

**METALFORM**

# **MAX-SPAN<sup>®</sup> PURLINS AND GIRTS**

**DESIGN MANUAL**



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## Metalform products details in this manual

Product	Use	Code prefix
MAX-SPAN® Zeds	General purpose purlins and girts	MZ
MAX-SPAN® Cees	General purpose purlins and girts	MC
MAX-SPAN® Fascia Purlins	Fascia purlins	FP
Esy-Lok Bridging	Flexible bridging system for bracing Zeds & Cees	EL

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## BACKGROUND

Metalform Structures have been proudly supplying the commercial construction market with high quality purlins for over twenty years. As a specialist supplier, METALFORM® offers our customers high levels of service delivered through our skilled estimating staff and fast production turn-around times. We boast one of the most efficient and flexible bridging systems on the market and are proud to launch the METALFORM® MAX-SPAN® range of advanced purlins to Victoria. The MAX-SPAN® purlin range has been designed for maximum efficiency and will assist the commercial construction market in producing cost effective structures that don't compromise on strength or safety. Utilising patented web stiffening technology the MAX-SPAN® purlin profile geometry is balanced for ultimate strength and serviceability according to AS/NZS4600:2006.

Research and testing of the MAX-SPAN® purlins system in our NATA-registered laboratory has shown that purlin volumes can be reduced by up to 20% in larger structures\*, dramatically reducing the cost of construction. METALFORM® are committed to driving innovation and efficiency in the commercial construction sector and offer engineering representation and design software to assist in producing the best outcome, please contact METALFORM® to request further information on any design related matter.

## SCOPE

This publication has been prepared with a view of providing designers, specifiers, fabricators, builders and erectors the relevant data to enable easy selection, specification and detailing of a roof or wall system using the MAX-SPAN® purlin range.

The information contained herein includes:

- Product features, applications and benefits
- Product ordering
- Product handling
- Product detailing, installation and assembly
- Familiar format of capacity tables, however a greater range of configurations
- More detailed information on design, construction and installation issues including profile orientation, bridging
- Product dimensional data and section properties
- MAX-SPAN® Zed and MAX-SPAN® Cee purlin profiles for 150, 200, 250

These purlin products are available with a wide range of accessories and a bridging system for the full range of purlin profiles.

\*Performance comparisons vary by individual purlin size, span and bridging configurations.

## DISCLAIMER AND LIMITATION OF LIABILITY

This publication is intended to be an aid for fabricators, detailers and professional engineers and is not a substitute for professional judgment. Except to the extent to which liability may not lawfully be excluded or limited, Lysaght Building Solutions Pty Ltd trading as METALFORM® Structures will not be under or incur any liability to you for any direct or indirect loss or damage (including, without limitation, consequential loss or damage, such as loss of profit or anticipated profit, loss of data, loss of use, damage to goodwill and loss due to delay) however caused (including, without limitation, breach of contract, negligence and/or breach of statute), which you may suffer or incur in connection with this publication.

# GENERAL DATA FOR ZED AND CEE SECTIONS

MAX-SPAN® Zed and Cee sections are accurately rollformed from high-strength zinc-coated steel to provide an efficient, lightweight, economical roofing and cladding support system for framed structures. The system, which includes Esy-Lok™ bridging, includes a comprehensive range of accessories and is supplied ready for erection.

## APPLICATIONS

MAX-SPAN® Zed sections may be used over single spans, lapped continuous and unlapped continuous spans in multi-bay buildings. Lapped continuous spans result in a considerable capacity increase in the system. MAX-SPAN® Cee sections may be used in single spans and unlapped continuous spans in multi-bay buildings. Cee sections are ideal as eave purlins or where compact sections are required for detailing. Cee sections cannot be lapped

## RANGE OF PRODUCTS & SERVICES

Our wide range includes:

- A full range of MAX-SPAN® Zeds and Cees
- A full range of MAX-SPAN® Zeds and Cees with downturned-lip
- Section sizes from 150mm to 250mm
- Technical information for cleatless connections (see Design Notes for capacity tables)
- Esy-Lok™ bridging systems
- Bolting systems to suit project needs
- The BlueScope Steel corrosion warranty
- Advice on improving the life expectancy of purlin systems in corrosive environments
- Access to a national network of experienced engineers

## PERFORMANCE

In accordance with the provisions of AS/NZS 4600:2005 Cold-formed steel structures, load capacities have been calculated for MAX-SPAN® sections using approved Esy-Lok™ bridging systems, bolting and other accessories. Sections chosen using the data provided in the tables will perform as specified when the design, fabrication and erection are carried out in accordance with METALFORM® recommendations and accepted building practice.

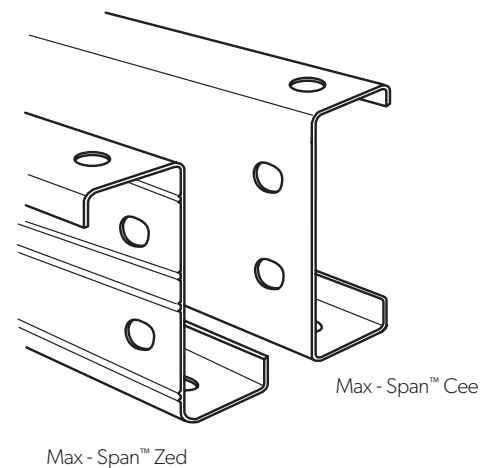
## NON-STANDARD SECTIONS

In a competitive market it is essential to have the most efficient structural components for the job, at METALFORM® we understand that a standard C and Z configuration is sometimes not the best outcome which is why we encourage innovation by offering a Custom Section service.

We can supply a wide range of non-standard sizes (up to 300mm) and shapes, including Cees and Zeds with downturned lip—the Zeds can also be made to lap.

METALFORM® already produce a range of nonstandard profiles in a variety of base metals for use in the construction and manufacturing sectors and have the expertise to help you streamline your construction designs to save time and money!

Call the METALFORM® Engineering team today to discuss your construction needs.



## STANDARD RANGE OF MAX-SPAN® ZEDS & CEES

Nominal Section Size (mm)	BMT (mm)
150	1.2, 1.5, 1.9, 2.4
200	1.2, 1.5, 1.9, 2.4
250	1.5, 1.9, 2.4

## CORROSION WARRANTY

MAX-SPAN® purlins and girts are manufactured from GALVSPAN® steel. Subject to design, location and intended use, they may be covered by the BlueScope Steel material warranty.

Visit [www.bluescopesteel.com.au/warranties](http://www.bluescopesteel.com.au/warranties) for further information

## CORROSION PROTECTION & MATERIAL COMPATIBILITY

Some building materials and environmental conditions can be detrimental to coated steel products. These include contact with or exposure to run-off from:

- Industrial, agricultural, marine or other aggressive atmospheric conditions
- Incompatible metals, like lead or copper
- Building materials subject to cycles of dryness and wetness, or which have excessive moisture content such as improperly seasoned timber
- Materials which have been treated with preservatives, like CCA or tanalith-treated timber.

A zinc coating of Z350 (350 g/m<sup>2</sup> minimum coating mass) is the standard coating class provided with MAX-SPAN® Zed and Cee sections. This will provide a long and trouble-free life for enclosed buildings and open-sided rural buildings, in a non-aggressive environment.

A non-aggressive environment is 1000m from rough surf, 750m from industrial emission and fossil fuel combustion, and 300m from calm salt waters. Consideration must be given to the nature of activities performed within the building.

For severe corrosive environments a Z450 (450g/m<sup>2</sup>) minimum coating mass) will be required. This heavier coating mass will be available in special circumstances and is subject to a minimum order quantity and extended lead times.

Direct contact of incompatible materials with the coating must be avoided.

In such applications, and in very corrosive environments, suitable paint systems can be obtained from paint manufacturers: you can seek advice from your Sales Representative.

In applications where particular attention is required for corrosion, or the buildup of substances like dust or grain, then consideration should be given to the shape of the sections (either Zed, or Cee, or Zed with downturned lip); orientation of the sections; and coating class. Further information is available from your nearest METALFORM® Service Centre.

## BOLT SPECIFICATION

Specified purlin bolts and nuts have integral washers.

Tighten all bolts to 55 Nm torque.

Nominal section size (mm)	Bolt specifications
150, 200, 250, FP	M12 purlin bolt with integrated washers standard (grade 4.6) or high strength (grade 8.8)

## AVAILABLE LENGTHS

MAX-SPAN® purlins are available custom-cut in any transportable length, however there are some limitations.

For minimum lengths, and lengths over 12000mm, contact your nearest METALFORM® office.

For normal deliveries nominal lengths should not exceed 12000mm. Lengths greater than 12000mm require special transportation and on-site handling facilities. Please check local laws regarding permits and requirements for oversize deliveries. Lengths greater than 19500mm require a special transportation permit.

The maximum length of the Fascia Purlin is 15000mm.

Length tolerance for all sections is  $\pm 5$ mm.

## PACKING

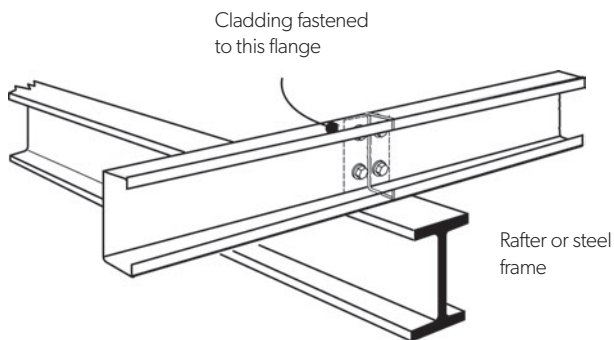
MAX-SPAN® Zed and Cee sections are delivered in strapped bundles. The actual quantity in each bundle will vary with section size, order and length. The bundle mass is generally approximately one tonne.

MAX-SPAN® accessories are delivered in strapped or wired bundles, bags, or packages as appropriate.

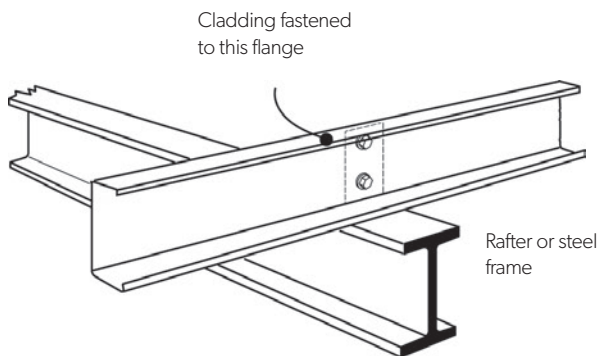
## STORAGE ON-SITE

If not required for immediate use, sections should be neatly stacked off the ground and on a slight slope so that water can drain away. Sections and accessories should not be left exposed in the open for extended periods.

### Butt joint with four bolts



### Continuous joint with two bolts





# ZED AND CEE SECTIONS - DIMENSIONS AND PROPERTIES

## MAX-SPAN® ZED SECTIONS

MAX-SPAN® Zed sections feature one broad and one narrow flange, sized so that two sections of the same size fit together snugly, making them suitable for lapping.

Continuous lengths of purlin result in better economy, but lapping provides two thicknesses of metal over interior supports. Lapping increases the strength of the sections where bending moments and shear are at a maximum, thus improving the load capacity and rigidity of the system.

MAX-SPAN® Zed sections of the same depth and different thicknesses can be lapped in any combination.

MAX-SPAN® Zed sections may also be used over simple spans. For shorter spans they may be used continuously over two or more spans without laps—thus producing reduced deflection compared with simple spans—but it does not give the strength of a fully lapped system.

MAX-SPAN® Zed sections with one lip turned outward (called downturned lip purlins) may be used in simple or continuous spans with the ends butted.

Typical assemblies are shown later in this manual.

## MAX-SPAN® CEE SECTIONS

MAX-SPAN® Cee sections have equal flanges and are suitable for simply supported spans. For shorter spans they may be used continuously over two or more spans with the ends butted, thus producing reduced deflection compared with simple spans. They cannot be lapped.

Typical assemblies are shown later in this manual.

## C PURLIN DIMENSION USED IN ANALYSIS

Section	t (mm)	D (mm)	kg/m	B (mm)
MC 15012	1.2	152	2.89	56
MC 15015	1.5	152	3.58	56
MC 15019	1.9	152	4.51	56
MC 15024	2.4	152	5.67	56
MC 20012	1.2	203	3.59	70
MC 20015	1.5	203	4.49	70
MC 20019	1.9	203	5.73	70
MC 20024	2.4	203	7.2	70
MC 25015	1.5	254	5.13	71
MC 25019	1.9	254	6.5	71
MC 25024	2.4	254	8.16	71

## Z PURLIN DIMENSION USED IN ANALYSIS

Section	t (mm)	D (mm)	kg/m	E (mm)	F (mm)
MZ 15012	1.2	152	2.89	59	55
MZ 15015	1.5	152	3.58	59	55
MZ 15019	1.9	152	4.51	59	55
MZ 15024	2.4	152	5.67	59	55
MZ 20012	1.2	203	3.59	72	67
MZ 20015	1.5	203	4.49	72	67
MZ 20019	1.9	203	5.73	72	67
MZ 20024	2.4	203	7.2	72	67
MZ 25015	1.5	254	5.13	73	68
MZ 25019	1.9	254	6.5	73.5	68.5
MZ 25024	2.4	254	8.16	73.5	68.5

## ORDERING

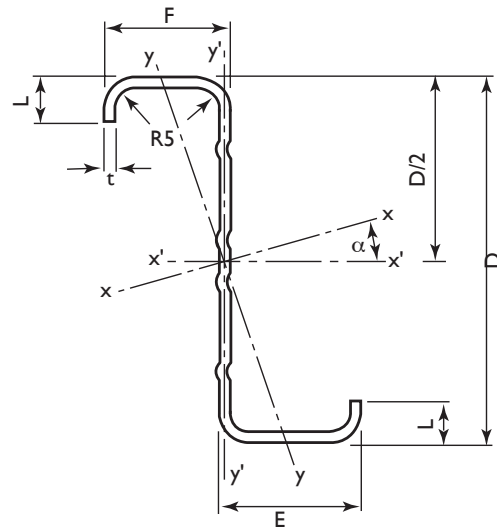
To make ordering of the full purlin and girt system easier, every METALFORM® Sales Office has order pads available on request.

