	136	102	68	188	126	94	63	150	100	75	50	136	91	68	45

ANGLE TO THE HORIZONTAL	$\alpha = 20^\circ$																			
TC	2																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	649	433	325	216	538	359	269	179	482	321	241	161	454	303	227	151	361	241	180	120
WRB1	322	214	161	107	267	178	133	89	235	157	118	78	228	152	114	76	212	141	106	71
WRB2	290	194	146	97	241	161	121	80	213	142	107	71	206	137	103	69	191	128	96	64
WRC	212	141	106	71	173	115	86	58	157	105	78	52	129	86	65	43	122	82	61	41

PV-ezRack Commercial Tilt interface spacing table for
REVOLUTION MAXLINE 340

Type of Rail ER-R-ECO (Refer to Note 6 for other compatible rails)
Type of Interface ER-I-34 and ER-I-09 (Refer to Note 6 for interface versions)
Solar Panel Dimension 2 m x 1 m (Refer to Note 19 for other panel sizes)

ANGLE TO THE HORIZONTAL	$0^\circ \leq \alpha < 10^\circ$																			
TC	3																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1879	1252	939	626	1879	1252	939	626	1777	1184	888	592	1709	1139	854	570	1499	999	749	500
WRB1	1412	942	706	471	1412	942	706	471	1342	894	671	447	1295	863	647	432	1232	821	616	411
WRB2	1363	848	637	426	1363	848	637	426	1294	807	606	404	1224	779	585	391	1109	741	557	371
WRC	1216	811	608	405	1216	811	608	405	1153	769	577	384	966	644	483	322	904	603	452	301

ANGLE TO THE HORIZONTAL	$0^\circ \leq \alpha < 10^\circ$																			
TC	2.5																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1811	1207	905	603	1743	1162	871	581	1666	1111	833	555	1615	1077	808	538	1436	957	718	479
WRB1	1365	910	683	455	1318	879	659	439	1263	842	632	421	1224	816	612	408	1185	790	592	395
WRB2	1317	821	616	411	1272	793	596	398	1141	760	571	382	1102	737	554	369	1067	713	536	358
WRC	1177	785	588	392	1138	781	586	390	1069	713	535	356	884	589	442	295	802	535	401	267

ANGLE TO THE HORIZONTAL	$0^\circ \leq \alpha < 10^\circ$																			
TC	2																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1751	1167	875	584	1624	1082	812	541	1564	1043	782	521	1539	1026	769	513	1381	921	690	460
WRB1	1326	884	663	442	1232	821	616	411	1193	795	596	398	1169	779	585	390	1138	781	586	390
WRB2	1280	797	599	400	1109	741	557	371	1075	719	539	360	1055	704	529	353	1027	706	530	354
WRC	1138	758	586	390	1023	682	512	341	923	615	462	308	768	512	384	256	714	476	357	238

Type of Rail	ER-R-ECO (Refer to Note 6 for other compatible rails)
Type of Interface	ER-I-34 and ER-I-09 (Refer to Note 6 for interface versions)
Solar Panel Dimension	2 m x 1 m (Refer to Note 19 for other panel sizes)

ANGLE TO THE HORIZONTAL	$10 \leq \alpha < 15^\circ$																			
TC	3																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1556	1037	778	519	1556	1037	778	519	1479	986	740	493	1420	946	710	473	1255	837	628	418
WRB1	1185	790	592	395	1185	790	592	395	1130	753	565	377	1115	743	557	372	1002	668	477	318
WRB2	1067	713	536	357	1067	713	536	357	1019	680	511	341	1006	671	504	336	904	603	431	288
WRC	953	635	477	318	953	635	477	318	824	549	412	275	619	413	309	206	544	363	272	181

ANGLE TO THE HORIZONTAL	$10 \leq \alpha < 15^\circ$																			
TC	2.5																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1505	1003	752	502	1454	969	727	485	1386	924	693	462	1352	901	676	451	1200	800	600	400
WRB1	1146	764	573	382	1106	738	569	380	1066	711	508	338	977	652	489	310	888	592	423	282
WRB2	1033	690	518	345	998	667	515	343	962	643	460	307	882	589	442	281	802	536	383	256
WRC	864	576	432	288	753	517	388	258	667	458	343	229	537	358	269	179	483	322	241	161

ANGLE TO THE HORIZONTAL	$10 \leq \alpha < 15^\circ$																			
TC	2																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1454	969	727	485	1360	907	680	453	1309	873	655	436	1284	856	661	440	1153	769	577	384
WRB1	1114	743	557	382	1002	668	477	318	905	603	431	287	848	565	424	269	792	528	396	251
WRB2	1005	671	504	346	904	603	431	288	818	546	390	260	767	511	384	244	715	478	359	227
WRC	761	522	392	261	628	431	323	215	590	393	295	197	469	313	235	156	435	290	218	145

Type of Rail	ER-R-ECO (Refer to Note 6 for other compatible rails)
Type of Interface	ER-I-34 and ER-I-09 (Refer to Note 6 for interface versions)
Solar Panel Dimension	2 m x 1 m (Refer to Note 19 for other panel sizes)

ANGLE TO THE HORIZONTAL	15° ≤ α < 20°																			
TC	3																			
BUILDING HEIGHT (m)	≤ 5				5<H≤10				10<H≤15				15<H≤20				20<H≤30			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1394	929	697	465	1394	929	697	465	1326	884	663	442	1275	850	638	425	1130	753	565	377
WRB1	1044	696	522	348	1044	696	522	348	902	602	451	301	808	539	404	269	706	471	353	235
WRB2	940	628	472	315	940	628	472	315	814	543	408	272	729	487	366	244	637	425	319	213
WRC	675	450	337	225	675	450	337	225	588	392	294	196	456	304	228	152	401	267	201	134

ANGLE TO THE HORIZONTAL	15° ≤ α < 20°																			
TC	2.5																			
BUILDING HEIGHT (m)	≤ 5				5<H≤10				10<H≤15				15<H≤20				20<H≤30			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1352	901	676	451	1301	867	650	434	1250	833	625	417	1216	810	608	405	1083	722	541	361
WRB1	949	633	475	316	855	570	428	285	753	502	377	251	698	466	349	233	628	418	314	209
WRB2	856	572	429	286	772	515	387	258	680	455	341	228	630	421	316	211	567	379	284	190
WRC	612	408	306	204	557	371	279	186	494	330	247	165	394	263	197	131	354	236	177	118

ANGLE TO THE HORIZONTAL	15° ≤ α < 20°																			
TC	2																			
BUILDING HEIGHT (m)	≤ 5				5<H≤10				10<H≤15				15<H≤20				20<H≤30			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1309	873	655	436	1224	816	612	408	1182	788	591	394	1139	759	570	380	973	649	486	324
WRB1	863	575	432	288	706	471	353	235	643	429	322	214	604	403	302	201	565	377	282	188
WRB2	778	520	390	260	637	425	319	213	582	388	291	194	546	364	274	183	511	341	256	170
WRC	557	371	279	186	463	309	231	154	416	277	208	139	340	227	170	113	320	213	160	107

