# STRAMIT EXACTA® C&Z PURLINS & GIRTS

## DESIGN CAPACITY TABLES AND MEMBER MOMENT CAPACITIES

p r o d u c t   t e c h n i c a l   m a n u a l

EXAC-C/Z

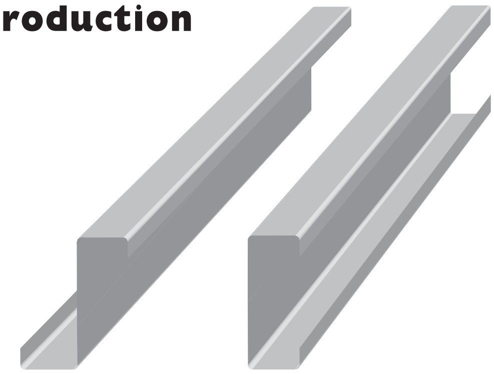
# EXACTA®
# C&Z PURLINS

## COMPREHENSIVE GUIDE TO SELECTING AND SPECIFYING STRAMIT EXACTA® PURLINS, GIRTS AND BRIDGING.

# Contents



# Introduction



***Stramit Exacta*® *C&Z Purlins*** come in sizes of 150, 200, 250, 300 and 350 are subtly but importantly different to standard ***Stramit*® *Z&C Purlins.***
The distinction between the two types is that ***Stramit Exacta*® *C&Z Purlins*** have been performance optimised for the most commonly used spans. This simple change, enabled by Stramit's state-of-the-art manufacturing equipment and high standards of quality control, can lead to capacity improvements of up to 18%.

This ***Stramit Exacta*® *C&Z Purlins*** product technical supplement incorporates both design capacity tables (load tables) and design member moment capacities. The latter enables engineers to input properties and capacities into their preferred structural analysis software. With this capability it is practical to select purlin (and girt) configurations that are outside those listed in the design capacity tables. In particular it allows the analysis of irregular purlin configurations and complex loading patterns.

All data within this technical supplement are based on the limit state AS/NZS4600:2005 'Cold-formed Steel Structures'. Computations have been made using dedicated software developed by the University of Sydney. The procedures within the supplement show all of the design checks necessary in the calculation of purlins using the unique Member Moment Capacity method.

## How to Use

The procedure for using the ***Stramit Exacta*® *C&Z Purlins and Girts*** Product Technical Manual is largely self-explanatory. Please ensure that you are familiar with the assumptions and conditions by reading the manual fully. Once these are understood the basic sequence is:

1. Establish the required inward and outward loads, normally using AS1170.
2. Turn to the design capacity tables for the preferred span configuration
3. Select a suitable purlin from the outward design capacity page (always the left-hand opening)
4. Check for inward capacity and deflection on the adjacent page at the same section, span and bridging case
5. Check that the bridging and bolt requirement is specified.

## Complementary Software

***Stramit***® has ***EX-facta***™ moment capacity design software available for alternative purlin span configurations. Spans can be mixed to any length and also include cantilevered ends. Even more importantly the software allows interactive repositioning of bridging positions, changing of lap lengths and mixing of section thicknesses to allow engineers to really optimise their purlin configurations. The ***EX-facta***™ program shows nominal section efficiencies within each span helping the user to visualise critical and over-designed sections. See pages 31 to 33 for worked example with screenshots.

## Related Literature

This document can be used in conjunction with ***Stramit Exacta***® ***C&Z Purlins and Girts and Bridging*** detailing and installation guide which contains information on hole sizes, locations and punching, laps, expansion joints, accessories, bridging assembly options, detailing, procurement and installation for all Stramit® Purlins including ***Stramit Exacta***® ***C&Z Purlins.***

## Intellectual Property

This document is subject to copyright. The design method utilised within this manual is protected by patent.

## Technical Support

Stramit have Technical Service staff in each region of Australia to assist with all technical issues. This enables Stramit to provide advice that reflects local conditions and practices.

# Selection & Specification

## Features/Benefits

- High Tensile Steel – for high strength and low weight.
- Z350 Zinc Coating – for durable but economic protection.
- Available in the durable ZAM® coating for more severe environments.
- 150, 200, 250, 300, 350 sizes – a comprehensive range to cater for almost all applications.
- Full Thickness Range – with Stramit's proven record for manufacturing and supply.
- Integrated Bridging – boltless design specifically for Stramit® sections.
- Full range of Accessories – from brackets to bolts to ensure easy use and installation.
- Limit State Design in accordance with AS4600 – suitable for all government projects.
- Downturn Lip available – for projects requiring this feature.

## Applications

***Stramit Exacta***® ***C&Z Purlins and Girts*** are used to support roof or wall sheeting primarily in sheds and large industrial and commercial buildings. All uses of these sections require engineering design to ensure suitability.

## Materials

***Stramit Exacta***® ***C&Z Purlins and Girts*** are manufactured from galvanised hi-tensile steel, with a minimum Z350 galvanised coating (350g/m$^2$) conforming to AS1397 and ZAM® coated steel. Other coatings, grades and materials may be available, subject to inquiry.

The mass and steel grade for each standard ***Stramit Exacta***® ***C&Z Purlin*** section are shown in Table 1 below:

### Table 1

**STRAMIT EXACTA® PURLINS – Mass and steel grade**

| Section EC or EZ | Thickness (mm) | Strength (MPa) | Mass (kg/m) |
|---|---|---|---|
| 150-10 | 1.0 | G550 | 2.43 |
| 150-12 | 1.2 | G500 | 2.90 |
| 150-15 | 1.5 | G450 | 3.59 |
| 150-19 | 1.9 | G450 | 4.51 |
| 150-24 | 2.4 | G450 | 5.67 |
| 200-12 | 1.2 | G500 | 3.63 |
| 200-15 | 1.5 | G450 | 4.50 |
| 200-19 | 1.9 | G450 | 5.74 |
| 200-24 | 2.4 | G450 | 7.21 |
| 250-15 | 1.5 | G450 | 5.18 |
| 250-19 | 1.9 | G450 | 6.50 |
| 250-24 | 2.4 | G450 | 8.17 |
| 300-19 | 1.9 | G450 | 8.04 |
| 300-24 | 2.4 | G450 | 10.2 |
| 300-30 | 3.0 | G450 | 12.7 |
| 350-19 | 1.9 | G450 | 9.68 |
| 350-24 | 2.4 | G450 | 12.2 |
| 350-30 | 3.0 | G450 | 15.2 |

## Adverse Conditions

***Stramit Exacta***® ***C&Z Purlins and Girts*** will give excellent durability in most applications. Galvanised hi-tensile steel is not recommended for use within 450mm of moist soil. Unwashed areas subject to salt-laden air or other corrosive matter may need additional protection. In many cases such protection can be provided by using ZAM® coating.

## Compatibility

Contact between ***Stramit Exacta***® ***C&Z Purlins and Girts*** and copper (e.g., pipework) must be avoided as premature corrosion will occur.

## Specification

Maintaining the correct specification of purlins, girts and bridging is very important. Even a small change in specification can lead to substantial reduction in performance.

A suggested specification is:

"All purlins and girts shall be ***Stramit Exacta*® *C or Z Purlins and Girts*** used with ***Stramit*® *Bridging*** or approved equivalent, supported by submission of section properties, purlin capacity calculations, and a performance warranty, produced and detailed for this project. All sections shall be produced from (either - galvanised steel to AS1397 with a coating mass of at least 350g/m$^2$, or ZAM® coated steel) and designed in accordance with AS4600:2005. All sections should be installed in accordance with the manufacturer's instructions with particular regard to bridging and bolt locations and lap sizes."

"Where required for structural or installation purposes, ***Stramit*® *Bridging*** shall be installed using pre-made components to manufacturer's instructions. All other purlin accessories shall be supplied by Stramit."

## Tolerances

All sections will be produced within the following tolerances:

| | |
|---|---|
| Section length | + 0mm / -10mm |
| Section web (dim. D) | +/- 1mm |
| Section flange (dim. B,E,F) | +/- 1mm |
| Internal flange angle | +/- 1° |
| Internal lip angles | + 5° / -2° |
| Hole centres | +/- 1mm |

## Downturn Lips

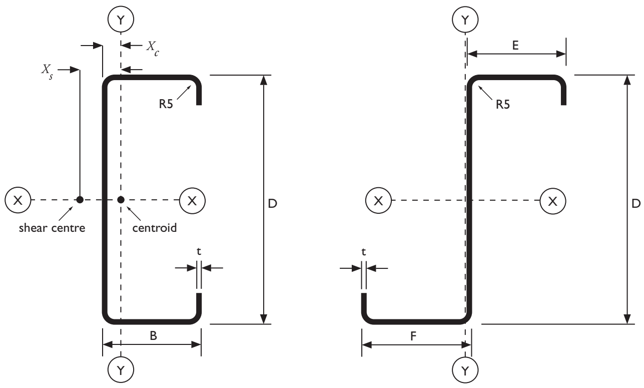
All ***Stramit Exacta*® *C or Z Purlins and Girts*** may be available with downturn lips for special projects. Purlins of this shape cannot normally be lapped and are usually used in single or short double span construction. However, Stramit can supply "lappable" Z's, subject to inquiry, providing a unique section that offers strength and economy as well as downturned lip. Please contact your local Stramit office for details on capacity, availability, minimum order quantity and delivery lead times.

Remember to allow additional cleat length for clearance between the downturn lips and the support beam.

# Design Data

## Sizes

The tables below list the sizes and thicknesses of ***Stramit Exacta*® *C&Z Purlins and Girts*.**




### Table 2

**STRAMIT EXACTA® C–PURLINS AND GIRTS – Size range**

| Section | Web D (mm) | Flange B (mm) | Thickness t (mm) | $X_c$ (mm) | $X_s$ (mm) |
|---|---|---|---|---|---|
| EC150-10 | 150 | 58 | 1.0 | 18.2 | 46.7 |
| EC150-12 | 150 | 58 | 1.2 | 18.3 | 46.8 |
| EC150-15 | 150 | 58 | 1.5 | 18.3 | 47.0 |
| EC150-19 | 150 | 58 | 1.9 | 18.4 | 47.2 |
| EC150-24 | 150 | 58 | 2.4 | 18.5 | 47.6 |
| EC200-12 | 200 | 72 | 1.2 | 20.0 | 52.1 |
| EC200-15 | 200 | 72 | 1.5 | 20.1 | 52.2 |
| EC200-19 | 200 | 72 | 1.9 | 20.8 | 54.2 |
| EC200-24 | 200 | 72 | 2.4 | 20.9 | 54.5 |
| EC250-15 | 250 | 73 | 1.5 | 18.5 | 49.5 |
| EC250-19 | 250 | 73 | 1.9 | 18.5 | 49.4 |
| EC250-24 | 250 | 73 | 2.4 | 18.7 | 50.0 |
| EC300-19 | 300 | 93 | 1.9 | 24.5 | 64.8 |
| EC300-24 | 300 | 93 | 2.4 | 24.6 | 65.1 |
| EC300-30 | 300 | 93 | 3.0 | 25.3 | 67.1 |
| EC350-19 | 350 | 120 | 1.9 | 32.4 | 84.5 |
| EC350-24 | 350 | 120 | 2.4 | 32.5 | 84.9 |
| EC350-30 | 350 | 120 | 3.0 | 32.7 | 85.3 |

### Table 3

**STRAMIT EXACTA® Z–PURLINS AND GIRTS – Size range**

| Section | Web D (mm) | Flange E (mm) | Flange F (mm) | Thickness t (mm) |
|---|---|---|---|---|
| EZ150-10 | 150 | 57 | 61 | 1.0 |
| EZ150-12 | 150 | 57 | 61 | 1.2 |
| EZ150-15 | 150 | 57 | 61 | 1.5 |
| EZ150-19 | 150 | 57 | 61 | 1.9 |
| EZ150-24 | 150 | 57 | 61 | 2.4 |
| EZ200-12 | 200 | 69 | 74 | 1.2 |
| EZ200-15 | 200 | 69 | 74 | 1.5 |
| EZ200-19 | 200 | 69 | 74 | 1.9 |
| EZ200-24 | 200 | 69 | 74 | 2.4 |
| EZ250-15 | 250 | 71 | 76 | 1.5 |
| EZ250-19 | 250 | 71 | 76 | 1.9 |
| EZ250-24 | 250 | 71 | 76 | 2.4 |
| EZ300-19 | 300 | 91 | 98 | 1.9 |
| EZ300-24 | 300 | 91 | 98 | 2.4 |
| EZ300-30 | 300 | 91 | 98 | 3.0 |
| EZ350-19 | 350 | 116 | 124 | 1.9 |
| EZ350-24 | 350 | 116 | 124 | 2.4 |
| EZ350-30 | 350 | 116 | 124 | 3.0 |

## Data Validity

Designs generated using this technical manual are only valid for use with ***Stramit Exacta® C&Z Purlins, Girts & Stramit® Bridging***. Important assumptions are made in deriving this data regarding product tolerances, materials and components used, which may not be valid if other products are used. Therefore, if designs are based on this data, ***Stramit Exacta® C&Z Purlins, Girts & Stramit® Bridging*** must be specified and used.

## Self Weight

The capacity tables in this manual make no allowance for self-weight of the purlins, sheeting or any other materials or components. These must therefore be accounted for in the derivation of loadings and actions.

## Standard Purlins

Designs based on this technical manual and also using ***EX-facta™*** design software are strictly only applicable for ***Stramit Exacta® C&Z Purlins and Girts.***

WARNING - Do not substitute standard purlins from Stramit or other manufacturers for designs based on this manual. Such structures would be under-designed and may be unsafe.

## Section Properties

The section properties given in Tables 6, 7 and 8, 9 are subject to slight variation due to mathematical rounding and commercial tolerances on dimensions (note, however, that total material used will not vary). Any designs carried out using these properties should be calculated using AS/NZS4600. Whilst AS/NZS4600 requires many more section properties, those shown in the tables are the only ones obtainable without reference to the particular application. When inputting section properties for laps always use the sum of the properties for each of the lapped purlins. Never use properties for an equivalent single section of the combined thickness (e.g. for lapped EZ150-12 purlins use 2x the values for that purlin, do not use the properties of a EZ150-24 purlin).

## Suspended Loads

Loads to be suspended from roof purlins must be accounted for in design. No allowance is included in the capacity tables. Any such loadings must be connected to the purlin web by using hangers or other means. Never attach loads to the purlin lips. Attachments to the purlin flange must be within 25mm of the web. Connection design should follow the rules within AS/NZS4600, including a check on bearing of the purlin. Loads should not be suspended from wall girts.

## Local Pressure Factors

The capacity tables in this manual do not account for local pressure factors for wind. Partial and variable loads can easily be input into ***EX-facta™*** design software.

## Point Loads

The capacity tables in this manual do not account for point loads. Point loads can easily be input into ***EX-facta™*** design software.

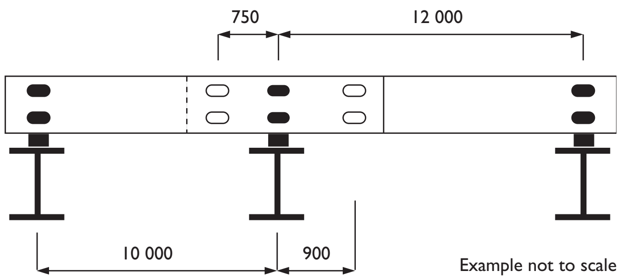
## Bridging

Bridging provides resistance to purlin rotation during the installation of roof and wall sheeting. For this reason a maximum bridging (or bridging to cleat) spacing of 20 x purlin depth, but no greater than 4000, is recommended. Failure to do so can lead to misaligned fastenings, causing additional stresses on the fasteners and roof sheeting. Excessive purlin rotation can be a safety hazard during construction. Stramit therefore recommends that at least one row of bridging be used in each purlin span. Span/bridging configurations which exceed these recommendations are shown on the left of or above the red line. However in instances where sheeting is successfully installed outside of this recommendation the published values are valid for structural purposes.

***Stramit® Bridging*** is only designed to allow purlins and girts to resist wind loads once the sheeting has been attached. Purlins, girts and bridging should not be subjected to loading from stacked materials, even when sheeting is attached, or from lifting assemblies of framing.

## Laps

Stramit generally recommends a lap length of 15% of the span. Lapped span Design Capacity tables (including continuous) are based on a 15% lap. Where span lengths are unequal (e.g. reduced end spans) each purlin should have 7.5% of each adjacent span added rather than 7.5% of that purlin's span.




The lap length can however be varied using the Member Moment methodology in this supplement, including lap lengths that are different on either side of a support. This can be particularly useful where say one purlin in a long run is just short of capacity.

Lap lengths of less than 10% (or 5% on any side of a support) may not provide full structural continuity and may also suffer from local failures not considered by this method. They must therefore be considered beyond the scope of this manual.

## Bolts

Bolting of ***Stramit Exacta® C&Z Purlins*** or ***Girts*** to cleats and at lapped joints should be by standard M12 grade 4.6 bolts unless the shear capacity of the bolts is exceeded as indicated in the design capacity tables. These cases, shown in bold italics, require grade 8.8 bolts to be used. It is however possible to use grade 4.6 bolts provided the reaction values shown in the tables below are not exceeded. For 300 series purlins, use M16 bolts or M16 grade 8.8 bolts where indicated.

### Table 4

**STRAMIT EXACTA® PURLINS – Bolt Reaction**

| Bolt Size & Grade | Bolt Shear Capacities ØV$_{vf}$ (kN) |
|---|---|
| 2 x M12/4.6 | 30.3 |
| 2 x M12/8.8 | 62.8 |
| 2 x M16/4.6 | 57.2 |
| 2 x M16/8.8 | 118.7 |

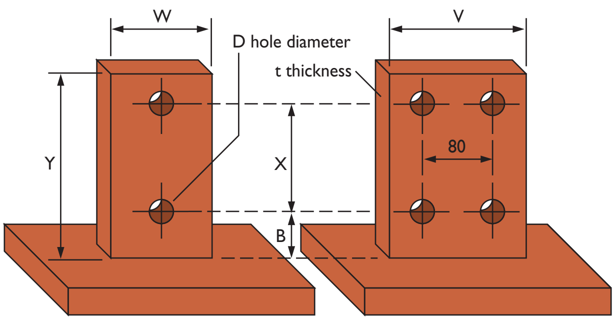
## Holes

***Stramit Exacta® C&Z Purlins and Girts*** are custom punched to requirements. Standard hole size is 18mm x 22mm. Recommended web hole centres are:

| | |
|---|---|
| EZ/EC 150 | 60mm |
| EZ/EC 150 | 70mm (Vic & Tas) |
| EZ/EC 200 | 110mm |
| EZ/EC 250 | 160mm |
| EZ/EC 300 | 210mm |
| EZ/EC 350 | 210mm |

## Cleats

Single cleats are used in most situations, including lapped Z purlins. Double cleats are generally only used where successive purlins (usually unlapped) are butted together. Double cleats could also be used in applications with a high reaction load, to reduce bolt stresses. In this situation, additional care would be needed in hole detailing.




Single Cleat    Double Cleat

The table below shows industry standard recommended cleat sizes, including purlin clearances.

### Table 5

**CLEAT NOMINAL DIMENSIONS (mm)**

| Section | X | B† | Y† | t | Gap | D | W | V |
|---|---|---|---|---|---|---|---|---|
| 100 | 40 | 40 | 105 | 8 | 10 | 18 | 50 | 130 |
| 150 | 60* | 55** | 145 | 8 | 10 | 18 | 60 | 140 |
| 200 | 110 | 55 | 195 | 8 | 10 | 18 | 60 | 140 |
| 250 | 160 | 55 | 245 | 8 | 10 | 18 | 60 | 140 |
| 300 | 210 | 65 | 305 | 12 | 20 | 22 | 60 | 140 |
| 350 | 260 | 65 | 355 | 12 | 20 | 22 | 60 | 140 |

*70mm in Victoria
**50mm in Victoria
† When using downtrun lip purlins or girts the lip length must be added to dimension B and Y.

Cleat length may need to be increased in some design situations (e.g., above an expansion joint). As a guide, increase the cleat thickness by 2mm for each 40mm of additional length.

For downturn lipped purlins always add at least the lip length to the cleat height. Also the cleat thickness may need to be increased to allow for the increased bending moment due to purlin asymmetry.

## Fascia Purlins

Fascia purlins (either specifically designed or ***Stramit Exacta® C-Purlin***) are normally subjected to lower loads and are usually restrained by sheeting attached on the top flange and lower lip. However should the fascia purlin support the wall girts, via the fascia bridging system, ensure sufficient allowance is made to carry this extra load.

## Cantilevers

The capacity of cantilevers is, in part, dependent on the adjacent internal span length. The number of consequent permutations precludes the inclusion of tabulated data. It has been found however that cantilevers of up to 20% of the adjacent internal span length will generally be within the capacity of that section, provided the cantilever ends are braced against rotation and lateral movement. Cantilevers can readily be input into ***EX-facta***™ design software.

## Design Rules/Assumptions

In all cases in this manual the span referred to is the distance between centres of the cleat bolts at each end of the purlin. Each span type represents a complete purlin run system and recognises that using separate component parts (e.g. internal span, end span) is not a valid procedure.

Limit-state design capacities have been calculated in accordance with the provisions of AS/NZS4600 and may be limited by yielding, combined bending and web shear, flexural-torsional buckling, distortional buckling, bearing or bolt shear.

Capacities vary with direction of loading, span type and number of bridging rows, and apply equally to ***Stramit Exacta® C&Z Purlins or Girts.*** Fabrication and erection must be carried out in accordance with Stramit's recommendations and good trade practice. It is assumed that cladding substantially prevents lateral deflection of the flange to which it is attached and that bridging, where used, prevents both lateral deflection and rotation of the section at that point. Where bridging is required the data is only valid if ***Stramit® Bridging*** is used. Purlins must be bolted to cleats or other rigid structure providing full web support at every support position. The tables do not take account of the ability of particular roof sheeting or wall cladding to carry the loads published; reference should be made to separate load information which is available for all Stramit® cladding profiles. Any conditions not strictly in accordance with those laid out in these notes should be referred to your regional Stramit Technical Services Manager.

Deflections are based on common practice for industrial buildings, which is to limit maximum deflection to the span divided by 150 (L/150). The tables show the load value at

## Table 6

### STRAMIT EXACTA® Z-PURLINS AND GIRTS – FULL SECTION PROPERTIES

| Section | Area $A_g$ ($mm^2$) | $A_n$# ($mm^2$) | $I_x$ ($10^6 mm^4$) | $I_y$ ($10^6 mm^4$) | $Z_x$ ($10^3 mm^3$) | $Z_y$ ($10^3 mm^3$) | $r_x$ (mm) | $r_y$ (mm) | $\beta_x$ (mm) | $\beta_y$ (mm) | $J$ ($mm^4$) | $I_w$ ($10^9 mm^6$) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EZ150-10 | 295 | 224 | 1.03 | 0.25 | 13.6 | 4.15 | 59.1 | 28.9 | 12.9 | 12.4 | 98.4 | 0.96 |
| EZ150-12 | 354 | 268 | 1.23 | 0.30 | 16.2 | 5.00 | 59.0 | 29.0 | 13.0 | 12.4 | 170 | 1.15 |
| EZ150-15 | 443 | 336 | 1.53 | 0.37 | 20.2 | 6.28 | 58.8 | 29.0 | 13.0 | 12.3 | 332 | 1.45 |
| EZ150-19 | 561 | 425 | 1.93 | 0.47 | 26.0 | 8.01 | 58.6 | 29.0 | 13.0 | 12.3 | 675 | 1.84 |
| EZ150-24 | 707 | 539 | 2.41 | 0.59 | 31.6 | 10.1 | 58.3 | 28.9 | 13.1 | 12.2 | 1358 | 2.30 |
| EZ200-12 | 444 | 358 | 2.72 | 0.49 | 26.9 | 6.77 | 78.3 | 33.2 | 18.2 | 16.8 | 213 | 3.38 |
| EZ200-15 | 556 | 448 | 3.39 | 0.61 | 33.5 | 8.51 | 78.2 | 33.2 | 18.2 | 16.7 | 417 | 4.24 |
| EZ200-19 | 713 | 577 | 4.33 | 0.83 | 42.7 | 11.5 | 77.9 | 34.0 | 18.2 | 16.3 | 859 | 5.77 |
| EZ200-24 | 901 | 731 | 5.43 | 1.05 | 53.6 | 14.6 | 77.6 | 34.1 | 18.2 | 16.2 | 1731 | 7.32 |
| EZ250-15 | 638 | 530 | 5.85 | 0.67 | 46.2 | 8.99 | 95.7 | 32.3 | 22.6 | 19.4 | 479 | 7.50 |
| EZ250-19 | 808 | 671 | 7.38 | 0.85 | 58.4 | 11.5 | 95.5 | 32.4 | 22.6 | 19.3 | 973 | 9.53 |
| EZ250-24 | 1021 | 848 | 9.28 | 1.08 | 73.4 | 14.6 | 95.3 | 32.5 | 22.7 | 19.2 | 1962 | 12.1 |
| EZ300-19 | 998 | 831 | 13.4 | 1.77 | 88.2 | 18.6 | 115 | 42.1 | 29.4 | 25.7 | 1201 | 28.2 |
| EZ300-24 | 1261 | 1050 | 16.9 | 2.24 | 111 | 23.7 | 115 | 42.1 | 29.5 | 25.6 | 2422 | 35.8 |
| EZ300-30 | 1593 | 1329 | 21.2 | 2.94 | 139 | 31.2 | 115 | 42.9 | 29.5 | 25.0 | 4780 | 47.2 |
| EZ350-19 | 1207 | 1040 | 22.6 | 3.58 | 128 | 29.5 | 137 | 54.4 | 30.3 | 27.7 | 1452 | 76.1 |
| EZ350-24 | 1525 | 1314 | 28.5 | 4.54 | 161 | 37.5 | 137 | 54.5 | 30.4 | 27.6 | 2929 | 96.4 |
| EZ350-30 | 1908 | 1644 | 35.5 | 5.70 | 200 | 47.3 | 136 | 54.7 | 30.5 | 27.6 | 5725 | 121 |

# Includes area reduction for four (2 web & 2 flange) adjacent standard holes (18mm x 22mm or 18mm diameter).

## Table 7

### STRAMIT EXACTA® Z-PURLINS AND GIRTS – EFFECTIVE SECTION PROPERTIES

| Section | $Z_e$ ($10^3 mm^3$) | $y_c$ (mm) | $I_e$ ($10^6 mm^3$) | $A_e$ ($mm^2$) |
|---|---|---|---|---|
| EZ150-10 | 9.79 | 85.9 | 0.84 | 142 |
| EZ150-12 | 13.4 | 81.3 | 1.09 | 192 |
| EZ150-15 | 18.1 | 78.5 | 1.42 | 273 |
| EZ150-19 | 24.4 | 76.6 | 1.87 | 401 |
| EZ150-24 | 32.2 | 75.0 | 2.41 | 580 |
| EZ200-12 | 18.1 | 118 | 2.13 | 194 |
| EZ200-15 | 26.6 | 110 | 2.92 | 281 |
| EZ200-19 | 38.3 | 105 | 4.01 | 417 |
| EZ200-24 | 51.5 | 102 | 5.26 | 615 |
| EZ250-15 | 33.5 | 143 | 4.79 | 286 |
| EZ250-19 | 48.5 | 135 | 6.54 | 406 |
| EZ250-24 | 74.2 | 125 | 9.27 | 592 |
| EZ300-19 | 64.2 | 171 | 11.0 | 454 |
| EZ300-24 | 93.0 | 161 | 15.0 | 644 |
| EZ300-30 | 129 | 156 | 20.0 | 940 |
| EZ350-19 | 81.3 | 210 | 17.1 | 494 |
| EZ350-24 | 117 | 200 | 23.3 | 700 |
| EZ350-30 | 167 | 188 | 31.5 | 985 |

NOTES: **1.** $Z_e$ effective section modulus at yield stress (bending). **2.** $y_c$ depth to neutral axis top fibre (bending). **3.** $A_e$ effective area at yield stress (compression).

which that deflection is reached. Deflection limits shown in the Inwards Tables are applicable to both inwards and outwards loading. The deflection is for all practical purposes proportional to the load applied, and so calculation of alternative deflection limits requires only simple arithmetic.

All capacities shown are for uniformly distributed loads only and do not include allowance for the self-mass of the purlins, sheeting or other roof components. Capacities are valid only when sheeting and bridging are completely attached. Great care must therefore be taken to ensure that loads encountered during erection can be accommodated. Direction of loading has been assumed to be parallel with the Y-Y axis of the purlin (parallel to the web). Intermediate values may be obtained from the design capacity tables by linear interpolation, within the span range shown.

Where required, combined axial and bending loading capacity should be calculated using the Member Moment Capacity tables. This capacity is affected by, and should be designed with regard to eccentric loadings, the amount of bridging in the system and the roof sheeting.

## Table 8

### STRAMIT EXACTA® C-PURLINS AND GIRTS – FULL SECTION PROPERTIES

| Section | Area $A_g$ ($mm^2$) | $A_n$# ($mm^2$) | $I_x$ ($10^6 mm^4$) | $I_y$ ($10^6 mm^4$) | $Z_x$ ($10^3 mm^3$) | $Z_y$ ($10^3 mm^3$) | $r_x$ (mm) | $r_y$ (mm) | $\beta_y$ (mm) | $J$ ($mm^4$) | $I_w$ ($10^9 mm^6$) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| EC150-10 | 296 | 224 | 1.03 | 0.15 | 13.7 | 3.69 | 59.1 | 22.4 | 163 | 98 | 0.73 |
| EC150-12 | 354 | 268 | 1.23 | 0.18 | 16.4 | 4.44 | 59.0 | 22.4 | 163 | 170 | 0.88 |
| EC150-15 | 444 | 336 | 1.53 | 0.22 | 20.4 | 5.57 | 58.8 | 22.4 | 162 | 332 | 1.11 |
| EC150-19 | 562 | 425 | 1.93 | 0.28 | 25.7 | 7.10 | 58.6 | 22.4 | 161 | 675 | 1.42 |
| EC150-24 | 712 | 539 | 2.41 | 0.35 | 32.1 | 9.03 | 58.3 | 22.3 | 160 | 1362 | 1.82 |
| EC200-12 | 444 | 358 | 2.72 | 0.31 | 27.2 | 6.09 | 78.2 | 26.2 | 214 | 213 | 2.49 |
| EC200-15 | 556 | 448 | 3.39 | 0.38 | 33.8 | 7.65 | 78.1 | 26.2 | 213 | 416 | 3.13 |
| EC200-19 | 714 | 577 | 4.32 | 0.51 | 43.2 | 10.3 | 77.8 | 26.6 | 211 | 858 | 4.34 |
| EC200-24 | 904 | 731 | 5.42 | 0.64 | 54.2 | 13.1 | 77.5 | 26.6 | 209 | 1731 | 5.54 |
| EC250-15 | 638 | 530 | 5.84 | 0.44 | 46.7 | 8.24 | 95.6 | 26.3 | 267 | 478 | 5.49 |
| EC250-19 | 806 | 669 | 7.35 | 0.55 | 58.8 | 10.3 | 95.4 | 26.2 | 266 | 970 | 6.89 |
| EC250-24 | 1021 | 848 | 9.27 | 0.71 | 74.1 | 13.3 | 95.2 | 26.3 | 263 | 1961 | 8.91 |
| EC300-19 | 998 | 831 | 13.4 | 1.15 | 89.2 | 17.0 | 115 | 33.9 | 318 | 1201 | 20.7 |
| EC300-24 | 1261 | 1050 | 16.8 | 1.45 | 112 | 21.6 | 115 | 33.9 | 316 | 2422 | 26.3 |
| EC300-30 | 1593 | 1329 | 21.2 | 1.88 | 141 | 28.4 | 115 | 34.3 | 312 | 4780 | 35.1 |
| EC350-19 | 1207 | 1040 | 22.6 | 2.31 | 129 | 26.6 | 137 | 43.7 | 376 | 1452 | 55.7 |
| EC350-24 | 1525 | 1314 | 28.5 | 2.92 | 163 | 33.8 | 137 | 43.7 | 375 | 2929 | 70.9 |
| EC350-30 | 1908 | 1644 | 35.5 | 3.65 | 203 | 42.6 | 136 | 43.7 | 373 | 5725 | 89.3 |

# Includes area reduction for four (2 web & 2 flange) adjacent standard holes (18mm x 22mm or 18mm diameter).

## Table 9

### STRAMIT EXACTA® C-PURLINS AND GIRTS – EFFECTIVE SECTION PROPERTIES

| Section | $Z_e$ ($10^3 mm^3$) | $y_c$ (mm) | $I_e$ ($10^6 mm^3$) | $A_e$ ($mm^2$) |
|---|---|---|---|---|
| EC15010 | 9.71 | 86.1 | 0.84 | 141 |
| EC15012 | 13.7 | 80.5 | 1.10 | 196 |
| EC15015 | 18.4 | 77.9 | 1.43 | 279 |
| EC15019 | 25.0 | 75.7 | 1.89 | 418 |
| EC15024 | 31.9 | 75.0 | 2.39 | 580 |
| EC20012 | 17.9 | 118 | 2.11 | 192 |
| EC20015 | 26.3 | 111 | 2.91 | 278 |
| EC20019 | 38.1 | 105 | 4.00 | 414 |
| EC20024 | 51.0 | 103 | 5.23 | 607 |
| EC250-15 | 33.9 | 142 | 4.82 | 289 |
| EC250-19 | 48.5 | 135 | 6.53 | 406 |
| EC250-24 | 68.4 | 129 | 8.82 | 598 |
| EC300-19 | 65.4 | 170 | 11.1 | 462 |
| EC300-24 | 94.3 | 160 | 15.1 | 653 |
| EC300-30 | 130 | 155 | 20.1 | 958 |
| EC350-19 | 81.3 | 210 | 17.1 | 494 |
| EC350-24 | 117 | 200 | 23.3 | 700 |
| EC350-30 | 167 | 188 | 31.5 | 985 |

NOTES: **1.** $Z_e$ effective section modulus at yield stress (bending). **2.** $y_c$ depth to neutral axis top fibre (bending). **3.** $A_e$ effective area at yield stress (compression).

# Design Capacity Tables

## How to Use Design Capacity Tables

The procedure for using the ***Stramit Exacta*®** ***C&Z Purlins and Girts*** manual is largely self-explanatory. Please ensure that you are familiar with the assumptions and conditions by reading the manual fully.

## Section Properties

The section properties in Tables 6 to 9 (previous page) are subject to slight variation due to commercial tolerances on dimensions and mathematical rounding.

## Span Configurations

**Single Spans** - a span that is simply supported by means of bolting the web of the purlin to a cleat or other rigid structure. Under these conditions bridging does not influence inward capacities, but outward capacities vary dependent on the number of rows of bridging.

SINGLE

**Double Spans** - are simply supported at each end and in the centre. They may comprise only one purlin over the full length or two purlins lapped together over the central support to provide continuity. Both inward and outward capacities are influenced by bridging in double spans.

DOUBLE UNLAPPED

DOUBLE LAPPED

**Continuous Spans** - are simply supported at each end and at a series of equally spaced intermediate supports. These tables are for spans in which purlins are lapped over each support, where the lap length is 15% of the span.

Tables are given for 5 or more spans. For outwards loads on equal continuous spans the bridging shown is required in the end spans.

One less row of bridging can be used for internal spans if inwards capacity, Stramit's recommended minimum bridging and practical spacing requirements allow. For inwards loads the required bridging in the table applies to all spans.

CONTINUOUS LAPPED (5 span shown)

**Other Span Types -** can easily be obtained using ***EX-facta***™ design software.

# Design Capacities

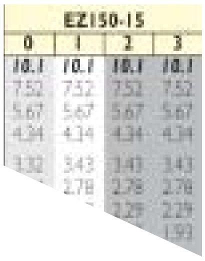
Design Capacity tables for ***Stramit Exacta*® *C&Z Purlins and Girts***, in Limit-State Format, are as follows:

**Table**

10a Single Spans Outwards Design Capacity
10b Single Spans Inwards Design Capacity
11a Double Unlapped Spans Outwards Design Capacity
11b Double Unlapped Spans Inwards Design Capacity
12a Double Lapped Spans Outwards Design Capacity
12b Double Lapped Spans Inwards Design Capacity
13a 5 Lapped Spans Outwards Design Capacity
13b 5 Lapped Spans Inwards Design Capacity

To be read in conjunction with **Stramit® Purlins, Girts & Bridging Technical Manual**

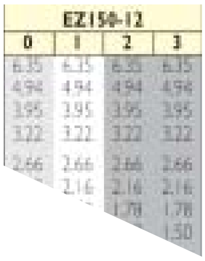
**KEY TO TABLES**



| EZ150-15 | | | |
|---|---|---|---|
| 0 | 1 | 2 | 3 |
| *10.1* | *10.1* | *10.1* | *10.1* |
| 7.52 | 7.52 | 7.52 | 7.52 |
| 5.67 | 5.67 | 5.67 | 5.67 |
| 4.34 | 4.34 | 4.34 | 4.34 |
| 3.32 | 3.43 | 3.43 | 3.43 |
| | 2.78 | 2.78 | 2.78 |
| | | 2.29 | 2.29 |
| | | | 1.93 |

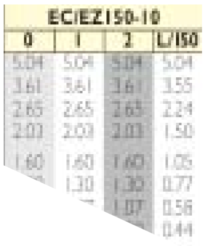
Numbers in ***bold italics*** require bolts grade 8.8

300 and 350 series require M16 bolts



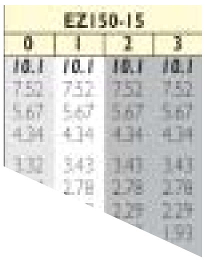
| EZ150-12 | | | |
|---|---|---|---|
| 0 | 1 | 2 | 3 |
| 6.35 | 6.35 | 6.35 | 6.35 |
| 4.94 | 4.94 | 4.94 | 4.94 |
| 3.95 | 3.95 | 3.95 | 3.95 |
| 3.22 | 3.22 | 3.22 | 3.22 |
| 2.66 | 2.66 | 2.66 | 2.66 |
| | 2.16 | 2.16 | 2.16 |
| | | 1.78 | 1.78 |
| | | | 1.50 |

"0, 1, 2, 3" are required rows of bridging



| EC/EZ150-10 | | | |
|---|---|---|---|
| 0 | 1 | 2 | L/150 |
| 5.04 | 5.04 | 5.04 | 5.04 |
| 3.61 | 3.61 | 3.61 | 3.55 |
| 2.65 | 2.65 | 2.65 | 2.24 |
| 2.03 | 2.03 | 2.03 | 1.50 |
| 1.60 | 1.60 | 1.60 | 1.05 |
| | 1.30 | 1.30 | 0.77 |
| | | 1.07 | 0.56 |
| | | | 0.44 |

L/150 is a deflection-based serviceability limit



| EZ150-15 | | | |
|---|---|---|---|
| 0 | 1 | 2 | 3 |
| *10.1* | *10.1* | *10.1* | *10.1* |
| 7.52 | 7.52 | 7.52 | 7.52 |
| 5.67 | 5.67 | 5.67 | 5.67 |
| 4.34 | 4.34 | 4.34 | 4.34 |
| 3.32 | 3.43 | 3.43 | 3.43 |
| | 2.78 | 2.78 | 2.78 |
| | | 2.29 | 2.29 |
| | | | 1.93 |