## MATERIAL SPECIFICATIONS

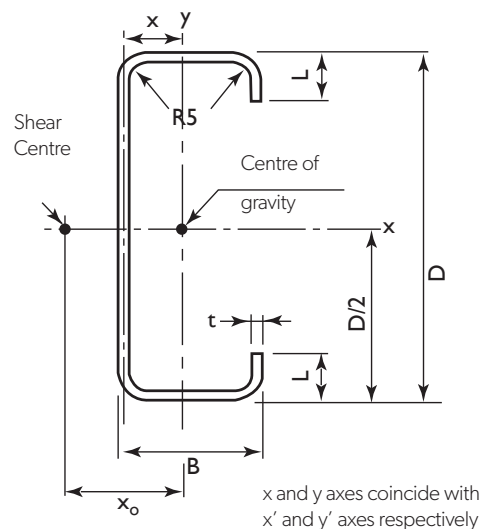
MAX-SPAN® Zed and Cee sections are roll-formed from GALVSPAN® steel complying with AS1397—1993. In the grades shown, the number prefixed with G indicates minimum yield stress in MPa; and the number prefixed with Z indicates minimum coating mass in g/m<sup>2</sup>.

- 1.0 mm BMT: G550, Z350\*
- 1.2 mm BMT: G500, Z350\*
- 1.5, 1.9, 2.4 and 3.0 mm BMT: G450, Z350

## Zed Section



## Cee Section



**SECTION PROPERTIES OF MAX-SPAN® ZEDS**

AXES PERPENDICULART & PARALLEL TO WEB																		
PRINCIPAL AXES										COLUMN PROPERTIES		EFFECTIVE SECTION PROPERTIES AT YIELD STRESS						
Product Code	Area mm <sup>2</sup>	Second moment of area	Section Modulus	Radius of Gyration	a	Second moment of area	Product of moment of area	Section Modulus	Radius of Gyration	Torsion Constant	Warping Constant	Section modulus in bending	Area in compression					
	$I_x$ 10 <sup>6</sup> mm <sup>4</sup>	$I_y$ 10 <sup>6</sup> mm <sup>4</sup>	$Z_x$ 10 <sup>3</sup> mm <sup>3</sup>	$Z_y$ 10 <sup>3</sup> mm <sup>3</sup>	$r_x$ mm	$r_y$ mm	$i_x$ ' 10 <sup>6</sup> mm <sup>4</sup>	$i_y$ ' 10 <sup>6</sup> mm <sup>4</sup>	$i_{x'y'}$ 10 <sup>6</sup> mm <sup>4</sup>	$Z_x'$ 10 <sup>3</sup> mm <sup>3</sup>	$Z_y'$ 10 <sup>3</sup> mm <sup>3</sup>	$r_x'$ mm	$r_y'$ mm	$J$ mm <sup>4</sup>	$I_w$ 10 <sup>6</sup> mm <sup>6</sup>	$Z_x'e$ 10 <sup>3</sup> mm <sup>3</sup>	$A_w$ mm <sup>2</sup>	
MZ 15012	354	1.427	0.110	15.956	3.325	63.42	17.63	21.26	1.254	0.283	16.503	5.025	59.45	28.26	169.4	1163	13.65	194.4
MZ 15015	443	1.774	0.137	19.864	4.136	63.23	17.59	21.27	1.559	0.353	20.509	6.270	59.27	28.19	332.0	1446	18.77	281.6
MZ 15019	561	2.233	0.175	25.033	5.265	63.03	17.66	21.49	1.957	0.451	25.750	8.053	59.00	28.34	670.3	1859	25.26	417.5
MZ 15024	708	2.796	0.222	31.410	6.653	62.74	17.69	21.66	2.446	0.573	32.179	10.269	58.67	28.40	1347.3	2367	32.12	576.2
MZ 20012	444	3.059	0.194	26.325	4.729	82.89	20.88	17.95	2.786	0.466	0.840	6.766	79.12	32.36	213.0	3394	18.90	200.8
MZ 20015	555	3.810	0.243	32.809	5.933	82.76	20.92	18.05	3.467	0.586	1.051	8.523	78.95	32.46	414.1	4272	27.59	288.3
MZ 20019	713	4.893	0.326	42.087	7.937	82.75	21.37	18.67	4.425	0.794	1.385	11.584	78.69	33.34	850.1	5863	39.72	429.2
MZ 20024	900	6.125	0.410	52.773	9.961	82.47	21.33	18.71	5.537	0.995	1.737	14.606	78.41	33.28	1706.0	7363	53.72	642.2
MZ 25015	638	6.312	0.286	45.564	6.584	99.40	21.15	13.68	5.975	0.623	1.385	8.929	96.71	31.22	476.4	7407	35.27	294.6
MZ 25019	808	7.979	0.364	57.580	8.347	99.29	21.22	13.77	7.548	0.796	1.760	11.358	96.57	31.35	968.3	9433	50.01	413.5
MZ 25024	1020	10.038	0.462	72.491	10.599	99.07	21.25	13.86	9.488	1.012	2.228	14.493	96.32	31.45	1948.0	12002	70.80	608.0

**SECTION PROPERTIES OF MAX-SPAN® CEES**

FULL SECTION PROPERTIES													
COLUMN PROPERTIES													
EFFECTIVE SECTION PROPERTIES AT YIELD STRESS													
Product Code	Area mm <sup>2</sup>	Second moment of area	Section Modulus	Radius of Gyration	Centroid	Shear Centre	Torsion Constant	Warping Constant	Mono-Symmetry Section Constant	Section modulus in bending	Area in compression		
	$I_x$ 10 <sup>6</sup> mm <sup>4</sup>	$I_y$ 10 <sup>6</sup> mm <sup>4</sup>	$Z_x$ 10 <sup>3</sup> mm <sup>3</sup>	$Z_y$ 10 <sup>3</sup> mm <sup>3</sup>	$r_x$ mm	$r_y$ mm	$x_c$ mm	$y_c$ mm	$x_o$ mm	$J$ mm <sup>4</sup>	$I_w$ 10 <sup>6</sup> mm <sup>6</sup>	$Z_x'e$ 10 <sup>3</sup> mm <sup>3</sup>	$A_e$ mm <sup>2</sup>
MC 15012	354	1.244	0.166	16.369	4.416	59.28	17.70	45.73	168.0	891	13.44	191.7	285.8
MC 15015	443	1.546	0.207	20.343	5.505	59.11	17.68	45.70	329.4	1111	18.87	285.8	412.2
MC 15019	561	1.940	0.263	25.532	7.05	58.83	17.86	46.21	664.7	1443	24.95	412.2	573.9
MC 15024	708	2.424	0.331	31.889	8.981	58.50	17.99	46.58	1334.8	1857	31.83	573.9	197.2
MC 20012	444	2.784	0.298	27.429	5.976	79.18	19.59	51.09	211.3	2499	18.59	197.2	282.0
MC 20015	555	3.466	0.371	34.145	7.460	79.02	19.58	51.07	413.7	3116	27.03	282.0	417.7
MC 20019	713	4.423	0.491	43.574	10.067	78.78	20.29	52.91	852.0	4303	38.98	417.7	628.5
MC 20024	900	5.545	0.624	54.634	12.938	78.49	20.57	53.64	1703.3	5586	53.10	628.5	93.1
MC 25015	638	5.971	0.421	47.016	8.049	96.78	17.91	48.15	473.4	5446	34.78	93.1	412.2
MC 25019	808	7.532	0.533	59.308	10.238	96.57	17.97	48.33	961.9	6925	49.85	412.2	605.3
MC 25024	1020	9.466	0.675	74.532	13.054	96.33	18.11	48.69	1933.5	8840	70.57	605.3	

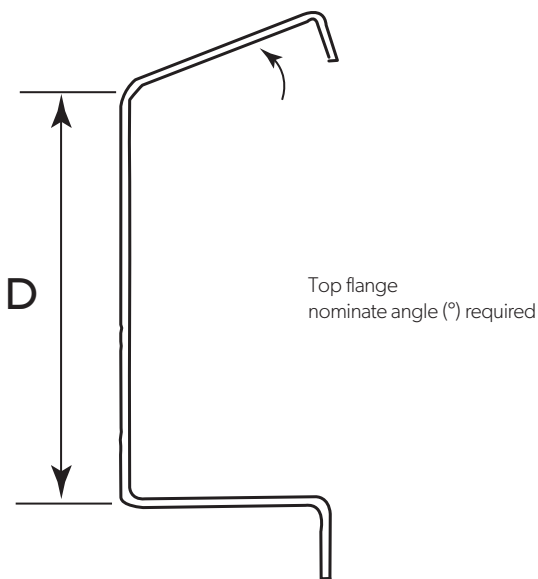
# MAX-SPAN® FASCIA PURLINS

The MAX-SPAN® Fascia Purlin is suitable for buildings with bigger portal frame spacings requiring long-length, one-piece fascia purlins.

A number of features make MAX-SPAN® Fascia Purlins attractive and economical as a combined eave purlin and fascia:

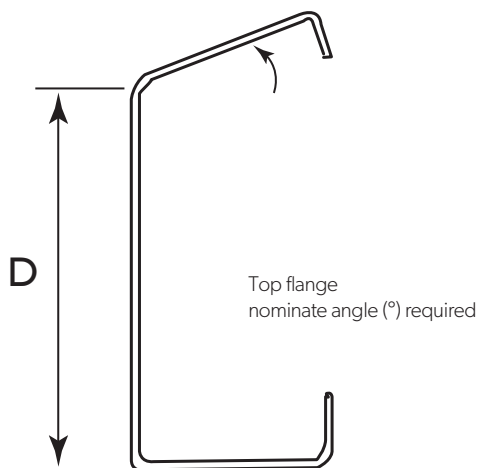
- It can be supplied without splice plates
- The top flange can be rolled at angles from 84° to 120° for roof pitches from 6° to 30°
- The bottom flange is shaped to provide simple fixing for wall sheeting

## FASCIA PURLIN WITH DOWNTURNED LIP



## STANDARD FASCIA PURLIN

Downturned LIP  
available if required



D=150, 200, 250mm

# ESY-LOK™ BRIDGING INSTALLATION

## PURLIN BRIDGING

There are a number of ways to install the ESY-LOK™ bridging system when erecting a MAX-SPAN® purlin design. A common approach is to begin at the ridge and work down the slope. A typical installation procedure may adopt the following steps (see the Bridging Order Form at the back of the Manual for enlarged illustrations of part numbers);

### Step 1

(see Option 1) Install the Bolted-Bolted Ridge Tie (Part No.4) by bolting each end plate into place.

### Step 2

Following the slope of the roof in the downwards direction, place a Female Bolted strut at the ridge (Part No.:2). Once bolted in place, lock the opposing female end into the punched holes of the next purlin down the slope.

### Step 3

With the female or locator end of the strut inserted into the holes of the purlin, take the male or clamp end of the next strut, a Male-Female strut (Part No.: 1) and place the hooks into the hole of the installed female end. The next strut (Part No.: 1) should be at right angles to the adjoining strut before it is swung around and locked into place. The strut should now be in a continuous direction and the opposing female end placed into the holes of the next purlin. In this instance, the end plates are offset in alignment to accommodate the expansion joint in the roof.

### Step 4

Continue locking in female to male end plates down the slope until a Male Bolted strut (Part No.: 3) is required to attach the fascia purlin and the bridging installation is complete.

Other methods of bridging exist and include different ridding and adjustable option (see the Bridging Order form for more information). Consideration should be given to the direction of the channels in the bridging (facing up or down the slope) but are primarily a decision based on the aesthetics of the roof as seen from below.

## GIRT BRIDGING

The recommended procedure is to commence at floor level and work towards the eaves. A typical installation procedure is:

### Step 1

Install the girt foot assembly by engaging the female end into the holes of the bottom girt. Due to the loads transferred to the bridging from the girts, the girt foot assembly must be anchored to the slab.

### Step 2

Adjust the girt foot assembly to level off the bottom girt. Where the slab is not yet poured, a temporary support is required to keep the bottom girt level.

### Step 3

Install standard intermediate bridging assemblies as described in Step 3 for purlin bridging, working towards the eaves.