Type of Rail	ER-R-ECO (Refer to Note 6 for other compatible rails)
Type of Interface	ER-I-34 and ER-I-09 (Refer to Note 6 for interface versions)
Solar Panel Dimension	2 m x 1 m (Refer to Note 19 for other panel sizes)

ANGLE TO THE HORIZONTAL	$\alpha = 20^\circ$																			
TC	3																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1250	833	625	417	1250	833	625	417	1190	793	595	397	1114	742	557	371	902	602	451	301
WRB1	769	513	384	256	769	513	384	256	667	445	333	222	596	398	298	199	526	350	263	175
WRB2	694	463	348	232	694	463	348	232	602	402	302	201	539	360	269	181	475	317	237	158
WRC	502	335	251	167	502	335	251	167	439	293	220	146	340	227	170	113	299	199	150	100

ANGLE TO THE HORIZONTAL	$\alpha = 20^\circ$																			
TC	2.5																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1216	810	608	405	1173	782	587	391	1046	697	523	349	960	640	480	320	800	534	400	267
WRB1	698	466	349	233	628	418	314	209	557	371	279	186	518	345	259	173	471	314	235	157
WRB2	631	421	316	211	567	378	284	190	504	336	252	168	468	313	234	156	426	284	213	142
WRC	455	303	228	152	416	277	208	139	369	246	184	123	292	195	146	97	265	177	133	88

ANGLE TO THE HORIZONTAL	$\alpha = 20^\circ$																			
TC	2																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1173	782	587	391	977	652	489	326	884	589	442	295	842	561	421	281	722	481	361	241
WRB1	636	424	318	212	526	350	263	175	479	319	239	160	447	298	224	149	416	277	208	139
WRB2	574	383	288	192	475	317	237	158	433	289	217	145	405	270	203	135	376	251	189	126
WRC	416	277	208	139	345	230	173	115	314	209	157	105	258	172	129	86	238	159	119	79

Type of Rail	ER-R-ECO (Refer to Note 6 for other compatible rails)
Type of Interface	ER-I-34 and ER-I-09 (Refer to Note 6 for interface versions)
Solar Panel Dimension	2 m x 1 m (Refer to Note 19 for other panel sizes)

ANGLE TO THE HORIZONTAL	$0^\circ \leq \alpha < 10^\circ$																			
TC	3																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1697	1131	848	566	1697	1131	848	566	1437	958	719	479	1270	847	635	423	934	622	467	311
WRB1	777	518	388	259	777	518	388	259	667	445	333	222	596	398	298	199	518	345	259	173
WRB2	750	467	350	234	750	467	350	234	643	401	301	201	564	359	270	180	466	312	234	156
WRC	494	330	247	165	494	330	247	165	424	282	212	141	326	218	163	109	292	195	146	97

ANGLE TO THE HORIZONTAL	$0^\circ \leq \alpha < 10^\circ$																			
TC	2.5																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1521	1014	760	507	1345	896	672	448	1178	785	589	393	1076	717	538	359	816	544	408	272
WRB1	698	466	349	233	628	418	314	209	557	371	279	186	510	340	255	170	455	303	228	152
WRB2	674	420	315	210	606	378	284	189	503	335	252	168	459	307	231	154	410	274	206	137
WRC	447	298	224	149	400	267	200	133	353	235	177	118	286	190	143	95	258	172	129	86

ANGLE TO THE HORIZONTAL	$0^\circ \leq \alpha < 10^\circ$																			
TC	2																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	1363	909	682	454	1103	736	552	368	983	655	491	328	927	618	464	309	722	481	361	241
WRB1	636	424	318	212	518	345	259	173	471	314	235	157	439	293	220	146	408	272	204	136
WRB2	613	382	287	192	466	312	234	156	424	284	213	142	396	265	199	133	368	246	185	123
WRC	408	272	204	136	337	225	169	112	298	199	149	99	245	163	122	82	231	154	116	77

Type of Rail	ER-R-ECO (Refer to Note 6 for other compatible rails)
Type of Interface	ER-I-34 and ER-I-09 (Refer to Note 6 for interface versions)
Solar Panel Dimension	2 m x 1 m (Refer to Note 19 for other panel sizes)

ANGLE TO THE HORIZONTAL	$10 \leq \alpha < 15^\circ$																			
TC	3																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	964	643	482	321	964	643	482	321	825	550	413	275	733	488	366	244	541	361	271	180
WRB1	455	303	228	152	455	303	228	152	392	262	196	131	353	235	177	118	314	209	157	105
WRB2	410	274	206	137	410	274	206	137	354	236	177	118	319	213	160	106	283	189	142	95
WRC	298	199	149	99	298	199	149	99	259	173	129	86	197	131	99	66	177	118	88	59

ANGLE TO THE HORIZONTAL	$10 \leq \alpha < 15^\circ$																			
TC	2.5																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	872	581	436	291	779	519	389	260	686	457	343	229	631	420	315	210	479	319	239	160
WRB1	416	277	208	139	377	251	188	126	330	220	165	110	306	204	153	102	275	183	137	92
WRB2	375	250	188	125	340	227	170	114	297	199	149	100	276	185	138	92	248	166	124	83
WRC	267	178	133	89	243	162	122	81	212	141	106	71	170	113	85	57	156	104	78	52

ANGLE TO THE HORIZONTAL	$10 \leq \alpha < 15^\circ$																			
TC	2																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	788	525	394	263	640	427	320	213	575	383	287	192	547	365	274	182	424	282	212	141
WRB1	377	251	188	126	314	209	157	105	282	188	141	94	267	178	133	89	243	162	122	81
WRB2	340	227	170	114	283	189	142	95	255	170	128	85	241	161	121	81	220	147	110	73
WRC	243	162	122	81	204	136	102	68	180	120	90	60	150	100	75	50	143	95	71	48

Type of Rail ER-R-ECO (Refer to Note 6 for other compatible rails)
 Type of Interface ER-I-34 and ER-I-09 (Refer to Note 6 for interface versions)
 Solar Panel Dimension 2 m x 1 m (Refer to Note 19 for other panel sizes)

ANGLE TO THE HORIZONTAL	15° ≤ α < 20°																			
TC	3																			
BUILDING HEIGHT (m)	≤ 5				5<H≤10				10<H≤15				15<H≤20				20<H≤30			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	695	464	348	232	695	464	348	232	593	396	297	198	529	352	264	176	392	262	196	131
WRB1	337	225	169	112	337	225	169	112	290	194	145	97	259	173	129	86	228	152	114	76
WRB2	304	203	153	102	304	203	153	102	262	175	131	88	234	156	117	78	205	137	103	69
WRC	220	146	110	73	220	146	110	73	188	126	94	63	150	100	75	50	129	86	65	43

