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LAMPIRAN - LAMPIRAN



STAAD.Pro Report

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Node Displacement Summary

	Node	L/C	X (mm)	Y (mm)	Z (mm)	Resultant (mm)	rX (rad)	rY (rad)	rZ (rad)
Max X	88	112:0.9DL+1.6(WLX)	0.287	-0.733	0.000	0.787	0.000	0.000	0.000
Min X	88	109:1.2DL+1.0LL+0.	-0.287	-3.023	0.000	3.037	0.000	0.000	-0.000
Max Y	95	114:0.9DL+1.6(WLZ)	0.000	0.457	0.000	0.457	0.000	0.000	0.000
Min Y	95	103:1.2DL+1.0LL+1.	-0.000	-8.164	0.000	8.164	0.000	0.000	0.000
Max Z	88	120:1.2DL+1.0LL+(	0.017	-3.740	15.419	15.866	-0.013	-0.000	0.000
Min Z	88	121:1.2DL+1.0LL+(	0.017	-3.740	-15.419	15.866	0.013	0.000	0.000
Max rX	95	121:1.2DL+1.0LL+(	0.010	-3.791	-1.825	4.208	0.014	0.000	0.000
Min rX	95	120:1.2DL+1.0LL+(	0.010	-3.791	1.825	4.208	-0.014	-0.000	0.000
Max rY	95	121:1.2DL+1.0LL+(	0.010	-3.791	-1.825	4.208	0.014	0.000	0.000
Min rY	95	122:1.2DL+1.0LL+(	-0.010	-3.791	1.825	4.208	-0.014	-0.000	-0.000
Max rZ	95	108:1.2DL+1.0LL+0.	-0.061	-3.062	0.000	3.062	0.000	-0.000	0.001
Min rZ	95	109:1.2DL+1.0LL+0.	0.061	-3.062	0.000	3.062	0.000	0.000	-0.001
Max Rst	88	120:1.2DL+1.0LL+(0.017	-3.740	15.419	15.866	-0.013	-0.000	0.000



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Node Displacement Summary

	Node	L/C	X (mm)	Y (mm)	Z (mm)	Resultant (mm)	rX (rad)	rY (rad)	rZ (rad)
Max X	53	103:1.2DL+1.0LL+1.	2.744	-10.478	0.000	10.831	-0.000	-0.000	-0.001
Min X	137	103:1.2DL+1.0LL+1.	-2.744	-10.478	0.000	10.831	-0.000	0.000	0.001
Max Y	70	114:0.9DL+1.6(WLZ	-0.319	1.461	-0.163	1.504	-0.000	-0.000	0.000
Min Y	67	103:1.2DL+1.0LL+1.	2.281	-11.550	0.000	11.773	0.000	-0.000	-0.000
Max Z	119	122:1.2DL+1.0LL+(	-0.701	-4.935	21.110	21.690	-0.012	0.005	0.000
Min Z	113	123:1.2DL+1.0LL+(	-0.701	-4.935	-21.110	21.690	0.012	-0.005	0.000
Max rX	92	121:1.2DL+1.0LL+(	0.009	-3.619	-1.773	4.030	0.014	0.000	0.000
Min rX	98	120:1.2DL+1.0LL+(	0.009	-3.619	1.773	4.030	-0.014	-0.000	0.000
Max rY	133	122:1.2DL+1.0LL+(	-0.608	-4.457	14.885	15.550	-0.014	0.008	0.000
Min rY	127	123:1.2DL+1.0LL+(	-0.608	-4.457	-14.885	15.550	0.014	-0.008	0.000
Max rZ	165	103:1.2DL+1.0LL+1.	-1.384	-3.197	-0.000	3.483	-0.000	-0.000	0.002
Min rZ	25	103:1.2DL+1.0LL+1.	1.384	-3.197	-0.000	3.483	-0.000	0.000	-0.002
Max Rst	116	122:1.2DL+1.0LL+(-0.753	-5.202	21.096	21.741	-0.012	0.005	0.000



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Utilization Ratio

Beam	Design Property	Actual Ratio	Allowable Ratio	Normalized Ratio (Actual/Allowable)	Clause	L/C	Ax (cm ²)	Iz (cm ⁴)	Iy (cm ⁴)	Ix (cm ⁴)
11	15C100	0.196	1.000	0.196	Bend + Compr	103	6.447	107.374	49.034	0.048
387	15C100	0.196	1.000	0.196	Bend + Compr	103	6.447	107.374	49.034	0.048
9	15C100	0.194	1.000	0.194	Bend + Compr	103	6.447	107.374	49.034	0.048
10	15C100	0.194	1.000	0.194	Bend + Compr	103	6.447	107.374	49.034	0.048
12	15C100	0.194	1.000	0.194	Bend + Compr	103	6.447	107.374	49.034	0.048
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388	15C100	0.194	1.000	0.194	Bend + Compr	103	6.447	107.374	49.034	0.048
389	15C100	0.194	1.000	0.194	Bend + Compr	103	6.447	107.374	49.034	0.048
4	15C100	0.193	1.000	0.193	Bend + Compr	103	6.447	107.374	49.034	0.048
380	15C100	0.193	1.000	0.193	Bend + Compr	103	6.447	107.374	49.034	0.048
8	15C100	0.192	1.000	0.192	Bend + Compr	103	6.447	107.374	49.034	0.048
14	15C100	0.192	1.000	0.192	Bend + Compr	103	6.447	107.374	49.034	0.048
384	15C100	0.192	1.000	0.192	Bend + Compr	103	6.447	107.374	49.034	0.048
390	15C100	0.192	0.000	0.192	Bend + Compr	103	6.447	107.374	49.034	0.048
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265	15C100	0.173	1.000	0.173	Bend + Compr	103	6.447	107.374	49.034	0.048
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290	15C100	0.171	1.000	0.171	Bend + Compr	103	6.447	107.374	49.034	0.048
120	15C100	0.169	1.000	0.169	Bend + Compr	103	6.447	107.374	49.034	0.048
121	15C100	0.169	1.000	0.169	Bend + Compr	103	6.447	107.374	49.034	0.048
123	15C100	0.169	1.000	0.169	Bend + Compr	103	6.447	107.374	49.034	0.048
124	15C100	0.169	1.000	0.169	Bend + Compr	103	6.447	107.374	49.034	0.048

303	15C100	0.004	1.000	0.004	Tension Ecce	103	6.447	107.374	49.034	0.048
304	15C100	0.004	1.000	0.004	Tension Ecce	103	6.447	107.374	49.034	0.048
305	15C100	0.004	1.000	0.004	Tension Ecce	103	6.447	107.374	49.034	0.048
306	15C100	0.004	1.000	0.004	Tension Ecce	103	6.447	107.374	49.034	0.048

PEMBANGUNAN GUEST HOUSE CIPAYUNG 24X30



GAMBAR STRUKTUR

KETERANGAN :

PEMBERI TUGAS :

INAMA PROJEK :

PERENCANA :

PENGAMAS :

KONTRAKTOR :

GUEST HOUSE CIPAYUNG

JUDUL GAMBAR

SKALA

DENAH ARSITEKTUR

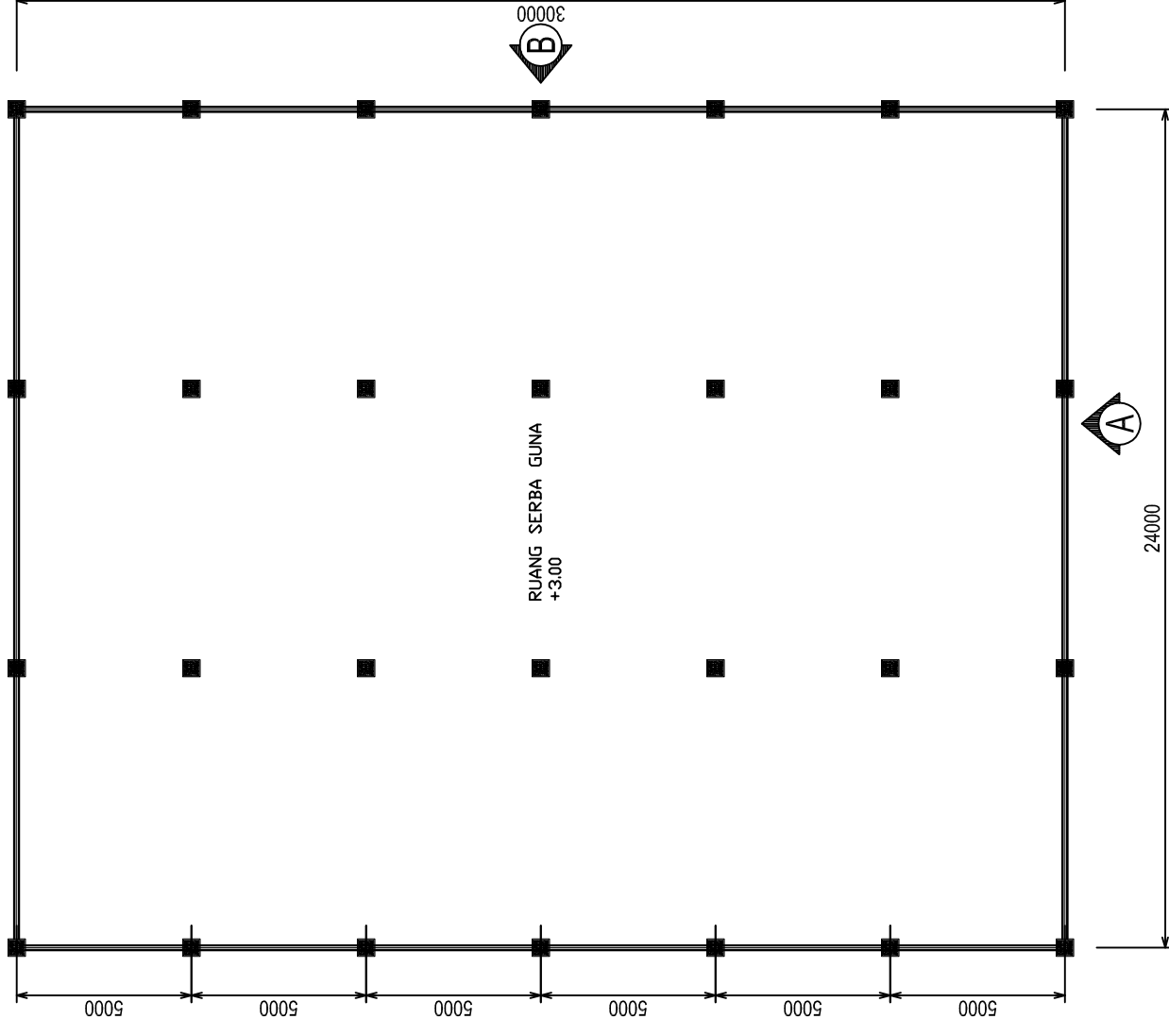
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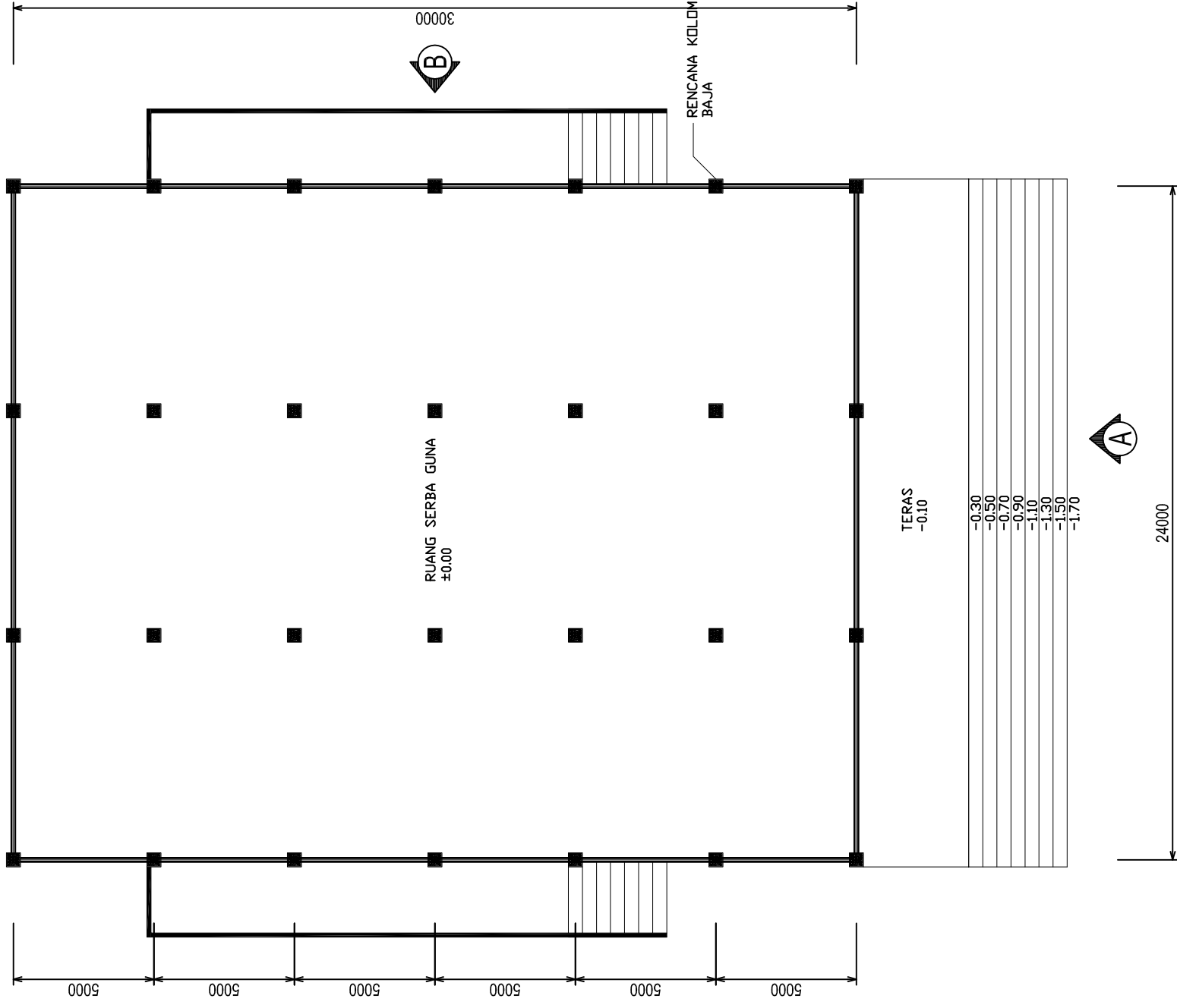
APPROVAL DRAWING



DENAH LANTAI 2

01

SKALA NTS



DENAH LANTAI 1

01

SKALA NTS

KETERANGAN :

PEMBERI TUGAS :

INVA PROJEK :

GUEST HOUSE CIPAYUNG

PERENCANA :

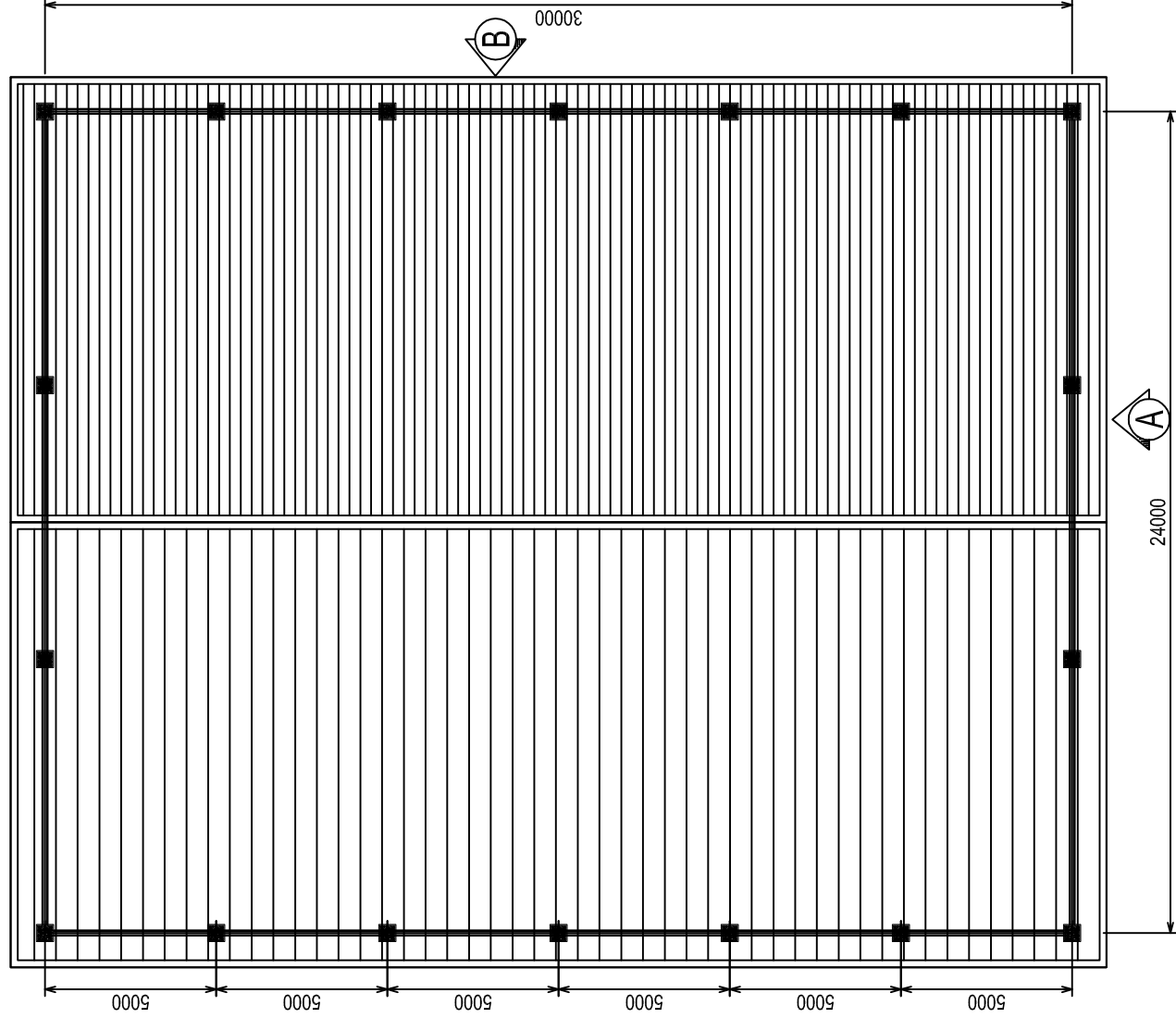
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KONTRAKTOR :

JUDUL GAMBAR	SKALA
DENAH ARSITEKTUR	NTS

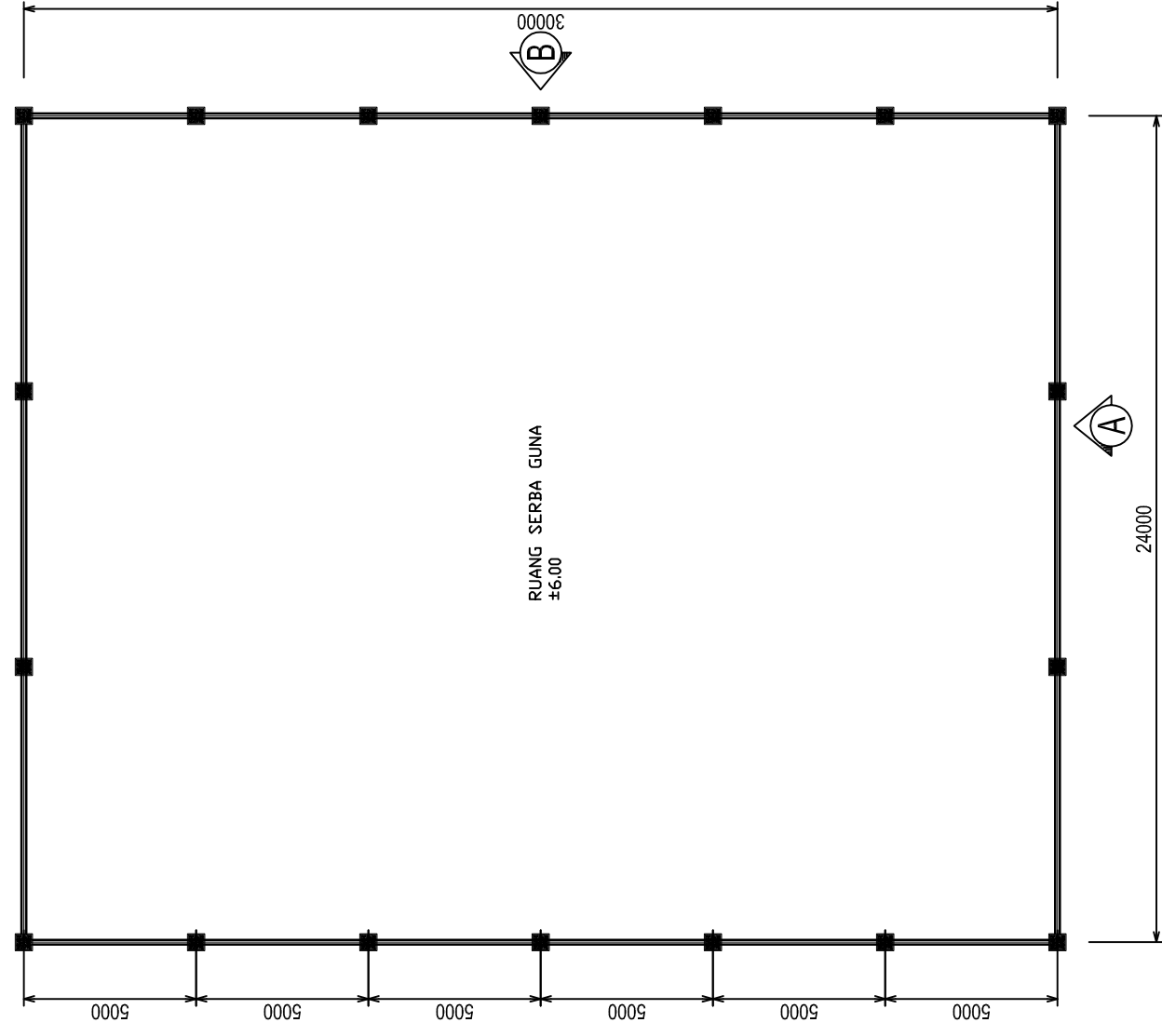
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APPROVAL DRAWING	



DENAH LANTAI ATAP
SKALA NTS

01



DENAH LANTAI 3
SKALA NTS

01

KETERANGAN :

PEMBERI TUGAS :

INAMA PROJEK :

PERENCANA :

PENGAMAS :

KONTRAKTOR :

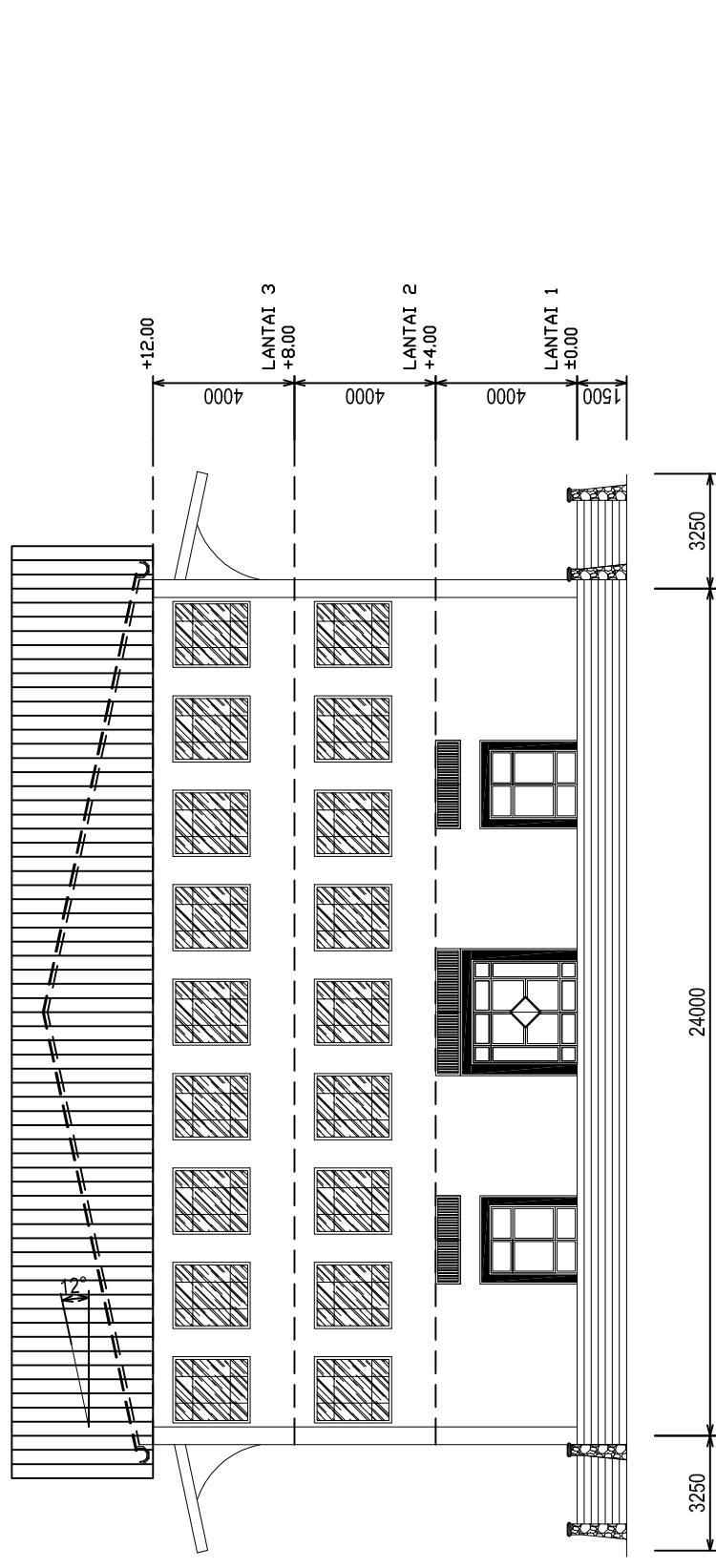
GUEST HOUSE CIPAYUNG

JUDUL GAMBAR	SKALA
VIEW A (TAMPAK DEPAN)	NTS
VIEW B (TAMPAK SAMPIING)	

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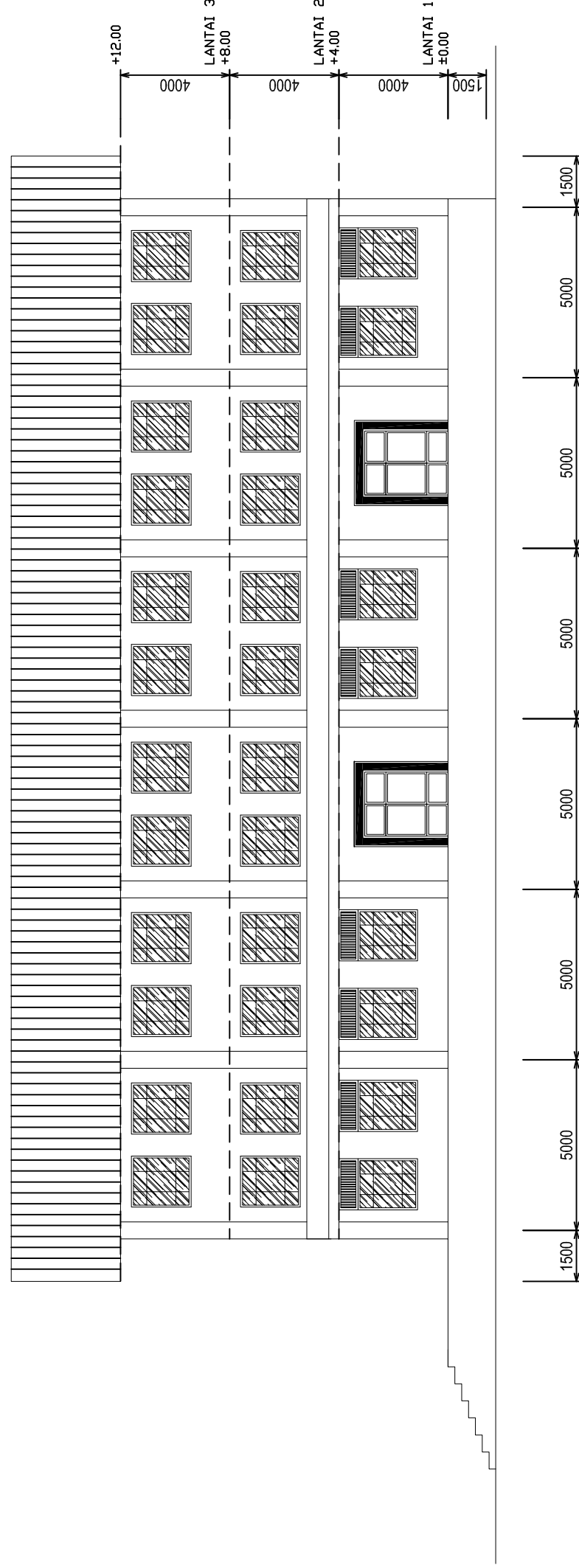
APPROVAL DRAWING



VIEW A (TAMPAK DEPAN)

SKALA NTS

01



VIEW B (TAMPAK SAMPIING)

SKALA NTS

01

KETERANGAN :

PEMBERI TUGAS :

INVA PROJEK :

GUEST HOUSE CIPAYUNG

PERENCANA :

PEREKAMAS :

KONTRAKTOR :

JUDUL GAMBAR

SKALA

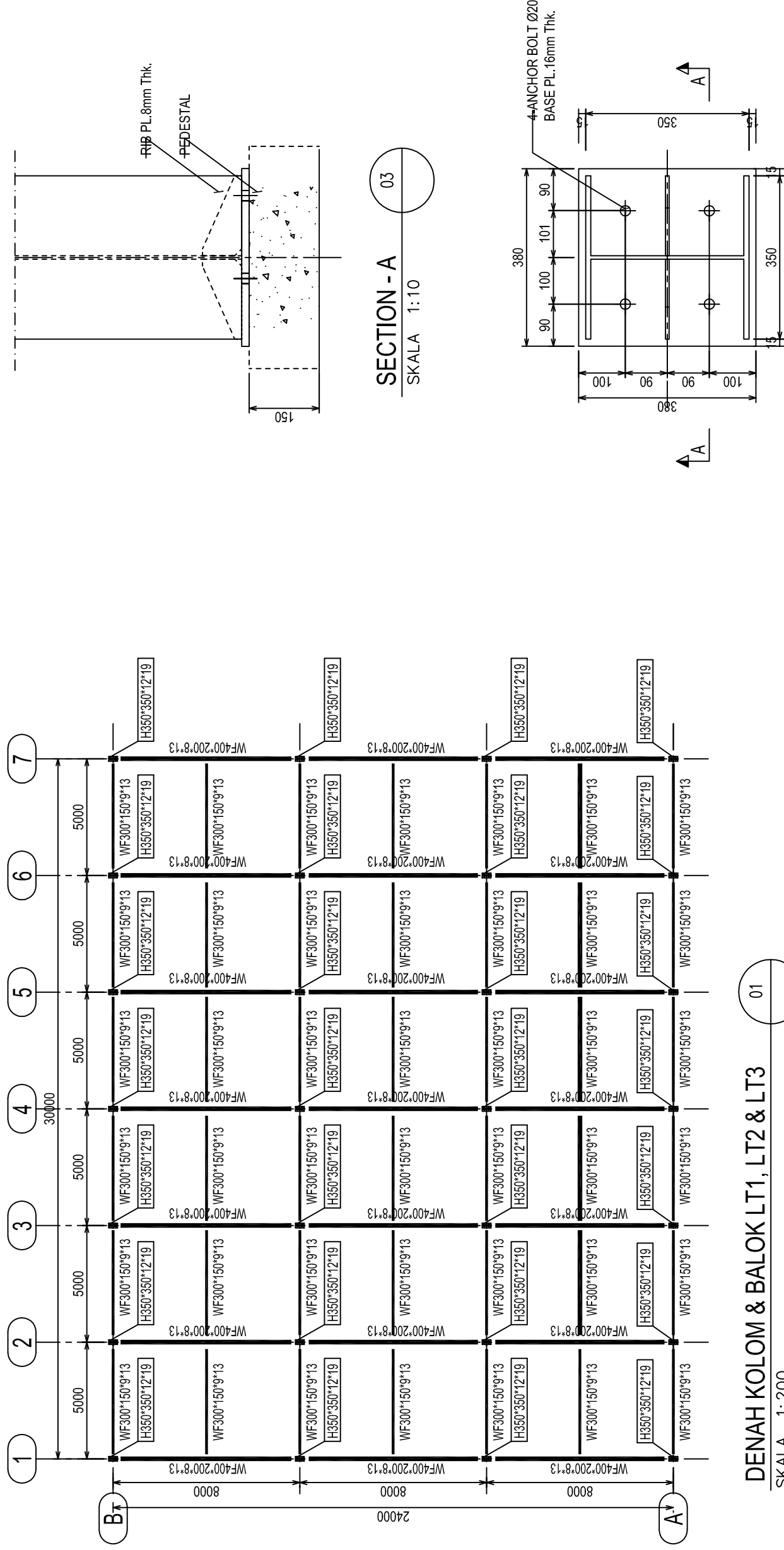
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APPROVAL DRAWING



DETAIL BASEPLATE

SKALA 1:10

02

DENAH KOLOM & BALOK LT1, LT2 & LT3

SKALA 1:200

01

KETERANGAN :

PEMBERI TUGAS :

INAMA PROJEK :
GUEST HOUSE CIPAYUNG

PERENCANA :

PENGAWAS :

KONTRAKTOR :

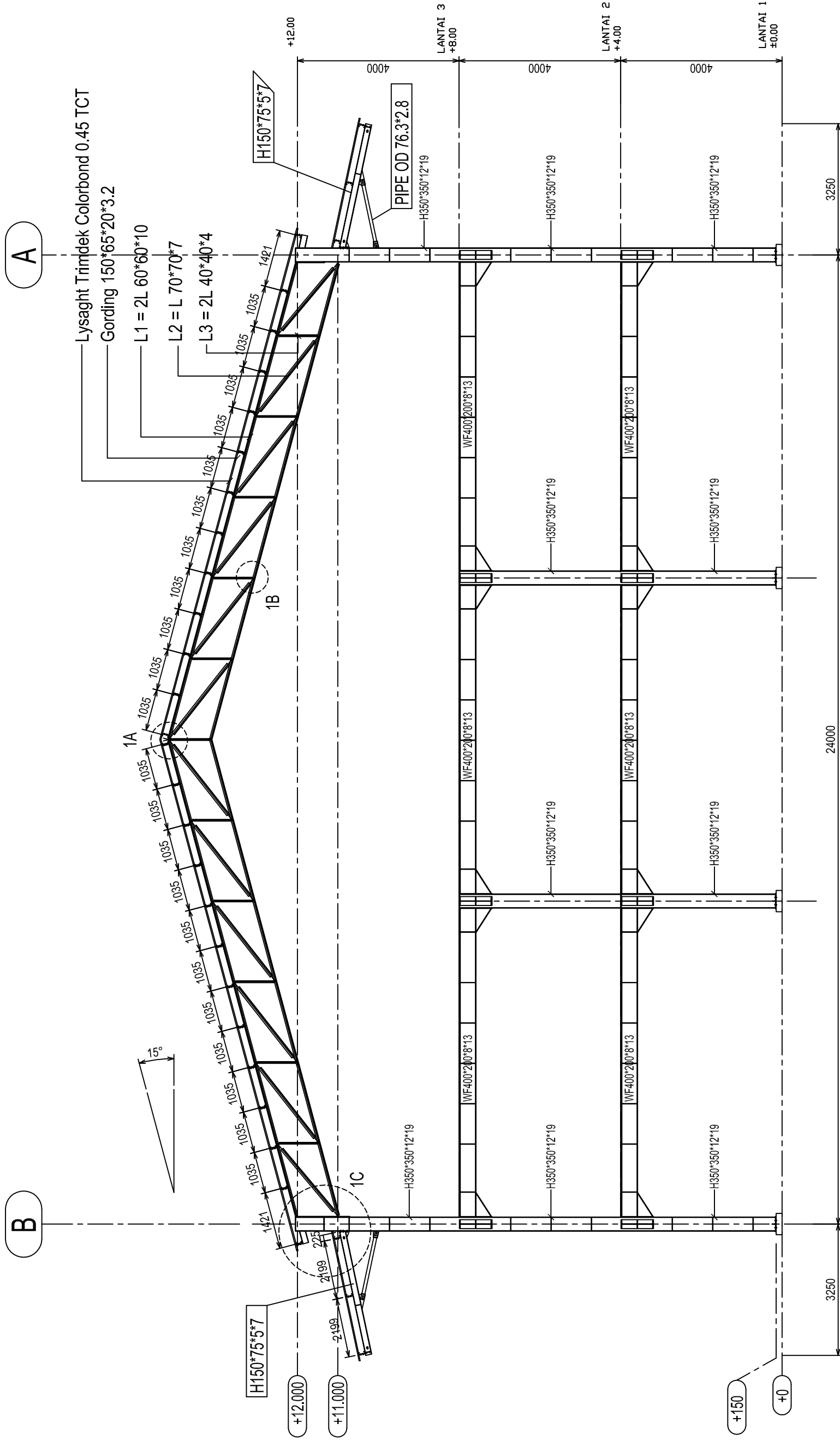
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FRAME SECTION
@ G.L. 1 TO 7