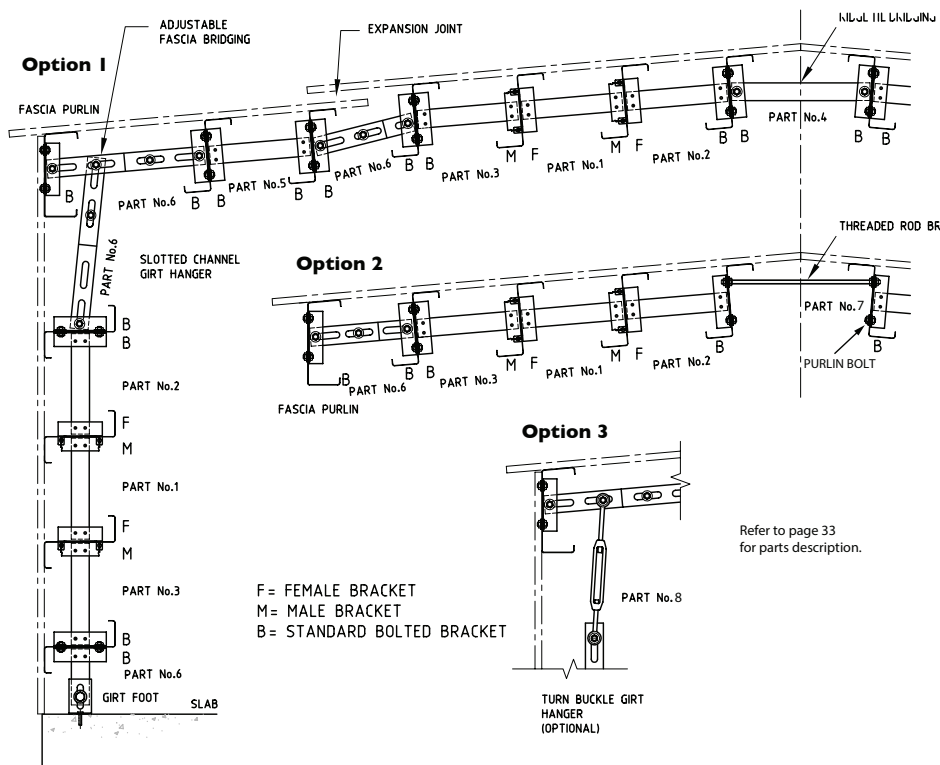
### Step 4

At the top girt, the angle bracket is secured into position with two bolts. If appearance is a consideration ensure the girt and purlin bridging are installed facing the same direction. Where a girt hanger is used it is installed by fitting the male end over the last installed female end and swinging the bridging around, then bolting the turnbuckle to the fascia bridging.

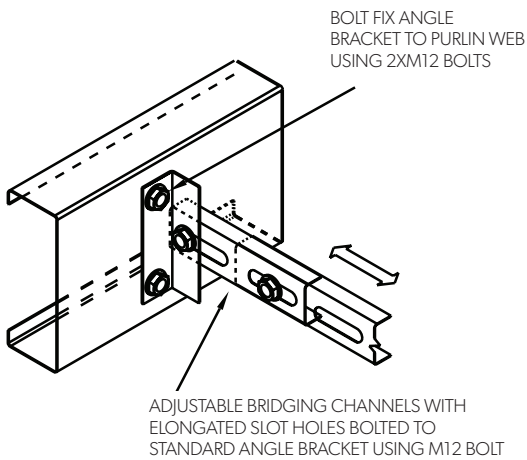
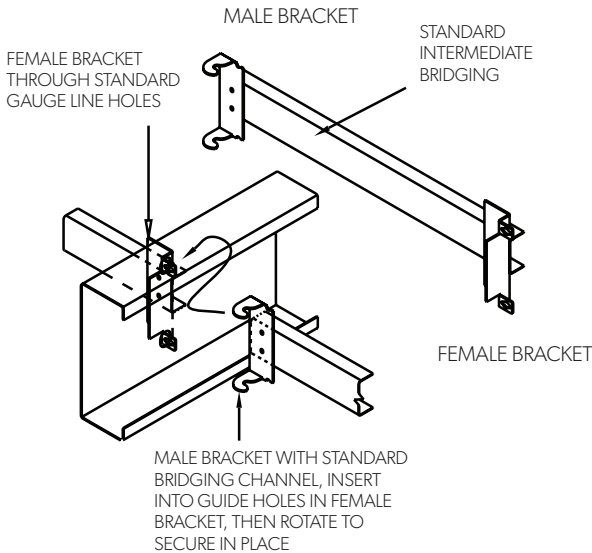
In projects where no girt foot assembly is used, particular care in design and construction is required.

We recommended the following precautions during construction:

1. The roof sheeting should be installed before the turnbuckle of the girt hanger is used to level the girts, which would impose loads on the fascia system; and
2. Provide a temporary girt support under the bottom girt until the installation of the wall cladding is complete for that section.



## BRIDGING COMPONENT DETAILS



## HOLES & CLEATS

MAX-SPAN® Zed and Cee sections are normally supplied with holes punched to the Australian Institute of Steel Construction (AISC) gauge lines, except the 150 series sections, which are punched to the Structural Steel Fabricators Association, Victoria, recommended gauge lines.

## HOLE DETAILS AND GAUGE LINES FOR MAX-SPAN® ZED AND CEE SECTIONS

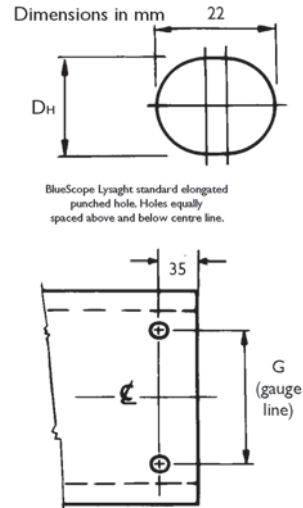
The holes are required at cleat supports at ends of laps and at bridging points.

For the 150, 200 and 250 deep sections the holes are elongated with dimensions of 18mm x 22mm suitable for M12 bolts. Sections are also available unpunched if required.

For special projects the size of the hole, the number of holes, and the gauge lines may be modified by negotiation. These projects will be subject to minimum order quantities and extended lead times.

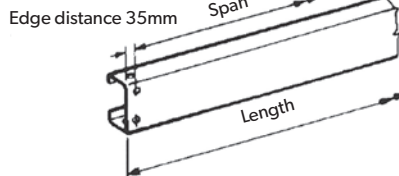
With regard to wall heights and girt spans, please contact METALFORM® for guidance.

Nominal section size (mm)	G (mm)	D <sub>H</sub>
150	70	18
200	110	18
250	160	18

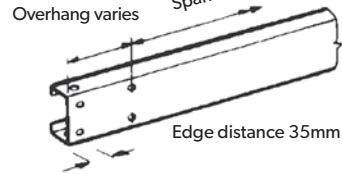


## STANDARD HOLES FOR MAX-SPAN® CEE SECTIONS

### Simple Connection

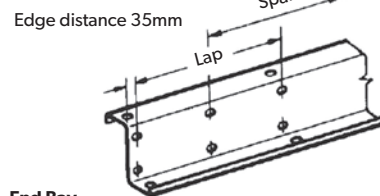


### End Bay

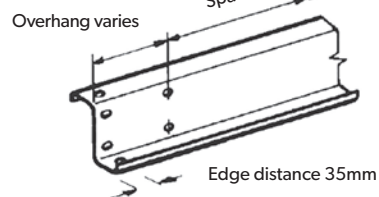


## STANDARD HOLES FOR MAX-SPAN® ZED SECTIONS

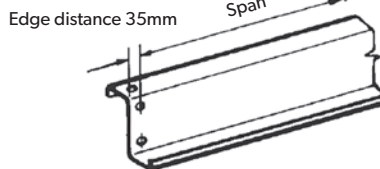
### Lapped connection



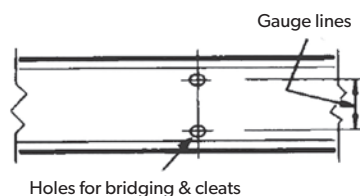
### End Bay



### Simple connection

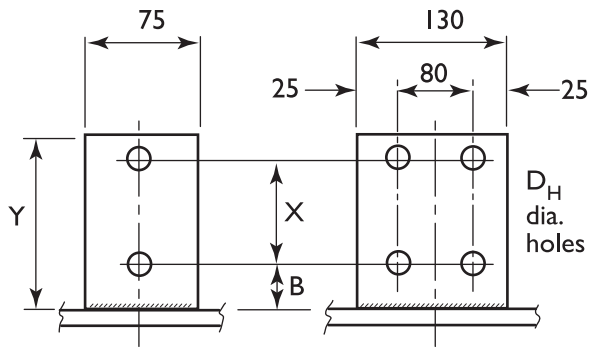


## BRIDGING HOLES AND CLEAT HOLES





## HOLE DETAILS OF CLEATS



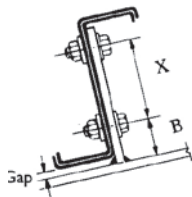
## CLEAT NOMINAL DIMENSIONS

Nominal section size (mm)	X	B	Y	t (thickness)	Gap	D <sub>H</sub>
150	70	50	145	8	10	18
200	110	55	195	8	10	18
250	160	55	245	8	10	18

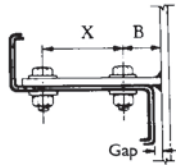
When using Zed sections with downturned lips, longer cleats are required to give clearance from the main supports.

## FASTENING TO CLEATS

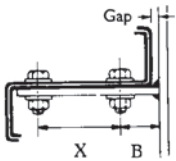
### Zed purlins lapped



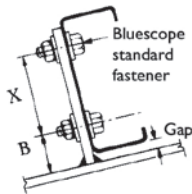
### Zed girts standard mode



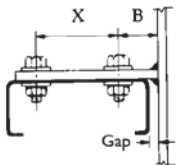
### Zed girts optional mode



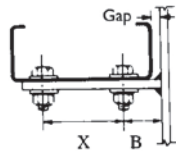
### Cee purlins



### Cee girts standard mode



### Cee girts optional mode



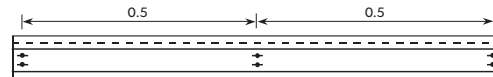
## NOTE

To minimise the tendency of Zeds and Cees to rotate when used as purlins, it is necessary to have the top flange pointing up the slope. Purlin orientation may be a consideration in certain projects.

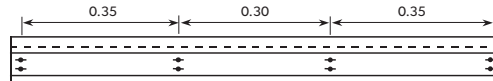
## SINGLE SPANS

### Simple spans

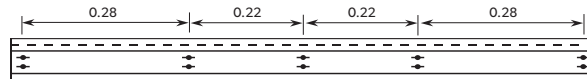
One row of bridging



Two rows of bridging

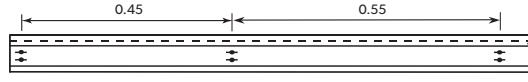


Three rows of bridging

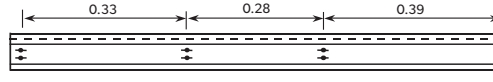


### End spans (continuous)

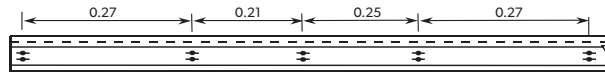
One row of bridging



Two rows of bridging

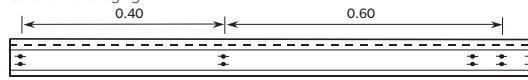


Three rows of bridging

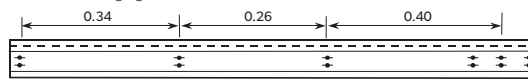


### End spans (lapped)

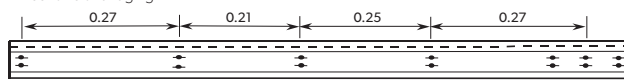
One row of bridging



Two rows of bridging

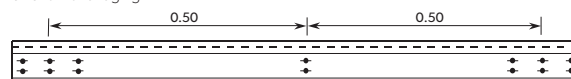


Three rows of bridging

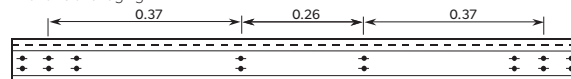


### Interior Spans (lapped and unlapped)

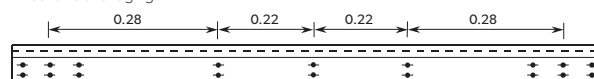
One row of bridging



Two rows of bridging



Three rows of bridging



# DESIGN NOTES FOR CAPACITY TABLES

When determining a design, consideration should be given to load combinations for both strength and for serviceability.

## DESIGN PHILOSOPHY

The limit state capacity tables have been compiled using a finite element flexural torsional buckling analysis for modelling the whole purlin system. The model considers both in-plane distribution of axial force, shear force and bending moments, as well as out of plane buckling modes.

The finite element flexural torsional buckling analysis assumes that:

- All purlins bend about the axis which is perpendicular to the web
- There is continuity at the laps
- There is minor axis translation and twisting restraint at the bridging points
- There is lateral stability in the plane of the roof at internal supports and the ends of cantilevers
- Both screw-fastened and concealed-fixed claddings provide restraint

All design calculations for both strength and serviceability are in accordance with AS/NZS 4600:2005 Cold formed steel structures.

## DEFLECTION

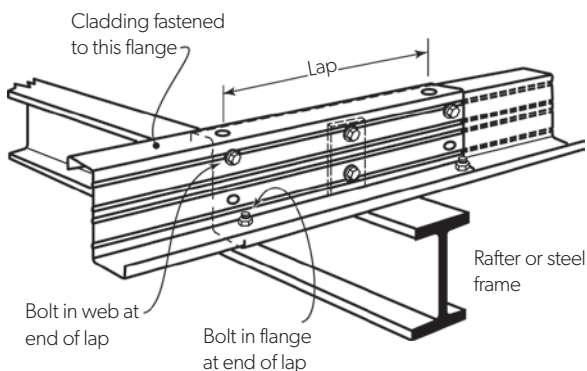
There are no specific rules governing acceptable deflections, though structural codes give guidance. You need to consider the specific requirements of any structure. It may be necessary to design for deflection under more than one load combination. See also Assumptions used in tables.

## AXIAL LOADS

Where a section is not loaded to its full capacity in bending, it has a reserve of strength to carry some axial load. This reserve in purlins and girts can be used to transmit forces due to wind loading on end walls, or to resist forces due to bracing of wall and roof structures.

Where required, the combined bending and axial load capacity should be calculated using AS/NZS 4600:2005. Cold-formed steel structures. Advice is available from our information line.