ANGLE TO THE HORIZONTAL	15° ≤ α < 20°																			
TC	2.5																			
BUILDING HEIGHT (m)	≤ 5				5<H≤10				10<H≤15				15<H≤20				20<H≤30			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	631	420	315	210	566	377	283	189	501	334	250	167	454	303	227	151	353	235	177	118
WRB1	306	204	153	102	275	183	137	92	243	162	122	81	220	146	110	73	204	136	102	68
WRB2	276	184	138	92	248	165	124	83	219	147	110	73	198	132	99	66	184	123	92	62
WRC	196	131	98	65	180	120	90	60	157	105	78	52	129	86	65	43	116	77	58	39

ANGLE TO THE HORIZONTAL	15° ≤ α < 20°																			
TC	2																			
BUILDING HEIGHT (m)	≤ 5				5<H≤10				10<H≤15				15<H≤20				20<H≤30			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	566	377	283	189	464	309	232	155	417	278	209	139	399	266	199	133	314	209	157	105
WRB1	275	183	137	92	228	152	114	76	204	136	102	68	196	131	98	65	180	120	90	60
WRB2	248	165	124	83	205	137	103	69	184	123	92	62	177	118	89	59	163	109	82	54
WRC	180	120	90	60	149	99	75	50	133	89	67	44	109	73	54	36	102	68	51	34

Type of Rail	ER-R-ECO (Refer to Note 6 for other compatible rails)
Type of Interface	ER-I-34 and ER-I-09 (Refer to Note 6 for interface versions)
Solar Panel Dimension	2 m x 1 m (Refer to Note 19 for other panel sizes)

ANGLE TO THE HORIZONTAL	$\alpha = 20^\circ$																			
TC	3																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	501	334	250	167	501	334	250	167	436	291	218	145	389	260	195	130	290	194	145	97
WRB1	243	162	122	81	243	162	122	81	212	141	106	71	196	131	98	65	173	115	86	58
WRB2	220	146	110	73	220	146	110	73	191	128	96	64	177	118	89	59	156	104	78	52
WRC	165	110	82	55	165	110	82	55	141	94	71	47	109	73	54	36	95	63	48	32

ANGLE TO THE HORIZONTAL	$\alpha = 20^\circ$																			
TC	2.5																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	454	303	227	151	408	272	204	136	362	241	181	121	334	223	167	111	259	173	129	86
WRB1	228	152	114	76	204	136	102	68	180	120	90	60	165	110	82	55	149	99	75	50
WRB2	205	137	103	69	184	123	92	62	163	109	82	55	149	99	74	50	135	90	67	45
WRC	149	99	75	50	133	89	67	44	118	78	59	39	95	63	48	32	88	59	44	29

ANGLE TO THE HORIZONTAL	$\alpha = 20^\circ$																			
TC	2																			
BUILDING HEIGHT (m)	≤ 5				$5 < H \leq 10$				$10 < H \leq 15$				$15 < H \leq 20$				$20 < H \leq 30$			
	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner	Internal	Intermediate	Edge	Corner
WRA	417	278	209	139	343	229	172	114	315	210	158	105	297	198	148	99	228	152	114	76
WRB1	204	136	102	68	173	115	86	58	157	105	78	52	149	99	75	50	133	89	67	44
WRB2	184	123	92	62	156	104	78	52	142	95	71	47	135	90	68	45	121	80	60	40
WRC	133	89	67	44	110	73	55	37	102	68	51	34	82	54	41	27	#VALUE!	#VALUE!	#VALUE!	#VALUE!

General Notes

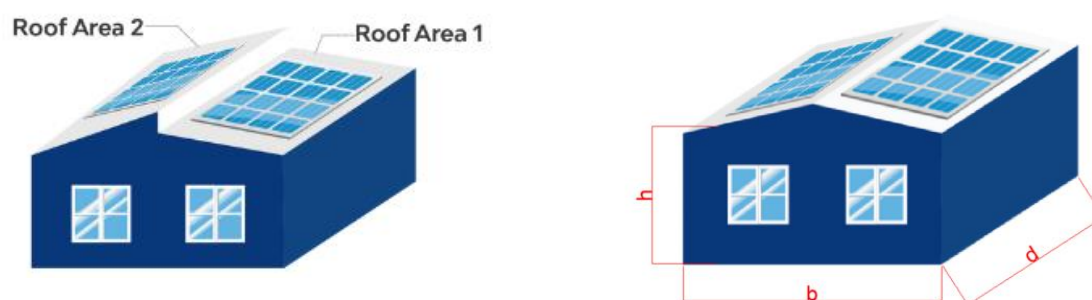
Note 1. Rails cannot run parallel to the ribs unless the applicable table spacings are equal or larger the purlin distance. Contact Clenergy if you are unable to comply with this condition or any of the installation specifications listed on this document.

Note 2. The spacing information in this document has been designed to be compliant with the capacity of the below items per roof area:

- Klip-lok clamp
- Roofing sheet
- Fixing clip between roofing sheet to purlin

Prior to carrying the PV installation, it is recommended to check that the roof sheet has been installed according to the manufacturers specifications and there are no missing clips.

Roof area is defined as a single surface that has no height variance.



Note 3. This document does not cover the following:

- Building frame capacity

It has been assumed that the building frame will be able to resist the additional loadings imposed by the installation of the solar panels in conjunction with the Clenergy Mounting System. Therefore, it is recommended to assess the roof structure before installing PV systems.

Note 4. Maximum roof pitch of 5°.

Note 5. Panels to be installed only as per figure 1 configuration.

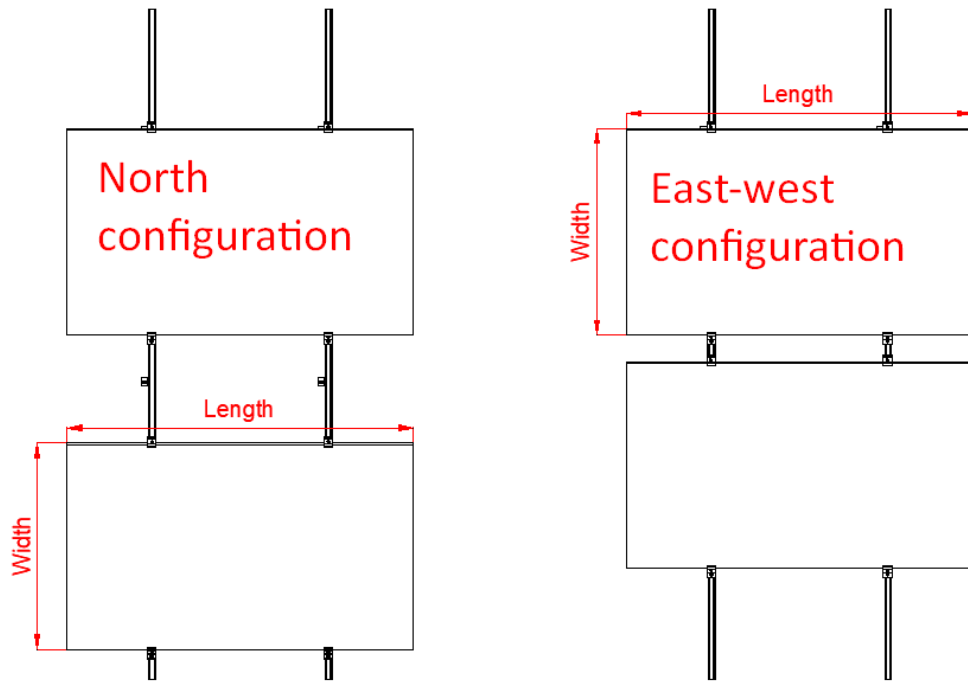


Figure 1. Panel configuration

Note 6. The following components are satisfied for use according to AS/NZS 1664.1:1997-Amdt 1:1999 and AS/NZS 1170.2:2021.