Outside of Stramit's recommended bridging requirements

Additional bridging does not increase capacity

## Table 10a

# SINGLE SPAN – STRAMIT EXACTA® C or Z PURLINS
## Outwards Design Capacity (kN/m)

| SPAN | EC/EZ150-10 | | | | EC/EZ150-12 | | | | EC/EZ150-15 | | | | EC/EZ150-19 | | | | EC/EZ150-24 | | | | EC/EZ200-12 | | | | SPAN |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | |
| 2500 | 5.04 | 5.04 | 5.04 | 5.04 | 6.38 | 6.38 | 6.38 | 6.38 | 7.98 | 8.21 | 8.21 | 8.21 | 11.0 | 11.4 | 11.4 | 11.4 | 13.9 | 15.6 | 15.6 | 15.6 | 6.41 | 6.41 | 6.41 | 6.41 | 2500 |
| 3000 | 3.10 | 3.61 | 3.61 | 3.61 | 3.93 | 4.43 | 4.43 | 4.43 | 4.96 | 5.70 | 5.70 | 5.70 | 6.56 | 7.91 | 7.91 | 7.91 | 8.40 | 10.8 | 10.8 | 10.8 | 5.34 | 5.34 | 5.34 | 5.34 | 3000 |
| 3500 | 1.83 | 2.65 | 2.65 | 2.65 | 2.31 | 3.26 | 3.26 | 3.26 | 3.06 | 4.19 | 4.19 | 4.19 | 3.96 | 5.81 | 5.81 | 5.81 | 5.17 | 7.95 | 7.95 | 7.95 | 4.12 | 4.58 | 4.58 | 4.58 | 3500 |
| 4000 | 1.13 | 2.03 | 2.03 | 2.03 | 1.42 | 2.49 | 2.49 | 2.49 | 1.85 | 3.21 | 3.21 | 3.21 | 2.41 | 4.45 | 4.45 | 4.45 | 3.21 | 5.81 | 6.08 | 6.08 | 2.78 | 3.57 | 3.57 | 3.57 | 4000 |
| 4500 | 0.73 | 1.58 | 1.60 | 1.60 | 0.92 | 1.97 | 1.97 | 1.97 | 1.18 | 2.46 | 2.53 | 2.53 | 1.56 | 3.39 | 3.52 | 3.52 | 2.10 | 4.31 | 4.81 | 4.81 | 1.84 | 2.82 | 2.82 | 2.82 | 4500 |
| 5000 | | 1.18 | 1.30 | 1.30 | 0.62 | 1.52 | 1.60 | 1.60 | 0.80 | 1.87 | 2.05 | 2.05 | 1.06 | 2.54 | 2.85 | 2.85 | 1.45 | 3.25 | 3.89 | 3.89 | 1.25 | 2.28 | 2.28 | 2.28 | 5000 |
| 5500 | | 0.89 | 1.07 | 1.07 | | 1.13 | 1.32 | 1.32 | 0.56 | 1.45 | 1.70 | 1.70 | 0.76 | 1.91 | 2.35 | 2.35 | 1.04 | 2.47 | 3.17 | 3.22 | 0.89 | 1.82 | 1.89 | 1.89 | 5500 |
| 6000 | | 0.65 | 0.90 | 0.90 | | 0.83 | 1.11 | 1.11 | | 1.10 | 1.43 | 1.43 | 0.56 | 1.44 | 1.98 | 1.98 | 0.78 | 1.88 | 2.56 | 2.70 | 0.64 | 1.45 | 1.59 | 1.59 | 6000 |
| 6500 | | | 0.77 | 0.77 | | 0.62 | 0.94 | 0.94 | | 0.82 | 1.19 | 1.22 | | 1.07 | 1.65 | 1.69 | 0.60 | 1.43 | 2.09 | 2.30 | | 1.15 | 1.35 | 1.35 | 6500 |
| 7000 | | | 0.63 | 0.66 | | | 0.81 | 0.81 | | 0.61 | 0.98 | 1.05 | | 0.81 | 1.35 | 1.45 | | 1.08 | 1.72 | 1.99 | | 0.92 | 1.17 | 1.17 | 7000 |
| 7500 | | | 0.52 | 0.58 | | | 0.66 | 0.71 | | | 0.82 | 0.91 | | 0.62 | 1.11 | 1.27 | | 0.84 | 1.42 | 1.71 | | 0.73 | 1.01 | 1.02 | 7500 |
| 8000 | | | | 0.51 | | | 0.54 | 0.62 | | | 0.69 | 0.80 | | | 0.91 | 1.11 | | 0.66 | 1.18 | 1.46 | | 0.58 | 0.86 | 0.89 | 8000 |
| 8500 | | | | | | | | 0.55 | | | 0.58 | 0.71 | | | 0.75 | 0.99 | | 0.53 | 0.98 | 1.25 | | | 0.74 | 0.79 | 8500 |
| 9000 | | | | | | | | | | | | 0.62 | | | 0.62 | 0.85 | | | 0.81 | 1.08 | | | 0.63 | 0.71 | 9000 |
| 9500 | | | | | | | | | | | | 0.54 | | | 0.51 | 0.74 | | | 0.67 | 0.94 | | | 0.54 | 0.63 | 9500 |
| 10000 | | | | | | | | | | | | | | | | 0.64 | | | 0.56 | 0.82 | | | | 0.57 | 10000 |
| 10500 | | | | | | | | | | | | | | | | 0.55 | | | | 0.71 | | | | 0.51 | 10500 |
| 11000 | | | | | | | | | | | | | | | | | | | | 0.62 | | | | | 11000 |
| 11500 | | | | | | | | | | | | | | | | | | | | 0.54 | | | | | 11500 |
| 12000 | | | | | | | | | | | | | | | | | | | | | | | | | 12000 |

| SPAN | EC/EZ200-15 | | | | EC/EZ200-19 | | | | EC/EZ200-24 | | | | EC/EZ250-15 | | | | EC/EZ250-19 | | | | EC/EZ250-24 | | | | SPAN |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | |
| 2500 | 11.9 | 11.9 | 11.9 | 11.9 | 17.3 | 17.3 | 17.3 | 17.3 | 24.0 | 24.0 | 24.0 | 24.0 | 9.91 | 9.91 | 9.91 | 9.91 | 20.2 | 20.2 | 20.2 | 20.2 | ***30.8*** | ***30.8*** | ***30.8*** | ***30.8*** | 2500 |
| 3000 | 8.27 | 8.27 | 8.27 | 8.27 | 11.6 | 12.0 | 12.0 | 12.0 | 15.9 | 16.7 | 16.7 | 16.7 | 8.26 | 8.26 | 8.26 | 8.26 | 15.2 | 15.2 | 15.2 | 15.2 | ***21.0*** | ***21.4*** | ***21.4*** | ***21.4*** | 3000 |
| 3500 | 5.50 | 6.08 | 6.08 | 6.08 | 7.77 | 8.83 | 8.83 | 8.83 | 10.3 | 12.2 | 12.3 | 12.2 | 7.08 | 7.08 | 7.08 | 7.08 | 10.1 | 11.2 | 11.2 | 11.2 | 13.8 | 15.7 | 15.7 | 15.7 | 3500 |
| 4000 | 3.59 | 4.65 | 4.65 | 4.65 | 5.24 | 6.76 | 6.76 | 6.76 | 6.71 | 9.38 | 9.38 | 9.38 | 4.97 | 6.05 | 6.05 | 6.05 | 6.80 | 8.57 | 8.57 | 8.57 | 8.9 | 12.0 | 12.0 | 12.0 | 4000 |
| 4500 | 2.38 | 3.68 | 3.68 | 3.68 | 3.36 | 5.34 | 5.34 | 5.34 | 4.35 | 7.41 | 7.41 | 7.41 | 3.32 | 4.78 | 4.78 | 4.78 | 4.44 | 6.77 | 6.77 | 6.77 | 5.70 | 9.49 | 9.49 | 9.49 | 4500 |
| 5000 | 1.65 | 2.98 | 2.98 | 2.98 | 2.25 | 4.33 | 4.33 | 4.33 | 2.93 | 6.00 | 6.00 | 6.00 | 2.31 | 3.87 | 3.87 | 3.87 | 2.96 | 5.48 | 5.48 | 5.48 | 3.82 | 7.69 | 7.69 | 7.69 | 5000 |
| 5500 | 1.15 | 2.46 | 2.46 | 2.46 | 1.57 | 3.42 | 3.58 | 3.58 | 2.06 | 4.72 | 4.96 | 4.96 | 1.60 | 3.14 | 3.20 | 3.20 | 2.05 | 4.53 | 4.53 | 4.53 | 2.66 | 6.20 | 6.35 | 6.35 | 5500 |
| 6000 | 0.82 | 1.95 | 2.07 | 2.07 | 1.13 | 2.73 | 3.01 | 3.01 | 1.50 | 3.70 | 4.17 | 4.17 | 1.14 | 2.52 | 2.69 | 2.69 | 1.47 | 3.56 | 3.81 | 3.81 | 1.92 | 4.90 | 5.34 | 5.34 | 6000 |
| 6500 | 0.61 | 1.53 | 1.76 | 1.76 | 0.84 | 2.20 | 2.56 | 2.56 | 1.12 | 2.91 | 3.55 | 3.55 | 0.84 | 2.04 | 2.29 | 2.29 | 1.09 | 2.85 | 3.24 | 3.24 | 1.43 | 3.89 | 4.55 | 4.55 | 6500 |
| 7000 | | 1.20 | 1.52 | 1.52 | 0.64 | 1.77 | 2.21 | 2.21 | 0.86 | 2.29 | 3.06 | 3.06 | 0.63 | 1.65 | 1.98 | 1.98 | 0.82 | 2.28 | 2.80 | 2.80 | 1.09 | 3.03 | 3.92 | 3.92 | 7000 |
| 7500 | | 0.94 | 1.32 | 1.32 | | 1.38 | 1.92 | 1.92 | 0.67 | 1.79 | 2.65 | 2.67 | | 1.33 | 1.72 | 1.72 | 0.64 | 1.81 | 2.44 | 2.44 | 0.85 | 2.35 | 3.42 | 3.42 | 7500 |
| 8000 | | 0.75 | 1.16 | 1.16 | | 1.07 | 1.63 | 1.69 | 0.54 | 1.40 | 2.25 | 2.35 | | 1.05 | 1.49 | 1.51 | 0.50 | 1.41 | 2.14 | 2.14 | 0.67 | 1.83 | 2.95 | 3.00 | 8000 |
| 8500 | | 0.62 | 1.00 | 1.03 | | 0.85 | 1.39 | 1.50 | | 1.11 | 1.90 | 2.08 | | 0.85 | 1.28 | 1.34 | | 1.11 | 1.83 | 1.90 | 0.54 | 1.45 | 2.51 | 2.66 | 8500 |
| 9000 | | | 0.85 | 0.92 | | 0.68 | 1.20 | 1.34 | | 0.89 | 1.61 | 1.85 | | 0.69 | 1.11 | 1.20 | | 0.89 | 1.56 | 1.69 | | 1.16 | 2.14 | 2.37 | 9000 |
| 9500 | | | 0.72 | 0.83 | | 0.55 | 1.04 | 1.20 | | 0.73 | 1.37 | 1.66 | | 0.56 | 0.96 | 1.07 | | 0.72 | 1.34 | 1.52 | | 0.94 | 1.83 | 2.13 | 9500 |
| 10000 | | | 0.61 | 0.74 | | | 0.90 | 1.08 | | 0.60 | 1.17 | 1.50 | | | 0.83 | 0.97 | | 0.59 | 1.15 | 1.37 | | 0.77 | 1.55 | 1.92 | 10000 |
| 10500 | | | 0.52 | 0.68 | | | 0.77 | 0.97 | | | 0.99 | 1.34 | | | 0.72 | 0.88 | | | 0.99 | 1.24 | | 0.64 | 1.31 | 1.74 | 10500 |
| 11000 | | | | 0.62 | | | 0.64 | 0.86 | | | 0.84 | 1.18 | | | 0.62 | 0.79 | | | 0.84 | 1.13 | | 0.54 | 1.10 | 1.55 | 11000 |
| 11500 | | | | 0.55 | | | 0.54 | 0.77 | | | 0.71 | 1.05 | | | 0.53 | 0.70 | | | 0.71 | 1.01 | | | 0.92 | 1.38 | 11500 |
| 12000 | | | | | | | | 0.69 | | | 0.60 | 0.93 | | | | 0.63 | | | 0.60 | 0.90 | | | 0.78 | 1.23 | 12000 |
| 12500 | | | | | | | | 0.62 | | | 0.51 | 0.83 | | | | 0.57 | | | 0.51 | 0.80 | | | 0.67 | 1.10 | 12500 |
| 13000 | | | | | | | | 0.55 | | | | 0.73 | | | | 0.51 | | | | 0.72 | | | 0.57 | 0.98 | 13000 |
| 13500 | | | | | | | | | | | | 0.65 | | | | | | | | 0.64 | | | | 0.87 | 13500 |
| 14000 | | | | | | | | | | | | 0.58 | | | | | | | | 0.57 | | | | 0.76 | 14000 |
| 14500 | | | | | | | | | | | | 0.51 | | | | | | | | 0.51 | | | | 0.67 | 14500 |
| 15000 | | | | | | | | | | | | | | | | | | | | | | | | 0.59 | 15000 |

| SPAN | EC/EZ300-19 | | | | EC/EZ300-24 | | | | EC/EZ300-30 | | | | EC/EZ350-19 | | | | EC/EZ350-24 | | | | EC/EZ350-30 | | | | SPAN |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | |
| 4000 | 10.4 | 10.4 | 10.4 | 10.4 | 15.9 | 16.4 | 16.4 | 16.4 | 22.3 | 23.2 | 23.2 | 23.2 | 8.87 | 8.87 | 8.87 | 8.87 | 17.9 | 17.9 | 17.9 | 17.9 | ***29.4*** | ***29.4*** | ***29.4*** | ***29.4*** | 4000 |
| 4500 | 8.39 | 9.19 | 9.19 | 9.19 | 11.4 | 13.0 | 13.0 | 13.0 | 16.1 | 18.3 | 18.3 | 18.3 | 7.89 | 7.89 | 7.89 | 7.89 | 15.9 | 15.9 | 15.9 | 15.9 | 23.3 | 23.3 | 23.3 | 23.3 | 4500 |
| 5000 | 6.28 | 7.45 | 7.45 | 7.45 | 8.33 | 10.5 | 10.5 | 10.5 | 11.4 | 14.8 | 14.8 | 14.8 | 7.10 | 7.10 | 7.10 | 7.10 | 13.3 | 13.5 | 13.5 | 13.5 | 18.1 | 18.8 | 18.8 | 18.8 | 5000 |
| 5500 | 4.52 | 6.15 | 6.15 | 6.15 | 6.09 | 8.67 | 8.67 | 8.67 | 8.06 | 12.3 | 12.3 | 12.3 | 6.45 | 6.45 | 6.45 | 6.45 | 10.4 | 11.2 | 11.2 | 11.2 | 13.9 | 15.6 | 15.6 | 15.6 | 5500 |
| 6000 | 3.32 | 5.17 | 5.17 | 5.17 | 4.37 | 7.29 | 7.29 | 7.29 | 5.78 | 10.3 | 10.3 | 10.3 | 5.78 | 5.92 | 5.92 | 5.92 | 8.31 | 9.41 | 9.41 | 9.41 | 10.8 | 13.1 | 13.1 | 13.1 | 6000 |
| 6500 | 2.50 | 4.41 | 4.41 | 4.41 | 3.21 | 6.21 | 6.21 | 6.21 | 4.26 | 8.78 | 8.78 | 8.78 | 4.60 | 5.46 | 5.46 | 5.46 | 6.40 | 8.02 | 8.02 | 8.02 | 8.34 | 11.1 | 11.1 | 11.1 | 6500 |
| 7000 | 1.88 | 3.75 | 3.80 | 3.80 | 2.42 | 5.31 | 5.36 | 5.36 | 3.22 | 7.43 | 7.57 | 7.57 | 3.64 | 4.88 | 4.88 | 4.88 | 4.93 | 6.91 | 6.91 | 6.91 | 6.56 | 9.61 | 9.61 | 9.61 | 7000 |
| 7500 | 1.44 | 3.16 | 3.31 | 3.31 | 1.86 | 4.41 | 4.67 | 4.67 | 2.48 | 6.23 | 6.60 | 6.60 | 2.92 | 4.25 | 4.25 | 4.25 | 3.86 | 6.02 | 6.02 | 6.02 | 5.14 | 8.37 | 8.37 | 8.37 | 7500 |
| 8000 | 1.13 | 2.68 | 2.91 | 2.91 | 1.46 | 3.67 | 4.10 | 4.10 | 1.95 | 5.21 | 5.80 | 5.80 | 2.32 | 3.74 | 3.74 | 3.74 | 3.07 | 5.29 | 5.29 | 5.29 | 4.01 | 7.36 | 7.36 | 7.36 | 8000 |
| 8500 | 0.89 | 2.28 | 2.58 | 2.58 | 1.16 | 3.06 | 3.63 | 3.63 | 1.56 | 4.32 | 5.13 | 5.13 | 1.86 | 3.28 | 3.31 | 3.31 | 2.50 | 4.69 | 4.69 | 4.69 | 3.17 | 6.52 | 6.52 | 6.52 | 8500 |
| 9000 | 0.72 | 1.94 | 2.30 | 2.30 | 0.93 | 2.58 | 3.24 | 3.24 | 1.26 | 3.57 | 4.58 | 4.58 | 1.51 | 2.86 | 2.95 | 2.95 | 2.00 | 4.11 | 4.18 | 4.18 | 2.55 | 5.64 | 5.81 | 5.81 | 9000 |
| 9500 | 0.58 | 1.61 | 2.06 | 2.06 | 0.76 | 2.17 | 2.91 | 2.91 | 1.04 | 2.94 | 4.11 | 4.11 | 1.24 | 2.50 | 2.65 | 2.65 | 1.63 | 3.59 | 3.75 | 3.75 | 2.08 | 4.87 | 5.22 | 5.22 | 9500 |
| 10000 | | 1.34 | 1.86 | 1.86 | 0.63 | 1.81 | 2.62 | 2.62 | 0.86 | 2.42 | 3.69 | 3.71 | 1.03 | 2.19 | 2.39 | 2.39 | 1.34 | 3.15 | 3.39 | 3.39 | 1.71 | 4.22 | 4.71 | 4.71 | 10000 |
| 10500 | | 1.12 | 1.65 | 1.69 | 0.53 | 1.50 | 2.33 | 2.38 | 0.72 | 2.00 | 3.27 | 3.37 | 0.86 | 1.93 | 2.17 | 2.17 | 1.11 | 2.78 | 3.07 | 3.07 | 1.42 | 3.66 | 4.27 | 4.27 | 10500 |
| 11000 | | 0.95 | 1.47 | 1.54 | | 1.25 | 2.05 | 2.17 | 0.61 | 1.67 | 2.90 | 3.07 | 0.72 | 1.70 | 1.98 | 1.98 | 0.93 | 2.44 | 2.80 | 2.80 | 1.20 | 3.17 | 3.89 | 3.89 | 11000 |
| 11500 | | 0.81 | 1.31 | 1.41 | | 1.05 | 1.81 | 1.98 | 0.52 | 1.41 | 2.57 | 2.81 | 0.61 | 1.49 | 1.81 | 1.81 | 0.79 | 2.11 | 2.56 | 2.56 | 1.01 | 2.74 | 3.56 | 3.56 | 11500 |
| 12000 | | 0.69 | 1.18 | 1.29 | | 0.89 | 1.60 | 1.82 | | 1.19 | 2.27 | 2.58 | 0.52 | 1.31 | 1.66 | 1.66 | 0.67 | 1.82 | 2.35 | 2.35 | 0.86 | 2.39 | 3.27 | 3.27 | 12000 |
| 12500 | | 0.59 | 1.05 | 1.19 | | 0.76 | 1.42 | 1.68 | | 1.02 | 2.00 | 2.37 | | 1.15 | 1.51 | 1.53 | 0.57 | 1.57 | 2.17 | 2.17 | 0.74 | 2.09 | 3.01 | 3.01 | 12500 |
| 13000 | | 0.50 | 0.94 | 1.10 | | 0.65 | 1.26 | 1.55 | | 0.88 | 1.76 | 2.20 | | 1.01 | 1.38 | 1.42 | | 1.36 | 1.98 | 2.00 | 0.64 | 1.83 | 2.73 | 2.79 | 13000 |
| 13500 | | | 0.84 | 1.02 | | 0.56 | 1.12 | 1.44 | | 0.76 | 1.54 | 2.03 | | 0.90 | 1.26 | 1.31 | | 1.19 | 1.81 | 1.86 | 0.56 | 1.60 | 2.47 | 2.58 | 13500 |
| 14000 | | | 0.74 | 0.94 | | | 1.00 | 1.33 | | 0.66 | 1.35 | 1.86 | | 0.79 | 1.15 | 1.22 | | 1.04 | 1.65 | 1.73 | | 1.39 | 2.24 | 2.40 | 14000 |
| 14500 | | | 0.65 | 0.86 | | | 0.88 | 1.21 | | 0.58 | 1.18 | 1.71 | | 0.69 | 1.05 | 1.14 | | 0.92 | 1.51 | 1.61 | | 1.21 | 2.03 | 2.24 | 14500 |
| 15000 | | | 0.57 | 0.79 | | | 0.77 | 1.11 | | 0.51 | 1.04 | 1.56 | | 0.61 | 0.96 | 1.06 | | 0.82 | 1.39 | 1.51 | | 1.06 | 1.84 | 2.09 | 15000 |

## Table 10b

# SINGLE SPAN – STRAMIT EXACTA® C or Z PURLINS
## Inwards Design Capacity (kN/m)

| | EC/EZ150-10 | | | | EC/EZ150-12 | | | | EC/EZ150-15 | | | | EC/EZ150-19 | | | | EC/EZ150-24 | | | | EC/EZ200-12 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SPAN | 0 | 1 | 2 | L/150 | 0 | 1 | 2 | L/150 | 0 | 1 | 2 | L/150 | 0 | 1 | 2 | L/150 | 0 | 1 | 2 | L/150 | 0 | 1 | 2 | L/150 | SPAN |
| 2500 | 5.04 | 5.04 | 5.04 | 5.04 | 6.38 | 6.38 | 6.38 | 6.38 | 8.21 | 8.21 | 8.21 | 9.69 | 11.39 | 11.4 | 11.4 | 12.4 | 13.94 | 15.6 | 15.6 | 15.8 | 6.41 | 6.41 | 6.41 | 15.9 | 2500 |
| 3000 | 3.61 | 3.61 | 3.61 | 3.55 | 4.43 | 4.43 | 4.43 | 4.40 | 5.70 | 5.70 | 5.70 | 5.61 | 7.71 | 7.91 | 7.91 | 7.19 | 9.26 | 10.8 | 10.8 | 9.16 | 5.34 | 5.34 | 5.34 | 9.20 | 3000 |
| 3500 | 2.65 | 2.65 | 2.65 | 2.24 | 3.26 | 3.26 | 3.26 | 2.77 | 4.19 | 4.19 | 4.19 | 3.53 | 5.51 | 5.81 | 5.81 | 4.53 | 6.57 | 7.95 | 7.95 | 5.77 | 4.58 | 4.58 | 4.58 | 5.79 | 3500 |
| 4000 | 2.03 | 2.03 | 2.03 | 1.50 | 2.49 | 2.49 | 2.49 | 1.86 | 3.18 | 3.21 | 3.21 | 2.37 | 4.13 | 4.45 | 4.45 | 3.03 | 4.89 | 6.08 | 6.08 | 3.86 | 3.57 | 3.57 | 3.57 | 3.88 | 4000 |
| 4500 | 1.60 | 1.60 | 1.60 | 1.05 | 1.97 | 1.97 | 1.97 | 1.30 | 2.48 | 2.53 | 2.53 | 1.66 | 3.20 | 3.52 | 3.52 | 2.13 | 3.77 | 4.81 | 4.81 | 2.71 | 2.82 | 2.82 | 2.82 | 2.73 | 4500 |
| 5000 | 1.30 | 1.30 | 1.30 | 0.77 | 1.60 | 1.60 | 1.60 | 0.95 | 1.99 | 2.05 | 2.05 | 1.21 | 2.55 | 2.85 | 2.85 | 1.55 | 2.99 | 3.89 | 3.89 | 1.98 | 2.28 | 2.28 | 2.28 | 1.99 | 5000 |
| 5500 | 1.07 | 1.07 | 1.07 | 0.58 | 1.32 | 1.32 | 1.32 | 0.71 | 1.63 | 1.70 | 1.70 | 0.91 | 2.08 | 2.35 | 2.35 | 1.17 | 2.43 | 3.21 | 3.22 | 1.49 | 1.87 | 1.89 | 1.89 | 1.49 | 5500 |
| 6000 | 0.90 | 0.90 | 0.90 | 0.44 | 1.11 | 1.11 | 1.11 | 0.55 | 1.36 | 1.43 | 1.43 | 0.70 | 1.73 | 1.98 | 1.98 | 0.90 | 2.01 | 2.67 | 2.70 | 1.14 | 1.56 | 1.59 | 1.59 | 1.15 | 6000 |
| 6500 | | 0.77 | 0.77 | 0.35 | 0.94 | 0.94 | 0.94 | 0.43 | 1.15 | 1.22 | 1.22 | 0.55 | 1.45 | 1.69 | 1.69 | 0.71 | 1.69 | 2.25 | 2.30 | 0.90 | 1.32 | 1.35 | 1.35 | 0.91 | 6500 |
| 7000 | | 0.66 | 0.66 | 0.28 | | 0.81 | 0.81 | 0.35 | 0.99 | 1.05 | 1.05 | 0.44 | 1.24 | 1.45 | 1.45 | 0.57 | 1.44 | 1.92 | 1.99 | 0.72 | 1.13 | 1.17 | 1.17 | 0.72 | 7000 |
| 7500 | | 0.58 | 0.58 | 0.23 | | 0.71 | 0.71 | 0.28 | | 0.91 | 0.91 | 0.36 | 1.07 | 1.27 | 1.27 | 0.46 | 1.24 | 1.66 | 1.73 | 0.59 | 0.98 | 1.02 | 1.02 | 0.59 | 7500 |
| 8000 | | | | | | 0.62 | 0.62 | 0.23 | | 0.80 | 0.80 | 0.30 | | 1.11 | 1.11 | 0.38 | 1.08 | 1.45 | 1.52 | 0.48 | 0.86 | 0.89 | 0.89 | 0.49 | 8000 |
| 8500 | | | | | | | | | | 0.71 | 0.71 | 0.25 | | 0.99 | 0.99 | 0.32 | 0.95 | 1.28 | 1.35 | 0.40 | | 0.79 | 0.79 | 0.40 | 8500 |
| 9000 | | | | | | | | | | | 0.63 | 0.21 | | 0.88 | 0.88 | 0.27 | | 1.13 | 1.20 | 0.34 | | 0.71 | 0.71 | 0.34 | 9000 |
| 9500 | | | | | | | | | | | | | | 0.79 | 0.79 | 0.23 | | 1.01 | 1.07 | 0.29 | | 0.63 | 0.63 | 0.29 | 9500 |
| 10000 | | | | | | | | | | | | | | | | | | 0.91 | 0.96 | 0.25 | | | 0.57 | 0.25 | 10000 |
| 10500 | | | | | | | | | | | | | | | | | | | 0.87 | 0.21 | | | 0.52 | 0.22 | 10500 |
| 11000 | | | | | | | | | | | | | | | | | | | | | | | | | 11000 |
| 11500 | | | | | | | | | | | | | | | | | | | | | | | | | 11500 |
| 12000 | | | | | | | | | | | | | | | | | | | | | | | | | 12000 |

| | EC/EZ200-15 | | | | EC/EZ200-19 | | | | EC/EZ200-24 | | | | EC/EZ250-15 | | | | EC/EZ250-19 | | | | EC/EZ250-24 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SPAN | 0 | 1 | 2 | L/150 | 0 | 1 | 2 | L/150 | 0 | 1 | 2 | L/150 | 0 | 1 | 2 | L/150 | 0 | 1 | 2 | L/150 | 0 | 1 | 2 | L/150 | SPAN |
| 2500 | 11.9 | 11.9 | 11.9 | 20.7 | 17.3 | 17.3 | 17.3 | 27.3 | 23.4 | 24.0 | 24.0 | 35.0 | 9.91 | 9.91 | 9.91 | 34.9 | 20.2 | 20.2 | 20.2 | 45.6 | ***30.3*** | ***30.8*** | ***30.8*** | 59.2 | 2500 |
| 3000 | 8.27 | 8.27 | 8.27 | 12.0 | 11.7 | 12.0 | 12.0 | 15.8 | 15.3 | 16.7 | 16.7 | 20.3 | 8.26 | 8.26 | 8.26 | 20.2 | 15.2 | 15.2 | 15.2 | 26.4 | 19.8 | ***21.4*** | ***21.4*** | 34.2 | 3000 |
| 3500 | 6.08 | 6.08 | 6.08 | 7.54 | 8.28 | 8.83 | 8.83 | 9.96 | 10.6 | 12.3 | 12.3 | 12.8 | 7.08 | 7.08 | 7.08 | 12.7 | 10.7 | 11.2 | 11.2 | 16.6 | 13.8 | 15.7 | 15.7 | 21.6 | 3500 |
| 4000 | 4.65 | 4.65 | 4.65 | 5.05 | 6.19 | 6.76 | 6.76 | 6.67 | 7.77 | 9.38 | 9.38 | 8.55 | 5.89 | 6.05 | 6.05 | 8.51 | 7.92 | 8.57 | 8.57 | 11.1 | 10.0 | 12.0 | 12.0 | 14.4 | 4000 |
| 4500 | 3.68 | 3.68 | 3.68 | 3.55 | 4.80 | 5.34 | 5.34 | 4.69 | 5.89 | 7.41 | 7.41 | 6.01 | 4.59 | 4.78 | 4.78 | 5.98 | 6.10 | 6.77 | 6.77 | 7.82 | 7.56 | 9.49 | 9.49 | 10.1 | 4500 |
| 5000 | 2.97 | 2.98 | 2.98 | 2.59 | 3.82 | 4.33 | 4.33 | 3.42 | 4.61 | 6.00 | 6.00 | 4.38 | 3.67 | 3.87 | 3.87 | 4.36 | 4.84 | 5.48 | 5.48 | 5.70 | 5.87 | 7.69 | 7.69 | 7.40 | 5000 |
| 5500 | 2.42 | 2.46 | 2.46 | 1.94 | 3.11 | 3.58 | 3.58 | 2.57 | 3.69 | 4.96 | 4.96 | 3.29 | 3.00 | 3.20 | 3.20 | 3.27 | 3.92 | 4.53 | 4.53 | 4.28 | 4.67 | 6.35 | 6.35 | 5.56 | 5500 |
| 6000 | 2.01 | 2.07 | 2.07 | 1.50 | 2.58 | 3.01 | 3.01 | 1.98 | 3.02 | 4.17 | 4.17 | 2.53 | 2.50 | 2.69 | 2.69 | 2.52 | 3.24 | 3.81 | 3.81 | 3.30 | 3.79 | 5.34 | 5.34 | 4.28 | 6000 |
| 6500 | 1.70 | 1.76 | 1.76 | 1.18 | 2.17 | 2.56 | 2.56 | 1.56 | 2.51 | 3.55 | 3.55 | 1.99 | 2.11 | 2.29 | 2.29 | 1.98 | 2.72 | 3.24 | 3.24 | 2.60 | 3.13 | 4.55 | 4.55 | 3.37 | 6500 |
| 7000 | 1.45 | 1.52 | 1.52 | 0.94 | 1.86 | 2.21 | 2.21 | 1.25 | 2.12 | 3.06 | 3.06 | 1.60 | 1.80 | 1.98 | 1.98 | 1.59 | 2.31 | 2.80 | 2.80 | 2.08 | 2.63 | 3.92 | 3.92 | 2.70 | 7000 |
| 7500 | 1.25 | 1.32 | 1.32 | 0.77 | 1.60 | 1.92 | 1.92 | 1.01 | 1.81 | 2.67 | 2.67 | 1.30 | 1.56 | 1.72 | 1.72 | 1.29 | 1.99 | 2.44 | 2.44 | 1.69 | 2.24 | 3.42 | 3.42 | 2.19 | 7500 |
| 8000 | 1.09 | 1.16 | 1.16 | 0.63 | 1.40 | 1.69 | 1.69 | 0.83 | 1.56 | 2.35 | 2.35 | 1.07 | 1.36 | 1.51 | 1.51 | 1.06 | 1.73 | 2.14 | 2.14 | 1.39 | 1.93 | 3.00 | 3.00 | 1.81 | 8000 |
| 8500 | 0.96 | 1.03 | 1.03 | 0.53 | 1.23 | 1.50 | 1.50 | 0.70 | 1.36 | 2.08 | 2.08 | 0.89 | 1.20 | 1.34 | 1.34 | 0.89 | 1.52 | 1.90 | 1.90 | 1.16 | 1.67 | 2.66 | 2.66 | 1.51 | 8500 |
| 9000 | | 0.92 | 0.92 | 0.44 | 1.08 | 1.34 | 1.34 | 0.59 | 1.19 | 1.84 | 1.85 | 0.75 | 1.06 | 1.20 | 1.20 | 0.75 | 1.34 | 1.69 | 1.69 | 0.98 | 1.47 | 2.37 | 2.37 | 1.27 | 9000 |
| 9500 | | 0.83 | 0.83 | 0.38 | 0.96 | 1.20 | 1.20 | 0.50 | 1.05 | 1.64 | 1.66 | 0.64 | 0.95 | 1.07 | 1.07 | 0.64 | 1.19 | 1.52 | 1.52 | 0.83 | 1.30 | 2.12 | 2.13 | 1.08 | 9500 |
| 10000 | | 0.74 | 0.74 | 0.32 | | 1.08 | 1.08 | 0.43 | 0.94 | 1.47 | 1.50 | 0.55 | | 0.97 | 0.97 | 0.55 | 1.06 | 1.37 | 1.37 | 0.71 | 1.16 | 1.89 | 1.92 | 0.92 | 10000 |
| 10500 | | 0.68 | 0.68 | 0.28 | | 0.98 | 0.98 | 0.37 | | 1.32 | 1.36 | 0.47 | | 0.88 | 0.88 | 0.47 | | 1.24 | 1.24 | 0.62 | 1.04 | 1.71 | 1.74 | 0.80 | 10500 |
| 11000 | | | 0.62 | 0.24 | | 0.89 | 0.89 | 0.32 | | 1.20 | 1.24 | 0.41 | | 0.80 | 0.80 | 0.41 | | 1.13 | 1.13 | 0.54 | 0.93 | 1.54 | 1.59 | 0.70 | 11000 |
| 11500 | | | 0.56 | 0.21 | | 0.82 | 0.82 | 0.28 | | 1.09 | 1.14 | 0.36 | | 0.73 | 0.73 | 0.36 | | 1.04 | 1.04 | 0.47 | | 1.40 | 1.45 | 0.61 | 11500 |
| 12000 | | | | | | | 0.75 | 0.25 | | 0.99 | 1.04 | 0.32 | | | 0.67 | 0.32 | | 0.95 | 0.95 | 0.41 | | 1.28 | 1.34 | 0.54 | 12000 |
| 12500 | | | | | | | 0.69 | 0.22 | | 0.91 | 0.96 | 0.28 | | | 0.62 | 0.28 | | 0.88 | 0.88 | 0.37 | | 1.17 | 1.23 | 0.47 | 12500 |
| 13000 | | | | | | | | | | | 0.89 | 0.25 | | | 0.57 | 0.25 | | | 0.81 | 0.32 | | 1.08 | 1.14 | 0.42 | 13000 |
| 13500 | | | | | | | | | | | 0.82 | 0.22 | | | | | | | 0.75 | 0.29 | | | 1.06 | 0.38 | 13500 |
| 14000 | | | | | | | | | | | | | | | | | | | 0.70 | 0.26 | | | 0.98 | 0.34 | 14000 |
| 14500 | | | | | | | | | | | | | | | | | | | 0.65 | 0.23 | | | 0.91 | 0.30 | 14500 |
| 15000 | | | | | | | | | | | | | | | | | | | | | | | 0.85 | 0.27 | 15000 |

| | EC/EZ300-19 | | | | EC/EZ300-24 | | | | EC/EZ300-30 | | | | EC/EZ350-19 | | | | EC/EZ350-24 | | | | EC/EZ350-30 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SPAN | 0 | 1 | 2 | L/150 | 0 | 1 | 2 | L/150 | 0 | 1 | 2 | L/150 | 0 | 1 | 2 | L/150 | 0 | 1 | 2 | L/150 | 0 | 1 | 2 | L/150 | SPAN |
| 4000 | 10.4 | 10.4 | 10.4 | 19.5 | 14.3 | 16.4 | 16.4 | 25.5 | 18.8 | 23.2 | 23.2 | 32.9 | 8.87 | 8.87 | 8.87 | 31.8 | 17.9 | 17.9 | 17.9 | 41.4 | 26.5 | ***29.4*** | ***29.4*** | 53.5 | 4000 |
| 4500 | 8.42 | 9.19 | 9.19 | 13.7 | 10.7 | 13.0 | 13.0 | 17.9 | 13.6 | 18.3 | 18.3 | 23.1 | 7.89 | 7.89 | 7.89 | 22.3 | 15.3 | 15.9 | 15.9 | 29.1 | 19.5 | 23.3 | 23.3 | 37.6 | 4500 |
| 5000 | 6.65 | 7.45 | 7.45 | 9.99 | 8.32 | 10.5 | 10.5 | 13.1 | 10.1 | 14.8 | 14.8 | 16.9 | 7.10 | 7.10 | 7.10 | 16.3 | 11.9 | 13.5 | 13.5 | 21.2 | 14.6 | 18.8 | 18.8 | 27.4 | 5000 |
| 5500 | 5.37 | 6.15 | 6.15 | 7.51 | 6.60 | 8.67 | 8.67 | 9.81 | 7.74 | 12.26 | 12.26 | 12.67 | 6.45 | 6.45 | 6.45 | 12.2 | 9.30 | 11.2 | 11.2 | 15.9 | 11.3 | 15.6 | 15.6 | 20.6 | 5500 |
| 6000 | 4.42 | 5.17 | 5.17 | 5.78 | 5.35 | 7.29 | 7.29 | 7.55 | 6.11 | 10.30 | 10.30 | 9.76 | 5.65 | 5.92 | 5.92 | 9.41 | 7.36 | 9.41 | 9.41 | 12.3 | 8.96 | 13.1 | 13.1 | 15.9 | 6000 |
| 6500 | 3.69 | 4.41 | 4.41 | 4.55 | 4.38 | 6.21 | 6.21 | 5.94 | 4.94 | 8.78 | 8.78 | 7.68 | 4.69 | 5.46 | 5.46 | 7.40 | 5.94 | 8.02 | 8.02 | 9.64 | 7.19 | 11.1 | 11.1 | 12.5 | 6500 |
| 7000 | 3.11 | 3.80 | 3.80 | 3.64 | 3.65 | 5.36 | 5.36 | 4.76 | 4.07 | 7.57 | 7.57 | 6.15 | 3.94 | 4.88 | 4.88 | 5.93 | 4.88 | 6.91 | 6.91 | 7.72 | 5.87 | 9.61 | 9.61 | 9.99 | 7000 |
| 7500 | 2.64 | 3.31 | 3.31 | 2.96 | 3.07 | 4.67 | 4.67 | 3.87 | 3.42 | 6.60 | 6.60 | 5.00 | 3.34 | 4.25 | 4.25 | 4.82 | 4.08 | 6.02 | 6.02 | 6.28 | 4.84 | 8.37 | 8.37 | 8.12 | 7500 |
| 8000 | 2.27 | 2.91 | 2.91 | 2.44 | 2.62 | 4.10 | 4.10 | 3.19 | 2.90 | 5.78 | 5.80 | 4.12 | 2.87 | 3.74 | 3.74 | 3.97 | 3.46 | 5.29 | 5.29 | 5.17 | 4.06 | 7.36 | 7.36 | 6.69 | 8000 |
| 8500 | 1.97 | 2.58 | 2.58 | 2.03 | 2.26 | 3.63 | 3.63 | 2.66 | 2.50 | 5.05 | 5.13 | 3.43 | 2.49 | 3.31 | 3.31 | 3.31 | 2.97 | 4.69 | 4.69 | 4.31 | 3.45 | 6.52 | 6.52 | 5.58 | 8500 |
| 9000 | 1.73 | 2.30 | 2.30 | 1.71 | 1.97 | 3.24 | 3.24 | 2.24 | 2.17 | 4.45 | 4.58 | 2.89 | 2.18 | 2.95 | 2.95 | 2.79 | 2.58 | 4.18 | 4.18 | 3.63 | 2.96 | 5.81 | 5.81 | 4.70 | 9000 |
| 9500 | 1.53 | 2.06 | 2.06 | 1.46 | 1.73 | 2.91 | 2.91 | 1.90 | 1.91 | 3.94 | 4.11 | 2.46 | 1.92 | 2.65 | 2.65 | 2.37 | 2.26 | 3.75 | 3.75 | 3.09 | 2.57 | 5.22 | 5.22 | 4.00 | 9500 |
| 10000 | 1.36 | 1.86 | 1.86 | 1.25 | 1.54 | 2.62 | 2.62 | 1.63 | 1.69 | 3.50 | 3.71 | 2.11 | 1.71 | 2.39 | 2.39 | 2.03 | 1.99 | 3.39 | 3.39 | 2.65 | 2.26 | 4.63 | 4.71 | 3.43 | 10000 |
| 10500 | 1.22 | 1.69 | 1.69 | 1.08 | 1.37 | 2.35 | 2.38 | 1.41 | 1.50 | 3.13 | 3.37 | 1.82 | 1.53 | 2.17 | 2.17 | 1.76 | 1.77 | 3.07 | 3.07 | 2.29 | 1.99 | 4.13 | 4.27 | 2.96 | 10500 |
| 11000 | 1.09 | 1.54 | 1.54 | 0.94 | 1.23 | 2.12 | 2.17 | 1.23 | 1.35 | 2.81 | 3.07 | 1.58 | 1.38 | 1.98 | 1.98 | 1.53 | 1.59 | 2.78 | 2.80 | 1.99 | 1.77 | 3.70 | 3.89 | 2.58 | 11000 |
| 11500 | 0.99 | 1.41 | 1.41 | 0.82 | 1.11 | 1.92 | 1.98 | 1.07 | 1.21 | 2.54 | 2.81 | 1.39 | 1.25 | 1.80 | 1.81 | 1.34 | 1.44 | 2.52 | 2.56 | 1.74 | 1.59 | 3.33 | 3.56 | 2.25 | 11500 |
| 12000 | 0.90 | 1.29 | 1.29 | 0.72 | 1.00 | 1.74 | 1.82 | 0.94 | 1.10 | 2.30 | 2.58 | 1.22 | 1.13 | 1.64 | 1.66 | 1.18 | 1.30 | 2.29 | 2.35 | 1.53 | 1.43 | 3.00 | 3.27 | 1.98 | 12000 |
| 12500 | 0.82 | 1.19 | 1.19 | 0.64 | 0.91 | 1.59 | 1.68 | 0.84 | 1.00 | 2.08 | 2.37 | 1.08 | 1.03 | 1.50 | 1.53 | 1.04 | 1.19 | 2.10 | 2.17 | 1.36 | 1.30 | 2.72 | 3.01 | 1.76 | 12500 |
| 13000 | 0.75 | 1.09 | 1.10 | 0.57 | 0.84 | 1.46 | 1.55 | 0.74 | 0.91 | 1.90 | 2.20 | 0.96 | 0.94 | 1.38 | 1.42 | 0.93 | 1.09 | 1.92 | 2.00 | 1.21 | 1.18 | 2.48 | 2.79 | 1.56 | 13000 |
| 13500 | | 1.01 | 1.02 | 0.51 | 0.77 | 1.34 | 1.44 | 0.66 | 0.84 | 1.74 | 2.02 | 0.86 | 0.86 | 1.27 | 1.31 | 0.83 | 0.99 | 1.77 | 1.86 | 1.08 | 1.08 | 2.26 | 2.58 | 1.39 | 13500 |
| 14000 | | 0.94 | 0.95 | 0.46 | | 1.24 | 1.34 | 0.60 | 0.77 | 1.59 | 1.87 | 0.77 | 0.79 | 1.18 | 1.22 | 0.74 | 0.91 | 1.63 | 1.73 | 0.97 | 0.99 | 2.07 | 2.40 | 1.25 | 14000 |
| 14500 | | 0.87 | 0.89 | 0.41 | | 1.15 | 1.25 | 0.54 | 0.71 | 1.47 | 1.73 | 0.69 | 0.73 | 1.09 | 1.14 | 0.67 | 0.84 | 1.51 | 1.61 | 0.87 | 0.91 | 1.90 | 2.24 | 1.12 | 14500 |
| 15000 | | 0.81 | 0.83 | 0.37 | | 1.06 | 1.17 | 0.48 | 0.66 | 1.35 | 1.60 | 0.63 | 0.68 | 1.02 | 1.06 | 0.60 | 0.77 | 1.40 | 1.51 | 0.79 | 0.84 | 1.75 | 2.09 | 1.02 | 15000 |