## Lapped continuous joint with two bolts



## POINT LOADS

The values in this publication assume uniformly distributed loading. However, in many applications (like the mounting of services and maintenance equipment) the loads applied to a structure are point loads. Thus, to use these tables for point loadings, the loads must be converted to equivalent distributed loads.

## DESIGN OPTIMISATION

The capacity tables provide economical design solutions for most projects. Designs can be optimised by varying:

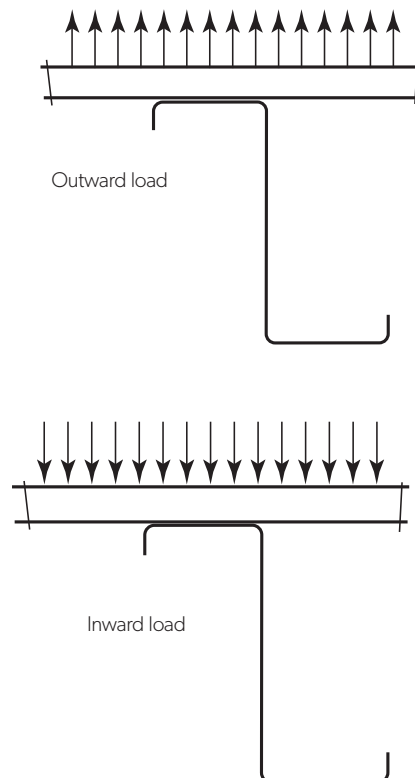
- Material specifications
- Bolt specifications and number
- Non-standard purlin profile
- Reduced or enlarged end spans
- Span range
- Cantilevers at one or both ends
- Lap length
- Bridging quantity
- Load distribution

## BRIDGING

The capacity tables give solutions for an equal number of rows of bridging in each span. Provision is made for 1, 2 or 3 rows of bridging.

With regard to wall heights and girt spans, please contact METALFORM® for guidance.

## Loading conditions



# LIMIT STATE CAPACITY TABLES - MAX-SPAN® CEE SINGLE SPANS

Single Span: MAX-SPAN® Cee 20012 (kN/m)

Span (mm)	Bridging >	IN			OUT			Load for Deflection Span/150
		1	2	3	1	2	3	
4000		2.74	2.74	2.74	2.74	2.74	2.74	1.88
4500		2.16	2.16	2.16	2.01	2.16	2.16	1.32
5000		1.75	1.75	1.75	1.49	1.75	1.75	0.96
5500		1.45	1.45	1.45	1.10	1.45	1.45	0.72

Single Span: MAX-SPAN® Cee 15015 (kN/m)

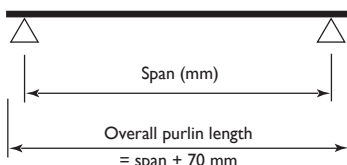
Span (mm)	Bridging >	IN			OUT			Load for Deflection Span/150
		1	2	3	1	2	3	
4500		2.75	2.75	2.75	2.52	2.75	2.75	1.70
5000		2.23	2.23	2.23	1.89	2.23	2.23	1.24
5500		1.84	1.84	1.84	1.42	1.84	1.84	0.93
6000		1.55	1.55	1.55	1.06	1.50	1.55	0.72
6500		1.32	1.32	1.32	0.79	1.22	1.32	0.56

Single Span: MAX-SPAN® Cee 15019 (kN/m)

Span (mm)	Bridging >	IN			OUT			Load for Deflection Span/150
		1	2	3	1	2	3	
5000		3.07	3.07	3.07	2.50	3.07	3.07	1.58
5500		2.53	2.53	2.53	1.87	2.45	2.53	1.18
6000		2.13	2.13	2.13	1.40	1.98	2.13	0.91
6500		1.81	1.81	1.81	1.04	1.62	2.81	0.72
7000		1.55	1.56	1.56	0.78	1.33	1.54	0.58
7500		1.34	1.36	1.36	0.60	1.09	1.31	0.47
8000		1.18	1.20	1.20	0.47	0.90	1.12	0.39

Single Span: MAX-SPAN® Cee 15024 (kN/m)

Span (mm)	Bridging >	IN			OUT			Load for Deflection Span/150
		1	2	3	1	2	3	
5500		3.18	3.39	3.41	2.41	3.12	3.40	1.49
6000		2.64	2.82	2.87	1.82	2.52	2.80	1.15
6500		2.23	2.38	2.44	1.38	2.05	2.33	0.90
7000		1.91	2.03	2.11	1.05	1.69	1.96	0.72
7500		1.65	1.75	1.83	0.81	1.39	1.66	0.59
8000		1.44	1.53	1.59	0.64	1.15	1.42	0.48
8500		1.27	1.35	1.40	0.51	0.95	1.22	0.40
8750		1.19	1.26	1.32	0.46	0.87	1.13	0.37



Bold capacities require grade 8.8 purlin bolts  
 IN = Inward load capacity  
 OUT = Outward load capacity  
 In mixed spans, the thicker section is used in the end span

Single Span: MAX-SPAN® Cee 20012 (kN/m)

Span (mm)	IN			OUT			Load for Deflection Span/150	
	Bridging >	1	2	3	1	2		3
6000		1.67	1.67	1.67	1.45	1.67	1.67	1.18
6500		1.43	1.43	1.43	1.15	1.43	1.46	0.93
7000		1.23	1.23	1.23	0.91	1.21	1.23	0.74
7500		1.07	1.07	1.07	0.72	1.02	1.07	0.60
8000		0.94	0.94	0.94	0.57	0.87	0.94	0.50

Single Span: MAX-SPAN® Cee 20015 (kN/m)

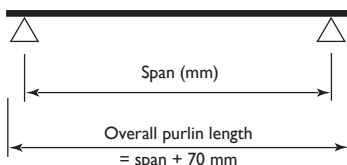
Span (mm)	IN			OUT			Load for Deflection Span/150	
	Bridging >	1	2	3	1	2		3
6500		1.85	1.85	1.85	1.54	1.85	1.85	1.20
7000		1.59	1.59	1.59	1.20	1.59	1.59	0.96
7500		1.39	1.39	1.39	0.94	1.38	1.39	0.78
8000		1.22	1.22	1.22	0.76	1.19	1.22	0.65

Single Span: MAX-SPAN® Cee 20019 (kN/m)

Span (mm)	IN			OUT			Load for Deflection Span/150	
	Bridging >	1	2	3	1	2		3
7000		2.32	2.32	2.32	1.74	2.30	2.32	1.28
7500		2.02	2.02	2.02	1.34	1.94	2.02	1.04
8000		1.78	1.78	1.78	1.04	1.65	1.78	0.85
8500		1.58	1.58	1.58	0.83	1.41	1.58	0.71

Single Span: MAX-SPAN® Cee 20024 (kN/m)

Span (mm)	IN			OUT			Load for Deflection Span/150	
	Bridging >	1	2	3	1	2		3
7500		2.75	2.81	2.81	1.76	2.66	2.81	1.33
8000		2.39	2.47	2.47	1.38	2.24	2.47	1.10
8500		2.10	2.19	2.19	1.09	1.90	2.19	0.92
9000		1.85	1.95	1.95	0.88	1.61	1.95	0.77
9500		1.65	1.75	1.75	0.72	1.36	1.71	0.66
10000		1.48	1.58	1.58	0.59	1.15	1.50	0.56



Bold capacities require grade 8.8 purlin bolts  
 IN = Inward load capacity  
 OUT = Outward load capacity  
 In mixed spans, the thicker section is used in the end span

Single Span: MAX-SPAN® Cee 25015 (kN/m)

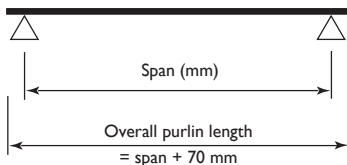
Span (mm)	IN			OUT			Load for Deflection Span/150	
	Bridging >	1	2	3	1	2		3
8000		1.58	1.58	1.58	1.04	1.51	1.58	1.09
8500		1.40	1.40	1.40	0.83	1.30	1.40	0.91
9000		1.25	1.25	1.25	0.67	1.12	1.25	0.77
9250		1.18	1.18	1.18	0.60	1.04	1.18	0.71

Single Span: MAX-SPAN® Cee 25019 (kN/m)

Span (mm)	IN			OUT			Load for Deflection Span/150	
	Bridging >	1	2	3	1	2		3
8000		2.23	2.23	2.23	1.36	2.18	2.23	1.43
8500		1.97	1.97	1.97	1.08	1.86	1.97	1.19
9000		1.76	1.76	1.76	0.86	1.60	1.76	1.00
9500		1.58	1.58	1.58	0.70	1.37	1.58	0.85
9750		1.50	1.50	1.50	0.63	1.27	1.50	0.79
10000		1.43	1.43	1.43	0.57	1.18	1.43	0.73

Single Span: MAX-SPAN® Cee 25024 (kN/m)

Span (mm)	IN			OUT			Load for Deflection Span/150	
	Bridging >	1	2	3	1	2		3
8500		2.77	2.77	2.77	1.40	2.53	2.77	1.55
9000		2.46	2.47	2.47	1.12	2.13	2.47	1.31
9500		2.19	2.21	2.21	0.91	1.80	2.21	1.11
9750		2.07	2.10	2.10	0.82	1.65	2.10	1.03
10000		1.96	2.00	2.00	0.75	1.51	2.00	0.95
10250		1.85	1.90	1.90	0.68	1.39	1.88	0.88
10500		1.76	1.81	1.81	0.62	1.27	1.76	0.82
10750		1.67	1.73	1.73	0.57	1.16	1.65	0.77
11000		1.59	1.65	1.65	0.52	1.06	1.55	0.72



Bold capacities require grade 8.8 purlin bolts  
 IN = Inward load capacity  
 OUT = Outward load capacity  
 In mixed spans, the thicker section is used in the end span



# LIMIT STATE CAPACITY TABLES - MAX-SPAN® CEE DOUBLE CONTINUOUS SPAN

Double Span Continuous: MAX-SPAN® Cee 15012 (kN/m)

Span (mm)	IN			OUT			Load for Deflection Span/150
	Bridging > 1	2	3	1	2	3	
4000	2.57	2.57	2.57	2.57	2.57	2.57	4.53
4500	2.11	2.11	2.11	2.11	2.11	2.11	3.18
5000	1.75	1.75	1.75	1.75	1.75	1.75	2.32
5500	1.45	1.45	1.45	1.45	1.45	1.45	1.74

Double Span Continuous: MAX-SPAN® Cee 15015 (kN/m)

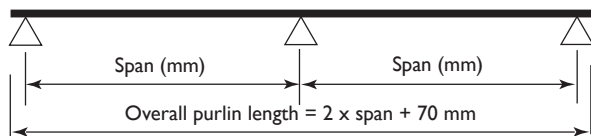
Span (mm)	IN			OUT			Load for Deflection Span/150
	Bridging > 1	2	3	1	2	3	
4500	2.75	2.75	2.75	2.75	2.75	2.75	4.09
5000	2.23	2.23	2.23	2.23	2.23	2.23	2.98
5500	1.84	1.84	1.84	1.84	1.84	1.84	2.24
6000	1.55	1.55	1.55	1.55	1.55	1.55	1.72
6500	1.32	1.32	1.32	1.32	1.32	1.32	1.36

Double Span Continuous: MAX-SPAN® Cee 15019 (kN/m)

Span (mm)	IN			OUT			Load for Deflection Span/150
	Bridging > 1	2	3	1	2	3	
5000	3.07	3.07	3.07	3.07	3.07	3.07	3.79
5500	2.53	2.53	2.53	2.53	2.53	2.53	2.85
6000	2.13	2.13	2.13	2.07	2.13	2.13	2.19
6500	1.81	1.81	1.81	1.71	1.81	1.81	1.73
7000	1.56	1.56	1.56	1.42	1.56	1.56	1.38
7500	1.36	1.36	1.36	1.19	1.36	1.36	1.12
8000	1.19	1.20	1.20	1.00	1.18	1.20	0.93

Double Span Continuous: MAX-SPAN® Cee 15024 (kN/m)

Span (mm)	IN			OUT			Load for Deflection Span/150
	Bridging > 1	2	3	1	2	3	
5500	3.36	3.41	3.41	3.23	3.41	3.41	3.58
6000	2.79	2.87	2.87	2.63	2.87	2.87	2.76
6500	2.35	2.44	2.44	2.17	2.41	2.44	2.17
7000	2.00	2.11	2.11	1.81	2.04	2.11	1.74
7500	1.72	1.83	1.83	1.51	1.74	1.83	1.41
8000	1.50	1.61	1.61	1.28	1.50	1.60	1.16
8500	1.31	1.41	1.43	1.08	1.30	1.40	0.97
8750	1.22	1.32	1.35	1.00	1.21	1.31	0.89



Bold capacities require grade 8.8 purlin bolts

IN = Inward load capacity

OUT = Outward load capacity

In mixed spans, the thicker section is used in the end span

**Double Span Continuous: MAX-SPAN® Cee 20012 (kN/m)**

Span (mm)	Bridging >	IN			OUT			Load for Deflection Span/150
		1	2	3	1	2	3	
6000		1.42	1.42	1.42	1.42	1.42	1.42	2.83
6500		1.25	1.25	1.25	1.25	1.25	1.25	2.23
7000		1.11	1.11	1.11	1.11	1.11	1.11	1.78
7500		0.99	0.99	0.99	0.99	0.99	0.99	1.45
8000		0.89	0.89	0.89	0.89	0.89	0.89	1.19