Components	Part No.	Description
ECO-Rail	ER-R-ECO/XXXX	ECO-Rail
Splice	ER-SP-ECO	PV-ezRack Splice for ECO-rail
Australian Made Mill Finish ECO-Rail	R-ECO/XXXX/AUMF	PV-ezRack Australian Made Mill Finish ECO-Rail
Black ECO-Rail	ER-R-ECO/XXXX/BA	Black ECO-Rail
Black Splice ECO-Rail	ER-SP-ECO/BA	Splice ECO-Rail Black
Roof bracket	ER-I-09	Klip-lok Bracket
Roof bracket	ER-I-09/100/45	Klip-lok Bracket
Roof bracket	ER-I-29/AU	Klip-lok Bracket
Roof bracket	ER-I-32/AU	Klip-lok Bracket
Roof bracket	ER-I-34	Universal Klip-lok Bracket
Black Roof bracket	ER-I-09/BA	Black Klip-lok Bracket
Black Roof bracket	ER-I-09/100/45/BA	Black Klip-lok Bracket
Black Roof bracket	ER-I-29/BA	Black Klip-lok Bracket

Components	Part No.	Description
Black Roof bracket	ER-I-32/BA	Black Klip-lok Bracket
Black Roof bracket	ER-I-34/BA	Universal Klip-lok Bracket
Interface	ER-I-05	Tin Interface
Interface	ER-I-05/CM	Tin Interface with Click Module
Interface	ER-I-05A/EZC/ECO	Tin Interface with ezClick
Black Interface	ER-I-05/BA	Black Tin Interface
Cross Connector Clamp	CRC-R/ECO CRC-R/ECO-ZBW	Cross Connector Clamp
Cross Connector Clamp Plate	K-CRC/PT	Cross Connector Clamp Plate for ER-I-34
Front Leg	FL-COMT/Z/G/5	Commercial Tilt 5° Front Leg
Rear Leg	RL-COMT/Z/G/5	Commercial Tilt 5° Rear Leg
Front Leg	FL-COMTZ/G/10V2	Front leg, commercial tilt 10 degrees, version 2
Back Leg	RL-COMT/Z/G/10V2	Back leg, commercial tilt 10 degrees, version 2
Front Leg	FL-COMTZ/G/15	Front leg, commercial tilt 15 degrees
Back Leg	RL-E-COMT/G/15	Back leg, commercial tilt 15 degrees
Roof bracket	ER-I-34/CRC	Universal Klip-lok Bracket Pre-assembly with Cross Connection Clamp
Roof bracket	ER-I-34/05A/EZC	Universal Klip-lok Bracket Pre-assembly with Tin Interface
Roof bracket	ER-I-34/CRC/BA	Black Universal Klip-lok Bracket Pre-assembly

		with Cross Connection Clamp
Components	Part No.	Description
Roof bracket	ER-I-34/05A/EZC/BA	Black Universal Klip-lok Bracket Pre-assembly with Tin Interface

(*) Subject to the panel manufacturer's installation guide.

Note 7. For Terrain Category (TC) definition. Refer to clause 4.2.1 of AS/NZS 1170.2:2021 for more information.

Note 8. Topographic Multiplier (Mt) taken as 1.0. Refer to clause 4.4 of AS/NZS 1170.2:2021 for more information.

For topographic Multiplier (Mt) more than 1.0 (installations on a mountain, hilly or sloped terrain) please refer to clause 4.4 of AS/NZS 1170.2:2021 to define appropriate Topographic multiplier value.

The below table provides a reduction factor applied for topographic multipliers greater than 1 (installation on a slope, hill on mountain). To achieve a more accurate and cost-effective design, please contact Clenergy Engineering department.

Mt	A, B1, B2			
	Internal	Intermediate	Edge	Corner
1	1	1	1	1
1.01	0.93	1	0.86	1
1.02	0.93	1	0.86	1
1.03	0.93	0.89	0.86	1
1.04	0.93	0.89	0.86	1
1.06	0.86	0.89	0.86	1
1.08	0.86	0.89	0.86	1
1.09	0.79	0.78	0.71	0.75
1.1	0.79	0.78	0.71	0.75
1.2	0.64	0.67	0.57	0.75
1.3	0.57	0.56	0.57	0.50
1.4	0.50	0.44	0.43	0.50
1.5	0.43	0.44	0.43	0.50

Note 9. Shielding Multiplier (Ms) taken as 1.0. Refer to clause 4.3 of AS/NZS 1170.2:2021 for more information.

Note 10. Wind Direction Multiplier (Md) taken as 1.0. Refer to clause 3.3 of AS/NZS 1170.2:2021 for more information.

Note 11. Clamping zone of the PV panels should be according to the manufacturer's specifications.

Note 12. Capacities checked and compared against testing data from Clenergy Australia and NATA certified testing.

Note 13. From the date of publication onwards, any amendment made to any of the above-mentioned Standards will make this report outdated and a new one will have to be released, unless the amendment has no implications on this certificate.

Note 14. All components from Clenergy must be installed according to manufacturer's specification and the instructions shown in the relevant installation manual. Please contact Clenergy Australia or check the website for the latest guides.

Note 15. No consideration has been taken on the effect of snow loads. In case the roof is located in a snow prone area, a project specific design must be completed.

Note 16. Installation to be done only on top of the purlins. Exclusions for installation of the klip-lok clamps on the roof depending on the type of roof sheet to be as per the following table

Roof Sheet type	Exclusions	Test Report No.
Lysaght KLIP-LOK 700 Classic	Purlin distance shall not exceed 2m.	MT-19/0633-A
Lysaght KLIP-LOK 700 Hi-Strength	Purlin distance shall not exceed 1.2m.	MT-11/023
Lysaght KLIP-LOK 406	Purlin distance shall not exceed 2m.	MT-17/001-A
Stramit Speed Deck Ultra	Purlin distance shall not exceed 1.2m.	MT-11/023
Fielders Kingklip 700	Purlin distance shall not exceed 1.2m.	MT-11/280
Stratco Topdeck 700	Purlin distance shall not exceed 2m.	MT-17/001-B and MT-19/1007
Roof Sheet type	Exclusions	Test Report No.
Lysaght Longline 305	Purlin distance shall not exceed 1.2m.	MT-13/133
Metroll Metlok 700	- Purlin distance shall not exceed 2m. - Exclude lapjoints	MT-19/0633-B
Stramit Speed Deck 500	Purlin distance shall not exceed 2m.	MT-19/0762

Rev-klip 700	Purlin distance shall not exceed 2m.	MT-19/1018-A
Metroll Metlok 500	- Purlin distance shall not exceed 1.2m. - Exclude lapjoints	7530/MJ
Steeline Steel-Rib 500	Purlin distance shall not exceed 2m.	MT-19/1090-B
Revolution Maxline 340	Purlin distance shall not exceed 2m.	MT-19/1018-B
Steeline Lokdeck 680	Purlin distance shall not exceed 1.2m.	20-0028

Contact Clenergy for a project specific assessment if you cannot comply with the above exclusion.