## Table 11a

# DOUBLE UNLAPPED SPAN – STRAMIT EXACTA® C or Z PURLINS
## Outwards Design Capacity (kN/m)

| SPAN | EC/EZ150-10 | | | | EC/EZ150-12 | | | | EC/EZ150-15 | | | | EC/EZ150-19 | | | | EC/EZ150-24 | | | | EC/EZ200-12 | | | | SPAN |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | |
| 2500 | 3.44 | 3.43 | 3.43 | 3.43 | 5.30 | 5.30 | 5.30 | 5.30 | 8.04 | 8.04 | 8.04 | 8.04 | ***11.4*** | ***11.4*** | ***11.4*** | ***11.4*** | ***15.6*** | ***15.6*** | ***15.6*** | ***15.6*** | 4.65 | 4.65 | 4.65 | 4.65 | 2500 |
| 3000 | 2.70 | 2.70 | 2.70 | 2.70 | 4.06 | 4.06 | 4.06 | 4.06 | 5.70 | 5.70 | 5.70 | 5.70 | 7.91 | 7.91 | 7.91 | 7.91 | ***10.8*** | ***10.8*** | ***10.8*** | ***10.8*** | 3.73 | 3.73 | 3.73 | 3.73 | 3000 |
| 3500 | 2.18 | 2.18 | 2.18 | 2.18 | 3.19 | 3.19 | 3.19 | 3.19 | 4.19 | 4.19 | 4.19 | 4.19 | 5.81 | 5.81 | 5.81 | 5.81 | ***7.95*** | ***7.95*** | ***7.95*** | ***7.95*** | 3.07 | 3.07 | 3.07 | 3.07 | 3500 |
| 4000 | 1.80 | 1.80 | 1.80 | 1.80 | 2.49 | 2.49 | 2.49 | 2.49 | 3.21 | 3.21 | 3.21 | 3.21 | 4.45 | 4.45 | 4.45 | 4.45 | 5.96 | ***6.08*** | ***6.08*** | ***6.08*** | 2.57 | 2.57 | 2.57 | 2.57 | 4000 |
| 4500 | 1.50 | 1.50 | 1.50 | 1.50 | 1.97 | 1.97 | 1.97 | 1.97 | 2.53 | 2.53 | 2.53 | 2.53 | 3.52 | 3.52 | 3.52 | 3.52 | 4.49 | 4.81 | 4.81 | 4.81 | 2.18 | 2.18 | 2.18 | 2.18 | 4500 |
| 5000 | 1.27 | 1.27 | 1.27 | 1.27 | 1.60 | 1.60 | 1.60 | 1.60 | 1.99 | 2.05 | 2.05 | 2.05 | 2.72 | 2.85 | 2.85 | 2.85 | 3.45 | 3.89 | 3.89 | 3.89 | 1.88 | 1.88 | 1.88 | 1.88 | 5000 |
| 5500 | 1.00 | 1.07 | 1.07 | 1.07 | 1.27 | 1.32 | 1.32 | 1.32 | 1.56 | 1.70 | 1.70 | 1.70 | 2.11 | 2.35 | 2.35 | 2.35 | 2.70 | 3.22 | 3.22 | 3.22 | 1.63 | 1.63 | 1.63 | 1.63 | 5500 |
| 6000 | 0.78 | 0.90 | 0.90 | 0.90 | 0.99 | 1.11 | 1.11 | 1.11 | 1.25 | 1.43 | 1.43 | 1.43 | 1.66 | 1.98 | 1.98 | 1.98 | 2.13 | 2.69 | 2.70 | 2.70 | 1.42 | 1.42 | 1.42 | 1.42 | 6000 |
| 6500 | 0.61 | 0.77 | 0.77 | 0.77 | 0.77 | 0.94 | 0.94 | 0.94 | 1.00 | 1.22 | 1.22 | 1.22 | 1.31 | 1.69 | 1.69 | 1.69 | 1.70 | 2.23 | 2.30 | 2.30 | 1.25 | 1.26 | 1.26 | 1.26 | 6500 |
| 7000 | | 0.66 | 0.66 | 0.66 | 0.59 | 0.81 | 0.81 | 0.81 | 0.79 | 1.05 | 1.05 | 1.05 | 1.03 | 1.45 | 1.45 | 1.45 | 1.36 | 1.86 | 1.99 | 1.99 | 1.03 | 1.11 | 1.11 | 1.11 | 7000 |
| 7500 | | 0.57 | 0.58 | 0.58 | | 0.71 | 0.71 | 0.71 | 0.62 | 0.89 | 0.91 | 0.91 | 0.82 | 1.23 | 1.27 | 1.27 | 1.09 | 1.56 | 1.73 | 1.73 | 0.85 | 0.99 | 0.99 | 0.99 | 7500 |
| 8000 | | | 0.51 | 0.51 | | 0.61 | 0.62 | 0.62 | | 0.75 | 0.80 | 0.80 | 0.65 | 1.03 | 1.11 | 1.11 | 0.88 | 1.32 | 1.52 | 1.52 | 0.70 | 0.89 | 0.89 | 0.89 | 8000 |
| 8500 | | | | | | 0.52 | 0.55 | 0.55 | | 0.64 | 0.71 | 0.71 | 0.53 | 0.87 | 0.99 | 0.99 | 0.72 | 1.12 | 1.32 | 1.35 | 0.57 | 0.79 | 0.79 | 0.79 | 8500 |

| SPAN | EC/EZ200-15 | | | | EC/EZ200-19 | | | | EC/EZ200-24 | | | | EC/EZ250-15 | | | | EC/EZ250-19 | | | | EC/EZ250-24 | | | | SPAN |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | |
| 2500 | 8.27 | 8.27 | 8.27 | 8.27 | ***12.6*** | ***12.6*** | ***12.6*** | ***12.6*** | ***15.9*** | ***15.9*** | ***15.9*** | ***15.9*** | 7.28 | 7.28 | 7.28 | 7.28 | ***12.6*** | ***12.6*** | ***12.6*** | ***12.6*** | ***15.9*** | ***15.9*** | ***15.9*** | ***15.9*** | 2500 |
| 3000 | 6.45 | 6.45 | 6.45 | 6.45 | ***10.5*** | ***10.5*** | ***10.5*** | ***10.5*** | ***13.3*** | ***13.3*** | ***13.3*** | ***13.3*** | 5.87 | 5.87 | 5.87 | 5.87 | ***10.5*** | ***10.5*** | ***10.5*** | ***10.5*** | ***13.3*** | ***13.3*** | ***13.3*** | ***13.3*** | 3000 |
| 3500 | 5.16 | 5.16 | 5.16 | 5.16 | ***8.64*** | ***8.64*** | ***8.64*** | ***8.64*** | ***11.4*** | ***11.4*** | ***11.4*** | ***11.4*** | 4.85 | 4.85 | 4.85 | 4.85 | ***8.79*** | ***8.79*** | ***8.79*** | ***8.79*** | ***11.4*** | ***11.4*** | ***11.4*** | ***11.4*** | 3500 |
| 4000 | 4.21 | 4.21 | 4.21 | 4.21 | ***6.76*** | ***6.76*** | ***6.76*** | ***6.76*** | ***9.38*** | ***9.38*** | ***9.38*** | ***9.38*** | 4.08 | 4.08 | 4.08 | 4.08 | ***7.24*** | ***7.24*** | ***7.24*** | ***7.24*** | ***10.0*** | ***10.0*** | ***10.0*** | ***10.0*** | 4000 |
| 4500 | 3.50 | 3.50 | 3.50 | 3.50 | 5.34 | 5.34 | 5.34 | 5.34 | ***7.41*** | ***7.41*** | ***7.41*** | ***7.41*** | 3.48 | 3.48 | 3.48 | 3.48 | ***6.05*** | ***6.05*** | ***6.05*** | ***6.05*** | ***8.85*** | ***8.85*** | ***8.85*** | ***8.85*** | 4500 |
| 5000 | 2.95 | 2.95 | 2.95 | 2.95 | 4.33 | 4.33 | 4.33 | 4.33 | ***6.00*** | ***6.00*** | ***6.00*** | ***6.00*** | 3.00 | 3.00 | 3.00 | 3.00 | ***5.13*** | ***5.13*** | ***5.13*** | ***5.13*** | ***7.69*** | ***7.69*** | ***7.69*** | ***7.69*** | 5000 |
| 5500 | 2.46 | 2.46 | 2.46 | 2.46 | 3.56 | 3.58 | 3.58 | 3.58 | ***4.90*** | ***4.96*** | ***4.96*** | ***4.96*** | 2.61 | 2.61 | 2.61 | 2.61 | 4.40 | 4.40 | 4.40 | 4.40 | ***6.35*** | ***6.35*** | ***6.35*** | ***6.35*** | 5500 |
| 6000 | 2.07 | 2.07 | 2.07 | 2.07 | 2.86 | 3.01 | 3.01 | 3.01 | 3.92 | ***4.17*** | ***4.17*** | ***4.17*** | 2.29 | 2.29 | 2.29 | 2.29 | 3.78 | 3.80 | 3.80 | 3.80 | ***5.16*** | ***5.34*** | ***5.34*** | ***5.34*** | 6000 |
| 6500 | 1.69 | 1.76 | 1.76 | 1.76 | 2.34 | 2.56 | 2.56 | 2.56 | 3.16 | 3.55 | 3.55 | 3.55 | 2.03 | 2.03 | 2.03 | 2.03 | 3.05 | 3.24 | 3.24 | 3.24 | ***4.17*** | ***4.55*** | ***4.55*** | ***4.55*** | 6500 |
| 7000 | 1.37 | 1.52 | 1.52 | 1.52 | 1.93 | 2.21 | 2.21 | 2.21 | 2.56 | 3.06 | 3.06 | 3.06 | 1.79 | 1.80 | 1.80 | 1.80 | 2.50 | 2.80 | 2.80 | 2.80 | 3.40 | ***3.92*** | ***3.92*** | ***3.92*** | 7000 |
| 7500 | 1.11 | 1.32 | 1.32 | 1.32 | 1.61 | 1.92 | 1.92 | 1.92 | 2.08 | 2.67 | 2.67 | 2.67 | 1.49 | 1.61 | 1.61 | 1.61 | 2.05 | 2.44 | 2.44 | 2.44 | 2.75 | ***3.42*** | ***3.42*** | ***3.42*** | 7500 |
| 8000 | 0.90 | 1.16 | 1.16 | 1.16 | 1.32 | 1.69 | 1.69 | 1.69 | 1.69 | 2.35 | 2.35 | 2.35 | 1.24 | 1.45 | 1.45 | 1.45 | 1.69 | 2.14 | 2.14 | 2.14 | 2.21 | 3.00 | 3.00 | 3.00 | 8000 |
| 8500 | 0.74 | 1.03 | 1.03 | 1.03 | 1.06 | 1.49 | 1.50 | 1.50 | 1.38 | 2.06 | 2.08 | 2.08 | 1.02 | 1.31 | 1.31 | 1.31 | 1.38 | 1.90 | 1.90 | 1.90 | 1.78 | 2.66 | 2.66 | 2.66 | 8500 |

| SPAN | EC/EZ300-19 | | | | EC/EZ300-24 | | | | EC/EZ300-30 | | | | EC/EZ350-19 | | | | EC/EZ350-24 | | | | EC/EZ350-30 | | | | SPAN |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | |
| 4000 | 7.13 | 7.13 | 7.13 | 7.13 | ***12.9*** | ***12.9*** | ***12.9*** | ***12.9*** | ***21.1*** | ***21.1*** | ***21.1*** | ***21.1*** | 6.57 | 6.57 | 6.57 | 6.57 | ***12.4*** | ***12.4*** | ***12.4*** | ***12.4*** | ***22.1*** | ***22.1*** | ***22.1*** | ***22.1*** | 4000 |
| 4500 | 6.12 | 6.12 | 6.12 | 6.12 | ***10.8*** | ***10.8*** | ***10.8*** | ***10.8*** | ***17.5*** | ***17.5*** | ***17.5*** | ***17.5*** | 5.73 | 5.73 | 5.73 | 5.74 | ***10.7*** | ***10.7*** | ***10.7*** | ***10.7*** | ***18.7*** | ***18.7*** | ***18.7*** | ***18.7*** | 4500 |
| 5000 | 5.31 | 5.31 | 5.31 | 5.31 | ***9.26*** | ***9.26*** | ***9.26*** | ***9.26*** | ***14.6*** | ***14.6*** | ***14.6*** | ***14.6*** | 5.06 | 5.06 | 5.06 | 5.06 | ***9.31*** | ***9.31*** | ***9.31*** | ***9.31*** | ***16.0*** | ***16.0*** | ***16.0*** | ***16.0*** | 5000 |
| 5500 | 4.66 | 4.66 | 4.66 | 4.66 | 7.98 | 7.98 | 7.98 | 7.98 | ***12.3*** | ***12.3*** | ***12.3*** | ***12.3*** | 4.50 | 4.50 | 4.50 | 4.50 | 8.18 | 8.18 | 8.18 | 8.18 | ***13.9*** | ***13.9*** | ***13.9*** | ***13.9*** | 5500 |
| 6000 | 4.11 | 4.11 | 4.11 | 4.11 | 6.95 | 6.95 | 6.95 | 6.95 | ***10.3*** | ***10.3*** | ***10.3*** | ***10.3*** | 4.04 | 4.04 | 4.04 | 4.04 | 7.24 | 7.24 | 7.24 | 7.24 | ***12.1*** | ***12.1*** | ***12.1*** | ***12.1*** | 6000 |
| 6500 | 3.65 | 3.65 | 3.65 | 3.65 | 6.09 | 6.09 | 6.09 | 6.09 | ***8.78*** | ***8.78*** | ***8.78*** | ***8.78*** | 3.64 | 3.64 | 3.64 | 3.64 | 6.45 | 6.45 | 6.45 | 6.45 | ***10.7*** | ***10.7*** | ***10.7*** | ***10.7*** | 6500 |
| 7000 | 3.27 | 3.27 | 3.27 | 3.27 | 5.36 | 5.36 | 5.36 | 5.36 | ***7.56*** | ***7.57*** | ***7.57*** | ***7.57*** | 3.30 | 3.30 | 3.30 | 3.30 | 5.77 | 5.77 | 5.77 | 5.77 | ***9.45*** | ***9.45*** | ***9.45*** | ***9.45*** | 7000 |
| 7500 | 2.93 | 2.93 | 2.94 | 2.93 | 4.60 | 4.67 | 4.67 | 4.67 | ***6.41*** | ***6.60*** | ***6.60*** | ***6.60*** | 3.01 | 3.01 | 3.01 | 3.01 | 5.20 | 5.20 | 5.20 | 5.20 | ***8.37*** | ***8.37*** | ***8.37*** | ***8.37*** | 7500 |
| 8000 | 2.65 | 2.65 | 2.65 | 2.65 | 3.88 | 4.10 | 4.10 | 4.10 | 5.43 | ***5.80*** | ***5.80*** | ***5.80*** | 2.75 | 2.75 | 2.75 | 2.75 | 4.70 | 4.70 | 4.70 | 4.70 | ***7.36*** | ***7.36*** | ***7.36*** | ***7.36*** | 8000 |
| 8500 | 2.40 | 2.40 | 2.40 | 2.40 | 3.28 | 3.63 | 3.63 | 3.63 | 4.61 | 5.13 | 5.13 | 5.13 | 2.52 | 2.52 | 2.52 | 2.52 | 4.27 | 4.27 | 4.27 | 4.27 | ***6.52*** | ***6.52*** | ***6.52*** | ***6.52*** | 8500 |

## Table 11b

# DOUBLE UNLAPPED SPAN – STRAMIT EXACTA® C or Z PURLINS
## Inwards Design Capacity (kN/m)

| | EC/EZ150-10 | | | | EC/EZ150-12 | | | | EC/EZ150-15 | | | | EC/EZ150-19 | | | | EC/EZ150-24 | | | | EC/EZ200-12 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SPAN | 0 | 1 | 2 | L/150 | 0 | 1 | 2 | L/150 | 0 | 1 | 2 | L/150 | 0 | 1 | 2 | L/150 | 0 | 1 | 2 | L/150 | 0 | 1 | 2 | L/150 | SPAN |
| 2500 | 3.43 | 3.43 | 3.43 | 14.79 | 5.30 | 5.30 | 5.30 | 18.33 | 8.04 | 8.04 | 8.04 | 23.36 | **11.4** | **11.4** | **11.4** | 30.0 | **14.6** | **15.6** | **15.6** | 38.1 | 4.65 | 4.65 | 4.65 | 38.3 | 2500 |
| 3000 | 2.70 | 2.70 | 2.70 | 8.56 | 4.06 | 4.06 | 4.06 | 10.61 | 5.70 | 5.70 | 5.70 | 13.52 | 7.91 | 7.91 | 7.91 | 17.3 | **9.69** | **10.8** | **10.8** | 22.1 | 3.73 | 3.73 | 3.73 | 22.2 | 3000 |
| 3500 | 2.18 | 2.18 | 2.18 | 5.39 | 3.19 | 3.19 | 3.19 | 6.68 | 4.19 | 4.19 | 4.19 | 8.51 | 5.66 | 5.81 | 5.81 | 10.9 | 6.86 | **7.95** | **7.95** | 13.9 | 3.07 | 3.07 | 3.07 | 14.0 | 3500 |
| 4000 | 1.80 | 1.80 | 1.80 | 3.61 | 2.49 | 2.49 | 2.49 | 4.48 | 3.20 | 3.21 | 3.21 | 5.70 | 4.21 | 4.45 | 4.45 | 7.31 | 5.09 | **6.08** | **6.08** | 9.31 | 2.57 | 2.57 | 2.57 | 9.36 | 4000 |
| 4500 | 1.50 | 1.50 | 1.50 | 2.54 | 1.97 | 1.97 | 1.97 | 3.14 | 2.48 | 2.53 | 2.53 | 4.01 | 3.24 | 3.52 | 3.52 | 5.14 | 3.90 | 4.81 | 4.81 | 6.54 | 2.18 | 2.18 | 2.18 | 6.57 | 4500 |
| 5000 | 1.27 | 1.27 | 1.27 | 1.85 | 1.60 | 1.60 | 1.60 | 2.29 | 1.97 | 2.05 | 2.05 | 2.92 | 2.56 | 2.85 | 2.85 | 3.75 | 3.08 | 3.89 | 3.89 | 4.77 | 1.88 | 1.88 | 1.88 | 4.79 | 5000 |
| 5500 | 1.07 | 1.07 | 1.07 | 1.39 | 1.32 | 1.32 | 1.32 | 1.72 | 1.60 | 1.70 | 1.70 | 2.19 | 2.07 | 2.35 | 2.35 | 2.81 | 2.48 | 3.22 | 3.22 | 3.58 | 1.63 | 1.63 | 1.63 | 3.60 | 5500 |
| 6000 | 0.90 | 0.90 | 0.90 | 1.07 | 1.11 | 1.11 | 1.11 | 1.33 | 1.32 | 1.43 | 1.43 | 1.69 | 1.70 | 1.98 | 1.98 | 2.17 | 2.04 | 2.70 | 2.70 | 2.76 | 1.42 | 1.42 | 1.42 | 2.77 | 6000 |
| 6500 | 0.77 | 0.77 | 0.77 | 0.84 | 0.94 | 0.94 | 0.94 | 1.04 | 1.11 | 1.22 | 1.22 | 1.33 | 1.41 | 1.69 | 1.69 | 1.71 | 1.70 | 2.30 | 2.30 | 2.17 | 1.26 | 1.26 | 1.26 | 2.18 | 6500 |
| 7000 | 0.65 | 0.66 | 0.66 | 0.67 | 0.80 | 0.81 | 0.81 | 0.84 | 0.94 | 1.05 | 1.05 | 1.06 | 1.19 | 1.45 | 1.45 | 1.37 | 1.43 | 1.99 | 1.99 | 1.74 | 1.10 | 1.11 | 1.11 | 1.75 | 7000 |
| 7500 | 0.55 | 0.58 | 0.58 | 0.55 | 0.68 | 0.71 | 0.71 | 0.68 | 0.81 | 0.91 | 0.91 | 0.87 | 1.01 | 1.27 | 1.27 | 1.11 | 1.22 | 1.72 | 1.73 | 1.41 | 0.95 | 0.99 | 0.99 | 1.42 | 7500 |
| 8000 | | 0.51 | 0.51 | 0.45 | 0.59 | 0.62 | 0.62 | 0.56 | 0.70 | 0.80 | 0.80 | 0.71 | 0.87 | 1.11 | 1.11 | 0.91 | 1.04 | 1.49 | 1.52 | 1.16 | 0.82 | 0.89 | 0.89 | 1.17 | 8000 |
| 8500 | | | | | 0.51 | 0.55 | 0.55 | 0.47 | 0.61 | 0.71 | 0.71 | 0.59 | 0.75 | 0.99 | 0.99 | 0.76 | 0.90 | 1.30 | 1.35 | 0.97 | 0.72 | 0.79 | 0.79 | 0.98 | 8500 |

| | EC/EZ200-15 | | | | EC/EZ200-19 | | | | EC/EZ200-24 | | | | EC/EZ250-15 | | | | EC/EZ250-19 | | | | EC/EZ250-24 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SPAN | 0 | 1 | 2 | L/150 | 0 | 1 | 2 | L/150 | 0 | 1 | 2 | L/150 | 0 | 1 | 2 | L/150 | 0 | 1 | 2 | L/150 | 0 | 1 | 2 | L/150 | SPAN |
| 2500 | 8.27 | 8.27 | 8.27 | 49.89 | **12.6** | **12.6** | **12.6** | 65.9 | **15.9** | **15.9** | **15.9** | 84.4 | 7.28 | 7.28 | 7.28 | 84.0 | **12.6** | **12.6** | **12.6** | 110 | **15.9** | **15.9** | **15.9** | 143 | 2500 |
| 3000 | 6.45 | 6.45 | 6.45 | 28.87 | **10.5** | **10.5** | **10.5** | 38.1 | **13.3** | **13.3** | **13.3** | 48.9 | 5.87 | 5.87 | 5.87 | 48.6 | **10.5** | **10.5** | **10.5** | 63.7 | **13.3** | **13.3** | **13.3** | 82.6 | 3000 |
| 3500 | 5.16 | 5.16 | 5.16 | 18.18 | **8.57** | **8.64** | **8.64** | 24.0 | **11.3** | **11.4** | **11.4** | 30.8 | 4.85 | 4.85 | 4.85 | 30.6 | **8.79** | **8.79** | **8.79** | 40.1 | **11.4** | **11.4** | **11.4** | 52.0 | 3500 |
| 4000 | 4.21 | 4.21 | 4.21 | 12.18 | **6.36** | **6.76** | **6.76** | 16.1 | **8.26** | **9.38** | **9.38** | 20.6 | 4.08 | 4.08 | 4.08 | 20.5 | **7.24** | **7.24** | **7.24** | 26.9 | **10.0** | **10.0** | **10.0** | 34.8 | 4000 |
| 4500 | 3.50 | 3.50 | 3.50 | 8.55 | 4.91 | 5.34 | 5.34 | 11.3 | **6.25** | **7.41** | **7.41** | 14.5 | 3.48 | 3.48 | 3.48 | 14.4 | **6.05** | **6.05** | **6.05** | 18.9 | **8.08** | **8.85** | **8.85** | 24.5 | 4500 |
| 5000 | 2.95 | 2.95 | 2.95 | 6.24 | 3.89 | 4.33 | 4.33 | 8.24 | **4.87** | **6.00** | **6.00** | 10.6 | 3.00 | 3.00 | 3.00 | 10.5 | **4.95** | **5.13** | **5.13** | 13.7 | **6.24** | **7.69** | **7.69** | 17.8 | 5000 |
| 5500 | 2.42 | 2.46 | 2.46 | 4.69 | 3.16 | 3.58 | 3.58 | 6.19 | 3.88 | **4.96** | **4.96** | 7.93 | 2.61 | 2.61 | 2.61 | 7.89 | 3.99 | 4.40 | 4.40 | 10.3 | **4.94** | **6.35** | **6.35** | 13.4 | 5500 |
| 6000 | 1.99 | 2.07 | 2.07 | 3.61 | 2.60 | 3.01 | 3.01 | 4.77 | 3.16 | **4.17** | **4.17** | 6.11 | 2.29 | 2.29 | 2.29 | 6.08 | 3.28 | 3.80 | 3.80 | 7.96 | 3.98 | **5.34** | **5.34** | 10.3 | 6000 |
| 6500 | 1.67 | 1.76 | 1.76 | 2.84 | 2.18 | 2.56 | 2.56 | 3.75 | 2.60 | 3.55 | 3.55 | 4.81 | 2.03 | 2.03 | 2.03 | 4.78 | 2.73 | 3.24 | 3.24 | 6.26 | 3.26 | **4.55** | **4.55** | 8.12 | 6500 |
| 7000 | 1.41 | 1.52 | 1.52 | 2.27 | 1.85 | 2.21 | 2.21 | 3.00 | 2.18 | 3.06 | 3.06 | 3.85 | 1.78 | 1.80 | 1.80 | 3.83 | 2.30 | 2.80 | 2.80 | 5.01 | 2.71 | **3.92** | **3.92** | 6.50 | 7000 |
| 7500 | 1.20 | 1.32 | 1.32 | 1.85 | 1.58 | 1.92 | 1.92 | 2.44 | 1.84 | 2.67 | 2.67 | 3.13 | 1.52 | 1.61 | 1.61 | 3.11 | 1.96 | 2.44 | 2.44 | 4.07 | 2.27 | **3.42** | **3.42** | 5.28 | 7500 |
| 8000 | 1.04 | 1.16 | 1.16 | 1.52 | 1.36 | 1.69 | 1.69 | 2.01 | 1.57 | 2.35 | 2.35 | 2.58 | 1.32 | 1.45 | 1.45 | 2.57 | 1.69 | 2.14 | 2.14 | 3.36 | 1.93 | 3.00 | 3.00 | 4.35 | 8000 |
| 8500 | 0.90 | 1.03 | 1.03 | 1.27 | 1.17 | 1.50 | 1.50 | 1.68 | 1.35 | 2.08 | 2.08 | 2.15 | 1.15 | 1.31 | 1.31 | 2.14 | 1.46 | 1.90 | 1.90 | 2.80 | 1.66 | 2.66 | 2.66 | 3.63 | 8500 |

| | EC/EZ300-19 | | | | EC/EZ300-24 | | | | EC/EZ300-30 | | | | EC/EZ350-19 | | | | EC/EZ350-24 | | | | EC/EZ350-30 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SPAN | 0 | 1 | 2 | L/150 | 0 | 1 | 2 | L/150 | 0 | 1 | 2 | L/150 | 0 | 1 | 2 | L/150 | 0 | 1 | 2 | L/150 | 0 | 1 | 2 | L/150 | SPAN |
| 4000 | 7.13 | 7.13 | 7.13 | 47.1 | **12.9** | **12.9** | **12.9** | 61.5 | **21.0** | **21.1** | **21.1** | 79.4 | 6.57 | 6.57 | 6.57 | 76.6 | **12.4** | **12.4** | **12.4** | 99.8 | **22.1** | **22.1** | **22.1** | 129 | 4000 |
| 4500 | 6.12 | 6.12 | 6.12 | 33.0 | **10.8** | **10.8** | **10.8** | 43.2 | **15.4** | **17.5** | **17.5** | 55.8 | 5.73 | 5.73 | 5.73 | 53.8 | **10.7** | **10.7** | **10.7** | 70.1 | **18.7** | **18.7** | **18.7** | 90.7 | 4500 |
| 5000 | 5.31 | 5.31 | 5.31 | 24.1 | 8.91 | **9.26** | **9.26** | 31.5 | **11.6** | **14.6** | **14.6** | 40.7 | 5.06 | 5.06 | 5.06 | 39.2 | **9.31** | **9.31** | **9.31** | 51.1 | **16.0** | **16.0** | **16.0** | 66.1 | 5000 |
| 5500 | 4.66 | 4.66 | 4.66 | 18.1 | 7.07 | 7.98 | 7.98 | 23.6 | **8.93** | **12.3** | **12.3** | 30.6 | 4.50 | 4.50 | 4.50 | 29.5 | 8.18 | 8.18 | 8.18 | 38.4 | **12.7** | **13.9** | **13.9** | 49.7 | 5500 |
| 6000 | 4.11 | 4.11 | 4.11 | 13.9 | 5.72 | 6.95 | 6.95 | 18.2 | 7.00 | **10.3** | **10.3** | 23.5 | 4.04 | 4.04 | 4.04 | 22.7 | 7.24 | 7.24 | 7.24 | 29.6 | **10.0** | **12.1** | **12.1** | 38.3 | 6000 |
| 6500 | 3.65 | 3.65 | 3.65 | 11.0 | 4.70 | 6.09 | 6.09 | 14.3 | 5.60 | **8.78** | **8.78** | 18.5 | 3.64 | 3.64 | 3.64 | 17.9 | 6.45 | 6.45 | 6.45 | 23.3 | **8.11** | **10.7** | **10.7** | 30.1 | 6500 |
| 7000 | 3.22 | 3.27 | 3.27 | 8.78 | 3.92 | 5.36 | 5.36 | 11.5 | 4.57 | **7.57** | **7.57** | 14.8 | 3.30 | 3.30 | 3.30 | 14.3 | 5.43 | 5.77 | 5.77 | 18.6 | **6.65** | **9.45** | **9.45** | 24.1 | 7000 |
| 7500 | 2.74 | 2.93 | 2.94 | 7.14 | 3.29 | 4.67 | 4.67 | 9.33 | 3.80 | **6.60** | **6.60** | 12.0 | 3.01 | 3.01 | 3.01 | 11.6 | 4.51 | 5.20 | 5.20 | 15.1 | 5.52 | **8.37** | **8.37** | 19.6 | 7500 |
| 8000 | 2.34 | 2.65 | 2.65 | 5.88 | 2.79 | 4.10 | 4.10 | 7.68 | 3.20 | **5.80** | **5.80** | 9.93 | 2.75 | 2.75 | 2.75 | 9.58 | 3.79 | 4.70 | 4.70 | 12.5 | 4.63 | **7.36** | **7.36** | 16.1 | 8000 |
| 8500 | 2.01 | 2.40 | 2.40 | 4.90 | 2.39 | 3.63 | 3.63 | 6.41 | 2.73 | 5.13 | 5.13 | 8.28 | 2.52 | 2.52 | 2.52 | 7.98 | 3.23 | 4.27 | 4.27 | 10.4 | 3.92 | **6.52** | **6.52** | 13.5 | 8500 |

## Table 12a

# DOUBLE LAPPED SPAN – STRAMIT EXACTA® Z-PURLINS
## Outwards Design Capacity (kN/m)

| SPAN | EZ150-10 | | | | EZ150-12 | | | | EZ150-15 | | | | EZ150-19 | | | | EZ150-24 | | | | EZ200-12 | | | | SPAN |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | |
| 2500 | 4.00 | 4.00 | 4.00 | 4.00 | 6.35 | 6.35 | 6.35 | 6.35 | 10.1 | 10.1 | 10.1 | 10.1 | 15.4 | 15.4 | 15.4 | 15.4 | 19.7 | 19.7 | 19.7 | 19.7 | 5.32 | 5.32 | 5.32 | 5.32 | 2500 |
| 3000 | 3.19 | 3.19 | 3.19 | 3.19 | 4.94 | 4.94 | 4.94 | 4.94 | 7.52 | 7.52 | 7.52 | 7.52 | 10.7 | 10.7 | 10.7 | 10.7 | 14.6 | 14.6 | 14.6 | 14.6 | 4.32 | 4.32 | 4.31 | 4.31 | 3000 |
| 3500 | 2.61 | 2.61 | 2.61 | 2.61 | 3.95 | 3.95 | 3.95 | 3.95 | 5.67 | 5.67 | 5.67 | 5.67 | 7.86 | 7.86 | 7.86 | 7.86 | 10.6 | 10.7 | 10.7 | 10.7 | 3.59 | 3.59 | 3.59 | 3.59 | 3500 |
| 4000 | 2.18 | 2.18 | 2.18 | 2.18 | 3.22 | 3.22 | 3.22 | 3.22 | 4.34 | 4.34 | 4.34 | 4.34 | 6.02 | 6.02 | 6.02 | 6.02 | 7.72 | 8.23 | 8.23 | 8.23 | 3.04 | 3.04 | 3.04 | 3.04 | 4000 |
| 4500 | 1.84 | 1.84 | 1.84 | 1.84 | 2.66 | 2.66 | 2.66 | 2.66 | 3.32 | 3.43 | 3.43 | 3.43 | 4.54 | 4.76 | 4.76 | 4.76 | 5.74 | 6.50 | 6.50 | 6.50 | 2.61 | 2.61 | 2.61 | 2.61 | 4500 |
| 5000 | 1.58 | 1.58 | 1.58 | 1.58 | 2.08 | 2.16 | 2.16 | 2.16 | 2.54 | 2.78 | 2.78 | 2.78 | 3.43 | 3.85 | 3.85 | 3.85 | 4.35 | 5.27 | 5.27 | 5.27 | 2.26 | 2.26 | 2.26 | 2.26 | 5000 |
| 5500 | 1.24 | 1.36 | 1.36 | 1.36 | 1.57 | 1.78 | 1.78 | 1.78 | 1.98 | 2.29 | 2.29 | 2.29 | 2.61 | 3.18 | 3.18 | 3.18 | 3.34 | 4.30 | 4.35 | 4.35 | 1.98 | 1.98 | 1.98 | 1.98 | 5500 |
| 6000 | 0.94 | 1.19 | 1.19 | 1.19 | 1.18 | 1.50 | 1.50 | 1.50 | 1.54 | 1.93 | 1.93 | 1.93 | 2.00 | 2.68 | 2.68 | 2.68 | 2.58 | 3.49 | 3.66 | 3.66 | 1.75 | 1.75 | 1.75 | 1.75 | 6000 |
| 6500 | 0.71 | 1.04 | 1.04 | 1.04 | 0.89 | 1.28 | 1.28 | 1.28 | 1.18 | 1.63 | 1.64 | 1.64 | 1.53 | 2.25 | 2.28 | 2.28 | 2.01 | 2.86 | 3.12 | 3.12 | 1.55 | 1.55 | 1.55 | 1.55 | 6500 |
| 7000 | 0.54 | 0.86 | 0.90 | 0.90 | 0.69 | 1.10 | 1.10 | 1.10 | 0.90 | 1.35 | 1.42 | 1.42 | 1.18 | 1.85 | 1.97 | 1.97 | 1.56 | 2.36 | 2.69 | 2.69 | 1.28 | 1.39 | 1.39 | 1.39 | 7000 |
| 7500 | | 0.72 | 0.78 | 0.78 | 0.54 | 0.92 | 0.96 | 0.96 | 0.70 | 1.13 | 1.23 | 1.23 | 0.92 | 1.53 | 1.71 | 1.71 | 1.23 | 1.96 | 2.34 | 2.34 | 1.04 | 1.25 | 1.25 | 1.25 | 7500 |
| 8000 | | 0.59 | 0.69 | 0.69 | | 0.76 | 0.84 | 0.84 | 0.55 | 0.95 | 1.08 | 1.08 | 0.73 | 1.27 | 1.51 | 1.51 | 0.99 | 1.64 | 2.02 | 2.06 | 0.83 | 1.13 | 1.13 | 1.13 | 8000 |
| 8500 | | | 0.61 | 0.61 | | 0.62 | 0.75 | 0.75 | | 0.81 | 0.96 | 0.96 | 0.59 | 1.06 | 1.33 | 1.33 | 0.81 | 1.38 | 1.74 | 1.82 | 0.67 | 1.01 | 1.02 | 1.02 | 8500 |
| 9000 | | | 0.54 | 0.54 | | 0.51 | 0.67 | 0.67 | | 0.67 | 0.86 | 0.86 | | 0.88 | 1.19 | 1.19 | 0.67 | 1.16 | 1.51 | 1.63 | 0.55 | 0.87 | 0.93 | 0.93 | 9000 |
| 9500 | | | | | | | 0.60 | 0.60 | | 0.56 | 0.75 | 0.77 | | 0.73 | 1.03 | 1.07 | 0.56 | 0.97 | 1.32 | 1.46 | | 0.75 | 0.85 | 0.85 | 9500 |
| 10000 | | | | | | | 0.54 | 0.54 | | | 0.66 | 0.69 | | 0.61 | 0.90 | 0.96 | | 0.82 | 1.15 | 1.30 | | 0.65 | 0.77 | 0.77 | 10000 |
| 10500 | | | | | | | | | | | 0.58 | 0.63 | | 0.51 | 0.79 | 0.87 | | 0.69 | 1.01 | 1.15 | | 0.56 | 0.70 | 0.70 | 10500 |
| 11000 | | | | | | | | | | | 0.51 | 0.57 | | | 0.69 | 0.80 | | 0.58 | 0.89 | 1.03 | | | 0.63 | 0.64 | 11000 |
| 11500 | | | | | | | | | | | | 0.52 | | | 0.60 | 0.72 | | | 0.78 | 0.92 | | | 0.57 | 0.58 | 11500 |
| 12000 | | | | | | | | | | | | | | | 0.53 | 0.65 | | | 0.69 | 0.83 | | | 0.51 | 0.54 | 12000 |

| SPAN | EZ200-15 | | | | EZ200-19 | | | | EZ200-24 | | | | EZ250-15 | | | | EZ250-19 | | | | EZ250-24 | | | | SPAN |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | |
| 2500 | 9.71 | 9.71 | 9.71 | 9.71 | 17.8 | 17.8 | 17.8 | 17.8 | 19.7 | 19.7 | 19.7 | 19.7 | 8.30 | 8.30 | 8.30 | 8.30 | 16.1 | 16.1 | 16.1 | 16.1 | 19.7 | 19.7 | 19.7 | 19.7 | 2500 |
| 3000 | 7.69 | 7.69 | 7.69 | 7.69 | 13.7 | 13.7 | 13.7 | 13.7 | 16.4 | 16.4 | 16.4 | 16.4 | 6.76 | 6.75 | 6.75 | 6.75 | 12.8 | 12.8 | 12.8 | 12.8 | 16.4 | 16.4 | 16.4 | 16.4 | 3000 |
| 3500 | 6.24 | 6.24 | 6.24 | 6.24 | 10.8 | 10.8 | 10.8 | 10.8 | 14.1 | 14.1 | 14.1 | 14.1 | 5.64 | 5.63 | 5.64 | 5.64 | 10.5 | 10.5 | 10.5 | 10.5 | 14.1 | 14.1 | 14.1 | 14.1 | 3500 |
| 4000 | 5.17 | 5.17 | 5.17 | 5.17 | 8.74 | 8.74 | 8.74 | 8.74 | 12.3 | 12.3 | 12.3 | 12.3 | 4.79 | 4.79 | 4.79 | 4.79 | 8.77 | 8.77 | 8.77 | 8.77 | 12.3 | 12.3 | 12.3 | 12.3 | 4000 |
| 4500 | 4.34 | 4.34 | 4.34 | 4.34 | 7.20 | 7.20 | 7.20 | 7.20 | 10.0 | 10.0 | 10.0 | 10.0 | 4.12 | 4.12 | 4.12 | 4.12 | 7.42 | 7.42 | 7.42 | 7.42 | 10.9 | 10.9 | 10.9 | 10.9 | 4500 |
| 5000 | 3.69 | 3.69 | 3.69 | 3.69 | 5.81 | 5.85 | 5.85 | 5.85 | 7.99 | 8.12 | 8.12 | 8.12 | 3.59 | 3.59 | 3.59 | 3.59 | 6.35 | 6.35 | 6.35 | 6.35 | 9.85 | 9.85 | 9.85 | 9.85 | 5000 |
| 5500 | 3.17 | 3.17 | 3.17 | 3.17 | 4.57 | 4.84 | 4.84 | 4.84 | 6.23 | 6.71 | 6.71 | 6.71 | 3.16 | 3.16 | 3.16 | 3.16 | 5.49 | 5.49 | 5.49 | 5.49 | 8.22 | 8.59 | 8.59 | 8.59 | 5500 |
| 6000 | 2.64 | 2.75 | 2.75 | 2.75 | 3.66 | 4.07 | 4.06 | 4.07 | 4.90 | 5.64 | 5.64 | 5.64 | 2.79 | 2.79 | 2.79 | 2.79 | 4.78 | 4.79 | 4.79 | 4.79 | 6.51 | 7.22 | 7.22 | 7.22 | 6000 |
| 6500 | 2.10 | 2.38 | 2.38 | 2.38 | 2.97 | 3.46 | 3.46 | 3.46 | 3.88 | 4.80 | 4.80 | 4.80 | 2.49 | 2.49 | 2.49 | 2.49 | 3.83 | 4.21 | 4.21 | 4.21 | 5.17 | 6.15 | 6.15 | 6.15 | 6500 |
| 7000 | 1.67 | 2.06 | 2.06 | 2.06 | 2.41 | 2.99 | 2.99 | 2.99 | 3.07 | 4.14 | 4.14 | 4.14 | 2.23 | 2.23 | 2.23 | 2.23 | 3.09 | 3.73 | 3.73 | 3.73 | 4.07 | 5.31 | 5.31 | 5.31 | 7000 |
| 7500 | 1.32 | 1.79 | 1.79 | 1.79 | 1.90 | 2.60 | 2.60 | 2.60 | 2.44 | 3.60 | 3.61 | 3.61 | 1.85 | 2.01 | 2.01 | 2.01 | 2.48 | 3.30 | 3.30 | 3.30 | 3.19 | 4.62 | 4.62 | 4.62 | 7500 |
| 8000 | 1.06 | 1.57 | 1.57 | 1.57 | 1.50 | 2.22 | 2.29 | 2.29 | 1.93 | 3.06 | 3.17 | 3.17 | 1.47 | 1.82 | 1.82 | 1.82 | 1.97 | 2.90 | 2.90 | 2.90 | 2.51 | 4.01 | 4.06 | 4.06 | 8000 |
| 8500 | 0.87 | 1.37 | 1.39 | 1.39 | 1.20 | 1.90 | 2.03 | 2.03 | 1.56 | 2.60 | 2.81 | 2.81 | 1.20 | 1.65 | 1.65 | 1.65 | 1.57 | 2.50 | 2.57 | 2.57 | 2.01 | 3.42 | 3.60 | 3.60 | 8500 |
| 9000 | 0.72 | 1.17 | 1.24 | 1.24 | 0.98 | 1.64 | 1.81 | 1.81 | 1.27 | 2.22 | 2.51 | 2.51 | 0.99 | 1.51 | 1.51 | 1.51 | 1.27 | 2.14 | 2.29 | 2.29 | 1.63 | 2.93 | 3.21 | 3.21 | 9000 |
| 9500 | 0.59 | 1.00 | 1.12 | 1.12 | 0.80 | 1.42 | 1.62 | 1.62 | 1.05 | 1.90 | 2.25 | 2.25 | 0.81 | 1.31 | 1.38 | 1.38 | 1.04 | 1.84 | 2.05 | 2.05 | 1.34 | 2.52 | 2.88 | 2.88 | 9500 |
| 10000 | | 0.86 | 1.01 | 1.01 | 0.67 | 1.24 | 1.46 | 1.46 | 0.88 | 1.62 | 2.03 | 2.03 | 0.67 | 1.14 | 1.27 | 1.27 | 0.86 | 1.59 | 1.85 | 1.85 | 1.12 | 2.15 | 2.60 | 2.60 | 10000 |
| 10500 | | 0.73 | 0.91 | 0.91 | 0.56 | 1.07 | 1.33 | 1.33 | 0.74 | 1.39 | 1.84 | 1.84 | 0.56 | 1.00 | 1.17 | 1.17 | 0.72 | 1.37 | 1.68 | 1.68 | 0.94 | 1.83 | 2.36 | 2.36 | 10500 |
| 11000 | | 0.62 | 0.83 | 0.83 | | 0.91 | 1.19 | 1.21 | 0.63 | 1.19 | 1.65 | 1.68 | | 0.87 | 1.08 | 1.08 | 0.61 | 1.19 | 1.53 | 1.53 | 0.79 | 1.55 | 2.15 | 2.15 | 11000 |
| 11500 | | 0.53 | 0.76 | 0.76 | | 0.77 | 1.07 | 1.11 | 0.54 | 1.01 | 1.47 | 1.53 | | 0.74 | 0.98 | 0.99 | 0.52 | 1.01 | 1.40 | 1.40 | 0.68 | 1.31 | 1.93 | 1.97 | 11500 |
| 12000 | | | 0.69 | 0.70 | | 0.66 | 0.95 | 1.02 | | 0.86 | 1.31 | 1.41 | | 0.64 | 0.88 | 0.91 | | 0.86 | 1.26 | 1.29 | 0.58 | 1.12 | 1.72 | 1.81 | 12000 |
| 12500 | | | 0.62 | 0.64 | | 0.56 | 0.86 | 0.94 | | 0.74 | 1.17 | 1.30 | | 0.55 | 0.79 | 0.84 | | 0.74 | 1.12 | 1.19 | 0.50 | 0.96 | 1.54 | 1.66 | 12500 |
| 13000 | | | 0.55 | 0.60 | | | 0.78 | 0.87 | | 0.64 | 1.05 | 1.20 | | | 0.72 | 0.78 | | 0.63 | 1.01 | 1.10 | | 0.83 | 1.38 | 1.54 | 13000 |
| 13500 | | | | 0.55 | | | 0.70 | 0.80 | | 0.56 | 0.94 | 1.11 | | | 0.65 | 0.72 | | 0.55 | 0.91 | 1.02 | | 0.72 | 1.24 | 1.43 | 13500 |
| 14000 | | | | 0.51 | | | 0.64 | 0.74 | | | 0.84 | 1.02 | | | 0.59 | 0.67 | | | 0.82 | 0.95 | | 0.63 | 1.11 | 1.33 | 14000 |
| 14500 | | | | | | | 0.58 | 0.67 | | | 0.75 | 0.93 | | | 0.53 | 0.61 | | | 0.74 | 0.88 | | 0.55 | 0.99 | 1.22 | 14500 |
| 15000 | | | | | | | 0.52 | 0.61 | | | 0.67 | 0.85 | | | | 0.56 | | | 0.66 | 0.81 | | | 0.88 | 1.11 | 15000 |