**Double Span Continuous: MAX-SPAN® Cee 20015 (kN/m)**

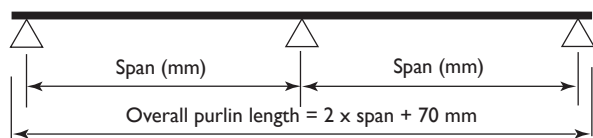
Span (mm)	Bridging >	IN			OUT			Load for Deflection Span/150
		1	2	3	1	2	3	
6500		1.85	1.85	1.85	1.85	1.85	1.85	2.89
7000		1.59	1.59	1.59	1.59	1.59	1.59	2.32
7500		1.39	1.39	1.39	1.39	1.39	1.39	1.88
8000		1.22	1.22	1.22	1.22	1.22	1.22	1.55

**Double Span Continuous: MAX-SPAN® Cee 20019 (kN/m)**

Span (mm)	Bridging >	IN			OUT			Load for Deflection Span/150
		1	2	3	1	2	3	
7000		2.32	2.32	2.32	2.32	2.32	2.32	3.07
7500		2.02	2.02	2.02	2.02	2.02	2.02	2.49
8000		1.78	1.78	1.78	1.73	1.78	1.78	2.05
8500		1.58	1.58	1.58	1.49	1.58	1.58	1.71

**Double Span Continuous: MAX-SPAN® Cee 20024 (kN/m)**

Span (mm)	Bridging >	IN			OUT			Load for Deflection Span/150
		1	2	3	1	2	3	
7500		2.81	2.81	2.81	2.80	2.81	2.81	3.21
8000		2.47	2.47	2.47	2.38	2.47	2.47	2.64
8500		2.19	2.19	2.19	2.04	2.19	2.19	2.20
9000		1.95	1.95	1.95	1.75	1.95	1.95	1.86
9500		1.75	1.75	1.75	1.51	1.75	1.75	1.58
10000		1.57	1.58	1.58	1.31	1.58	1.58	1.35



Bold capacities require grade 8.8 purlin bolts

IN = Inward load capacity

OUT = Outward load capacity

In mixed spans, the thicker section is used in the end span

**Double Span Continuous: MAX-SPAN® Cee 25015 (kN/m)**

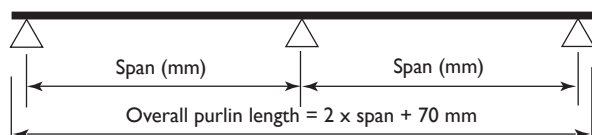
Span (mm)	Bridging >	IN			OUT			Load for Deflection Span/150
		1	2	3	1	2	3	
8000		1.45	1.45	1.45	1.45	1.45	1.45	2.62
8500		1.31	1.31	1.31	1.31	1.31	1.31	2.19
9000		1.19	1.19	1.19	1.18	1.19	1.19	1.84
9250		1.14	1.14	1.14	1.10	1.14	1.14	1.70

**Double Span Continuous: MAX-SPAN® Cee 25019 (kN/m)**

Span (mm)	Bridging >	IN			OUT			Load for Deflection Span/150
		1	2	3	1	2	3	
8000		2.23	2.23	2.23	2.23	2.23	2.23	3.43
8500		1.97	1.97	1.97	1.97	1.97	1.97	2.86
9000		1.76	1.76	1.76	1.70	1.76	1.76	2.41
9500		1.58	1.58	1.58	1.48	1.58	1.58	2.05
9750		1.50	1.50	1.50	1.38	1.50	1.50	1.89
10000		1.43	1.43	1.43	1.29	1.43	1.43	1.76

**Double Span Continuous: MAX-SPAN® Cee 25024 (kN/m)**

Span (mm)	Bridging >	IN			OUT			Load for Deflection Span/150
		1	2	3	1	2	3	
8500		2.77	2.77	2.77	2.73	2.77	2.77	3.73
9000		2.47	2.47	2.47	2.34	2.47	2.47	3.14
9500		2.21	2.21	2.21	2.01	2.21	2.21	2.67
9750		2.10	2.10	2.10	1.86	2.10	2.10	2.47
10000		2.00	2.00	2.00	1.72	2.00	2.00	2.29
10250		1.90	1.90	1.90	1.60	1.90	1.90	2.13
10500		1.81	1.81	1.81	1.48	1.81	1.81	1.98
10750		1.73	1.73	1.73	1.38	1.73	1.73	1.84
11000		1.65	1.65	1.65	1.28	1.65	1.65	1.72



Bold capacities require grade 8.8 purlin bolts

IN = Inward load capacity

OUT = Outward load capacity

In mixed spans, the thicker section is used in the end span

# LIMIT STATE CAPACITY TABLES - MAX-SPAN® ZED LAPPED SPANS

5 Spans 15% Lapped: MAX-SPAN® Zed 15012 (kN/m)

Span (mm)	Bridging >	IN			OUT			Load for Deflection Span/150
		1	2	3	1	2	3	
4000		3.95	3.95	3.95	3.95	3.95	3.95	4.08
4500		3.31	3.31	3.31	3.31	3.31	3.31	2.87
5000		2.78	2.78	2.78	2.78	2.78	2.78	2.09
5500		1.30	2.30	2.30	2.28	2.30	2.30	1.57
6000		1.93	1.93	1.93	1.81	1.93	1.93	1.21

5 Spans 15% Lapped: MAX-SPAN® Zed 15015 (kN/m)

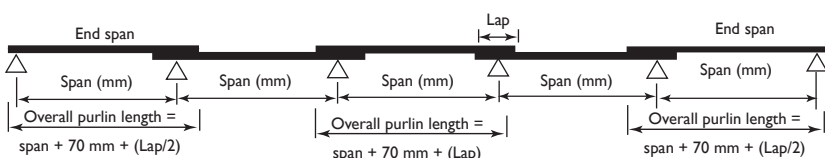
Span (mm)	Bridging >	IN			OUT			Load for Deflection Span/150
		1	2	3	1	2	3	
4500		4.38	4.38	4.38	4.38	4.38	4.38	3.65
5000		3.55	3.55	3.55	3.55	3.55	3.55	2.66
5500		2.93	2.93	2.93	2.81	2.93	2.93	2.00
6000		2.46	2.46	2.46	2.26	2.46	2.46	1.54
6500		2.10	2.10	2.10	1.81	2.10	2.10	1.21

5 Spans 15% Lapped: MAX-SPAN® Zed 15019 (kN/m)

Span (mm)	Bridging >	IN			OUT			Load for Deflection Span/150
		1	2	3	1	2	3	
5000		4.90	4.90	4.90	4.75	4.90	4.90	3.41
5500		4.05	4.05	4.05	3.75	4.05	4.05	2.56
6000		3.39	3.40	3.40	2.98	3.40	3.40	1.98
6500		2.85	2.90	2.90	2.38	2.85	2.90	1.55
7000		2.43	2.50	2.50	1.90	2.38	2.50	1.24
7500		2.08	2.18	2.18	1.53	2.00	2.18	1.01

5 Spans 15% Lapped: MAX-SPAN® Zed 15024 (kN/m)

Span (mm)	Bridging >	IN			OUT			Load for Deflection Span/150
		1	2	3	1	2	3	
5500		<b>5.08</b>	<b>5.50</b>	<b>5.50</b>	4.74	<b>5.35</b>	<b>5.50</b>	3.22
6000		4.20	<b>4.62</b>	<b>4.62</b>	3.78	4.37	<b>4.62</b>	2.48
6500		3.52	3.91	3.94	3.03	3.61	3.88	1.95
7000		2.99	3.34	3.40	2.44	3.01	3.27	1.56
7500		2.56	2.88	2.96	1.95	2.53	2.79	1.27
8000		2.22	2.51	2.60	1.60	2.13	2.39	1.05
8500		1.93	2.20	2.29	1.29	1.81	2.06	0.87



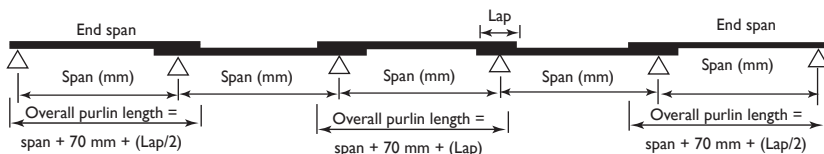
Bold capacities require grade 8.8 purlin bolts  
 IN = Inward load capacity  
 OUT = Outward load capacity  
 In mixed spans, the thicker section is used in the end span

**5 Span 15% Lapped: MAX-SPAN® Zed 20012 (kN/m)**

Span (mm)	IN		OUT		Load for Deflection Span/150
	Bridging > 2	3	2	3	
6000	2.11	2.11	2.11	2.11	2.56
6500	1.89	1.89	1.89	1.89	2.00
7000	1.70	1.70	1.70	1.70	1.60
7500	1.54	1.54	1.54	1.54	1.30
8000	1.40	1.40	1.40	1.40	1.07
8500	1.27	1.27	1.27	1.27	0.89
9000	1.16	1.16	1.16	1.16	0.75
9500	1.07	1.07	1.07	1.07	0.64
9750	1.02	1.02	0.94	1.02	0.59
10000	0.98	0.98	0.87	0.98	0.55
10250	0.93	0.93	0.82	0.93	0.51
10500	0.89	0.89	0.76	0.87	0.47
10750	0.85	0.85	0.71	0.82	0.44
11000	0.81	0.81	0.66	0.78	0.41
11250	0.78	0.78	0.62	0.74	0.39
11500	0.74	0.74	0.58	0.69	0.36
11750	0.71	0.71	0.54	0.66	0.34
12000	0.68	0.68	0.50	0.62	0.32

**5 Span 15% Lapped: MAX-SPAN® Zed 20015 (kN/m)**

Span (mm)	IN		OUT		Load for Deflection Span/150
	Bridging > 2	3	2	3	
6000	3.43	3.43	3.43	3.43	3.31
6500	3.02	3.02	3.02	3.02	2.60
7000	2.60	2.60	2.60	2.60	2.08
7500	2.27	2.27	2.27	2.27	1.69
8000	1.99	1.99	1.99	1.99	1.39
8500	1.76	1.76	1.76	1.76	1.16
9000	1.57	1.57	1.57	1.57	0.98
9500	1.41	1.41	1.37	1.14	0.83
9750	1.34	1.34	1.28	1.34	0.77
10000	1.28	1.28	1.19	1.28	0.71
10250	1.21	1.21	1.11	1.21	0.66
10500	1.16	1.16	1.03	1.16	0.62
10750	1.10	1.10	0.96	1.10	0.58
11000	1.05	1.05	0.90	1.05	0.54
11250	1.01	1.01	0.84	1.00	0.50
11500	0.96	0.96	0.78	0.95	0.47
11750	0.92	0.92	0.72	0.89	0.44
12000	0.89	0.89	0.67	0.84	0.41



Bold capacities require grade 8.8 purlin bolts  
 IN = Inward load capacity  
 OUT = Outward load capacity  
 In mixed spans, the thicker section is used in the end span

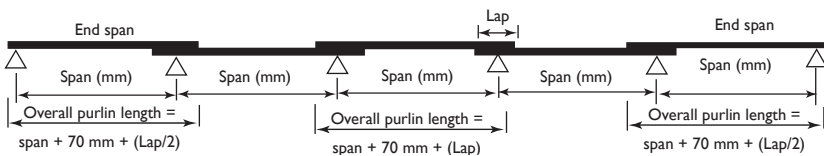


5 Span 15% Lapped: MAX-SPAN® Zed 20019 (kN/m)

Span (mm)	IN		OUT		Load for Deflection Span/150
	Bridging > 2	3	2	3	
6000	<b>5.15</b>	<b>5.15</b>	<b>5.15</b>	<b>5.15</b>	4.37
6500	<b>4.39</b>	<b>4.39</b>	<b>4.39</b>	<b>4.39</b>	3.44
7000	<b>3.79</b>	<b>3.79</b>	<b>3.79</b>	<b>3.79</b>	2.75
7500	3.30	3.30	3.30	3.30	2.24
8000	2.90	2.90	2.90	2.90	1.84
8500	2.57	2.57	2.53	2.57	1.54
9000	2.29	2.29	2.29	2.29	1.30
9500	2.06	2.06	1.90	2.06	1.10
9750	1.95	1.95	1.80	1.95	1.02
10000	1.86	1.86	1.68	1.86	0.94
10250	1.77	1.77	1.57	1.76	0.88
10500	1.68	1.68	1.46	1.66	0.82
10750	1.61	1.61	1.37	1.56	0.76
11000	1.53	1.53	1.28	1.48	0.71
11250	1.47	1.47	1.19	1.40	0.66
11500	1.40	1.40	1.11	1.32	0.62
11750	1.34	1.34	1.03	1.26	0.58
12000	1.29	1.29	0.96	1.19	0.55

5 Span 15% Lapped: MAX-SPAN® Zed 20024 (kN/m)

Span (mm)	IN		OUT		Load for Deflection Span/150
	Bridging > 2	3	2	3	
6000	<b>7.08</b>	<b>7.08</b>	<b>7.08</b>	<b>7.08</b>	5.60
6500	<b>6.03</b>	<b>6.03</b>	<b>6.03</b>	<b>6.03</b>	4.40
7000	<b>5.20</b>	<b>5.20</b>	<b>5.20</b>	<b>5.20</b>	3.52
7500	<b>4.53</b>	<b>4.53</b>	<b>4.53</b>	<b>4.53</b>	2.87
8000	<b>3.98</b>	<b>3.98</b>	<b>3.94</b>	<b>3.98</b>	2.36
8500	<b>3.53</b>	<b>3.53</b>	<b>3.38</b>	<b>3.53</b>	1.97
9000	<b>3.15</b>	<b>3.15</b>	2.91	<b>3.15</b>	1.66
9500	<b>2.82</b>	<b>2.82</b>	2.52	<b>2.82</b>	1.41
9750	2.68	2.68	2.34	2.67	1.30
10000	2.55	2.55	2.18	2.51	1.21
10250	2.43	2.43	2.03	2.36	1.12
10500	2.31	2.31	1.89	2.22	1.04
10750	2.21	2.21	1.64	1.96	0.97
11000	2.11	2.11	1.64	1.96	0.91
11250	2.02	2.02	1.53	1.85	0.85
11500	1.93	1.93	1.43	1.74	0.80
11750	1.81	1.85	1.33	1.65	0.75
12000	1.75	1.77	1.24	1.55	0.70