Refer to figure 2, 3 and 4 to find clamp position, rib type and location on respective roof sheet.

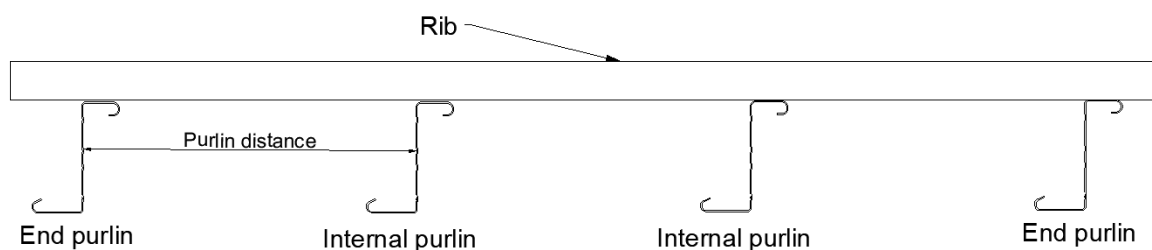


Figure 2. Purlin distance reference

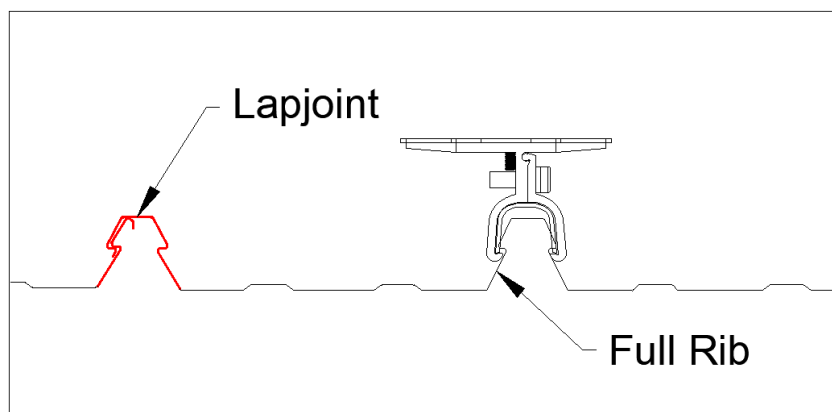
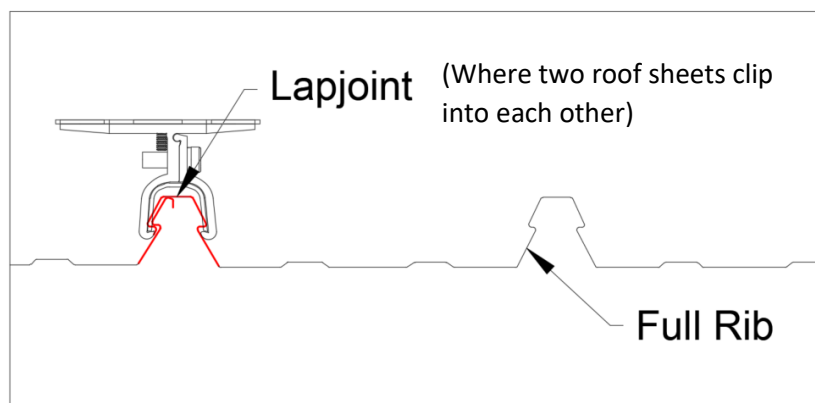


Figure 3. full rib and lapjoint reference

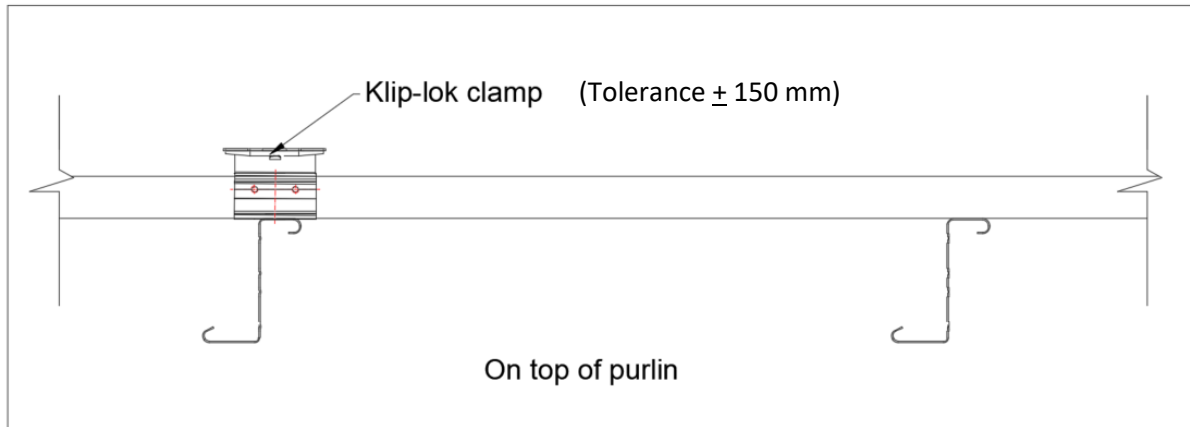


Figure 4. Clamp position on top of the purlin

Note 17. Lysaght Longline 305 fixing spacings were calculated based on the capacity of Clenergy's ER-I-29 clamp and the roof sheet. When using Clenergy's ER-I-34 clamp, Longline 305 fixing spacings shall be reduced as follows:

Wind Region A	Wind Region B	Wind Region C
-70%	-75%	-75%

Note 18. Exclusion for installation of Clenergy's ER-I-34 on Lysaght Longline 305 roof sheet to be as per the below table

Roof Sheet type	Exclusions	Test Repot No.
Lysaght Longline 305	- Purlin distance shall not exceed 2m. - Exclude lapjoints	MT- 20-0661

Note 19. This Engineering report is based on 2 m x 1 m panels and two rails per panel. However, for different panel sizes a percentage increase or decrease can be applied on all interface spacings as shown on the following table.