SKALA :
AS SHOWN

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G-AD-005

APPROVAL DRAWING



FRAME SECTION @ G.L. 1 TO 7

SKALA 1:150

01

KETERANGAN :

PEMBERI TUGAS :

INVA PROJEK :

GUEST HOUSE CIPAYUNG

PERENCANA :

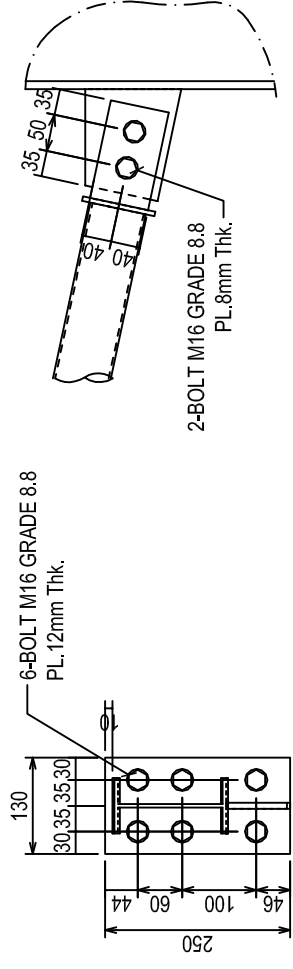
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KONTRAKTOR :

JUDUL GAMBAR	SKALA
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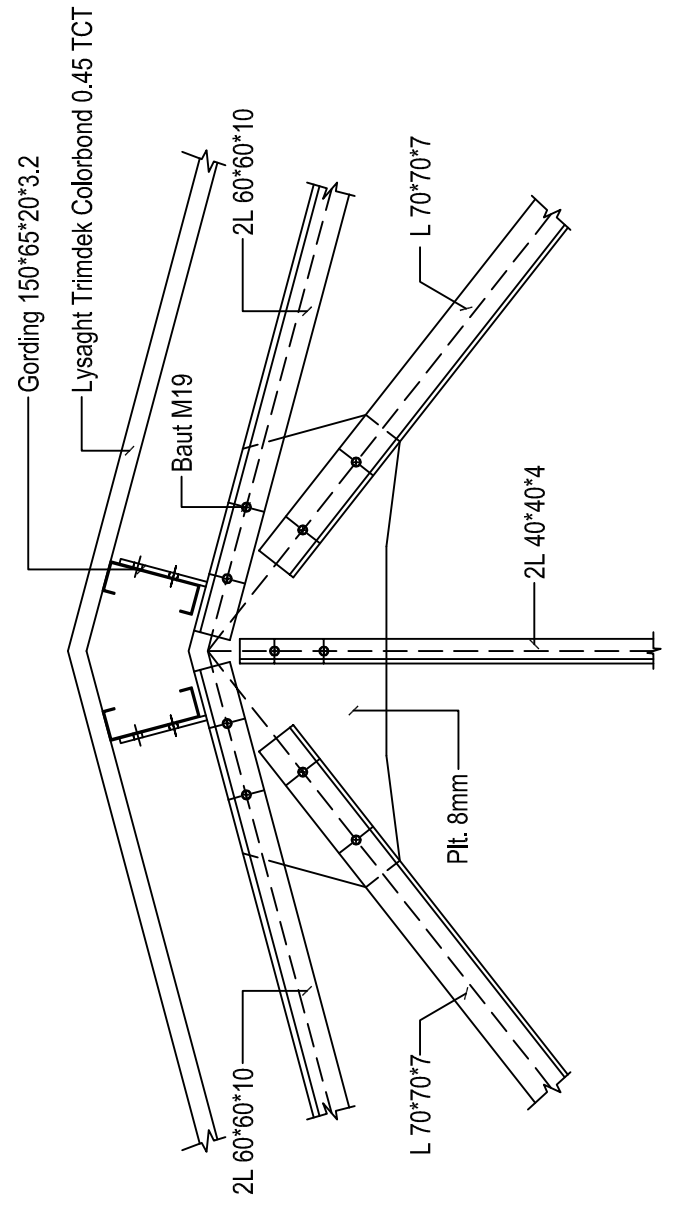
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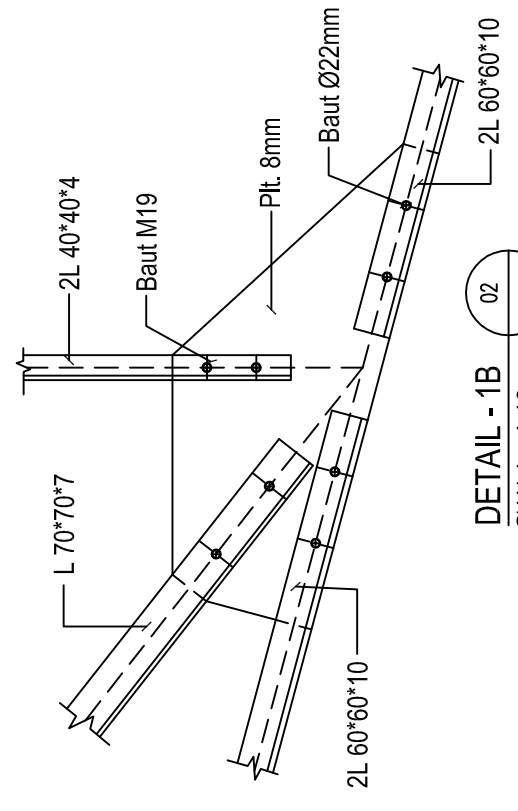


SECTION-B
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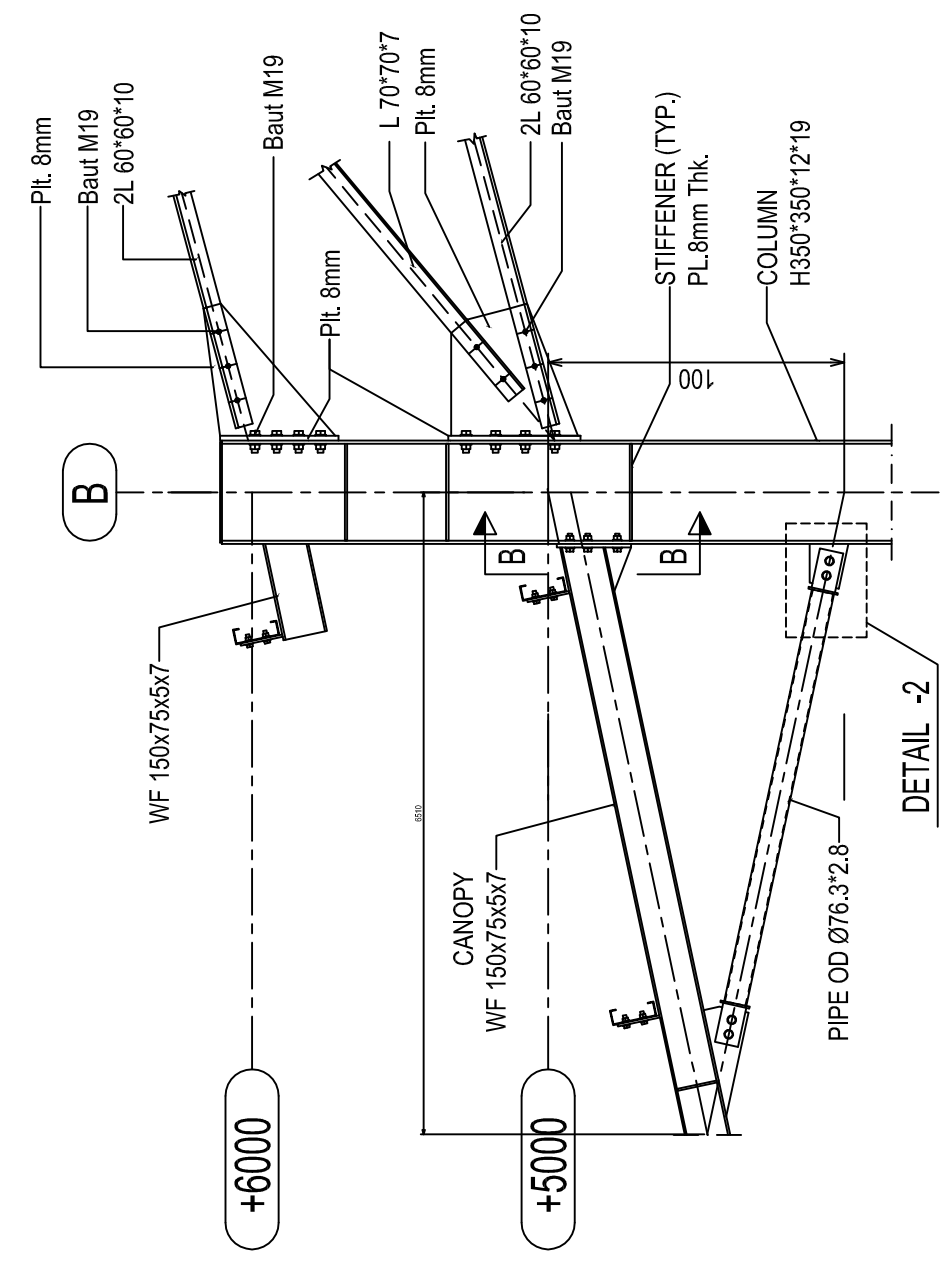
DETAIL - 2
SKALA 1:10



DETAIL - 1A
SKALA 1:10



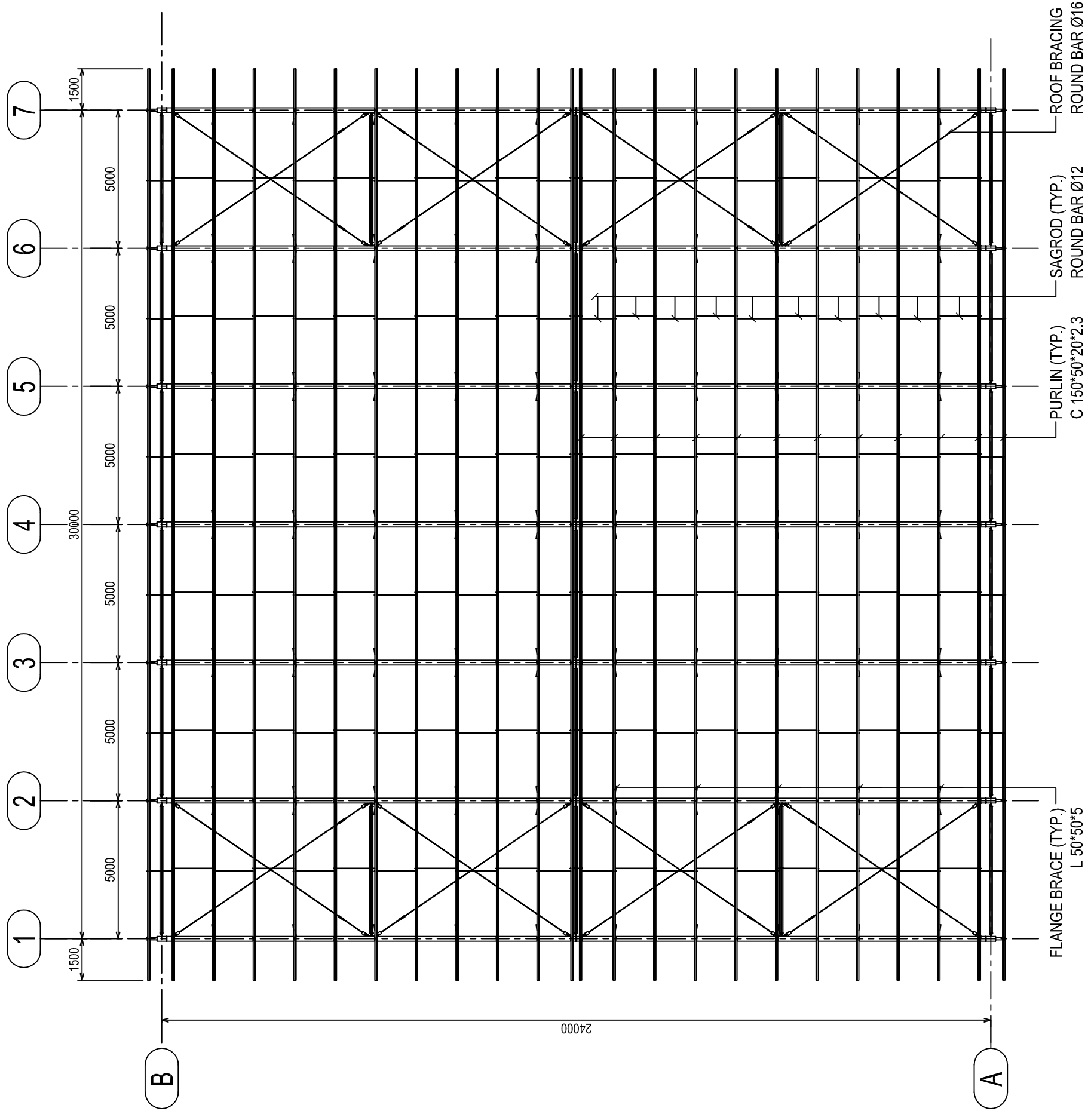
DETAIL - 1B
SKALA 1:10



DETAIL - 1C
SKALA 1:10

DETAIL - 2

KETERANGAN :			
-			
PEMBERI TUGAS :	-		
NAMA PROJEK :	GUEST HOUSE CIPAYUNG		
PERENCANA :	-		
PENGAMAS :	-		
KONTRAKTOR :	-		
JUDUL GAMBAR	SKALA		
ROOF FRAMING PLAN	AS SHOWN		
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APPROVAL DRAWING			



ROOF FRAMING PLAN

SKALA 1:200

01

KETERANGAN :

PEMBERI TUGAS :

INAMA PROJEK :

GUEST HOUSE CIPAYUNG

PERENCANA :

PENGAMAS :

KONTRAKTOR :

JUDUL GAMBAR

ROOF CANOPY PLAN

SKALA

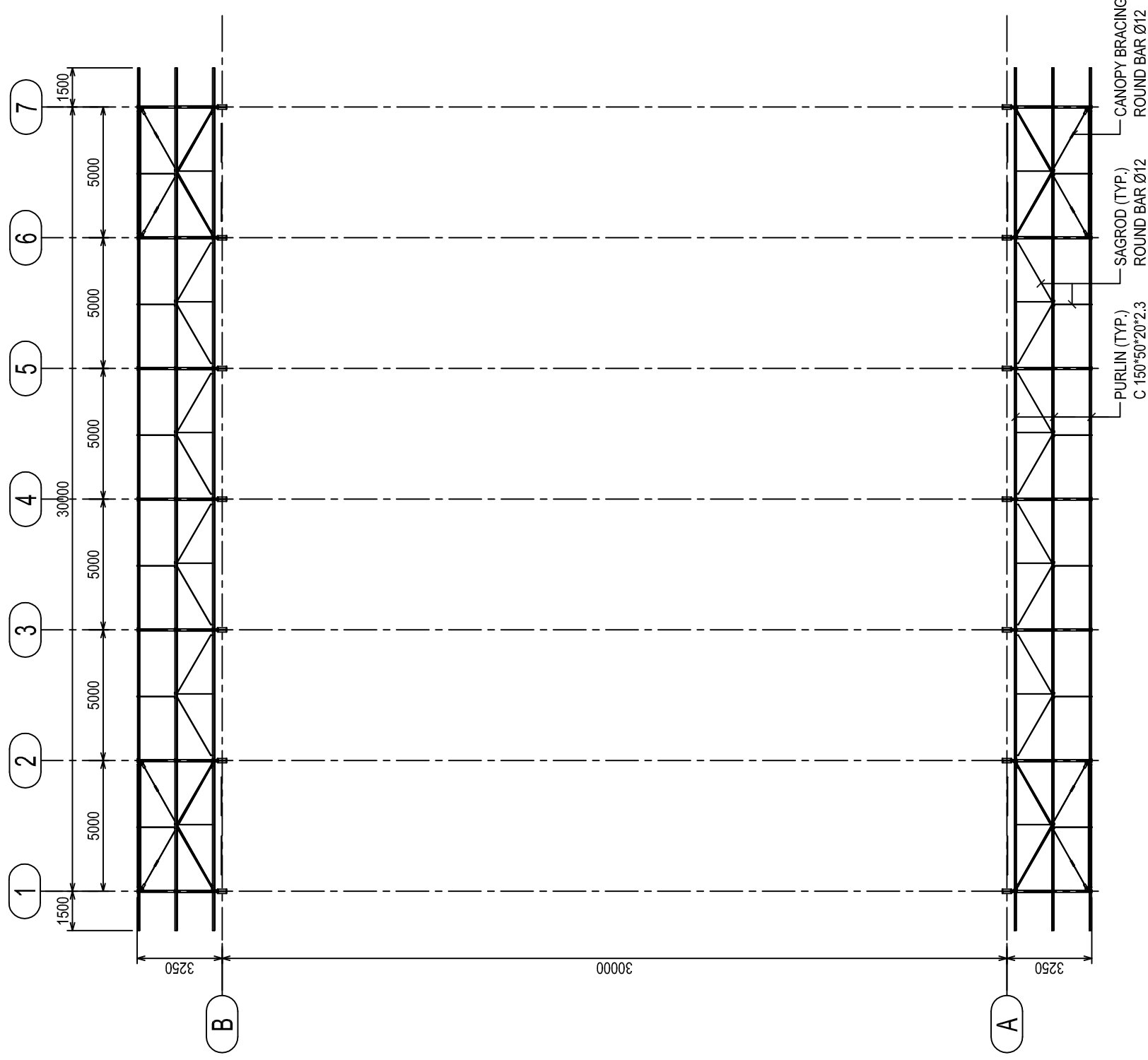
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CANOPY PLAN EL. +5.000

SKALA 1:200

01



LYSAGHT® Purlins & Girts User's Manual



Structural Solutions



Rainwater Solutions



Roofing & Walling Solutions



Fencing Solutions



Home Improvements



House Framing Solutions



Customer Support

Using Lysaght Zeds & Cees for purlins & girts

Limit state capacity tables & product information

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Introduction



Background

Pursuing the commitment of BLUESCOPE LYSAGHT to constant improvement, this edition of LYSAGHT Zeds and Cees reflects the move to limit state design principles.

Since 1987, in conjunction with the University of Sydney, we have intensively researched the behaviour of purlin and girt systems using the vacuum test rig at the University, which is the only one of its type in Australia and the largest in the world. In our NATA-registered laboratory we have tested full-scale purlin and girt systems on single, double and lapped continuous configurations for both inward and outward loading. It has been possible to gain a sound understanding of their behaviour. This knowledge allows us to remain at the forefront of technology, in Australia and overseas.

Since the last edition of this manual, the results of this research has been used in the development of AS/NZS 4600: 1996 *Cold-formed steel structures*. New software has been developed for the design of Lysaght Zed and Cee purlins.

This manual incorporates the whole range of Lysaght purlins and girts in a much wider range of spanning and bridging configurations than before. There has also been a rationalisation of coating mass.

The data are intended for specifiers, engineers, builders and erectors for the specification, detailing and erection of Lysaght purlin and girt systems. Included are details of material specifications, dimensions, packing, storage, holes, and bridging location; together with limit state capacity tables.

Lysaght products detailed in this manual

Product	Use	Code prefix
LYSAGHT® Zeds	General purpose purlins and girts	Z
LYSAGHT® Cees	General purpose purlins and girts	C
LYSAGHT® Fascia Purlins	Fascia purlins	FP
HOOK-LOK II® Bridging	Flexible bridging system for bracing Zeds & Cees	H2
Series 300 & 350 Bridging	Bridging system for larger spans and greater loads	
LYTCURVE™	Curved purlins and girts	

Product coding

A prefix letter for the section shape, and a number indicating the section depth in millimeters designates profiles. For example Z250, or C250; or, where reference is made to both sections of a given size, Z/C250.

General data for Zed & Cee Sections

LYSAGHT Zed and Cee sections are accurately roll-formed from high-strength zinc-coated steel to provide an efficient, lightweight, economical roofing and cladding support system for framed structures.

The system, which includes HOOK-LOK II bridging, Series 300 and 350 bridging, and a comprehensive range of accessories, is supplied ready for erection.

Applications

LYSAGHT Zed sections may be used over single spans, unlapped continuous, and lapped continuous spans in multi-bay buildings. Lapped continuous spans result in a considerable capacity increase in the system.

LYSAGHT 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 LYSAGHT Zeds and Cees;
- A full range of LYSAGHT Zeds and Cees with downturned-lip;
- Section sizes from 100 mm to 350 mm;
- LYTCURVE® Cee purlins from 100 mm to 250 mm;
- Technical information for cleatless connections (see Design notes for capacity tables);
- HOOK-LOK® II bridging systems;
- Bolting systems to suit project needs;
- The BLUESCOPE LYSAGHT 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/ANZ 4600:1996 *Cold-formed steel structures*, load capacities have been calculated for LYSAGHT sections using approved LYSAGHT 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 BLUESCOPE LYSAGHT recommendations and accepted building practice.

Non-standard sections

We can supply a wide range of non-standard sizes (up to 350 mm) and shapes, including Cees and Zeds with downturned lip—the Zeds can also be made to lap. Non-standard sections are not stocked in every region.

Corrosion warranty

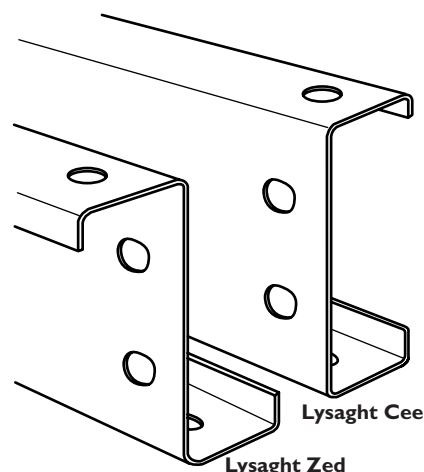
Lysaght purlins and girts are manufactured from GALVSPAN® steel. Subject to design, location and intended use, they are covered by the BLUESCOPE LYSAGHT corrosion warranty.

Corrosion protection & material compatibility

Some building materials and environmental conditions can be detrimental to coated steel products. These include contact with or exposure to runoff 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/m² minimum coating mass) is the standard coating class provided with LYSAGHT 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.



Standard range of Lysaght Zeds and Cees

Nominal section size (mm)	BMT (mm)
100	1.0, 1.2, 1.5, 1.9
150	1.2, 1.5, 1.9, 2.4
200	1.5, 1.9, 2.4
250	1.9, 2.4
300	2.4, 3.0
350	3.0

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

For more severe corrosive environments a Z450 (450 g/m² 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 our Information Line.

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 BLUESCOPE LYSAGHT Service Centre.

Available lengths

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

For minimum lengths, and lengths over 12000 mm, contact your nearest BLUESCOPE LYSAGHT office.

For normal deliveries nominal lengths should not exceed 12000 mm. Lengths greater than 12000 mm require special transportation and on-site handling facilities. Law restricts the hours of transportation and permits may be required in some states. Lengths greater than 19500 mm require a special transportation permit.

The maximum length of the Fascia Purlin FP23019 is 15000 mm.

Length tolerance for all sections is ±5 mm.

Packing

LYSAGHT 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.

BLUESCOPE LYSAGHT 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.

Ordering

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

Material specifications

LYSAGHT 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/m².

- 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*

* All BMTs in Townsville have Z450 coating.

Further information is available from www.lysaght.com, our Steel Direct Information Service on **1800 641 417** or the local BLUESCOPE LYSAGHT Service Centre.

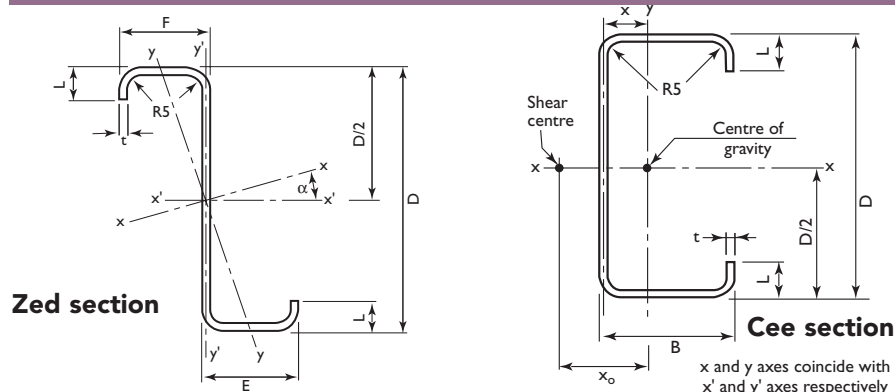
Bolt specification

LYSAGHT purlin bolts and nuts have integral washers.

Tighten all bolts to 55 Nm torque.

Nominal section size (mm)	Bolt specification
100, 150, 200, 250, FP23019	M12 LYSAGHT purlin bolt: standard (grade 4.6) or high strength (grade 8.8)
300, 350	M16 LYSAGHT purlin bolt: standard (grade 4.6) or high strength (grade 8.8)

Zed & Cee Sections Dimensions and properties



LYSAGHT Zed sections

LYSAGHT 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.

LYSAGHT Zed sections of the same depth and different thicknesses can be lapped in any combination.

LYSAGHT 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.

LYSAGHT 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.

LYSAGHT Cee sections

LYSAGHT 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.

Dimensions of Zeds & Cees

Catalogue number	t mm	D mm	Mass per unit length kg/m	Zeds			Cees	
				E mm	F mm	L mm	B mm	L mm
Z/C10010	1.0	102	1.78	53	49	12.5	51	12.5
Z/C10012	1.2	102	2.10	53	49	12.5	51	12.5
Z/C10015	1.5	102	2.62	53	49	13.5	51	13.5
Z/C10019	1.9	102	3.29	53	49	14.5	51	14.5
Z/C15012	1.2	152	2.89	65	61	15.5	64	14.5
Z/C15015	1.5	152	3.59	65	61	16.5	64	15.5
Z/C15019	1.9	152	4.51	65	61	17.5	64	16.5
Z/C15024	2.4	152	5.70	66	60	19.5	64	18.5
Z/C20015	1.5	203	4.49	79	74	15.0	76	15.5
Z/C20019	1.9	203	5.74	79	74	18.5	76	19.0
Z/C20024	2.4	203	7.24	79	73	21.5	76	21.0
Z/C25019	1.9	254	6.50	79	74	18.0	76	18.5
Z/C25024	2.4	254	8.16	79	73	21.0	76	20.5
Z/C30024	2.4	300	10.09	100	93	27.0	96	27.5
Z/C30030	3.0	300	12.76	100	93	31.0	96	31.5
Z/C35030	3.0	350	15.23	129	121	30.0	125	30.0

Section Properties

Section properties of Lysaght Zeds

Full section properties														Column properties		Effective section properties at yield stress	
Product Code	Principal axes						Axes perpendicular & parallel to web						Torsion constant J mm ⁴	Warping constant I _w 10 ⁶ mm ⁶	Section modulus in bending Z _x e 10 ³ mm ³	Area in compression A _e mm ²	
	Area	Second moment of area		Section modulus	Radius of gyration		Second moment of area		Product of moment of area	Section modulus		Radius of gyration					
	A mm ²	I _x 10 ⁴ mm ⁴	I _y 10 ⁴ mm ⁴	Z _y 10 ³ mm ³	r _y mm	α (°)	I _{x'} 10 ⁴ mm ⁴	I _{y'} 10 ⁴ mm ⁴	I _{x'y'} 10 ⁴ mm ⁴	Z _{x'} 10 ³ mm ³	Z _{y'} 10 ³ mm ³	r _{x'} mm					r _{y'} mm
Z10010	216	0.451	0.0437	1.55	14.2	27.6	0.364	0.131	0.168	7.00	2.56	41.1	24.7	71.9	215	5.33	113
Z10012	258	0.536	0.0516	1.84	14.2	27.5	0.432	0.155	0.198	8.32	3.02	41.0	24.5	124	253	6.73	153
Z10015	323	0.668	0.0652	2.32	14.2	27.8	0.537	0.197	0.249	10.3	3.84	40.8	24.7	242	321	8.82	217
Z10019	409	0.840	0.0829	2.94	14.2	28.1	0.673	0.250	0.314	13.0	4.92	40.6	24.7	492	409	12.4	329
Z15012	354	1.47	0.115	3.14	18.1	21.8	1.28	0.303	0.469	16.7	4.78	60.3	29.3	170	1160	11.9	169
Z15015	443	1.84	0.145	3.96	18.1	22.0	1.60	0.383	0.588	20.8	6.06	60.1	29.4	332	1460	17.2	248
Z15019	561	2.32	0.184	5.02	18.1	22.1	2.01	0.487	0.744	26.1	7.73	59.9	29.5	675	1860	22.4	347
Z15024	712	2.92	0.238	6.38	18.3	22.5	2.53	0.632	0.950	32.6	10.0	59.6	29.8	1370	2410	31.4	535
Z20015	555	3.89	0.255	5.53	21.4	18.5	3.53	0.621	1.09	34.3	8.05	79.7	33.4	416	4260	23.8	248
Z20019	713	5.02	0.342	7.45	21.9	19.1	4.52	0.843	1.45	43.9	11.0	79.6	34.4	858	5830	36.4	378
Z20024	907	6.36	0.443	9.64	22.1	19.4	5.70	1.10	1.86	55.3	14.4	79.3	34.8	1740	7630	48.4	546
Z25019	808	8.08	0.381	7.82	21.7	14.0	7.62	0.833	1.81	59.3	10.8	97.1	32.1	972	9480	45.7	379
Z25024	1030	10.2	0.493	10.2	21.9	14.3	9.64	1.08	2.33	74.9	14.2	96.9	32.5	1970	12400	66.0	547
Z30024	1260	18.3	1.01	16.8	28.3	16.0	17.0	2.32	4.57	112	23.8	116	42.8	2430	36600	89.9	628
Z30030	1600	23.1	1.32	21.9	28.7	16.3	21.3	3.04	5.88	140	31.4	116	43.6	4790	48200	125	908
Z35030	1910	39.2	2.49	32.8	36.1	17.8	35.8	5.93	10.7	202	47.2	137	55.7	5730	124000	159	940

Properties have been computed on the basis of mean flange width. The introduced error is negligible. The shear centre and monosymmetry constant deviations can be disregarded, that is, taken as zero.

Section properties of Lysaght Cees

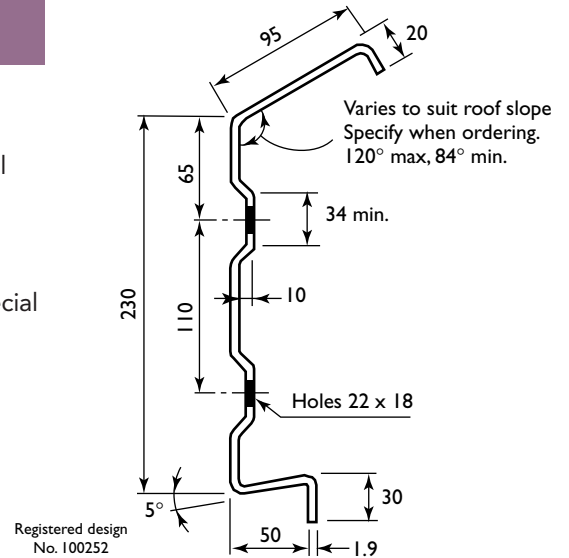
Full section properties									Column properties				Effective section properties at yield stress	
Product Code	Area	Second moment of area		Section modulus		Radius of gyration		Centroid	Shear centre	Torsion constant	Warping constant	Monosymmetry section constant	Section modulus in bending	Area in compression
	A mm ²	I _x 10 ⁴ mm ⁴	I _y 10 ⁴ mm ⁴	Z _x 10 ³ mm ³	Z _y 10 ³ mm ³	r _x mm	r _y mm	\bar{x} mm	x ₀ mm	J mm ⁴	I _w 10 ⁶ mm ⁶	β _y mm	Z _x e 10 ³ mm ³	A _e mm ²
C10010	216	0.364	0.0755	7.13	2.19	41.1	18.7	16.1	39.9	71.9	160	123	5.37	113
C10012	258	0.432	0.0892	8.48	2.59	41.0	18.6	16.0	39.7	124	188	123	6.74	153
C10015	323	0.537	0.112	10.5	3.29	40.8	18.7	16.1	40.1	242	241	122	8.73	217
C10019	409	0.673	0.142	13.2	4.21	40.6	18.7	16.2	40.4	492	311	122	12.3	329
C15012	354	1.29	0.188	17.0	4.17	60.4	23.1	18.3	46.5	170	842	171	11.8	165
C15015	443	1.61	0.237	21.1	5.29	60.2	23.1	18.4	46.9	332	1070	171	17.1	244
C15019	561	2.02	0.300	26.6	6.74	60.0	23.1	18.5	47.1	675	1370	170	21.8	340
C15024	712	2.54	0.386	33.5	8.79	59.8	23.3	18.9	48.0	1370	1810	169	30.9	527
C20015	555	3.53	0.396	34.7	7.17	79.7	26.7	19.9	51.6	416	3060	223	24.1	251
C20019	713	4.51	0.531	44.4	9.77	79.6	27.3	20.8	53.6	858	4240	221	36.6	381
C20024	904	5.69	0.681	56.0	12.7	79.3	27.4	21.1	54.4	1740	5540	219	47.5	541
C25019	808	7.62	0.561	60.0	9.86	97.1	26.4	18.1	48.5	972	6860	276	46.2	381
C25024	1020	9.62	0.721	75.7	12.8	96.9	26.5	18.4	49.3	1970	8920	274	64.9	543
C30024	1260	17.0	1.51	113	21.7	116	34.6	25.0	66.0	2430	26800	320	91.1	632
C30030	1600	21.3	1.96	142	28.5	116	35.0	25.8	67.9	4790	35700	316	124	897
C35030	1910	35.8	3.82	205	42.3	137	44.7	33.2	86.3	5730	90000	378	159	940

LYSAGHT fascia purlin FP23019

The LYSAGHT Fascia Purlin FP23019 meets the need of buildings with bigger portal frame spacings for long-length, one-piece fascia purlins.