| SPAN | EZ300-19 | | | | EZ300-24 | | | | EZ300-30 | | | | EZ350-19 | | | | EZ350-24 | | | | EZ350-30 | | | | SPAN |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | |
| 4000 | 8.29 | 8.29 | 8.29 | 8.29 | 15.4 | 15.4 | 15.4 | 15.4 | 23.3 | 23.3 | 23.3 | 23.3 | 7.48 | 7.48 | 7.48 | 7.48 | 14.4 | 14.4 | 14.4 | 14.4 | 23.3 | 23.3 | 23.3 | 23.3 | 4000 |
| 4500 | 7.18 | 7.18 | 7.18 | 7.18 | 13.1 | 13.1 | 13.1 | 13.1 | 20.7 | 20.7 | 20.7 | 20.7 | 6.56 | 6.56 | 6.56 | 6.56 | 12.5 | 12.5 | 12.5 | 12.5 | 20.7 | 20.7 | 20.7 | 20.7 | 4500 |
| 5000 | 6.29 | 6.29 | 6.29 | 6.29 | 11.3 | 11.3 | 11.3 | 11.3 | 18.5 | 18.5 | 18.5 | 18.5 | 5.82 | 5.82 | 5.82 | 5.82 | 11.0 | 11.0 | 11.0 | 11.0 | 18.5 | 18.5 | 18.5 | 18.5 | 5000 |
| 5500 | 5.56 | 5.56 | 5.56 | 5.56 | 9.84 | 9.84 | 9.84 | 9.84 | 15.8 | 15.8 | 15.8 | 15.8 | 5.21 | 5.21 | 5.21 | 5.21 | 9.72 | 9.72 | 9.72 | 9.72 | 15.8 | 15.8 | 15.8 | 15.8 | 5500 |
| 6000 | 4.95 | 4.95 | 4.95 | 4.95 | 8.64 | 8.63 | 8.64 | 8.64 | 13.7 | 13.7 | 13.7 | 13.7 | 4.70 | 4.70 | 4.70 | 4.70 | 8.67 | 8.67 | 8.67 | 8.67 | 15.0 | 15.0 | 15.0 | 15.0 | 6000 |
| 6500 | 4.43 | 4.43 | 4.43 | 4.43 | 7.63 | 7.63 | 7.63 | 7.63 | 11.7 | 11.9 | 11.9 | 11.9 | 4.26 | 4.26 | 4.26 | 4.26 | 7.78 | 7.78 | 7.78 | 7.78 | 13.3 | 13.3 | 13.3 | 13.3 | 6500 |
| 7000 | 3.99 | 3.99 | 3.99 | 3.99 | 6.79 | 6.79 | 6.79 | 6.79 | 9.78 | 10.24 | 10.24 | 10.24 | 3.89 | 3.89 | 3.89 | 3.89 | 7.02 | 7.02 | 7.02 | 7.02 | 11.8 | 11.8 | 11.8 | 11.8 | 7000 |
| 7500 | 3.61 | 3.61 | 3.61 | 3.61 | 5.80 | 6.07 | 6.07 | 6.07 | 8.15 | 8.92 | 8.92 | 8.92 | 3.56 | 3.56 | 3.56 | 3.56 | 6.36 | 6.36 | 6.36 | 6.36 | 10.6 | 10.6 | 10.6 | 10.6 | 7500 |
| 8000 | 3.28 | 3.28 | 3.28 | 3.28 | 4.83 | 5.46 | 5.46 | 5.46 | 6.75 | 7.84 | 7.84 | 7.84 | 3.28 | 3.28 | 3.28 | 3.28 | 5.79 | 5.79 | 5.79 | 5.79 | 9.57 | 9.56 | 9.57 | 9.57 | 8000 |
| 8500 | 2.99 | 2.99 | 2.99 | 2.99 | 4.05 | 4.91 | 4.91 | 4.91 | 5.58 | 6.94 | 6.94 | 6.94 | 3.02 | 3.02 | 3.02 | 3.02 | 5.29 | 5.29 | 5.29 | 5.29 | 8.54 | 8.66 | 8.66 | 8.66 | 8500 |
| 9000 | 2.60 | 2.74 | 2.74 | 2.74 | 3.42 | 4.38 | 4.38 | 4.38 | 4.62 | 6.19 | 6.19 | 6.19 | 2.80 | 2.80 | 2.80 | 2.80 | 4.85 | 4.85 | 4.85 | 4.85 | 7.34 | 7.86 | 7.86 | 7.86 | 9000 |
| 9500 | 2.17 | 2.52 | 2.52 | 2.52 | 2.89 | 3.93 | 3.93 | 3.93 | 3.81 | 5.56 | 5.56 | 5.56 | 2.60 | 2.60 | 2.60 | 2.60 | 4.46 | 4.46 | 4.46 | 4.46 | 6.33 | 7.06 | 7.06 | 7.06 | 9500 |
| 10000 | 1.81 | 2.32 | 2.32 | 2.32 | 2.42 | 3.55 | 3.55 | 3.55 | 3.15 | 4.99 | 5.02 | 5.02 | 2.42 | 2.42 | 2.42 | 2.42 | 4.12 | 4.12 | 4.11 | 4.11 | 5.47 | 6.37 | 6.37 | 6.37 | 10000 |
| 10500 | 1.53 | 2.14 | 2.14 | 2.14 | 2.02 | 3.17 | 3.22 | 3.22 | 2.64 | 4.43 | 4.55 | 4.55 | 2.26 | 2.26 | 2.26 | 2.26 | 3.67 | 3.81 | 3.81 | 3.81 | 4.72 | 5.78 | 5.78 | 5.78 | 10500 |
| 11000 | 1.30 | 1.98 | 1.98 | 1.98 | 1.70 | 2.80 | 2.93 | 2.93 | 2.22 | 3.94 | 4.15 | 4.15 | 2.11 | 2.11 | 2.11 | 2.11 | 3.18 | 3.53 | 3.53 | 3.53 | 4.08 | 5.26 | 5.26 | 5.26 | 11000 |
| 11500 | 1.13 | 1.79 | 1.84 | 1.84 | 1.44 | 2.47 | 2.68 | 2.68 | 1.89 | 3.50 | 3.79 | 3.79 | 1.97 | 1.97 | 1.97 | 1.97 | 2.74 | 3.28 | 3.28 | 3.28 | 3.56 | 4.81 | 4.82 | 4.81 | 11500 |
| 12000 | 0.97 | 1.60 | 1.72 | 1.72 | 1.23 | 2.19 | 2.46 | 2.46 | 1.62 | 3.10 | 3.48 | 3.48 | 1.74 | 1.85 | 1.85 | 1.85 | 2.37 | 3.06 | 3.06 | 3.06 | 3.11 | 4.42 | 4.42 | 4.42 | 12000 |
| 12500 | 0.83 | 1.44 | 1.60 | 1.60 | 1.06 | 1.94 | 2.27 | 2.27 | 1.40 | 2.74 | 3.21 | 3.21 | 1.54 | 1.74 | 1.74 | 1.74 | 2.06 | 2.86 | 2.86 | 2.86 | 2.73 | 4.08 | 4.08 | 4.08 | 12500 |
| 13000 | 0.72 | 1.29 | 1.49 | 1.49 | 0.92 | 1.73 | 2.10 | 2.10 | 1.21 | 2.42 | 2.97 | 2.97 | 1.36 | 1.64 | 1.64 | 1.64 | 1.80 | 2.67 | 2.67 | 2.67 | 2.38 | 3.70 | 3.77 | 3.77 | 13000 |
| 13500 | 0.62 | 1.16 | 1.38 | 1.38 | 0.80 | 1.54 | 1.95 | 1.95 | 1.06 | 2.13 | 2.75 | 2.75 | 1.21 | 1.55 | 1.55 | 1.55 | 1.58 | 2.45 | 2.51 | 2.51 | 2.08 | 3.35 | 3.49 | 3.49 | 13500 |
| 14000 | 0.54 | 1.03 | 1.28 | 1.28 | 0.70 | 1.38 | 1.81 | 1.81 | 0.93 | 1.88 | 2.56 | 2.56 | 1.07 | 1.46 | 1.46 | 1.46 | 1.40 | 2.24 | 2.34 | 2.34 | 1.82 | 3.04 | 3.25 | 3.25 | 14000 |
| 14500 | | 0.91 | 1.19 | 1.20 | 0.62 | 1.23 | 1.69 | 1.69 | 0.82 | 1.65 | 2.36 | 2.39 | 0.94 | 1.38 | 1.38 | 1.38 | 1.24 | 2.05 | 2.18 | 2.18 | 1.60 | 2.76 | 3.03 | 3.03 | 14500 |
| 15000 | | 0.80 | 1.10 | 1.12 | 0.55 | 1.09 | 1.55 | 1.58 | 0.73 | 1.46 | 2.17 | 2.23 | 0.83 | 1.31 | 1.31 | 1.31 | 1.11 | 1.88 | 2.04 | 2.04 | 1.41 | 2.50 | 2.83 | 2.83 | 15000 |

## Table 12b

# DOUBLE LAPPED SPAN – STRAMIT EXACTA® Z-PURLINS
## Inwards Design Capacity (kN/m)

| | EZ150-10 | | | | EZ150-12 | | | | EZ150-15 | | | | EZ150-19 | | | | EZ150-24 | | | | EZ200-12 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SPAN | 0 | 1 | 2 | L/150 | 0 | 1 | 2 | L/150 | 0 | 1 | 2 | L/150 | 0 | 1 | 2 | L/150 | 0 | 1 | 2 | L/150 | 0 | 1 | 2 | L/150 | SPAN |
| 2500 | 4.00 | 4.00 | 4.00 | 16.76 | 6.35 | 6.35 | 6.35 | 20.8 | **10.1** | **10.1** | **10.1** | 26.5 | **14.7** | **15.4** | **15.4** | 33.9 | **18.0** | **19.7** | **19.7** | 43.2 | 5.32 | 5.32 | 5.32 | 43.4 | 2500 |
| 3000 | 3.19 | 3.19 | 3.19 | 9.70 | 4.94 | 4.94 | 4.94 | 12.02 | 7.45 | 7.52 | 7.52 | 15.3 | **9.71** | **10.7** | **10.7** | 19.6 | **11.7** | **14.6** | **14.6** | 25.0 | 4.32 | 4.32 | 4.31 | 25.1 | 3000 |
| 3500 | 2.61 | 2.61 | 2.61 | 6.11 | 3.95 | 3.95 | 3.95 | 7.57 | 5.31 | 5.67 | 5.67 | 9.64 | **6.82** | **7.86** | **7.86** | 12.4 | **8.15** | **10.7** | **10.7** | 15.7 | 3.59 | 3.59 | 3.59 | 15.8 | 3500 |
| 4000 | 2.18 | 2.18 | 2.18 | 4.09 | 3.22 | 3.22 | 3.22 | 5.07 | 3.97 | 4.34 | 4.34 | 6.46 | 5.01 | **6.02** | **6.02** | 8.29 | **5.95** | **8.23** | **8.23** | 10.6 | 3.04 | 3.04 | 3.04 | 10.6 | 4000 |
| 4500 | 1.84 | 1.84 | 1.84 | 2.87 | 2.64 | 2.66 | 2.66 | 3.56 | 3.07 | 3.43 | 3.43 | 4.54 | 3.82 | 4.76 | 4.76 | 5.82 | 4.51 | **6.50** | **6.50** | 7.41 | 2.61 | 2.61 | 2.61 | 7.45 | 4500 |
| 5000 | 1.58 | 1.58 | 1.58 | 2.10 | 2.09 | 2.16 | 2.16 | 2.60 | 2.44 | 2.78 | 2.78 | 3.31 | 2.99 | 3.85 | 3.85 | 4.24 | 3.52 | **5.27** | **5.27** | 5.40 | 2.26 | 2.26 | 2.26 | 5.43 | 5000 |
| 5500 | 1.36 | 1.36 | 1.36 | 1.57 | 1.69 | 1.78 | 1.78 | 1.95 | 1.98 | 2.29 | 2.29 | 2.49 | 2.39 | 3.18 | 3.18 | 3.19 | 2.80 | **4.35** | **4.35** | 4.06 | 1.98 | 1.98 | 1.98 | 4.08 | 5500 |
| 6000 | 1.14 | 1.19 | 1.19 | 1.21 | 1.38 | 1.50 | 1.50 | 1.50 | 1.63 | 1.93 | 1.93 | 1.91 | 1.94 | 2.68 | 2.68 | 2.46 | 2.28 | 3.62 | 3.66 | 3.13 | 1.75 | 1.75 | 1.75 | 3.14 | 6000 |
| 6500 | 0.95 | 1.04 | 1.04 | 0.95 | 1.14 | 1.28 | 1.28 | 1.18 | 1.36 | 1.64 | 1.64 | 1.51 | 1.60 | 2.28 | 2.28 | 1.93 | 1.88 | 3.03 | 3.12 | 2.46 | 1.55 | 1.55 | 1.55 | 2.47 | 6500 |
| 7000 | 0.79 | 0.90 | 0.90 | 0.76 | 0.96 | 1.10 | 1.10 | 0.95 | 1.14 | 1.42 | 1.42 | 1.21 | 1.33 | 1.97 | 1.97 | 1.55 | 1.57 | 2.57 | 2.69 | 1.97 | 1.35 | 1.39 | 1.39 | 1.98 | 7000 |
| 7500 | 0.67 | 0.78 | 0.78 | 0.62 | 0.80 | 0.96 | 0.96 | 0.77 | 0.96 | 1.23 | 1.23 | 0.98 | 1.12 | 1.71 | 1.71 | 1.26 | 1.32 | 2.20 | 2.34 | 1.60 | 1.15 | 1.25 | 1.25 | 1.61 | 7500 |
| 8000 | 0.58 | 0.69 | 0.69 | 0.51 | 0.68 | 0.84 | 0.84 | 0.63 | 0.82 | 1.08 | 1.08 | 0.81 | 0.95 | 1.51 | 1.51 | 1.04 | 1.13 | 1.90 | 2.06 | 1.32 | 0.99 | 1.13 | 1.13 | 1.33 | 8000 |
| 8500 | | 0.61 | 0.61 | 0.43 | 0.58 | 0.75 | 0.75 | 0.53 | 0.70 | 0.96 | 0.96 | 0.67 | 0.81 | 1.33 | 1.33 | 0.86 | 0.97 | 1.66 | 1.82 | 1.10 | 0.86 | 1.02 | 1.02 | 1.11 | 8500 |
| 9000 | | 0.54 | 0.54 | 0.36 | 0.50 | 0.67 | 0.67 | 0.45 | 0.60 | 0.86 | 0.86 | 0.57 | 0.70 | 1.17 | 1.19 | 0.73 | 0.84 | 1.45 | 1.60 | 0.93 | 0.75 | 0.93 | 0.93 | 0.93 | 9000 |
| 9500 | | | | | | 0.60 | 0.60 | 0.38 | 0.52 | 0.76 | 0.77 | 0.48 | 0.61 | 1.03 | 1.07 | 0.62 | 0.74 | 1.28 | 1.41 | 0.79 | 0.66 | 0.85 | 0.85 | 0.79 | 9500 |
| 10000 | | | | | | 0.54 | 0.54 | 0.33 | | 0.67 | 0.69 | 0.41 | 0.53 | 0.91 | 0.96 | 0.53 | 0.65 | 1.13 | 1.25 | 0.68 | 0.58 | 0.77 | 0.77 | 0.68 | 10000 |
| 10500 | | | | | | | | | | 0.60 | 0.63 | 0.36 | 0.47 | 0.81 | 0.87 | 0.46 | 0.57 | 1.01 | 1.12 | 0.58 | 0.51 | 0.70 | 0.70 | 0.59 | 10500 |
| 11000 | | | | | | | | | | 0.54 | 0.57 | 0.31 | | 0.72 | 0.79 | 0.40 | 0.51 | 0.90 | 1.00 | 0.51 | | 0.64 | 0.64 | 0.51 | 11000 |
| 11500 | | | | | | | | | | | 0.52 | 0.27 | | 0.64 | 0.71 | 0.35 | | 0.80 | 0.90 | 0.44 | | 0.58 | 0.58 | 0.45 | 11500 |
| 12000 | | | | | | | | | | | | | | 0.57 | 0.64 | 0.31 | | 0.72 | 0.81 | 0.39 | | 0.52 | 0.54 | 0.39 | 12000 |

| | EZ200-15 | | | | EZ200-19 | | | | EZ200-24 | | | | EZ250-15 | | | | EZ250-19 | | | | EZ250-24 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SPAN | 0 | 1 | 2 | L/150 | 0 | 1 | 2 | L/150 | 0 | 1 | 2 | L/150 | 0 | 1 | 2 | L/150 | 0 | 1 | 2 | L/150 | 0 | 1 | 2 | L/150 | SPAN |
| 2500 | **9.71** | **9.71** | **9.71** | 56.5 | **17.8** | **17.8** | **17.8** | 74.6 | **19.7** | **19.7** | **19.7** | 95.7 | 8.30 | 8.30 | 8.30 | 95.2 | **16.1** | **16.1** | **16.1** | 125 | **19.7** | **19.7** | **19.7** | 162 | 2500 |
| 3000 | 7.69 | 7.69 | 7.69 | 32.7 | **13.7** | **13.7** | **13.7** | 43.2 | **16.4** | **16.4** | **16.4** | 55.4 | 6.75 | 6.76 | 6.75 | 55.1 | **12.8** | **12.8** | **12.8** | 72.1 | **16.4** | **16.4** | **16.4** | 93.5 | 3000 |
| 3500 | 6.24 | 6.24 | 6.24 | 20.6 | **10.6** | **10.8** | **10.8** | 27.2 | **13.2** | **14.1** | **14.1** | 34.9 | 5.64 | 5.63 | 5.64 | 34.7 | **10.5** | **10.5** | **10.5** | 45.4 | **14.1** | **14.1** | **14.1** | 58.9 | 3500 |
| 4000 | 5.17 | 5.17 | 5.17 | 13.8 | **7.81** | **8.74** | **8.74** | 18.2 | **9.41** | **12.3** | **12.3** | 23.4 | 4.79 | 4.79 | 4.79 | 23.2 | **8.77** | **8.77** | **8.77** | 30.4 | **11.9** | **12.3** | **12.3** | 39.5 | 4000 |
| 4500 | 4.34 | 4.34 | 4.34 | 9.69 | **5.97** | **7.20** | **7.20** | 12.8 | **6.96** | **10.0** | **10.0** | 16.4 | 4.12 | 4.12 | 4.12 | 16.3 | **7.41** | **7.42** | **7.42** | 21.4 | **8.66** | **10.9** | **10.9** | 27.7 | 4500 |
| 5000 | 3.57 | 3.69 | 3.69 | 7.06 | 4.64 | **5.85** | **5.85** | 9.33 | **5.31** | **8.12** | **8.12** | 12.0 | 3.59 | 3.59 | 3.59 | 11.9 | **5.77** | **6.35** | **6.35** | 15.6 | **6.55** | **9.85** | **9.85** | 20.2 | 5000 |
| 5500 | 2.87 | 3.17 | 3.17 | 5.31 | 3.67 | **4.84** | **4.84** | 7.01 | 4.15 | **6.71** | **6.71** | 8.98 | 3.16 | 3.16 | 3.16 | 8.94 | **4.56** | **5.49** | **5.49** | 11.7 | **5.11** | **8.59** | **8.59** | 15.2 | 5500 |
| 6000 | 2.34 | 2.75 | 2.75 | 4.09 | 2.95 | **4.06** | **4.06** | 5.40 | 3.33 | **5.64** | **5.64** | 6.92 | 2.79 | 2.79 | 2.79 | 6.89 | 3.68 | **4.79** | **4.79** | 9.01 | **4.09** | **7.22** | **7.22** | 11.7 | 6000 |
| 6500 | 1.94 | 2.38 | 2.38 | 3.22 | 2.42 | 3.46 | 3.46 | 4.25 | 2.72 | **4.80** | **4.80** | 5.44 | 2.49 | 2.49 | 2.49 | 5.42 | 3.01 | **4.21** | **4.21** | 7.09 | 3.34 | **6.15** | **6.15** | 9.20 | 6500 |
| 7000 | 1.63 | 2.06 | 2.06 | 2.57 | 2.01 | 2.99 | 2.99 | 3.40 | 2.27 | **4.14** | **4.14** | 4.36 | 2.12 | 2.23 | 2.23 | 4.34 | 2.50 | **3.73** | **3.73** | 5.68 | 2.78 | **5.31** | **5.31** | 7.36 | 7000 |
| 7500 | 1.38 | 1.79 | 1.79 | 2.09 | 1.69 | 2.60 | 2.60 | 2.77 | 1.91 | **3.61** | **3.61** | 3.54 | 1.79 | 2.01 | 2.01 | 3.53 | 2.10 | **3.30** | **3.30** | 4.62 | 2.34 | **4.62** | **4.62** | 5.99 | 7500 |
| 8000 | 1.18 | 1.57 | 1.57 | 1.73 | 1.43 | 2.29 | 2.29 | 2.28 | 1.63 | **3.17** | **3.17** | 2.92 | 1.53 | 1.82 | 1.82 | 2.91 | 1.78 | 2.90 | 2.90 | 3.80 | 1.99 | **4.06** | **4.06** | 4.93 | 8000 |
| 8500 | 1.01 | 1.39 | 1.39 | 1.44 | 1.23 | 2.03 | 2.03 | 1.90 | 1.40 | 2.79 | **2.81** | 2.43 | 1.32 | 1.65 | 1.65 | 2.42 | 1.53 | 2.57 | 2.57 | 3.17 | 1.72 | **3.60** | **3.60** | 4.11 | 8500 |
| 9000 | 0.88 | 1.24 | 1.24 | 1.21 | 1.07 | 1.81 | 1.81 | 1.60 | 1.22 | 2.46 | 2.51 | 2.05 | 1.14 | 1.51 | 1.51 | 2.04 | 1.33 | 2.29 | 2.29 | 2.67 | 1.49 | **3.17** | **3.21** | 3.46 | 9000 |
| 9500 | 0.77 | 1.12 | 1.12 | 1.03 | 0.93 | 1.61 | 1.62 | 1.36 | 1.07 | 2.17 | 2.25 | 1.74 | 1.00 | 1.38 | 1.38 | 1.74 | 1.16 | 2.05 | 2.05 | 2.27 | 1.30 | **2.80** | **2.88** | 2.95 | 9500 |
| 10000 | 0.67 | 1.01 | 1.01 | 0.88 | 0.81 | 1.43 | 1.46 | 1.17 | 0.94 | 1.92 | 2.03 | 1.50 | 0.88 | 1.27 | 1.27 | 1.49 | 1.01 | 1.85 | 1.85 | 1.95 | 1.15 | **2.49** | **2.60** | 2.53 | 10000 |
| 10500 | 0.60 | 0.91 | 0.91 | 0.76 | 0.72 | 1.28 | 1.33 | 1.01 | 0.83 | 1.71 | 1.84 | 1.29 | 0.78 | 1.17 | 1.17 | 1.29 | 0.89 | 1.67 | 1.68 | 1.68 | 1.01 | 2.21 | **2.36** | 2.18 | 10500 |
| 11000 | 0.53 | 0.83 | 0.83 | 0.66 | 0.64 | 1.15 | 1.21 | 0.88 | 0.74 | 1.53 | 1.68 | 1.12 | 0.69 | 1.07 | 1.08 | 1.12 | 0.79 | 1.50 | 1.53 | 1.46 | 0.90 | 1.98 | 2.15 | 1.90 | 11000 |
| 11500 | 0.48 | 0.76 | 0.76 | 0.58 | 0.57 | 1.03 | 1.11 | 0.77 | 0.66 | 1.37 | 1.53 | 0.98 | 0.62 | 0.97 | 0.99 | 0.98 | 0.71 | 1.34 | 1.40 | 1.28 | 0.81 | 1.78 | 1.97 | 1.66 | 11500 |
| 12000 | | 0.70 | 0.70 | 0.51 | 0.51 | 0.94 | 1.02 | 0.68 | 0.60 | 1.23 | 1.41 | 0.87 | 0.56 | 0.88 | 0.91 | 0.86 | 0.63 | 1.21 | 1.29 | 1.13 | 0.73 | 1.61 | 1.81 | 1.46 | 12000 |
| 12500 | | 0.63 | 0.64 | 0.45 | 0.46 | 0.85 | 0.94 | 0.60 | 0.54 | 1.11 | 1.28 | 0.77 | 0.50 | 0.80 | 0.84 | 0.76 | 0.57 | 1.10 | 1.19 | 1.00 | 0.65 | 1.45 | 1.66 | 1.29 | 12500 |
| 13000 | | 0.57 | 0.60 | 0.40 | | 0.78 | 0.85 | 0.53 | 0.49 | 1.01 | 1.17 | 0.68 | | 0.73 | 0.78 | 0.68 | 0.51 | 1.00 | 1.10 | 0.89 | 0.59 | 1.31 | 1.51 | 1.15 | 13000 |
| 13500 | | | 0.55 | 0.36 | | 0.71 | 0.78 | 0.47 | 0.44 | 0.91 | 1.06 | 0.61 | | 0.66 | 0.71 | 0.61 | 0.46 | 0.91 | 1.02 | 0.79 | 0.54 | 1.19 | 1.38 | 1.03 | 13500 |
| 14000 | | | 0.51 | 0.32 | | 0.65 | 0.71 | 0.43 | | 0.83 | 0.97 | 0.55 | | 0.61 | 0.66 | 0.54 | | 0.83 | 0.93 | 0.71 | 0.49 | 1.08 | 1.26 | 0.92 | 14000 |
| 14500 | | | | | | 0.59 | 0.65 | 0.38 | | 0.75 | 0.88 | 0.49 | | 0.56 | 0.60 | 0.49 | | 0.76 | 0.85 | 0.64 | 0.45 | 0.97 | 1.15 | 0.83 | 14500 |
| 15000 | | | | | | 0.55 | 0.60 | 0.35 | | 0.69 | 0.81 | 0.44 | | | 0.56 | 0.44 | | 0.69 | 0.78 | 0.58 | | 0.88 | 1.06 | 0.75 | 15000 |

| | EZ300-19 | | | | EZ300-24 | | | | EZ300-30 | | | | EZ350-19 | | | | EZ350-24 | | | | EZ350-30 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SPAN | 0 | 1 | 2 | L/150 | 0 | 1 | 2 | L/150 | 0 | 1 | 2 | L/150 | 0 | 1 | 2 | L/150 | 0 | 1 | 2 | L/150 | 0 | 1 | 2 | L/150 | SPAN |
| 4000 | 8.29 | 8.29 | 8.29 | 53.3 | **15.4** | **15.4** | **15.4** | 69.6 | **23.3** | **23.3** | **23.3** | 90.0 | 7.48 | 7.48 | 7.48 | 86.8 | **14.4** | **14.4** | **14.4** | 113 | **23.3** | **23.3** | **23.3** | 146 | 4000 |
| 4500 | 7.18 | 7.18 | 7.18 | 37.4 | **13.1** | **13.1** | **13.1** | 48.9 | **16.6** | **20.7** | **20.7** | 63.2 | 6.56 | 6.56 | 6.56 | 61.0 | **12.5** | **12.5** | **12.5** | 79.4 | **20.7** | **20.7** | **20.7** | 103 | 4500 |
| 5000 | 6.29 | 6.29 | 6.29 | 27.3 | **10.1** | **11.3** | **11.3** | 35.7 | **12.1** | **18.5** | **18.5** | 46.1 | 5.82 | 5.82 | 5.82 | 44.4 | **11.0** | **11.0** | **11.0** | 57.9 | **18.5** | **18.5** | **18.5** | 74.9 | 5000 |
| 5500 | 5.56 | 5.56 | 5.56 | 20.5 | 7.76 | **9.84** | **9.84** | 26.8 | **9.12** | **15.8** | **15.8** | 34.6 | 5.21 | 5.21 | 5.21 | 33.4 | **9.72** | **9.72** | **9.72** | 43.5 | **14.3** | **15.8** | **15.8** | 56.3 | 5500 |
| 6000 | 4.95 | 4.95 | 4.95 | 15.8 | 6.10 | **8.63** | **8.64** | 20.6 | 7.12 | **13.7** | **13.7** | 26.7 | 4.70 | 4.70 | 4.70 | 25.7 | **8.67** | **8.67** | **8.67** | 33.5 | **11.1** | **15.0** | **15.0** | 43.3 | 6000 |
| 6500 | 4.19 | 4.43 | 4.43 | 12.4 | 4.91 | **7.63** | **7.63** | 16.2 | 5.70 | **11.9** | **11.9** | 21.0 | 4.26 | 4.26 | 4.26 | 20.2 | **7.10** | **7.78** | **7.78** | 26.3 | **8.68** | **13.3** | **13.3** | 34.1 | 6500 |
| 7000 | 3.48 | 3.99 | 3.99 | 9.95 | 4.03 | **6.79** | **6.79** | 13.0 | 4.66 | **10.2** | **10.2** | 16.8 | 3.89 | 3.89 | 3.89 | 16.2 | 5.79 | **7.02** | **7.02** | 21.1 | **6.96** | **11.8** | **11.8** | 27.3 | 7000 |
| 7500 | 2.93 | 3.61 | 3.61 | 8.09 | 3.36 | **6.07** | **6.07** | 10.6 | 3.88 | **8.92** | **8.92** | 13.7 | 3.56 | 3.56 | 3.56 | 13.2 | 4.80 | **6.36** | **6.36** | 17.2 | 5.68 | **10.6** | **10.6** | 22.2 | 7500 |
| 8000 | 2.50 | 3.28 | 3.28 | 6.66 | 2.85 | 5.46 | 5.46 | 8.71 | 3.27 | **7.84** | **7.84** | 11.2 | 3.28 | 3.28 | 3.28 | 10.8 | 4.05 | **5.79** | **5.79** | 14.1 | 4.72 | **9.56** | **9.57** | 18.3 | 8000 |
| 8500 | 2.15 | 2.99 | 2.99 | 5.56 | 2.44 | 4.91 | 4.91 | 7.26 | 2.80 | **6.94** | **6.94** | 9.38 | 2.91 | 3.02 | 3.02 | 9.04 | 3.48 | **5.29** | **5.29** | 11.8 | 3.98 | **8.66** | **8.66** | 15.2 | 8500 |
| 9000 | 1.88 | 2.74 | 2.74 | 4.68 | 2.11 | 4.38 | 4.38 | 6.11 | 2.42 | **6.18** | **6.19** | 7.90 | 2.51 | 2.80 | 2.80 | 7.62 | 3.00 | 4.85 | 4.85 | 9.93 | 3.40 | **7.86** | **7.86** | 12.8 | 9000 |
| 9500 | 1.65 | 2.52 | 2.52 | 3.98 | 1.84 | 3.93 | 3.93 | 5.20 | 2.11 | **5.48** | **5.56** | 6.72 | 2.19 | 2.60 | 2.60 | 6.48 | 2.60 | 4.46 | 4.46 | 8.44 | 2.93 | **7.06** | **7.06** | 10.9 | 9500 |
| 10000 | 1.46 | 2.32 | 2.32 | 3.41 | 1.62 | 3.55 | 3.55 | 4.46 | 1.85 | **4.88** | **5.02** | 5.76 | 1.92 | 2.42 | 2.42 | 5.55 | 2.27 | 4.12 | 4.11 | 7.24 | 2.56 | **6.37** | **6.37** | 9.36 | 10000 |
| 10500 | 1.29 | 2.14 | 2.14 | 2.95 | 1.43 | 3.21 | 3.22 | 3.85 | 1.64 | **4.36** | **4.55** | 4.98 | 1.70 | 2.26 | 2.26 | 4.80 | 1.99 | 3.81 | 3.81 | 6.25 | 2.25 | **5.78** | **5.78** | 8.09 | 10500 |
| 11000 | 1.15 | 1.98 | 1.98 | 2.56 | 1.27 | 2.88 | 2.93 | 3.35 | 1.46 | 3.91 | **4.15** | 4.33 | 1.51 | 2.11 | 2.11 | 4.17 | 1.77 | 3.53 | 3.53 | 5.44 | 1.99 | **5.23** | **5.26** | 7.03 | 11000 |
| 11500 | 1.03 | 1.84 | 1.84 | 2.24 | 1.14 | 2.59 | 2.68 | 2.93 | 1.31 | 3.52 | 3.79 | 3.79 | 1.36 | 1.97 | 1.97 | 3.65 | 1.57 | 3.28 | 3.28 | 4.76 | 1.77 | **4.71** | **4.82** | 6.16 | 11500 |
| 12000 | 0.92 | 1.72 | 1.72 | 1.97 | 1.03 | 2.34 | 2.46 | 2.58 | 1.18 | 3.18 | 3.48 | 3.33 | 1.22 | 1.85 | 1.85 | 3.21 | 1.41 | 3.06 | 3.06 | 4.19 | 1.59 | **4.26** | **4.42** | 5.42 | 12000 |
| 12500 | 0.83 | 1.57 | 1.60 | 1.75 | 0.93 | 2.13 | 2.27 | 2.28 | 1.07 | 2.87 | 3.21 | 2.95 | 1.10 | 1.74 | 1.74 | 2.84 | 1.27 | 2.86 | 2.86 | 3.70 | 1.43 | **3.86** | **4.08** | 4.79 | 12500 |
| 13000 | 0.75 | 1.44 | 1.49 | 1.55 | 0.84 | 1.93 | 2.10 | 2.03 | 0.97 | 2.60 | 2.97 | 2.62 | 1.00 | 1.64 | 1.64 | 2.53 | 1.15 | 2.64 | 2.67 | 3.29 | 1.29 | **3.51** | **3.77** | 4.26 | 13000 |
| 13500 | 0.68 | 1.32 | 1.38 | 1.39 | 0.77 | 1.76 | 1.95 | 1.81 | 0.88 | 2.36 | 2.75 | 2.34 | 0.91 | 1.55 | 1.55 | 2.26 | 1.05 | 2.43 | 2.51 | 2.94 | 1.18 | 3.20 | **3.49** | 3.81 | 13500 |
| 14000 | 0.62 | 1.21 | 1.28 | 1.24 | 0.70 | 1.61 | 1.81 | 1.62 | 0.81 | 2.15 | 2.56 | 2.10 | 0.84 | 1.46 | 1.46 | 2.02 | 0.96 | 2.24 | 2.34 | 2.64 | 1.07 | 2.92 | **3.25** | 3.41 | 14000 |
| 14500 | 0.57 | 1.12 | 1.20 | 1.12 | 0.64 | 1.48 | 1.69 | 1.46 | 0.74 | 1.96 | 2.39 | 1.89 | 0.77 | 1.38 | 1.38 | 1.82 | 0.88 | 2.06 | 2.18 | 2.37 | 0.98 | 2.68 | 3.03 | 3.07 | 14500 |
| 15000 | 0.52 | 1.04 | 1.12 | 1.01 | 0.59 | 1.36 | 1.58 | 1.32 | 0.68 | 1.79 | 2.21 | 1.71 | 0.71 | 1.31 | 1.31 | 1.65 | 0.80 | 1.91 | 2.04 | 2.14 | 0.90 | 2.46 | 2.83 | 2.77 | 15000 |