Number of rails per panel	Panel length (mm)	Spacing +/- W.R – A & B1	Spacing +/- W.R – B2, C & D
2 rails	≤ 1700	+ 6 %	+ 10 %
3 rails	≤ 1700	+ 12 %	+ 18 %
2 rails	≤ 1800	+ 4 %	+ 7 %
3 rails	≤ 1800	+ 12 %	+ 15 %
2 rails	≤ 1900	0 %	+ 5 %
3 rails	≤ 1900	+ 10 %	+ 15 %
2 rails	≤ 2000	0 %	0 %
3 rails	≤ 2000	+ 10 %	+ 15 %

2 rails	≤ 2100	- 10 %	- 6 %
3 rails	≤ 2100	+ 7 %	+ 12 %
2 rails	≤ 2200	- 18 %	- 12 %
3 rails	≤ 2200	+ 5 %	+ 10 %
2 rails	≤ 2300	- 20 %	- 12 %
3 rails	≤ 2300	+ 5 %	+ 12 %
2 rails	≤ 2400	- 25 %	- 15 %
3 rails	≤ 2400	+ 5 %	+ 10 %

Note 20. Panel width cannot exceed 1.20 m for any of the above panel length dimensions and panel weight cannot exceed 15 kg/m².

Note 21. Please refer to AS 4312 to find out about corrosion categories.

Note 22. Maximum permitted rail overhang for fixing spacings equal or over 700 mm to be 150 mm. For fixing spacings less than 700 mm, rail overhang should be 50 mm. This applies to standard and East-West installations. Refer to figure 2 and 3 for more information.

Note 23. Excess rail shall be cut accordingly. Refer to installation manual for more information.

Note 24. The fixing spacings are based on the solar panel row spacing (Figure 5) of up to 400 mm. When the row spacing (Figure 5) is over 400 mm an interface spacing increase factor of 5% can be applied. When the row spacing (Figure 5) is over 650 mm an interface spacing increase factor of 20% can be applied.

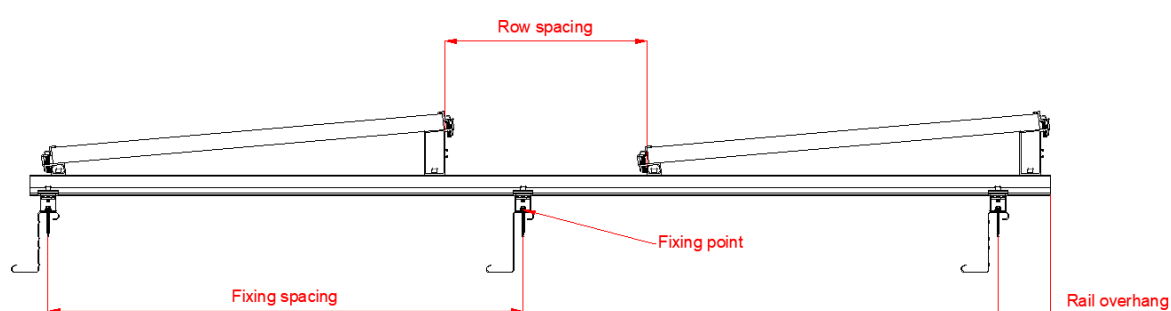


Figure 5. COMT installation configuration (reference only)

Note 25. For **East-West** installation, when the row spacing (Figure 6) is over 400 mm an interface spacing increase factor of 5% can be applied. When the row spacing (Figure 6) is over 650 mm an interface spacing increase factor of 20% can be applied.

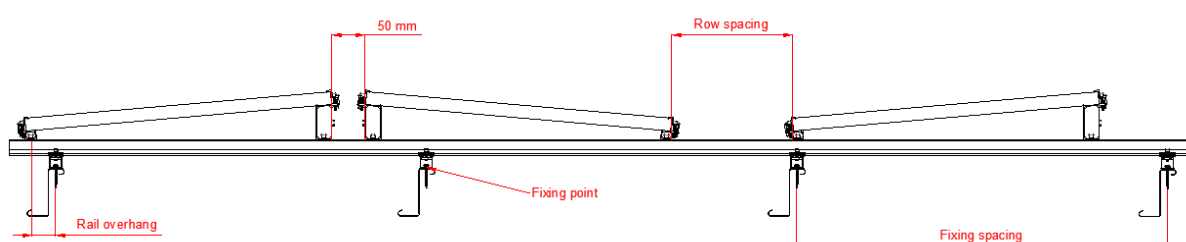


Figure 6. E-W COMT installation configuration (reference only)

Note 26. Same fixing tables on this document can be used for East-West systems.

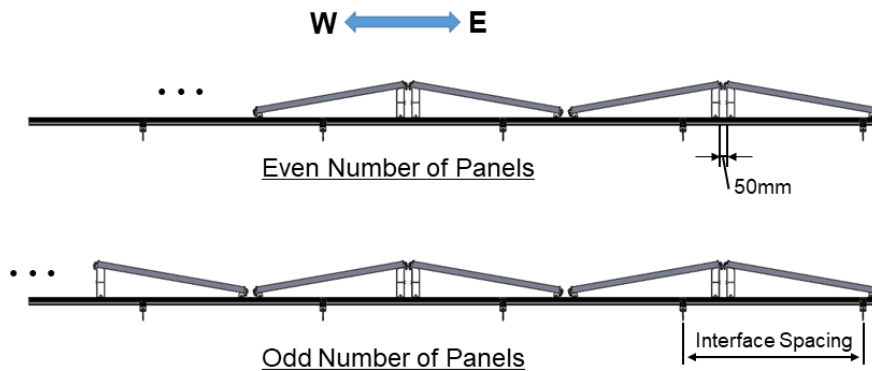
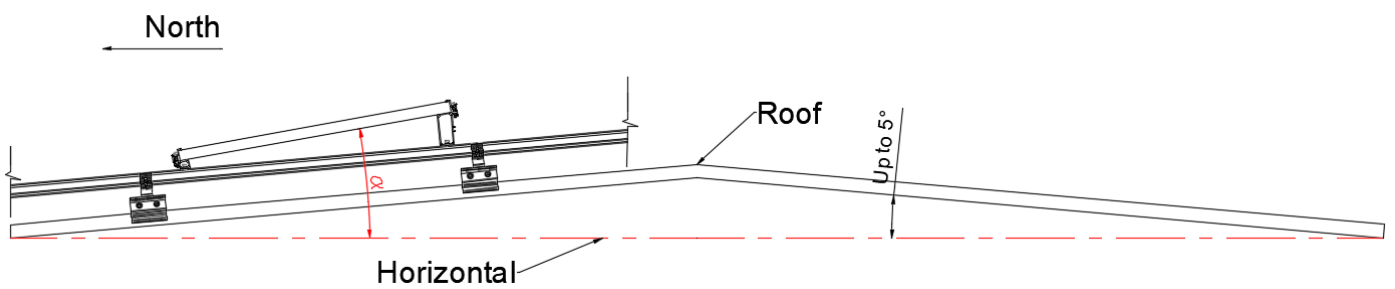