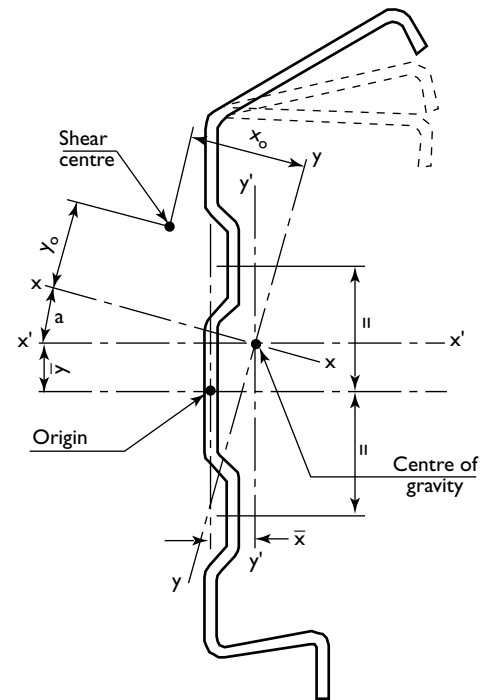
A number of features make Lysaght Fascia Purlins attractive and economical as a combined eave purlin and fascia:

- It can be supplied without splice plates.
- The fluted web strengthens the section and provides a flush external face with standard Lysaght purlin bolts recessed in the flutes. There are no special fascia bolts.
- 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.



Notes to load capacities table

1. Load capacities have been calculated on the basis of the top flange being at 90° to web.
2. Load capacities for one- and two-bridging cases assume roof sheeting attached to top flange.
3. Load capacities for fully bridged case assume roof sheeting attached to top flange and wall sheeting attached to bottom lip.
4. For detailing, note that mounting face is 12 mm behind front face.
5. Standard LYSAGHT M12, grade 4.6, purlin bolts to be used.
6. The tables assume the use of a Lysaght bridging system and Lysaght bolts.



Catalogue number	Area mm ²	Mass kg/m
FP23019	807.5	6.43

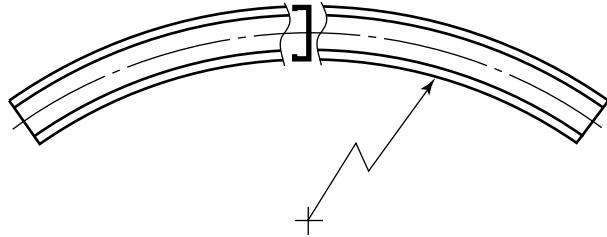
Lysaght Fascia Purlins: Section properties

Flange angle (°)	Second moment of area 10 ⁶ mm ⁴				Torsion constant mm ⁴	Warping constant 10 ⁹ mm ⁶	Monosymmetry constant mm		Shear centre mm		Centre of gravity mm		α degrees
	I _{x'}	I _{y'}	I _x	I _y			J	I _w	b _x	b _y	x _o	y _o		x̄	ȳ
FP23019													
84	6.400	0.594	6.464	0.559	971.7	3.634	-127.2	235.4	-45.23	58.38	21.82	12.83	-4.4
90	6.613	0.607	6.656	0.563	971.7	3.580	-119.4	252.2	-45.61	55.52	21.96	14.15	-4.8
120	7.828	0.501	7.878	0.452	971.7	3.080	-61.7	351.1	-41.32	32.53	20.43	20.49	-4.7

Lysaght Fascia Purlin: Limit state load capacities (kN/m) Inward and outward loads

Bracing	Single span (mm)											
	6000	6600	7200	7800	8400	9000	9600	10200	10800	11400	12000	
One bridging	2.27	1.77	1.24	0.98	0.74	0.57	0.44					
Two bridgings	3.52	2.68	2.01	1.60	1.21	0.96	0.77	0.63	0.52	0.43		
Fully bridged	4.13	3.41	2.87	2.49	2.11	1.84	1.61	1.43	1.27	1.14	1.03	

LYSAGHT LYTCURVE purlins



are curved in the web.

LYSAGHT LYTCURVE purlins are BLUESCOPE LYSAGHT's exclusive answer to the need for curved purlins or girts. They are formed from LYSAGHT Cees, curved in the plane of the web.

Because the dimensions of Cees may change during curving, the section properties and capacity tables in this book don't apply to LYTCURVE purlins. You need detailed engineering assessment where you want to use LYTCURVE purlins as a structural member.

Availability

Designs using LYTCURVE purlins may be restricted by the length of the Cee section from which the purlin is formed, and by transportation of big radius items. In some cases, two or more LYTCURVE purlins may be needed.

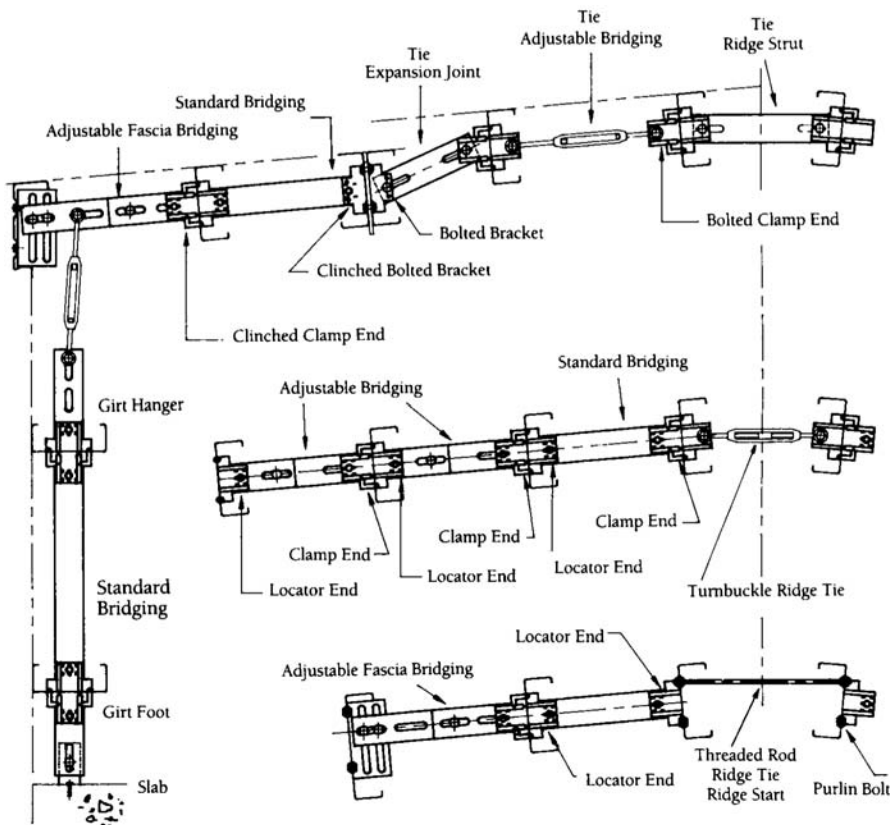
Product range

The following range can be manufactured.

Catalogue number	Minimum bend radius (m)
C10019	4.5
C15024	8
C20024	30
C25024	70

HOOK-LOK II bridging system

Hook-lok II bridging configurations



The LYSAGHT HOOK-LOK II bridging system is the most adaptable and flexible bridging system available, to securely brace both Zed and Cee purlins and girts of depths 100, 150, 200 and 250 mm. It is also fast and easy to install and can accommodate most construction configurations.

The system consists of solid bridging assemblies between purlins and girts, and adjustable bridging assemblies at locations such as eaves, ridge and girt foot.

Purlins and girts display two types of lateral instability: lateral deflection and twist (rotation or roll). It is necessary to control these instabilities by providing suitable bracing as close as possible to the flanges of the section.

Bracing can be continuous (such as rigid cladding suitably fastened to the flange), or point bracing at the midspan region (or at a point of maximum bending), or several points at the midspan region.

In practice, BLUESCOPE LYSAGHT claddings with screw fasteners are a suitable lateral bracing when attached to the flange. However, as with all thin-walled claddings, the twisting resistance is difficult to quantify. Consequently, point bracing is still required to resist twist of the section and lateral deflection of the free flange. Point bracing is also required to stabilise and straighten the purlins and girts prior to fixing of the cladding in order to facilitate the fixing operations.

Point bracing types are 'ties' and 'bridging'. Ties can be loaded in tension only. Bridgings are solid members secured to the webs of the purlins and girts. They can be loaded in tension, compression and bending.

For this reason, a continuous run of bridging is the most effective stabiliser for both wall and roof, and is the most widely accepted.

Fascia bridging system

In certain configurations of wall design, the loads imposed on the fascia system by the girt hanger may be large. This demands an increase in the fascia system capacity to prevent excessive twisting.

Components

The basic parts of each HOOK-LOK II bridging assembly are the locators and clamps. They firmly lock each purlin or girt in position when simply located and hooked into the bridging holes from opposite sides of the web.

Locators and clamps have hook centres to match the holes punched in the webs of LYSAGHT Purlins and Girts. The hole punching in the purlins and girts match the holes for cleat supports of the purlin and girts.

HOOK-LOK II components are not sold individually, only as part of a bridging assembly.

The examples show assemblies with the ends of equal size, however the system works well for assemblies with unequal ends.

Bridging assembly

Bridging assemblies are supplied in lengths to suit the nominated purlin or girt spacing. There are some limitations on minimum lengths.

With the flexibility of component combinations it is possible to make many bridging assemblies. The HOOK-LOK overview shows bridging configurations.

Typical bridging assemblies include:

- Standard bridging assembly
- Ridge bridging assembly
- Girt foot/hanger bridging assembly
- Fascia bridging assembly
- Adjustable bridging assembly
- Expansion joint

Product codes

HOOK-LOK II bridging assembly catalogue numbers indicate purlin size (nominal depth). Locators, clamps and other accessories are matched to the purlin size.

How to specify

When specifying HOOK-LOK II bridging assemblies:

1. Specify the HOOK-LOK II prefix H2.
2. Specify left hand end component – always three characters (e.g. C20)
3. Specify the type of bridging channel – always one character (e.g. P)
4. Specify right hand end component – three characters (e.g. L20)

Putting these together, you would get: H2 C20 P L20.

Example 1


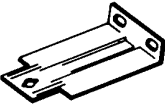
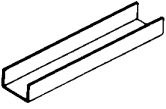

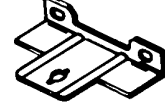
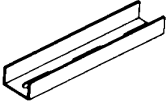
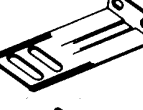

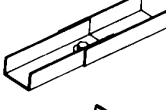
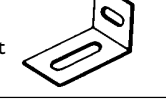
An adjustable bridging, with clamp to suit a C15015 purlin at one end and a bolted bracket to suit a C20024 purlin at the other end would be: H2 C15 T B20.

(This assumes that the order was not for use in Victoria where the product code would be H2 C1V T B20 – see note to Product codes table.)

Example 2

Fascia bridging, to span between a C20024 used as a fascia purlin and C20015 purlin, would be: H2 F20 D L20.

Product codes for Hook-Lok II parts

	Mark No.		Mark No.		Mark No.
Clamp end CODE C	 C10 C15 C1V* C20 C25	Bolted brackets CODE B	 B10 B15	Bridging channel: plain CODE P	 P
Locator end CODE L	 L10 L15 L1V* L20 L25	Turnbuckle CODE T	 T10† T12†	Bridging channel: slotted CODE S	 S
Fascia brackets CODE F	 F20 F25	Tie rod CODE R	 R12† R16†	Bridging channel: double CODE D	 D
				Girt bracket CODE G	 G

* For Victoria, 150 size bridging is specified using a 'V' instead of the 'S'

† 10, 12 or 16 refer to rod diameter in mm

HOOK-LOK II installation

Purlin bridging

HOOK-LOK II bridging into Zed or Cee purlins may be installed in numerous ways. The normal procedure is to commence from the eave or ridge. A typical installation procedure is:

- Step 1:** Install the fascia bridging assembly by inserting the locator end into the holes of the first purlin, and bolting the fascia bracket to the fascia purlin.
- Step 2:** Install the standard bridging assemblies working towards, and finishing at, the ridge purlin. Standard assemblies are installed by fitting the clamp end over the previously-installed locator end and swinging the bridging around until the locator end engages in the holes of the next purlin.
- Step 3:** Where applicable, repeat Steps 1 and 2 for the opposite side of the roof. If appearance is a consideration, the bridging runs on both sides of the roof should be swung into position from the same end of the roof.
- Step 4:** Install the ridge bridging assembly by fitting the clamp ends over the previously installed locator ends and then tightening the bolts of the ridge assembly.
When a ridge bridging assembly is not used, the locator(s) of the standard bridging is secured into position with two bolts.

- Step 5:** Where turnbuckles are used in a bridging assembly, first align the purlins. Align the fascia purlin using the, adjustment bolts of the fascia bridging assembly.

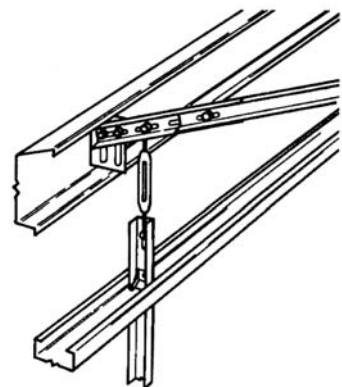
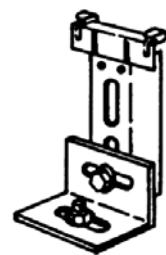
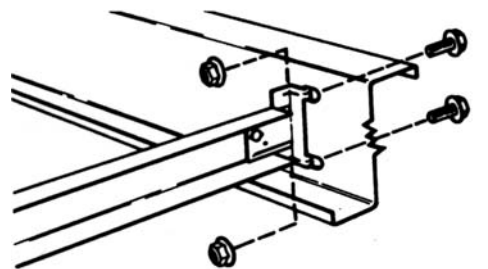
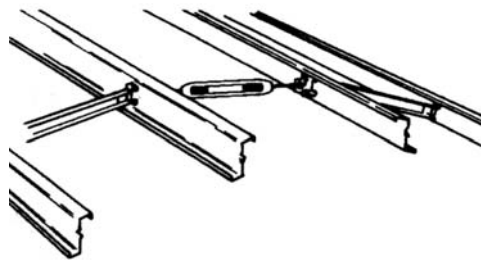
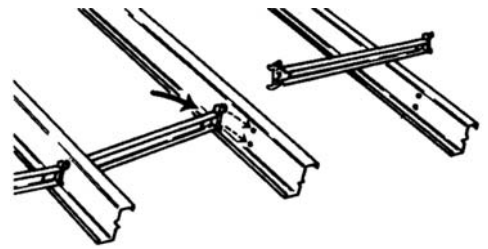
Girt bridging

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

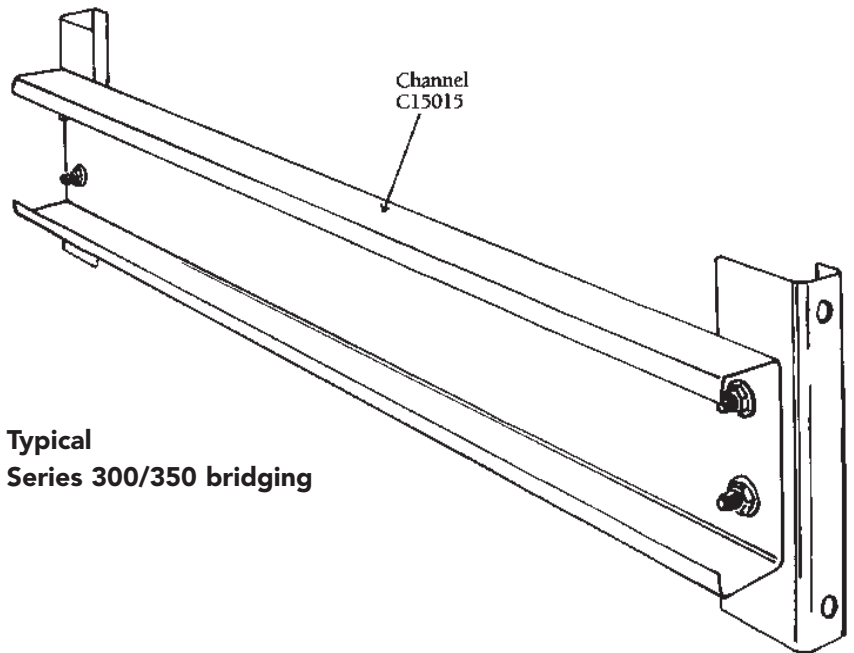
- Step 1:** Install the girt foot assembly by engaging the locator into the holes of the bottom girt. Due to the loads transferred to the bridging from the girts, the girt foot assembly must be anchored to the slab.
- Step 2:** Adjust the girt foot assembly to level off the bottom girt. Where the slab is not yet poured, a temporary support is required to keep the bottom girt level.
- Step 3:** Install standard bridging assemblies as described in Step 2 for purlin bridging, working towards the eaves.
- Step 4:** At the top girt, the locator 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 clamp end over the last installed locator 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.



LYSAGHT Series 300 & 350 bridging system



**Typical
Series 300/350 bridging**

For the larger sections, 300 and 350 series (LYSAGHT Big Zeds and Big Cees), a more substantial bridging system is required, due to larger spans and greater loads.

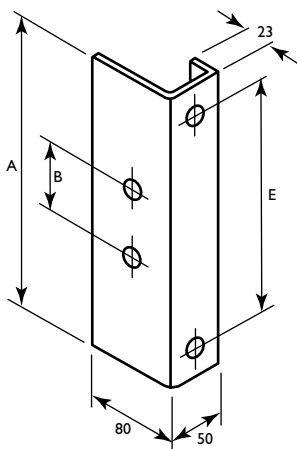
The bridging components are bigger and have additional lip stiffening.

The components consist of a C 15015 channel and bridging ends assembled with LYSAGHT high strength M12 x 30 mm purlin bolts.

All components are galvanised for long life and can be assembled using the recommended bolts or by welding.

When ordering, the overall bridging length should be specified, i.e. purlin or girt spacing, less 3 mm. Catalogue numbers for the bridging are:

- BZ300 or BZ350.



Bridging end

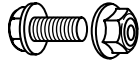
Bridging end dimensions

Depth of purlin (mm)	Catalogue No.	Dimensions (mm)		
		A	B	E
300	300 EB	260	60	210
350	350 EB	310	60	260
300 Victoria only	300 EBV	260	70	210
350 Victoria only	350 EBV	310	70	260

Purlin and girt accessories

Manufactured from zinc-coated steel, accessories are an integral part of LYSAGHT purlin and girt systems.

Purlin bolts



M12 size

PB1230 LYSAGHT standard purlin bolt (grade 4.6): M12 x 30 mm with nut.

PB1230HS LYSAGHT high-strength purlin bolt (grade 8.8): M12 x 30 mm with nut.

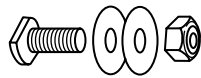
PBS1230 LYSAGHT shouldered purlin bolt (grade 4.6) with 16 mm shoulder: M12 x 30 mm with nut.

M16 size

PB1645 LYSAGHT standard purlin bolt (grade 4.6): M16 x 45 mm with nut.

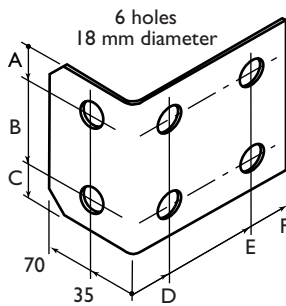
PB1645HS LYSAGHT high-strength purlin bolt (grade 8.8): M16 x 45 mm with nut.

Fascia bolt



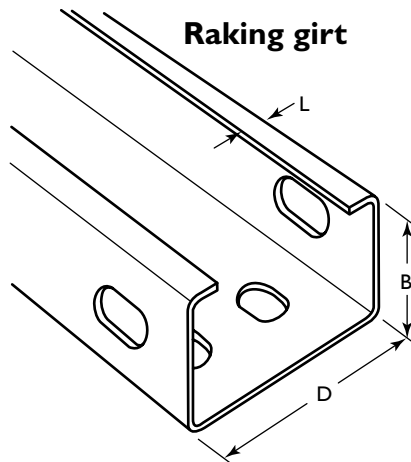
FB1230 LYSAGHT fascia bolt (grade 4.6): M12 x 30 mm with plain hex. nut & two plain washers.

General purpose bracket



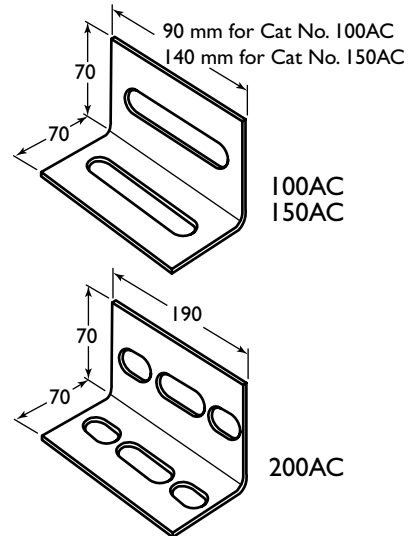
Cat. No.	A	B	C	D	E	F
100GPB	13	53	66	30	84	115
150GPB	22.5	82.5	105	30	97	125
200GPB	22	132	154	36	109	136
250GPB	20	180	200	36	109	136

Raking girt



Cat. No.	D	B	L
C10015	102	51	13.5
C15015	152	64	15.5

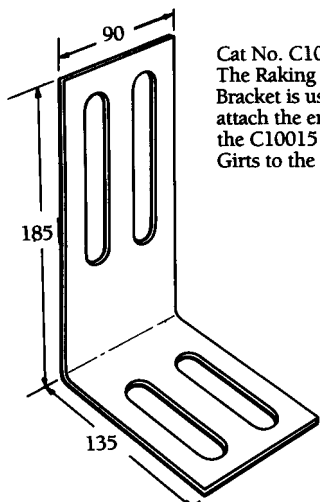
Angle connectors



100AC
150AC

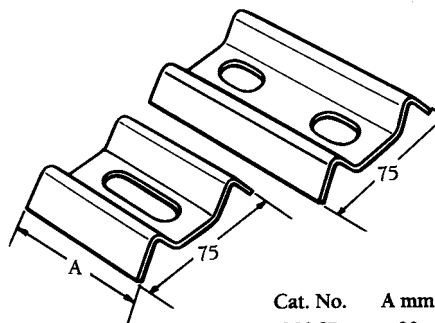
200AC

Racking girt bracket

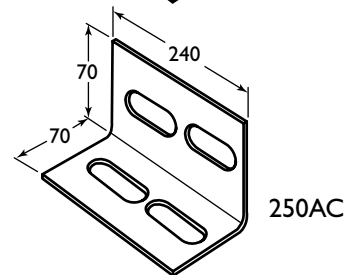


Cat No. C100RB
The Racking Girt Bracket is used to attach the ends of the C10015 Racking Girts to the Fascia.

Clamp Plates

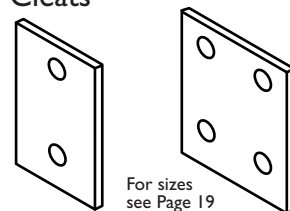


Cat. No.	A mm
100CP	90
150CP	140
200CP	190
250CP	240



250AC

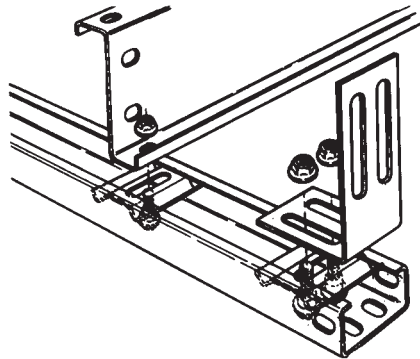
Cleats



For sizes see Page 19

Typical assemblies

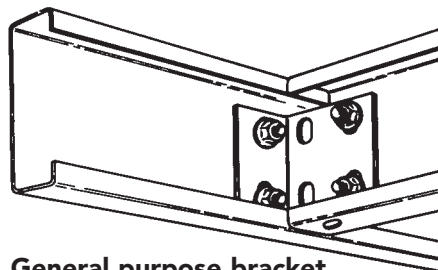
Using purlin & girt accessories



Raking girt assembly

Shown is one method of fitting raking girts using bolts and clamp plates. The raking girt bracket is used to attach the end of a C10015 raking girt to the fascia purlin.

Alternatively the raking girt can be installed open face down. The clamp plates are deleted and the girt attached with bolts fitted through holes prepunched in the web of the purlin.



General purpose bracket

The general purpose bracket is ideal for making joints of approximately 90° and is usually used for joining sections of the same web depth. Typical applications include lightly loaded heads to openings, trimmers and fascias at gable ends.

Angle connector

The Angle Connector can be used in a variety of different ways. The holes allow connection between sections of the same size or one size smaller. Figure (a) shows the angle connector and clamp plate as a foot mounting for lightly loaded vertical members such as jambs for personnel access doors or windows. It can also be used as a column base in lightly loaded or internal applications. Figure (b) shows a closed end on a girt. This obviates the need for mitred girts at corners while still providing a satisfactory attachment point for the cladding and corner treatment. Figure (c) shows a simple mitred 90° joint. Figure (d) shows the angle connector and clamp plate used as an attachment for trimmers or non-load-bearing heads to openings.

Figure (a)

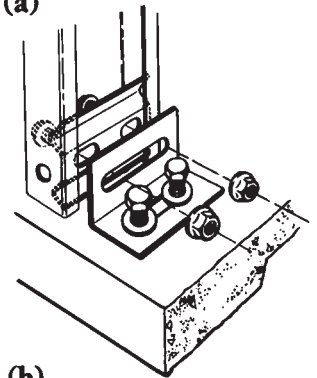


Figure (b)

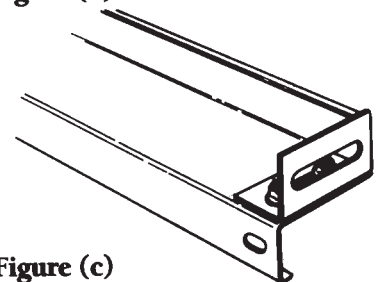


Figure (c)

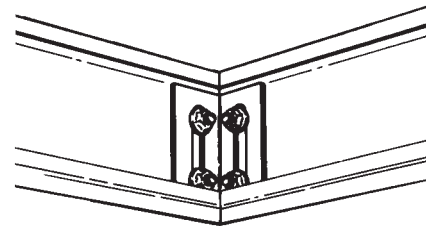
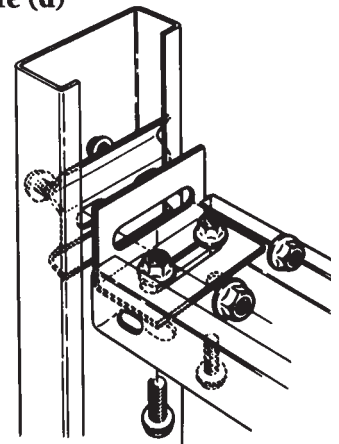


Figure (d)

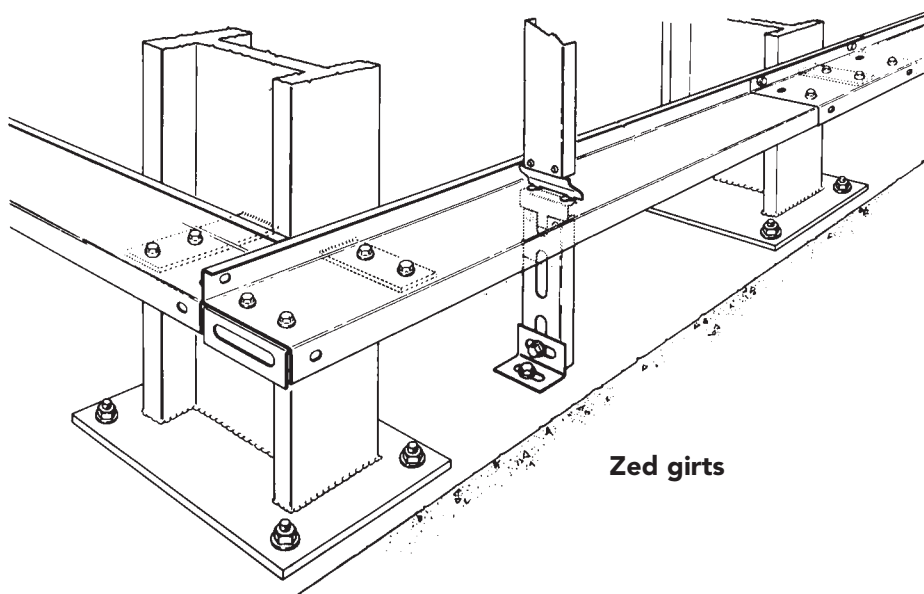
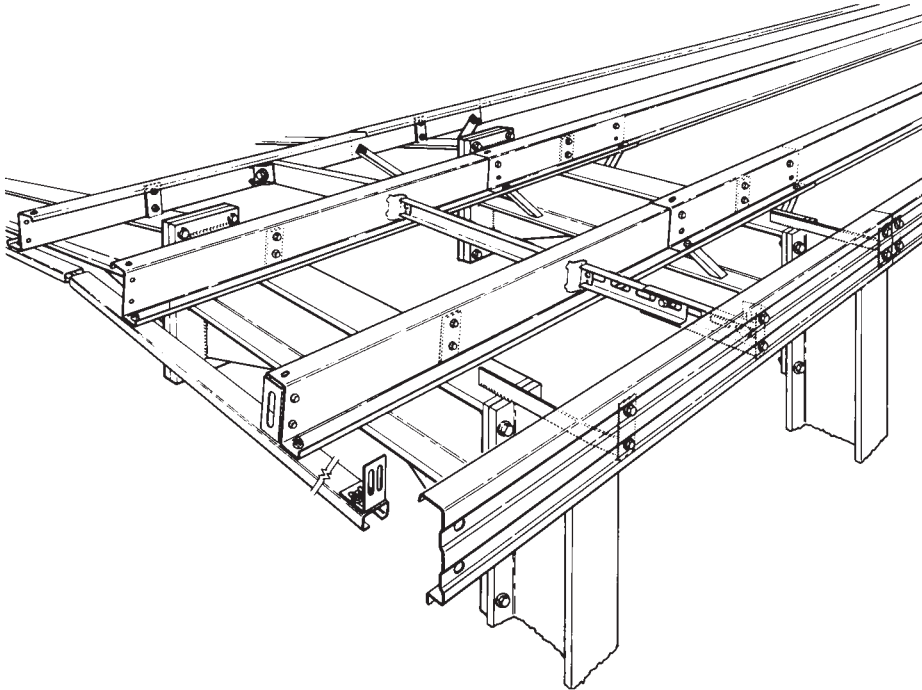


Typical assemblies - Zeds

Typical assembly using LYSAGHT Zed sections and HOOK-LOK II bridging.

Where fly bracing is used in conjunction with lapped Zed sections it is important that the bolt requirements for lapping are not compromised.

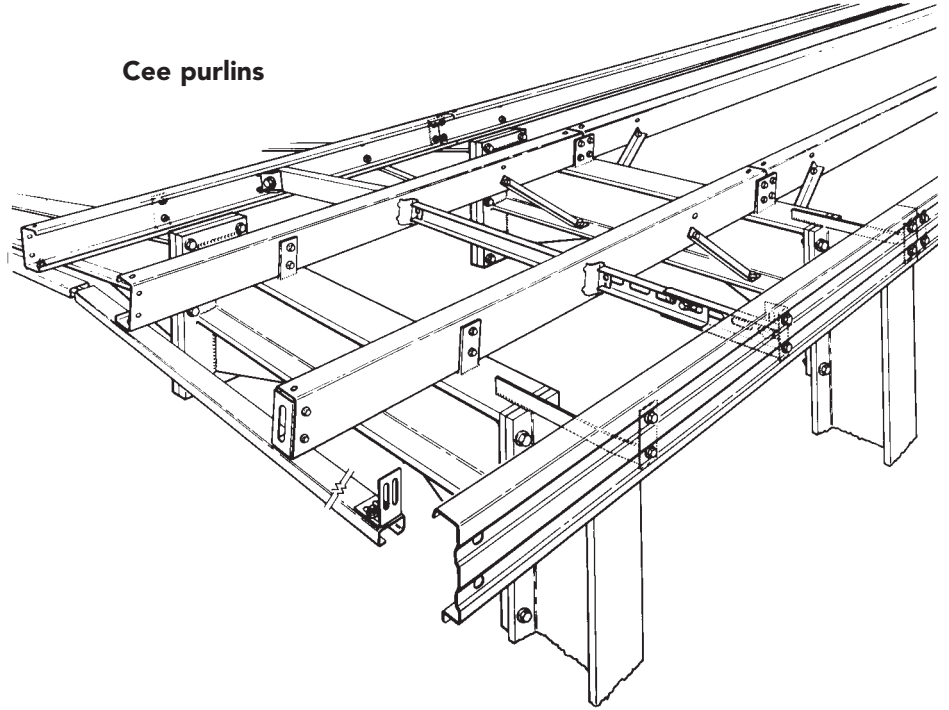
Zed purlins



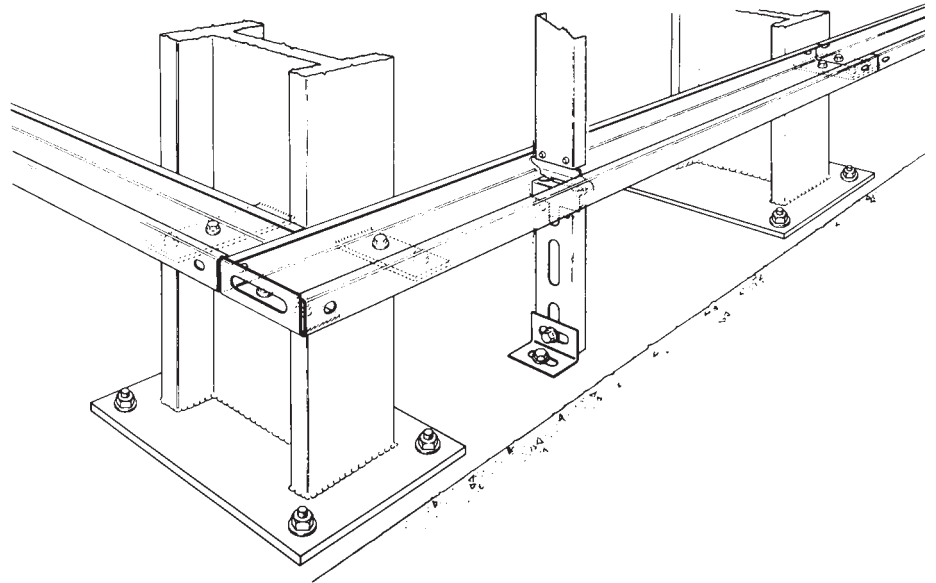
Typical assemblies - Cees

Typical assembly using LYSAGHT Cee sections and HOOK-LOK II bridging.