## Table 13a

# 5 LAPPED SPANS – STRAMIT EXACTA® Z-PURLINS
## Outwards Design Capacity (kN/m)

| SPAN | EZ150-10 | | | | EZ150-12 | | | | EZ150-15 | | | | EZ150-19 | | | | EZ150-24 | | | | EZ200-12 | | | | SPAN |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | |
| 2500 | 4.32 | 4.32 | 4.32 | 4.32 | 7.03 | 7.03 | 7.03 | 7.03 | 11.7 | 11.7 | 11.7 | 11.7 | 18.4 | 18.4 | 18.4 | 18.4 | 21.9 | 21.9 | 21.9 | 21.9 | 5.66 | 5.66 | 5.66 | 5.66 | 2500 |
| 3000 | 3.50 | 3.50 | 3.49 | 3.49 | 5.58 | 5.58 | 5.57 | 5.57 | 8.93 | 8.93 | 8.92 | 8.91 | 12.8 | 12.8 | 12.8 | 12.8 | 17.2 | 17.4 | 17.4 | 17.4 | 4.64 | 4.64 | 4.63 | 4.63 | 3000 |
| 3500 | 2.90 | 2.90 | 2.90 | 2.90 | 4.53 | 4.53 | 4.53 | 4.53 | 6.75 | 6.75 | 6.75 | 6.75 | 9.34 | 9.37 | 9.37 | 9.37 | 11.8 | 12.8 | 12.8 | 12.8 | 3.89 | 3.89 | 3.89 | 3.89 | 3500 |
| 4000 | 2.45 | 2.45 | 2.45 | 2.45 | 3.75 | 3.75 | 3.75 | 3.75 | 4.83 | 5.17 | 5.17 | 5.17 | 6.57 | 7.18 | 7.18 | 7.18 | 8.33 | 9.81 | 9.81 | 9.81 | 3.33 | 3.33 | 3.33 | 3.33 | 4000 |
| 4500 | 2.09 | 2.09 | 2.09 | 2.09 | 2.83 | 3.15 | 3.15 | 3.15 | 3.56 | 4.08 | 4.08 | 4.08 | 4.69 | 5.67 | 5.67 | 5.67 | 5.99 | 7.75 | 7.75 | 7.75 | 2.88 | 2.88 | 2.88 | 2.88 | 4500 |
| 5000 | 1.58 | 1.81 | 1.81 | 1.81 | 2.00 | 2.57 | 2.57 | 2.57 | 2.61 | 3.31 | 3.31 | 3.31 | 3.37 | 4.59 | 4.59 | 4.59 | 4.34 | 6.03 | 6.28 | 6.28 | 2.53 | 2.53 | 2.53 | 2.53 | 5000 |
| 5500 | 1.13 | 1.58 | 1.58 | 1.58 | 1.42 | 2.13 | 2.13 | 2.13 | 1.87 | 2.71 | 2.73 | 2.73 | 2.41 | 3.74 | 3.79 | 3.79 | 3.15 | 4.75 | 5.19 | 5.19 | 2.23 | 2.23 | 2.23 | 2.23 | 5500 |
| 6000 | 0.83 | 1.39 | 1.39 | 1.39 | 1.04 | 1.78 | 1.79 | 1.79 | 1.35 | 2.17 | 2.30 | 2.30 | 1.75 | 2.97 | 3.19 | 3.19 | 2.31 | 3.78 | 4.36 | 4.36 | 1.99 | 1.99 | 1.99 | 1.99 | 6000 |
| 6500 | 0.62 | 1.11 | 1.23 | 1.23 | 0.78 | 1.42 | 1.52 | 1.52 | 1.00 | 1.76 | 1.96 | 1.96 | 1.30 | 2.37 | 2.72 | 2.72 | 1.73 | 3.03 | 3.70 | 3.71 | 1.53 | 1.78 | 1.78 | 1.78 | 6500 |
| 7000 | | 0.89 | 1.07 | 1.07 | 0.59 | 1.13 | 1.31 | 1.31 | 0.76 | 1.44 | 1.69 | 1.69 | 1.00 | 1.90 | 2.34 | 2.34 | 1.34 | 2.45 | 3.09 | 3.20 | 1.18 | 1.61 | 1.61 | 1.61 | 7000 |
| 7500 | | 0.70 | 0.93 | 0.93 | | 0.89 | 1.14 | 1.14 | 0.59 | 1.17 | 1.47 | 1.47 | 0.78 | 1.52 | 2.04 | 2.04 | 1.05 | 1.98 | 2.61 | 2.79 | 0.92 | 1.45 | 1.45 | 1.45 | 7500 |
| 8000 | | 0.55 | 0.81 | 0.82 | | 0.70 | 1.01 | 1.01 | | 0.93 | 1.26 | 1.29 | 0.62 | 1.21 | 1.74 | 1.79 | 0.84 | 1.60 | 2.21 | 2.45 | 0.73 | 1.26 | 1.32 | 1.32 | 8000 |
| 8500 | | | 0.69 | 0.72 | | 0.56 | 0.89 | 0.89 | | 0.74 | 1.08 | 1.15 | | 0.97 | 1.48 | 1.59 | 0.69 | 1.29 | 1.89 | 2.14 | 0.58 | 1.06 | 1.21 | 1.21 | 8500 |
| 9000 | | | 0.59 | 0.65 | | | 0.75 | 0.79 | | 0.59 | 0.93 | 1.02 | | 0.78 | 1.26 | 1.42 | 0.57 | 1.04 | 1.61 | 1.86 | | 0.89 | 1.11 | 1.11 | 9000 |
| 9500 | | | 0.50 | 0.58 | | | 0.64 | 0.71 | | | 0.81 | 0.92 | | 0.63 | 1.08 | 1.27 | | 0.86 | 1.38 | 1.63 | | 0.74 | 1.00 | 1.02 | 9500 |
| 10000 | | | | 0.52 | | | 0.54 | 0.64 | | | 0.70 | 0.82 | | 0.52 | 0.92 | 1.13 | | 0.71 | 1.19 | 1.43 | | 0.62 | 0.88 | 0.92 | 10000 |
| 10500 | | | | | | | | 0.58 | | | 0.60 | 0.72 | | | 0.78 | 0.99 | | 0.59 | 1.02 | 1.26 | | 0.52 | 0.77 | 0.84 | 10500 |
| 11000 | | | | | | | | 0.52 | | | 0.51 | 0.64 | | | 0.67 | 0.87 | | 0.50 | 0.88 | 1.11 | | | 0.68 | 0.76 | 11000 |
| 11500 | | | | | | | | | | | | 0.57 | | | 0.57 | 0.77 | | | 0.75 | 0.98 | | | 0.60 | 0.70 | 11500 |
| 12000 | | | | | | | | | | | | 0.51 | | | | 0.68 | | | 0.65 | 0.87 | | | 0.53 | 0.63 | 12000 |

| SPAN | EZ200-15 | | | | EZ200-19 | | | | EZ200-24 | | | | EZ250-15 | | | | EZ250-19 | | | | EZ250-24 | | | | SPAN |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | |
| 2500 | 10.6 | 10.6 | 10.6 | 10.6 | 19.9 | 19.9 | 19.9 | 19.9 | 21.9 | 21.9 | 21.9 | 21.9 | 8.81 | 8.81 | 8.81 | 8.81 | 17.3 | 17.3 | 17.3 | 17.3 | 21.9 | 21.9 | 21.9 | 21.9 | 2500 |
| 3000 | 8.51 | 8.50 | 8.50 | 8.50 | 15.6 | 15.6 | 15.6 | 15.6 | 18.3 | 18.3 | 18.3 | 18.3 | 7.24 | 7.24 | 7.22 | 7.22 | 14.1 | 14.1 | 14.0 | 14.0 | 18.3 | 18.3 | 18.3 | 18.3 | 3000 |
| 3500 | 7.00 | 7.00 | 7.00 | 7.00 | 12.6 | 12.6 | 12.6 | 12.6 | 15.7 | 15.7 | 15.7 | 15.7 | 6.08 | 6.08 | 6.08 | 6.08 | 11.6 | 11.6 | 11.6 | 11.6 | 15.7 | 15.7 | 15.7 | 15.7 | 3500 |
| 4000 | 5.87 | 5.87 | 5.87 | 5.87 | 10.3 | 10.3 | 10.3 | 10.3 | 13.7 | 13.7 | 13.7 | 13.7 | 5.22 | 5.22 | 5.22 | 5.22 | 9.84 | 9.84 | 9.84 | 9.84 | 13.7 | 13.7 | 13.7 | 13.7 | 4000 |
| 4500 | 4.99 | 4.99 | 4.99 | 4.99 | 8.27 | 8.60 | 8.60 | 8.60 | 11.3 | 11.9 | 11.9 | 11.9 | 4.53 | 4.53 | 4.53 | 4.53 | 8.42 | 8.42 | 8.42 | 8.42 | 12.2 | 12.2 | 12.2 | 12.2 | 4500 |
| 5000 | 4.30 | 4.29 | 4.30 | 4.29 | 6.31 | 6.98 | 6.98 | 6.98 | 8.47 | 9.68 | 9.68 | 9.68 | 3.99 | 3.98 | 3.98 | 3.98 | 7.29 | 7.29 | 7.29 | 7.29 | 11.0 | 11.0 | 11.0 | 11.0 | 5000 |
| 5500 | 3.43 | 3.73 | 3.73 | 3.73 | 4.90 | 5.76 | 5.76 | 5.76 | 6.36 | 8.00 | 8.00 | 7.99 | 3.53 | 3.53 | 3.53 | 3.53 | 6.33 | 6.37 | 6.37 | 6.37 | 8.53 | 10.0 | 10.0 | 10.0 | 5500 |
| 6000 | 2.59 | 3.27 | 3.27 | 3.27 | 3.75 | 4.85 | 4.85 | 4.85 | 4.78 | 6.72 | 6.72 | 6.72 | 3.16 | 3.15 | 3.16 | 3.16 | 4.87 | 5.61 | 5.61 | 5.61 | 6.35 | 8.61 | 8.61 | 8.61 | 6000 |
| 6500 | 1.96 | 2.84 | 2.84 | 2.84 | 2.79 | 4.10 | 4.13 | 4.13 | 3.58 | 5.66 | 5.72 | 5.72 | 2.75 | 2.84 | 2.84 | 2.84 | 3.69 | 4.98 | 4.98 | 4.98 | 4.71 | 7.33 | 7.33 | 7.33 | 6500 |
| 7000 | 1.53 | 2.45 | 2.45 | 2.45 | 2.11 | 3.40 | 3.56 | 3.56 | 2.71 | 4.67 | 4.94 | 4.94 | 2.11 | 2.56 | 2.56 | 2.56 | 2.78 | 4.44 | 4.44 | 4.44 | 3.56 | 6.14 | 6.33 | 6.33 | 7000 |
| 7500 | 1.20 | 2.04 | 2.13 | 2.13 | 1.63 | 2.84 | 3.10 | 3.10 | 2.10 | 3.86 | 4.30 | 4.30 | 1.68 | 2.32 | 2.32 | 2.32 | 2.14 | 3.72 | 3.93 | 3.93 | 2.74 | 5.10 | 5.51 | 5.51 | 7500 |
| 8000 | 0.94 | 1.69 | 1.88 | 1.88 | 1.28 | 2.40 | 2.73 | 2.73 | 1.66 | 3.19 | 3.78 | 3.78 | 1.31 | 2.12 | 2.12 | 2.12 | 1.68 | 3.11 | 3.45 | 3.45 | 2.16 | 4.25 | 4.84 | 4.84 | 8000 |
| 8500 | 0.75 | 1.40 | 1.66 | 1.66 | 1.02 | 2.03 | 2.41 | 2.41 | 1.33 | 2.65 | 3.35 | 3.35 | 1.04 | 1.88 | 1.94 | 1.94 | 1.33 | 2.61 | 3.06 | 3.06 | 1.72 | 3.53 | 4.29 | 4.29 | 8500 |
| 9000 | 0.60 | 1.16 | 1.48 | 1.48 | 0.83 | 1.70 | 2.15 | 2.15 | 1.08 | 2.19 | 2.99 | 2.99 | 0.84 | 1.60 | 1.78 | 1.78 | 1.08 | 2.19 | 2.73 | 2.73 | 1.39 | 2.90 | 3.83 | 3.83 | 9000 |
| 9500 | | 0.96 | 1.33 | 1.33 | 0.68 | 1.40 | 1.89 | 1.93 | 0.89 | 1.81 | 2.61 | 2.68 | 0.68 | 1.34 | 1.64 | 1.64 | 0.88 | 1.83 | 2.45 | 2.45 | 1.14 | 2.37 | 3.42 | 3.43 | 9500 |
| 10000 | | 0.80 | 1.20 | 1.20 | 0.56 | 1.14 | 1.66 | 1.75 | 0.74 | 1.49 | 2.28 | 2.42 | 0.56 | 1.12 | 1.51 | 1.51 | 0.72 | 1.51 | 2.19 | 2.21 | 0.95 | 1.95 | 2.99 | 3.10 | 10000 |
| 10500 | | 0.68 | 1.05 | 1.09 | | 0.95 | 1.46 | 1.58 | 0.63 | 1.24 | 1.99 | 2.19 | | 0.94 | 1.35 | 1.40 | 0.60 | 1.25 | 1.91 | 2.00 | 0.79 | 1.61 | 2.62 | 2.81 | 10500 |
| 11000 | | 0.58 | 0.92 | 0.99 | | 0.79 | 1.29 | 1.44 | 0.53 | 1.04 | 1.74 | 2.00 | | 0.80 | 1.19 | 1.29 | 0.51 | 1.04 | 1.68 | 1.83 | 0.67 | 1.35 | 2.31 | 2.56 | 11000 |
| 11500 | | | 0.80 | 0.91 | | 0.67 | 1.15 | 1.32 | | 0.88 | 1.52 | 1.83 | | 0.68 | 1.06 | 1.18 | | 0.88 | 1.48 | 1.67 | 0.57 | 1.14 | 2.03 | 2.34 | 11500 |
| 12000 | | | 0.70 | 0.83 | | 0.57 | 1.02 | 1.19 | | 0.75 | 1.33 | 1.65 | | 0.58 | 0.94 | 1.08 | | 0.74 | 1.31 | 1.53 | | 0.97 | 1.77 | 2.15 | 12000 |
| 12500 | | | 0.61 | 0.77 | | | 0.90 | 1.07 | | 0.64 | 1.17 | 1.48 | | | 0.84 | 0.98 | | 0.63 | 1.16 | 1.41 | | 0.83 | 1.54 | 1.94 | 12500 |
| 13000 | | | 0.54 | 0.70 | | | 0.79 | 0.97 | | 0.55 | 1.02 | 1.33 | | | 0.75 | 0.89 | | 0.55 | 1.02 | 1.27 | | 0.71 | 1.34 | 1.75 | 13000 |
| 13500 | | | | 0.63 | | | 0.68 | 0.88 | | | 0.89 | 1.19 | | | 0.66 | 0.81 | | | 0.90 | 1.15 | | 0.62 | 1.16 | 1.58 | 13500 |
| 14000 | | | | 0.57 | | | 0.59 | 0.80 | | | 0.77 | 1.07 | | | 0.58 | 0.74 | | | 0.78 | 1.04 | | 0.54 | 1.01 | 1.42 | 14000 |
| 14500 | | | | 0.51 | | | 0.52 | 0.73 | | | 0.68 | 0.97 | | | 0.51 | 0.67 | | | 0.68 | 0.94 | | | 0.88 | 1.29 | 14500 |
| 15000 | | | | | | | | 0.66 | | | 0.59 | 0.87 | | | | 0.61 | | | 0.60 | 0.85 | | | 0.77 | 1.16 | 15000 |

| SPAN | EZ300-19 | | | | EZ300-24 | | | | EZ300-30 | | | | EZ350-19 | | | | EZ350-24 | | | | EZ350-30 | | | | SPAN |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | |
| 4000 | 8.96 | 8.96 | 8.96 | 8.96 | 17.0 | 17.0 | 17.0 | 17.0 | 30.0 | 30.0 | 30.0 | 30.0 | 7.94 | 7.94 | 7.94 | 7.94 | 15.5 | 15.5 | 15.5 | 15.5 | 30.0 | 30.0 | 30.0 | 30.0 | 4000 |
| 4500 | 7.82 | 7.82 | 7.82 | 7.82 | 14.7 | 14.7 | 14.7 | 14.7 | 23.0 | 23.0 | 23.0 | 23.0 | 6.99 | 6.99 | 6.99 | 6.99 | 13.6 | 13.6 | 13.6 | 13.6 | 23.0 | 23.0 | 23.0 | 23.0 | 4500 |
| 5000 | 6.91 | 6.90 | 6.90 | 6.90 | 12.8 | 12.8 | 12.8 | 12.8 | 20.7 | 20.7 | 20.7 | 20.7 | 6.23 | 6.23 | 6.23 | 6.23 | 12.0 | 12.0 | 12.0 | 12.0 | 20.7 | 20.7 | 20.7 | 20.7 | 5000 |
| 5500 | 6.15 | 6.15 | 6.15 | 6.15 | 11.2 | 11.2 | 11.2 | 11.2 | 18.8 | 18.8 | 18.8 | 18.8 | 5.60 | 5.60 | 5.60 | 5.60 | 10.7 | 10.7 | 10.7 | 10.7 | 18.8 | 18.8 | 18.8 | 18.8 | 5500 |
| 6000 | 5.52 | 5.51 | 5.52 | 5.52 | 9.97 | 9.96 | 9.97 | 9.97 | 15.8 | 16.4 | 16.4 | 16.4 | 5.08 | 5.08 | 5.08 | 5.08 | 9.62 | 9.62 | 9.62 | 9.62 | 17.1 | 17.1 | 17.1 | 17.1 | 6000 |
| 6500 | 4.98 | 4.98 | 4.98 | 4.98 | 8.89 | 8.89 | 8.89 | 8.89 | 12.8 | 14.2 | 14.2 | 14.2 | 4.63 | 4.63 | 4.63 | 4.63 | 8.69 | 8.69 | 8.69 | 8.69 | 15.3 | 15.3 | 15.3 | 15.3 | 6500 |
| 7000 | 4.52 | 4.52 | 4.52 | 4.52 | 7.28 | 7.97 | 7.97 | 7.97 | 10.2 | 12.2 | 12.2 | 12.2 | 4.25 | 4.25 | 4.25 | 4.25 | 7.90 | 7.90 | 7.90 | 7.90 | 13.8 | 13.8 | 13.8 | 13.8 | 7000 |
| 7500 | 4.12 | 4.12 | 4.12 | 4.12 | 5.93 | 7.18 | 7.18 | 7.18 | 8.08 | 10.6 | 10.6 | 10.6 | 3.91 | 3.91 | 3.91 | 3.91 | 7.21 | 7.21 | 7.21 | 7.21 | 12.4 | 12.4 | 12.4 | 12.4 | 7500 |
| 8000 | 3.61 | 3.77 | 3.77 | 3.77 | 4.83 | 6.50 | 6.50 | 6.50 | 6.40 | 9.35 | 9.35 | 9.35 | 3.62 | 3.62 | 3.62 | 3.62 | 6.61 | 6.61 | 6.61 | 6.61 | 10.8 | 11.3 | 11.3 | 11.3 | 8000 |
| 8500 | 2.91 | 3.46 | 3.46 | 3.46 | 3.88 | 5.85 | 5.85 | 5.85 | 5.08 | 8.25 | 8.28 | 8.28 | 3.36 | 3.36 | 3.36 | 3.36 | 6.08 | 6.08 | 6.08 | 6.08 | 9.05 | 10.3 | 10.3 | 10.3 | 8500 |
| 9000 | 2.38 | 3.19 | 3.19 | 3.19 | 3.12 | 5.12 | 5.22 | 5.22 | 4.09 | 7.18 | 7.39 | 7.38 | 3.12 | 3.12 | 3.12 | 3.12 | 5.61 | 5.61 | 5.61 | 5.61 | 7.61 | 9.38 | 9.38 | 9.38 | 9000 |
| 9500 | 1.98 | 2.94 | 2.94 | 2.94 | 2.54 | 4.42 | 4.69 | 4.69 | 3.34 | 6.24 | 6.63 | 6.63 | 2.91 | 2.91 | 2.91 | 2.91 | 4.96 | 5.19 | 5.19 | 5.19 | 6.41 | 8.41 | 8.41 | 8.41 | 9500 |
| 10000 | 1.64 | 2.73 | 2.73 | 2.73 | 2.09 | 3.83 | 4.23 | 4.23 | 2.75 | 5.43 | 5.98 | 5.98 | 2.73 | 2.73 | 2.73 | 2.73 | 4.15 | 4.82 | 4.81 | 4.81 | 5.44 | 7.59 | 7.59 | 7.59 | 10000 |
| 10500 | 1.36 | 2.45 | 2.53 | 2.53 | 1.74 | 3.31 | 3.84 | 3.84 | 2.29 | 4.68 | 5.42 | 5.42 | 2.56 | 2.56 | 2.56 | 2.56 | 3.50 | 4.48 | 4.48 | 4.48 | 4.64 | 6.89 | 6.89 | 6.89 | 10500 |
| 11000 | 1.14 | 2.15 | 2.36 | 2.36 | 1.46 | 2.89 | 3.50 | 3.50 | 1.93 | 4.04 | 4.94 | 4.94 | 2.24 | 2.40 | 2.40 | 2.40 | 2.97 | 4.17 | 4.17 | 4.17 | 3.94 | 6.19 | 6.28 | 6.28 | 11000 |
| 11500 | 0.96 | 1.90 | 2.20 | 2.20 | 1.23 | 2.52 | 3.20 | 3.20 | 1.64 | 3.47 | 4.52 | 4.52 | 1.94 | 2.26 | 2.26 | 2.26 | 2.54 | 3.90 | 3.90 | 3.90 | 3.34 | 5.51 | 5.74 | 5.74 | 11500 |
| 12000 | 0.82 | 1.64 | 2.06 | 2.06 | 1.05 | 2.20 | 2.94 | 2.94 | 1.40 | 2.98 | 4.15 | 4.15 | 1.66 | 2.13 | 2.13 | 2.13 | 2.19 | 3.63 | 3.65 | 3.65 | 2.84 | 4.91 | 5.27 | 5.27 | 12000 |
| 12500 | 0.70 | 1.41 | 1.90 | 1.92 | 0.90 | 1.91 | 2.69 | 2.71 | 1.21 | 2.56 | 3.76 | 3.83 | 1.43 | 2.01 | 2.01 | 2.01 | 1.92 | 3.27 | 3.42 | 3.42 | 2.43 | 4.39 | 4.86 | 4.86 | 12500 |
| 13000 | 0.61 | 1.23 | 1.73 | 1.78 | 0.78 | 1.65 | 2.42 | 2.50 | 1.04 | 2.20 | 3.41 | 3.54 | 1.24 | 1.90 | 1.90 | 1.90 | 1.66 | 2.96 | 3.21 | 3.21 | 2.09 | 3.92 | 4.49 | 4.49 | 13000 |
| 13500 | 0.53 | 1.07 | 1.57 | 1.65 | 0.68 | 1.42 | 2.19 | 2.32 | 0.91 | 1.90 | 3.09 | 3.28 | 1.09 | 1.80 | 1.80 | 1.80 | 1.44 | 2.67 | 3.00 | 3.00 | 1.82 | 3.50 | 4.17 | 4.17 | 13500 |
| 14000 | | 0.94 | 1.43 | 1.53 | 0.59 | 1.24 | 1.97 | 2.16 | 0.80 | 1.65 | 2.80 | 3.05 | 0.95 | 1.68 | 1.71 | 1.71 | 1.25 | 2.41 | 2.79 | 2.79 | 1.58 | 3.12 | 3.87 | 3.87 | 14000 |
| 14500 | | 0.83 | 1.30 | 1.43 | 0.52 | 1.08 | 1.78 | 2.01 | 0.70 | 1.44 | 2.53 | 2.84 | 0.84 | 1.52 | 1.62 | 1.62 | 1.09 | 2.15 | 2.60 | 2.60 | 1.39 | 2.79 | 3.61 | 3.61 | 14500 |
| 15000 | | 0.73 | 1.19 | 1.33 | | 0.95 | 1.61 | 1.88 | 0.62 | 1.27 | 2.28 | 2.66 | 0.74 | 1.37 | 1.54 | 1.54 | 0.96 | 1.91 | 2.43 | 2.43 | 1.22 | 2.50 | 3.38 | 3.38 | 15000 |

Table 13b

## 5 LAPPED SPANS – STRAMIT EXACTA® Z-PURLINS
### Inwards Design Capacity (kN/m)

| | EZ150-10 | | | | EZ150-12 | | | | EZ150-15 | | | | EZ150-19 | | | | EZ150-24 | | | | EZ200-12 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SPAN | 0 | 1 | 2 | L/150 | 0 | 1 | 2 | L/150 | 0 | 1 | 2 | L/150 | 0 | 1 | 2 | L/150 | 0 | 1 | 2 | L/150 | 0 | 1 | 2 | L/150 | SPAN |
| 2500 | 4.32 | 4.32 | 4.32 | 13.2 | 7.03 | 7.03 | 7.03 | 16.3 | ***11.7*** | ***11.7*** | ***11.7*** | 20.8 | ***16.5*** | ***18.4*** | ***18.4*** | 26.7 | ***20.1*** | ***21.9*** | ***21.9*** | 34.0 | 5.66 | 5.66 | 5.66 | 34.2 | 2500 |
| 3000 | 3.50 | 3.50 | 3.49 | 7.64 | 5.58 | 5.58 | 5.57 | 9.46 | 8.43 | ***8.93*** | ***8.92*** | 12.1 | ***10.7*** | ***12.8*** | ***12.8*** | 15.5 | ***12.9*** | ***17.4*** | ***17.4*** | 19.7 | 4.64 | 4.64 | 4.63 | 19.8 | 3000 |
| 3500 | 2.90 | 2.90 | 2.90 | 4.81 | 4.53 | 4.53 | 4.53 | 5.96 | 6.01 | 6.75 | 6.75 | 7.59 | 7.45 | ***9.37*** | ***9.37*** | 9.74 | ***8.83*** | ***12.8*** | ***12.8*** | 12.4 | 3.89 | 3.89 | 3.89 | 12.5 | 3500 |
| 4000 | 2.45 | 2.45 | 2.45 | 3.22 | 3.75 | 3.75 | 3.75 | 3.99 | 4.49 | 5.17 | 5.17 | 5.09 | 5.42 | ***7.18*** | ***7.18*** | 6.52 | 6.37 | ***9.81*** | ***9.81*** | 8.31 | 3.33 | 3.33 | 3.33 | 8.35 | 4000 |
| 4500 | 2.09 | 2.09 | 2.09 | 2.26 | 2.94 | 3.15 | 3.15 | 2.80 | 3.46 | 4.08 | 4.08 | 3.57 | 4.09 | 5.67 | 5.67 | 4.58 | 4.77 | ***7.75*** | ***7.75*** | 5.83 | 2.88 | 2.88 | 2.88 | 5.86 | 4500 |
| 5000 | 1.81 | 1.81 | 1.81 | 1.65 | 2.31 | 2.57 | 2.57 | 2.04 | 2.72 | 3.31 | 3.31 | 2.60 | 3.17 | 4.59 | 4.59 | 3.34 | 3.68 | ***6.28*** | ***6.28*** | 4.25 | 2.53 | 2.53 | 2.53 | 4.27 | 5000 |
| 5500 | 1.54 | 1.58 | 1.58 | 1.24 | 1.85 | 2.13 | 2.13 | 1.54 | 2.18 | 2.73 | 2.73 | 1.96 | 2.51 | 3.79 | 3.79 | 2.51 | 2.92 | ***5.13*** | ***5.19*** | 3.20 | 2.23 | 2.23 | 2.23 | 3.21 | 5500 |
| 6000 | 1.26 | 1.39 | 1.39 | 0.95 | 1.50 | 1.79 | 1.79 | 1.18 | 1.77 | 2.30 | 2.30 | 1.51 | 2.03 | 3.19 | 3.19 | 1.93 | 2.36 | 4.24 | 4.36 | 2.46 | 1.99 | 1.99 | 1.99 | 2.47 | 6000 |
| 6500 | 1.04 | 1.23 | 1.23 | 0.75 | 1.23 | 1.52 | 1.52 | 0.93 | 1.45 | 1.96 | 1.96 | 1.19 | 1.66 | 2.72 | 2.72 | 1.52 | 1.95 | 3.55 | 3.71 | 1.94 | 1.76 | 1.78 | 1.78 | 1.95 | 6500 |
| 7000 | 0.87 | 1.07 | 1.07 | 0.60 | 1.01 | 1.31 | 1.31 | 0.75 | 1.21 | 1.69 | 1.69 | 0.95 | 1.38 | 2.34 | 2.34 | 1.22 | 1.63 | 3.02 | 3.20 | 1.55 | 1.48 | 1.61 | 1.61 | 1.56 | 7000 |
| 7500 | 0.72 | 0.93 | 0.93 | 0.49 | 0.85 | 1.14 | 1.14 | 0.61 | 1.01 | 1.47 | 1.47 | 0.77 | 1.16 | 2.04 | 2.04 | 0.99 | 1.38 | 2.59 | 2.79 | 1.26 | 1.26 | 1.45 | 1.45 | 1.27 | 7500 |
| 8000 | 0.61 | 0.82 | 0.82 | 0.40 | 0.71 | 1.01 | 1.01 | 0.50 | 0.85 | 1.29 | 1.29 | 0.64 | 0.99 | 1.79 | 1.79 | 0.82 | 1.18 | 2.24 | 2.45 | 1.04 | 1.08 | 1.32 | 1.32 | 1.04 | 8000 |
| 8500 | | 0.72 | 0.72 | 0.34 | 0.60 | 0.89 | 0.89 | 0.42 | 0.72 | 1.15 | 1.15 | 0.53 | 0.84 | 1.59 | 1.59 | 0.68 | 1.02 | 1.96 | 2.17 | 0.87 | 0.93 | 1.21 | 1.21 | 0.87 | 8500 |
| 9000 | | 0.65 | 0.65 | 0.28 | | 0.79 | 0.79 | 0.35 | 0.62 | 1.02 | 1.02 | 0.45 | 0.73 | 1.40 | 1.42 | 0.57 | 0.88 | 1.72 | 1.93 | 0.73 | 0.80 | 1.11 | 1.11 | 0.73 | 9000 |
| 9500 | | 0.58 | 0.58 | 0.24 | | 0.71 | 0.71 | 0.30 | | 0.92 | 0.92 | 0.38 | 0.63 | 1.24 | 1.27 | 0.49 | 0.77 | 1.52 | 1.71 | 0.62 | 0.69 | 1.02 | 1.02 | 0.62 | 9500 |
| 10000 | | | 0.52 | 0.21 | | 0.64 | 0.64 | 0.26 | | 0.82 | 0.83 | 0.33 | 0.55 | 1.10 | 1.15 | 0.42 | 0.68 | 1.35 | 1.52 | 0.53 | 0.61 | 0.92 | 0.92 | 0.53 | 10000 |
| 10500 | | | | | | | 0.58 | 0.22 | | 0.73 | 0.75 | 0.28 | | 0.98 | 1.04 | 0.36 | 0.60 | 1.21 | 1.36 | 0.46 | 0.53 | 0.84 | 0.84 | 0.46 | 10500 |
| 11000 | | | | | | | | | | 0.65 | 0.68 | 0.25 | | 0.87 | 0.95 | 0.31 | 0.54 | 1.08 | 1.22 | 0.40 | | 0.76 | 0.76 | 0.40 | 11000 |
| 11500 | | | | | | | | | | | 0.63 | 0.21 | | 0.78 | 0.87 | 0.27 | | 0.97 | 1.10 | 0.35 | | 0.70 | 0.70 | 0.35 | 11500 |
| 12000 | | | | | | | | | | | | | | | 0.79 | 0.24 | | 0.87 | 0.99 | 0.31 | | 0.63 | 0.64 | 0.31 | 12000 |

| | EZ200-15 | | | | EZ200-19 | | | | EZ200-24 | | | | EZ250-15 | | | | EZ250-19 | | | | EZ250-24 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SPAN | 0 | 1 | 2 | L/150 | 0 | 1 | 2 | L/150 | 0 | 1 | 2 | L/150 | 0 | 1 | 2 | L/150 | 0 | 1 | 2 | L/150 | 0 | 1 | 2 | L/150 | SPAN |
| 2500 | ***10.6*** | ***10.6*** | ***10.6*** | 44.5 | ***19.9*** | ***19.9*** | ***19.9*** | 58.8 | ***21.9*** | ***21.9*** | ***21.9*** | 75.3 | 8.81 | 8.81 | 8.81 | 74.9 | ***17.3*** | ***17.3*** | ***17.3*** | 98.1 | ***21.9*** | ***21.9*** | ***21.9*** | 127 | 2500 |
| 3000 | 8.51 | 8.51 | 8.49 | 25.7 | ***15.6*** | ***15.6*** | ***15.6*** | 34.0 | ***18.3*** | ***18.3*** | ***18.3*** | 43.6 | 7.24 | 7.24 | 7.22 | 43.4 | ***14.1*** | ***14.1*** | ***14.0*** | 56.8 | ***18.3*** | ***18.3*** | ***18.3*** | 73.6 | 3000 |
| 3500 | 7.00 | 7.00 | 7.00 | 16.2 | ***11.9*** | ***12.6*** | ***12.6*** | 21.4 | ***14.1*** | ***15.7*** | ***15.7*** | 27.4 | 6.08 | 6.08 | 6.08 | 27.3 | ***11.6*** | ***11.6*** | ***11.6*** | 35.7 | ***15.7*** | ***15.7*** | ***15.7*** | 46.4 | 3500 |
| 4000 | 5.87 | 5.87 | 5.87 | 10.9 | ***8.54*** | ***10.3*** | ***10.3*** | 14.3 | ***9.84*** | ***13.7*** | ***13.7*** | 18.4 | 5.22 | 5.22 | 5.22 | 18.3 | ***9.84*** | ***9.84*** | ***9.84*** | 23.9 | ***12.2*** | ***13.7*** | ***13.7*** | 31.1 | 4000 |
| 4500 | 4.95 | 4.99 | 4.99 | 7.63 | ***6.29*** | ***8.60*** | ***8.60*** | 10.1 | ***7.16*** | ***11.9*** | ***11.9*** | 12.9 | 4.53 | 4.53 | 4.53 | 12.9 | ***7.85*** | ***8.42*** | ***8.42*** | 16.8 | ***8.83*** | ***12.2*** | ***12.2*** | 21.8 | 4500 |
| 5000 | 3.86 | 4.29 | 4.30 | 5.56 | 4.79 | ***6.98*** | ***6.98*** | 7.35 | ***5.43*** | ***9.68*** | ***9.68*** | 9.41 | 3.99 | 3.98 | 3.98 | 9.37 | ***5.97*** | ***7.29*** | ***7.29*** | 12.3 | ***6.68*** | ***11.0*** | ***11.0*** | 15.9 | 5000 |
| 5500 | 3.07 | 3.73 | 3.73 | 4.18 | 3.76 | ***5.76*** | ***5.76*** | 5.52 | 4.25 | ***8.00*** | ***8.00*** | 7.07 | 3.53 | 3.53 | 3.53 | 7.04 | 4.67 | ***6.37*** | ***6.37*** | 9.21 | ***5.22*** | ***10.0*** | ***10.0*** | 11.9 | 5500 |
| 6000 | 2.49 | 3.27 | 3.27 | 3.22 | 3.02 | ***4.85*** | ***4.85*** | 4.25 | 3.41 | ***6.72*** | ***6.72*** | 5.45 | 3.16 | 3.16 | 3.16 | 5.42 | 3.75 | ***5.61*** | ***5.61*** | 7.10 | 4.18 | ***8.61*** | ***8.61*** | 9.20 | 6000 |
| 6500 | 2.05 | 2.84 | 2.84 | 2.53 | 2.47 | ***4.13*** | ***4.13*** | 3.34 | 2.79 | ***5.72*** | ***5.72*** | 4.29 | 2.66 | 2.84 | 2.84 | 4.26 | 3.06 | ***4.98*** | ***4.98*** | 5.58 | 3.42 | ***7.33*** | ***7.33*** | 7.24 | 6500 |
| 7000 | 1.71 | 2.45 | 2.45 | 2.03 | 2.05 | 3.56 | 3.56 | 2.68 | 2.33 | ***4.94*** | ***4.94*** | 3.43 | 2.22 | 2.56 | 2.56 | 3.41 | 2.55 | ***4.44*** | ***4.44*** | 4.47 | 2.84 | ***6.33*** | ***6.33*** | 5.80 | 7000 |
| 7500 | 1.45 | 2.13 | 2.13 | 1.65 | 1.73 | 3.10 | 3.10 | 2.18 | 1.96 | ***4.30*** | ***4.30*** | 2.79 | 1.88 | 2.32 | 2.32 | 2.78 | 2.14 | ***3.93*** | ***3.93*** | 3.63 | 2.40 | ***5.51*** | ***5.51*** | 4.71 | 7500 |
| 8000 | 1.24 | 1.88 | 1.88 | 1.36 | 1.47 | 2.73 | 2.73 | 1.79 | 1.68 | ***3.74*** | ***3.78*** | 2.30 | 1.61 | 2.12 | 2.12 | 2.29 | 1.82 | ***3.45*** | ***3.45*** | 2.99 | 2.04 | ***4.84*** | ***4.84*** | 3.88 | 8000 |
| 8500 | 1.07 | 1.66 | 1.66 | 1.13 | 1.26 | 2.41 | 2.41 | 1.50 | 1.45 | ***3.27*** | ***3.35*** | 1.92 | 1.39 | 1.94 | 1.94 | 1.91 | 1.57 | 3.06 | 3.06 | 2.50 | 1.76 | ***4.23*** | ***4.29*** | 3.24 | 8500 |
| 9000 | 0.93 | 1.48 | 1.48 | 0.95 | 1.10 | 2.15 | 2.15 | 1.26 | 1.26 | 2.87 | ***2.99*** | 1.61 | 1.21 | 1.78 | 1.78 | 1.61 | 1.36 | 2.73 | 2.73 | 2.10 | 1.53 | ***3.71*** | ***3.83*** | 2.73 | 9000 |
| 9500 | 0.82 | 1.33 | 1.33 | 0.81 | 0.96 | 1.91 | 1.93 | 1.07 | 1.10 | 2.53 | 2.68 | 1.37 | 1.06 | 1.64 | 1.64 | 1.37 | 1.19 | 2.45 | 2.45 | 1.79 | 1.34 | ***3.28*** | ***3.43*** | 2.32 | 9500 |
| 10000 | 0.72 | 1.20 | 1.20 | 0.70 | 0.84 | 1.70 | 1.75 | 0.92 | 0.97 | 2.25 | 2.42 | 1.18 | 0.93 | 1.51 | 1.51 | 1.17 | 1.04 | 2.21 | 2.21 | 1.53 | 1.18 | ***2.91*** | ***3.10*** | 1.99 | 10000 |
| 10500 | 0.64 | 1.09 | 1.09 | 0.60 | 0.74 | 1.52 | 1.58 | 0.79 | 0.86 | 2.01 | 2.19 | 1.02 | 0.82 | 1.40 | 1.40 | 1.01 | 0.92 | 1.98 | 2.00 | 1.32 | 1.05 | ***2.60*** | ***2.81*** | 1.72 | 10500 |
| 11000 | 0.56 | 0.99 | 0.99 | 0.52 | 0.66 | 1.37 | 1.44 | 0.69 | 0.77 | 1.80 | 2.00 | 0.88 | 0.72 | 1.28 | 1.29 | 0.88 | 0.81 | 1.78 | 1.83 | 1.15 | 0.93 | 2.33 | ***2.56*** | 1.49 | 11000 |
| 11500 | | 0.91 | 0.91 | 0.46 | 0.59 | 1.24 | 1.32 | 0.60 | 0.69 | 1.62 | 1.83 | 0.77 | 0.64 | 1.16 | 1.18 | 0.77 | 0.73 | 1.61 | 1.67 | 1.01 | 0.83 | 2.10 | ***2.34*** | 1.31 | 11500 |
| 12000 | | 0.83 | 0.83 | 0.40 | 0.52 | 1.12 | 1.21 | 0.53 | 0.62 | 1.46 | 1.68 | 0.68 | 0.57 | 1.05 | 1.08 | 0.68 | 0.65 | 1.45 | 1.54 | 0.89 | 0.75 | 1.90 | 2.15 | 1.15 | 12000 |
| 12500 | | 0.77 | 0.77 | 0.36 | | 1.02 | 1.12 | 0.47 | 0.56 | 1.32 | 1.55 | 0.60 | | 0.96 | 1.00 | 0.60 | 0.58 | 1.32 | 1.41 | 0.79 | 0.68 | 1.72 | 1.98 | 1.02 | 12500 |
| 13000 | | 0.70 | 0.71 | 0.32 | | 0.93 | 1.03 | 0.42 | 0.51 | 1.20 | 1.42 | 0.54 | | 0.88 | 0.92 | 0.53 | 0.52 | 1.20 | 1.31 | 0.70 | 0.61 | 1.57 | 1.83 | 0.91 | 13000 |
| 13500 | | | 0.66 | 0.28 | | 0.86 | 0.96 | 0.37 | | 1.10 | 1.30 | 0.48 | | 0.80 | 0.86 | 0.48 | | 1.10 | 1.21 | 0.62 | 0.56 | 1.42 | 1.69 | 0.81 | 13500 |
| 14000 | | | 0.61 | 0.25 | | 0.78 | 0.88 | 0.34 | | 1.00 | 1.19 | 0.43 | | 0.74 | 0.80 | 0.43 | | 1.00 | 1.13 | 0.56 | 0.51 | 1.29 | 1.55 | 0.72 | 14000 |
| 14500 | | | 0.57 | 0.23 | | 0.72 | 0.81 | 0.30 | | 0.91 | 1.09 | 0.39 | | 0.68 | 0.74 | 0.38 | | 0.92 | 1.05 | 0.50 | | 1.18 | 1.42 | 0.65 | 14500 |
| 15000 | | | | | | | 0.74 | 0.27 | | 0.83 | 1.01 | 0.35 | | | 0.68 | 0.35 | | 0.84 | 0.97 | 0.45 | | 1.07 | 1.31 | 0.59 | 15000 |

| | EZ300-19 | | | | EZ300-24 | | | | EZ300-30 | | | | EZ350-19 | | | | EZ350-24 | | | | EZ350-30 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SPAN | 0 | 1 | 2 | L/150 | 0 | 1 | 2 | L/150 | 0 | 1 | 2 | L/150 | 0 | 1 | 2 | L/150 | 0 | 1 | 2 | L/150 | 0 | 1 | 2 | L/150 | SPAN |
| 4000 | 8.96 | 8.96 | 8.96 | 42.0 | ***17.0*** | ***17.0*** | ***17.0*** | 54.8 | ***24.7*** | ***25.9*** | ***30.0*** | 70.8 | 7.94 | 7.94 | 7.94 | 68.3 | ***15.5*** | ***15.5*** | ***15.5*** | 89.0 | ***25.9*** | ***25.9*** | ***25.9*** | 115 | 4000 |
| 4500 | 7.82 | 7.82 | 7.82 | 29.5 | ***14.2*** | ***14.7*** | ***14.7*** | 38.5 | ***17.1*** | ***23.0*** | ***23.0*** | 49.7 | 6.99 | 6.99 | 6.99 | 48.0 | ***13.6*** | ***13.6*** | ***13.6*** | 62.5 | ***23.0*** | ***23.0*** | ***23.0*** | 80.9 | 4500 |
| 5000 | 6.91 | 6.90 | 6.90 | 21.5 | ***10.4*** | ***12.8*** | ***12.8*** | 28.1 | ***12.4*** | ***20.7*** | ***20.7*** | 36.3 | 6.23 | 6.23 | 6.23 | 35.0 | ***12.0*** | ***12.0*** | ***12.0*** | 45.6 | ***20.1*** | ***20.7*** | ***20.7*** | 59.0 | 5000 |
| 5500 | 6.15 | 6.15 | 6.15 | 16.1 | 7.92 | ***11.2*** | ***11.2*** | 21.1 | ***9.37*** | ***18.8*** | ***18.8*** | 27.2 | 5.60 | 5.60 | 5.60 | 26.3 | ***10.7*** | ***10.7*** | ***10.7*** | 34.2 | ***15.0*** | ***18.8*** | ***18.8*** | 44.3 | 5500 |
| 6000 | 5.36 | 5.51 | 5.52 | 12.4 | 6.22 | ***9.96*** | ***9.97*** | 16.2 | 7.31 | ***16.4*** | ***16.4*** | 21.0 | 5.08 | 5.08 | 5.08 | 20.2 | ***9.36*** | ***9.62*** | ***9.62*** | 26.4 | ***11.4*** | ***17.1*** | ***17.1*** | 34.1 | 6000 |
| 6500 | 4.37 | 4.98 | 4.98 | 9.78 | 5.00 | ***8.89*** | ***8.89*** | 12.8 | 5.85 | ***14.2*** | ***14.2*** | 16.5 | 4.63 | 4.63 | 4.63 | 15.9 | 7.46 | ***8.69*** | ***8.69*** | 20.7 | ***8.92*** | ***15.3*** | ***15.3*** | 26.8 | 6500 |
| 7000 | 3.66 | 4.52 | 4.52 | 7.83 | 4.11 | ***7.97*** | ***7.97*** | 10.2 | 4.78 | ***12.2*** | ***12.2*** | 13.2 | 4.25 | 4.25 | 4.25 | 12.7 | 6.14 | ***7.90*** | ***7.90*** | 16.6 | ***7.14*** | ***13.8*** | ***13.8*** | 21.5 | 7000 |
| 7500 | 3.07 | 4.12 | 4.12 | 6.37 | 3.43 | ***7.18*** | ***7.18*** | 8.32 | 3.97 | ***10.6*** | ***10.6*** | 10.7 | 3.91 | 3.91 | 3.91 | 10.4 | 5.07 | ***7.21*** | ***7.21*** | 13.5 | 5.83 | ***12.4*** | ***12.4*** | 17.5 | 7500 |
| 8000 | 2.61 | 3.77 | 3.77 | 5.25 | 2.90 | ***6.50*** | ***6.50*** | 6.85 | 3.35 | ***9.35*** | ***9.35*** | 8.85 | 3.54 | 3.62 | 3.62 | 8.54 | 4.22 | ***6.61*** | ***6.61*** | 11.1 | 4.84 | ***11.3*** | ***11.3*** | 14.4 | 8000 |
| 8500 | 2.24 | 3.46 | 3.46 | 4.37 | 2.48 | 5.85 | 5.85 | 5.71 | 2.87 | ***8.19*** | ***8.28*** | 7.38 | 3.02 | 3.36 | 3.36 | 7.12 | 3.57 | ***6.08*** | ***6.08*** | 9.27 | 4.08 | ***10.3*** | ***10.3*** | 12.0 | 8500 |
| 9000 | 1.94 | 3.19 | 3.19 | 3.68 | 2.15 | 5.22 | 5.22 | 4.81 | 2.48 | ***7.20*** | ***7.38*** | 6.22 | 2.61 | 3.12 | 3.12 | 6.00 | 3.06 | ***5.61*** | ***5.61*** | 7.81 | 3.48 | ***9.37*** | ***9.38*** | 10.1 | 9000 |
| 9500 | 1.69 | 2.94 | 2.94 | 3.13 | 1.88 | 4.69 | 4.69 | 4.09 | 2.16 | ***6.36*** | ***6.63*** | 5.29 | 2.27 | 2.91 | 2.91 | 5.10 | 2.64 | 5.19 | 5.19 | 6.64 | 3.00 | ***8.41*** | ***8.41*** | 8.60 | 9500 |
| 10000 | 1.49 | 2.73 | 2.73 | 2.69 | 1.65 | 4.17 | 4.23 | 3.51 | 1.90 | ***5.64*** | ***5.98*** | 4.53 | 1.99 | 2.73 | 2.73 | 4.37 | 2.31 | 4.82 | 4.81 | 5.70 | 2.62 | ***7.58*** | ***7.59*** | 7.37 | 10000 |
| 10500 | 1.32 | 2.53 | 2.53 | 2.32 | 1.46 | 3.72 | 3.84 | 3.03 | 1.68 | ***5.02*** | ***5.42*** | 3.92 | 1.76 | 2.56 | 2.56 | 3.78 | 2.03 | 4.48 | 4.48 | 4.92 | 2.30 | ***6.75*** | ***6.89*** | 6.37 | 10500 |
| 11000 | 1.17 | 2.36 | 2.36 | 2.02 | 1.30 | 3.34 | 3.50 | 2.64 | 1.50 | 4.49 | ***4.94*** | 3.41 | 1.57 | 2.40 | 2.40 | 3.29 | 1.80 | 4.17 | 4.17 | 4.28 | 2.03 | ***6.03*** | ***6.28*** | 5.54 | 11000 |
| 11500 | 1.05 | 2.20 | 2.20 | 1.77 | 1.17 | 3.00 | 3.20 | 2.31 | 1.35 | 4.03 | ***4.52*** | 2.98 | 1.41 | 2.26 | 2.26 | 2.88 | 1.60 | 3.90 | 3.90 | 3.75 | 1.81 | ***5.42*** | ***5.74*** | 4.85 | 11500 |
| 12000 | 0.94 | 2.03 | 2.06 | 1.55 | 1.05 | 2.72 | 2.94 | 2.03 | 1.21 | 3.62 | 4.15 | 2.62 | 1.27 | 2.13 | 2.13 | 2.53 | 1.44 | 3.65 | 3.65 | 3.30 | 1.62 | ***4.88*** | ***5.27*** | 4.27 | 12000 |
| 12500 | 0.85 | 1.85 | 1.92 | 1.38 | 0.95 | 2.46 | 2.71 | 1.80 | 1.10 | 3.26 | 3.83 | 2.32 | 1.14 | 2.01 | 2.01 | 2.24 | 1.30 | 3.37 | 3.42 | 2.92 | 1.46 | ***4.41*** | ***4.86*** | 3.77 | 12500 |
| 13000 | 0.77 | 1.70 | 1.78 | 1.22 | 0.86 | 2.24 | 2.50 | 1.60 | 1.00 | 2.95 | 3.54 | 2.06 | 1.04 | 1.90 | 1.90 | 1.99 | 1.17 | 3.08 | 3.21 | 2.59 | 1.33 | ***4.01*** | ***4.49*** | 3.35 | 13000 |
| 13500 | 0.70 | 1.56 | 1.65 | 1.09 | 0.79 | 2.05 | 2.32 | 1.43 | 0.91 | 2.68 | 3.28 | 1.84 | 0.95 | 1.80 | 1.80 | 1.78 | 1.07 | 2.83 | 3.00 | 2.32 | 1.21 | 3.64 | ***4.17*** | 3.00 | 13500 |
| 14000 | 0.64 | 1.44 | 1.53 | 0.98 | 0.72 | 1.88 | 2.16 | 1.28 | 0.83 | 2.44 | 3.05 | 1.65 | 0.87 | 1.71 | 1.71 | 1.59 | 0.98 | 2.60 | 2.79 | 2.08 | 1.10 | 3.32 | ***3.87*** | 2.69 | 14000 |
| 14500 | 0.58 | 1.33 | 1.43 | 0.88 | 0.66 | 1.72 | 2.01 | 1.15 | 0.77 | 2.22 | 2.83 | 1.49 | 0.80 | 1.62 | 1.62 | 1.43 | 0.89 | 2.40 | 2.60 | 1.87 | 1.01 | 3.04 | ***3.61*** | 2.42 | 14500 |
| 15000 | 0.54 | 1.23 | 1.33 | 0.80 | 0.61 | 1.59 | 1.88 | 1.04 | 0.71 | 2.04 | 2.62 | 1.34 | 0.73 | 1.54 | 1.54 | 1.30 | 0.82 | 2.22 | 2.43 | 1.69 | 0.93 | 2.79 | ***3.38*** | 2.18 | 15000 |

# Design Member Moment Capacities

## How to use Member Moment Capacities

FOR NORMAL PURLIN APPLICATIONS (no axial loads)

1. Establish the required loads using AS1170.
2. For each complete purlin run generate bending moment and shear force diagrams for a nominal section using an appropriate structural analysis package. (Note that lapped purlins form part of a complete purlin run).
3. Break up the entire purlin run into 'segments' which are defined as lengths between any of the following - supports, bridging and points of contraflexure (see Segments for more detail).
4. Using the appropriate Table (15-18) note the smallest section size for each segment which has adequate moment capacity. Within any segment containing a lap (usually Type 3) check for the combined purlins at the support, and for single purlin thickness at the end of the lap where the moment will be lower.
5. Re-generate the bending moment diagram using the required purlin size/thickness (in lieu of a nominal section), lap lengths and bridging positions to check that the capacities are still adequate.