Bold capacities require grade 8.8 purlin bolts  
 IN = Inward load capacity  
 OUT = Outward load capacity  
 In mixed spans, the thicker section is used in the end span

5 Span 15 % Lapped: MAX-SPAN® Zed 25015 (kN/m)

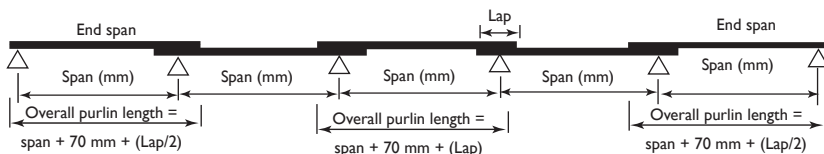
Span (mm)	IN		OUT		Load for Deflection Span/150
	Bridging > 2	3	2	3	
10000	1.59	1.59	1.53	1.59	1.20
10250	1.53	1.53	1.44	1.53	1.12
10500	1.47	1.47	1.35	1.47	1.04
10750	1.41	1.14	1.27	1.41	0.97
11000	1.36	1.36	1.19	1.34	0.90
11250	1.31	1.31	1.12	1.27	0.85
11500	1.25	1.25	1.05	1.20	0.79
11750	1.20	1.20	0.99	1.14	0.74
12000	1.15	1.15	0.93	1.08	0.70

5 Span 15 % Lapped: MAX-SPAN® Zed 25019 (kN/m)

Span (mm)	IN		OUT		Load for Deflection Span/150
	Bridging > 2	3	2	3	
10000	2.32	2.32	2.16	2.32	1.57
10250	2.20	2.20	2.03	2.20	1.46
10500	2.10	2.10	1.90	2.10	1.36
10750	2.00	2.00	1.78	2.00	1.26
11000	1.91	1.91	1.66	1.91	1.18
11250	1.83	1.83	1.56	1.81	1.10
11500	1.75	1.75	1.46	1.71	1.03
11750	1.68	1.68	1.36	1.62	0.97
12000	1.61	1.61	1.26	1.53	0.91

5 Span 15 % Lapped: MAX-SPAN® Zed 25024 (kN/m)

Span (mm)	IN		OUT		Load for Deflection Span/150
	Bridging > 2	3	2	3	
10000	<b>3.24</b>	<b>3.24</b>	<b>2.92</b>	<b>3.24</b>	2.05
10250	<b>3.09</b>	<b>3.09</b>	<b>2.72</b>	<b>3.09</b>	1.90
10500	<b>2.94</b>	<b>2.94</b>	<b>2.52</b>	<b>2.94</b>	1.77
10750	<b>2.81</b>	<b>2.81</b>	2.35	<b>2.81</b>	1.65
11000	<b>2.68</b>	<b>2.68</b>	2.18	<b>2.65</b>	1.54
11250	<b>2.56</b>	<b>2.56</b>	2.03	<b>2.49</b>	1.44
11500	<b>2.45</b>	<b>2.45</b>	1.88	<b>2.35</b>	1.35
11750	<b>2.35</b>	<b>2.35</b>	1.75	2.21	1.26
12000	<b>2.25</b>	<b>2.25</b>	1.62	2.08	1.19



Bold capacities require grade 8.8 purlin bolts  
 IN = Inward load capacity  
 OUT = Outward load capacity  
 In mixed spans, the thicker section is used in the end span

5 Spans 20% Lapped: MAX-SPAN® Zed 15012 (kN/m)

Span (mm)	IN			OUT			Load for Deflection Span/150
	Bridging > 1	2	3	1	2	3	
4000	4.34	4.34	4.34	4.34	4.34	4.34	4.16
4500	3.63	3.63	3.63	3.63	3.63	3.63	2.92
5000	2.94	2.94	2.94	2.94	2.94	2.94	2.13
5500	2.43	2.43	2.43	2.39	2.43	2.43	1.60
6000	2.04	2.04	2.04	1.89	2.04	2.04	1.23

5 Spans 20% Lapped: MAX-SPAN® Zed 15015 (kN/m)

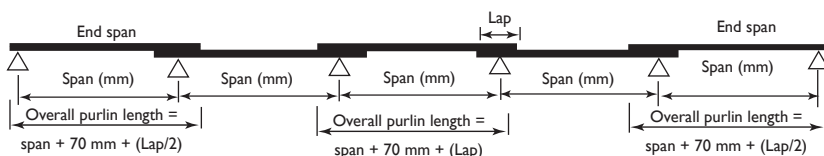
Span (mm)	IN			OUT			Load for Deflection Span/150
	Bridging > 1	2	3	1	2	3	
4500	4.63	4.63	4.63	4.63	4.63	4.63	3.73
5000	3.75	3.75	3.75	3.74	3.75	3.75	2.72
5500	3.10	3.10	3.10	2.93	3.10	3.10	2.04
6000	2.61	2.61	2.61	2.36	2.61	2.61	1.57
6500	2.22	2.22	2.22	1.88	2.22	2.22	1.24

5 Spans 20% Lapped: MAX-SPAN® Zed 15019 (kN/m)

Span (mm)	IN			OUT			Load for Deflection Span/150
	Bridging > 1	2	3	1	2	3	
5000	5.18	5.18	5.18	4.99	5.18	5.18	3.48
5500	4.28	4.28	4.28	3.93	4.28	4.28	2.61
6000	3.56	3.60	3.60	3.11	3.60	3.60	2.01
6500	2.99	3.07	3.07	2.48	2.99	3.07	1.58
7000	2.54	2.64	2.64	1.98	2.49	2.64	1.27
7500	2.18	2.30	2.30	1.57	2.08	2.30	1.03

5 Spans 20% Lapped: MAX-SPAN® Zed 15024 (kN/m)

Span (mm)	IN			OUT			Load for Deflection Span/150
	Bridging > 1	2	3	1	2	3	
5500	<b>5.33</b>	<b>5.82</b>	<b>5.82</b>	<b>4.97</b>	<b>5.62</b>	<b>5.82</b>	3.28
6000	<b>4.40</b>	<b>4.89</b>	<b>4.89</b>	3.95	<b>4.59</b>	<b>4.89</b>	2.53
6500	<b>3.68</b>	<b>4.12</b>	<b>4.17</b>	3.16	3.79	<b>4.08</b>	1.99
7000	3.12	3.52	3.59	2.54	3.15	3.44	1.59
7500	2.67	3.03	3.13	2.04	2.64	2.92	1.30
8000	2.31	2.64	2.75	1.64	2.22	2.50	1.07
8500	2.01	2.21	2.41	1.32	1.88	2.16	0.89



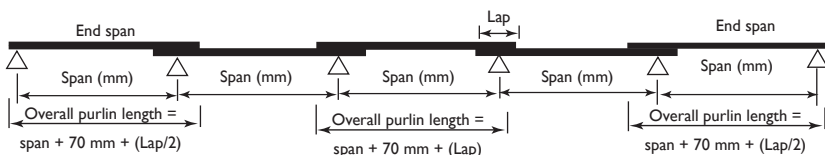
Bold capacities require grade 8.8 purlin bolts  
 IN = Inward load capacity  
 OUT = Outward load capacity  
 In mixed spans, the thicker section is used in the end span

**5 Span 20% Lapped: MAX-SPAN® Zed 20012 (kN/m)**

Span (mm)	Bridging >	IN		OUT		Load for Deflection Span/150
		2	3	2	3	
6000		2.30	2.30	2.30	2.30	2.59
6500		2.06	2.06	2.06	2.06	2.04
7000		1.87	1.87	1.87	1.87	1.63
7500		1.69	1.69	1.69	1.69	1.33
8000		1.54	1.55	1.54	1.55	1.09
8500		1.41	1.41	1.40	1.41	0.91
9000		1.28	1.28	1.21	1.28	0.77
9500		1.15	1.15	1.05	1.15	0.65
9750		1.09	1.09	0.98	1.09	0.60
10000		1.04	1.04	0.91	1.03	0.56
10250		0.99	0.99	0.85	0.97	0.52
10500		0.94	0.94	0.79	0.91	0.48
10750		0.90	0.90	0.74	0.86	0.45
11000		0.86	0.86	0.69	0.82	0.42
11250		0.82	0.82	0.64	0.77	0.39
11500		0.78	0.78	0.60	0.73	0.37
11750		0.75	0.75	0.56	0.68	0.35
12000		0.72	0.72	0.52	0.65	0.32

**5 Span 20% Lapped: MAX-SPAN® Zed 20015 (kN/m)**

Span (mm)	Bridging >	IN		OUT		Load for Deflection Span/150
		2	3	2	3	
6000		3.75	3.75	3.75	3.75	3.37
6500		3.19	3.19	3.19	3.19	2.65
7000		2.75	2.75	2.75	2.75	2.12
7500		2.40	2.40	2.40	2.40	1.73
8000		2.11	2.11	2.11	2.11	1.42
8500		1.87	1.87	1.87	1.87	1.19
9000		1.67	1.67	1.65	1.67	1.00
9500		1.49	1.49	1.43	1.49	0.85
9750		1.42	1.42	1.33	1.42	0.79
10000		1.35	1.35	1.24	1.35	0.73
10250		1.28	1.28	1.15	1.28	0.68
10500		1.22	1.22	1.07	1.22	0.63
10750		1.17	1.17	1.00	1.17	0.59
11000		1.11	1.11	0.93	1.11	0.55
11250		1.07	1.07	0.86	1.05	0.51
11500		1.02	1.02	0.80	0.99	0.48
11750		0.98	0.98	0.74	0.93	0.45
12000		0.94	0.94	0.69	0.88	0.42



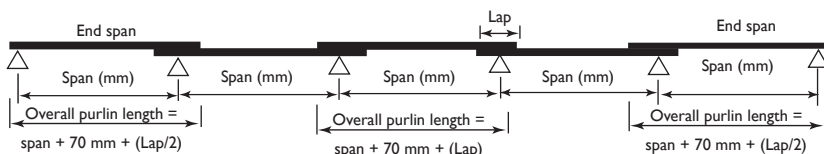
Bold capacities require grade 8.8 purlin bolts  
 IN = Inward load capacity  
 OUT = Outward load capacity  
 In mixed spans, the thicker section is used in the end span

5 Span 20% Lapped: MAX-SPAN® Zed 20019 (kN/m)

Span (mm)	IN		OUT		Load for Deflection Span/150
	Bridging > 2	3	2	3	
6000	<b>5.45</b>	<b>5.45</b>	<b>5.45</b>	<b>5.45</b>	4.46
6500	<b>4.65</b>	<b>4.65</b>	<b>4.65</b>	<b>4.65</b>	3.50
7000	<b>4.01</b>	<b>4.01</b>	<b>4.01</b>	<b>4.01</b>	2.81
7500	3.49	3.49	3.49	3.49	2.28
8000	3.07	3.07	3.07	3.07	1.88
8500	2.72	2.72	2.65	2.72	1.57
9000	2.42	2.42	2.30	2.42	1.32
9500	2.17	2.17	2.01	2.17	1.12
9750	2.06	2.06	1.88	2.06	1.04
10000	1.96	1.96	1.75	1.96	0.96
10250	1.87	1.87	1.63	1.84	0.89
10500	1.78	1.78	1.52	1.74	0.83
10750	1.70	1.70	1.41	1.64	0.78
11000	1.62	1.62	1.32	1.55	0.72
11250	1.55	1.55	1.23	1.46	0.68
11500	1.48	1.48	1.14	1.39	0.63
11750	1.42	1.42	1.06	1.32	0.59
12000	1.36	1.36	0.99	1.24	0.56

5 Span 20% Lapped: MAX-SPAN® Zed 20024 (kN/m)

Span (mm)	IN		OUT		Load for Deflection Span/150
	Bridging > 2	3	2	3	
6000	<b>7.49</b>	<b>7.49</b>	<b>7.49</b>	<b>7.49</b>	5.70
6500	<b>6.38</b>	<b>6.38</b>	<b>6.38</b>	<b>6.38</b>	4.49
7000	<b>5.50</b>	<b>5.50</b>	<b>5.50</b>	<b>5.50</b>	3.59
7500	<b>4.80</b>	<b>4.80</b>	<b>4.80</b>	<b>4.80</b>	2.92
8000	<b>4.21</b>	<b>4.21</b>	<b>4.13</b>	<b>4.21</b>	2.41
8500	<b>3.73</b>	<b>3.73</b>	<b>3.53</b>	<b>3.73</b>	2.01
9000	<b>3.33</b>	<b>3.33</b>	<b>3.04</b>	<b>3.33</b>	1.69
9500	<b>2.99</b>	<b>2.99</b>	2.62	<b>2.98</b>	1.44
9750	<b>2.84</b>	<b>2.84</b>	2.44	<b>2.80</b>	1.33
10000	<b>2.70</b>	<b>2.70</b>	2.27	2.63	1.23
10250	<b>2.57</b>	<b>2.57</b>	2.11	2.47	1.14
10500	2.45	2.45	1.96	2.32	1.06
10750	2.33	2.33	1.82	2.18	0.99
11000	2.23	2.23	1.70	2.05	0.93
11250	2.12	2.13	1.58	1.93	0.87
11500	2.01	2.04	1.47	1.82	0.81
11750	1.92	1.95	1.36	1.71	0.76
12000	1.82	1.87	1.27	1.61	0.71



Bold capacities require grade 8.8 purlin bolts  
 IN = Inward load capacity  
 OUT = Outward load capacity  
 In mixed spans, the thicker section is used in the end span