Cee purlins



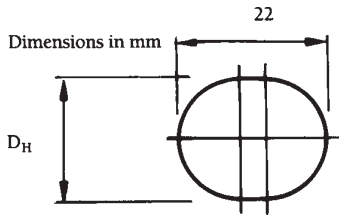
Cee girts



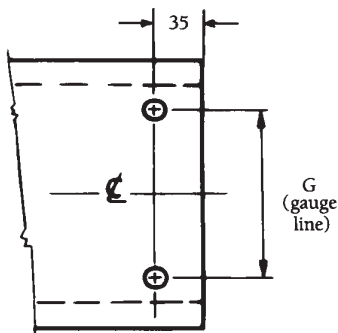
Holes & Cleats

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

Hole details and gauge lines for LYSAGHT Zed and Cee sections

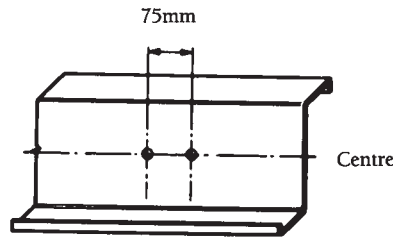
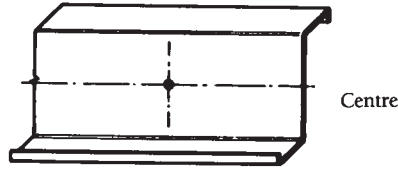


BHP Building Products standard elongated punched hole. Holes equally spaced above and below centre line

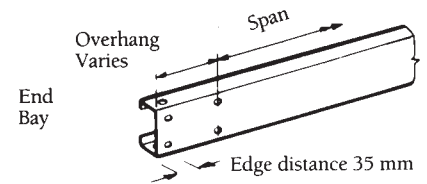
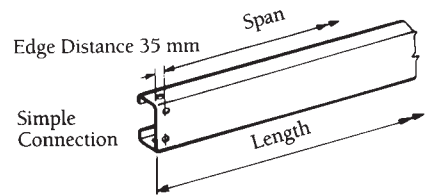


Nominal section size (mm)	G (mm)	D _H
100	40	18
150 - Victoria only	70	18
150 - Other states	60	18
200	110	18
250	160	18
300	210	22
350	260	22

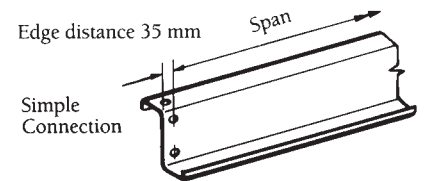
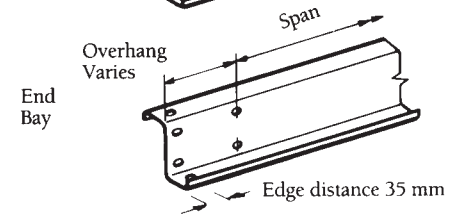
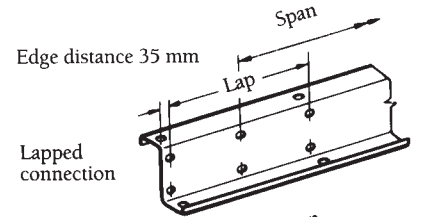
Centreline holes for 300 and 350 sections only



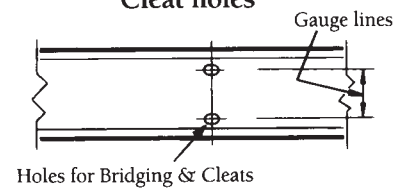
Standard holes for Cee sections



Standard holes for Zed sections



Bridging holes and Cleat holes

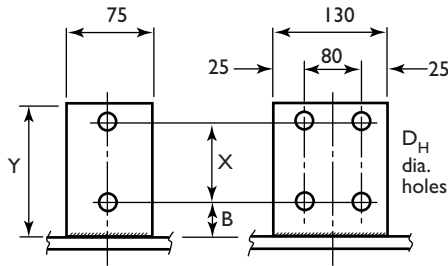


The holes are required at cleat supports at ends of laps and at bridging points. For the webs of 300 and 350 sections (*Big Zeds* and *Big Cees*), centreline holes are also available on request, and may be combined with cleat holes to provide 3-bolt fastening to the cleats.

For the 100, 150, 200 and 250 deep sections the holes are elongated with dimensions of 18 mm x 22 mm suitable for M12 bolts. For the 300 and 350 deep sections the holes are 22 mm diameter suitable for M16 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.

Hole details of cleats

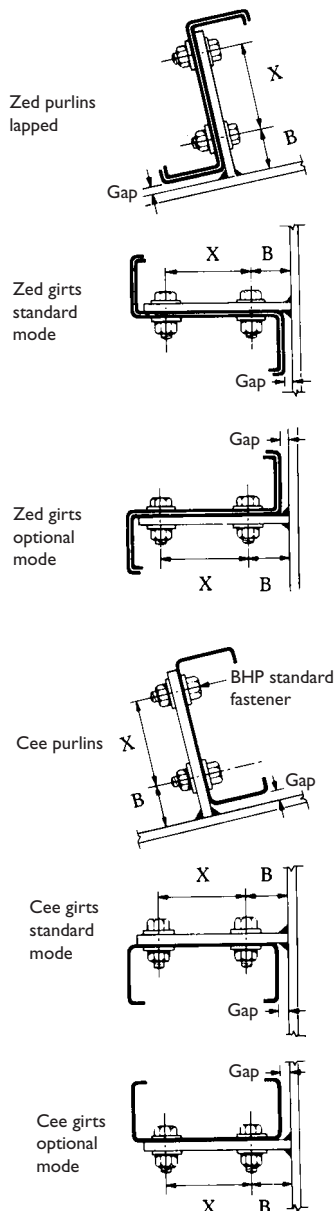


Cleat nominal dimensions (mm)

Nom.section size (mm)	X	B	Y	t (thickness)	Gap	D _H
100	40	40	105	8	10	18
150 Vic only	70	50	145	8	10	18
150 Other states	60	55	145	8	10	18
200	110	55	195	8	10	18
250	160	55	245	8	10	18
300	210	65	305	12	20	22
350	260	65	355	12	20	22

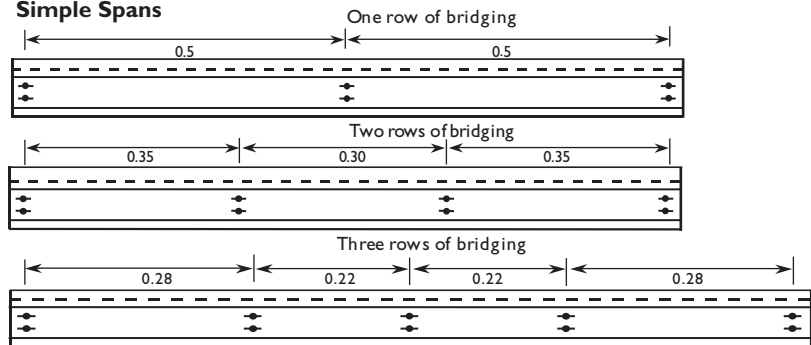
When using Zed sections with downturned lips, longer cleats are required to give clearance from the main supports.

Fastening to cleats

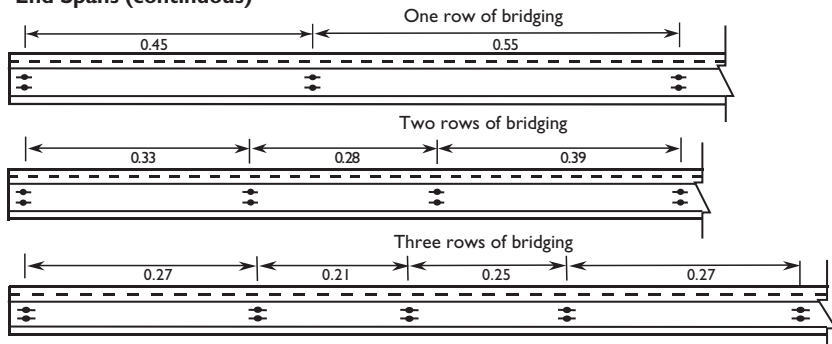


Location of bridging holes

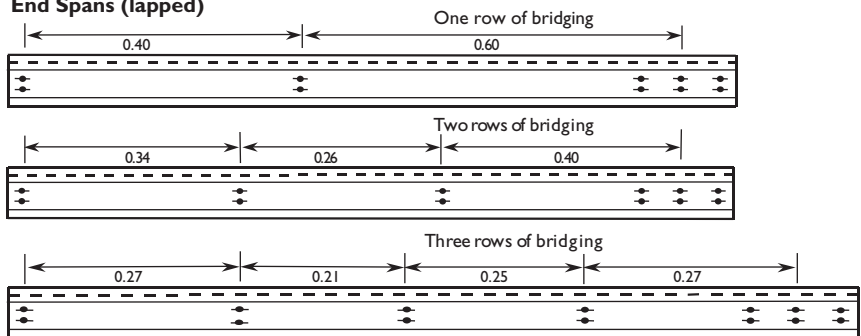
Simple Spans



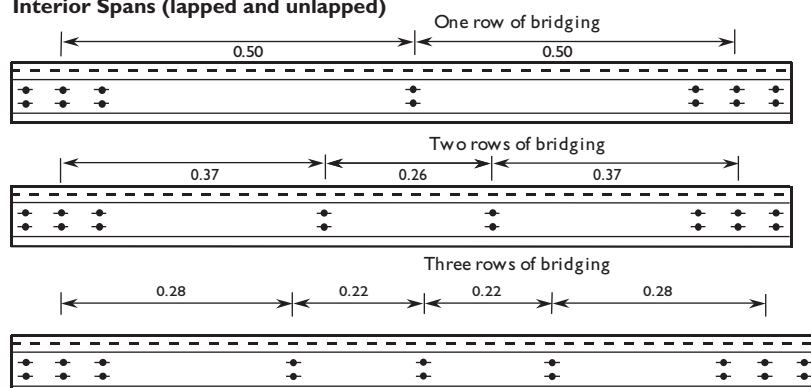
End Spans (continuous)



End Spans (lapped)



Interior Spans (lapped and unlapped)



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.

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 modeling 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; and
- both screw-fastened and concealed-fixed claddings provide restraint.

All design calculations for both strength and serviceability are in accordance with AS/NZS 4600:1996 Cold formed steel structures and AS/NZS Supplement 1:1998 Cold-formed steel structures–Commentary.

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 4600:1996 *Cold-formed steel structures*. Advice is available from our information line.

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.

The table on the following page gives conversion formulae for loads on simple spans and lapped spans. They have been derived from commonly published moment and shear data, and give conservative conversions.

For simple spans the formulae are straight forward. For non-continuous lapped spans the formulae depend on the number of spans, the position of the span and the lapping ratio; thus the worst-case configuration has been used, and the values may be safely used for end spans, interior spans and any lapping ratio greater than 10%.

Formulae for loads on continuous unlapped configurations, and for deflections in all configurations, are not given but may be derived similarly.

Symbols used in table for conversion of point loads

P = single point load (kN)

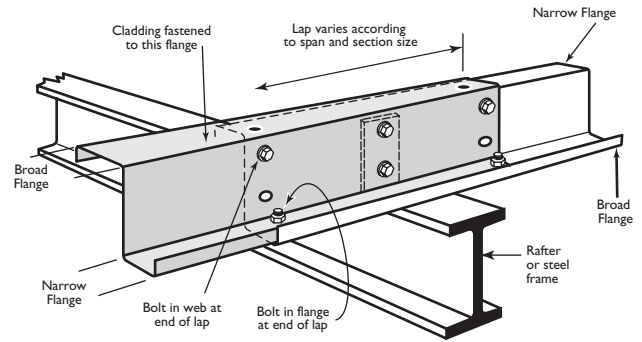
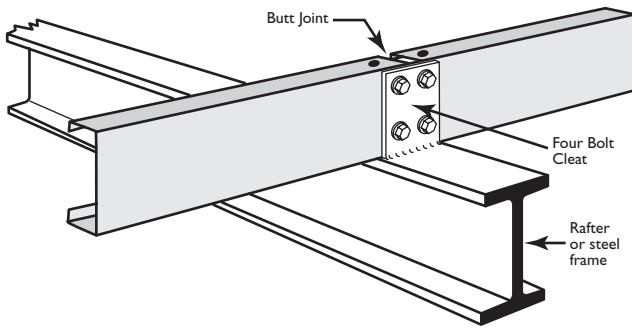
L = span (m)

a = larger distance from support (m)

b = smaller distance from support (m)

w = equivalent uniform load (kN/m)

N = number of point loads over one span (for 6 or more 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 0, 1, 2 or 3 rows of bridging.

In practice it may be necessary to use at least one row of bridging in each span. We suggest that unbridged lengths be limited to 20 times the section depth.

Cleat connections

The capacity tables are based on the sections being fastened through the web to cleats so that the load path is via the web of the sections.

The connections may be single section thickness such as in end connections, or the internal support connection of continuous configurations. Connections with double section thickness occur at the internal support of lapped configurations.

Each connection uses two bolts.

Cleatless connections

In some applications, savings can be made by eliminating cleats and bolting directly through the bottom flange of LYSAGHT Zeds and Cees. The number of bolts used are halved compared with the number used in conventional cleated connections.

Lapping

The structural lap at the interior supports of lapped configurations must be detailed to provide adequate structural continuity.

Each end of the lap must have one bolt through the flange furthest from the cladding, and one bolt through the webs near the flanges connected to the cladding.

The nominal lap length is the distance between the bolt centres at the end of the laps. Laps vary in length with both section size and span as shown in the table below. In no situation must the lap be less than 10% of the span.

Conversion of point loads into equivalent uniform loads

Symmetrical equidistant point loads

Loading condition		Conversion formula	
SINGLE LOAD	Simple		$w = 2P/L$
	Lapped		$w = 2.22P/L$
2 LOADS	Simple		$w = 2.67P/L$
	Lapped		$w = 3.16P/L$
3 LOADS	Simple		$w = 4P/L$
	Lapped		$w = 3.78P/L$
4 LOADS	Simple		$w = 4.80P/L$
	Lapped		$w = 5.12P/L$
5 LOADS	Simple		$w = 6P/L$
	Lapped		$w = 6.65P/L$
6 OR MORE LOADS	Simple		$w = 1.14NP/L$
	Lapped		$w = 1.22NP/L$

Single eccentric and two symmetrical point loads

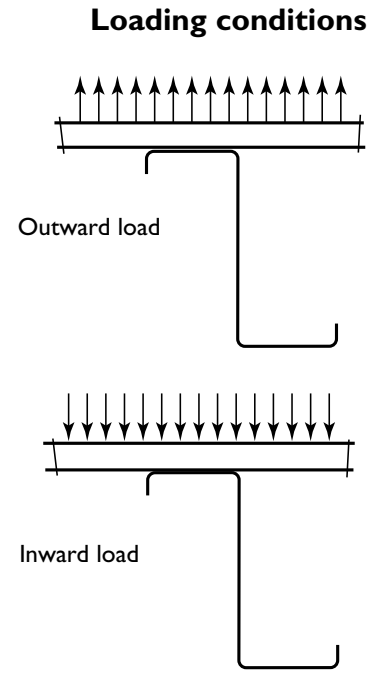
Loading condition		Conversion formula	
SINGLE ECCENTRIC POINT LOAD	Simple		$w = 8abP/L^3$
	Lapped		$w = 17.76ab^2P/L^4$
2 SYMMETRICAL POINT LOADS	Simple		$w = 8bP/L^2$
	Lapped		$w = 9.45b(2L-3b)P/L^3$

Intermediate values

Within a given bridging configuration, capacities for intermediate spans may be interpolated linearly.

Notes to capacity tables

1. Loads are assumed to be uniformly distributed (see also *Point loads*).
2. The capacities assume the use of approved BLUESCOPE LYSAGHT’s sections, bridging system and bolts.
3. The column, Load for deflection span/150, is the load that will produce this deflection. It is not a design capacity.
4. All connections use LYSAGHT purlin bolts grade 4.6, except for boldened capacities which require grade 8.8.
5. Forces acting to hold cladding against a structure are defined as *inward*. Forces acting to remove cladding from a structure are defined as *outward*.



Lap lengths

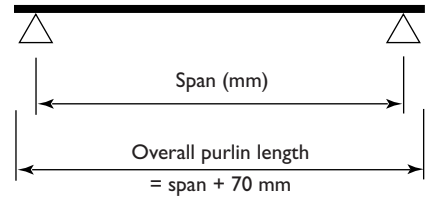
Nominal section size (mm)	Span (mm)	Lap length (mm)
100	≤ 6000	600
	> 6000	900
150, 200, 250	≤ 9000	900
	> 9000 ≤ 12000	1200
	> 12000*	1800
300, 350	≤ 9000	900
	> 9000 ≤ 12000	1200
	> 12000 ≤ 18000	1800
	> 18000*	2400

* Load capacities for these spans are beyond the scope of this publication

Limit state capacity tables

Single spans

Single spans



Single span: Z/C10010 (kN/m)

Bridging > (mm)	IN 0, 1, 2, 3	OUT				Load for deflection span/150
		0	1	2	3	
2100	3.97	3.39	3.97	3.97	3.97	3.56
2400	3.04	2.18	3.04	3.04	3.04	2.42
2700	2.40	1.47	2.40	2.40	2.40	1.72
3000	1.95	1.01	1.95	1.95	1.95	1.27
3300	1.61	0.75	1.59	1.61	1.61	0.97
3600	1.35	0.57	1.21	1.35	1.35	0.76
3900	1.15	0.43	0.93	1.15	1.15	0.60
4200	0.99		0.72	0.99	0.99	0.49
4500	0.87		0.57	0.87	0.87	0.40
4800	0.76		0.46	0.76	0.76	0.33
5100	0.67			0.63	0.67	0.28
5400	0.60			0.52	0.60	0.24
5700	0.54			0.44	0.54	0.20
6000	0.49				0.49	0.17
6300	0.44				0.44	0.15
6600	0.40					0.13

Single span: Z/C10012 (kN/m)

Bridging > (mm)	IN 0, 1, 2, 3	OUT				Load for deflection span/150
		0	1	2	3	
2100	4.84	4.11	4.84	4.84	4.84	4.34
2400	3.70	2.58	3.70	3.70	3.70	2.96
2700	2.93	1.79	2.93	2.93	2.93	2.12
3000	2.37	1.29	2.37	2.37	2.37	1.57
3300	1.96	0.94	1.88	1.96	1.96	1.20
3600	1.65	0.70	1.47	1.65	1.65	0.93
3900	1.40	0.53	1.13	1.40	1.40	0.73
4200	1.21		0.86	1.21	1.21	0.59
4500	1.05		0.69	1.05	1.05	0.48
4800	0.93		0.56	0.90	0.93	0.40
5100	0.82		0.46	0.76	0.82	0.33
5400	0.73			0.64	0.73	0.28
5700	0.66			0.53	0.66	0.24
6000	0.59			0.43	0.59	0.21
6300	0.54				0.53	0.18
6600	0.49				0.46	0.15

Single span: Z/C10015 (kN/m)

Bridging > (mm)	IN		OUT				Load for deflection span/150
	0	1,2,3	0	1	2	3	
2100	6.20	6.30	5.35	6.30	6.30	6.30	5.71
2400	4.67	4.83	3.62	4.83	4.83	4.83	3.89
2700	3.65	3.81	2.47	3.81	3.81	3.81	2.74
3000	2.92	3.09	1.73	2.99	3.09	3.09	2.01
3300	2.39	2.55	1.26	2.35	2.55	2.55	1.52
3600	2.00	2.15	0.93	1.87	2.15	2.15	1.18
3900	1.69	1.83	0.71	1.51	1.83	1.83	0.93
4200	1.45	1.58	0.55	1.20	1.56	1.58	0.74
4500	1.25	1.37	0.43	0.97	1.31	1.37	0.60
4800	1.10	1.21		0.78	1.12	1.21	0.50
5100	0.97	1.07		0.63	0.96	1.07	0.42
5400	0.86	0.95		0.52	0.82	0.95	0.35
5700	0.77	0.86		0.43	0.71	0.84	0.30
6000	0.69	0.77			0.61	0.74	0.26
6300	0.62	0.70			0.52	0.65	0.22
6600	0.57	0.64				0.45	0.19
6900	0.52	0.58					0.17
7200	0.47	0.54					0.15
7500	0.44	0.49					0.13

Single span: Z/C10019 (kN/m)

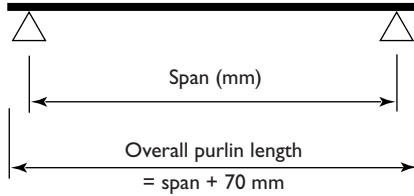
Bridging > (mm)	IN			OUT				Load for deflection span/150
	0	1,2,3		0	1	2	3	
2100	8.44	8.79		7.37	8.79	8.79	8.79	7.34
2400	6.30	6.73		4.90	6.73	6.73	6.73	4.99
2700	4.88	5.32		3.35	5.32	5.32	5.32	3.50
3000	3.89	4.31		2.34	4.24	4.31	4.31	2.55
3300	3.17	3.56		1.70	3.32	3.56	3.56	1.92
3600	2.63	2.99		1.27	2.61	2.99	2.99	1.48
3900	2.22	2.55		0.97	2.08	2.55	2.55	1.16
4200	1.89	2.20		0.76	1.65	2.20	2.20	0.93
4500	1.64	1.91		0.61	1.32	1.87	1.91	0.76
4800	1.43	1.68		0.50	1.06	1.58	1.68	0.62
5100	1.26	1.49		0.41	0.86	1.34	1.49	0.52
5400	1.11	1.33			0.71	1.14	1.33	0.44
5700	0.99	1.19			0.58	0.98	1.19	0.37
6000	0.89	1.08			0.49	0.84	1.05	0.32
6300	0.81	0.98			0.41	0.71	0.93	0.28
6600	0.73	0.89				0.61	0.82	0.24
6900	0.67	0.81				0.53	0.72	0.21
7200	0.61	0.75				0.46	0.64	0.19
7500	0.56	0.56					0.57	0.16

Bold capacities require grade 8.8 purlin bolts. Values above horizontal line in body of table are governed by the strength of the grade 8.8 bolt.
 IN = Inward load capacity. OUT = Outward load capacity. See also: Design notes for capacity tables.

Limit state capacity tables

Single spans

Single spans



Single span: Z/C15012 (kN/m)									Single span: Z/C15015 (kN/m)								
Bridging > (mm)	IN			OUT				Load for deflection span/150	0	IN			OUT				Load for deflection span/150
	0	1, 2, 3		0	1	2	3			0	1, 2, 3	0	1	2	3		
Span 2100	8.46	8.46		8.46	8.46	8.46	8.46	11.50	11.12	11.12		11.12	11.12	11.12	11.12	11.12	15.62
2400	6.48	6.48		6.40	6.48	6.48	6.48	7.88	8.51	8.51		8.17	8.51	8.51	8.51	8.51	10.50
2700	5.12	5.12		4.45	5.12	5.12	5.12	5.73	6.73	6.73		5.79	6.73	6.73	6.73	6.73	7.48
3000	4.15	4.15		3.14	4.15	4.15	4.15	4.28	5.41	5.45		4.02	5.45	5.45	5.45	5.45	5.52
3300	3.43	3.43		2.28	3.43	3.43	3.43	3.26	4.39	4.50		3.00	4.50	4.50	4.50	4.50	4.19
3600	2.88	2.88		1.70	2.88	2.88	2.88	2.53	3.64	3.78		2.29	3.78	3.78	3.78	3.78	3.27
3900	2.45	2.45		1.27	2.45	2.45	2.45	2.01	3.06	3.22		1.75	3.22	3.22	3.22	3.22	2.61
4200	2.12	2.12		1.01	2.12	2.12	2.12	1.63	2.61	2.78		1.36	2.73	2.78	2.78	2.78	2.12
4500	1.84	1.84		0.81	1.76	1.84	1.84	1.33	2.25	2.42		1.06	2.25	2.42	2.42	2.42	1.74
4800	1.62	1.62		0.65	1.42	1.62	1.62	1.11	1.96	2.13		0.84	1.85	2.13	2.13	2.13	1.45
5100	1.44	1.44		0.52	1.16	1.44	1.44	0.93	1.72	1.89		0.67	1.52	1.89	1.89	1.89	1.21
5400	1.28	1.28		0.42	0.95	1.28	1.28	0.79	1.52	1.68		0.55	1.23	1.68	1.68	1.68	1.03
5700	1.15	1.15			0.79	1.15	1.15	0.68	1.36	1.51		0.45	1.04	1.51	1.51	1.51	0.88
6000	1.03	1.04			0.67	1.04	1.04	0.58	1.21	1.36			0.89	1.36	1.36	1.36	0.76
6300	0.93	0.94			0.56	0.93	0.94	0.51	1.09	1.24			0.76	1.19	1.24	1.24	0.66
6600	0.84	0.86			0.48	0.82	0.86	0.45	0.98	1.13			0.65	1.05	1.13	1.13	0.57
6900	0.77	0.78			0.41	0.71	0.78	0.39	0.89	1.03			0.56	0.92	1.03	1.03	0.50
7200	0.70	0.72				0.61	0.72	0.35	0.82	0.95			0.48	0.80	0.95	0.95	0.44
7500	0.65	0.66				0.54	0.66	0.31	0.75	0.87			0.42	0.70	0.87	0.87	0.39

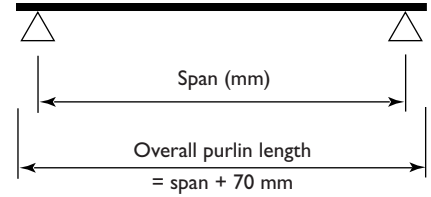
Single span: Z/C15019 (kN/m)									Single span: Z/C15024 (kN/m)								
Bridging > (mm)	IN			OUT				Load for deflect'n span/150	0	IN			OUT				Load for deflect'n span/150
	0	1	2, 3	0	1	2	3			0	1	2, 3	0	1	2	3	
Span 3000	6.79	7.68	7.68	5.67	7.68	7.68	7.68	7.33	8.82	10.82	10.82	7.71	10.82	10.82	10.82	10.82	9.58
3300	5.51	6.35	6.35	4.12	6.35	6.35	6.35	5.59	7.04	8.94	8.94	5.54	8.94	8.94	8.94	8.94	7.22
3600	4.56	5.33	5.33	3.09	5.33	5.33	5.33	4.32	5.70	7.52	7.52	4.09	7.52	7.52	7.52	7.52	5.56
3900	3.82	4.55	4.55	2.32	4.37	4.55	4.55	3.42	4.71	6.40	6.40	3.09	6.20	6.40	6.40	6.40	4.37
4200	3.24	3.92	3.92	1.78	3.62	3.92	3.92	2.76	3.95	5.52	5.52	2.39	5.09	5.52	5.52	5.52	3.50
4500	2.78	3.41	3.41	1.39	3.02	3.41	3.41	2.26	3.36	4.81	4.81	1.88	4.22	4.81	4.81	4.81	2.85
4800	2.41	3.00	3.00	1.11	2.53	3.00	3.00	1.86	2.89	4.23	4.23	1.51	3.52	4.23	4.23	4.23	2.35
5100	2.11	2.66	2.66	0.90	2.10	2.66	2.66	1.55	2.52	3.74	3.74	1.23	2.93	3.74	3.74	3.74	1.96
5400	1.87	2.37	2.37	0.73	1.75	2.35	2.37	1.31	2.21	3.34	3.34	1.01	2.40	3.34	3.34	3.34	1.65
5700	1.66	2.13	2.13	0.61	1.45	2.05	2.13	1.11	1.95	2.98	3.00	0.84	1.98	2.91	3.00	3.00	1.40
6000	1.48	1.92	1.92	0.51	1.22	1.80	1.92	0.95	1.74	2.66	2.71	0.71	1.65	2.54	2.71	2.71	1.20
6300	1.33	1.74	1.74	0.43	1.04	1.59	1.74	0.82	1.56	2.39	2.45	0.61	1.39	2.23	2.45	2.45	1.04
6600	1.20	1.59	1.59		0.88	1.41	1.59	0.72	1.41	2.16	2.24	0.52	1.18	1.97	2.24	2.24	0.90
6900	1.09	1.45	1.45		0.75	1.25	1.45	0.63	1.27	1.96	2.05	0.45	1.01	1.74	2.05	2.05	0.79
7200	0.99	1.33	1.33		0.64	1.10	1.32	0.55	1.16	1.79	1.88		0.86	1.54	1.88	1.88	0.70
7500	0.91	1.22	1.23		0.55	0.97	1.20	0.49	1.06	1.64	1.73		0.75	1.35	1.70	1.70	0.62
7800	0.83	1.12	1.14		0.48	0.86	1.08	0.43	0.97	1.50	1.60		0.65	1.18	1.53	1.53	0.55
8100	0.77	1.04	1.05		0.42	0.75	0.98	0.39	0.89	1.38	1.48		0.57	1.03	1.39	1.39	0.49

Bold capacities require grade 8.8 purlin bolts. Values above horizontal line in body of table are governed by the strength of the grade 8.8 bolt.
IN = Inward load capacity. OUT = Outward load capacity. See also: Design notes for capacity tables.

Limit state capacity tables

Single spans

Single spans



Span (mm)	Single span: Z/C20015 (kN/m)								Single span: Z/C20019 (kN/m)								Single span: Z/C20024 (kN/m)										
	IN				OUT				Load for deflect'n span/150	IN				OUT				Load for deflect'n span/150	IN				OUT				Load for deflect'n span/150
	0	1,2,3	0	1	2	3	0	1,2,3		0	1	2	3	0	1	2	3		0	1	2	3					
3000	7.38	7.38	7.28	7.38	7.38	7.38	10.60	10.52	11.25	10.56	11.25	11.25	11.25	15.10	13.70	16.35	16.35	16.35	14.57	16.35	16.35	16.35	19.93				
3300	6.10	6.10	5.47	6.10	6.10	6.10	7.96	8.38	9.30	7.83	9.30	9.30	9.30	11.42	10.79	13.52	13.52	13.52	11.11	13.52	13.52	13.52	15.19				
3600	5.13	5.13	4.10	5.13	5.13	5.13	6.28	6.78	7.81	5.77	7.81	7.81	7.81	8.89	8.65	11.36	11.36	11.36	8.32	11.36	11.36	11.36	11.89				
3900	4.33	4.37	3.13	4.37	4.37	4.37	5.07	5.59	6.66	4.50	6.66	6.66	6.66	7.06	7.08	9.68	9.68	9.68	6.38	9.68	9.68	9.68	9.49				
4200	3.69	3.77	2.44	3.77	3.77	3.77	4.15	4.54	5.74	3.57	5.74	5.74	5.74	5.70	5.91	8.34	8.34	8.34	4.95	8.34	8.34	8.34	7.67				
4500	3.17	3.28	1.86	3.28	3.28	3.28	3.45	3.88	5.00	2.84	5.00	5.00	5.00	4.67	5.00	7.27	7.27	7.27	3.86	7.27	7.27	7.27	6.27				
4800	2.75	2.88	1.51	2.88	2.88	2.88	2.88	3.35	4.39	2.27	4.39	4.39	4.39	3.88	4.29	6.39	6.39	6.39	3.06	6.14	6.39	6.39	5.19				
5100	2.41	2.56	1.25	2.56	2.56	2.56	2.42	2.92	3.89	1.84	3.84	3.89	3.89	3.27	3.72	5.66	5.66	5.66	2.46	5.26	5.66	5.66	4.35				
5400	2.13	2.28	1.04	2.24	2.28	2.28	2.05	2.57	3.47	1.51	3.27	3.47	3.47	2.78	3.26	5.05	5.05	5.05	2.00	4.53	5.05	5.05	3.69				
5700	1.89	2.05	0.87	1.92	2.05	2.05	1.75	2.27	3.12	1.24	2.77	3.12	3.12	2.39	2.88	4.53	4.53	4.53	1.65	3.91	4.53	4.53	3.15				
6000	1.68	1.85	0.72	1.62	1.85	1.85	1.51	2.03	2.81	1.03	2.26	2.81	2.81	2.07	2.55	4.05	4.09	4.09	1.38	3.35	4.09	4.09	2.70				
6300	1.51	1.67	0.61	1.38	1.67	1.67	1.31	1.82	2.55	0.86	1.94	2.55	2.55	1.80	2.28	3.64	3.71	3.71	1.16	2.84	3.71	3.71	2.34				
6600	1.36	1.53	0.52	1.18	1.53	1.53	1.15	1.64	2.32	0.72	1.68	2.32	2.32	1.57	2.04	3.28	3.38	3.38	0.98	2.43	3.36	3.38	2.03				
6900	1.23	1.40	0.44	1.01	1.40	1.40	1.01	1.49	2.13	0.62	1.46	2.13	2.13	1.38	1.84	2.98	3.09	3.09	0.84	2.09	3.01	3.09	1.78				
7200	1.12	1.28		0.87	1.28	1.28	0.89	1.36	1.95	0.53	1.28	1.95	1.95	1.22	1.67	2.71	2.84	2.84	0.72	1.82	2.70	2.84	1.57				
7500	1.03	1.18		0.76	1.18	1.18	0.79	1.24	1.80	0.46	1.12	1.78	1.80	1.08	1.52	2.48	2.62	2.62	0.63	1.57	2.43	2.62	1.38				
7800	0.94	1.09		0.64	1.09	1.09	0.71	1.14	1.66	0.40	0.99	1.59	1.66	0.96	1.39	2.27	2.42	2.42	0.55	1.36	2.20	2.42	1.23				
8100	0.87	1.01		0.56	0.98	1.01	0.64	1.05	1.54		0.86	1.43	1.54	0.86	1.28	2.09	2.24	2.24	0.48	1.19	1.99	2.24	1.10				
8400	0.80	0.94		0.50	0.88	0.94	0.58	0.97	1.44		0.76	1.27	1.44	0.77	1.18	1.93	2.09	2.09	0.42	1.04	1.80	2.09	0.99				
8700	0.74	0.88		0.45	0.79	0.88	0.52	0.90	1.34		0.67	1.13	1.34	0.70	1.09	1.79	1.95	1.95		0.91	1.62	1.95	0.89				
9000	0.69	0.82		0.40	0.70	0.82	0.47	0.84	1.25		0.60	0.98	1.25	0.63	1.01	1.66	1.82	1.82		0.81	1.45	1.79	0.80				
9300	0.64	0.77			0.63	0.77	0.43	0.78	1.17		0.53	0.89	1.17	0.58	0.93	1.55	1.70	1.70		0.72	1.30	1.65	0.73				
9600	0.60	0.72			0.56	0.72	0.39	0.73	1.10		0.47	0.80	1.10	0.52	0.87	1.44	1.60	1.60		0.64	1.17	1.52	0.66				
9900	0.56	0.68			0.51	0.68	0.36	0.68	1.03		0.42	0.73	1.03	0.48	0.81	1.35	1.49	1.50		0.57	1.05	1.41	0.60				
10200	0.53	0.64			0.46	0.64	0.33	0.64	0.97			0.66	0.95	0.44	0.76	1.27	1.40	1.42		0.51	0.95	1.30	0.55				
10500	0.49	0.60			0.42	0.60	0.31	0.60	0.92			0.61	0.87	0.40	0.71	1.19	1.31	1.34		0.46	0.86	1.21	0.50				
10800	0.46	0.57				0.55	0.28	0.56	0.87			0.55	0.80	0.37	0.67	1.12	1.23	1.26		0.41	0.78	1.12	0.46				
11100	0.44	0.54				0.51	0.26	0.53	0.82			0.51	0.74	0.34	0.63	1.06	1.16	1.20			0.71	1.04	0.43				
11400	0.41	0.51				0.47	0.24	0.50	0.78			0.47	0.68	0.31	0.59	1.00	1.09	1.13			0.64	0.96	0.39				
11700	0.39	0.49				0.43	0.22	0.48	0.74			0.43	0.62	0.29	0.56	0.94	1.03	1.08			0.59	0.89	0.37				
12000	0.37	0.46				0.40	0.21	0.45	0.70			0.55	0.27	0.53	0.89	0.98	1.02				0.53	0.82	0.34				

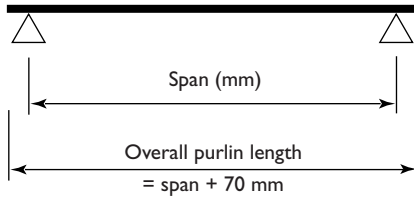
Bold capacities require grade 8.8 purlin bolts.
IN = Inward load capacity.