> Note that any changes in purlin thickness or lap lengths will alter the moment distribution and may increase moments in adjacent spans.

6. Check bolt capacities at supports using Table 4.
7. Check combined bending and shear using the formula from clause 3.3.5 of AS4600 which is;

$$\left(\frac{M^*}{\phi_b M_s}\right)^2 + \left(\frac{V^*}{\phi_v V_v}\right)^2 \leq 1.0$$

(where values of $\phi_b M_s$ and $\phi_v V_v$ can be obtained from Table 14).

> Note that it is particularly important to check for combined bending and shear at the ends of laps where the section reverts to a single thickness.

8. Check deflection using your structural analysis package. Note that it is common practice to use a deflection limit of span/150 for purlins. More lenient limits may necessitate consideration of out-of-plane deflection caused by section asymmetry and roof slope.

See page 22 for a worked design example.

FOR APPLICATIONS WITH COMBINED BENDING AND AXIAL LOAD

As above, except:

4. Using the appropriate Table (15-18) note the $\phi_b M_b$ value for the preferred section size for each segment. Then check for combined bending and axial loading using the simplified formula

$$\frac{N^*}{\phi_c N_c} + \frac{M^*}{\phi_b M_b} \leq 1.0$$

(where values for $\phi_c N_c$ can be obtained from Tables 19-22).

Within any segment containing a lap (usually Type 3) check for the combined purlins at the support, and for single purlin thickness at the end of the lap where the moment will be lower.

This simplification of clause 3.5.1 of AS/NZS 4600 is only valid for cases where

$$\frac{N^*}{\phi_c N_c} \leq 0.15$$

and for cases where all loads are in a plane of the web (data is also valid for pure axial case).

> Note that axial data provided is based on the assumption of simple spans.

See page 28 for a worked design example

## Segments

In order to use the tabulated data for the Member Moment Capacity method it is necessary to break up the entire purlin run into 'segments.' Segments are defined as lengths between any of the following - supports, bridging or points of contraflexure. This results in each segment being defined as one of the following four types:

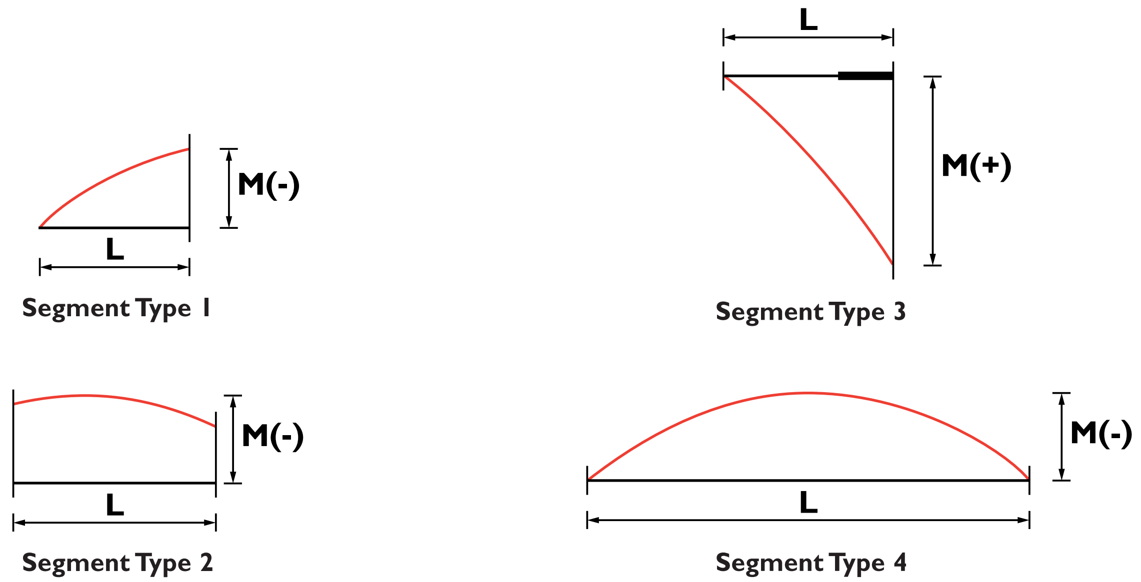
Type 1: Zero to positive moment

Type 2: Positive to positive moment

Type 3: Negative to zero moment

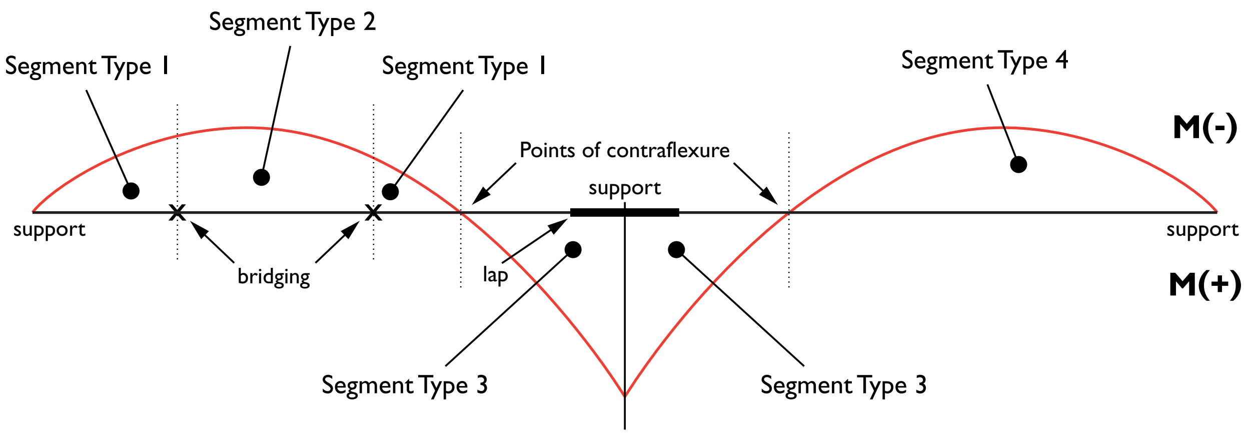
Type 4: Zero to zero moment

See diagrams at top of page 19.




**Basic Moment Segment Types – outward cases shown**

All moment signs (+, -) are reversed for inwards loading case.




**Typical Bending Moment Diagram – double span outwards loading case**

Aspects of this design methodology are subject to a patent application.

## Member Moment Capacity Tables

Member Moment Design Capacity tables for ***Stramit Exacta® Purlins and Girts***, in Limit-State Format, are as follows:

Table 14 – Section Capacities

Table 15 – Segment Type 1
(zero moment to positive moment segments)

Table 16 – Segment Type 2
(positive moment to positive moment segments)

Table 17 – Segment Type 3
(negative moment to zero moment segments)

Table 18 – Segment Type 4
(zero moment to zero moment segments)

Table 19 – Axial Compression, no bridging/bracing

Table 20 – Axial Compression, one row bridging

Table 21 – Axial Compression, two rows bridging

Table 22 – Axial Compression, three rows bridging

## Table 14

**STRAMIT EXACTA® PURLINS – Section Capacities**

| Section | $\phi_b M_s$ (kNm) | $\phi_v V_v$ (kN) |
|---|---|---|
| EC/EZ150-10 | 5.12 | 6.30 |
| EC/EZ150-12 | 6.36 | 10.9 |
| EC/EZ150-15 | 7.76 | 21.4 |
| EC/EZ150-19 | 10.4 | 43.8 |
| EC/EZ150-24 | 13.8 | 72.7 |
| EC/EZ200-12 | 8.60 | 8.01 |
| EC/EZ200-15 | 11.4 | 15.7 |
| EC/EZ200-19 | 16.4 | 32.0 |
| EC/EZ200-24 | 22.0 | 64.9 |
| EC/EZ250-15 | 14.3 | 12.4 |
| EC/EZ250-19 | 20.7 | 25.3 |
| EC/EZ250-24 | 29.1 | 51.1 |
| EC/EZ300-19 | 27.5 | 20.8 |
| EC/EZ300-24 | 39.8 | 42.2 |
| EC/EZ300-30 | 54.9 | 82.7 |
| EC/EZ350-19 | 34.8 | 17.7 |
| EC/EZ350-24 | 49.8 | 35.9 |
| EC/EZ350-30 | 71.5 | 70.3 |

## Member Moment Capacity Tables

Member Moment Design Capacity tables for ***Stramit Exacta*® *C&Z Purlins and Girts***, in Limit-State Format:

### Table 15

**STRAMIT EXACTA® C&Z PURLINS – $\phi_b M_b$**

**Moment Design Capacity (kNm)** Segment Type 1

| Moment | Segment Length: L (mm) | Stramit Exacta® EC/EZ Purlin/Girt Size | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 150-10 | 150-12 | 150-15 | 150-19 | 150-24 | 200-12 | 200-15 | 200-19 | 200-24 | 250-15 | 250-19 | 250-24 | 300-19 | 300-24 | 300-30 | 350-19 | 350-24 | 350-30 |
| M(+) | All | 4.04 | 4.97 | 6.38 | 8.84 | 12.1 | 7.07 | 9.22 | 13.4 | 18.6 | 12.1 | 17.1 | 23.9 | 23.2 | 32.7 | 46.1 | 29.9 | 42.3 | 58.7 |
| M(-) | 1000 | 4.04 | 4.97 | 6.38 | 8.84 | 12.1 | 7.07 | 9.22 | 13.4 | 18.6 | 12.1 | 17.1 | 23.9 | 23.2 | 32.7 | 46.1 | 29.9 | 42.3 | 58.7 |
| | 1200 | 4.04 | 4.97 | 6.38 | 8.84 | 12.1 | 7.07 | 9.22 | 13.4 | 18.6 | 12.1 | 17.1 | 23.9 | 23.2 | 32.7 | 46.1 | 29.9 | 42.3 | 58.7 |
| | 1400 | 4.04 | 4.97 | 6.38 | 8.84 | 12.1 | 7.07 | 9.22 | 13.4 | 18.6 | 12.1 | 17.1 | 23.9 | 23.2 | 32.7 | 46.1 | 29.9 | 42.3 | 58.7 |
| | 1600 | 4.04 | 4.97 | 6.38 | 8.84 | 12.1 | 7.07 | 9.22 | 13.4 | 18.6 | 12.1 | 17.1 | 23.9 | 23.2 | 32.7 | 46.1 | 29.9 | 42.3 | 58.7 |
| | 1800 | 4.04 | 4.97 | 6.38 | 8.84 | 11.7 | 7.07 | 9.22 | 13.4 | 18.6 | 12.1 | 17.1 | 23.9 | 23.2 | 32.7 | 46.1 | 29.9 | 42.3 | 58.7 |
| | 2000 | 4.04 | 4.97 | 6.38 | 8.79 | 11.1 | 7.07 | 9.22 | 13.4 | 18.6 | 12.1 | 17.1 | 23.9 | 23.2 | 32.7 | 46.1 | 29.9 | 42.3 | 58.7 |
| | 2200 | 3.83 | 4.94 | 6.06 | 8.25 | 10.5 | 7.07 | 9.22 | 13.4 | 18.6 | 12.1 | 17.1 | 23.9 | 23.2 | 32.7 | 46.1 | 29.9 | 42.3 | 58.7 |
| | 2400 | 3.56 | 4.56 | 5.73 | 7.66 | 9.78 | 7.00 | 9.22 | 13.3 | 18.4 | 12.1 | 17.1 | 23.9 | 23.2 | 32.7 | 46.1 | 29.9 | 42.3 | 58.7 |
| | 2600 | 3.27 | 4.13 | 5.37 | 7.03 | 9.05 | 6.71 | 9.19 | 12.7 | 17.6 | 11.8 | 16.8 | 23.1 | 23.2 | 32.7 | 46.1 | 29.9 | 42.3 | 58.7 |
| | 2800 | 2.89 | 3.68 | 4.88 | 6.37 | 8.27 | 6.39 | 8.66 | 12.1 | 16.6 | 11.3 | 15.9 | 21.9 | 23.2 | 32.7 | 46.1 | 29.9 | 42.3 | 58.7 |
| | 3000 | 2.57 | 3.27 | 4.34 | 5.67 | 7.47 | 6.04 | 8.09 | 11.6 | 15.5 | 10.8 | 15.0 | 20.6 | 23.2 | 32.7 | 46.1 | 29.9 | 42.3 | 58.7 |
| | 3200 | 2.31 | 2.93 | 3.84 | 5.03 | 6.67 | 5.65 | 7.48 | 11.0 | 14.3 | 10.2 | 14.1 | 18.9 | 23.1 | 32.7 | 45.7 | 29.9 | 42.3 | 58.7 |
| | 3400 | 2.09 | 2.64 | 3.42 | 4.50 | 5.99 | 5.27 | 6.83 | 10.1 | 13.1 | 9.65 | 13.0 | 17.1 | 22.5 | 31.5 | 44.4 | 29.9 | 42.3 | 58.7 |
| | 3600 | 1.89 | 2.39 | 3.07 | 4.05 | 5.42 | 4.81 | 6.22 | 9.07 | 11.8 | 8.79 | 11.8 | 15.4 | 21.8 | 30.1 | 42.6 | 29.9 | 42.3 | 58.7 |
| | 3800 | 1.72 | 2.16 | 2.78 | 3.68 | 4.94 | 4.41 | 5.77 | 8.18 | 10.7 | 8.05 | 10.6 | 13.9 | 21.1 | 28.6 | 40.3 | 29.9 | 42.3 | 58.7 |
| | 4000 | 1.58 | 1.96 | 2.53 | 3.36 | 4.53 | 4.05 | 5.39 | 7.42 | 9.71 | 7.49 | 9.60 | 12.6 | 20.3 | 27.2 | 37.9 | 29.4 | 42.2 | 58.4 |
| | 4200 | 1.45 | 1.79 | 2.31 | 3.08 | 4.17 | 3.73 | 4.91 | 6.77 | 8.88 | 6.84 | 8.74 | 11.5 | 19.4 | 25.8 | 35.4 | 28.8 | 41.4 | 56.6 |
| | 4400 | 1.33 | 1.64 | 2.12 | 2.84 | 3.86 | 3.44 | 4.49 | 6.20 | 8.16 | 6.25 | 8.00 | 10.5 | 18.1 | 24.4 | 32.9 | 28.1 | 40.5 | 54.8 |
| | 4600 | 1.23 | 1.51 | 1.96 | 2.63 | 3.59 | 3.19 | 4.12 | 5.71 | 7.53 | 5.73 | 7.35 | 9.70 | 16.8 | 22.7 | 30.3 | 27.4 | 39.5 | 52.9 |
| | 4800 | 1.13 | 1.39 | 1.81 | 2.44 | 3.35 | 2.97 | 3.80 | 5.27 | 6.98 | 5.28 | 6.78 | 8.97 | 15.7 | 20.9 | 27.9 | 26.7 | 38.5 | 50.8 |
| | 5000 | 1.05 | 1.29 | 1.68 | 2.28 | 3.14 | 2.75 | 3.52 | 4.89 | 6.49 | 4.88 | 6.28 | 8.32 | 14.7 | 19.3 | 25.8 | 25.9 | 37.4 | 48.7 |

### Table 16

**STRAMIT EXACTA® C&Z PURLINS – $\phi_b M_b$**

**Moment Design Capacity (kNm)** Segment Type 2

| Moment | Segment Length: L (mm) | Stramit Exacta® EC/EZ Purlin/Girt Size | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 150-10 | 150-12 | 150-15 | 150-19 | 150-24 | 200-12 | 200-15 | 200-19 | 200-24 | 250-15 | 250-19 | 250-24 | 300-19 | 300-24 | 300-30 | 350-19 | 350-24 | 350-30 |
| M(+) | All | 4.04 | 4.97 | 6.38 | 8.84 | 12.1 | 7.07 | 9.22 | 13.4 | 18.6 | 12.1 | 17.1 | 23.9 | 23.2 | 32.7 | 46.1 | 29.9 | 42.3 | 58.7 |
| M(-) | 1000 | 4.04 | 4.97 | 6.38 | 8.84 | 12.1 | 7.07 | 9.22 | 13.4 | 18.6 | 12.1 | 17.1 | 23.9 | 23.2 | 32.7 | 46.1 | 29.9 | 42.3 | 58.7 |
| | 1200 | 4.04 | 4.97 | 6.38 | 8.84 | 12.1 | 7.07 | 9.22 | 13.4 | 18.6 | 12.1 | 17.1 | 23.9 | 23.2 | 32.7 | 46.1 | 29.9 | 42.3 | 58.7 |
| | 1400 | 4.04 | 4.97 | 6.38 | 8.84 | 12.1 | 7.07 | 9.22 | 13.4 | 18.6 | 12.1 | 17.1 | 23.9 | 23.2 | 32.7 | 46.1 | 29.9 | 42.3 | 58.7 |
| | 1600 | 4.04 | 4.97 | 6.38 | 8.84 | 11.6 | 7.07 | 9.22 | 13.4 | 18.6 | 12.1 | 17.1 | 23.9 | 23.2 | 32.7 | 46.1 | 29.9 | 42.3 | 58.7 |
| | 1800 | 4.02 | 4.97 | 6.32 | 8.66 | 10.9 | 7.07 | 9.22 | 13.4 | 18.6 | 12.1 | 17.1 | 23.9 | 23.2 | 32.7 | 46.1 | 29.9 | 42.3 | 58.7 |
| | 2000 | 3.74 | 4.81 | 5.92 | 8.02 | 10.2 | 7.07 | 9.22 | 13.4 | 18.6 | 12.1 | 17.1 | 23.9 | 23.2 | 32.7 | 46.1 | 29.9 | 42.3 | 58.7 |
| | 2200 | 3.42 | 4.35 | 5.57 | 7.33 | 9.36 | 6.86 | 9.22 | 13.0 | 18.0 | 12.0 | 17.1 | 23.7 | 23.2 | 32.7 | 46.1 | 29.9 | 42.3 | 58.7 |
| | 2400 | 3.02 | 3.85 | 5.05 | 6.57 | 8.47 | 6.52 | 8.86 | 12.3 | 16.9 | 11.5 | 16.2 | 22.4 | 23.2 | 32.7 | 46.1 | 29.9 | 42.3 | 58.7 |
| | 2600 | 2.64 | 3.35 | 4.44 | 5.77 | 7.53 | 6.13 | 8.23 | 11.7 | 15.7 | 10.9 | 15.2 | 20.9 | 23.2 | 32.7 | 46.1 | 29.9 | 42.3 | 58.7 |
| | 2800 | 2.33 | 2.95 | 3.85 | 5.02 | 6.60 | 5.69 | 7.53 | 11.0 | 14.3 | 10.3 | 14.2 | 19.0 | 23.2 | 32.7 | 45.8 | 29.9 | 42.3 | 58.7 |
| | 3000 | 2.07 | 2.62 | 3.38 | 4.41 | 5.83 | 5.25 | 6.79 | 10.0 | 12.9 | 9.62 | 12.9 | 16.9 | 22.5 | 31.4 | 44.3 | 29.9 | 42.3 | 58.7 |
| | 3200 | 1.86 | 2.34 | 2.99 | 3.91 | 5.19 | 4.74 | 6.11 | 8.85 | 11.5 | 8.65 | 11.5 | 15.0 | 21.7 | 29.8 | 42.2 | 29.9 | 42.3 | 58.7 |
| | 3400 | 1.67 | 2.08 | 2.66 | 3.50 | 4.66 | 4.29 | 5.64 | 7.87 | 10.2 | 7.88 | 10.2 | 13.3 | 20.8 | 28.1 | 39.5 | 29.8 | 42.3 | 58.7 |
| | 3600 | 1.51 | 1.86 | 2.39 | 3.16 | 4.22 | 3.90 | 5.14 | 7.06 | 9.19 | 7.19 | 9.15 | 12.0 | 19.9 | 26.6 | 36.7 | 29.1 | 41.9 | 57.6 |
| | 3800 | 1.38 | 1.68 | 2.16 | 2.86 | 3.85 | 3.55 | 4.63 | 6.37 | 8.31 | 6.47 | 8.24 | 10.8 | 18.6 | 24.9 | 33.8 | 28.4 | 40.9 | 55.6 |
| | 4000 | 1.25 | 1.52 | 1.97 | 2.61 | 3.53 | 3.25 | 4.19 | 5.78 | 7.56 | 5.85 | 7.47 | 9.80 | 17.1 | 23.1 | 30.8 | 27.6 | 39.8 | 53.4 |
| | 4200 | 1.14 | 1.39 | 1.80 | 2.40 | 3.25 | 2.99 | 3.82 | 5.27 | 6.91 | 5.32 | 6.80 | 8.94 | 15.8 | 21.0 | 28.0 | 26.8 | 38.6 | 51.1 |
| | 4400 | 1.04 | 1.27 | 1.65 | 2.21 | 3.01 | 2.74 | 3.49 | 4.83 | 6.35 | 4.86 | 6.22 | 8.20 | 14.7 | 19.2 | 25.6 | 26.0 | 37.4 | 48.7 |
| | 4600 | 0.95 | 1.17 | 1.52 | 2.04 | 2.80 | 2.51 | 3.21 | 4.44 | 5.86 | 4.46 | 5.72 | 7.55 | 13.7 | 17.6 | 23.6 | 25.0 | 35.5 | 46.1 |
| | 4800 | 0.88 | 1.08 | 1.41 | 1.90 | 2.61 | 2.32 | 2.96 | 4.10 | 5.43 | 4.11 | 5.28 | 6.98 | 12.6 | 16.3 | 21.7 | 24.0 | 33.4 | 43.8 |
| | 5000 | 0.82 | 1.00 | 1.31 | 1.77 | 2.45 | 2.14 | 2.74 | 3.81 | 5.05 | 3.80 | 4.89 | 6.48 | 11.7 | 15.0 | 20.1 | 22.8 | 31.3 | 41.5 |

NOTE: TABLES 15 to 18.
Capacities in ***bold italics*** are limited by distortional buckling.
*Capacities in Table 18 can be doubled at the support as this is within the lap.

Outside of ***Stramit*® *Bridging*** recommendations.

## Table 17

**STRAMIT EXACTA® C&Z PURLINS – $\phi_b M_b$**
**Moment Design Capacity (kNm)** Segment Type 3

| Moment | Segment Length: L (mm) | Stramit Exacta® EC/EZ Purlin/Girt Size | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 150-10 | 150-12 | 150-15 | 150-19 | 150-24 | 200-12 | 200-15 | 200-19 | 200-24 | 250-15 | 250-19 | 250-24 | 300-19 | 300-24 | 300-30 | 350-19 | 350-24 | 350-30 |
| M(+) | All | ***4.04*** | ***4.97*** | ***6.38*** | ***8.84*** | ***12.1*** | ***7.07*** | ***9.22*** | ***13.4*** | ***18.6*** | ***12.1*** | ***17.1*** | ***23.9*** | ***23.2*** | ***32.7*** | ***46.1*** | ***29.9*** | ***42.3*** | ***58.7*** |
| | 1000 | ***4.04*** | ***4.97*** | ***6.38*** | ***8.84*** | ***12.1*** | ***7.07*** | ***9.22*** | ***13.4*** | ***18.6*** | ***12.1*** | ***17.1*** | ***23.9*** | ***23.2*** | ***32.7*** | ***46.1*** | ***29.9*** | ***42.3*** | ***58.7*** |
| | 1200 | ***4.04*** | ***4.97*** | ***6.38*** | ***8.84*** | ***12.1*** | ***7.07*** | ***9.22*** | ***13.4*** | ***18.6*** | ***12.1*** | ***17.1*** | ***23.9*** | ***23.2*** | ***32.7*** | ***46.1*** | ***29.9*** | ***42.3*** | ***58.7*** |
| | 1400 | ***4.04*** | ***4.97*** | ***6.38*** | ***8.84*** | ***12.1*** | ***7.07*** | ***9.22*** | ***13.4*** | ***18.6*** | ***12.1*** | ***17.1*** | ***23.9*** | ***23.2*** | ***32.7*** | ***46.1*** | ***29.9*** | ***42.3*** | ***58.7*** |
| | 1600 | ***4.04*** | ***4.97*** | ***6.38*** | ***8.84*** | ***12.1*** | ***7.07*** | ***9.22*** | ***13.4*** | ***18.6*** | ***12.1*** | ***17.1*** | ***23.9*** | ***23.2*** | ***32.7*** | ***46.1*** | ***29.9*** | ***42.3*** | ***58.7*** |
| | 1800 | ***4.04*** | ***4.97*** | ***6.38*** | ***8.84*** | ***12.1*** | ***7.07*** | ***9.22*** | ***13.4*** | ***18.6*** | ***12.1*** | ***17.1*** | ***23.9*** | ***23.2*** | ***32.7*** | ***46.1*** | ***29.9*** | ***42.3*** | ***58.7*** |
| | 2000 | ***4.04*** | ***4.97*** | ***6.38*** | ***8.84*** | ***12.0*** | ***7.07*** | ***9.22*** | ***13.4*** | ***18.6*** | ***12.1*** | ***17.1*** | ***23.9*** | ***23.2*** | ***32.7*** | ***46.1*** | ***29.9*** | ***42.3*** | ***58.7*** |
| | 2200 | ***4.04*** | ***4.97*** | ***6.38*** | ***8.84*** | 11.5 | ***7.07*** | ***9.22*** | ***13.4*** | ***18.6*** | ***12.1*** | ***17.1*** | ***23.9*** | ***23.2*** | ***32.7*** | ***46.1*** | ***29.9*** | ***42.3*** | ***58.7*** |
| | 2400 | ***4.02*** | ***4.97*** | 6.34 | 8.72 | 11.0 | ***7.07*** | ***9.22*** | ***13.4*** | ***18.6*** | ***12.1*** | ***17.1*** | ***23.9*** | ***23.2*** | ***32.7*** | ***46.1*** | ***29.9*** | ***42.3*** | ***58.7*** |
| | 2600 | 3.82 | 4.93 | 6.05 | 8.26 | 10.5 | ***7.07*** | ***9.22*** | ***13.4*** | ***18.6*** | ***12.1*** | ***17.1*** | ***23.9*** | ***23.2*** | ***32.7*** | ***46.1*** | ***29.9*** | ***42.3*** | ***58.7*** |
| M(-) | 2800 | 3.60 | 4.61 | 5.78 | 7.78 | 10.0 | 7.03 | ***9.22*** | ***13.4*** | ***18.5*** | ***12.1*** | ***17.1*** | ***23.9*** | ***23.2*** | ***32.7*** | ***46.1*** | ***29.9*** | ***42.3*** | ***58.7*** |
| | 3000 | 3.35 | 4.26 | 5.52 | 7.27 | 9.37 | 6.79 | ***9.22*** | 12.9 | 17.9 | 11.9 | ***17.0*** | 23.5 | ***23.2*** | ***32.7*** | ***46.1*** | ***29.9*** | ***42.3*** | ***58.7*** |
| | 3200 | 3.04 | 3.89 | 5.13 | 6.73 | 8.76 | 6.53 | 8.89 | 12.4 | 17.1 | 11.5 | 16.3 | 22.5 | ***23.2*** | ***32.7*** | ***46.1*** | ***29.9*** | ***42.3*** | ***58.7*** |
| | 3400 | 2.75 | 3.51 | 4.70 | 6.17 | 8.12 | 6.25 | 8.43 | 11.9 | 16.2 | 11.1 | 15.5 | 21.4 | ***23.2*** | ***32.7*** | ***46.1*** | ***29.9*** | ***42.3*** | ***58.7*** |
| | 3600 | 2.51 | 3.19 | 4.24 | 5.60 | 7.47 | 5.94 | 7.94 | 11.4 | 15.3 | 10.7 | 14.8 | 20.2 | ***23.2*** | ***32.7*** | ***46.1*** | ***29.9*** | ***42.3*** | ***58.7*** |
| | 3800 | 2.29 | 2.91 | 3.84 | 5.08 | 6.83 | 5.60 | 7.42 | 10.9 | 14.3 | 10.2 | 14.0 | 18.8 | 23.0 | ***32.6*** | 45.6 | ***29.9*** | ***42.3*** | ***58.7*** |
| | 4000 | 2.10 | 2.67 | 3.49 | 4.63 | 6.26 | 5.29 | 6.87 | 10.2 | 13.3 | 9.68 | 13.1 | 17.3 | 22.5 | 31.5 | 44.5 | ***29.9*** | ***42.3*** | ***58.7*** |
| | 4200 | 1.93 | 2.46 | 3.19 | 4.25 | 5.76 | 4.90 | 6.36 | 9.35 | 12.3 | 8.95 | 12.1 | 15.9 | 21.9 | 30.4 | 43.1 | ***29.9*** | ***42.3*** | ***58.7*** |
| | 4400 | 1.79 | 2.26 | 2.93 | 3.92 | 5.34 | 4.55 | 5.94 | 8.57 | 11.3 | 8.30 | 11.0 | 14.5 | 21.3 | 29.2 | 41.3 | ***29.9*** | ***42.3*** | ***58.7*** |
| | 4600 | 1.66 | 2.08 | 2.70 | 3.63 | 4.96 | 4.24 | 5.61 | 7.88 | 10.4 | 7.79 | 10.1 | 13.4 | 20.7 | 27.9 | 39.3 | 29.6 | ***42.3*** | ***58.7*** |
| | 4800 | 1.54 | 1.92 | 2.50 | 3.37 | 4.63 | 3.95 | 5.25 | 7.28 | 9.64 | 7.29 | 9.36 | 12.4 | 20.0 | 26.8 | 37.3 | 29.1 | 41.9 | 57.8 |
| | 5000 | 1.44 | 1.78 | 2.33 | 3.15 | 4.34 | 3.68 | 4.86 | 6.75 | 8.96 | 6.74 | 8.67 | 11.5 | 19.2 | 25.6 | 35.2 | 28.6 | 41.2 | 56.3 |

## Table 18

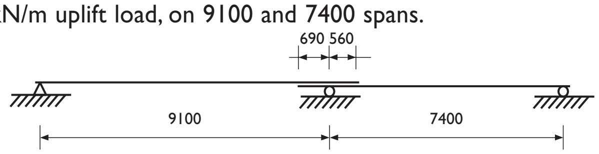
**STRAMIT EXACTA® C&Z PURLINS – $\phi_b M_b$**
**Moment Design Capacity (kNm)** Segment Type 4

| Moment | Segment Length: L (mm) | Stramit Exacta® EC/EZ Purlin/Girt Size | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 150-10 | 150-12 | 150-15 | 150-19 | 150-24 | 200-12 | 200-15 | 200-19 | 200-24 | 250-15 | 250-19 | 250-24 | 300-19 | 300-24 | 300-30 | 350-19 | 350-24 | 350-30 |
| M(+) | All | ***4.04*** | ***4.97*** | ***6.38*** | ***8.84*** | ***12.1*** | ***7.07*** | ***9.22*** | ***13.4*** | ***18.6*** | ***12.1*** | ***17.1*** | ***23.9*** | ***23.2*** | ***32.7*** | ***46.1*** | ***29.9*** | ***42.3*** | ***58.7*** |
| | 1000 | ***4.04*** | ***4.97*** | ***6.38*** | ***8.84*** | ***12.1*** | ***7.07*** | ***9.22*** | ***13.4*** | ***18.6*** | ***12.1*** | ***17.1*** | ***23.9*** | ***23.2*** | ***32.7*** | ***46.1*** | ***29.9*** | ***42.3*** | ***58.7*** |
| | 1200 | ***4.04*** | ***4.97*** | ***6.38*** | ***8.84*** | ***12.1*** | ***7.07*** | ***9.22*** | ***13.4*** | ***18.6*** | ***12.1*** | ***17.1*** | ***23.9*** | ***23.2*** | ***32.7*** | ***46.1*** | ***29.9*** | ***42.3*** | ***58.7*** |
| | 1400 | ***4.04*** | ***4.97*** | ***6.38*** | ***8.84*** | ***12.1*** | ***7.07*** | ***9.22*** | ***13.4*** | ***18.6*** | ***12.1*** | ***17.1*** | ***23.9*** | ***23.2*** | ***32.7*** | ***46.1*** | ***29.9*** | ***42.3*** | ***58.7*** |
| | 1600 | ***4.04*** | ***4.97*** | ***6.38*** | ***8.84*** | 11.9 | ***7.07*** | ***9.22*** | ***13.4*** | ***18.6*** | ***12.1*** | ***17.1*** | ***23.9*** | ***23.2*** | ***32.7*** | ***46.1*** | ***29.9*** | ***42.3*** | ***58.7*** |
| | 1800 | ***4.04*** | ***4.97*** | ***6.38*** | ***8.84*** | 11.3 | ***7.07*** | ***9.22*** | ***13.4*** | ***18.6*** | ***12.1*** | ***17.1*** | ***23.9*** | ***23.2*** | ***32.7*** | ***46.1*** | ***29.9*** | ***42.3*** | ***58.7*** |
| | 2000 | 3.90 | ***4.97*** | 6.16 | 8.41 | 10.6 | ***7.07*** | ***9.22*** | ***13.4*** | ***18.6*** | ***12.1*** | ***17.1*** | ***23.9*** | ***23.2*** | ***32.7*** | ***46.1*** | ***29.9*** | ***42.3*** | ***58.7*** |
| | 2200 | 3.63 | 4.65 | 5.80 | 7.78 | 9.91 | 7.06 | ***9.22*** | ***13.4*** | ***18.6*** | ***12.1*** | ***17.1*** | ***23.9*** | ***23.2*** | ***32.7*** | ***46.1*** | ***29.9*** | ***42.3*** | ***58.7*** |
| | 2400 | 3.31 | 4.20 | 5.44 | 7.11 | 9.12 | 6.76 | ***9.22*** | 12.8 | 17.7 | 11.8 | 16.9 | 23.3 | ***23.2*** | ***32.7*** | ***46.1*** | ***29.9*** | ***42.3*** | ***58.7*** |
| | 2600 | 2.92 | 3.71 | 4.91 | 6.40 | 8.29 | 6.42 | 8.71 | 12.2 | 16.6 | 11.4 | 16.0 | 22.0 | ***23.2*** | ***32.7*** | ***46.1*** | ***29.9*** | ***42.3*** | ***58.7*** |
| M(-) | 2800 | 2.58 | 3.27 | 4.33 | 5.64 | 7.41 | 6.05 | 8.10 | 11.6 | 15.4 | 10.8 | 15.0 | 20.6 | ***23.2*** | ***32.7*** | ***46.1*** | ***29.9*** | ***42.3*** | ***58.7*** |
| | 3000 | 2.30 | 2.91 | 3.80 | 4.96 | 6.55 | 5.63 | 7.44 | 10.9 | 14.2 | 10.2 | 14.0 | 18.8 | 23.1 | ***32.7*** | 45.7 | ***29.9*** | ***42.3*** | ***58.7*** |
| | 3200 | 2.06 | 2.60 | 3.36 | 4.40 | 5.84 | 5.21 | 6.74 | 9.93 | 12.8 | 9.54 | 12.8 | 16.8 | 22.4 | 31.3 | 44.1 | ***29.9*** | ***42.3*** | ***58.7*** |
| | 3400 | 1.85 | 2.34 | 2.99 | 3.94 | 5.24 | 4.73 | 6.11 | 8.85 | 11.5 | 8.63 | 11.5 | 15.0 | 21.7 | 29.8 | 42.1 | ***29.9*** | ***42.3*** | ***58.7*** |
| | 3600 | 1.68 | 2.09 | 2.69 | 3.55 | 4.75 | 4.31 | 5.66 | 7.93 | 10.3 | 7.90 | 10.3 | 13.4 | 20.9 | 28.2 | 39.7 | ***29.8*** | ***42.3*** | ***58.7*** |
| | 3800 | 1.53 | 1.89 | 2.43 | 3.22 | 4.32 | 3.94 | 5.21 | 7.16 | 9.34 | 7.27 | 9.27 | 12.1 | 20.0 | 26.7 | 37.0 | 29.2 | 42.0 | 57.8 |
| | 4000 | 1.40 | 1.71 | 2.21 | 2.94 | 3.96 | 3.60 | 4.72 | 6.49 | 8.50 | 6.58 | 8.40 | 11.0 | 18.9 | 25.2 | 34.3 | 28.5 | 41.0 | 55.9 |
| | 4200 | 1.28 | 1.56 | 2.02 | 2.69 | 3.65 | 3.31 | 4.29 | 5.92 | 7.77 | 5.98 | 7.65 | 10.1 | 17.4 | 23.6 | 31.5 | 27.8 | 40.0 | 53.9 |
| | 4400 | 1.17 | 1.43 | 1.86 | 2.48 | 3.38 | 3.06 | 3.93 | 5.43 | 7.14 | 5.47 | 7.00 | 9.22 | 16.2 | 21.6 | 28.8 | 27.0 | 39.0 | 51.8 |
| | 4600 | 1.07 | 1.32 | 1.71 | 2.30 | 3.14 | 2.83 | 3.61 | 4.99 | 6.59 | 5.02 | 6.43 | 8.49 | 15.0 | 19.8 | 26.5 | 26.2 | 37.8 | 49.5 |
| | 4800 | 0.99 | 1.22 | 1.59 | 2.14 | 2.93 | 2.60 | 3.33 | 4.61 | 6.11 | 4.62 | 5.93 | 7.85 | 14.1 | 18.3 | 24.4 | 25.4 | 36.3 | 47.1 |
| | 5000 | 0.92 | 1.13 | 1.47 | 1.99 | 2.75 | 2.41 | 3.08 | 4.28 | 5.68 | 4.27 | 5.49 | 7.28 | 13.1 | 16.9 | 22.6 | 24.5 | 34.4 | 44.8 |

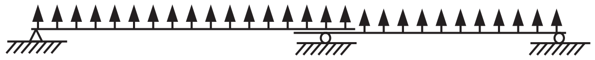
# Design Example 1

## Configuration

Consider a double span lapped purlin system with a 2.26 kN/m uplift load, on 9100 and 7400 spans.