Figure 6. E-W orientation

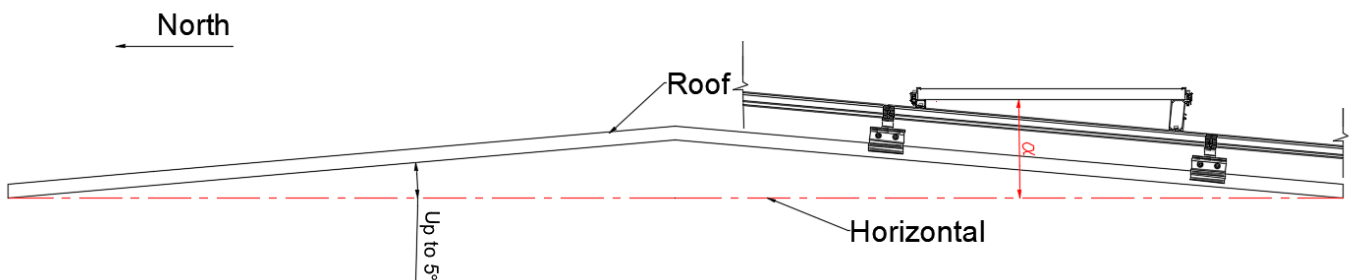
Note 27. Base rail between panel rows should run continuous from the first panel row to the last.

Note 28. Final tilt “ α ” identification as per pictures below

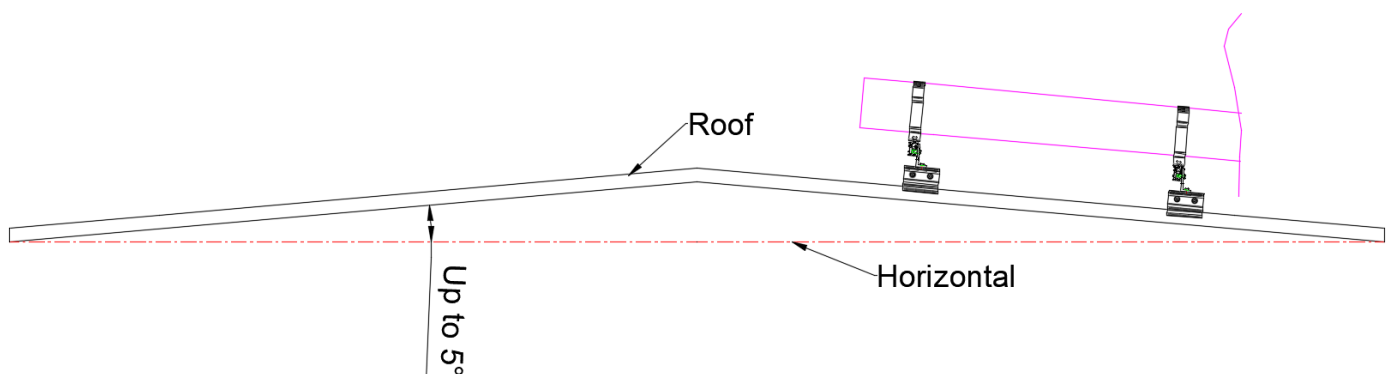
Standard tilt

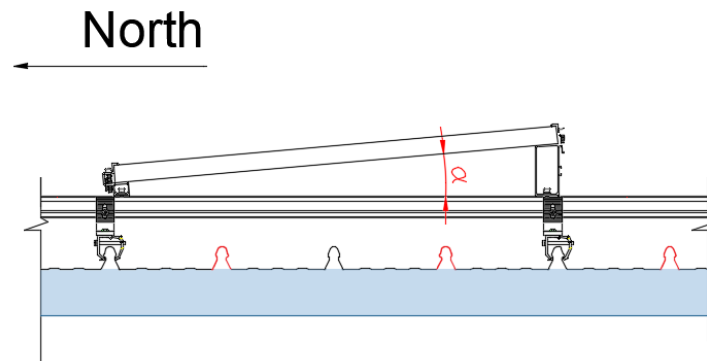


Reverse tilt



ECO – Rail perpendicular to ribs





Note 29. Clamping zone of the PV panels should be according to the manufacturer's specifications.

Note 30. The more conservative spacing has to be used if one panel or panel row fall between two roof zones.

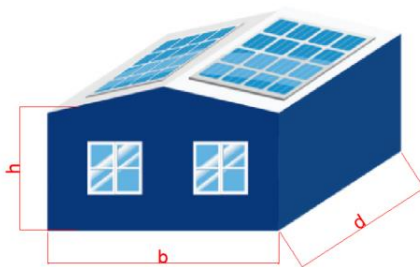
Note 31. Roof Zone definition to be calculated as per below:

Step 1. Determine building height (h), width (b) and length (d).

Step 2. Check ratio of height to length/width (h/b and h/d)

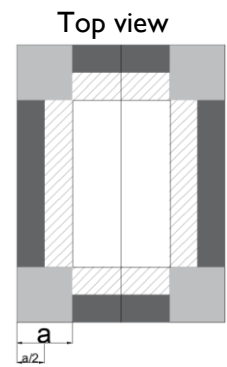
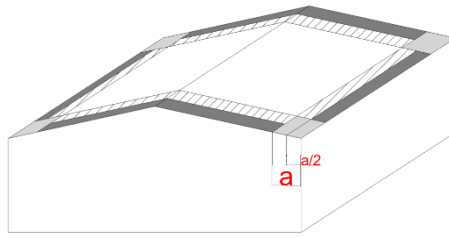
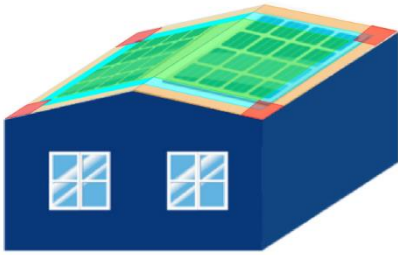
If both h/b and $h/d < 0.2$, then $a = 2h$

Step 3. If any of h/b or $h/d \geq 0.2$ then $a =$ the lowest value between $0.2b$, $0.2d$ and h

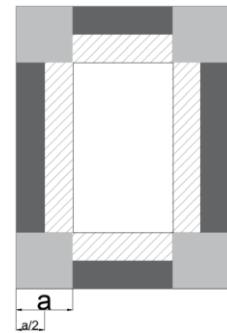
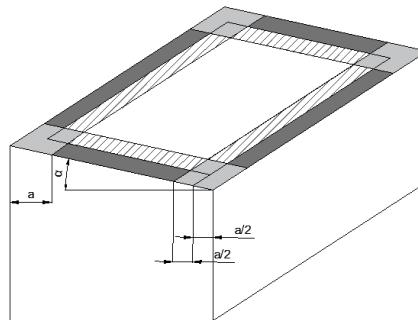
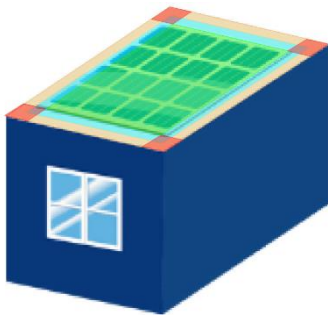