Values above horizontal line in body of table are governed by the strength of the grade 8.8 bolt.
OUT = Outward load capacity. See also: Design notes for capacity tables.

Limit state capacity tables

Single spans

Single spans



Span (mm)	Single span: Z/C25019 (kN/m)							Single span: Z/C25024 (kN/m)								
	IN			OUT				Load for deflect'n span/150	IN			OUT				Load for deflect'n span/150
	0	1, 2, 3		0	1	2	3		0	1	2, 3	0	1	2	3	
3000	13.83	14.28	14.17	14.28	14.28	14.28	24.52	17.71	20.96	20.96	19.42	20.96	20.96	20.96	33.82	
3300	10.90	11.80	10.06	11.80	11.80	11.80	18.42	13.78	17.32	17.32	14.58	17.32	17.32	17.32	25.41	
3600	8.51	9.92	7.64	9.92	9.92	9.92	14.19	11.02	14.56	14.56	10.84	14.56	14.56	14.56	19.57	
3900	7.04	8.45	5.92	8.45	8.45	8.45	11.16	9.01	12.40	12.40	8.29	12.40	12.40	12.40	15.46	
4200	5.91	7.28	4.67	7.28	7.28	7.28	9.07	7.50	10.69	10.69	6.39	10.69	10.69	10.69	12.53	
4500	5.04	6.35	3.69	6.35	6.35	6.35	7.54	6.34	9.32	9.32	4.97	9.32	9.32	9.32	10.30	
4800	4.34	5.58	2.93	5.58	5.58	5.58	6.35	5.43	8.19	8.19	3.93	8.19	8.19	8.19	8.58	
5100	3.78	4.94	2.37	4.94	4.94	4.94	5.38	4.71	7.25	7.25	3.15	7.03	7.25	7.25	7.22	
5400	3.32	4.41	1.94	4.39	4.41	4.41	4.56	4.11	6.47	6.47	2.55	6.03	6.47	6.47	6.11	
5700	2.94	3.96	1.58	3.68	3.96	3.96	3.90	3.61	5.81	5.81	2.10	5.16	5.81	5.81	5.21	
6000	2.62	3.57	1.31	3.01	3.57	3.57	3.37	3.19	5.24	5.24	1.74	4.38	5.24	5.24	4.48	
6300	2.35	3.24	1.09	2.58	3.24	3.24	2.93	2.85	4.75	4.75	1.46	3.70	4.75	4.75	3.89	
6600	2.12	2.95	0.92	2.22	2.95	2.95	2.57	2.55	4.33	4.33	1.23	3.16	4.33	4.33	3.40	
6900	1.92	2.70	0.78	1.92	2.70	2.70	2.26	2.30	3.96	3.96	1.05	2.72	3.96	3.96	2.99	
7200	1.75	2.48	0.67	1.68	2.48	2.48	2.00	2.08	3.60	3.64	0.90	2.35	3.62	3.64	2.64	
7500	1.60	2.28	0.57	1.47	2.28	2.28	1.78	1.90	3.29	3.35	0.78	2.03	3.25	3.35	2.34	
7800	1.46	2.11	0.50	1.29	2.11	2.11	1.60	1.73	3.01	3.10	0.68	1.75	2.93	3.10	2.08	
8100	1.35	1.96	0.43	1.12	1.91	1.96	1.43	1.59	2.77	2.88	0.59	1.53	2.64	2.88	1.86	
8400	1.24	1.82		0.98	1.69	1.82	1.29	1.46	2.56	2.67	0.52	1.33	2.37	2.67	1.67	
8700	1.15	1.70		0.87	1.46	1.70	1.16	1.35	2.36	2.49	0.46	1.17	2.12	2.49	1.50	
9000	1.07	1.59		0.77	1.31	1.59	1.05	1.25	2.19	2.33	0.41	1.03	1.89	2.33	1.36	
9300	1.00	1.49		0.69	1.18	1.49	0.95	1.16	2.04	2.18		0.91	1.69	2.18	1.23	
9600	0.93	1.39		0.61	1.06	1.39	0.87	1.08	1.90	2.05		0.81	1.52	2.04	1.12	
9900	0.87	1.31		0.54	0.96	1.31	0.79	1.01	1.78	1.93		0.72	1.36	1.88	1.02	
10200	0.82	1.24		0.49	0.87	1.24	0.73	0.94	1.67	1.81		0.65	1.23	1.74	0.93	
10500	0.77	1.17		0.44	0.80	1.17	0.67	0.88	1.56	1.71		0.58	1.12	1.61	0.85	
10800	0.72	1.10			0.73	1.07	0.61	0.83	1.47	1.62		0.52	1.01	1.49	0.78	
11100	0.68	1.04			0.66	0.98	0.57	0.78	1.38	1.53		0.47	0.92	1.37	0.72	
11400	0.64	0.99			0.61	0.90	0.53	0.74	1.30	1.45		0.43	0.83	1.26	0.67	
11700	0.61	0.94			0.55	0.80	0.49	0.69	1.23	1.38			0.75	1.16	0.62	
12000	0.58	0.89			0.50	0.74	0.45	0.66	1.16	1.30			0.69	1.07	0.57	

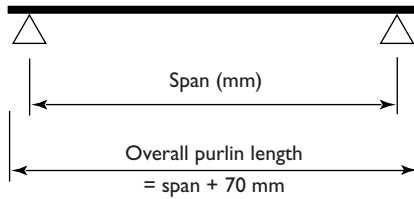
Bold capacities require grade 8.8 purlin bolts. Values above horizontal line in body of table are governed by the strength of the grade 8.8 bolt.
 IN = Inward load capacity. OUT = Outward load capacity. See also: Design notes for capacity tables.

S250

Limit state capacity tables

Single spans

Single spans



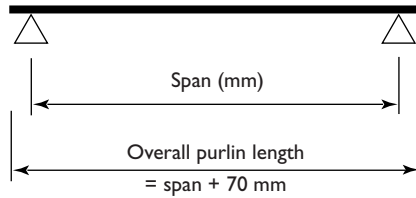
Span (mm)	Single span: Z/C30024 (kN/m)									Single span: Z/C30030 (kN/m)								
	IN				OUT				Load for defect'n span/150	IN				OUT				Load for defect'n span/150
Bridging >	0	1	2	3	0	1	2	3		0	1	2	3	0	1	2	3	
6000	4.50	7.20	7.20	7.20	3.84	7.20	7.20	7.20	7.44	5.21	10.26	10.26	10.26	5.04	10.26	10.26	10.26	9.95
6300	3.99	6.53	6.53	6.53	3.21	6.53	6.53	6.53	6.46	4.59	9.31	9.31	9.31	4.22	9.11	9.31	9.31	8.64
6600	3.57	5.95	5.95	5.95	2.70	5.93	5.95	5.95	5.65	4.06	8.46	8.48	8.48	3.56	8.09	8.48	8.48	7.56
6900	3.21	5.44	5.44	5.44	2.29	5.24	5.44	5.44	4.97	3.63	7.63	7.76	7.76	3.03	7.21	7.76	7.76	6.66
7200	2.89	5.00	5.00	5.00	1.96	4.61	5.00	5.00	4.40	3.25	6.91	7.13	7.13	2.59	6.44	7.13	7.13	5.86
7500	2.61	4.61	4.61	4.61	1.68	4.03	4.61	4.61	3.93	2.94	6.29	6.57	6.57	2.23	5.74	6.57	6.57	5.18
7800	2.37	4.26	4.26	4.26	1.45	3.54	4.26	4.26	3.52	2.66	5.74	6.07	6.07	1.94	5.05	6.07	6.07	4.61
8100	2.17	3.95	3.95	3.95	1.27	3.08	3.95	3.95	3.17	2.43	5.26	5.63	5.63	1.69	4.47	5.63	5.63	4.12
8400	1.99	3.67	3.67	3.67	1.11	2.75	3.67	3.67	2.86	2.22	4.83	5.24	5.24	1.48	3.95	5.24	5.24	3.69
8700	1.83	3.40	3.42	3.42	0.97	2.47	3.42	3.42	2.60	2.04	4.45	4.88	4.88	1.30	3.48	4.88	4.88	3.32
9000	1.68	3.14	3.20	3.20	0.86	2.22	3.20	3.20	2.35	1.88	4.11	4.56	4.56	1.15	3.07	4.53	4.56	3.00
9300	1.56	2.91	3.00	3.00	0.76	2.01	3.00	3.00	2.14	1.73	3.80	4.27	4.27	1.02	2.73	4.17	4.27	2.72
9600	1.45	2.70	2.81	2.81	0.68	1.80	2.81	2.81	1.95	1.61	3.52	4.01	4.01	0.91	2.43	3.85	4.01	2.47
9900	1.35	2.51	2.64	2.64	0.61	1.62	2.60	2.64	1.79	1.49	3.26	3.77	3.77	0.82	2.17	3.56	3.77	2.25
10200	1.25	2.34	2.49	2.49	0.54	1.47	2.39	2.49	1.64	1.39	3.02	3.55	3.55	0.74	1.94	3.29	3.55	2.06
10500	1.17	2.18	2.35	2.35	0.49	1.32	2.19	2.35	1.50	1.30	2.80	3.35	3.35	0.67	1.74	3.05	3.35	1.89
10800	1.10	2.04	2.22	2.22	0.44	1.18	2.00	2.22	1.38	1.22	2.61	3.16	3.17	0.60	1.57	2.82	3.17	1.74
11100	1.03	1.91	2.10	2.10	0.40	1.07	1.83	2.10	1.27	1.14	2.44	2.97	3.00	0.55	1.42	2.60	3.00	1.60
11400	0.97	1.79	1.99	1.99		0.97	1.67	1.99	1.18	1.07	2.28	2.79	2.84	0.50	1.29	2.39	2.84	1.48
11700	0.91	1.68	1.89	1.89		0.88	1.53	1.89	1.09	1.01	2.14	2.63	2.70	0.46	1.17	2.19	2.70	1.37
12000	0.86	1.58	1.80	1.80		0.80	1.39	1.80	1.01	0.95	2.01	2.48	2.57	0.42	1.06	2.02	2.55	1.27
SECTIONS BELOW EXCEED THE NORMAL DELIVERY LENGTH OF 12000 mm																		
12300	0.81	1.48	1.71	1.71		0.73	1.29	1.71	0.94	0.90	1.89	2.34	2.44		0.97	1.86	2.40	1.18
12600	0.77	1.40	1.63	1.63		0.66	1.20	1.63	0.87	0.85	1.78	2.21	2.33		0.89	1.70	2.26	1.09
12900	0.73	1.32	1.56	1.56		0.61	1.11	1.56	0.81	0.81	1.67	2.10	2.22		0.81	1.56	2.12	1.02
13200	0.69	1.25	1.49	1.49		0.56	1.04	1.46	0.76	0.76	1.58	1.99	2.12		0.75	1.44	2.00	0.95
13500	0.66	1.19	1.42	1.42		0.51	0.97	1.37	0.71	0.73	1.49	1.89	2.03		0.69	1.32	1.89	0.89
13800	0.63	1.13	1.36	1.36		0.47	0.90	1.29	0.66	0.69	1.41	1.79	1.94		0.63	1.22	1.78	0.83
14100	0.60	1.07	1.30	1.30		0.43	0.84	1.21	0.62	0.66	1.34	1.71	1.86		0.58	1.13	1.68	0.78
14400	0.57	1.02	1.25	1.25		0.40	0.78	1.13	0.58	0.63	1.27	1.62	1.78		0.54	1.04	1.59	0.73
14700	0.54	0.97	1.19	1.20		0.73	1.05	1.05	0.55	0.60	1.20	1.55	1.71		0.50	0.97	1.50	0.69
15000	0.52	0.91	1.13	1.15		0.68	0.98	0.98	0.52	0.57	1.15	1.48	1.63		0.47	0.90	1.40	0.65
15300	0.50	0.87	1.08	1.11		0.63	0.92	0.92	0.49	0.55	1.09	1.41	1.56		0.43	0.83	1.32	0.61
15600	0.48	0.83	1.03	1.07		0.59	0.86	0.86	0.46	0.52	1.04	1.35	1.49		0.40	0.78	1.23	0.58
15900	0.46	0.80	0.99	1.03		0.54	0.80	0.80	0.43	0.50	0.99	1.29	1.43		0.72	1.16	1.16	0.54
16200	0.44	0.77	0.95	0.99		0.51	0.75	0.75	0.41	0.48	0.95	1.23	1.37		0.68	1.09	1.09	0.51
16500	0.42	0.73	0.91	0.95		0.47	0.71	0.71	0.39	0.46	0.91	1.17	1.31		0.63	1.02	1.02	0.49
16800	0.40	0.71	0.87	0.92		0.44	0.67	0.67	0.37	0.44	0.87	1.12	1.26		0.59	0.96	0.96	0.46
17100		0.68	0.84	0.89		0.41	0.64	0.64	0.35	0.43	0.83	1.07	1.21		0.55	0.90	0.90	0.44
17400		0.65	0.80	0.86			0.60	0.60	0.33	0.41	0.80	1.03	1.16		0.52	0.84	0.84	0.42
17700		0.63	0.77	0.83			0.57	0.57	0.31	0.40	0.76	0.98	1.11		0.49	0.79	0.79	0.39
18000		0.60	0.74	0.80			0.54	0.54	0.30		0.73	0.94	1.07		0.46	0.75	0.75	0.38

Bold capacities require grade 8.8 purlin bolts. Values above horizontal line in body of table are governed by the strength of the grade 8.8 bolt.
 IN = Inward load capacity. OUT = Outward load capacity. See also: Design notes for capacity tables.

Limit state capacity tables

Single spans

Single spans



Single span: Z/C35030 (kN/m)

Span (mm)	IN				OUT				Load for deflection span/150
	0	1	2	3	0	1	2	3	
6000	7.46	12.56	12.56	12.56	9.16	12.56	12.56	12.56	15.01
6300	6.57	11.39	11.39	11.39	7.66	11.39	11.39	11.39	13.05
6600	5.78	10.38	10.38	10.38	6.63	10.38	10.38	10.38	11.41
6900	5.13	9.50	9.50	9.50	5.78	9.50	9.50	9.50	10.04
7200	4.58	8.72	8.72	8.72	5.06	8.72	8.72	8.72	8.89
7500	4.11	8.04	8.04	8.04	4.39	8.04	8.04	8.04	7.90
7800	3.72	7.43	7.43	7.43	3.83	7.43	7.43	7.43	7.06
8100	3.37	6.89	6.89	6.89	3.37	6.89	6.89	6.89	6.33
8400	3.08	6.41	6.41	6.41	2.97	6.36	6.41	6.41	5.70
8700	2.82	5.97	5.97	5.97	2.61	5.76	5.97	5.97	5.15
9000	2.58	5.58	5.58	5.58	2.30	5.23	5.58	5.58	4.67
9300	2.37	5.14	5.23	5.23	2.04	4.71	5.23	5.23	4.25
9600	2.18	4.75	4.91	4.91	1.81	4.24	4.91	4.91	3.89
9900	2.02	4.40	4.61	4.61	1.62	3.83	4.61	4.61	3.56
10200	1.87	4.08	4.35	4.35	1.45	3.47	4.35	4.35	3.28
10500	1.74	3.78	4.10	4.10	1.30	3.15	4.10	4.10	3.02
10800	1.62	3.50	3.88	3.88	1.17	2.86	3.88	3.88	2.79
11100	1.52	3.25	3.67	3.67	1.06	2.55	3.67	3.67	2.59
11400	1.42	3.03	3.48	3.48	0.96	2.35	3.48	3.48	2.40
11700	1.33	2.82	3.30	3.30	0.87	2.17	3.30	3.30	2.23
12000	1.25	2.64	3.14	3.14	0.80	2.00	3.14	3.14	2.07
SECTIONS BELOW EXCEED THE NORMAL DELIVERY LENGTH OF 12000 mm									
12300	1.18	2.47	2.99	2.99	0.73	1.85	2.97	2.99	1.93
12600	1.11	2.32	2.85	2.85	0.67	1.72	2.78	2.85	1.80
12900	1.05	2.18	2.72	2.72	0.61	1.60	2.6	2.72	1.68
13200	0.99	2.05	2.60	2.60	0.56	1.48	2.44	2.6	1.57
13500	0.94	1.93	2.48	2.48	0.52	1.37	2.27	2.48	1.47
13800	0.89	1.82	2.37	2.37	0.48	1.26	2.11	2.37	1.38
14100	0.85	1.73	2.27	2.27	0.44	1.17	1.97	2.27	1.29
14400	0.81	1.63	2.18	2.18	0.41	1.09	1.84	2.18	1.22
14700	0.77	1.55	2.09	2.09		1.02	1.72	2.09	1.15
15000	0.73	1.47	1.99	2.01		0.95	1.6	2.01	1.08
15300	0.7	1.36	1.90	1.93		0.88	1.5	1.93	1.02
15600	0.67	1.3	1.81	1.86		0.82	1.41	1.86	0.97
15900	0.64	1.24	1.72	1.79		0.76	1.32	1.79	0.91
16200	0.61	1.19	1.65	1.72		0.71	1.21	1.72	0.86
16500	0.59	1.13	1.57	1.66		0.66	1.14	1.65	0.82
16800	0.56	1.09	1.50	1.60		0.62	1.08	1.57	0.77
17100	0.54	1.04	1.44	1.55		0.58	1.02	1.49	0.73
17400	0.52	1.00	1.37	1.49		0.54	0.97	1.42	0.70
17700	0.50	0.96	1.31	1.44		0.51	0.92	1.35	0.66
18000	0.48	0.92	1.25	1.40		0.48	0.87	1.28	0.63

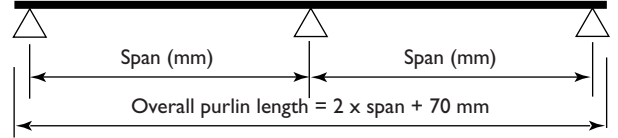
Bold capacities require grade 8.8 purlin bolts. Values above horizontal line in body of table are governed by the strength of the grade 8.8 bolt.
 IN = Inward load capacity. OUT = Outward load capacity. See also: Design notes for capacity tables.

S350

Limit state capacity tables

Double continuous spans

Double spans



Double span: Z/C10010 (kN/m)								Double span: Z/C10012 (kN/m)							
Bridging >	IN		OUT				Load for deflection span/150	0	IN		OUT				Load for deflection span/150
	0	1, 2, 3	0	1	2	3			1, 2, 3	0	1	2	3		
Span 2100	3.97	3.97	3.97	3.97	3.97	3.97	8.09	4.84	4.84	4.84	4.84	4.84	4.84	9.97	
(mm) 2400	3.04	3.04	3.04	3.04	3.04	3.04	5.42	3.70	3.70	3.70	3.70	3.70	3.70	6.68	
2700	2.40	2.40	2.40	2.40	2.40	2.40	3.81	2.93	2.93	2.93	2.93	2.93	2.93	4.69	
3000	1.95	1.95	1.95	1.95	1.95	1.95	2.77	2.37	2.37	2.37	2.37	2.37	2.37	3.42	
3300	1.61	1.61	1.61	1.61	1.61	1.61	2.09	1.96	1.96	1.96	1.96	1.96	1.96	2.57	
3600	1.35	1.35	1.35	1.35	1.35	1.35	1.63	1.65	1.65	1.61	1.65	1.65	1.65	1.99	
3900	1.15	1.15	1.08	1.15	1.15	1.15	1.29	1.40	1.40	1.29	1.40	1.40	1.40	1.58	
4200	0.99	0.99	0.86	0.99	0.99	0.99	1.05	1.19	1.21	1.04	1.21	1.21	1.21	1.28	
4500	0.87	0.87	0.69	0.87	0.87	0.87	0.86	1.02	1.05	0.84	1.05	1.05	1.05	1.05	
4800	0.76	0.76	0.56	0.76	0.76	0.76	0.71	0.88	0.93	0.66	0.93	0.93	0.93	0.87	
5100	0.67	0.67	0.46	0.67	0.67	0.67	0.60	0.76	0.82	0.55	0.82	0.82	0.82	0.73	
5400	0.58	0.60		0.59	0.60	0.60	0.51	0.67	0.73	0.46	0.70	0.73	0.73	0.62	
5700	0.51	0.54		0.50	0.54	0.54	0.43	0.59	0.66		0.61	0.66	0.66	0.53	
6000	0.45	0.49		0.43	0.49	0.49	0.37	0.52	0.59		0.52	0.59	0.59	0.46	

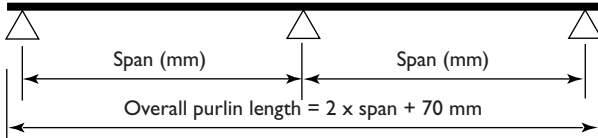
Double span: Z/C10015 (kN/m)								Double span: Z/C10019 (kN/m)							
Bridging >	IN		OUT				Load for deflection span/150	0	IN		OUT				Load for deflection span/150
	0	1, 2, 3	0	1	2	3			1, 2, 3	0	1	2	3		
Span 2100	6.30	6.30	6.30	6.30	6.30	6.30	13.04	8.68	8.79	8.79	8.79	8.79	8.79	17.31	
(mm) 2400	4.74	4.83	4.83	4.83	4.83	4.83	8.74	6.50	6.73	6.73	6.73	6.73	6.73	11.59	
2700	3.68	3.81	3.81	3.81	3.81	3.81	6.14	5.02	5.32	5.32	5.32	5.32	5.32	8.14	
3000	2.94	3.09	3.09	3.09	3.09	3.09	4.47	3.97	4.31	4.31	4.31	4.31	4.31	5.94	
3300	2.39	2.55	2.46	2.55	2.55	2.55	3.36	3.22	3.56	3.49	3.56	3.56	3.56	4.46	
3600	1.98	2.15	1.99	2.15	2.15	2.15	2.59	2.66	2.99	2.81	2.99	2.99	2.99	3.44	
3900	1.67	1.83	1.63	1.83	1.83	1.83	2.05	2.22	2.55	2.28	2.55	2.55	2.55	2.72	
4200	1.42	1.58	1.35	1.58	1.58	1.58	1.66	1.89	2.20	1.87	2.20	2.20	2.20	2.18	
4500	1.22	1.37	1.12	1.37	1.37	1.37	1.37	1.62	1.91	1.55	1.91	1.91	1.91	1.78	
4800	1.06	1.21	0.93	1.18	1.21	1.21	1.14	1.40	1.68	1.28	1.67	1.68	1.68	1.47	
5100	0.92	1.07	0.78	1.01	1.07	1.07	0.96	1.22	1.49	1.07	1.45	1.49	1.49	1.23	
5400	0.81	0.95	0.65	0.88	0.95	0.95	0.82	1.07	1.33	0.90	1.25	1.33	1.33	1.05	
5700	0.72	0.86	0.55	0.77	0.86	0.86	0.70	0.94	1.19	0.76	1.08	1.19	1.19	0.89	
6000	0.64	0.77	0.47	0.67	0.77	0.77	0.60	0.83	1.08	0.65	0.94	1.08	1.08	0.77	
SECTIONS BELOW EXCEED THE NORMAL DELIVERY LENGTH OF 12000 mm															
6300	0.57	0.70	0.40	0.59	0.70	0.70	0.52	0.74	0.98	0.56	0.82	0.98	0.98	0.66	
6600	0.51	0.64		0.52	0.62	0.64	0.45	0.66	0.89	0.48	0.72	0.89	0.89	0.58	
6900	0.46	0.58		0.45	0.56	0.58	0.40	0.59	0.81	0.42	0.63	0.80	0.81	0.50	
7200	0.41	0.54		0.40	0.50	0.54	0.35	0.54	0.75		0.55	0.72	0.75	0.44	
7500		0.49			0.45	0.49	0.31	0.48	0.69		0.49	0.64	0.69	0.39	

Bold capacities require grade 8.8 purlin bolts. Values above horizontal line in body of table are governed by the strength of the grade 8.8 bolt.
 IN = Inward load capacity. OUT = Outward load capacity. See also: Design notes for capacity tables.

Limit state capacity tables

Double continuous spans

Double spans



Double span: Z/C15012 (kN/m)							Double span: Z/C15015 (kN/m)							
Bridging > (mm)	IN			OUT			Load for deflection span/150	IN			OUT			Load for deflection span/150
	0	1, 2, 3		0	1	2, 3		0	1, 2, 3		0	1	2, 3	
Span 2100	6.43	6.43	6.43	6.43	6.43	6.43	27.65	10.29	10.29	10.29	10.29	10.29	10.29	37.56
2400	5.32	5.32	5.32	5.32	5.32	5.32	18.52	8.28	8.28	8.28	8.28	8.28	8.28	25.16
2700	4.47	4.47	4.47	4.47	4.47	4.47	13.01	6.73	6.73	6.73	6.73	6.73	6.73	17.67
3000	3.80	3.80	3.80	3.80	3.80	3.80	9.48	5.45	5.45	5.45	5.45	5.45	5.45	12.88
3300	3.27	3.27	3.27	3.27	3.27	3.27	7.12	4.48	4.50	4.50	4.50	4.50	4.50	9.68
3600	2.83	2.83	2.83	2.83	2.83	2.83	5.49	3.69	3.78	3.78	3.78	3.78	3.78	7.46
3900	2.45	2.45	2.45	2.45	2.45	2.45	4.32	3.09	3.22	3.22	3.22	3.22	3.22	5.86
4200	2.12	2.12	2.12	2.12	2.12	2.12	3.46	2.62	2.78	2.78	2.78	2.78	2.78	4.70
4500	1.84	1.84	1.84	1.84	1.84	1.84	2.81	2.24	2.42	2.40	2.42	2.42	2.42	3.82
4800	1.61	1.62	1.59	1.62	1.62	1.62	2.32	1.94	2.13	2.02	2.13	2.13	2.13	3.15
5100	1.41	1.44	1.33	1.44	1.44	1.44	1.93	1.69	1.89	1.71	1.89	1.89	1.89	2.62
5400	1.24	1.28	1.11	1.28	1.28	1.28	1.63	1.48	1.68	1.44	1.68	1.68	1.68	2.21
5700	1.09	1.15	0.93	1.15	1.15	1.15	1.41	1.30	1.51	1.21	1.51	1.51	1.51	1.88
6000	0.97	1.04	0.79	1.04	1.04	1.04	1.23	1.15	1.36	1.01	1.36	1.36	1.36	1.62
SECTIONS BELOW EXCEED THE NORMAL DELIVERY LENGTH OF 12000 mm														
6300	0.86	0.94	0.67	0.94	0.94	0.94	1.07	1.02	1.24	0.87	1.24	1.24	1.24	1.41
6600	0.76	0.86	0.58	0.86	0.86	0.86	0.95	0.91	1.13	0.76	1.13	1.13	1.13	1.23
6900	0.68	0.78	0.50	0.78	0.78	0.78	0.84	0.80	1.03	0.67	1.00	1.03	1.03	1.09
7200	0.62	0.72	0.43	0.70	0.70	0.70	0.75	0.72	0.95	0.59	0.89	0.95	0.95	0.96
7500	0.55	0.66	0.61	0.61	0.66	0.66	0.66	0.65	0.87	0.52	0.80	0.87	0.87	0.85
7800	0.50	0.61	0.54	0.54	0.61	0.61	0.59	0.59	0.81	0.45	0.71	0.81	0.81	0.76
8100	0.46	0.57	0.48	0.48	0.57	0.57	0.53	0.54	0.75	0.40	0.63	0.75	0.75	0.68

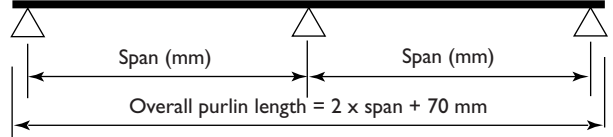
Double span: Z/C15019 (kN/m)								Double span: Z/C15024 (kN/m)								
Bridging > (mm)	IN			OUT				Load for deflection span/150	IN			OUT				Load for deflection span/150
	0	1	2, 3	0	1	2	3		0	1	2, 3	0	1	2	3	
Span 3000	7.01	7.68	7.68	7.68	7.68	7.68	7.68	16.81	9.34	10.82	10.82	10.82	10.82	10.82	10.82	22.42
3300	5.67	6.35	6.35	6.35	6.35	6.35	6.35	12.63	7.50	8.94	8.94	8.94	8.94	8.94	8.94	16.84
3600	4.68	5.33	5.33	5.33	5.33	5.33	5.33	9.73	6.13	7.52	7.52	7.52	7.52	7.52	7.52	12.97
3900	3.92	4.55	4.55	4.51	4.55	4.55	4.55	7.65	5.07	6.40	6.40	6.40	6.40	6.40	6.40	10.20
4200	3.32	3.92	3.92	3.76	3.92	3.92	3.92	6.13	4.23	5.52	5.52	5.30	5.52	5.52	5.52	8.17
4500	2.83	3.41	3.41	3.17	3.41	3.41	3.41	4.98	3.57	4.81	4.81	4.43	4.81	4.81	4.81	6.64
4800	2.44	3.00	3.00	2.69	3.00	3.00	3.00	4.10	3.05	4.23	4.23	3.74	4.23	4.23	4.23	5.47
5100	2.12	2.66	2.66	2.30	2.66	2.66	2.66	3.42	2.64	3.74	3.74	3.18	3.74	3.74	3.74	4.56
5400	1.86	2.37	2.37	1.96	2.37	2.37	2.37	2.88	2.30	3.34	3.34	2.72	3.34	3.34	3.34	3.85
5700	1.64	2.13	2.13	1.68	2.13	2.13	2.13	2.47	2.01	3.00	3.00	2.31	3.00	3.00	3.00	3.28
6000	1.45	1.92	1.92	1.43	1.90	1.92	1.92	2.13	1.78	2.71	2.71	1.95	2.71	2.71	2.71	2.82
SECTIONS BELOW EXCEED THE NORMAL DELIVERY LENGTH OF 12000 mm																
6300	1.29	1.74	1.74	1.22	1.68	1.74	1.74	1.86	1.58	2.45	2.45	1.67	2.39	2.45	2.45	2.45
6600	1.16	1.59	1.59	1.05	1.50	1.59	1.59	1.63	1.41	2.24	2.24	1.43	2.11	2.24	2.24	2.14
6900	1.04	1.45	1.45	0.91	1.34	1.45	1.45	1.44	1.27	2.05	2.05	1.24	1.88	2.05	2.05	1.88
7200	0.93	1.33	1.33	0.80	1.20	1.33	1.33	1.27	1.15	1.88	1.88	1.08	1.68	1.88	1.88	1.67
7500	0.85	1.23	1.23	0.70	1.07	1.23	1.23	1.14	1.04	1.73	1.73	0.94	1.50	1.73	1.73	1.48
7800	0.77	1.14	1.14	0.62	0.97	1.14	1.14	1.02	0.94	1.60	1.60	0.83	1.35	1.60	1.60	1.31
8100	0.70	1.05	1.05	0.54	0.87	1.05	1.05	0.91	0.86	1.48	1.48	0.74	1.22	1.48	1.48	1.17
8400	0.64	0.98	0.98	0.48	0.78	0.96	0.98	0.82	0.79	1.36	1.38	0.66	1.09	1.37	1.38	1.05
8700	0.59	0.90	0.91	0.43	0.70	0.88	0.91	0.74	0.72	1.25	1.29	0.59	0.97	1.25	1.29	0.95
9000	0.54	0.84	0.85	0.62	0.81	0.85	0.85	0.67	0.66	1.16	1.20	0.53	0.87	1.15	1.20	0.86

Bold capacities require grade 8.8 purlin bolts. Values above horizontal line in body of table are governed by the strength of the grade 8.8 bolt.
 IN = Inward load capacity. OUT = Outward load capacity. See also: Design notes for capacity tables.

Limit state capacity tables

Double continuous spans

Double spans



Double span: Z/C20015 (kN/m)							Double span: Z/C20019 (kN/m)						Double span: Z/C20024 (kN/m)								
Bridging >	IN			OUT			Load for deflection span/150	IN			OUT			Load for deflection span/150	IN			OUT			Load for deflection span/150
	0	1, 2, 3		0	1	2, 3		0	1, 2, 3		0	1	2, 3		0	1, 2, 3		0	1	2, 3	
Span (mm)	3000	6.10	6.10	6.10	6.10	6.10	25.47	10.69	10.69	10.69	10.69	10.69	10.69	36.30	13.82	13.82	13.82	13.82	13.82	13.82	47.93
	3300	5.30	5.30	5.30	5.30	5.30	19.14	8.88	9.16	9.16	9.16	9.16	9.16	27.27	11.73	12.57	12.57	12.57	12.57	12.57	36.01
	3600	4.64	4.64	4.64	4.64	4.64	14.74	7.24	7.81	7.81	7.81	7.81	7.81	21.00	9.48	11.36	11.36	11.36	11.36	11.36	27.73
	3900	4.10	4.10	4.10	4.10	4.10	11.59	5.96	6.66	6.66	6.66	6.66	6.66	16.52	7.76	9.68	9.68	9.68	9.68	9.68	21.81
	4200	3.64	3.64	3.64	3.64	3.64	9.28	4.96	5.74	5.74	5.74	5.74	5.74	13.23	6.42	8.34	8.34	8.34	8.34	8.34	17.47
	4500	3.23	3.23	3.23	3.23	3.23	7.55	4.19	5.00	5.00	5.00	5.00	5.00	10.75	5.39	7.27	7.27	7.27	7.27	7.27	14.20
	4800	2.79	2.88	2.88	2.88	2.88	6.22	3.47	4.39	4.39	4.39	4.39	4.39	8.86	4.59	6.39	6.30	6.39	6.39	6.39	11.70
	5100	2.43	2.56	2.56	2.56	2.56	5.19	3.01	3.89	3.89	3.89	3.89	3.89	7.39	3.96	5.66	5.42	5.66	5.66	5.66	9.76
	5400	2.14	2.28	2.28	2.28	2.28	4.37	2.63	3.47	3.46	3.47	3.47	3.47	6.22	3.44	5.05	4.70	5.05	5.05	5.05	8.22
	5700	1.88	2.05	2.05	2.05	2.05	3.71	2.32	3.12	2.99	3.12	3.12	3.12	5.29	3.02	4.53	4.09	4.53	4.53	4.53	6.99
	6000	1.66	1.85	1.80	1.85	1.85	3.18	2.06	2.81	2.59	2.81	2.81	2.81	4.54	2.67	4.09	3.58	4.09	4.09	4.09	5.99
SECTIONS BELOW EXCEED THE NORMAL DELIVERY LENGTH OF 12000 mm																					
	6300	1.48	1.67	1.57	1.67	1.67	2.75	1.84	2.55	2.23	2.55	2.55	3.92	2.38	3.71	3.12	3.71	3.71	3.71	5.18	
	6600	1.32	1.53	1.35	1.53	1.53	2.39	1.65	2.32	1.86	2.32	2.32	3.41	2.13	3.38	2.72	3.38	3.38	3.38	4.50	
	6900	1.19	1.40	1.17	1.40	1.40	2.09	1.49	2.13	1.63	2.13	2.13	2.98	1.91	3.09	2.35	3.09	3.09	3.09	3.94	
	7200	1.07	1.28	1.02	1.28	1.28	1.84	1.35	1.95	1.43	1.95	1.95	2.63	1.72	2.84	2.05	2.83	2.83	2.83	3.47	
	7500	0.97	1.18	0.89	1.18	1.18	1.63	1.23	1.80	1.26	1.80	1.80	2.32	1.55	2.62	1.80	2.56	2.62	2.62	3.08	
	7800	0.89	1.09	0.79	1.09	1.09	1.45	1.12	1.66	1.12	1.66	1.66	2.08	1.41	2.42	1.59	2.32	2.42	2.42	2.76	
	8100	0.81	1.01	0.69	1.01	1.01	1.30	1.02	1.54	1.00	1.54	1.54	1.86	1.29	2.24	1.42	2.11	2.24	2.24	2.48	
	8400	0.74	0.94	0.62	0.94	0.94	1.18	0.94	1.44	0.90	1.40	1.44	1.68	1.18	2.09	1.25	1.92	2.09	2.09	2.24	
	8700	0.68	0.88	0.55	0.87	0.88	1.07	0.87	1.34	0.81	1.27	1.34	1.52	1.08	1.95	1.11	1.75	1.95	1.95	2.03	
	9000	0.62	0.82	0.47	0.79	0.82	0.98	0.80	1.25	0.72	1.15	1.25	1.37	0.99	1.80	0.99	1.60	1.82	1.82	1.84	

D200

Double span: Z/C25019 (kN/m)							Double span: Z/C25024 (kN/m)							
Bridging >	IN			OUT			Load for deflection span/150	IN			OUT			Load for deflection span/150
	0	1, 2, 3		0	1	2, 3		0	1, 2, 3		0	1	2, 3	
Span (mm)	4500	5.27	5.83	5.83	5.83	5.83	17.47	6.82	9.22	9.22	9.22	9.22	9.22	24.09
	4800	4.51	5.26	5.26	5.26	5.26	14.39	5.80	8.91	8.19	8.19	8.19	8.19	19.85
	5100	3.90	4.77	4.77	4.77	4.77	12.00	4.99	7.25	7.25	7.25	7.25	7.25	16.55
	5400	3.41	4.35	4.35	4.35	4.35	10.11	4.34	6.47	6.27	6.47	6.47	6.47	13.94
	5700	3.00	3.96	3.96	3.96	3.96	8.59	3.81	5.81	5.45	5.81	5.81	5.81	11.85
	6000	2.66	3.57	3.44	3.57	3.57	7.37	3.36	5.24	4.74	5.24	5.24	5.24	10.16
SECTIONS BELOW EXCEED THE NORMAL DELIVERY LENGTH OF 12000 mm														
	6300	2.37	3.24	2.94	3.24	3.24	6.37	2.97	4.75	4.10	4.75	4.75	4.75	8.78
	6600	2.12	2.95	2.46	2.95	2.95	5.54	2.65	4.33	3.53	4.33	4.33	4.33	7.64
	6900	1.91	2.70	2.15	2.70	2.70	4.85	2.37	3.96	3.05	3.96	3.96	3.96	6.68
	7200	1.73	2.48	1.88	2.48	2.48	4.26	2.13	3.64	2.65	3.64	3.64	3.64	5.88
	7500	1.57	2.28	1.66	2.28	2.28	3.77	1.93	3.35	2.32	3.35	3.35	3.35	5.20
	7800	1.43	2.11	1.47	2.11	2.11	3.35	1.75	3.10	2.05	3.10	3.10	3.10	4.63
	8100	1.31	1.96	1.31	1.96	1.96	3.00	1.59	2.88	1.81	2.82	2.88	2.88	4.13
	8400	1.20	1.82	1.17	1.82	1.82	2.69	1.46	2.67	1.59	2.56	2.67	2.67	3.70
	8700	1.11	1.70	1.04	1.69	1.70	2.42	1.34	2.49	1.41	2.33	2.49	2.49	3.33
	9000	1.02	1.59	0.93	1.53	1.59	2.18	1.23	2.33	1.25	2.13	2.33	2.33	3.01

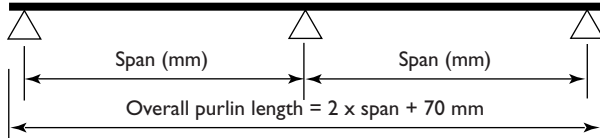
Bold capacities require grade 8.8 purlin bolts. Values above horizontal line in body of table are governed by the strength of the grade 8.8 bolt.
 IN = Inward load capacity. OUT = Outward load capacity. See also: Design notes for capacity tables.