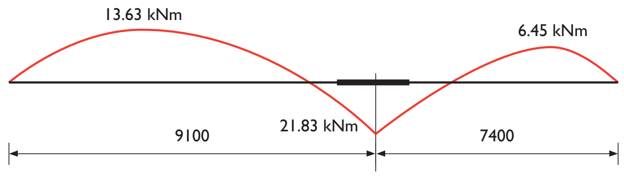

**Outward wind 2.26 kN/m**



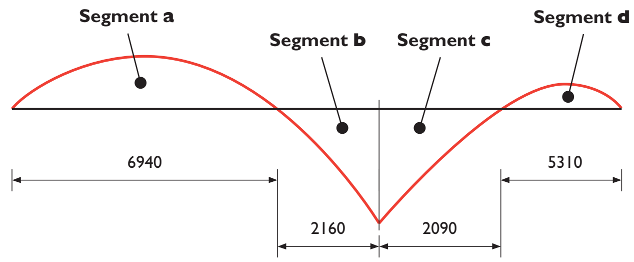
Assume a Stramit standard lap of 15% (7.5% for each span), that is, 682.5 for the 9100 span (rounded to 690) and 555 lap (say 560mm) for the 7400 span.

## Bending Moment Diagram

Using a nominal purlin section for both spans (say EZ250-24s) double the values of the laps and create the bending moment diagram using appropriate analysis software.

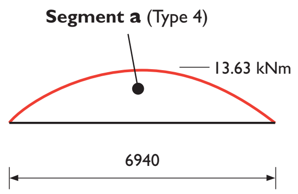



From the bending moment diagram, the purlin in each span is divided into two segments bounded by the point of contraflexure.



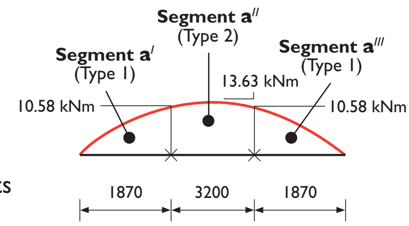

Check segments **a, b, c** and **d** for moment capacity. Segments b and c must be checked both at the end of the lap and at the internal support.

## Segment a

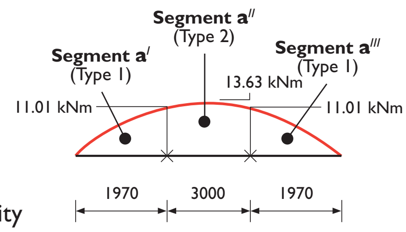



Now find the minimum purlin size for segment a (length 6940). The shape of the bending moment diagram makes this a Type 4 segment, so for a first approximation consider the maximum potential moment capacity or M(+) values in Table 18. There are two potential smallest sizes: EZ200-24 (7.21 kg/m) with a capacity of 18.6 kNm (>13.63 kNm); and EZ25019 (6.5 kg/m) with a capacity of 17.1 kNm (>13.63 kNm).

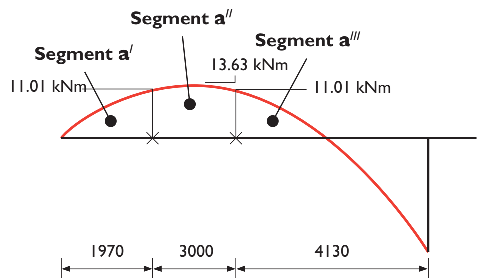
For the lighter section EZ250-19 (6.5 kg/m), the "-ve" moment capacity M(-) of 14.9 kNm requires an unbraced length of 3200, much less than the length of the segment (6940). This indicates that bridging is needed to reduce the unbraced length. Using two rows of bridging allows 3200 for the central segment (the maximum unbraced length).
Now the original Type 4 segment is transformed into two Type 1 segments and a Type 2 segment.



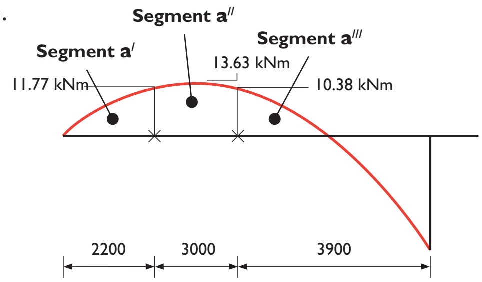

The new segments must be checked. The central segment a" is now a Type 2 segment.
In Table 16 for Type 2 segments, the EZ250-19 section provides a capacity of 12.8 kNm for a segment length of 3200, which is too low (<13.63 kNm). The centre segment therefore needs to be reduced to 3000.




On the middle Type 2 segment with a reduced length of 3000, the EZ250-19 delivers a capacity of 14.0 kNm, exceeding 13.63 kNm, and is therefore OK. Segments a' and a" are similar. With a Type 1 segment of 1970 unbraced length, the EZ250-19 section delivers a satisfactory moment capacity of 17.1 kNm (>11.01 kNm) and is OK. However, this arrangement has created a right-hand bridging position with a length of 4130 (2160 + 1970) which exceeds Stramit's recommended bridging spacing of 4000.



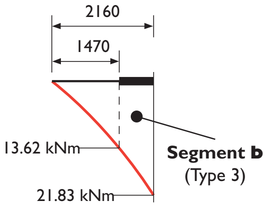

The bridging positions must be re-arranged to comply with the maximum unbridged length. Increasing the length of the left-hand segment to 2200 leaves 3900 at the other end, which is within the required four metres (otherwise, another row of bridging would need to be inserted instead).




Again, check segments a', a" and a"'. Segment a' now has a length of 2200 and being a Type 1 segment, still delivers a capacity of 17.1 kNm (>11.77 kNm) and is therefore OK.

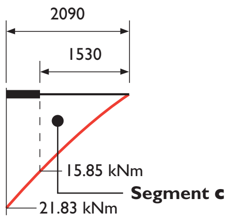
The middle segment a" retains the same unbraced length of 3000, with the same maximum bending moment of 13.63 kNm and is also OK (Type 2, Le = 3000, ⁻M = 14.0 > 13.63 kNm). Segment a"' is similar to a' and has less moment to resist, so it is also OK.

## Segment b



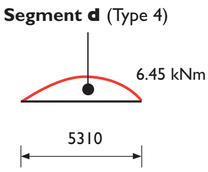

In segment b the unlapped portion up to the lap is 1470 and the required capacity is 13.62 kNm. This is a Type 3 segment (Table 17). For a segment length of 1470 the capacity is 17.1 kNm (>13.62 kNm). (Note that the lap length could potentially be reduced.) At the support, for a length of 2160 (2 x EZ250-19 as there are two thicknesses of purlin within the lap) the capacity is 17.1 x 2 = 34.2 kNm and therefore OK (>21.83 kNm).

## Segment c

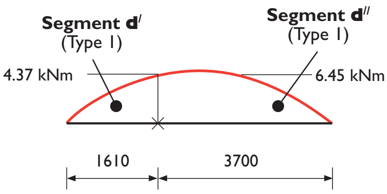



In segment c the required capacity is 15.85 kNm over the unlapped portion of 1530. There is no need to check the right side of the segment, which was already checked in segment b. In Table 17 for Type 3 segments, the "+ve" capacity was found to be 17.1 kNm (>15.85 kNm) and, in this case, the segment length for "+ve" works for any segment length. Note that if this section were found to be inadequate, the lap could be increased accordingly.

## Segment d



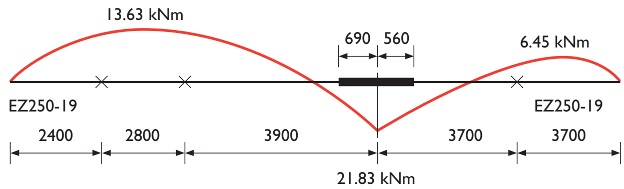

Segment d carries a "-ve" moment of 6.45 kNm over the unbraced length of 5310. In Table 18 for Type 4 segments, the EZ250-19 gives 6.23 kNm capacity, which is less than the required 6.45 kNm. The segment length needs to be reduced. In addition, this segment length exceeds Stramit's recommendation. Therefore, one row of bridging will be required. Inserting a row of bridging at mid-span modifies the segment lengths and the segment types. Two new Type 1 segments are generated and both segments need to be checked.




For the new segment d' the assumed length is 1610. Table 15 for Type 1 segments gives a capacity of 17.1 kNm, well above the required capacity of 4.37 kNm, therefore OK. The new segment d" requires a capacity of 6.45 kNm. For an unbraced length of 3700 the Type 1 table gives 12.55 kNm [(13.1 + 12.0)/2] which is more than the required 6.45 kNm and therefore OK.

## Recheck

If any lap length is increased, the BMD and SFD must be regenerated and all segment moment capacities rechecked.

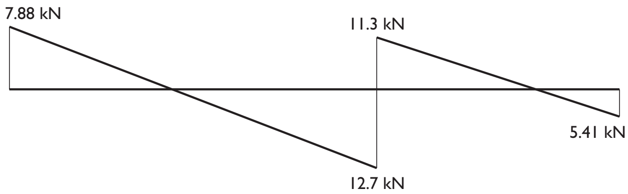



## Inward Loading Condition

Use the same procedure to check the inward case. Unless the moments from inward loading are greater, the "mid-span" segments (which now have "+ve" moments) must be OK. However, as the support and lap region moments are now "-ve" these need to be checked.

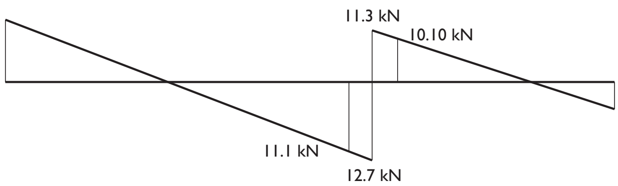
## Bolt Capacity Check

The reaction at the internal support, obtained from the shear force diagram (SFD), is 23.0kN (11.3+12.7). Try M12 grade 4.6 bolts. From Table 4, the bolt shear/bearing capacity (for two bolts) is 30.3kN, which is OK.




## Combined Bending and Shear

There are three checks needed for combined bending and shear - immediately outside each lap and at the central support cleat. The $V^*$ values are found from the final SFD diagrams. $\phi_b M_s$ and $\phi_v V_v$ capacities are obtained from Table 14.




Check the end of left lap:

$$\left(\frac{M^*}{\phi_b M_s}\right)^2+\left(\frac{V^*}{\phi_v V_v}\right)^2=\left(\frac{13.62}{20.7}\right)^2+\left(\frac{11.1}{25.3}\right)^2=0.625<1.0,\ \text{OK}$$

Check the internal support:

$$\left(\frac{M^*}{\phi_b M_s}\right)^2+\left(\frac{V^*}{\phi_v V_v}\right)^2=\left(\frac{21.83}{2\text{x}20.7}\right)^2+\left(\frac{12.7}{2\text{x}25.3}\right)^2=0.341<1.0,\ \text{OK}$$

Check the end of right lap:

$$\left(\frac{M^*}{\phi_b M_s}\right)^2+\left(\frac{V^*}{\phi_v V_v}\right)^2=\left(\frac{15.85}{20.7}\right)^2+\left(\frac{10.10}{25.3}\right)^2=0.746<1.0,\ \text{OK}$$

NOTES: TABLES 19

1. The numbers in ***bold italics*** are limited by the slenderness ratio in clause 3.4.1 of AS/NZS4600:2005

2. Effective length should be assumed to equal the span (for continuous purlins this assumption is conservative)

Outside ***Stramit® Bridging*** recommendations.

## Table 19

**STRAMIT EXACTA® PURLINS – DESIGN MEMBER CAPACITIES FOR AXIAL COMPRESSION No intermediate bracing - $\phi_c N_c$ (kN)**

| Effective Length (mm) | Stramit® Exacta® Purlin/Girt Size | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | EC150-10 | EC150-12 | EC150-15 | EC150-19 | EC150-24 | EC200-12 | EC200-15 | EC200-19 | EC200-24 | EC250-15 | EC250-19 | EC250-24 | EC300-19 | EC300-24 | EC300-30 | EC350-19 | EC350-24 | EC350-30 |
| 1000 | 57.6 | 72.3 | 93.6 | 135 | 184 | 74.5 | 96.6 | 144 | 218 | 103 | 142 | 215 | 171 | 238 | 345 | 188 | 262 | 364 |
| 1500 | 44.4 | 57.2 | 77.6 | 107 | 148 | 65.0 | 85.4 | 130 | 191 | 91.9 | 127 | 195 | 160 | 223 | 342 | 181 | 251 | 349 |
| 2000 | 31.1 | 41.3 | 56.5 | 78.9 | 111 | 53.7 | 71.7 | 113 | 156 | 78.8 | 114 | 160 | 147 | 203 | 310 | 170 | 236 | 329 |
| 2500 | 22.4 | 28.8 | 39.5 | 55.9 | 78.9 | 42.0 | 59.4 | 86.5 | 121 | 65.5 | 89.5 | 124 | 130 | 185 | 265 | 158 | 219 | 304 |
| 3000 | 16.6 | 21.4 | 29.6 | 42.3 | 56.6 | 32.3 | 44.0 | 64.7 | 91.7 | 48.9 | 66.4 | 92.0 | 113 | 159 | 220 | 144 | 199 | 277 |
| 3500 | 12.9 | 16.7 | 23.3 | 32.7 | 41.6 | 25.0 | 34.3 | 50.8 | 71.6 | 37.7 | 51.4 | 71.3 | 92.8 | 126 | 176 | 128 | 178 | 255 |
| 4000 | 10.4 | 13.6 | 19.1 | 25.3 | 31.9 | 20.1 | 27.8 | 41.4 | 57.0 | 30.2 | 41.2 | 57.3 | 74.0 | 101 | 141 | 111 | 157 | 225 |
| 4500 | ***8.64*** | ***11.3*** | ***15.7*** | ***20.0*** | ***25.2*** | 16.7 | 23.1 | 34.4 | 46.6 | 24.8 | 34.0 | 47.1 | 60.6 | 83.0 | 116 | 94.2 | 137 | 187 |
| 5000 | ***7.34*** | ***9.69*** | ***12.8*** | ***16.2*** | ***20.4*** | ***14.1*** | ***19.7*** | ***28.8*** | ***38.3*** | 20.9 | 28.6 | 39.6 | 50.8 | 69.7 | 97.4 | 81.3 | 115 | 158 |
| 5500 | ***6.36*** | ***8.37*** | ***10.6*** | ***13.4*** | ***16.9*** | ***12.2*** | ***17.1*** | ***24.4*** | ***31.6*** | ***17.8*** | ***24.4*** | ***33.7*** | 43.4 | 59.5 | 83.1 | 71.0 | 98.5 | 136 |
| 6000 | ***5.58*** | ***7.14*** | ***8.91*** | ***11.3*** | ***14.2*** | ***10.7*** | ***14.9*** | ***21.0*** | ***26.6*** | ***15.5*** | ***21.2*** | ***29.0*** | 37.5 | 51.6 | 71.9 | 61.5 | 85.7 | 119 |
| 6500 | ***4.97*** | ***6.08*** | ***7.59*** | ***9.59*** | ***12.1*** | ***9.46*** | ***13.0*** | ***18.0*** | ***22.7*** | ***13.6*** | ***18.5*** | ***24.7*** | 32.9 | 45.2 | 62.8 | 54.0 | 75.5 | 105 |
| 7000 | ***4.37*** | ***5.24*** | ***6.54*** | ***8.27*** | ***10.4*** | ***8.48*** | ***11.4*** | ***15.5*** | ***19.5*** | ***12.0*** | ***16.3*** | ***21.3*** | ***29.1*** | ***39.9*** | ***55.4*** | 47.9 | 67.2 | 94.3 |
| 7500 | ***3.81*** | ***4.57*** | ***5.70*** | ***7.20*** | ***9.06*** | ***7.59*** | ***10.1*** | ***13.5*** | ***17.0*** | ***10.7*** | ***14.5*** | ***18.5*** | ***26.0*** | ***35.6*** | ***49.2*** | 42.9 | 60.4 | 84.4 |
| 8000 | ***3.35*** | ***4.02*** | ***5.01*** | ***6.33*** | ***7.97*** | ***6.80*** | ***8.93*** | ***11.9*** | ***15.0*** | ***9.62*** | ***12.8*** | ***16.3*** | ***23.3*** | ***31.9*** | ***43.2*** | 38.7 | 54.8 | 75.7 |
| | EZ150-10 | EZ150-12 | EZ150-15 | EZ150-19 | EZ150-24 | EZ200-12 | EZ200-15 | EZ200-19 | EZ200-24 | EZ250-15 | EZ250-19 | EZ250-24 | EZ300-19 | EZ300-24 | EZ300-30 | EZ350-19 | EZ350-24 | EZ350-30 |
| 1000 | 54.0 | 68.0 | 87.1 | 127 | 172 | 73.1 | 94.4 | 140 | 212 | 97.1 | 137 | 205 | 163 | 228 | 339 | 186 | 258 | 360 |
| 1500 | 38.6 | 50.2 | 67.7 | 91.9 | 125 | 60.7 | 79.6 | 125 | 171 | 82.6 | 119 | 173 | 148 | 207 | 320 | 176 | 244 | 339 |
| 2000 | 25.4 | 32.8 | 43.7 | 59.5 | 80.9 | 46.3 | 63.9 | 92.6 | 126 | 65.6 | 94.3 | 129 | 130 | 183 | 272 | 163 | 225 | 312 |
| 2500 | 17.6 | 22.3 | 29.8 | 40.5 | 53.8 | 33.4 | 44.9 | 64.3 | 87.6 | 48.0 | 65.8 | 90.5 | 109 | 156 | 217 | 147 | 203 | 280 |
| 3000 | 12.9 | 16.3 | 21.8 | 29.3 | 37.3 | 24.6 | 33.0 | 47.2 | 64.3 | 35.3 | 48.7 | 67.0 | 86.4 | 118 | 165 | 128 | 178 | 253 |
| 3500 | 9.91 | 12.6 | 16.7 | 21.6 | 27.4 | 18.9 | 25.4 | 36.4 | 49.4 | 27.3 | 37.8 | 52.0 | 66.5 | 91.0 | 128 | 108 | 152 | 213 |
| 4000 | ***7.89*** | ***10.0*** | ***13.0*** | ***16.5*** | ***21.0*** | 15.1 | 20.3 | 29.0 | 38.8 | 21.9 | 30.3 | 41.7 | 53.2 | 72.9 | 102 | 89.2 | 126 | 170 |
| 4500 | ***6.45*** | ***8.13*** | ***10.3*** | ***13.0*** | ***16.6*** | ***12.4*** | ***16.7*** | ***23.7*** | ***30.6*** | ***18.1*** | ***25.0*** | ***34.2*** | 43.7 | 60.0 | 84.0 | 75.2 | 103 | 139 |
| 5000 | ***5.37*** | ***6.66*** | ***8.33*** | ***10.6*** | ***13.4*** | ***10.4*** | ***13.9*** | ***19.6*** | ***24.8*** | ***15.2*** | ***21.0*** | ***28.4*** | 36.7 | 50.4 | 70.5 | 63.5 | 86.5 | 117 |
| 5500 | ***4.55*** | ***5.50*** | ***6.89*** | ***8.73*** | ***11.1*** | ***8.83*** | ***11.8*** | ***16.2*** | ***20.5*** | ***13.0*** | ***17.9*** | ***23.5*** | 31.3 | 43.1 | 60.0 | 54.0 | 73.7 | 100 |
| 6000 | ***3.85*** | ***4.63*** | ***5.79*** | ***7.34*** | ***9.34*** | ***7.63*** | ***10.2*** | ***13.6*** | ***17.2*** | ***11.3*** | ***15.4*** | ***19.7*** | ***27.1*** | ***37.3*** | ***51.7*** | 46.6 | 63.8 | 86.2 |
| 6500 | ***3.28*** | ***3.94*** | ***4.93*** | ***6.25*** | ***7.96*** | ***6.66*** | ***8.72*** | ***11.6*** | ***14.7*** | ***9.9*** | ***13.3*** | ***16.8*** | ***23.8*** | ***32.6*** | ***44.4*** | 40.8 | 55.8 | 75.4 |
| 7000 | ***2.83*** | ***3.40*** | ***4.25*** | ***5.39*** | ***6.86*** | ***5.87*** | ***7.52*** | ***10.0*** | ***12.7*** | ***8.7*** | ***11.5*** | ***14.5*** | ***21.0*** | ***28.8*** | ***38.3*** | ***36.0*** | ***49.3*** | ***66.6*** |
| 7500 | ***2.47*** | ***2.96*** | ***3.70*** | ***4.70*** | ***5.98*** | ***5.21*** | ***6.55*** | ***8.72*** | ***11.0*** | ***7.8*** | ***10.0*** | ***12.6*** | ***18.8*** | ***25.6*** | ***33.3*** | ***32.1*** | ***44.0*** | ***59.3*** |
| 8000 | ***2.17*** | ***2.60*** | ***3.26*** | ***4.13*** | ***5.25*** | ***4.60*** | ***5.75*** | ***7.66*** | ***9.69*** | ***6.91*** | ***8.77*** | ***11.1*** | ***16.8*** | ***22.6*** | ***29.3*** | ***28.8*** | ***39.5*** | ***53.2*** |

NOTES: TABLES 20 to 22.

1. The numbers in ***bold italics*** are limited by the slenderness ratio in clause 3.4.1 of AS/NZS4600:2005

2. Braces are assumed to provide torsional restraint ( e.g. Stramit® Bridging ).

3. Use unbraced data ( Table 19 ) if bracing does not provide full torsional restraint.

Outside ***Stramit® Bridging*** recommendations.

## Table 20

### STRAMIT EXACTA® PURLINS – DESIGN MEMBER CAPACITIES FOR AXIAL COMPRESSION One intermediate brace - $\phi_c N_c$ (kN)

| Unbraced Length (mm) | Stramit® Exacta® Purlin/Girt Size | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | EC150-10 | EC150-12 | EC150-15 | EC150-19 | EC150-24 | EC200-12 | EC200-15 | EC200-19 | EC200-24 | EC250-15 | EC250-19 | EC250-24 | EC300-19 | EC300-24 | EC300-30 | EC350-19 | EC350-24 | EC350-30 |
| 1500 | 40.7 | 52.8 | 71.9 | 98.3 | 135 | 63.0 | 83.0 | 127 | 184 | 91.7 | 127 | 195 | 159 | 220 | 340 | 179 | 249 | 346 |
| 1750 | 33.3 | 44.1 | 59.8 | 82.4 | 114 | 57.0 | 75.7 | 120 | 164 | 85.4 | 121 | 178 | 152 | 210 | 326 | 174 | 241 | 336 |
| 2000 | 27.4 | 36.0 | 48.6 | 67.4 | 94.0 | 50.8 | 68.1 | 105 | 145 | 78.6 | 114 | 160 | 144 | 200 | 304 | 168 | 233 | 324 |
| 2250 | 23.0 | 29.5 | 40.0 | 55.7 | 77.9 | 44.5 | 61.9 | 90.9 | 126 | 71.5 | 103 | 142 | 136 | 191 | 282 | 162 | 224 | 311 |
| 2500 | 19.3 | 24.7 | 33.6 | 47.0 | 65.9 | 38.5 | 53.6 | 77.3 | 108 | 65.5 | 89.5 | 124 | 127 | 183 | 259 | 155 | 214 | 297 |
| 2750 | 16.5 | 21.1 | 28.8 | 40.4 | 56.1 | 33.5 | 45.7 | 66.1 | 92.5 | 56.7 | 76.8 | 106 | 118 | 170 | 237 | 148 | 204 | 283 |
| 3000 | 14.3 | 18.3 | 25.1 | 35.2 | 48.1 | 29.2 | 39.6 | 57.5 | 80.7 | 48.9 | 66.4 | 92.0 | 109 | 153 | 214 | 140 | 193 | 269 |
| 3250 | 12.5 | 16.1 | 22.1 | 31.1 | 42.0 | 25.5 | 34.8 | 50.6 | 71.2 | 42.7 | 58.1 | 80.6 | 98.1 | 136 | 193 | 131 | 182 | 258 |
| 3500 | 11.1 | 14.3 | 19.6 | 27.3 | 37.0 | 22.6 | 30.8 | 45.0 | 63.5 | 37.7 | 51.4 | 71.3 | 87.5 | 121 | 172 | 122 | 171 | 245 |
| 3750 | 9.88 | 12.8 | 17.6 | 24.2 | 33.0 | 20.2 | 27.6 | 40.4 | 57.2 | 33.6 | 45.9 | 63.7 | 78.0 | 108 | 155 | 113 | 159 | 229 |
| 4000 | 8.90 | 11.5 | 15.9 | 21.7 | 29.7 | 18.2 | 24.9 | 36.5 | 51.8 | 30.2 | 41.2 | 57.3 | 70.1 | 97.7 | 140 | 104 | 148 | 208 |
| 4250 | 8.07 | 10.5 | 14.4 | 19.6 | 26.9 | 16.5 | 22.7 | 33.2 | 47.3 | 27.3 | 37.3 | 51.8 | 63.5 | 88.7 | 127 | 95.3 | 138 | 188 |
| 4500 | ***7.37*** | ***9.57*** | ***13.1*** | ***17.8*** | ***24.6*** | 15.0 | 20.7 | 30.5 | 43.4 | 24.8 | 34.0 | 47.1 | 57.9 | 81.1 | 116 | 88.0 | 126 | 172 |
| 4750 | ***6.76*** | ***8.79*** | ***11.9*** | ***16.3*** | ***22.6*** | ***13.8*** | ***19.1*** | ***28.0*** | ***39.8*** | 22.7 | 31.1 | 43.1 | 53.1 | 74.6 | 106 | 81.5 | 115 | 157 |
| 5000 | ***6.23*** | ***8.11*** | ***10.9*** | ***15.0*** | ***20.4*** | ***12.7*** | ***17.6*** | ***26.0*** | ***36.5*** | 20.9 | 28.6 | 39.6 | 48.9 | 68.9 | 97.4 | 75.8 | 106 | 145 |
| 5250 | ***5.77*** | ***7.52*** | ***10.0*** | ***13.8*** | ***18.5*** | ***11.8*** | ***16.3*** | ***24.1*** | ***33.7*** | 19.3 | 26.4 | 36.5 | 45.3 | 63.9 | 89.8 | 70.7 | 97.5 | 134 |
| 5500 | ***5.37*** | ***6.93*** | ***9.27*** | ***12.8*** | ***16.9*** | ***10.9*** | ***15.2*** | ***22.5*** | ***31.2*** | 17.8 | 24.4 | 33.7 | 42.1 | 59.5 | 83.1 | 65.4 | 90.4 | 125 |
| 5750 | ***5.01*** | ***6.41*** | ***8.61*** | ***12.0*** | ***15.4*** | ***10.2*** | ***14.2*** | ***21.1*** | ***29.0*** | 16.6 | 22.7 | 31.2 | 39.2 | 55.3 | 77.2 | 60.7 | 84.2 | 116 |
| 6000 | ***4.68*** | ***5.96*** | ***8.03*** | ***11.2*** | ***14.2*** | ***9.56*** | ***13.4*** | ***19.6*** | ***26.6*** | ***15.5*** | ***21.2*** | ***29.0*** | 36.7 | 51.6 | 71.9 | 56.6 | 78.6 | 109 |
| 6250 | ***4.40*** | ***5.56*** | ***7.51*** | ***10.4*** | ***13.1*** | ***8.98*** | ***12.6*** | ***18.3*** | ***24.5*** | ***14.5*** | ***19.8*** | ***26.7*** | 34.5 | 48.2 | 67.1 | 53.0 | 73.7 | 102 |
| 6500 | ***4.11*** | ***5.20*** | ***7.05*** | ***9.59*** | ***12.1*** | ***8.45*** | ***11.9*** | ***17.2*** | ***22.7*** | ***13.6*** | ***18.5*** | ***24.7*** | 32.5 | 45.2 | 62.8 | 49.7 | 69.2 | 96.2 |
| 6750 | ***3.85*** | ***4.88*** | ***6.64*** | ***8.89*** | ***11.2*** | ***7.98*** | ***11.2*** | ***16.2*** | ***21.0*** | ***12.7*** | ***17.4*** | ***22.9*** | 30.7 | 42.4 | 58.9 | 46.7 | 65.2 | 90.8 |
| 7000 | ***3.62*** | ***4.60*** | ***6.27*** | ***8.27*** | ***10.4*** | ***7.56*** | ***10.6*** | ***15.2*** | ***19.5*** | ***12.0*** | ***16.3*** | ***21.3*** | ***29.0*** | ***39.9*** | ***55.4*** | 44.0 | 61.6 | 85.9 |
| | EZ150-10 | EZ150-12 | EZ150-15 | EZ150-19 | EZ150-24 | EZ200-12 | EZ200-15 | EZ200-19 | EZ200-24 | EZ250-15 | EZ250-19 | EZ250-24 | EZ300-19 | EZ300-24 | EZ300-30 | EZ350-19 | EZ350-24 | EZ350-30 |
| 1500 | 38.6 | 50.2 | 67.7 | 91.9 | 125 | 60.7 | 79.6 | 125 | 171 | 82.6 | 119 | 173 | 148 | 207 | 320 | 176 | 244 | 339 |
| 1750 | 31.1 | 40.9 | 54.9 | 74.6 | 102 | 53.8 | 71.1 | 109 | 148 | 74.3 | 109 | 151 | 139 | 194 | 299 | 170 | 235 | 326 |
| 2000 | 25.4 | 32.8 | 43.7 | 59.5 | 80.9 | 46.3 | 63.9 | 92.6 | 126 | 65.6 | 94.3 | 129 | 130 | 183 | 272 | 163 | 225 | 312 |
| 2250 | 21.2 | 26.7 | 35.7 | 48.6 | 65.9 | 39.0 | 53.8 | 76.8 | 105 | 57.4 | 78.5 | 108 | 119 | 173 | 244 | 155 | 214 | 296 |
| 2500 | 17.6 | 22.3 | 29.8 | 40.5 | 53.8 | 33.4 | 44.9 | 64.3 | 87.6 | 48.0 | 65.8 | 90.5 | 109 | 156 | 217 | 147 | 203 | 280 |
| 2750 | 15.0 | 19.0 | 25.3 | 34.3 | 44.4 | 28.5 | 38.2 | 54.7 | 74.6 | 40.9 | 56.2 | 77.3 | 99 | 136 | 190 | 138 | 190 | 266 |
| 3000 | 12.9 | 16.3 | 21.8 | 29.3 | 37.3 | 24.6 | 33.0 | 47.2 | 64.3 | 35.3 | 48.7 | 67.0 | 86.4 | 118 | 165 | 128 | 178 | 253 |
| 3250 | 11.2 | 14.2 | 19.0 | 25.0 | 31.8 | 21.4 | 28.8 | 41.3 | 56.1 | 30.9 | 42.6 | 58.8 | 75.4 | 103 | 144 | 118 | 165 | 236 |
| 3500 | 9.91 | 12.6 | 16.7 | 21.6 | 27.4 | 18.9 | 25.4 | 36.4 | 49.4 | 27.3 | 37.8 | 52.0 | 66.5 | 91.0 | 128 | 108 | 152 | 213 |
| 3750 | 8.81 | 11.1 | 14.8 | 18.8 | 23.9 | 16.8 | 22.6 | 32.4 | 43.9 | 24.4 | 33.7 | 46.4 | 59.2 | 81.2 | 114 | 98 | 141 | 189 |
| 4000 | ***7.89*** | ***10.0*** | ***13.0*** | ***16.5*** | ***21.0*** | 15.1 | 20.3 | 29.0 | 38.8 | 21.9 | 30.3 | 41.7 | 53.2 | 72.9 | 102 | 89 | 126 | 170 |
| 4250 | ***7.11*** | ***8.98*** | ***11.5*** | ***14.6*** | ***18.6*** | ***13.6*** | ***18.3*** | ***26.2*** | ***34.3*** | 19.9 | 27.4 | 37.6 | 48.1 | 66.0 | 92.4 | 82 | 114 | 153 |
| 4500 | ***6.45*** | ***8.13*** | ***10.3*** | ***13.0*** | ***16.6*** | ***12.4*** | ***16.7*** | ***23.7*** | ***30.6*** | ***18.1*** | ***25.0*** | ***34.2*** | 43.7 | 60.0 | 84.0 | 75 | 103 | 139 |
| 4750 | ***5.87*** | ***7.38*** | ***9.23*** | ***11.71*** | ***14.9*** | ***11.3*** | ***15.2*** | ***21.6*** | ***27.5*** | ***16.5*** | ***22.8*** | ***31.2*** | 39.9 | 54.9 | 76.8 | 69.3 | 94.3 | 127 |
| 5000 | ***5.37*** | ***6.66*** | ***8.33*** | ***10.56*** | ***13.4*** | ***10.4*** | ***13.9*** | ***19.6*** | ***24.8*** | ***15.2*** | ***21.0*** | ***28.4*** | 36.7 | 50.4 | 70.5 | 63.5 | 86.5 | 117 |
| 5250 | ***4.94*** | ***6.04*** | ***7.56*** | ***9.58*** | ***12.2*** | ***9.55*** | ***12.8*** | ***17.8*** | ***22.5*** | ***14.0*** | ***19.3*** | ***25.8*** | 33.8 | 46.5 | 64.9 | 58.4 | 79.7 | 108 |
| 5500 | ***4.55*** | ***5.50*** | ***6.89*** | ***8.73*** | ***11.1*** | ***8.83*** | ***11.8*** | ***16.2*** | ***20.5*** | ***13.0*** | ***17.9*** | ***23.5*** | 31.3 | 43.1 | 60.0 | 54.0 | 73.7 | 100 |
| 5750 | ***4.20*** | ***5.04*** | ***6.30*** | ***7.99*** | ***10.2*** | ***8.20*** | ***11.0*** | ***14.8*** | ***18.8*** | ***12.1*** | ***16.6*** | ***21.5*** | 29.1 | 40.0 | 55.6 | 50.1 | 68.5 | 92.5 |
| 6000 | ***3.85*** | ***4.63*** | ***5.79*** | ***7.34*** | ***9.34*** | ***7.63*** | ***10.2*** | ***13.6*** | ***17.2*** | ***11.3*** | ***15.4*** | ***19.7*** | ***27.1*** | ***37.3*** | ***51.7*** | 46.6 | 63.8 | 86.2 |
| 6250 | ***3.55*** | ***4.26*** | ***5.33*** | ***6.76*** | ***8.60*** | ***7.12*** | ***9.43*** | ***12.6*** | ***15.9*** | ***10.5*** | ***14.4*** | ***18.2*** | ***25.4*** | ***34.8*** | ***48.0*** | 43.5 | 59.6 | 80.5 |
| 6500 | ***3.28*** | ***3.94*** | ***4.93*** | ***6.25*** | ***7.96*** | ***6.66*** | ***8.72*** | ***11.6*** | ***14.7*** | ***9.86*** | ***13.3*** | ***16.8*** | ***23.8*** | ***32.6*** | ***44.4*** | 40.8 | 55.8 | 75.4 |
| 6750 | ***3.05*** | ***3.65*** | ***4.57*** | ***5.80*** | ***7.38*** | ***6.24*** | ***8.08*** | ***10.8*** | ***13.6*** | ***9.26*** | ***12.3*** | ***15.6*** | ***22.3*** | ***30.6*** | ***41.2*** | 38.3 | 52.4 | 70.8 |
| 7000 | ***2.83*** | ***3.40*** | ***4.25*** | ***5.39*** | ***6.86*** | ***5.87*** | ***7.52*** | ***10.0*** | ***12.7*** | ***8.71*** | ***11.5*** | ***14.5*** | ***21.0*** | ***28.8*** | ***38.3*** | ***36.0*** | ***49.3*** | ***66.6*** |

NOTES: TABLES 20 to 22.

1. The numbers in ***bold italics*** are limited by the slenderness ratio in clause 3.4.1 of AS/NZS4600:2005

2. Braces are assumed to provide torsional restraint ( e.g. Stramit® Bridging ).

3. Use unbraced data ( Table 19 ) if bracing does not provide full torsional restraint.

Outside ***Stramit® Bridging*** recommendations.

## Table 21

### STRAMIT EXACTA® PURLINS – DESIGN MEMBER CAPACITIES FOR AXIAL COMPRESSION Two intermediate braces - $\phi_c N_c$ (kN)

| Unbraced Length (mm) | Stramit® Exacta® Purlin/Girt Size | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | EC150-10 | EC150-12 | EC150-15 | EC150-19 | EC150-24 | EC200-12 | EC200-15 | EC200-19 | EC200-24 | EC250-15 | EC250-19 | EC250-24 | EC300-19 | EC300-24 | EC300-30 | EC350-19 | EC350-24 | EC350-30 |
| 1500 | 34.4 | 45.2 | 61.0 | 83.2 | 114 | 59.3 | 78.3 | 123 | 169 | 89.2 | 125 | 189 | 156 | 216 | 335 | 177 | 245 | 340 |
| 1750 | 27.4 | 35.8 | 47.9 | 65.6 | 89.7 | 52.4 | 69.9 | 108 | 147 | 82.2 | 118 | 170 | 148 | 204 | 312 | 171 | 236 | 328 |
| 2000 | 22.4 | 28.5 | 38.3 | 52.5 | 71.8 | 45.4 | 62.5 | 91.1 | 125 | 74.8 | 109 | 151 | 139 | 193 | 288 | 164 | 226 | 314 |
| 2250 | 18.4 | 23.3 | 31.4 | 43.2 | 58.5 | 38.7 | 53.5 | 75.7 | 104 | 67.2 | 95.3 | 132 | 130 | 185 | 263 | 156 | 216 | 299 |
| 2500 | 15.4 | 19.5 | 26.4 | 36.2 | 48.0 | 33.1 | 44.8 | 63.5 | 87.6 | 59.6 | 81.6 | 114 | 120 | 173 | 238 | 148 | 205 | 283 |
| 2750 | 13.1 | 16.7 | 22.5 | 30.9 | 40.1 | 28.3 | 38.2 | 54.3 | 75.0 | 50.8 | 69.9 | 98.0 | 110 | 154 | 214 | 140 | 193 | 269 |
| 3000 | 11.3 | 14.4 | 19.5 | 26.3 | 34.1 | 24.5 | 33.1 | 47.1 | 65.2 | 44.0 | 60.7 | 85.4 | 98.5 | 136 | 190 | 130 | 181 | 256 |
| 3250 | 9.88 | 12.6 | 17.1 | 22.6 | 29.5 | 21.4 | 29.0 | 41.3 | 57.3 | 38.6 | 53.4 | 75.4 | 86.9 | 119 | 167 | 120 | 168 | 241 |
| 3500 | 8.74 | 11.2 | 15.1 | 19.7 | 25.7 | 18.9 | 25.7 | 36.7 | 50.8 | 34.2 | 47.5 | 67.2 | 76.8 | 106 | 148 | 110 | 156 | 221 |
| 3750 | 7.79 | 10.0 | 13.3 | 17.3 | 22.7 | 16.9 | 23.0 | 32.8 | 45.4 | 30.6 | 42.6 | 60.4 | 68.5 | 94.6 | 133 | 100 | 145 | 198 |
| 4000 | 7.00 | 8.96 | 11.8 | 15.4 | 20.2 | 15.2 | 20.7 | 29.6 | 40.8 | 27.6 | 38.5 | 54.7 | 61.5 | 85.3 | 120 | 91.7 | 131 | 178 |
| 4250 | 6.34 | 8.10 | 10.5 | 13.8 | 18.1 | 13.8 | 18.8 | 26.8 | 36.4 | 25.0 | 35.1 | 49.9 | 55.7 | 77.4 | 109 | 84.2 | 119 | 161 |
| 4500 | ***5.76*** | ***7.35*** | ***9.44*** | ***12.4*** | ***16.4*** | 12.5 | 17.1 | 24.5 | 32.8 | 22.9 | 32.1 | 45.8 | 50.8 | 70.7 | 99.7 | 77.6 | 108 | 147 |
| 4750 | ***5.27*** | ***6.64*** | ***8.55*** | ***11.3*** | ***14.9*** | ***11.5*** | ***15.7*** | ***22.4*** | ***29.7*** | 21.0 | 29.5 | 42.2 | 46.5 | 64.9 | 91.7 | 71.8 | 98.6 | 134 |
| 5000 | ***4.84*** | ***6.03*** | ***7.78*** | ***10.3*** | ***13.6*** | ***10.6*** | ***14.5*** | ***20.6*** | ***27.1*** | 19.4 | 27.3 | 39.1 | 42.8 | 59.9 | 84.6 | 66.0 | 90.6 | 124 |
| | EZ150-10 | EZ150-12 | EZ150-15 | EZ150-19 | EZ150-24 | EZ200-12 | EZ200-15 | EZ200-19 | EZ200-24 | EZ250-15 | EZ250-19 | EZ250-24 | EZ300-19 | EZ300-24 | EZ300-30 | EZ350-19 | EZ350-24 | EZ350-30 |
| 1500 | 38.6 | 50.2 | 67.7 | 91.9 | 125 | 60.7 | 79.6 | 125 | 171 | 82.6 | 119 | 173 | 148 | 207 | 320 | 176 | 244 | 339 |
| 1750 | 31.1 | 40.9 | 54.9 | 74.6 | 102 | 53.8 | 71.1 | 109 | 148 | 74.3 | 109 | 151 | 139 | 194 | 299 | 170 | 235 | 326 |
| 2000 | 25.4 | 32.8 | 43.7 | 59.5 | 80.9 | 46.3 | 63.9 | 92.6 | 126 | 65.6 | 94 | 129 | 130 | 183 | 272 | 163 | 225 | 312 |
| 2250 | 21.2 | 26.7 | 35.7 | 48.6 | 65.9 | 39.0 | 53.8 | 76.8 | 105 | 57.4 | 78.5 | 108 | 119 | 173 | 244 | 155 | 214 | 296 |
| 2500 | 17.6 | 22.3 | 29.8 | 40.5 | 53.8 | 33.4 | 44.9 | 64.3 | 87.6 | 48.0 | 65.8 | 90.5 | 109 | 156 | 217 | 147 | 203 | 280 |
| 2750 | 15.0 | 19.0 | 25.3 | 34.3 | 44.4 | 28.5 | 38.2 | 54.7 | 74.6 | 40.9 | 56.2 | 77.3 | 98.6 | 136 | 190 | 138 | 190 | 266 |
| 3000 | 12.9 | 16.3 | 21.8 | 29.3 | 37.3 | 24.6 | 33.0 | 47.2 | 64.3 | 35.3 | 48.7 | 67.0 | 86.4 | 118 | 165 | 128 | 178 | 253 |
| 3250 | 11.2 | 14.2 | 19.0 | 25.0 | 31.8 | 21.4 | 28.8 | 41.3 | 56.1 | 30.9 | 42.6 | 58.8 | 75.4 | 103 | 144 | 118 | 165 | 236 |
| 3500 | 9.91 | 12.6 | 16.7 | 21.6 | 27.4 | 18.9 | 25.4 | 36.4 | 49.4 | 27.3 | 37.8 | 52.0 | 66.5 | 91.0 | 128 | 108 | 152 | 213 |
| 3750 | 8.81 | 11.1 | 14.8 | 18.8 | 23.9 | 16.8 | 22.6 | 32.4 | 43.9 | 24.4 | 33.7 | 46.4 | 59.2 | 81.2 | 114 | 97.7 | 141 | 189 |
| 4000 | ***7.89*** | ***10.0*** | ***13.0*** | ***16.5*** | ***21.0*** | 15.1 | 20.3 | 29.0 | 38.8 | 21.9 | 30.3 | 41.7 | 53.2 | 72.9 | 102 | 89.2 | 126 | 170 |
| 4250 | ***7.11*** | ***8.98*** | ***11.5*** | ***14.6*** | ***18.6*** | ***13.6*** | ***18.3*** | ***26.2*** | ***34.3*** | 19.9 | 27.4 | 37.6 | 48.1 | 66.0 | 92.4 | 81.7 | 114 | 153 |
| 4500 | ***6.45*** | ***8.13*** | ***10.3*** | ***13.0*** | ***16.6*** | ***12.4*** | ***16.7*** | ***23.7*** | ***30.6*** | ***18.1*** | ***25.0*** | ***34.2*** | 43.7 | 60.0 | 84.0 | 75.2 | 103 | 139 |
| 4750 | ***5.87*** | ***7.38*** | ***9.23*** | ***11.7*** | ***14.9*** | ***11.3*** | ***15.2*** | ***21.6*** | ***27.5*** | ***16.5*** | ***22.8*** | ***31.2*** | 39.9 | 54.9 | 76.8 | 69.3 | 94.3 | 127 |
| 5000 | ***5.37*** | ***6.66*** | ***8.33*** | ***10.6*** | ***13.4*** | ***10.4*** | ***13.9*** | ***19.6*** | ***24.8*** | ***15.2*** | ***21.0*** | ***28.4*** | 36.7 | 50.4 | 70.5 | 63.5 | 86.5 | 117 |

NOTES: TABLES 20 to 22.