**Five Span 20 % Lapped: MAX-SPAN® Zed 25015 (kN/m)**

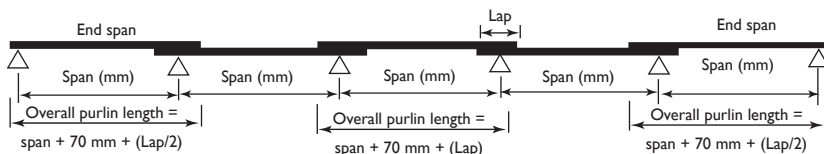
Span (mm)	IN		OUT		Load for Deflection Span/150
	Bridging > 2	3	2	3	
10000	1.75	1.75	1.60	1.75	1.23
10250	1.66	1.66	1.50	1.66	1.14
10500	1.59	1.59	1.41	1.57	1.06
10750	1.51	1.51	1.32	1.48	0.99
11000	1.44	1.44	1.24	1.40	0.92
11250	1.38	1.38	1.17	1.33	0.86
11500	1.32	1.32	1.09	1.26	0.81
11750	1.27	1.27	1.02	1.19	0.76
12000	1.21	1.21	0.96	1.13	0.71

**Five Span 20 % Lapped: MAX-SPAN® Zed 25019 (kN/m)**

Span (mm)	IN		OUT		Load for Deflection Span/150
	Bridging > 2	3	2	3	
10000	2.45	2.45	2.26	2.45	1.60
10250	2.33	2.33	2.11	2.33	1.49
10500	2.22	2.22	1.97	2.22	1.38
10750	2.12	2.12	1.85	2.12	1.29
11000	2.02	2.02	1.73	2.00	1.20
11250	1.94	1.94	1.62	1.89	1.12
11500	1.85	1.85	1.50	1.79	1.05
11750	1.77	1.77	1.39	1.69	0.99
12000	1.70	1.70	1.28	1.60	0.93

**Five Span 20 % Lapped: MAX-SPAN® Zed 25024 (kN/m)**

Span (mm)	IN		OUT		Load for Deflection Span/150
	Bridging > 2	3	2	3	
10000	<b>3.43</b>	<b>3.43</b>	<b>3.03</b>	<b>3.43</b>	2.09
10250	<b>3.26</b>	<b>3.26</b>	<b>2.81</b>	<b>3.26</b>	1.94
10500	<b>3.11</b>	<b>3.11</b>	<b>2.61</b>	<b>3.11</b>	1.80
10750	<b>2.97</b>	<b>2.97</b>	2.42	<b>2.94</b>	1.68
11000	<b>2.83</b>	<b>2.83</b>	2.24	<b>2.76</b>	1.57
11250	<b>2.71</b>	<b>2.71</b>	2.08	<b>2.60</b>	1.47
11500	<b>2.59</b>	<b>2.59</b>	1.93	<b>2.44</b>	1.37
11750	<b>2.48</b>	<b>2.48</b>	1.79	<b>2.30</b>	1.29
12000	<b>2.38</b>	<b>2.38</b>	1.65	2.16	1.21



Bold capacities require grade 8.8 purlin bolts  
 IN = Inward load capacity  
 OUT = Outward load capacity  
 In mixed spans, the thicker section is used in the end span

**5 Spans 15% Lapped: MAX-SPAN® Zed 15012/15015 (kN/m)**

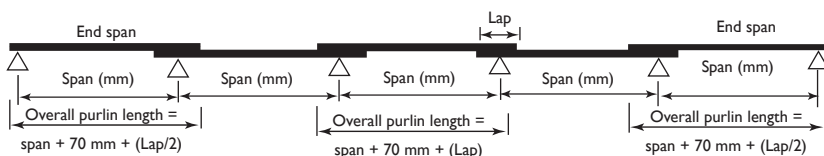
Span (mm)	IN			OUT			Load for Deflection Span/150
	Bridging > 1	2	3	1	2	3	
4000	4.17	4.17	4.17	4.17	4.17	4.17	5.03
4500	3.44	3.44	3.44	3.44	3.44	3.44	3.53
5000	2.87	2.87	2.87	2.87	2.87	2.87	2.57
5500	2.37	2.37	2.37	2.37	2.37	2.37	1.93
6000	1.99	1.99	1.99	1.98	1.99	1.99	1.49

**Spans 15% Lapped: MAX-SPAN® Zed 15015/15019 (kN/m)**

Span (mm)	IN			OUT			Load for Deflection Span/150
	Bridging > 1	2	3	1	2	3	
4500	4.51	4.51	4.51	4.51	4.51	4.51	4.53
5000	3.66	3.66	3.66	3.66	3.66	3.66	3.30
5500	3.02	3.02	3.02	3.02	3.02	3.02	2.48
6000	2.54	2.54	2.54	2.46	2.54	2.54	1.91
6500	2.16	2.16	2.16	2.02	2.16	2.16	1.50

**5 Spans 15% Lapped: MAX-SPAN® Zed 15019/15024 (kN/m)**

Span (mm)	IN			OUT			Load for Deflection Span/150
	Bridging > 1	2	3	1	2	3	
5000	5.05	5.05	5.05	5.05	5.05	5.05	4.18
5500	4.17	4.17	4.17	4.07	4.17	4.17	3.14
6000	3.51	3.51	3.51	3.29	3.51	3.51	2.42
6500	2.98	2.99	2.99	2.68	2.99	2.99	1.90
7000	2.54	2.58	2.58	2.19	2.57	2.58	1.52
7500	2.19	2.24	2.24	1.80	2.18	2.24	1.24



Bold capacities require grade 8.8 purlin bolts  
 IN = Inward load capacity  
 OUT = Outward load capacity  
 In mixed spans, the thicker section is used in the end span

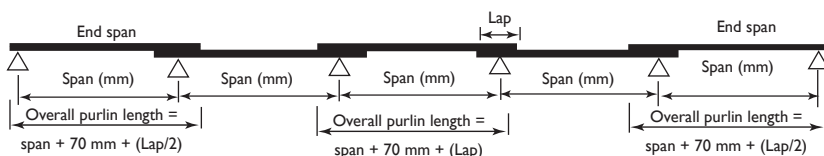


**Span 15% Lapped: MAX-SPAN® Zed 20012/20015 (kN/m)**

Span (mm)	IN		OUT		Load for Deflection Span/150
	Bridging > 2	3	2	3	
6000	2.28	2.28	2.28	2.28	3.17
6500	2.02	2.02	2.02	2.02	2.49
7000	1.81	1.81	1.81	1.81	2.00
7500	1.62	1.62	1.62	1.62	1.62
8000	1.46	1.46	1.46	1.46	1.34
8500	1.32	1.32	1.32	1.32	1.12
9000	1.20	1.20	1.20	1.20	0.94
9500	1.10	1.10	1.09	1.10	0.80
9750	1.05	1.05	1.02	1.05	0.74
10000	1.01	1.01	0.96	1.01	0.68
10250	0.96	0.96	0.90	0.96	0.64
10500	0.92	0.92	0.85	0.92	0.59
10750	0.87	0.87	0.79	0.87	0.55
11000	0.84	0.84	0.75	0.84	0.51
11250	0.80	0.80	0.70	0.79	0.48
11500	0.76	0.76	0.66	0.75	0.45
11750	0.73	0.73	0.62	0.71	0.42
12000	0.70	0.70	0.58	0.68	0.40

**5 Span 15% Lapped: MAX-SPAN® Zed 20015/20019 (kN/m)**

Span (mm)	IN		OUT		Load for Deflection Span/150
	Bridging > 2	3	2	3	
6000	3.55	3.55	3.55	3.55	4.20
6500	3.10	3.10	3.10	3.10	3.30
7000	2.69	2.69	2.69	2.69	2.64
7500	2.34	2.34	2.34	2.34	2.15
8000	2.06	2.06	2.06	2.06	1.77
8500	1.82	1.82	1.82	1.82	1.48
9000	1.63	1.63	1.63	1.63	1.24
9500	1.46	1.46	1.46	1.46	1.06
9750	1.39	1.39	1.39	1.39	0.98
10000	1.32	1.32	1.32	1.32	0.91
10250	1.25	1.25	1.25	1.25	0.84
10500	1.20	1.20	1.19	1.20	0.78
10750	1.14	1.14	1.12	1.14	0.73
11000	1.09	1.09	1.05	1.09	0.68
11250	1.04	1.04	0.99	1.04	0.64
11500	1.00	1.00	0.93	1.00	0.60
11750	0.95	0.95	0.87	0.95	0.56
12000	0.92	0.92	0.82	0.92	0.53



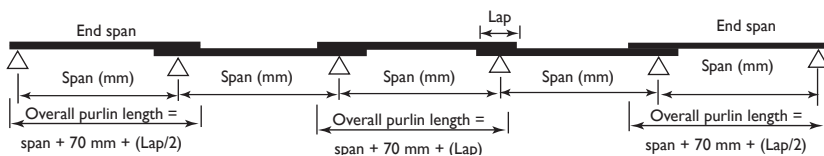
Bold capacities require grade 8.8 purlin bolts  
 IN = Inward load capacity  
 OUT = Outward load capacity  
 In mixed spans, the thicker section is used in the end span

5 Span 15% Lapped: MAX-SPAN® Zed 20019/20024 (kN/m)

Span (mm)	IN		OUT		Load for Deflection Span/150
	Bridging > 2	3	2	3	
6000	<b>5.31</b>	<b>5.31</b>	<b>5.31</b>	<b>5.31</b>	5.41
6500	<b>4.53</b>	<b>4.53</b>	<b>4.53</b>	<b>4.53</b>	4.26
7000	<b>3.90</b>	<b>3.90</b>	<b>3.90</b>	<b>3.90</b>	3.41
7500	3.40	3.40	3.40	3.40	2.77
8000	2.99	2.99	2.99	2.99	2.28
8500	2.65	2.65	2.65	2.65	1.90
9000	2.12	2.12	2.36	2.36	1.60
9500	2.01	2.01	2.08	2.12	1.36
9750	1.91	1.91	1.95	2.01	1.26
10000	1.82	1.82	1.83	1.91	1.17
10250	1.73	1.73	1.72	1.82	1.09
10500	1.66	1.66	1.62	1.73	1.01
10750	1.58	1.58	1.53	1.66	0.94
11000	1.51	1.51	1.44	1.58	0.88
11250	1.45	1.45	1.36	1.51	0.82
11500	1.39	1.39	1.28	1.43	0.77
11750	1.39	1.39	1.20	1.36	0.72
12000	1.33	1.33	1.13	1.29	0.68

5 Span 15 % Lapped: MAX-SPAN® Zed 25015/25019 (kN/m)

Span (mm)	IN		OUT		Load for Deflection Span/150
	Bridging > 2	3	2	3	
10000	1.64	1.64	1.64	1.64	1.51
10250	1.57	1.57	1.56	1.57	1.40
10500	1.51	1.51	1.47	1.51	1.31
10750	1.45	1.45	1.39	1.45	1.22
11000	1.39	1.39	1.31	1.39	1.14
11250	1.34	1.34	1.24	1.34	1.06
11500	1.29	1.29	1.17	1.29	0.99
11750	1.24	1.24	1.11	1.23	0.93
12000	1.18	1.18	1.05	1.17	0.87



Bold capacities require grade 8.8 purlin bolts  
 IN = Inward load capacity  
 OUT = Outward load capacity  
 In mixed spans, the thicker section is used in the end span

5 Span 15 % Lapped: MAX-SPAN® Zed 25019/25024 (kN/m)

Span (mm)	IN		OUT		Load for Deflection Span/150
	Bridging > 2	3	2	3	
10000	2.39	2.39	2.38	2.39	1.97
10250	2.27	2.27	2.23	2.27	1.83
10500	2.17	2.17	2.09	2.17	1.70
10750	2.07	2.07	1.97	2.07	1.58
11000	1.97	1.97	1.86	1.97	1.48
11250	1.89	1.89	1.75	1.89	1.38
11500	1.81	1.81	1.65	1.81	1.29
11750	1.73	1.73	1.56	1.73	1.21
12000	1.66	1.66	1.47	1.66	1.14

5 Spans 20% Lapped : MAX-SPAN® Zed 15012/15015 (kN/m)

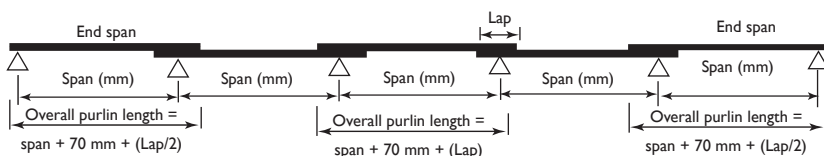
Span (mm)	IN			OUT			Load for Deflection Span/150
	Bridging > 1	2	3	1	2	3	
4000	4.57	4.57	4.57	4.57	4.57	4.57	5.12
4500	3.80	3.80	3.80	3.80	3.80	3.80	3.60
5000	3.20	3.20	3.20	3.20	3.20	3.20	2.62
5500	2.68	2.68	2.68	2.68	2.68	2.68	1.97
6000	2.25	2.25	2.25	2.16	2.25	2.25	1.52

5 Spans 20% Lapped : MAX-SPAN® Zed 15015/15019 (kN/m)

Span (mm)	IN			OUT			Load for Deflection Span/150
	Bridging > 1	2	3	1	2	3	
4500	5.11	5.11	5.11	5.11	5.11	5.11	4.62
5000	4.14	4.14	4.14	4.14	4.14	4.14	3.37
5500	3.42	3.42	3.42	3.36	3.42	3.42	2.53
6000	2.87	2.87	2.87	2.72	2.87	2.87	1.95
6500	2.45	2.45	2.45	2.21	2.45	2.45	1.53