D250

Limit state capacity tables

Double continuous spans

Double spans



Double span: Z/C30024 (kN/m)						Double span: Z/C30030 (kN/m)					
Bridging >	IN		OUT		Load for deflection span/150	0	IN		OUT		Load for deflection span/150
	0	1, 2, 3	0	1, 2, 3			0	1, 2, 3	0	1, 2, 3	
Span 6000	4.86	6.83	6.83	6.83	16.87	5.91	10.26	10.26	10.26	22.50	
SECTIONS BELOW EXCEED THE NORMAL DELIVERY LENGTH OF 12000 mm											
(mm) 6300	4.31	6.31	6.31	6.31	14.57	5.17	9.31	9.26	9.31	19.44	
6600	3.83	5.84	5.84	5.84	12.67	4.56	8.48	8.24	8.48	16.91	
6900	3.42	5.41	5.41	5.41	11.09	4.05	7.76	7.37	7.76	14.79	
7200	3.08	5.00	4.84	5.00	9.76	3.62	7.13	6.61	7.13	13.02	
7500	2.78	4.61	4.32	4.61	8.64	3.25	6.57	5.95	6.57	11.52	
7800	2.53	4.26	3.82	4.26	7.68	2.93	6.07	5.34	6.07	10.24	
8100	2.30	3.95	3.38	3.95	6.85	2.66	5.63	4.76	5.63	9.15	
8400	2.10	3.67	3.01	3.67	6.15	2.42	5.24	4.25	5.24	8.20	
8700	1.92	3.42	2.65	3.42	5.53	2.21	4.88	3.80	4.88	7.38	
9000	1.76	3.20	2.40	3.20	5.00	2.03	4.56	3.39	4.56	6.67	
9300	1.62	3.00	2.17	3.00	4.53	1.87	4.27	3.03	4.27	6.04	
9600	1.50	2.81	1.98	2.81	4.12	1.72	4.01	2.71	4.01	5.49	

Bold capacities require grade 8.8 purlin bolts. Values above horizontal line in body of table are governed by the strength of the grade 8.8 bolt.
 IN = Inward load capacity. OUT = Outward load capacity. See also: Design notes for capacity tables.

D300

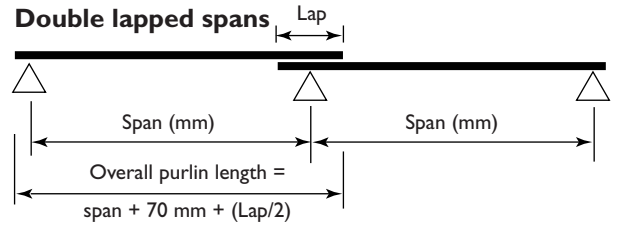
Double span: Z/C35030 (kN/m)					
Bridging >	IN		OUT		Load for deflection span/150
	0	1, 2, 3	0	1, 2, 3	
Span 6000	8.28	11.79	11.79	11.79	34.93
SECTIONS BELOW EXCEED THE NORMAL DELIVERY LENGTH OF 12000 mm					
(mm) 6300	7.28	10.89	10.89	10.89	30.17
6600	6.45	10.09	10.09	10.09	26.24
6900	5.74	9.37	9.37	9.37	22.97
7200	5.15	8.72	8.72	8.72	20.21
7500	4.63	8.04	8.04	8.04	17.88
7800	4.16	7.43	7.43	7.43	15.90
8100	3.76	6.89	6.89	6.89	14.20
8400	3.41	6.41	6.41	6.41	12.73
8700	3.11	5.97	5.93	5.97	11.46
9000	2.84	5.58	5.40	5.58	10.35
9300	2.61	5.23	4.93	5.23	9.38
9600	2.41	4.91	4.48	4.91	8.53

Bold capacities require grade 8.8 purlin bolts.
 Values above horizontal line in body of table are governed by the strength of the grade 8.8 bolt.
 IN = Inward load capacity. OUT = Outward load capacity. See also: Design notes for capacity tables.

D350

Limit state capacity tables

Double lapped spans



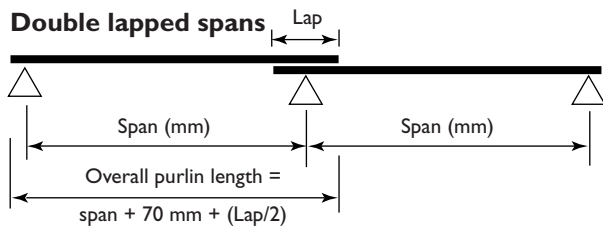
Double lapped span: Z10010 (kN/m)							Double lapped span: Z10012 (kN/m)								
Bridging > (mm)	IN			OUT			Load for deflection span/150	0	IN			OUT			Load for deflection span/150
	0	1, 2, 3		0	1	2, 3			0	1	2	3			
2100	6.75	6.75	6.75	6.75	6.75	6.75	9.90	8.30	8.30	8.30	8.30	8.30	8.30	8.30	12.20
2400	5.13	5.13	5.13	5.13	5.13	5.13	6.53	6.44	6.44	6.44	6.44	6.44	6.44	6.44	8.05
2700	3.80	3.90	3.90	3.90	3.90	3.90	4.52	4.31	4.75	4.75	4.75	4.75	4.75	4.75	5.57
3000	2.90	2.98	2.98	2.98	2.98	2.98	3.26	3.30	3.62	3.61	3.62	3.62	3.62	3.62	4.01
3300	2.28	2.35	2.29	2.35	2.35	2.35	2.42	2.59	2.86	2.71	2.86	2.86	2.86	2.86	2.98
3600	1.84	1.90	1.72	1.90	1.90	1.90	1.85	2.09	2.32	2.08	2.32	2.32	2.32	2.32	2.27
3900	1.51	1.57	1.31	1.57	1.57	1.57	1.44	1.72	1.91	1.59	1.91	1.91	1.91	1.91	1.77
4200	1.25	1.32	1.02	1.32	1.32	1.32	1.15	1.43	1.61	1.19	1.61	1.61	1.61	1.61	1.41
4500	1.05	1.13	0.80	1.13	1.13	1.13	0.94	1.20	1.37	0.95	1.37	1.37	1.37	1.37	1.15
4800	0.89	0.97	0.65	0.97	0.97	0.97	0.78	1.02	1.18	0.78	1.18	1.18	1.18	1.18	0.95
5100	0.76	0.85	0.53	0.85	0.85	0.85	0.65	0.88	1.03	0.64	1.00	1.03	1.03	1.03	0.79
5400	0.66	0.75	0.43	0.71	0.75	0.75	0.55	0.76	0.91	0.53	0.85	0.91	0.91	0.91	0.67
5700	0.57	0.66		0.59	0.66	0.66	0.47	0.66	0.80	0.45	0.72	0.80	0.80	0.80	0.57
6000	0.50	0.59		0.50	0.59	0.59	0.40	0.58	0.72		0.61	0.72	0.72	0.72	0.49
6300	0.45	0.59		0.45	0.59	0.59	0.36	0.51	0.72		0.53	0.72	0.72	0.72	0.44
6600	0.40	0.53			0.53	0.53	0.31	0.45	0.64		0.45	0.62	0.64	0.64	0.38
6900		0.48			0.46	0.46	0.27	0.40	0.58			0.55	0.58	0.58	0.34

Double lapped span: Z10015 (kN/m)								Double lapped span: Z10019 (kN/m)									
Bridging > (mm)	IN			OUT				Load for deflect'n span/150	0	IN			OUT				Load for deflect'n span/150
	0	1	2, 3	0	1	2	3			0	1	2, 3	0	1	2	3	
2100	10.82	10.82	10.82	10.82	10.82	10.82	10.82	15.97	15.08	15.08	15.08	15.08	15.08	15.08	15.08	15.08	21.19
2400	8.39	8.39	8.39	8.39	8.39	8.39	8.39	10.53	11.70	11.70	11.70	11.70	11.70	11.70	11.70	11.70	13.97
2700	5.18	6.19	6.19	6.02	6.19	6.19	6.19	7.29	6.57	8.63	8.63	8.49	8.63	8.63	8.63	8.63	9.67
3000	3.96	4.72	4.72	4.43	4.72	4.72	4.72	5.25	5.02	6.59	6.59	6.24	6.59	6.59	6.59	6.59	6.96
3300	3.12	3.73	3.73	3.37	3.73	3.73	3.73	3.90	3.96	5.20	5.20	4.70	5.20	5.20	5.20	5.20	5.18
3600	2.52	3.02	3.02	2.62	3.02	3.02	3.02	2.98	3.19	4.21	4.21	3.63	4.21	4.21	4.21	4.21	3.95
3900	2.07	2.49	2.49	2.08	2.49	2.49	2.49	2.32	2.62	3.48	3.48	2.86	3.48	3.48	3.48	3.48	3.08
4200	1.73	2.10	2.10	1.66	2.10	2.10	2.10	1.84	2.19	2.92	2.92	2.27	2.92	2.92	2.92	2.92	2.45
4500	1.46	1.79	1.79	1.34	1.75	1.79	1.79	1.49	1.85	2.49	2.49	1.82	2.48	2.49	2.49	2.49	1.98
4800	1.25	1.54	1.54	1.09	1.47	1.54	1.54	1.23	1.58	2.15	2.15	1.48	2.09	2.15	2.15	2.15	1.63
5100	1.08	1.34	1.34	0.89	1.25	1.34	1.34	1.03	1.36	1.87	1.87	1.22	1.77	1.87	1.87	1.87	1.36
5400	0.94	1.18	1.18	0.73	1.07	1.18	1.18	0.88	1.19	1.65	1.65	1.01	1.50	1.65	1.65	1.65	1.14
5700	0.82	1.05	1.05	0.61	0.92	1.05	1.05	0.75	1.04	1.46	1.46	0.84	1.29	1.46	1.46	1.46	0.97
6000	0.72	0.94	0.94	0.52	0.80	0.93	0.94	0.65	0.92	1.30	1.30	0.71	1.11	1.30	1.30	1.30	0.83
6300	0.67	0.90	0.93	0.47	0.74	0.88	0.93	0.58	0.84	1.26	1.30	0.63	1.03	1.26	1.30	1.30	0.74
6600	0.59	0.80	0.84	0.40	0.64	0.78	0.84	0.50	0.75	1.12	1.17	0.54	0.88	1.11	1.17	1.17	0.64
6900	0.53	0.72	0.76		0.55	0.69	0.76	0.44	0.67	1.00	1.05	0.47	0.76	0.97	1.05	1.05	0.56
7200	0.47	0.65	0.69		0.48	0.61	0.68	0.39	0.60	0.90	0.96	0.41	0.66	0.86	0.96	0.96	0.50
7500	0.42	0.58	0.63		0.42	0.54	0.61	0.34	0.54	0.81	0.87		0.58	0.76	0.87	0.87	0.44
7800		0.53	0.57		0.49	0.55	0.55	0.30	0.49	0.73	0.80		0.51	0.68	0.78	0.78	0.39

Bold capacities require grade 8.8 purlin bolts. Values above horizontal line in body of table are governed by the strength of the grade 8.8 bolt.
 IN = Inward load capacity. OUT = Outward load capacity. See also: Design notes for capacity tables.

Limit state capacity tables

Double lapped spans



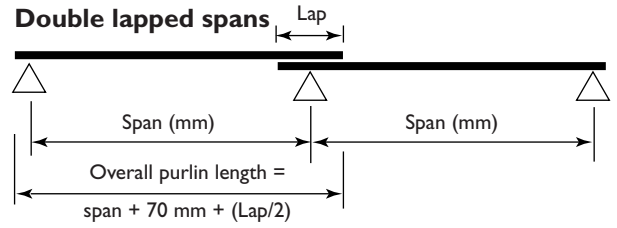
Double lapped span: Z15012 (kN/m)								Double lapped span: Z15015 (kN/m)							
Bridging >	IN		OUT				Load for deflect'n span/150	0	IN		OUT				Load for deflect'n span/150
	0	1, 2, 3	0	1	2	3			0	1	2, 3	0	1	2		3
Span 2400	8.87	8.87	8.87	8.87	8.87	8.87	23.35	14.23	14.23	14.23	14.23	14.23	14.23	14.23	31.72
(mm) 2700	7.20	7.20	7.20	7.20	7.20	7.20	16.21	11.37	11.37	11.37	11.37	11.37	11.37	11.37	22.02
3000	5.94	5.94	5.94	5.94	5.94	5.94	11.68	9.30	9.30	9.30	9.30	9.30	9.30	9.30	15.86
3300	4.98	4.98	4.98	4.98	4.98	4.98	8.68	7.76	7.76	7.76	7.76	7.76	7.76	7.76	11.79
3600	4.22	4.22	4.22	4.22	4.22	4.22	6.61	6.53	6.53	6.53	6.53	6.53	6.53	6.53	8.99
3900	3.26	3.61	3.61	3.61	3.61	3.61	5.15	3.79	5.36	5.36	5.17	5.36	5.36	5.36	7.00
4200	2.69	3.12	3.12	3.12	3.12	3.12	4.09	3.13	4.42	4.42	4.10	4.42	4.42	4.42	5.55
4500	2.26	2.72	2.55	2.72	2.72	2.72	3.30	2.63	3.70	3.70	3.28	3.70	3.70	3.70	4.48
4800	1.92	2.39	2.04	2.39	2.39	2.39	2.70	2.23	3.15	3.15	2.63	3.15	3.15	3.15	3.66
5100	1.65	2.07	1.65	2.07	2.07	2.07	2.23	1.92	2.72	2.72	2.08	2.72	2.72	2.72	3.03
5400	1.43	1.80	1.36	1.80	1.80	1.80	1.87	1.67	2.37	2.37	1.73	2.37	2.37	2.37	2.54
5700	1.24	1.58	1.13	1.58	1.58	1.58	1.58	1.46	2.08	2.08	1.45	2.08	2.08	2.08	2.15
6000	1.09	1.40	0.94	1.40	1.40	1.40	1.35	1.28	1.84	1.84	1.23	1.84	1.84	1.84	1.83
6300	0.97	1.25	0.80	1.25	1.25	1.25	1.16	1.14	1.64	1.64	1.05	1.63	1.64	1.64	1.57
6600	0.86	1.12	0.68	1.11	1.12	1.12	1.00	1.02	1.48	1.48	0.91	1.42	1.48	1.48	1.36
6900	0.77	1.01	0.58	0.98	1.01	1.01	0.89	0.91	1.33	1.33	0.79	1.25	1.33	1.33	1.19
7200	0.69	0.92	0.49	0.85	0.92	0.92	0.79	0.82	1.21	1.21	0.68	1.10	1.21	1.21	1.05
7500	0.62	0.84	0.43	0.74	0.84	0.84	0.71	0.74	1.10	1.10	0.59	0.96	1.10	1.10	0.93
7800	0.56	0.77		0.64	0.77	0.77	0.63	0.67	1.01	1.01	0.52	0.84	1.01	1.01	0.83
8100	0.51	0.71		0.57	0.71	0.71	0.57	0.61	0.93	0.93	0.45	0.72	0.93	0.93	0.74
8400	0.46	0.65		0.50	0.65	0.65	0.52	0.56	0.85	0.85	0.40	0.64	0.85	0.85	0.66
8700	0.42	0.60		0.44	0.60	0.60	0.47	0.51	0.79	0.79		0.57	0.78	0.79	0.60
9000	0.38	0.56			0.55	0.56	0.42	0.47	0.73	0.73		0.51	0.71	0.73	0.54
9300	0.36	0.56			0.52	0.56	0.39	0.45	0.71	0.73		0.48	0.67	0.73	0.50
9600	0.33	0.52			0.47	0.52	0.36	0.41	0.65	0.68		0.44	0.61	0.68	0.46
9900	0.30	0.48			0.42	0.48	0.32		0.60	0.63			0.55	0.63	0.42

Bold capacities require grade 8.8 purlin bolts. Values above horizontal line in body of table are governed by the strength of the grade 8.8 bolt.
 IN = Inward load capacity. OUT = Outward load capacity. See also: Design notes for capacity tables.

DL150.1

Limit state capacity tables

Double lapped spans



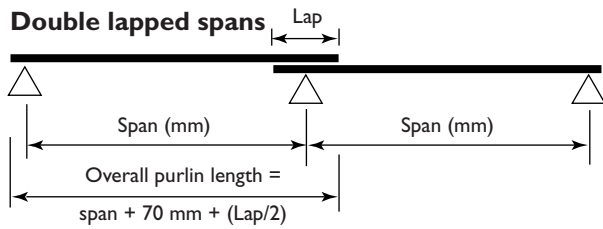
Double lapped span: Z15019 (kN/m)									Double lapped span: Z15024 (kN/m)								
Bridging >	IN			OUT				Load for deflect'n span/150	0	IN			OUT				Load for deflect'n span/150
	0	1	2, 3	0	1	2	3			0	1	2, 3	0	1	2	3	
Span 2400	20.06	20.06	20.06	20.06	20.06	20.06	20.06	41.39	21.18	21.18	21.18	21.18	21.18	21.18	21.18	21.18	55.20
(mm) 2700	15.80	16.03	16.03	16.03	16.03	16.03	16.03	28.73	18.88	18.88	18.88	18.88	18.88	18.88	18.88	18.88	38.31
3000	12.63	13.12	13.12	13.12	13.12	13.12	13.12	20.70	17.03	17.03	17.03	17.03	17.03	17.03	17.03	17.03	27.61
3300	10.31	10.94	10.94	10.94	10.94	10.94	10.94	15.38	13.92	15.42	15.42	15.42	15.42	15.42	15.42	15.42	20.51
3600	8.58	9.27	9.27	9.27	9.27	9.27	9.27	11.72	11.49	13.06	13.06	13.06	13.06	13.06	13.06	13.06	15.64
3900	4.75	7.55	7.55	6.84	7.55	7.55	7.55	9.13	5.66	10.64	10.64	9.48	10.64	10.64	10.64	10.64	12.18
4200	3.93	6.22	6.22	5.46	6.22	6.22	6.22	7.25	4.67	8.77	8.77	7.53	8.77	8.77	8.77	8.77	9.66
4500	3.30	5.22	5.22	4.42	5.22	5.22	5.22	5.84	3.92	7.36	7.36	6.08	7.36	7.36	7.36	7.36	7.79
4800	2.80	4.44	4.44	3.59	4.44	4.44	4.44	4.78	3.33	6.26	6.26	4.93	6.26	6.26	6.26	6.26	6.37
5100	2.41	3.83	3.83	2.95	3.83	3.83	3.83	3.96	2.86	5.40	5.40	3.99	5.40	5.40	5.40	5.40	5.28
5400	2.09	3.34	3.34	2.42	3.32	3.34	3.34	3.31	2.48	4.69	4.70	3.27	4.70	4.70	4.70	4.70	4.42
5700	1.83	2.93	2.93	2.01	2.85	2.93	2.93	2.80	2.17	4.08	4.13	2.71	4.05	4.13	4.13	4.13	3.73
6000	1.61	2.58	2.60	1.69	2.47	2.60	2.60	2.39	1.92	3.57	3.66	2.27	3.49	3.66	3.66	3.66	3.18
6300	1.43	2.29	2.32	1.44	2.16	2.32	2.32	2.05	1.70	3.16	3.26	1.91	3.04	3.26	3.26	3.26	2.74
6600	1.28	2.04	2.08	1.23	1.89	2.08	2.08	1.78	1.52	2.81	2.93	1.63	2.65	2.93	2.93	2.93	2.37
6900	1.14	1.83	1.88	1.05	1.67	1.88	1.88	1.56	1.36	2.51	2.65	1.40	2.33	2.65	2.65	2.65	2.07
7200	1.03	1.64	1.70	0.91	1.48	1.70	1.70	1.38	1.23	2.26	2.40	1.21	2.06	2.40	2.40	2.40	1.82
7500	0.93	1.49	1.55	0.79	1.31	1.55	1.55	1.22	1.11	2.04	2.19	1.05	1.83	2.19	2.19	2.19	1.61
7800	0.85	1.35	1.42	0.69	1.16	1.39	1.42	1.09	1.01	1.85	2.00	0.92	1.62	1.98	2.00	2.00	1.43
8100	0.77	1.23	1.31	0.60	1.03	1.26	1.31	0.98	0.92	1.68	1.84	0.81	1.44	1.79	1.84	1.84	1.28
8400	0.70	1.13	1.20	0.53	0.92	1.14	1.20	0.88	0.84	1.54	1.70	0.72	1.27	1.61	1.70	1.70	1.15
8700	0.64	1.03	1.11	0.47	0.81	1.04	1.11	0.80	0.77	1.41	1.57	0.64	1.12	1.46	1.57	1.57	1.04
9000	0.59	0.95	1.03	0.42	0.72	0.94	1.03	0.72	0.71	1.29	1.46	0.57	1.00	1.33	1.46	1.46	0.94
9300	0.55	0.92	1.03		0.67	0.91	1.02	0.67	0.66	1.24	1.45	0.53	0.91	1.27	1.45	1.45	0.87
9600	0.51	0.85	0.96		0.60	0.83	0.94	0.61	0.61	1.14	1.35	0.48	0.82	1.16	1.34	1.34	0.79
9900	0.47	0.78	0.89		0.54	0.76	0.86	0.56	0.57	1.06	1.26	0.43	0.73	1.06	1.23	1.23	0.72
10200	0.43	0.73	0.83		0.49	0.69	0.80	0.51	0.53	0.98	1.17		0.66	0.97	1.13	1.13	0.65
10500	0.40	0.67	0.77		0.44	0.63	0.73	0.46	0.49	0.91	1.08		0.60	0.88	1.04	1.04	0.60

Bold capacities require grade 8.8 purlin bolts. Values above horizontal line in body of table are governed by the strength of the grade 8.8 bolt.
 IN = Inward load capacity. OUT = Outward load capacity. See also: *Design notes for capacity tables.*

DL150.2

Limit state capacity tables

Double lapped spans



Double lapped span: Z20015 (kN/m)

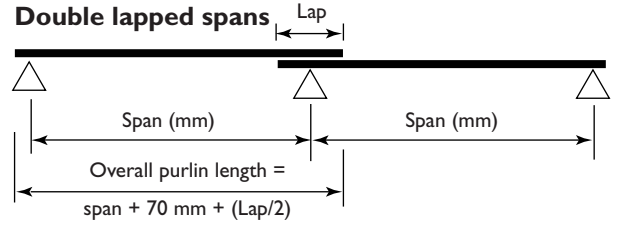
Bridging > Span (mm)	IN			OUT				Load for deflection span/150
	0	1, 2, 3	0	1	2	3		
3000	9.07	9.07	9.07	9.07	9.07	9.07	9.07	31.37
3300	7.71	7.71	7.71	7.71	7.71	7.71	7.71	23.30
3600	6.63	6.63	6.63	6.63	6.63	6.63	6.63	17.76
3900	5.54	5.75	5.75	5.75	5.75	5.75	5.75	13.84
4200	4.56	5.02	5.02	5.02	5.02	5.02	5.02	10.98
4500	3.81	4.42	4.42	4.42	4.42	4.42	4.42	8.86
4800	3.23	3.92	3.92	3.92	3.92	3.92	3.92	7.24
5100	2.78	3.49	3.49	3.49	3.49	3.49	3.49	6.00
5400	2.41	3.13	3.10	3.13	3.13	3.13	3.13	5.02
5700	2.10	2.82	2.62	2.82	2.82	2.82	2.82	4.24
6000	1.85	2.50	2.20	2.50	2.50	2.50	2.50	3.62
6300	1.64	2.23	1.86	2.23	2.23	2.23	2.23	3.11
6600	1.46	2.00	1.59	2.00	2.00	2.00	2.00	2.69
6900	1.31	1.81	1.37	1.81	1.81	1.81	1.81	2.35
7200	1.18	1.64	1.18	1.64	1.64	1.64	1.64	2.06
7500	1.07	1.49	1.03	1.49	1.49	1.49	1.49	1.81
7800	0.97	1.37	0.90	1.37	1.37	1.37	1.37	1.61
8100	0.88	1.26	0.79	1.26	1.26	1.26	1.26	1.43
8400	0.81	1.16	0.67	1.15	1.16	1.16	1.16	1.28
8700	0.74	1.07	0.60	1.04	1.07	1.07	1.07	1.15
9000	0.68	0.99	0.54	0.94	0.99	0.99	0.99	1.03
9300	0.64	0.99	0.50	0.87	0.99	0.99	0.99	0.96
9600	0.59	0.92	0.45	0.78	0.92	0.92	0.92	0.87
9900	0.54	0.86	0.41	0.70	0.86	0.86	0.86	0.80
10200	0.50	0.80		0.63	0.80	0.80	0.80	0.73
10500	0.47	0.75		0.57	0.75	0.75	0.75	0.68
10800	0.43	0.71		0.52	0.71	0.71	0.71	0.63
11100		0.66		0.47	0.66	0.66	0.66	0.58
11400		0.63		0.43	0.61	0.63	0.63	0.54
SECTIONS BELOW EXCEED THE NORMAL DELIVERY LENGTH OF 12000 mm								
11700		0.59			0.56	0.59	0.59	0.50
12000		0.56			0.52	0.56	0.56	0.47

Bold capacities require grade 8.8 purlin bolts. Values above horizontal line in body of table are governed by the strength of the grade 8.8 bolt.
 IN = Inward load capacity. OUT = Outward load capacity. See also: Design notes for capacity tables.

DL200.1

Limit state capacity tables

Double lapped spans



Double lapped span: Z20019 (kN/m)

Double lapped span: Z20024 (kN/m)

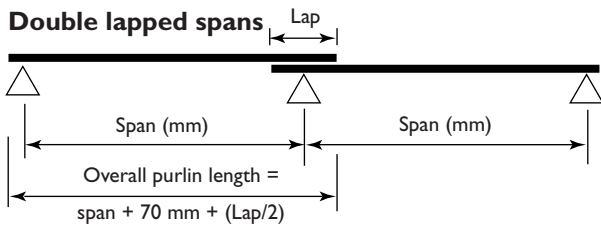
Bridging >	IN			OUT				Load for deflect'n span/150	IN			OUT				Load for deflect'n span/150
	0	1	2,3	0	1	2	3		0	1	2,3	0	1	2	3	
Span 3000	17.00	17.00	17.00	17.00	17.00	17.00	17.00	44.69	17.03	17.03	17.03	17.03	17.03	17.03	17.03	59.02
(mm) 3300	14.16	14.16	14.16	14.16	14.16	14.16	14.16	33.21	15.51	15.51	15.51	15.51	15.51	15.51	15.51	43.85
3600	11.94	11.94	11.94	11.94	11.94	11.94	11.94	25.31	14.25	14.25	14.25	14.25	14.25	14.25	14.25	33.42
3900	7.09	10.18	10.18	10.18	10.18	10.18	10.18	19.72	8.88	13.18	13.18	13.18	13.18	13.18	13.18	26.04
4200	5.82	8.77	8.77	8.77	8.77	8.77	8.77	15.65	7.24	12.25	12.25	12.25	12.25	12.25	12.25	20.66
4500	4.86	7.61	7.61	7.61	7.61	7.61	7.61	12.62	6.01	11.12	11.12	10.51	11.12	11.12	11.12	16.66
4800	4.12	6.51	6.51	6.39	6.51	6.51	6.51	10.32	5.06	9.46	9.46	8.70	9.46	9.46	9.46	13.63
5100	3.53	5.61	5.61	5.31	5.61	5.61	5.61	8.54	4.32	8.15	8.15	7.28	8.15	8.15	8.15	11.28
5400	3.06	4.88	4.88	4.45	4.88	4.88	4.88	7.15	3.73	7.10	7.10	6.16	7.10	7.10	7.10	9.44
5700	2.67	4.29	4.29	3.70	4.29	4.29	4.29	6.05	3.25	6.24	6.24	5.19	6.24	6.24	6.24	7.98
6000	2.36	3.80	3.80	3.02	3.80	3.80	3.80	5.16	2.85	5.53	5.53	4.38	5.53	5.53	5.53	6.81
6300	2.09	3.39	3.39	2.58	3.39	3.39	3.39	4.43	2.52	4.90	4.93	3.71	4.93	4.93	4.93	5.85
6600	1.87	3.05	3.05	2.22	3.05	3.05	3.05	3.84	2.25	4.36	4.43	3.17	4.43	4.43	4.43	5.06
6900	1.67	2.75	2.75	1.93	2.75	2.75	2.75	3.34	2.01	3.90	4.00	2.73	3.96	4.00	4.00	4.41
7200	1.51	2.50	2.50	1.68	2.50	2.50	2.50	2.93	1.81	3.51	3.63	2.37	3.53	3.63	3.63	3.87
7500	1.37	2.28	2.28	1.48	2.28	2.28	2.28	2.58	1.64	3.17	3.31	2.07	3.15	3.31	3.31	3.41
7800	1.24	2.08	2.08	1.30	2.07	2.08	2.08	2.29	1.49	2.88	3.03	1.80	2.83	3.03	3.03	3.02
8100	1.13	1.91	1.91	1.16	1.86	1.91	1.91	2.04	1.35	2.63	2.78	1.57	2.55	2.78	2.78	2.69
8400	1.04	1.76	1.76	1.02	1.67	1.76	1.76	1.82	1.24	2.40	2.57	1.39	2.31	2.57	2.57	2.40
8700	0.95	1.63	1.63	0.90	1.50	1.63	1.63	1.63	1.14	2.21	2.37	1.22	2.09	2.37	2.37	2.16
9000	0.87	1.51	1.51	0.80	1.35	1.51	1.51	1.48	1.05	2.03	2.20	1.09	1.90	2.20	2.20	1.96
9300	0.82	1.48	1.51	0.74	1.21	1.51	1.51	1.37	0.97	1.96	2.19	1.00	1.79	2.17	2.19	1.82
9600	0.75	1.37	1.40	0.67	1.09	1.40	1.40	1.25	0.90	1.81	2.04	0.89	1.60	1.99	2.04	1.66
9900	0.70	1.26	1.31	0.60	0.99	1.31	1.31	1.14	0.83	1.68	1.90	0.80	1.44	1.83	1.90	1.52
10200	0.65	1.17	1.22	0.54	0.90	1.22	1.22	1.04	0.78	1.56	1.78	0.72	1.30	1.68	1.78	1.39
10500	0.60	1.09	1.15	0.49	0.82	1.13	1.15	0.96	0.72	1.45	1.67	0.65	1.18	1.56	1.67	1.28
10800	0.56	1.01	1.08	0.44	0.75	1.04	1.08	0.88	0.67	1.35	1.57	0.59	1.07	1.44	1.57	1.18
11100	0.52	0.94	1.01	0.40	0.68	0.96	1.01	0.81	0.63	1.26	1.47	0.54	0.98	1.33	1.47	1.09
11400	0.49	0.88	0.95		0.63	0.89	0.95	0.75	0.59	1.17	1.39	0.49	0.89	1.24	1.39	1.01
SECTIONS BELOW EXCEED THE NORMAL DELIVERY LENGTH OF 12000 mm																
11700	0.46	0.82	0.90		0.58	0.82	0.90	0.69	0.55	1.09	1.31	0.45	0.82	1.15	1.30	0.94
12000	0.43	0.77	0.85		0.53	0.75	0.85	0.64	0.52	1.02	1.23	0.41	0.75	1.07	1.21	0.87

Bold capacities require grade 8.8 purlin bolts. Values above horizontal line in body of table are governed by the strength of the grade 8.8 bolt.
 IN = Inward load capacity. OUT = Outward load capacity. See also: Design notes for capacity tables.