1. The numbers in ***bold italics*** are limited by the slenderness ratio in clause 3.4.1 of AS/NZS4600:2005

2. Braces are assumed to provide torsional restraint ( e.g. Stramit® Bridging ).

3. Use unbraced data ( Table 19 ) if bracing does not provide full torsional restraint.

Outside ***Stramit® Bridging*** recommendations.

## Table 22

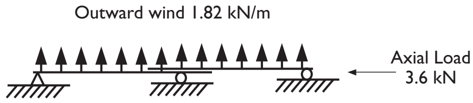
### STRAMIT EXACTA® PURLINS – DESIGN MEMBER CAPACITIES FOR AXIAL COMPRESSION Three intermediate braces - $\phi_c N_c$ (kN)

| Unbraced Length (mm) | Stramit® Exacta® Purlin/Girt Size | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | EC150-10 | EC150-12 | EC150-15 | EC150-19 | EC150-24 | EC200-12 | EC200-15 | EC200-19 | EC200-24 | EC250-15 | EC250-19 | EC250-24 | EC300-19 | EC300-24 | EC300-30 | EC350-19 | EC350-24 | EC350-30 |
| 1500 | 30.2 | 39.7 | 53.2 | 72.5 | 99 | 56.1 | 74.3 | 116 | 157 | 86.9 | 122 | 182 | 153 | 211 | 326 | 174 | 241 | 335 |
| 1750 | 24.0 | 30.6 | 41.0 | 55.9 | 75.9 | 48.6 | 65.1 | 98 | 133 | 79.2 | 115 | 162 | 144 | 199 | 301 | 167 | 231 | 321 |
| 2000 | 19.3 | 24.4 | 32.7 | 44.6 | 60.2 | 41.1 | 57.2 | 80.2 | 110 | 71.2 | 103 | 141 | 134 | 189 | 274 | 160 | 221 | 306 |
| 2250 | 15.8 | 20.0 | 26.8 | 36.6 | 48.0 | 34.6 | 46.9 | 65.8 | 90 | 63.9 | 87.7 | 122 | 124 | 179 | 247 | 151 | 209 | 289 |
| 2500 | 13.2 | 16.7 | 22.5 | 30.6 | 39.2 | 29.2 | 39.3 | 55.3 | 75.8 | 54.1 | 74.0 | 103 | 113 | 160 | 220 | 143 | 196 | 272 |
| 2750 | 11.2 | 14.3 | 19.1 | 25.5 | 32.7 | 24.9 | 33.5 | 47.2 | 64.8 | 46.1 | 63.3 | 88.3 | 102 | 141 | 194 | 133 | 183 | 259 |
| 3000 | 9.7 | 12.3 | 16.5 | 21.5 | 27.7 | 21.5 | 29.0 | 40.9 | 56.1 | 39.9 | 55.0 | 76.9 | 89.3 | 122 | 169 | 122 | 170 | 243 |
| 3250 | 8.47 | 10.8 | 14.4 | 18.5 | 23.8 | 18.8 | 25.4 | 35.8 | 49.2 | 35.0 | 48.3 | 67.8 | 78.0 | 107 | 149 | 111 | 156 | 221 |
| 3500 | 7.48 | 9.5 | 12.5 | 16.1 | 20.7 | 16.6 | 22.5 | 31.7 | 43.5 | 31.0 | 42.9 | 60.3 | 68.9 | 95 | 132 | 100 | 144 | 196 |
| 3750 | 6.66 | 8.5 | 10.9 | 14.1 | 18.2 | 14.8 | 20.1 | 28.3 | 38.3 | 27.7 | 38.5 | 54.1 | 61.5 | 84.7 | 118 | 91 | 130 | 175 |
| 4000 | 5.98 | 7.59 | 9.6 | 12.5 | 16.2 | 13.3 | 18.1 | 25.5 | 33.9 | 25.0 | 34.8 | 48.9 | 55.2 | 76.3 | 106 | 83.2 | 117 | 157 |
| 4250 | 5.40 | 6.76 | 8.6 | 11.1 | 14.4 | 12.1 | 16.4 | 23.0 | 30.2 | 22.7 | 31.6 | 44.5 | 50.0 | 69.2 | 97 | 76.2 | 105 | 143 |
| 4500 | ***4.90*** | ***6.06*** | ***7.72*** | ***10.0*** | ***13.0*** | 11.0 | 14.9 | 21.0 | 27.1 | 20.7 | 28.9 | 40.7 | 45.6 | 63.2 | 88.1 | 70.1 | 96 | 130 |
| 4750 | ***4.47*** | ***5.46*** | ***6.97*** | ***9.1*** | ***11.8*** | ***10.1*** | ***13.7*** | ***19.0*** | ***24.5*** | 19.0 | 26.5 | 37.4 | 41.7 | 57.9 | 80.9 | 64.0 | 87.5 | 119 |
| 5000 | ***4.07*** | ***4.95*** | ***6.33*** | ***8.2*** | ***10.7*** | ***9.2*** | ***12.6*** | ***17.2*** | ***22.3*** | 17.5 | 24.5 | 34.5 | 38.4 | 53.4 | 74.5 | 58.7 | 80.4 | 109 |
| | EZ150-10 | EZ150-12 | EZ150-15 | EZ150-19 | EZ150-24 | EZ200-12 | EZ200-15 | EZ200-19 | EZ200-24 | EZ250-15 | EZ250-19 | EZ250-24 | EZ300-19 | EZ300-24 | EZ300-30 | EZ350-19 | EZ350-24 | EZ350-30 |
| 1500 | 38.2 | 49.6 | 66.7 | 90.1 | 122 | 60.7 | 79.6 | 125 | 171 | 82.6 | 119 | 173 | 148 | 207 | 320 | 176 | 244 | 339 |
| 1750 | 30.7 | 40.3 | 53.8 | 72.6 | 97.7 | 53.8 | 71.1 | 109 | 148 | 74.3 | 109 | 151 | 139 | 194 | 299 | 170 | 235 | 326 |
| 2000 | 25.2 | 32.2 | 42.8 | 57.7 | 77.5 | 46.3 | 63.9 | 92.6 | 126 | 65.6 | 94.3 | 129 | 130 | 183 | 272 | 163 | 225 | 312 |
| 2250 | 20.9 | 26.3 | 35.0 | 47.2 | 63.1 | 39.0 | 53.8 | 76.8 | 105 | 57.4 | 78.5 | 108 | 119 | 173 | 244 | 155 | 214 | 296 |
| 2500 | 17.4 | 22.0 | 29.2 | 39.3 | 51.2 | 33.4 | 44.9 | 64.3 | 87.6 | 48.0 | 65.8 | 90.5 | 109 | 156 | 217 | 147 | 203 | 280 |
| 2750 | 14.8 | 18.7 | 24.8 | 33.3 | 42.3 | 28.5 | 38.2 | 54.7 | 74.6 | 40.9 | 56.2 | 77.3 | 98.6 | 136 | 190 | 138 | 190 | 266 |
| 3000 | 12.7 | 16.1 | 21.4 | 28.3 | 35.5 | 24.6 | 33.0 | 47.2 | 64.3 | 35.3 | 48.7 | 67.0 | 86.4 | 118 | 165 | 128 | 178 | 253 |
| 3250 | 11.1 | 14.0 | 18.6 | 24.2 | 30.3 | 21.4 | 28.8 | 41.3 | 56.1 | 30.9 | 42.6 | 58.8 | 75.4 | 103 | 144 | 118 | 165 | 236 |
| 3500 | 9.8 | 12.3 | 16.3 | 20.8 | 26.1 | 18.9 | 25.4 | 36.4 | 49.4 | 27.3 | 37.8 | 52.0 | 66.5 | 91.0 | 128 | 108 | 152 | 213 |
| 3750 | 8.7 | 11.0 | 14.4 | 18.1 | 22.7 | 16.8 | 22.6 | 32.4 | 43.9 | 24.4 | 33.7 | 46.4 | 59.2 | 81.2 | 114 | 97.7 | 141 | 189 |
| 4000 | ***7.8*** | ***9.8*** | ***12.7*** | ***15.9*** | ***20.0*** | 15.1 | 20.3 | 29.0 | 38.8 | 21.9 | 30.3 | 41.7 | 53.2 | 72.9 | 102 | 89.2 | 126 | 170 |
| 4250 | ***7.0*** | ***8.8*** | ***11.2*** | ***14.1*** | ***17.7*** | ***13.6*** | ***18.3*** | ***26.2*** | ***34.3*** | 19.9 | 27.4 | 37.6 | 48.1 | 66.0 | 92.4 | 81.7 | 114 | 153 |
| 4500 | ***6.4*** | ***8.0*** | ***10.0*** | ***12.6*** | ***15.8*** | ***12.4*** | ***16.7*** | ***23.7*** | ***30.6*** | ***18.1*** | ***25.0*** | ***34.2*** | 43.7 | 60.0 | 84.0 | 75.2 | 103 | 139 |
| 4750 | ***5.80*** | ***7.2*** | ***9.0*** | ***11.3*** | ***14.2*** | ***11.3*** | ***15.2*** | ***21.6*** | ***27.5*** | ***16.5*** | ***22.8*** | ***31.2*** | 39.9 | 54.9 | 76.8 | 69.3 | 94.3 | 127 |
| 5000 | ***5.31*** | ***6.5*** | ***8.1*** | ***10.2*** | ***12.8*** | ***10.4*** | ***13.9*** | ***19.6*** | ***24.8*** | ***15.2*** | ***21.0*** | ***28.4*** | 36.7 | 50.4 | 70.5 | 63.5 | 86.5 | 117 |

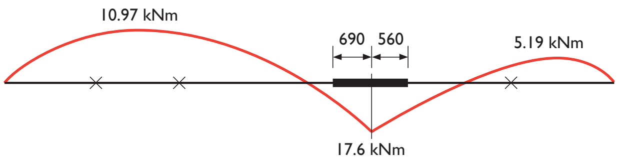
# Design Example 2

## Configuration

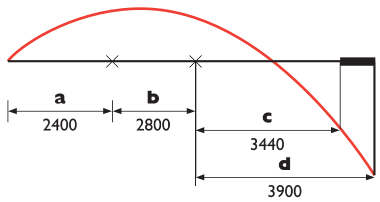
Consider the same span and final bridging configuration as Design Example 1, but with a different loading condition (a lower outward wind uplift, applied in combination with an axial compression load).




The bending moments are proportionately lower than those in Design Example 1.




To check combined axial and bending loads, divide the span into unbraced lengths.




## Validity

First check that the loading combination meets the rules for the simplified equations applied to the EZ250-19 section previously established in Example 1.

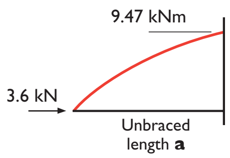
$\frac{N^*}{\phi_c N_c}$ must equal 0.15 or less.

Use Table 21 to obtain $\phi_c N_c$ as this span has two intermediate braces (bridging). For the longest unbraced length of 3900, $\phi_c N_c$ is 28.64kN for an EZ250-19.

In this case $\frac{3.6}{28.64} = 0.125$ which is OK

## Unbraced Length a

By interpolation from Table 15, $\phi_b M_b$ for an EZ250-19 is 23.2 kNm. From Table 21, $\phi_c N_c$ for a EZ250-19 is 81.6kN.

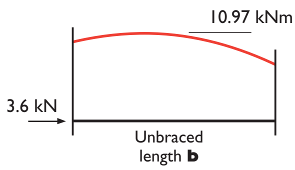



Using the formula on *page 18*

$$\frac{3.6}{81.6} + \frac{9.47}{23.2} = 0.45 < 1 \text{ OK}$$

## Unbraced Length b

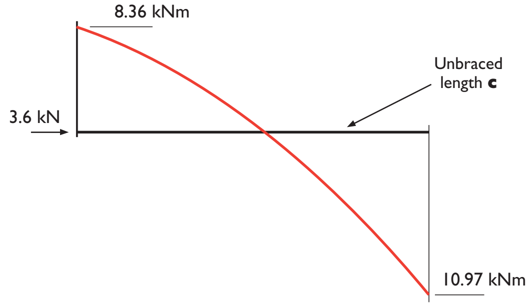
This time use Table 16 to find $\phi_b M_b$ which for EZ250-19 is 14.0 kNm. Still use Table 21 for $\phi_c N_c$ which is now 48.7kN at this unbraced length.




Now $\frac{3.6}{48.7} + \frac{10.97}{14.0} = 0.86 < 1$ OK

## Unbraced Length c

As this case involves two different moment segment types, the extreme values $\phi_b M_b$ must be established.




Check Tables 14 and 16, calling the span 3440 the unbraced length 'c' for simplicity. From Table 15 for Type 1 segments, for an EZ250-19 $\phi_b M_b$ is 10.9 kNm.
Still using Table 21, $\phi_c N_c$ is 38.9kN.

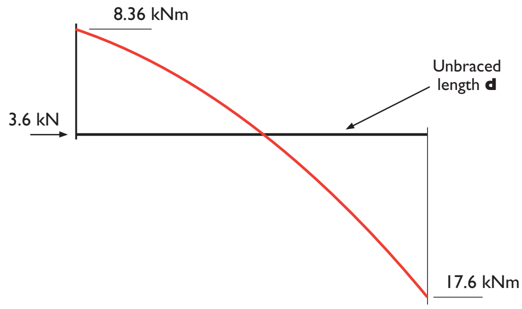
$$\frac{3.6}{38.9} + \frac{8.36}{10.9} = 0.86 < 1 \text{ OK}$$

For the second part, using Table 17 (Type 3 segments), $\phi_b M_b$ for EZ250-19 is 12.2 kNm

Checking $\frac{3.6}{38.9} + \frac{10.97}{12.2} = 0.991 < 1$ OK

## Unbraced Length d

Again, this case requires checking at each end for criticality. For the left end $\phi_b M_b$ will be less as the unbraced length is now 4000.




Still using Table 15, this is 10.8 kNm. $\phi_c N_c$ from Table 21 gives 31.66kN.

Checking the left end: $\frac{3.6}{31.66} + \frac{8.36}{10.8} = 0.89 < 1$ OK

For the right end, $\phi_b M_b$ from Table 17 is 15.9 kNm.

However, as both axial and bending actions are shared between two purlins within the lap, the capacity can be doubled. (Note that if the section were of different thickness the capacities for each section could be added).

Checking the right end: $\frac{3.6}{2\text{x}31.66} + \frac{8.36}{2\text{x}15.9} = 0.61 < 1$ OK

# Procurement

## Availability

***Stramit Exacta*® C&Z Purlins** are available in all regions of Australia.

## Prices

Prices of ***Stramit Exacta*® C&Z Purlins and Girts**, ***Stramit*® Bridging** and their accessories can be obtained from your nearest Stramit location or distributor of Stramit products.

## Lengths

***Stramit Exacta*® C&Z Purlins and Girts** are supplied cut-to-length. If you are designing or transporting long products ensure that the length is within the limit of the local Transport Authority regulations. All sections are custom-cut to length from 0.6m to 12.0m. For longer lengths, contact your Stramit representative to determine special transport arrangements. Lengths less than 1.5m may be supplied "sausage" style in a continuous run approximately 5m long with only a small uncut tag connecting the purlin. Simply break off individual purlins on site. Although supplied in a string, each purlin has individual marking labels.

## Accessories

***Stramit Exacta*® C&Z Purlins and Girts** use exactly the same comprehensive range of components as standard ***Stramit*® Purlins.** Accessories include turnbuckles, clamp plates, extended angle brackets and slotted channel. ***Stramit*® Bridging** in any combination of channel, locator end, lock end and bolted end can be supplied in a pre-assembled form. These are also available in a bolted form (hinged) for use on curved roofs and at expansion joints.

## Orders

***Stramit Exacta*® C&Z Purlins and Girts**, ***Stramit*® Bridging** and accessories can be ordered directly from your nearest Stramit location. Exact details of lengths, hole positions and section sizes are required. Ask at your nearest Stramit location for order pad/detailing sheets.

## Lead Times

Please talk to your nearest Stramit branch for current lead times on ***Stramit Exacta*® C&Z Purlins** manufacture and delivery.

# Installation

Always follow the applicable OH&S regulations for your state.

## Good Practice

Stramit recommends that good trade practice be followed when using these products, such as found in Australian Standards AS3828 and HB39.

## Walking

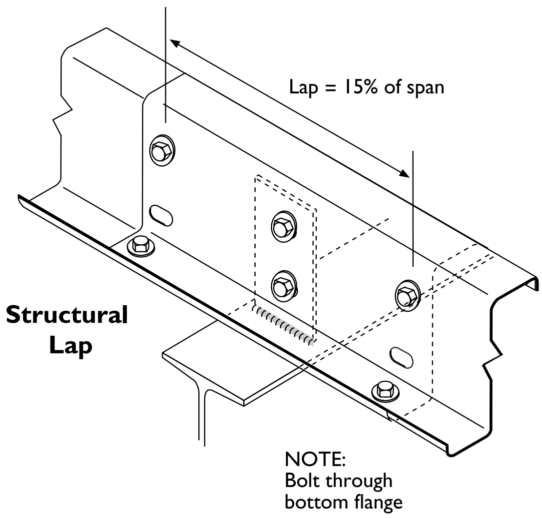
***Stramit Exacta*® C&Z Purlins, Girts and Bridging** are not designed to be walked on. Residual oil may be present on these components from manufacturing. Do not walk on purlins or bridging.

## Bolts

Always use the correct size and grade of bolts. Ensure that all bolts are securely tightened.

## Laps

Purlin laps must be bolted in the top web hole and the lower flange holes at both ends of the lap as shown below. Bolting only in the web of lapped purlins does not provide full structural continuity and excessive loads could be placed on to roofing screws that penetrate both purlins within a lapped region.




## Endlapping with Standard Purlins

***Stramit Exacta*® C&Z Purlins** have different web and flange sizes to standard purlins and will therefore not end lap.

## Fly Bracing

If the lower web hole in a lap is used for attaching fly bracing ensure that an additional bolt is used.

## Bridging

***Stramit® Bridging*** can be installed either up or down the roof slope, but cannot be mixed within a bridging run. However, as the starting and finishing components will be different, the direction of fixing must be established at the design/procurement phase.

Girt bridging must not exceed its compressive capacity. Where more than one row is to be installed always complete the bridging for each girt before commencing on the next (i.e. do not complete one row of bridging before starting the next).

## Welding

Stramit does not recommend the welding or hot cutting of purlins, girts or bridging. The heat produced in welding will affect the material properties of the high-yield strength cold-formed steel used by Stramit in its purlins. In many instances considerable stress concentrations are likely to arise, even with good quality welding. In addition, welding will locally remove the protective coating, leading to a potential reduction in durability.

# Additional Information

## Further Information

As well as our standard range of Technical Manuals, Installation Leaflets, Case Studies and other promotional literature Stramit has a series of Guides to aid design.

These include:

- Concealed Fixed Decking
- Roof Slope Guide
- Foot Traffic Guide
- Roof System Selection Guide
- Bullnosing, Curving and Crimping
- Acoustic Panels
- Cyclonic Areas
- Spring Curving Guide

Please contact your nearest Stramit Building Products location for any of these guides, or other literature.

## Other Products

Stramit offers a wide range of building products, including:

- Formwork decking
- Roof and wall sheeting
- Lightweight structural sections
- Truss components
- Gutters and downpipes
- Fascias
- Custom flashings
- Insulating products
- Fasteners

## Girt Bridging Capacity

***Stramit® Bridging*** is only designed to allow purlins and girts to resist wind loads once the sheeting has been attached. Purlins, girts and bridging should not be subjected to loading from stacked materials, even when sheeting is attached, or from lifting assemblies of framing.

Bridging used with girts may be subjected to compressive (or tensile) loading due to gravity during installation. These loads become cumulative with increasing wall height, unless a separation joint is included. The capacity of ***Stramit® Boltless Bridging***, ***Stramit® Bolted Bridging*** and ***Stramit® Large Series Bridging*** to resist these loads is given in the **Stramit® Purlins, Girts and Bridging Technical Manual**. These capacities are based on the mass of the girts plus a 1.1kN load to allow for riggers.

WARNING – girt bridging capacity is usually limited by bridging end component strength rather than channel compression. ***Stramit® Bridging*** ends have been designed through testing to have a capacity substantially greater than most other bridging types. Accordingly this data must only be used for ***Stramit® Bridging***.

## EX-facta™ Design Software

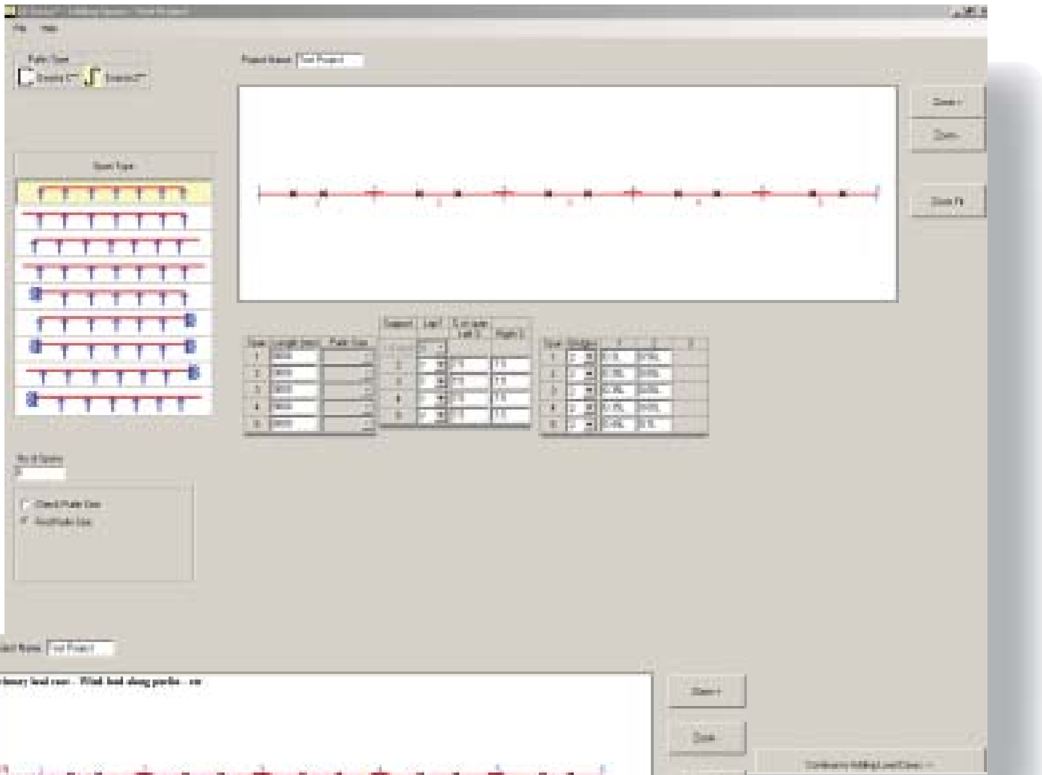
Stramit Building Products offers highly interactive ***EX-facta***™ design software for use by engineers. The key features of ***EX-facta***™ software are:-

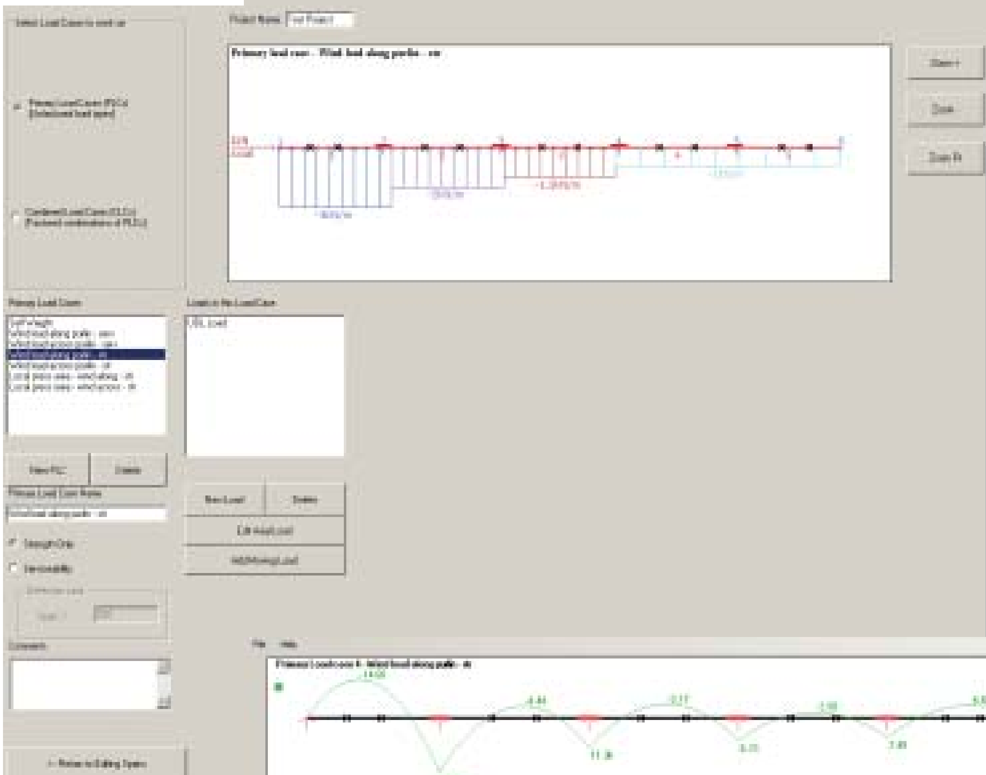
- fully variable span dimensions
- variable lap lengths
- visual display of span efficiencies
- up to 10 span continuous systems
- multiple combined load cases
- variable UDL within spans
- concentrated/point loads
- variable bridging positions
- mixed bridging numbers
- cantilevers
- any combinations of the above

For a copy of the ***EX-facta***™ software program or for more information please contact your regional Stramit Technical Services Manager.

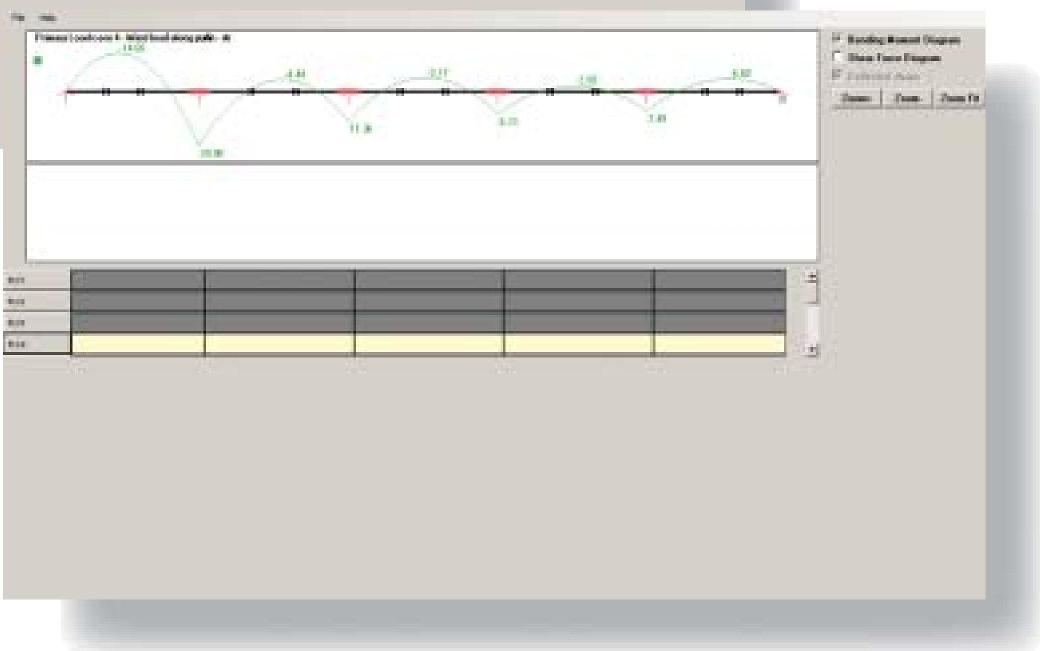
# Stramit EX-facta™ Design Software Example

Input of purlin type, spans, lap lengths and bridging positions

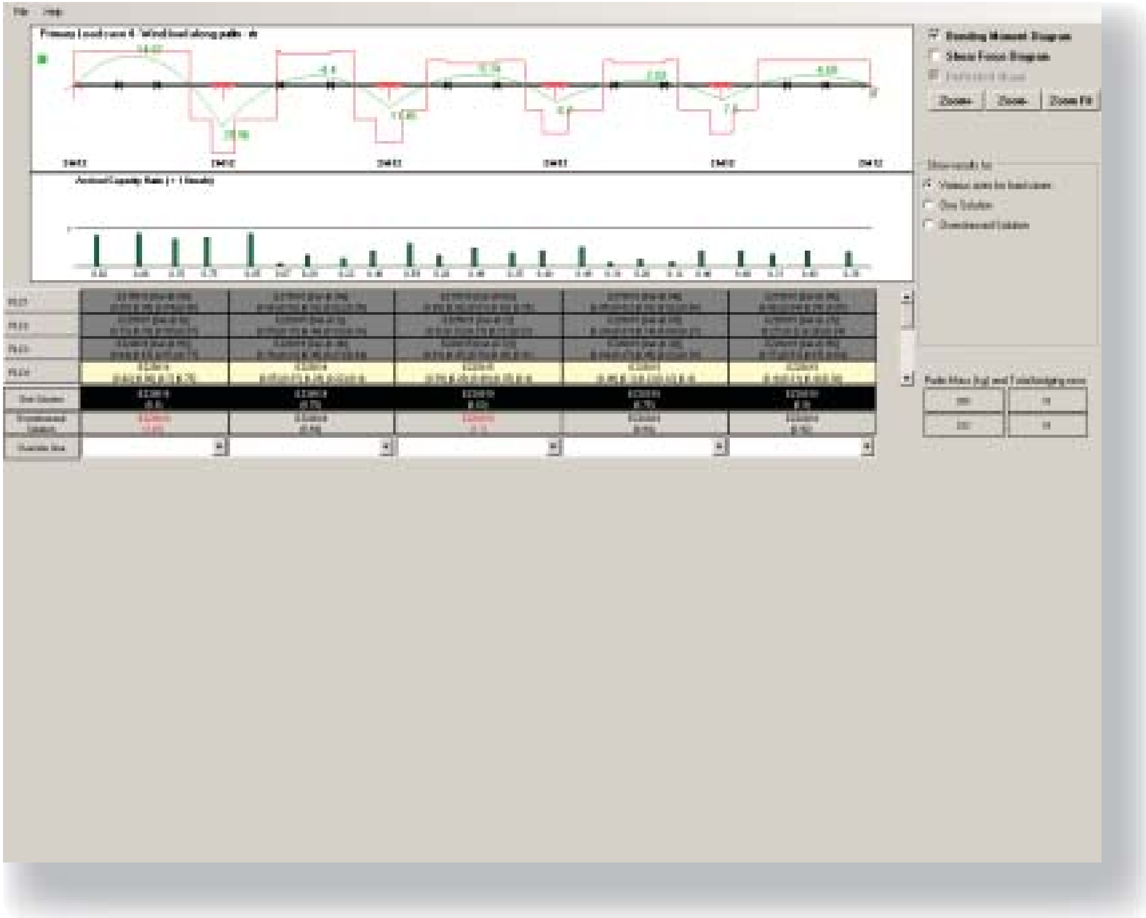




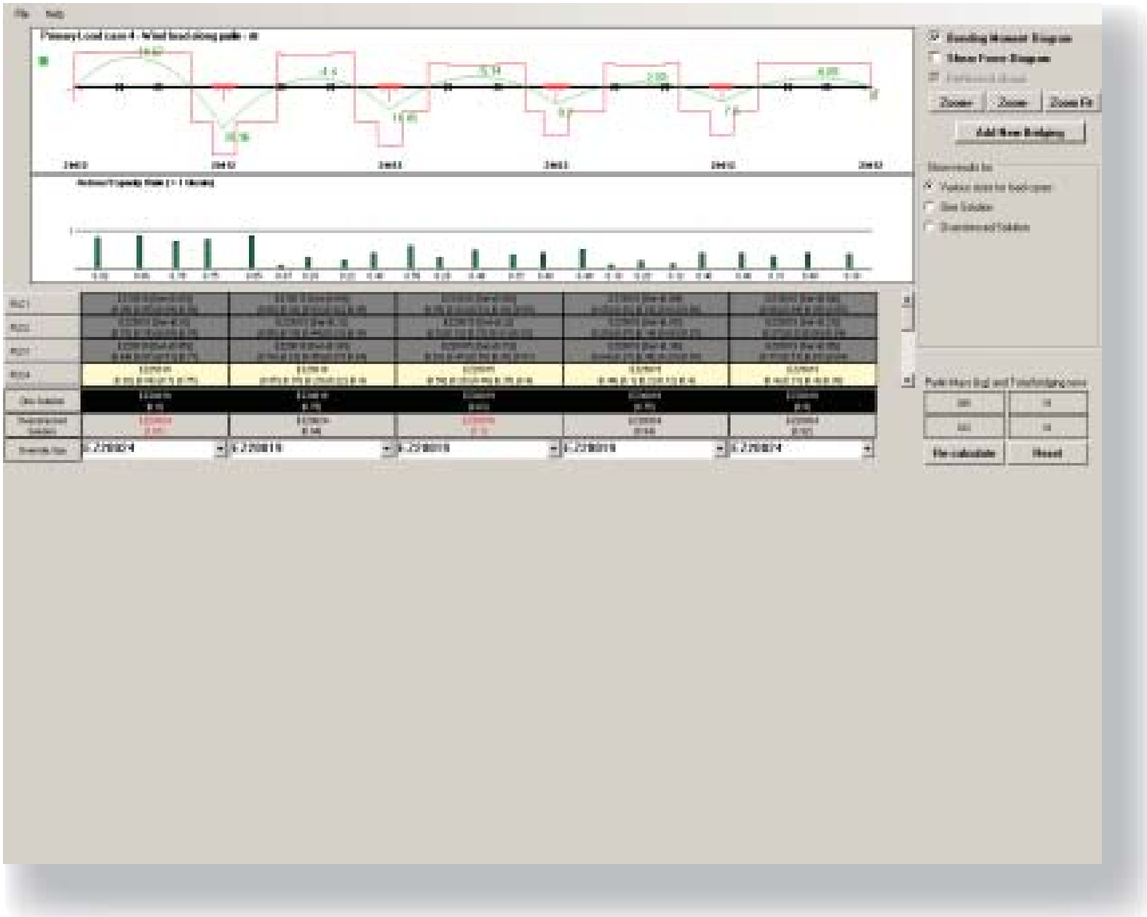
Input of primary and combined load cases with various load types



Analysis results for one load case

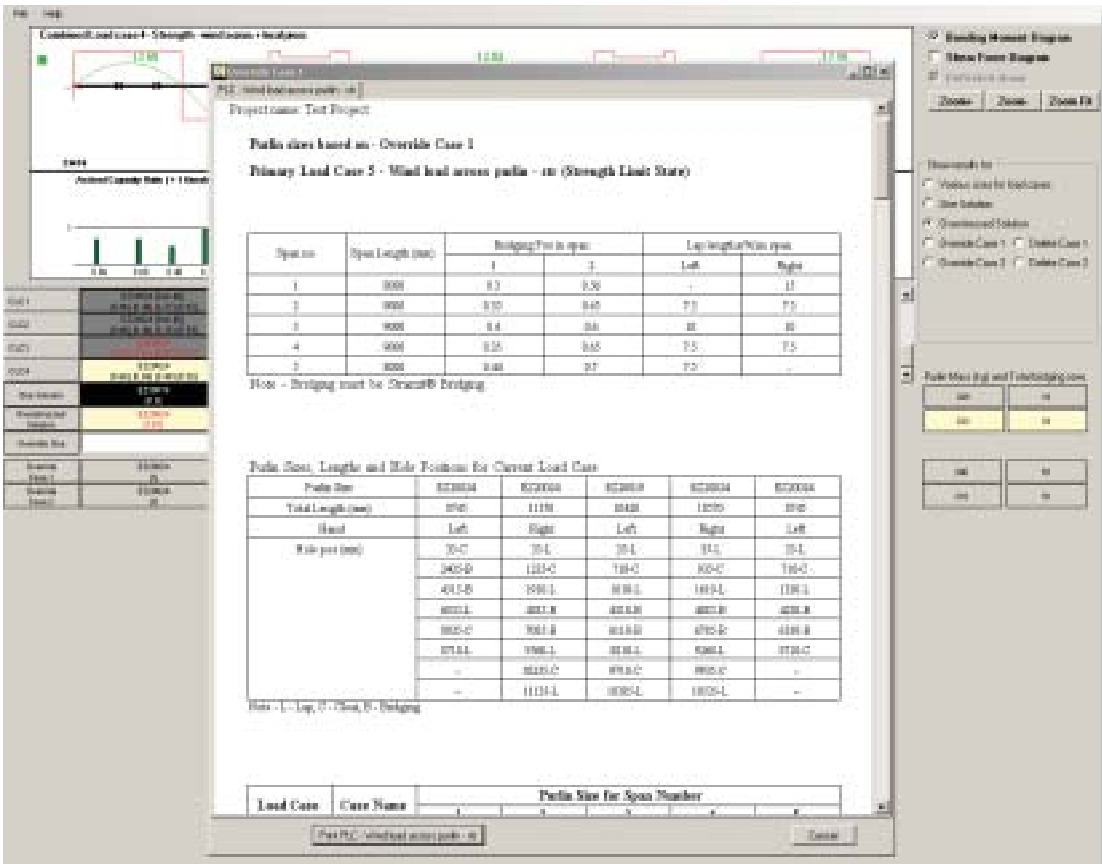


**Design results showing selected purlin sizes and efficiencies**



**Choice of override purlin sizes for interactive design**

**Results of two override cases showing mass estimates and number of bridging positions**



**Design calculations, including purlin lengths and hole positions, with print option**

**Stramit® Building Products**

The Stramit web page can be found at:
**www.stramit.com.au**
Details of many ***Stramit***® products can also be seen on the AIA site 'Product Selector' at:
**www.selector.com.au**

| contact numbers for information | | prices | availability<br>products<br>coating<br>colours | general<br>other | technical<br>advice<br>product data |
|---|---|---|---|---|---|
| **SYDNEY**<br>33-83 Quarry Road, Erskine Park NSW 2759 | phone<br>fax | **(02) 9834 0909**<br>(02) 9834 0988 | | **(02) 9834 0900**<br>(02) 9834 0988 | |
| **CANBERRA**<br>4 Bass Street, Queanbeyan NSW 2620 | phone<br>fax | | **(02) 6297 3533**<br>(02) 6297 8089 | | |
| **COFFS HARBOUR**<br>6 Mansbridge Drive, Coffs Harbour NSW 2450 | phone<br>fax | | **(02) 6652 6333**<br>(02) 6651 3395 | | **(02) 4954 5033**<br>(02) 4954 5856 |
| **NEWCASTLE**<br>17 Nelson Road, Cardiff NSW 2285 | phone<br>fax | | **(02) 4954 5033**<br>(02) 4954 5856 | | |
| **ORANGE**<br>51 Leewood Drive, Orange NSW 2800 | phone<br>fax | | **(02) 6361 0444**<br>(02) 6361 9814 | | |
| **MELBOURNE**<br>2/1464 Ferntree Gully Road, Knoxfield VIC 3180 | phone<br>fax | **(03) 9237 6300**<br>(03) 9237 6399 | | **(03) 9237 6200**<br>(03) 9237 6299 | |
| **ALBURY**<br>18 Ariel Drive, Albury NSW 2640 | phone<br>fax | | **(02) 6041 7600**<br>(02) 6041 7666 | | |
| **BENDIGO**<br>Ramsay Court, Kangaroo Flat VIC 3555 | phone<br>fax | | **(03) 5447 8455**<br>(03) 5447 9677 | | |
| **HOBART**<br>57 Crooked Billett Drive, Brighton TAS 7030 | phone<br>fax | | **(03) 6263 5536**<br>(03) 6263 6950 | | |
| **LAUNCESTON**<br>289 Hobart Road, Kings Meadows TAS 7249 | phone<br>fax | | **(03) 6343 7390**<br>(03) 6343 7381 | | **(03) 6263 5536**<br>(03) 6263 6950 |
| **ADELAIDE**<br>11 Stock Road, Cavan SA 5094 | phone<br>fax | | **(08) 8262 4444**<br>(08) 8262 6333 | | **(08) 8262 4444**<br>(08) 8262 6333 |
| **BRISBANE**<br>57-71 Platinum Street, Crestmead QLD 4132 | phone<br>fax | | **(07) 3803 9999**<br>(07) 3803 1499 | | |
| **TOWNSVILLE**<br>402-408 Bayswater Road, Garbutt QLD 4814 | phone<br>fax | | **(07) 4779 0844**<br>(07) 4775 7155 | | |
| **CAIRNS**<br>Vickers Street, Edmonton QLD 4869 | phone<br>fax | | **(07) 4045 3069**<br>(07) 4045 4762 | | |
| **MACKAY**<br>Brickworks Court, Glenella QLD 4740 | phone<br>fax | | **(07) 4942 3488**<br>(07) 4942 2343 | | **(07) 3803 9999**<br>(07) 3803 1499 |
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