5 Spans 20% Lapped : MAX-SPAN® Zed 15019/15024 (kN/m)

Span (mm)	IN			OUT			Load for Deflection Span/150
	Bridging > 1	2	3	1	2	3	
5000	<b>5.71</b>	<b>5.71</b>	<b>5.71</b>	<b>5.66</b>	<b>5.71</b>	<b>5.71</b>	4.26
5500	4.72	4.72	4.72	4.50	4.72	4.72	3.20
6000	3.93	3.97	3.97	3.61	3.97	3.97	2.46
6500	3.30	3.38	3.38	2.91	3.38	3.38	1.94
7000	2.80	2.91	2.91	2.37	2.84	2.91	1.55
7500	2.41	2.54	2.54	1.93	2.40	2.54	1.26



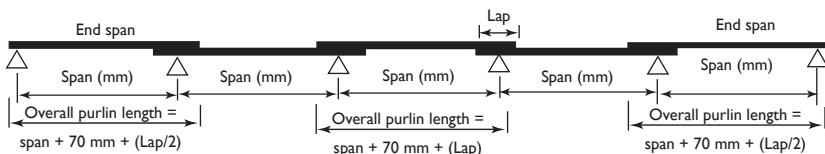
Bold capacities require grade 8.8 purlin bolts  
 IN = Inward load capacity  
 OUT = Outward load capacity  
 In mixed spans, the thicker section is used in the end span

**5 Span 15% Lapped: MAX-SPAN® Zed 20019/20024 (kN/m)**

Span (mm)	IN		OUT		Load for Deflection Span/150
	Bridging > 2	3	2	3	
6000	2.48	2.48	2.48	2.48	3.23
6500	2.21	2.21	2.21	2.21	2.54
7000	1.98	1.98	1.98	1.98	2.03
7500	1.78	1.78	1.78	1.78	1.65
8000	1.61	1.61	1.61	1.61	1.36
8500	1.46	1.46	1.46	1.46	1.14
9000	1.33	1.33	1.33	1.33	0.96
9500	1.21	1.21	1.20	1.21	0.81
9750	1.16	1.16	1.12	1.16	0.75
10000	1.11	1.11	1.05	1.11	0.70
10250	1.07	1.07	0.98	1.07	0.65
10500	1.03	1.03	0.92	1.03	0.60
10750	0.99	0.99	0.86	0.98	0.56
11000	0.94	0.94	0.81	0.92	0.52
11250	0.90	0.90	0.75	0.87	0.49
11500	0.86	0.86	0.71	0.83	0.46
11750	0.83	0.83	0.66	0.79	0.43
12000	0.79	0.79	0.62	0.74	0.40

**5 Span 20% Lapped: MAX-SPAN® Zed 20015/20019 (kN/m)**

Span (mm)	IN		OUT		Load for Deflection Span/150
	Bridging > 2	3	2	3	
6000	3.93	3.93	3.93	3.93	4.28
6500	3.44	3.44	3.44	3.44	3.36
7000	3.04	3.04	3.04	3.04	2.69
7500	2.65	2.65	2.65	2.65	2.19
8000	2.33	2.33	2.33	2.33	1.80
8500	2.06	2.06	2.06	2.06	1.50
9000	1.84	1.84	1.84	1.84	1.27
9500	1.65	1.65	1.65	1.65	1.08
9750	1.57	1.57	1.57	1.57	1.00
10000	1.49	1.49	1.47	1.49	0.92
10250	1.42	1.42	1.38	1.42	0.86
10500	1.35	1.35	1.29	1.35	0.80
10750	1.29	1.29	1.21	1.29	0.74
11000	1.23	1.23	1.14	1.23	0.69
11250	1.18	1.18	1.07	1.18	0.65
11500	1.13	1.13	1.00	1.13	0.61
11750	1.08	1.08	0.94	1.08	0.57
12000	1.04	1.04	0.88	1.04	0.54



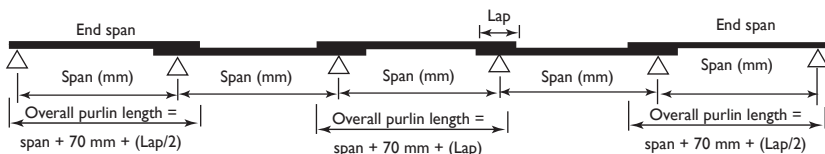
Bold capacities require grade 8.8 purlin bolts  
 IN = Inward load capacity  
 OUT = Outward load capacity  
 In mixed spans, the thicker section is used in the end span

5 Span 20% Lapped: MAX-SPAN® Zed 20019/20024 (kN/m)

Span (mm)	IN		OUT		Load for Deflection Span/150
	Bridging > 2	3	2	3	
6000	<b>6.01</b>	<b>6.01</b>	<b>6.01</b>	<b>6.01</b>	5.51
6500	<b>5.12</b>	<b>5.12</b>	<b>5.12</b>	<b>5.12</b>	4.34
7000	<b>4.41</b>	<b>4.41</b>	<b>4.41</b>	<b>4.41</b>	3.47
7500	<b>3.85</b>	<b>3.85</b>	<b>3.85</b>	<b>3.85</b>	2.82
8000	<b>3.38</b>	<b>3.38</b>	<b>3.38</b>	<b>3.38</b>	2.33
8500	2.99	2.99	2.99	2.99	1.94
9000	2.67	2.67	2.61	2.67	1.63
9500	2.40	2.40	2.29	2.40	1.39
9750	2.28	2.28	2.15	2.28	1.29
10000	2.16	2.16	2.02	2.16	1.19
10250	2.06	2.06	1.90	2.06	1.11
10500	1.96	1.96	1.78	1.96	1.03
10750	1.87	1.87	1.66	1.86	0.96
11000	1.79	1.79	1.56	1.76	0.90
11250	1.71	1.71	1.46	1.66	0.84
11500	1.64	1.64	1.37	1.58	0.78
11750	1.57	1.57	1.28	1.50	0.73
12000	1.50	1.50	1.20	1.42	0.69

5 Span 20 % Lapped: MAX-SPAN® Zed 25015/25019 (kN/m)

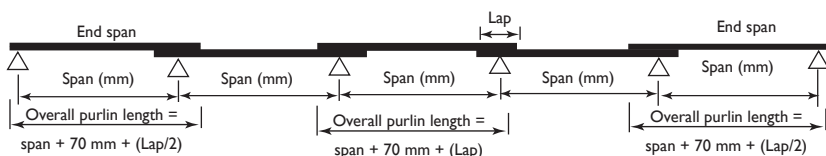
Span (mm)	IN		OUT		Load for Deflection Span/150
	Bridging > 2	3	2	3	
10000	1.81	1.81	1.81	1.81	1.54
10250	1.74	1.74	1.72	1.74	1.43
10500	1.67	1.67	1.62	1.67	1.33
10750	1.60	1.60	1.53	1.60	1.24
11000	1.54	1.54	1.44	1.54	1.16
11250	1.49	1.49	1.35	1.49	1.08
11500	1.43	1.43	1.28	1.43	1.01
11750	1.38	1.38	1.20	1.36	0.95
12000	1.33	1.33	1.14	1.29	0.89



Bold capacities require grade 8.8 purlin bolts  
 IN = Inward load capacity  
 OUT = Outward load capacity  
 In mixed spans, the thicker section is used in the end span

5 Span 20 % Lapped: MAX-SPAN® Zed 25019/25024 (kN/m)

Span (mm)	IN		OUT		Load for Deflection Span/150
	Bridging > 2	3	2	3	
10000	<b>2.70</b>	<b>2.70</b>	2.60	<b>2.70</b>	2.01
10250	2.57	2.57	2.44	2.57	1.86
10500	2.45	2.45	2.29	2.45	1.73
10750	2.34	2.34	2.15	2.34	1.61
11000	2.23	2.23	2.02	2.23	1.51
11250	2.13	2.13	1.90	2.13	1.41
11500	2.04	2.04	1.79	2.04	1.32
11750	1.96	1.96	1.68	1.94	1.24
12000	1.88	1.88	1.58	1.84	1.16



Bold capacities require grade 8.8 purlin bolts  
 IN = Inward load capacity  
 OUT = Outward load capacity  
 In mixed spans, the thicker section is used in the end span





(FOR USE WITH MAX-SPAN® PURLINS)

Metalform ABN: 61 103 232 444

55 Monash Drive, Dandenong South, VIC, 3175

Ph: 03 9792 4666 Fax: 03 9794 0536

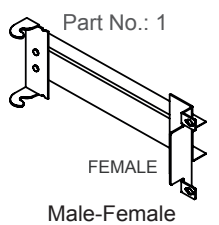
Delivery Date: \_\_\_\_\_

Project: \_\_\_\_\_

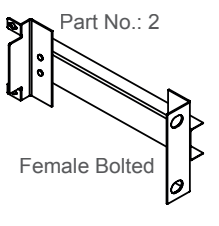
Customer:			
Address:			
Drawn:	Finish:	Date:	Holes:

Sheet _____ of _____
Job No:
Purchase Order No:

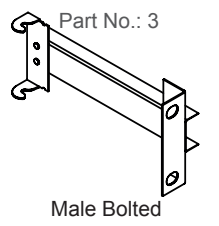
### Intermediate Fixed Bridging Assemblies



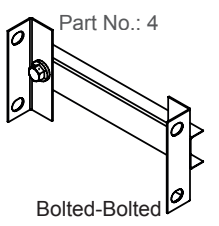
Part No.: 1  
FEMALE  
Male-Female



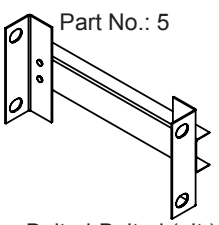
Part No.: 2  
Female Bolted



Part No.: 3  
Male Bolted



Part No.: 4  
Bolted-Bolted



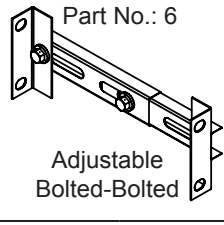
Part No.: 5  
Bolted-Bolted (alt.)

Instructions:				Roof Pitch
Part No.	Purlin Size	Purlin Centres	No Reqd	Mark No.

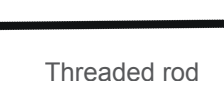
Notes: • Ends can be ordered individually.  
 • Turnbuckles can be ordered for adjustment also.  
 • All end combinations can be manufactured adjustable to suit.  
 • Additional accessories details/advice available on request - please contact Metalform directly Details above.

### Fascia Bridging Assemblies

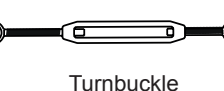
Fascia Size: \_\_\_\_\_



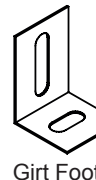
Part No.: 6  
Adjustable Bolted-Bolted



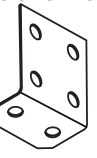
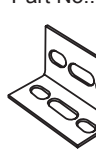
Part No.: 7  
Threaded rod




Part No.: 8  
Turnbuckle



Part No.: 9  
Girt Foot

 <p>Part No.: 10 G P Bracket 150, 200, 250</p>	 <p>Part No.: 11 Angle Connector</p>
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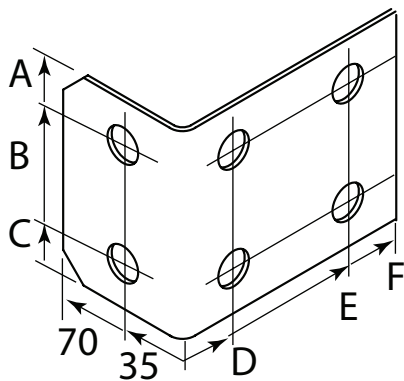


Part No.: 12  
Clamp Plate

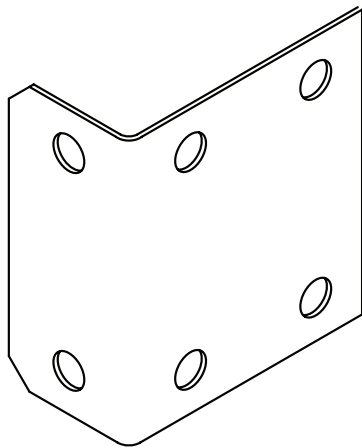
Install bridging in direction of locator.

# GENERAL PURPOSE BRACKETS

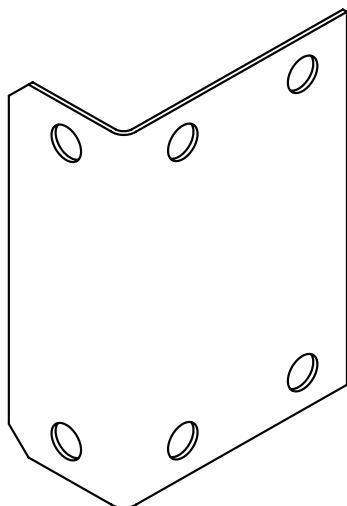
## GENERAL PURPOSE BRACKET - 150



## GENERAL PURPOSE BRACKET - 200



## GENERAL PURPOSE BRACKET - 250



## OTHER BUILDING MATERIALS

Contact METALFORM® for the availability of other related building materials not specified in the above order forms including: purlin bolts, fascia purlins, other adjustable bridging assemblies, as well as other special purpose clamps, brackets and fasteners.

Contact METALFORM® for full product availability information.

## CONTACT DETAILS



METALFORM® ABN: 61 103 232 444

55 Monash Drive, Dandenong South, VIC, 3175

Ph: 03 9792 4666 Fax: 03 9794 0536

Size	A	B	C	D	E	F
150	22.5	82.5	105	30	97	125
200	22	132	154	36	109	136
250	20	180	200	36	109	136



# NOTES:

A series of horizontal lines for writing notes, spanning the majority of the page width.

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