DL200.2

Limit state capacity tables

Double lapped spans

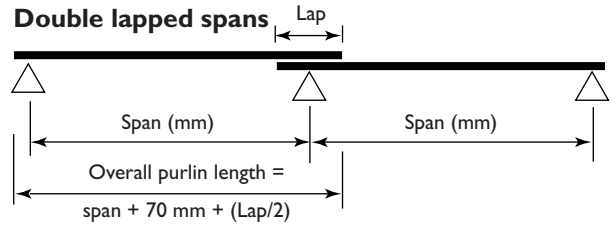


Bridging > Span (mm)	Double lapped span: Z25019 (kN/m)								Load for deflect'n span/150	Double lapped span: Z25024 (kN/m)								Load for deflect'n span/150
	IN			OUT				0		IN			OUT				0		1	2	3
0	1	2, 3	0	1	2	3	0		1	2, 3	0	1	2, 3	0	1	2		3
3000	15.13	15.13	15.13	15.13	15.13	15.13	15.13	72.59	17.03	17.03	17.03	17.03	17.03	17.03	17.03	17.03	100.20	
3300	13.00	13.00	13.00	13.00	13.00	13.00	13.00	53.93	15.51	15.51	15.51	15.51	15.51	15.51	15.51	15.51	74.38	
3600	11.28	11.28	11.28	11.28	11.28	11.28	11.28	41.11	14.25	14.25	14.25	14.25	14.25	14.25	14.25	14.25	56.70	
3900	9.11	9.88	9.88	9.88	9.88	9.88	9.88	32.02	11.10	13.18	13.18	13.18	13.18	13.18	13.18	13.18	44.17	
4200	7.47	8.72	8.72	8.72	8.72	8.72	8.72	25.41	9.04	12.25	12.25	12.25	12.25	12.25	12.25	12.25	35.05	
4500	6.23	7.74	7.74	7.74	7.74	7.74	7.74	20.49	7.49	11.45	11.45	11.45	11.45	11.45	11.45	11.45	28.26	
4800	5.27	6.91	6.91	6.91	6.91	6.91	6.91	16.76	6.30	10.75	10.75	10.75	10.75	10.75	10.75	10.75	23.11	
5100	4.51	6.20	6.20	6.20	6.20	6.20	6.20	13.88	5.37	10.13	10.13	9.70	10.13	10.13	10.13	10.13	19.14	
5400	3.91	5.59	5.59	5.59	5.59	5.59	5.59	11.61	4.63	9.06	9.06	8.12	9.06	9.06	9.06	9.06	16.02	
5700	3.41	5.07	5.07	4.90	5.07	5.07	5.07	9.82	4.03	8.00	8.00	6.82	8.00	8.00	8.00	8.00	13.54	
6000	3.00	4.61	4.61	4.00	4.61	4.61	4.61	8.37	3.53	7.09	7.09	5.71	7.09	7.09	7.09	7.09	11.55	
6300	2.66	4.20	4.20	3.41	4.20	4.20	4.20	7.20	3.12	6.32	6.32	4.82	6.32	6.32	6.32	6.32	9.93	
6600	2.37	3.85	3.85	2.93	3.85	3.85	3.85	6.23	2.78	5.68	5.68	4.11	5.68	5.68	5.68	5.68	8.59	
6900	2.12	3.49	3.49	2.53	3.49	3.49	3.49	5.43	2.49	5.13	5.13	3.53	5.13	5.13	5.13	5.13	7.49	
7200	1.91	3.17	3.17	2.20	3.17	3.17	3.17	4.76	2.24	4.65	4.65	3.06	4.65	4.65	4.65	4.65	6.56	
7500	1.72	2.89	2.89	1.93	2.89	2.89	2.89	4.19	2.02	4.22	4.24	2.65	4.22	4.24	4.24	4.24	5.78	
7800	1.56	2.64	2.64	1.70	2.64	2.64	2.64	3.72	1.83	3.82	3.88	2.30	3.78	3.88	3.88	3.88	5.12	
8100	1.42	2.43	2.43	1.50	2.43	2.43	2.43	3.31	1.67	3.48	3.57	2.01	3.40	3.57	3.57	3.57	4.56	
8400	1.30	2.24	2.24	1.31	2.23	2.24	2.24	2.96	1.53	3.18	3.29	1.76	3.07	3.29	3.29	3.29	4.08	
8700	1.19	2.07	2.07	1.16	2.00	2.07	2.07	2.65	1.40	2.92	3.04	1.56	2.77	3.04	3.04	3.04	3.66	
9000	1.10	1.92	1.92	1.03	1.78	1.92	1.92	2.39	1.29	2.68	2.82	1.38	2.49	2.82	2.82	2.82	3.30	
9300	1.02	1.92	1.92	0.95	1.60	1.92	1.92	2.22	1.20	2.58	2.81	1.26	2.33	2.81	2.81	2.81	3.05	
9600	0.95	1.78	1.78	0.85	1.44	1.78	1.78	2.01	1.11	2.38	2.62	1.12	2.08	2.62	2.62	2.62	2.77	
9900	0.88	1.66	1.66	0.76	1.30	1.66	1.66	1.83	1.02	2.19	2.44	1.01	1.87	2.44	2.44	2.44	2.52	
10200	0.81	1.55	1.55	0.69	1.18	1.55	1.55	1.66	0.95	2.03	2.28	0.90	1.68	2.25	2.28	2.28	2.30	
10500	0.76	1.44	1.46	0.62	1.07	1.46	1.46	1.52	0.88	1.88	2.14	0.81	1.52	2.08	2.14	2.14	2.10	
10800	0.70	1.34	1.37	0.56	0.98	1.37	1.37	1.40	0.82	1.74	2.01	0.74	1.38	1.92	2.01	1.92	1.92	
11100	0.66	1.24	1.29	0.50	0.89	1.29	1.29	1.28	0.77	1.62	1.89	0.67	1.26	1.77	1.89	1.89	1.78	
11400	0.61	1.15	1.21	0.46	0.82	1.19	1.21	1.18	0.72	1.51	1.78	0.61	1.15	1.64	1.78	1.78	1.64	
SECTIONS BELOW EXCEED THE NORMAL DELIVERY LENGTH OF 12000 mm																		
11700	0.57	1.07	1.14	0.41	0.75	1.09	1.14	1.10	0.67	1.41	1.68	0.55	1.05	1.52	1.68	1.68	1.52	
12000	0.54	1.00	1.08	0.69	1.00	1.08	1.08	1.03	0.63	1.31	1.59	0.51	0.95	1.40	1.59	1.59	1.42	

Bold capacities require grade 8.8 purlin bolts. Values above horizontal line in body of table are governed by the strength of the grade 8.8 bolt.
 IN = Inward load capacity. OUT = Outward load capacity. See also: Design notes for capacity tables.

Limit state capacity tables

Double lapped spans

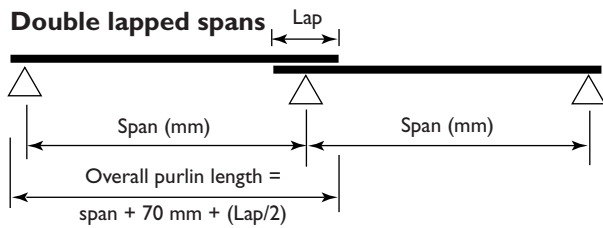


Double lapped span: Z30024 (kN/m)									Double lapped span: Z30030 (kN/m)									
Bridging >	IN			OUT				Load for deflect'n span/150	0	IN			OUT				Load for deflect'n span/150	
	0	1	2, 3	0-0	1	2	3			1	2	3	0	1	2	3		
Span 6000 (mm)	5.26	8.51	8.51	8.51	8.51	8.51	8.51	19.16	6.18	13.28	13.28	13.28	13.28	13.28	13.28	13.28	13.28	25.57
6300	4.61	7.80	7.80	7.80	7.80	7.80	7.80	16.47	5.40	12.05	12.05	12.05	11.73	12.05	12.05	12.05	12.05	21.97
6600	4.06	7.17	7.17	7.17	7.17	7.17	7.17	14.26	4.75	10.98	10.98	10.98	10.29	10.98	10.98	10.98	10.98	19.02
6900	3.61	6.61	6.61	6.59	6.61	6.61	6.61	12.42	4.21	10.04	10.04	10.04	9.08	10.04	10.04	10.04	10.04	16.58
7200	3.23	6.12	6.12	5.72	6.12	6.12	6.12	10.89	3.75	9.11	9.11	9.11	8.00	9.11	9.11	9.11	9.11	14.53
7500	2.90	5.67	5.67	4.99	5.67	5.67	5.67	9.60	3.37	8.30	8.30	8.30	7.01	8.30	8.30	8.30	8.30	12.81
7800	2.62	5.27	5.27	4.37	5.27	5.27	5.27	8.50	3.03	7.54	7.60	7.60	6.15	7.60	7.60	7.60	7.60	11.35
8100	2.38	4.90	4.90	3.80	4.90	4.90	4.90	7.57	2.75	6.86	6.98	6.98	5.44	6.98	6.98	6.98	6.98	10.10
8400	2.17	4.51	4.51	3.39	4.51	4.51	4.51	6.77	2.50	6.26	6.44	6.44	4.78	6.44	6.44	6.44	6.44	9.03
8700	1.98	4.18	4.18	3.04	4.18	4.18	4.18	6.07	2.29	5.74	5.95	5.95	4.22	5.95	5.95	5.95	5.95	8.10
9000	1.82	3.87	3.87	2.73	3.87	3.87	3.87	5.47	2.10	5.27	5.52	5.52	3.74	5.52	5.52	5.52	5.52	7.30
9300	1.69	3.86	3.86	2.58	3.86	3.86	3.86	5.07	1.94	5.10	5.51	5.51	3.43	5.45	5.51	5.51	5.51	6.76
9600	1.56	3.55	3.59	2.31	3.59	3.59	3.59	4.59	1.79	4.71	5.12	5.12	3.06	5.00	5.12	5.12	5.12	6.13
9900	1.44	3.28	3.35	2.08	3.35	3.35	3.35	4.18	1.66	4.35	4.78	4.78	2.73	4.59	4.78	4.78	4.78	5.57
10200	1.34	3.03	3.13	1.88	3.10	3.13	3.13	3.81	1.54	4.03	4.47	4.47	2.45	4.23	4.47	4.47	4.47	5.08
10500	1.24	2.81	2.93	1.70	2.85	2.93	2.93	3.48	1.43	3.75	4.18	4.18	2.21	3.91	4.18	4.18	4.18	4.65
10800	1.16	2.62	2.75	1.53	2.62	2.75	2.75	3.19	1.33	3.48	3.93	3.93	2.00	3.61	3.93	3.93	3.93	4.26
11100	1.08	2.44	2.59	1.39	2.41	2.59	2.59	2.93	1.25	3.23	3.69	3.69	1.81	3.35	3.69	3.69	3.69	3.91
11400	1.01	2.27	2.44	1.26	2.20	2.44	2.44	2.70	1.17	3.01	3.48	3.48	1.64	3.10	3.48	3.48	3.48	3.61
SECTIONS BELOW EXCEED THE NORMAL DELIVERY LENGTH OF 12000 mm																		
11700	0.95	2.12	2.30	1.15	2.02	2.30	2.30	2.49	1.09	2.80	3.29	3.29	1.50	2.86	3.29	3.29	3.29	3.33
12000	0.89	1.98	2.18	1.05	1.85	2.18	2.18	2.31	1.03	2.62	3.11	3.11	1.37	2.63	3.11	3.11	3.11	3.08
12300	0.85	1.91	2.30	1.00	1.78	2.30	2.30	2.22	0.98	2.55	3.27	3.27	1.31	2.57	3.25	3.27	3.27	2.96
12600	0.80	1.79	2.17	0.91	1.64	2.17	2.17	2.06	0.92	2.38	3.10	3.10	1.20	2.36	3.04	3.10	3.10	2.75
12900	0.75	1.68	2.06	0.84	1.52	2.06	2.06	1.91	0.87	2.22	2.93	2.93	1.10	2.17	2.85	2.93	2.93	2.55
13200	0.71	1.57	1.95	0.77	1.41	1.95	1.95	1.78	0.82	2.08	2.78	2.78	1.01	1.99	2.67	2.78	2.78	2.38
13500	0.67	1.45	1.85	0.71	1.31	1.83	1.85	1.66	0.78	1.95	2.64	2.64	0.93	1.84	2.51	2.64	2.64	2.23
13800	0.64	1.37	1.76	0.65	1.22	1.72	1.76	1.56	0.74	1.83	2.51	2.51	0.86	1.69	2.36	2.51	2.51	2.09
14100	0.60	1.30	1.68	0.60	1.14	1.61	1.68	1.47	0.70	1.72	2.39	2.39	0.80	1.57	2.22	2.39	2.39	1.97
14400	0.57	1.22	1.60	0.56	1.07	1.51	1.60	1.39	0.66	1.62	2.27	2.28	0.74	1.45	2.09	2.28	2.28	1.85
14700	0.54	1.16	1.52	0.52	1.00	1.41	1.52	1.32	0.63	1.53	2.15	2.17	0.69	1.34	1.97	2.17	2.17	1.75
15000	0.52	1.10	1.46	0.48	0.93	1.32	1.46	1.25	0.60	1.45	2.05	2.08	0.64	1.25	1.86	2.08	2.08	1.65
15300	0.49	1.04	1.39	0.45	0.87	1.23	1.39	1.18	0.57	1.37	1.95	1.98	0.60	1.16	1.75	1.98	1.98	1.56
15600	0.47	0.99	1.33	0.42	0.81	1.16	1.33	1.12	0.55	1.29	1.85	1.90	0.56	1.08	1.65	1.89	1.89	1.48
15900	0.45	0.94	1.28	0.40	0.76	1.08	1.28	1.05	0.52	1.23	1.76	1.82	0.52	1.01	1.55	1.80	1.80	1.40
16200	0.43	0.90	1.22	0.38	0.71	1.02	1.22	1.00	0.50	1.16	1.68	1.75	0.49	0.94	1.45	1.71	1.71	1.33
16500	0.41	0.85	1.18	0.36	0.66	0.95	1.18	0.94	0.48	1.10	1.60	1.68	0.46	0.88	1.37	1.62	1.62	1.26
16800	0.40	0.81	1.13	0.34	0.62	0.88	1.13	0.90	0.46	1.05	1.53	1.61	0.43	0.82	1.29	1.55	1.55	1.20
17100	0.39	0.78	1.09	0.33	0.58	0.83	1.08	0.85	0.44	1.00	1.46	1.55	0.41	0.77	1.21	1.47	1.47	1.14
17400	0.38	0.74	1.04	0.32	0.54	0.79	1.02	0.81	0.42	0.95	1.40	1.49	0.40	0.72	1.14	1.40	1.40	1.08
17700	0.37	0.71	1.00	0.31	0.51	0.75	0.97	0.77	0.40	0.91	1.34	1.43	0.39	0.68	1.07	1.34	1.34	1.03

Bold capacities require grade 8.8 purlin bolts. Values above horizontal line in body of table are governed by the strength of the grade 8.8 bolt.
 IN = Inward load capacity. OUT = Outward load capacity. See also: Design notes for capacity tables.

Limit state capacity tables

Double lapped spans



Double lapped span: Z35030 (kN/m)

Bridging > Span (mm)	IN			OUT				Load for deflection span/150
	0	1	2,3	0	1	2	3	
6000	9.33	14.61	14.61	14.61	14.61	14.61	14.61	39.69
6300	8.08	13.41	13.41	13.41	13.41	13.41	13.41	34.11
6600	7.05	12.35	12.35	12.35	12.35	12.35	12.35	29.53
6900	6.21	11.40	11.40	11.40	11.40	11.40	11.40	25.73
7200	5.51	10.56	10.56	10.56	10.56	10.56	10.56	22.56
7500	4.92	9.80	9.80	9.80	9.80	9.80	9.80	19.88
7800	4.41	9.11	9.11	9.11	9.11	9.11	9.11	17.61
8100	3.97	8.49	8.49	8.49	8.49	8.49	8.49	15.67
8400	3.59	7.88	7.88	7.64	7.88	7.88	7.88	14.01
8700	3.26	7.29	7.29	6.89	7.29	7.29	7.29	12.57
9000	2.97	6.76	6.76	6.19	6.76	6.76	6.76	11.33
9300	2.73	6.74	6.74	5.78	6.74	6.74	6.74	10.50
9600	2.51	6.27	6.27	5.19	6.27	6.27	6.27	9.52
9900	2.31	5.85	5.85	4.68	5.85	5.85	5.85	8.65
10200	2.13	5.47	5.47	4.23	5.47	5.47	5.47	7.89
10500	1.97	5.10	5.12	3.84	5.12	5.12	5.12	7.21
10800	1.83	4.74	4.81	3.49	4.81	4.81	4.81	6.61
11100	1.71	4.40	4.52	3.11	4.52	4.52	4.52	6.08
11400	1.59	4.10	4.26	2.86	4.26	4.26	4.26	5.60
SECTIONS BELOW EXCEED THE NORMAL DELIVERY LENGTH OF 12000 mm								
11700	1.49	3.83	4.02	2.63	4.02	4.02	4.02	5.17
12000	1.39	3.58	4.01	2.43	4.01	4.01	4.01	4.78
12300	1.32	3.50	4.01	2.40	4.01	4.01	4.01	4.60
12600	1.24	3.26	3.79	2.23	3.74	3.74	3.74	4.26
12900	1.17	3.05	3.59	2.06	3.49	3.59	3.59	3.96
13200	1.10	2.85	3.40	1.90	3.26	3.40	3.40	3.69
13500	1.04	2.67	3.23	1.75	3.04	3.23	3.23	3.44
13800	0.99	2.51	3.07	1.62	2.83	3.07	3.07	3.22
14100	0.93	2.36	2.92	1.51	2.64	2.92	2.92	3.01
14400	0.89	2.22	2.79	1.40	2.46	2.79	2.79	2.82
14700	0.84	2.10	2.66	1.30	2.29	2.66	2.66	2.65
15000	0.80	1.98	2.54	1.22	2.14	2.54	2.54	2.49
15300	0.76	1.88	2.43	1.14	2.00	2.43	2.43	2.34
15600	0.73	1.78	2.33	1.06	1.87	2.33	2.33	2.20
15900	0.69	1.68	2.23	0.99	1.75	2.23	2.23	2.09
16200	0.66	1.60	2.14	0.92	1.65	2.14	2.14	1.99
16500	0.63	1.52	2.05	0.86	1.55	2.05	2.05	1.89
16800	0.60	1.44	1.97	0.81	1.45	1.97	1.97	1.80
17100	0.58	1.38	1.89	0.76	1.33	1.89	1.89	1.71
17400	0.55	1.28	1.82	0.71	1.26	1.81	1.82	1.63
17700	0.53	1.22	1.75	0.67	1.19	1.72	1.75	1.55

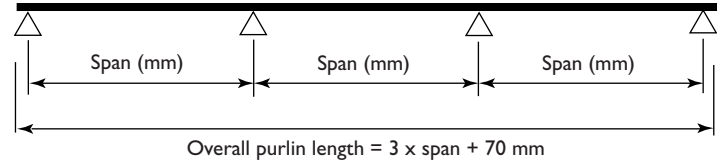
Bold capacities require grade 8.8 purlin bolts. Values above horizontal line in body of table are governed by the strength of the grade 8.8 bolt.
 IN = Inward load capacity. OUT = Outward load capacity. See also: *Design notes for capacity tables.*

DL350

Limit state capacity tables

Three continuous spans

Three spans



Bridging > (mm)	Three span: Z/C10010 (kN/m)						Load for deflection span/150	Three span: Z/C10012 (kN/m)						Load for deflection span/150	
	IN			OUT				IN			OUT				
	0	1, 2, 3		0	1	2, 3		0	1, 2, 3		0	1	2		3
Span 2100	4.90	4.90		4.90	4.90	4.90	6.40	6.05	6.05		6.05	6.05	6.05	6.05	7.84
2400	3.80	3.80		3.80	3.80	3.80	4.36	4.63	4.63		4.63	4.63	4.63	4.63	5.32
2700	3.00	3.00		3.00	3.00	3.00	3.10	3.66	3.66		3.66	3.66	3.66	3.66	3.79
3000	2.43	2.43		2.37	2.43	2.43	2.29	2.90	2.96		2.80	2.96	2.96	2.96	2.80
3300	2.01	2.01		1.76	2.01	2.01	1.74	2.34	2.45		2.13	2.45	2.45	2.45	2.12
3600	1.68	1.69		1.33	1.69	1.69	1.36	1.92	2.06		1.61	2.06	2.06	2.06	1.66
3900	1.40	1.44		1.02	1.44	1.44	1.08	1.60	1.75		1.21	1.75	1.75	1.75	1.32
SECTIONS BELOW EXCEED THE NORMAL DELIVERY LENGTH OF 12000 mm															
4200	1.17	1.24		0.80	1.24	1.24	0.87	1.34	1.51		0.96	1.50	1.51	1.51	1.07
4500	0.97	1.08		0.64	1.05	1.08	0.71	1.13	1.32		0.78	1.25	1.32	1.32	0.88
4800	0.82	0.95		0.50	0.86	0.95	0.59	0.96	1.16		0.64	1.04	1.16	1.16	0.73
5100	0.70	0.84		0.41	0.70	0.84	0.50	0.82	1.03		0.53	0.86	1.03	1.03	0.62
5400	0.60	0.75			0.58	0.75	0.42	0.67	0.91		0.44	0.68	0.91	0.91	0.52
5700	0.51	0.67			0.48	0.67	0.36	0.58	0.82			0.58	0.82	0.82	0.44
6000	0.44	0.61			0.41	0.61	0.31	0.51	0.74			0.49	0.72	0.74	0.38

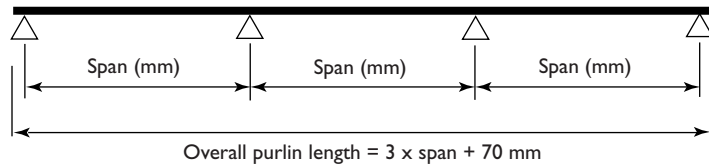
Bridging > (mm)	Three span: Z/C10015 (kN/m)							Load for deflection span/150	Three span: Z/C10019 (kN/m)							Load for deflection span/150
	IN			OUT					IN			OUT				
	0	1, 2, 3		0	1	2	3		0	1, 2, 3		0	1	2	3	
Span 2100	7.48	7.88		7.88	7.88	7.88	7.88	10.26	10.14	10.99		10.99	10.99	10.99	10.99	13.61
2400	5.60	6.03		6.03	6.03	6.03	6.03	6.91	7.50	8.41		8.41	8.41	8.41	9.18	
2700	4.33	4.77		4.55	4.77	4.77	4.77	4.94	5.75	6.65		6.45	6.65	6.65	6.47	
3000	3.44	3.86		3.50	3.86	3.86	3.86	3.67	4.54	5.38		4.90	5.38	5.38	4.75	
3300	2.80	3.19		2.74	3.19	3.19	3.19	2.80	3.66	4.45		3.78	4.45	4.45	3.59	
3600	2.31	2.68		2.15	2.68	2.68	2.68	2.18	3.01	3.74		2.96	3.74	3.74	2.79	
3900	1.93	2.28		1.70	2.24	2.28	2.28	1.72	2.50	3.19		2.30	3.17	3.19	2.20	
SECTIONS BELOW EXCEED THE NORMAL DELIVERY LENGTH OF 12000 mm																
4200	1.64	1.97		1.34	1.86	1.97	1.97	1.38	2.09	2.75		1.83	2.65	2.75	1.76	
4500	1.39	1.72		1.07	1.56	1.72	1.72	1.13	1.78	2.39		1.46	2.20	2.39	1.43	
4800	1.19	1.51		0.87	1.32	1.51	1.51	0.93	1.52	2.10		1.18	1.85	2.10	1.18	
5100	1.03	1.34		0.71	1.13	1.34	1.34	0.78	1.32	1.86		0.96	1.56	1.86	0.98	
5400	0.90	1.19		0.59	0.96	1.17	1.19	0.66	1.15	1.66		0.80	1.32	1.66	0.83	
5700	0.78	1.07		0.49	0.81	1.02	1.07	0.56	1.01	1.49		0.67	1.11	1.45	0.70	
6000	0.69	0.97		0.41	0.69	0.90	0.97	0.48	0.88	1.35		0.57	0.95	1.27	0.60	

Bold capacities require grade 8.8 purlin bolts. Values above horizontal line in body of table are governed by the strength of the grade 8.8 bolt.
 IN = Inward load capacity. OUT = Outward load capacity. See also: Design notes for capacity tables.

Limit state capacity tables

Three continuous spans

Three spans



Three span: Z/C15012 (kN/m)							Three span: Z/C15015 (kN/m)					
Bridging > (mm)	IN		OUT			Load for deflection span/150	IN		OUT			Load for deflection span/150
	0	1, 2, 3	0	1	2, 3		0	1, 2, 3	0	1	2, 3	
Span 2100	7.13	7.13	7.13	7.13	7.13	21.75	11.84	11.84	11.84	11.84	11.84	29.55
(mm) 2400	5.97	5.97	5.97	5.97	5.97	14.57	9.65	9.65	9.65	9.65	9.65	19.80
2700	5.06	5.06	5.06	5.06	5.06	10.23	7.99	7.99	7.99	7.99	7.99	13.90
3000	4.35	4.35	4.35	4.35	4.35	7.46	6.38	6.72	6.72	6.72	6.72	10.14
3300	3.77	3.77	3.77	3.77	3.77	5.61	5.13	5.63	5.63	5.63	5.63	7.62
3600	3.30	3.30	3.30	3.30	3.30	4.41	4.20	4.73	4.72	4.73	4.73	5.88
3900	2.91	2.91	2.91	2.91	2.91	3.55	3.47	4.03	3.80	4.03	4.03	4.67
SECTIONS BELOW EXCEED THE NORMAL DELIVERY LENGTH OF 12000 mm												
4200	2.46	2.58	2.38	2.58	2.58	2.90	2.90	3.47	3.08	3.47	3.47	3.77
4500	2.09	2.30	1.90	2.30	2.30	2.40	2.46	3.03	2.47	3.03	3.03	3.09
4800	1.78	2.03	1.54	2.03	2.03	1.99	2.05	2.66	1.96	2.66	2.66	2.57
5100	1.54	1.79	1.26	1.79	1.79	1.67	1.78	2.36	1.63	2.36	2.36	2.15
5400	1.33	1.60	1.04	1.60	1.60	1.42	1.56	2.10	1.37	2.10	2.10	1.83
5700	1.17	1.44	0.87	1.43	1.44	1.21	1.37	1.89	1.16	1.83	1.89	1.57
6000	1.02	1.30	0.73	1.24	1.30	1.05	1.21	1.70	0.99	1.58	1.70	1.36
6300	0.90	1.18	0.61	1.05	1.18	0.91	1.08	1.54	0.84	1.38	1.54	1.18

Three span: Z/C15019 (kN/m)							Three span: Z/C15024 (kN/m)					
Bridging > (mm)	IN		OUT			Load for deflection span/150	IN		OUT			Load for deflection span/150
	0	1, 2, 3	0	1	2, 3		0	1, 2, 3	0	1	2, 3	
Span 2100	17.77	17.77	17.77	17.77	17.77	38.56	22.44	22.44	22.44	22.44	22.44	51.42
(mm) 2400	13.50	14.45	14.45	14.45	14.45	25.83	18.03	19.64	19.64	19.64	19.64	34.45
2700	10.32	11.70	11.70	11.70	11.70	18.14	13.58	16.70	16.70	16.70	16.70	24.19
3000	8.09	9.60	9.60	9.60	9.60	13.23	10.38	13.53	13.53	13.53	13.53	17.64
3300	6.46	7.93	7.74	7.93	7.93	9.94	8.11	11.18	10.94	11.18	11.18	13.25
3600	5.26	6.67	6.22	6.67	6.67	7.70	6.50	9.39	8.71	9.39	9.39	10.25
3900	4.36	5.68	5.06	5.68	5.68	6.14	5.31	8.00	7.03	8.00	8.00	8.11
SECTIONS BELOW EXCEED THE NORMAL DELIVERY LENGTH OF 12000 mm												
4200	3.64	4.90	4.16	4.90	4.90	4.98	4.42	6.90	5.75	6.90	6.90	6.54
4500	3.08	4.27	3.39	4.27	4.27	4.10	3.72	6.01	4.67	6.01	6.01	5.36
4800	2.64	3.75	2.76	3.75	3.75	3.42	3.18	5.28	3.75	5.28	5.28	4.44
5100	2.28	3.32	2.26	3.23	3.32	2.87	2.74	4.68	3.05	4.58	4.68	3.70
5400	1.99	2.96	1.87	2.79	2.96	2.42	2.39	4.18	2.51	3.94	4.18	3.12
5700	1.74	2.66	1.58	2.43	2.66	2.07	2.09	3.75	2.09	3.41	3.75	2.65
6000	1.54	2.40	1.32	2.13	2.40	1.78	1.85	3.38	1.76	2.97	3.38	2.27
6300	1.37	2.18	1.11	1.87	2.18	1.54	1.64	3.07	1.49	2.60	3.07	1.96

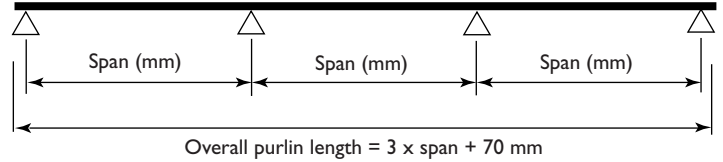
Bold capacities require grade 8.8 purlin bolts. Values above horizontal line in body of table are governed by the strength of the grade 8.8 bolt.
IN = Inward load capacity. OUT = Outward load capacity. See also: Design notes for capacity tables.

T150

Limit state capacity tables

Three continuous spans

Three spans



Bridging > (mm)	Three span: Z/C20015 (kN/m)					Three span: Z/C20019 (kN/m)					Three span: Z/C20024 (kN/m)					
	IN		OUT		Load for deflect'n span/150	IN		OUT		Load for deflect'n span/150	IN		OUT		Load for deflect'n span/150	
	0	1, 2, 3	0	1, 2, 3		0	1, 2, 3	0	1, 2, 3		0	1, 2, 3	0	1, 2, 3		
Span 2100	10.83	10.83	10.83	10.83	58.42	17.77	17.77	17.77	17.77	83.25	22.44	22.44	22.44	22.44	22.44	109.93
2400	9.18	9.18	9.18	9.18	39.14	15.55	15.55	15.55	15.55	55.77	19.64	19.64	19.64	19.64	19.64	73.64
2700	7.88	7.88	7.88	7.88	27.49	13.82	13.82	13.82	13.82	39.17	17.46	17.46	17.46	17.46	17.46	51.72
3000	6.84	6.84	6.84	6.84	20.04	12.31	12.31	12.31	12.31	28.55	15.71	15.71	15.71	15.71	15.71	37.70
3300	6.00	6.00	6.00	6.00	15.06	9.80	10.64	10.64	10.64	21.45	12.81	14.28	14.28	14.28	14.28	28.33
3600	5.29	5.29	5.29	5.29	11.60	7.62	9.28	9.28	9.28	16.52	10.17	13.09	13.09	13.09	13.09	21.82
3900	4.71	4.71	4.71	4.71	9.12	6.27	8.15	8.15	8.15	13.00	8.27	12.07	11.98	12.07	12.07	17.16
SECTIONS BELOW EXCEED THE NORMAL DELIVERY LENGTH OF 12000 mm																
4200	4.21	4.21	4.21	4.21	7.30	5.24	7.17	7.17	7.17	10.41	6.85	10.43	9.96	10.43	10.43	13.74
4500	3.56	3.78	3.78	3.78	5.94	4.45	6.25	6.11	6.25	8.46	5.77	9.09	8.35	9.09	9.09	11.17
4800	3.05	3.41	3.41	3.41	4.89	3.81	5.49	5.11	5.49	6.99	4.89	7.99	7.05	7.99	7.99	9.27
5100	2.64	3.10	2.97	3.10	4.10	3.31	4.87	4.23	4.87	5.87	4.18	7.07	5.95	7.07	7.07	7.81
5400	2.30	2.82	2.47	2.82	3.51	2.89	4.34	3.41	4.34	4.98	3.62	6.31	4.97	6.31	6.31	6.65
5700	2.02	2.56	2.06	2.56	3.04	2.55	3.90	2.89	3.90	4.26	3.16	5.66	4.16	5.66	5.66	5.71
6000	1.78	2.31	1.74	2.31	2.65	2.26	3.52	2.47	3.52	3.67	2.78	5.11	3.52	5.07	5.11	4.95
6300	1.58	2.09	1.48	2.09	2.32	2.01	3.19	2.13	3.19	3.19	2.46	4.64	3.00	4.49	4.64	4.30

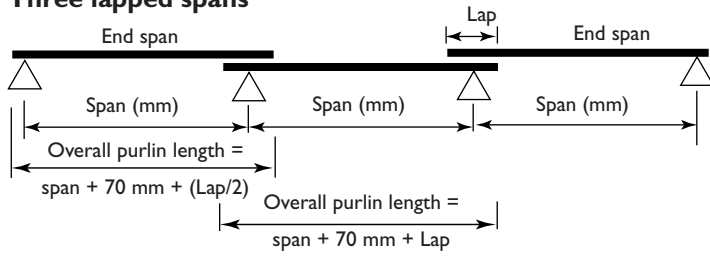
Bold capacities require grade 8.8 purlin bolts. Values above horizontal line in body of table are governed by the strength of the grade 8.8 bolt.
 IN = Inward load capacity. OUT = Outward load capacity. See also: Design notes for capacity tables.