Roof zone definition

Roof Pitch $< 5^\circ$



Flat/Mono – Slope Roof $< 5^\circ$

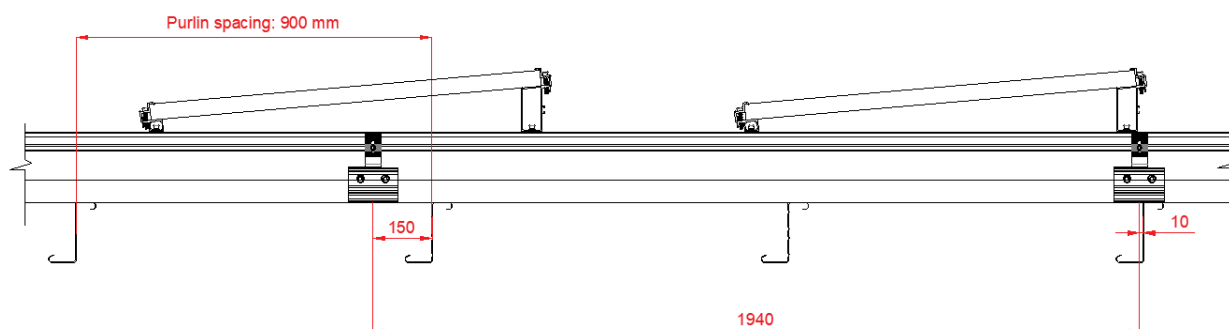


Legend:

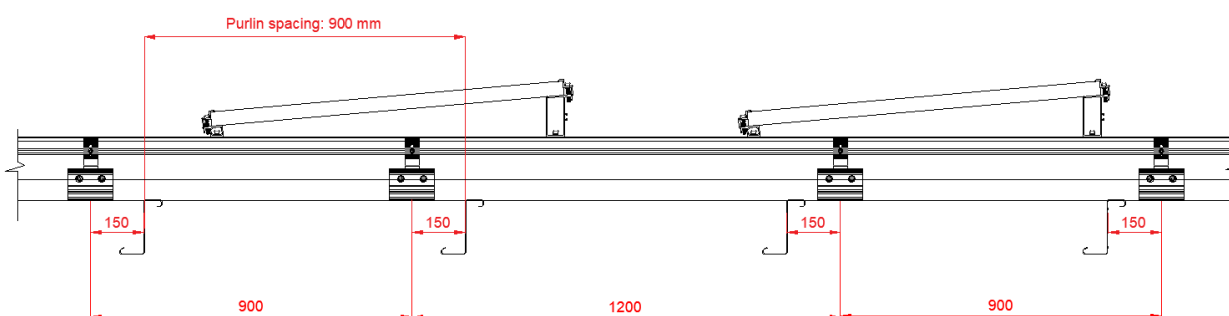
-  Internal
-  Intermediate = " $a/2$ "
-  Edge = " $a/2$ "
-  Corner = " a "

Example for Klip-lok tilted systems

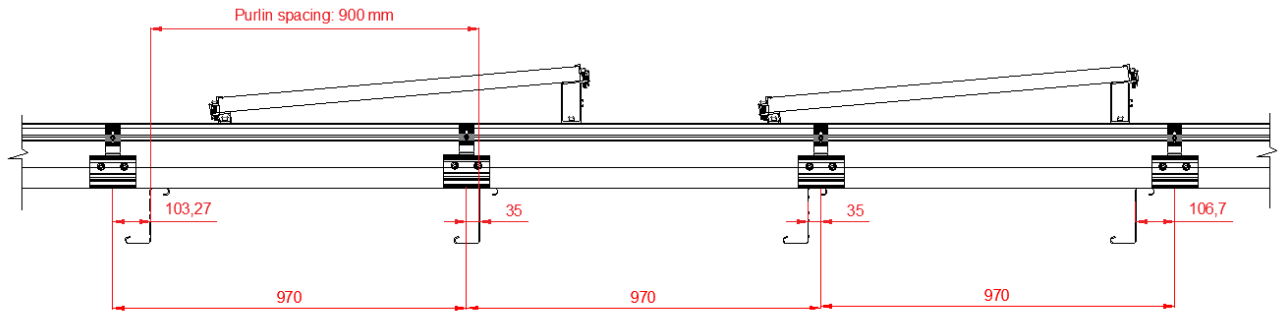
- Wind Region A
- Terrain Category: 2.5
- Building height: 5 m
- Roof pitch: 2°
- Panel tilt: 5°
- Normal tilt (not reverse tilt)
- Rail orientation: perpendicular to purlins
- Roof Sheet: Lysaght Klip-lok 406
- Purlin spacing: 900 mm
- Panel dimension: 2 m x 1 m
- Exclusions as per **Note 16** for Klip-lok 406
- Interface spacing as per below:
 - **Internal: 1940 mm**
 - Installation feasible on top of the purlin, every second purlin at 1800 mm or;
 - Installation at 1940 mm (maximum) with a purlin offset no more than 150 mm on each side, if feasible. Reference picture as per below.



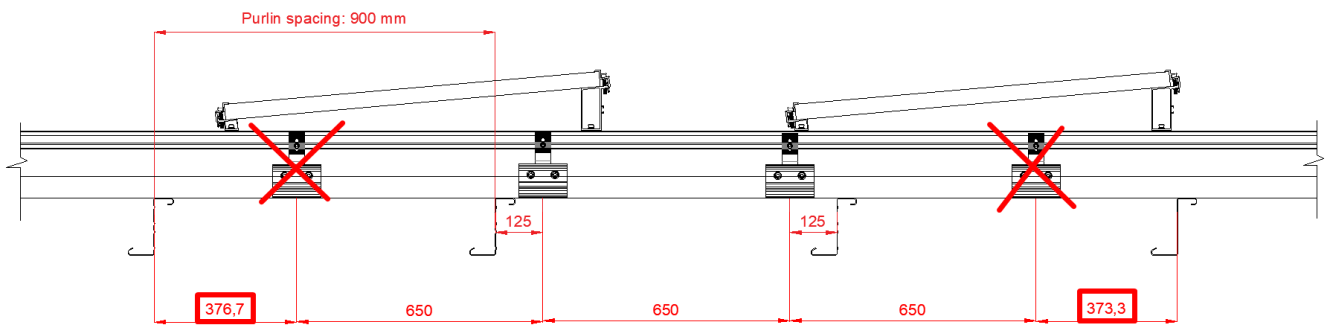
- **Intermediate: 1290 mm**
 - Installation feasible on top of each purlin at 900 mm or;
 - Installation at 1200 mm (maximum) with a purlin offset no more than 150 mm on each side, if feasible. Reference picture as per below.



- **Edge: 970 mm**
 - Installation feasible on top of each purlin at 900 mm or;
 - Installation at 970 mm (maximum) with a purlin offset no more than 150 mm on each side, if feasible. Reference picture as per below.



- **Corner: 650 mm** - Installation not compliant with this generic certificate since the bracket offset exceeds 150 mm.





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