T200

Limit state capacity tables

Three lapped spans

Three lapped spans



Three lapped span: Z10010 (kN/m)									Three lapped span: Z10010/10015 (kN/m)							Three lapped span: Z10012 (kN/m)										
Bridging >	IN			OUT				Load for deflect'n span/150	0	IN			OUT				Load for deflect'n span/150	0	IN			OUT				Load for deflect'n span/150
	0	1,2,3	0	1	2	3	0			1,2,3	0	1	2	3	0	1,2,3			0	1	2	3				
Span 2100	6.62	6.62	6.62	6.62	6.62	6.62	6.99	8.93	9.28	9.28	9.28	9.28	9.28	10.87	7.73	8.06	8.06	8.06	8.06	8.06	8.06	8.62				
(mm) 2400	5.03	5.04	5.04	5.04	5.04	5.04	4.65	6.62	6.99	6.99	6.99	6.99	6.99	7.22	5.71	6.14	6.14	6.14	6.14	6.14	6.14	5.73				
2700	3.86	3.96	3.93	3.96	3.96	3.96	3.30	5.06	5.24	5.24	5.24	5.24	5.24	5.07	4.37	4.83	4.65	4.83	4.83	4.83	4.83	4.02				
3000	3.03	3.20	2.83	3.20	3.20	3.20	2.42	3.51	4.00	3.87	4.00	4.00	4.00	3.74	3.43	3.89	3.43	3.89	3.89	3.89	3.89	2.96				
3300	2.41	2.63	2.06	2.63	2.63	2.63	1.84	2.76	3.15	2.82	3.15	3.15	3.15	2.85	2.73	3.20	2.50	3.20	3.20	3.20	3.20	2.24				
3600	1.95	2.21	1.54	2.21	2.21	2.21	1.42	2.21	2.55	2.10	2.55	2.55	2.55	2.22	2.22	2.68	1.82	2.68	2.68	2.68	2.68	1.74				
3900	1.60	1.87	1.17	1.87	1.87	1.87	1.13	1.80	2.10	1.60	2.10	2.10	2.10	1.75	1.83	2.28	1.42	2.28	2.28	2.28	2.28	1.38				
4200	1.33	1.61	0.91	1.56	1.61	1.61	0.91	1.49	1.76	1.25	1.76	1.76	1.76	1.40	1.46	1.96	1.12	1.85	1.96	1.96	1.96	1.11				
4500	1.12	1.40	0.71	1.25	1.40	1.40	0.74	1.24	1.50	0.99	1.50	1.50	1.50	1.14	1.24	1.71	0.90	1.52	1.71	1.71	1.71	0.91				
4800	0.94	1.23	0.57	1.01	1.23	1.23	0.62	1.05	1.29	0.80	1.29	1.29	1.29	0.94	1.05	1.50	0.73	1.23	1.50	1.50	1.50	0.76				
5100	0.80	1.07	0.47	0.82	1.07	1.07	0.52	0.89	1.13	0.66	1.08	1.13	1.13	0.79	0.90	1.30	0.59	0.96	1.30	1.30	1.30	0.64				
5400	0.68	0.94		0.67	0.94	0.94	0.44	0.76	0.99	0.53	0.90	0.99	0.99	0.67	0.77	1.15	0.48	0.80	1.13	1.15	1.15	0.54				
5700	0.58	0.83		0.56	0.81	0.83	0.37	0.65	0.88	0.45	0.75	0.88	0.88	0.57	0.67	1.02	0.40	0.67	0.97	1.02	1.02	0.46				
6000	0.50	0.74		0.47	0.69	0.74	0.32	0.56	0.78		0.63	0.78	0.78	0.48	0.58	0.91		0.57	0.83	0.91	0.91	0.40				
6300	0.45	0.72		0.41	0.60	0.72	0.28	0.52	0.78		0.56	0.78	0.78	0.42	0.53	0.87		0.50	0.74	0.87	0.87	0.35				
6600		0.65			0.52	0.65	0.25	0.45	0.70		0.48	0.69	0.70	0.37	0.47	0.79		0.43	0.63	0.78	0.78	0.30				
6900		0.60			0.44	0.58	0.22		0.63		0.41	0.60	0.63	0.32	0.41	0.73			0.52	0.69	0.69	0.27				

Three lapped span: Z10012/10019 (kN/m)									Three lapped span: Z10015 (kN/m)							Three lapped span: Z10019 (kN/m)										
Bridging >	IN			OUT				Load for defl. span/150	0	IN			OUT				Load for defl. span/150	0	IN			OUT				Load for defl. span/150
	0	1,2,3	0	1	2	3	0			1	2,3	0	1	2	3	0			1	2,3	0	1	2	3		
Span 2100	10.51	12.69	12.69	12.69	12.69	12.69	14.36	9.23	10.51	10.51	10.51	10.51	10.51	11.28	12.16	14.65	14.65	14.65	14.65	14.65	14.65	14.65	14.96			
(mm) 2400	7.32	8.82	8.82	8.82	8.82	8.82	9.54	6.84	8.00	8.00	7.79	8.00	8.00	7.51	8.87	11.16	11.16	11.01	11.16	11.16	11.16	11.16	9.96			
2700	5.38	6.43	6.43	6.43	6.43	6.43	6.70	5.25	6.29	6.29	5.77	6.29	6.29	5.24	6.66	8.77	8.77	8.08	8.77	8.77	8.77	8.77	6.95			
3000	4.10	4.90	4.76	4.90	4.90	4.90	4.88	4.13	5.07	5.07	4.37	5.07	5.07	3.85	5.18	7.07	7.07	6.02	7.07	7.07	7.07	7.07	5.08			
3300	3.22	3.86	3.56	3.86	3.86	3.86	3.67	3.32	4.18	4.18	3.33	4.18	4.18	2.93	4.14	5.83	5.83	4.54	5.83	5.83	5.83	5.83	3.82			
3600	2.59	3.12	2.71	3.12	3.12	3.12	2.83	2.71	3.50	3.50	2.55	3.44	3.50	2.28	3.37	4.88	4.88	3.43	4.87	4.88	4.88	4.88	2.94			
3900	2.12	2.58	2.09	2.58	2.58	2.58	2.23	2.25	2.97	2.97	1.95	2.81	2.97	1.82	2.80	4.15	4.15	2.63	3.99	4.15	4.15	4.15	2.32			
4200	1.75	2.16	1.58	2.16	2.16	2.16	1.78	1.90	2.56	2.56	1.51	2.32	2.56	1.46	2.35	3.57	3.57	2.04	3.26	3.57	3.57	3.57	1.87			
4500	1.47	1.84	1.27	1.84	1.84	1.84	1.45	1.61	2.22	2.22	1.20	1.93	2.22	1.18	1.99	3.10	3.10	1.61	2.69	3.10	3.10	3.10	1.51			
4800	1.24	1.59	1.04	1.59	1.59	1.59	1.19	1.38	1.95	1.95	0.97	1.62	1.92	0.98	1.70	2.72	2.72	1.29	2.24	2.72	2.72	2.72	1.24			
5100	1.02	1.38	0.87	1.34	1.38	1.38	0.99	1.18	1.70	1.70	0.78	1.34	1.63	0.82	1.46	2.37	2.37	1.05	1.85	2.32	2.32	2.32	1.03			
5400	0.87	1.21	0.73	1.14	1.21	1.21	0.83	1.01	1.49	1.49	0.64	1.12	1.40	0.69	1.27	2.08	2.08	0.86	1.52	1.99	2.08	2.08	0.87			
5700	0.76	1.07	0.62	0.98	1.07	1.07	0.71	0.88	1.32	1.32	0.53	0.94	1.21	0.59	1.10	1.84	1.85	0.72	1.28	1.70	1.85	1.85	0.74			
6000	0.66	0.96	0.53	0.83	0.96	0.96	0.60	0.76	1.18	1.18	0.44	0.79	1.05	0.50	0.97	1.63	1.65	0.61	1.07	1.47	1.65	1.65	0.63			
6300	0.62	0.96	0.48	0.72	0.96	0.96	0.53	0.68	1.11	1.14		0.68	0.96	0.44	0.87	1.53	1.59	0.53	0.93	1.33	1.55	1.55	0.55			
6600	0.54	0.86	0.42	0.62	0.85	0.86	0.46	0.60	1.00	1.03		0.58	0.84	0.38	0.77	1.38	1.44	0.45	0.79	1.17	1.37	1.37	0.48			
6900	0.48	0.78		0.54	0.75	0.78	0.40	0.53	0.90	0.95		0.50	0.74	0.34	0.69	1.24	1.32		0.68	1.01	1.22	1.22	0.42			
7200	0.42	0.71		0.47	0.66	0.71	0.35	0.47	0.82	0.87		0.43	0.65	0.29	0.61	1.13	1.21		0.58	0.88	1.08	1.08	0.37			
7500		0.64		0.41	0.59	0.64	0.31	0.42	0.74	0.79		0.57	0.69	0.26	0.55	1.02	1.10		0.50	0.77	0.96	0.96	0.33			
7800		0.59			0.52	0.59	0.28		0.67	0.72		0.49	0.62	0.23	0.49	0.92	1.01		0.44	0.67	0.85	0.85	0.29			

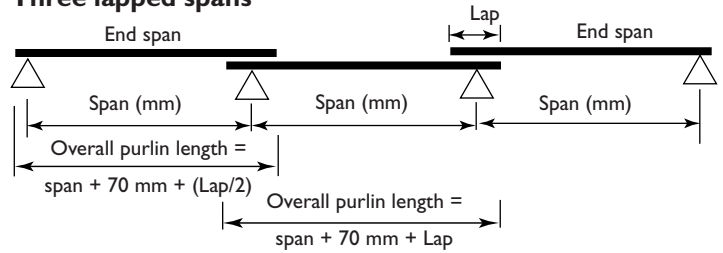
Bold capacities require grade 8.8 purlin bolts. Values above horizontal line in body of table are governed by the strength of the grade 8.8 bolt.

IN = Inward load capacity. OUT = Outward load capacity. See also: Design notes for capacity tables. In mixed spans, the thicker section is used in the end spans.

Limit state capacity tables

Three lapped spans

Three lapped spans



Three lapped span: Z15012 (kN/m)

Three lapped span: Z15015 (kN/m)

Bridging > (mm)	IN		OUT				Load for deflect'n span/150	IN		OUT				Load for deflect'n span/150	
	0	1, 2, 3	0	1	2	3		0	1, 2, 3	0	1	2	3		
3000	6.16	6.93	6.93	6.93	6.93	6.93	8.22	7.08	9.10	9.10	9.10	9.10	9.10	9.10	11.17
3300	4.89	5.70	5.70	5.70	5.70	5.70	6.15	5.64	7.49	7.49	7.49	7.49	7.49	7.49	8.35
3600	3.97	4.77	4.68	4.77	4.77	4.77	4.71	4.59	6.27	6.27	5.94	6.27	6.27	6.27	6.40
3900	3.27	4.05	3.62	4.05	4.05	4.05	3.69	3.80	5.32	5.32	4.69	5.32	5.32	5.32	5.02
4200	2.74	3.48	2.82	3.48	3.48	3.48	2.98	3.20	4.58	4.58	3.56	4.58	4.58	4.58	4.00
4500	2.32	3.03	2.24	3.03	3.03	3.03	2.47	2.72	3.98	3.98	2.87	3.98	3.98	3.98	3.27
4800	1.99	2.65	1.79	2.65	2.65	2.65	2.07	2.34	3.49	3.49	2.34	3.49	3.49	3.49	2.71
5100	1.72	2.35	1.46	2.35	2.35	2.35	1.76	2.04	3.08	3.08	1.94	3.08	3.08	3.08	2.27
5400	1.50	2.09	1.20	2.06	2.09	2.09	1.49	1.78	2.74	2.74	1.61	2.63	2.74	2.74	1.92
5700	1.31	1.87	0.98	1.75	1.87	1.87	1.27	1.57	2.46	2.46	1.34	2.25	2.46	2.46	1.64
6000	1.15	1.69	0.83	1.47	1.69	1.69	1.10	1.39	2.21	2.21	1.12	1.92	2.21	2.21	1.41
6300	1.02	1.53	0.71	1.25	1.53	1.53	0.95	1.24	2.00	2.00	0.95	1.63	2.00	2.00	1.23
6600	0.90	1.39	0.61	1.07	1.39	1.39	0.83	1.11	1.82	1.82	0.80	1.36	1.82	1.82	1.07
6900	0.81	1.27	0.52	0.92	1.27	1.27	0.73	1.00	1.67	1.67	0.68	1.19	1.65	1.67	0.95
7200	0.72	1.16	0.45	0.79	1.15	1.16	0.64	0.89	1.53	1.53	0.58	1.04	1.47	1.53	0.84
7500	0.64	1.06		0.68	1.02	1.06	0.57	0.80	1.39	1.39	0.50	0.91	1.30	1.39	0.75
7800	0.58	0.97		0.60	0.89	0.97	0.51	0.72	1.28	1.28	0.43	0.80	1.16	1.28	0.67
8100	0.52	0.89		0.52	0.78	0.89	0.46	0.65	1.17	1.17		0.71	1.02	1.17	0.60
8400	0.47	0.82		0.46	0.69	0.82	0.41	0.59	1.08	1.08		0.62	0.91	1.08	0.54
8700	0.42	0.76		0.40	0.61	0.76	0.37	0.54	1.00	1.00		0.55	0.80	0.99	0.49
9000		0.71			0.55	0.70	0.34	0.49	0.93	0.93		0.49	0.70	0.90	0.44
9300		0.70			0.50	0.66	0.31	0.45	0.89	0.92		0.45	0.65	0.85	0.40
9600		0.65			0.45	0.60	0.28	0.42	0.82	0.86		0.40	0.59	0.78	0.37
9900		0.61			0.40	0.54	0.26		0.76	0.80			0.53	0.70	0.33

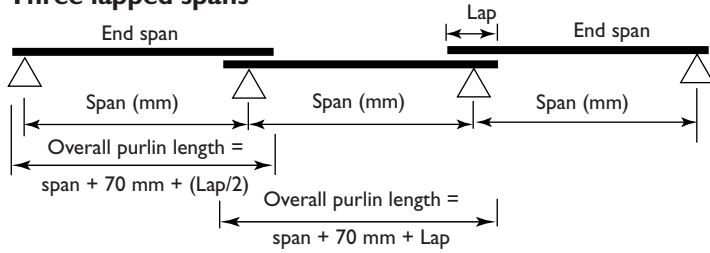
Bold capacities require grade 8.8 purlin bolts. Values above horizontal line in body of table are governed by the strength of the grade 8.8 bolt.
IN = Inward load capacity. OUT = Outward load capacity. See also: Design notes for capacity tables.

TL150.1

Limit state capacity tables

Three lapped spans

Three lapped spans



Three lapped span: Z15012/I5019 (kN/m)

Bridging > (mm)	IN		OUT				Load for deflection span/150
	0	1, 2, 3	0	1	2	3	
Span 3000	8.29	8.29	8.29	8.29	8.29	8.29	13.97
3300	6.12	6.87	6.87	6.87	6.87	6.87	10.44
3600	4.86	5.78	5.78	5.78	5.78	5.78	8.00
3900	3.94	4.92	4.92	4.92	4.92	4.92	6.29
4200	3.25	4.23	4.12	4.23	4.23	4.23	5.08
4500	2.73	3.68	3.25	3.68	3.68	3.68	4.17
4800	2.32	3.22	2.60	3.22	3.22	3.22	3.46
5100	1.99	2.79	2.11	2.79	2.79	2.79	2.91
5400	1.72	2.43	1.74	2.43	2.43	2.43	2.46
5700	1.50	2.13	1.44	2.13	2.13	2.13	2.09
6000	1.31	1.89	1.21	1.89	1.89	1.89	1.79
6300	1.16	1.68	1.03	1.68	1.68	1.68	1.55
6600	1.03	1.51	0.88	1.48	1.51	1.51	1.35
6900	0.91	1.36	0.76	1.29	1.36	1.36	1.19
7200	0.82	1.23	0.65	1.12	1.23	1.23	1.05
7500	0.73	1.12	0.57	0.97	1.12	1.12	0.93
7800	0.66	1.03	0.50	0.85	1.03	1.03	0.82
8100	0.59	0.94	0.45	0.75	0.94	0.94	0.74
8400	0.53	0.87	0.40	0.66	0.87	0.87	0.66
8700	0.48	0.80		0.59	0.80	0.80	0.59
9000	0.44	0.75		0.53	0.74	0.75	0.53
9300	0.41	0.75		0.48	0.71	0.75	0.49
9600		0.69		0.43	0.64	0.69	0.44
9900		0.65			0.58	0.65	0.41
10200		0.60			0.52	0.60	0.37
10500		0.57			0.47	0.57	0.34

Three lapped span: Z15015/I5024 (kN/m)

Bridging > (mm)	IN		OUT				Load for deflection span/150
	0	1, 2, 3	0	1	2	3	
Span 3000	9.79	13.52	13.52	13.52	13.52	13.52	18.65
3300	7.50	10.88	10.88	10.88	10.88	10.88	13.93
3600	5.92	8.92	8.84	8.92	8.92	8.92	10.67
3900	4.79	7.28	6.86	7.28	7.28	7.28	8.38
4200	3.95	5.99	5.43	5.99	5.99	5.99	6.72
4500	3.31	5.02	4.32	5.02	5.02	5.02	5.48
4800	2.81	4.27	3.47	4.27	4.27	4.27	4.54
5100	2.42	3.67	2.77	3.67	3.67	3.67	3.78
5400	2.09	3.20	2.31	3.20	3.20	3.20	3.18
5700	1.83	2.81	1.94	2.81	2.81	2.81	2.70
6000	1.61	2.48	1.65	2.48	2.48	2.48	2.30
6300	1.43	2.21	1.42	2.20	2.21	2.21	1.99
6600	1.27	1.99	1.23	1.92	1.99	1.99	1.72
6900	1.14	1.79	1.07	1.69	1.79	1.79	1.51
7200	1.02	1.62	0.93	1.49	1.62	1.62	1.32
7500	0.92	1.48	0.82	1.31	1.48	1.48	1.17
7800	0.83	1.35	0.72	1.15	1.35	1.35	1.04
8100	0.75	1.24	0.64	1.02	1.24	1.24	0.93
8400	0.68	1.14	0.57	0.88	1.14	1.14	0.83
8700	0.62	1.06	0.51	0.79	1.06	1.06	0.75
9000	0.56	0.98	0.45	0.71	0.97	0.98	0.67
9300	0.53	0.98	0.42	0.67	0.93	0.98	0.62
9600	0.49	0.91		0.60	0.85	0.91	0.56
9900	0.45	0.85		0.55	0.77	0.85	0.51
10200	0.41	0.80		0.50	0.70	0.80	0.47
10500		0.74		0.46	0.64	0.74	0.43

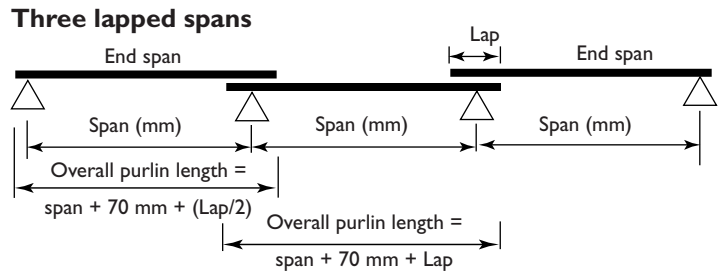
Bold capacities require grade 8.8 purlin bolts. Values above horizontal line in body of table are governed by the strength of the grade 8.8 bolt.

IN = Inward load capacity. OUT = Outward load capacity. See also: Design notes for capacity tables. In mixed spans, the thicker section is used in the end spans.

TL150.2

Limit state capacity tables

Three lapped spans



Three lapped span: Z15019 (kN/m)

Three lapped span: Z15024 (kN/m)

Span (mm)	Bridging >	Three lapped span: Z15019 (kN/m)								Load for defect'n span/150	Three lapped span: Z15024 (kN/m)								Load for defect'n span/150
		IN				OUT					IN				OUT				
		0	1	2	3	0	1	2	3		0	1	2	3	0	1	2	3	
3000	9.20	12.83	12.83	12.83	12.69	12.83	12.83	12.83	14.57	11.31	18.08	18.08	18.08	18.00	18.08	18.08	18.08	19.43	
3300	7.22	10.56	10.56	10.56	9.94	10.56	10.56	10.56	10.90	8.78	14.88	14.88	14.88	13.94	14.88	14.88	14.88	14.53	
3600	5.82	8.84	8.84	8.84	7.90	8.84	8.84	8.84	8.36	7.01	12.46	12.46	12.46	10.97	12.46	12.46	12.46	11.14	
3900	4.78	7.51	7.51	7.51	6.33	7.51	7.51	7.51	6.54	5.71	10.58	10.58	10.58	8.75	10.58	10.58	10.58	8.73	
4200	4.00	6.45	6.45	6.45	5.05	6.45	6.45	6.45	5.23	4.74	9.09	9.09	9.09	6.87	9.09	9.09	9.09	6.98	
4500	3.39	5.61	5.61	5.61	4.00	5.60	5.61	5.61	4.29	3.99	7.90	7.90	7.90	5.39	7.90	7.90	7.90	5.68	
4800	2.91	4.92	4.92	4.92	3.21	4.76	4.92	4.92	3.57	3.41	6.92	6.92	6.92	4.29	6.74	6.92	6.92	4.70	
5100	2.51	4.34	4.34	4.34	2.62	4.07	4.34	4.34	3.00	2.94	6.07	6.12	6.12	3.46	5.73	6.12	6.12	3.93	
5400	2.19	3.86	3.87	3.87	2.15	3.50	3.87	3.87	2.55	2.56	5.31	5.45	5.45	2.82	4.90	5.45	5.45	3.33	
5700	1.92	3.42	3.46	3.46	1.76	3.03	3.46	3.46	2.19	2.24	4.68	4.88	4.88	2.33	4.21	4.88	4.88	2.82	
6000	1.69	3.05	3.12	3.12	1.47	2.62	3.12	3.12	1.88	1.98	4.15	4.40	4.40	1.95	3.64	4.40	4.40	2.42	
6300	1.50	2.73	2.83	2.83	1.23	2.25	2.77	2.83	1.62	1.76	3.71	3.98	3.98	1.64	3.13	3.93	3.98	2.08	
6600	1.33	2.46	2.57	2.57	1.04	1.94	2.46	2.57	1.41	1.58	3.33	3.62	3.62	1.39	2.66	3.48	3.62	1.81	
6900	1.19	2.23	2.35	2.35	0.89	1.66	2.19	2.35	1.24	1.41	3.00	3.31	3.31	1.19	2.27	3.08	3.31	1.58	
7200	1.07	2.03	2.15	2.16	0.76	1.44	1.96	2.16	1.09	1.28	2.72	3.04	3.04	1.03	1.95	2.75	3.04	1.39	
7500	0.97	1.84	1.96	1.96	0.66	1.25	1.75	1.96	0.97	1.15	2.46	2.77	2.77	0.89	1.68	2.44	2.77	1.22	
7800	0.87	1.67	1.80	1.80	0.57	1.09	1.56	1.77	0.86	1.05	2.23	2.53	2.53	0.78	1.46	2.17	2.51	1.09	
8100	0.79	1.52	1.65	1.65	0.50	0.96	1.40	1.60	0.77	0.96	2.04	2.33	2.33	0.69	1.28	1.95	2.26	0.97	
8400	0.72	1.40	1.52	1.52	0.44	0.84	1.25	1.45	0.69	0.87	1.86	2.14	2.14	0.61	1.12	1.74	2.04	0.87	
8700	0.65	1.28	1.41	1.41		0.74	1.12	1.31	0.62	0.80	1.71	1.98	1.98	0.54	0.99	1.55	1.85	0.78	
9000	0.60	1.18	1.31	1.31		0.65	1.00	1.20	0.56	0.73	1.58	1.84	1.84	0.48	0.87	1.38	1.68	0.70	
9300	0.55	1.14	1.29	1.29		0.59	0.91	1.14	0.51	0.69	1.51	1.82	1.82	0.44	0.79	1.25	1.60	0.64	
9600	0.51	1.06	1.21	1.21		0.52	0.82	1.05	0.47	0.63	1.40	1.70	1.71		0.71	1.12	1.46	0.59	
9900	0.47	0.98	1.13	1.13		0.47	0.73	0.96	0.42	0.58	1.30	1.58	1.59		0.63	1.00	1.33	0.53	
10200	0.43	0.91	1.05	1.06		0.42	0.66	0.87	0.39	0.54	1.20	1.47	1.49		0.57	0.90	1.22	0.49	
10500	0.40	0.85	0.97	0.99		0.40	0.60	0.79	0.35	0.50	1.12	1.36	1.39		0.51	0.81	1.11	0.45	

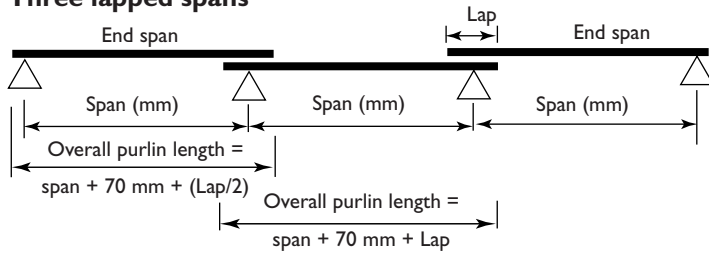
Bold capacities require grade 8.8 purlin bolts. Values above horizontal line in body of table are governed by the strength of the grade 8.8 bolt.
 IN = Inward load capacity. OUT = Outward load capacity. See also: Design notes for capacity tables.

TL150.3

Limit state capacity tables

Double lapped spans

Three lapped spans



Three lapped span: Z20015 (kN/m)

Three lapped span: Z20015/20024 (kN/m)

Bridging > (mm)	IN		OUT				Load for deflection span/150	IN		OUT				Load for deflection span/150
	0	1, 2, 3	0	1	2	3		0	1, 2, 3	0	1	2	3	
3000	10.60	10.60	10.60	10.60	10.60	10.60	22.08	12.73	12.73	12.73	12.73	12.73	12.73	39.72
3300	8.44	9.13	9.13	9.13	9.13	9.13	16.51	10.70	10.70	10.70	10.70	10.70	10.70	29.66
3600	6.77	7.95	7.95	7.95	7.95	7.95	12.66	8.67	9.12	9.12	9.12	9.12	9.12	22.72
3900	5.55	6.97	6.97	6.97	6.97	6.97	9.92	6.94	7.86	7.86	7.86	7.86	7.86	17.79
4200	4.62	6.15	6.15	6.15	6.15	6.15	7.91	5.68	6.84	6.84	6.84	6.84	6.84	14.18
4500	3.91	5.39	5.21	5.39	5.39	5.39	6.41	4.73	6.00	6.00	6.00	6.00	6.00	11.48
4800	3.34	4.73	4.27	4.73	4.73	4.73	5.26	4.00	5.30	5.30	5.30	5.30	5.30	9.43
5100	2.89	4.18	3.48	4.18	4.18	4.18	4.37	3.42	4.71	4.71	4.71	4.71	4.71	7.90
5400	2.52	3.72	2.87	3.72	3.72	3.72	3.67	2.96	4.21	4.21	4.21	4.21	4.21	6.71
5700	2.21	3.33	2.38	3.33	3.33	3.33	3.12	2.58	3.79	3.57	3.79	3.79	3.79	5.75
6000	1.96	3.00	2.00	3.00	3.00	3.00	2.70	2.27	3.37	3.00	3.37	3.37	3.37	4.97
6300	1.74	2.72	1.69	2.72	2.72	2.72	2.36	2.00	3.01	2.54	3.01	3.01	3.01	4.32
6600	1.55	2.47	1.39	2.46	2.47	2.47	2.08	1.78	2.70	2.17	2.70	2.70	2.70	3.76
6900	1.40	2.26	1.21	2.17	2.26	2.26	1.85	1.60	2.43	1.87	2.43	2.43	2.43	3.29
7200	1.21	2.07	1.05	1.91	2.07	2.07	1.65	1.44	2.21	1.62	2.21	2.21	2.21	2.90
7500	1.09	1.89	0.92	1.66	1.89	1.89	1.48	1.30	2.01	1.41	2.01	2.01	2.01	2.57
7800	0.99	1.73	0.81	1.45	1.73	1.73	1.33	1.17	1.84	1.24	1.84	1.84	1.84	2.29
8100	0.90	1.59	0.71	1.27	1.59	1.59	1.19	1.07	1.69	1.09	1.69	1.69	1.69	2.05
8400	0.83	1.46	0.63	1.12	1.46	1.46	1.07	0.97	1.55	0.97	1.55	1.55	1.55	1.85
8700	0.76	1.35	0.56	0.99	1.35	1.35	0.97	0.89	1.44	0.83	1.43	1.44	1.44	1.66
9000	0.69	1.26	0.49	0.88	1.26	1.26	0.88	0.82	1.33	0.74	1.29	1.33	1.33	1.50
9300	0.65	1.24	0.45	0.81	1.19	1.24	0.80	0.75	1.34	0.70	1.22	1.34	1.34	1.37
9600	0.60	1.17	0.40	0.72	1.09	1.17	0.73	0.69	1.24	0.63	1.10	1.24	1.24	1.25
9900	0.56	1.09		0.62	0.98	1.09	0.67	0.64	1.16	0.57	0.99	1.16	1.16	1.14
10200	0.52	1.02		0.56	0.88	1.02	0.61	0.59	1.08	0.52	0.89	1.08	1.08	1.04
10500	0.48	0.95		0.51	0.80	0.95	0.56	0.54	1.01	0.48	0.81	1.01	1.01	0.95
10800	0.44	0.89		0.47	0.72	0.89	0.52	0.51	0.95	0.44	0.74	0.95	0.95	0.87
SECTIONS BELOW EXCEED THE NORMAL DELIVERY LENGTH OF 12000 mm														
11100	0.41	0.84		0.43	0.66	0.84	0.48	0.47	0.89	0.40	0.67	0.89	0.89	0.80
11400		0.79			0.60	0.78	0.44	0.44	0.84		0.61	0.84	0.84	0.74
11700		0.74			0.55	0.72	0.41	0.41	0.79		0.56	0.79	0.79	0.69
12000		0.70			0.50	0.67	0.38		0.75		0.52	0.74	0.75	0.64

Bold capacities require grade 8.8 purlin bolts. Values above horizontal line in body of table are governed by the strength of the grade 8.8 bolt.

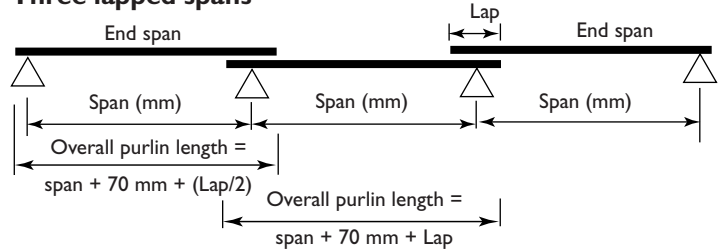
IN = Inward load capacity. OUT = Outward load capacity. See also: *Design notes for capacity tables*. In mixed spans, the thicker section is used in the end spans.

TL200.1

Limit state capacity tables

Double lapped spans

Three lapped spans



Three lapped span: Z20019 (kN/m)

Three lapped span: Z20024 (kN/m)

Bridging > (mm)	IN			OUT				Load for deflect'n span/150	IN			OUT				Load for deflect'n span/150
	0	1	2, 3	0	1	2	3		0	1	2, 3	0	1	2	3	
3000	13.75	18.79	18.79	18.79	18.79	18.79	18.79	31.46	18.42	19.78	19.78	19.78	19.78	19.78	19.78	41.54
3300	10.77	15.47	15.47	15.47	15.47	15.47	15.47	23.52	14.22	17.99	17.99	17.99	17.99	17.99	17.99	31.06
3600	8.66	12.95	12.95	12.95	12.95	12.95	12.95	18.04	11.13	16.50	16.50	16.50	16.50	16.50	23.82	
3900	7.10	11.00	11.00	11.00	11.00	11.00	11.00	14.13	8.94	15.24	15.24	15.24	15.24	15.24	18.66	
4200	5.93	9.45	9.45	9.18	9.45	9.45	9.45	11.27	7.32	13.74	13.74	12.55	13.74	13.74	14.88	
4500	5.02	8.21	8.21	7.52	8.21	8.21	8.21	9.13	6.09	11.94	11.94	10.41	11.94	11.94	12.06	
4800	4.29	7.20	7.20	6.07	7.20	7.20	7.20	7.50	5.15	10.47	10.47	8.58	10.47	10.47	9.90	
5100	3.69	6.36	6.36	4.84	6.36	6.36	6.36	6.23	4.41	9.25	9.25	6.98	9.25	9.25	8.23	
5400	3.21	5.66	5.66	4.04	5.66	5.66	5.66	5.24	3.81	8.23	8.23	5.75	8.23	8.23	6.93	
5700	2.81	5.07	5.07	3.41	5.07	5.07	5.07	4.47	3.32	7.27	7.38	4.80	7.25	7.38	5.94	
6000	2.48	4.57	4.57	2.90	4.57	4.57	4.57	3.85	2.92	6.46	6.64	4.02	6.35	6.64	5.13	
6300	2.20	4.14	4.14	2.48	4.09	4.14	4.14	3.34	2.59	5.77	6.02	3.36	5.60	6.02	4.46	
6600	1.97	3.77	3.77	2.10	3.59	3.77	3.77	2.91	2.31	5.18	5.47	2.84	4.95	5.47	3.91	
6900	1.77	3.44	3.44	1.80	3.15	3.44	3.44	2.56	2.07	4.67	5.00	2.42	4.39	5.00	3.45	
7200	1.59	3.16	3.16	1.55	2.74	3.16	3.16	2.26	1.86	4.24	4.59	2.07	3.88	4.59	3.04	
7500	1.44	2.88	2.88	1.35	2.30	2.88	2.88	2.01	1.69	3.83	4.18	1.78	3.40	4.17	2.69	
7800	1.31	2.63	2.63	1.17	2.03	2.63	2.63	1.79	1.53	3.47	3.83	1.55	2.97	3.75	2.40	
8100	1.19	2.42	2.42	1.02	1.79	2.42	2.42	1.61	1.40	3.17	3.52	1.35	2.60	3.39	2.14	
8400	1.09	2.22	2.23	0.89	1.59	2.23	2.23	1.45	1.28	2.90	3.24	1.18	2.30	3.07	1.93	
8700	1.00	2.03	2.06	0.78	1.42	2.03	2.06	1.31	1.17	2.66	3.00	1.04	2.04	2.78	1.74	
9000	0.92	1.87	1.91	0.69	1.27	1.84	1.91	1.19	1.08	2.45	2.78	0.92	1.81	2.54	1.58	
9300	0.86	1.79	1.89	0.62	1.18	1.74	1.89	1.09	1.00	2.35	2.75	0.84	1.66	2.42	1.44	
9600	0.79	1.66	1.78	0.56	1.07	1.56	1.78	1.00	0.93	2.17	2.58	0.75	1.47	2.21	1.32	
9900	0.73	1.54	1.66	0.50	0.96	1.41	1.66	0.91	0.86	2.01	2.41	0.67	1.32	2.00	1.20	
10200	0.68	1.43	1.55	0.45	0.86	1.23	1.55	0.84	0.80	1.86	2.25	0.60	1.18	1.82	1.10	
10500	0.63	1.33	1.45	0.40	0.78	1.12	1.44	0.77	0.74	1.73	2.10	0.54	1.06	1.64	1.00	
10800	0.58	1.24	1.36		0.70	1.02	1.33	0.71	0.69	1.61	1.96	0.49	0.95	1.49	0.92	
SECTIONS BELOW EXCEED THE NORMAL DELIVERY LENGTH OF 12000 mm																
11100	0.54	1.15	1.28		0.64	0.93	1.23	0.66	0.65	1.50	1.84	0.45	0.86	1.36	1.69	0.85
11400	0.50	1.08	1.21		0.58	0.86	1.13	0.61	0.60	1.40	1.72	0.41	0.78	1.24	1.57	0.78
11700	0.47	1.00	1.14		0.53	0.79	1.05	0.56	0.56	1.31	1.62		0.71	1.13	1.46	0.72
12000	0.44	0.94	1.08		0.48	0.73	0.96	0.52	0.53	1.23	1.52		0.65	1.04	1.36	0.67

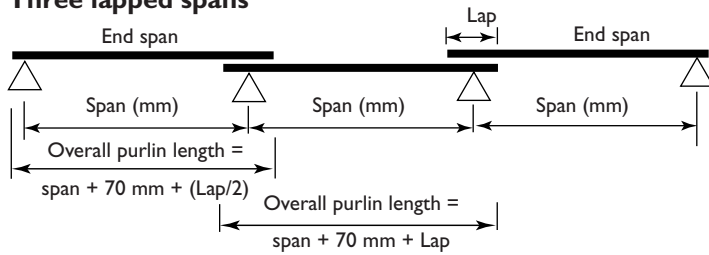
Bold capacities require grade 8.8 purlin bolts. Values above horizontal line in body of table are governed by the strength of the grade 8.8 bolt.
IN = Inward load capacity. OUT = Outward load capacity. See also: Design notes for capacity tables.

TL200.2

Limit state capacity tables

Three lapped spans

Three lapped spans



Three lapped span: Z25019 (kN/m)

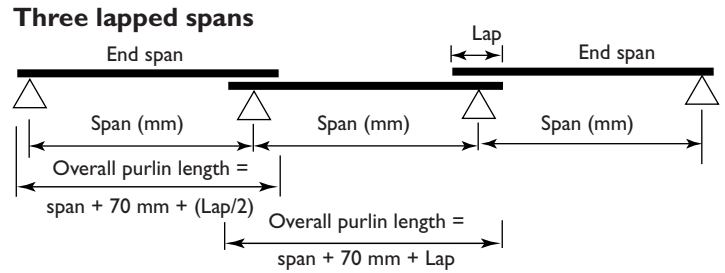
Bridging >	IN			OUT				Load for deflection span/150
	0	1	2, 3	0	1	2	3	
Span 3000	17.28	17.28	17.28	17.28	17.28	17.28	17.28	51.10
(mm) 3300	13.93	15.00	15.00	15.00	15.00	15.00	15.00	38.21
3600	11.15	13.16	13.16	13.16	13.16	13.16	13.16	29.30
3900	9.12	11.64	11.64	11.64	11.64	11.64	11.64	22.95
4200	7.59	10.36	10.36	10.36	10.36	10.36	10.36	18.30
4500	6.38	9.28	9.28	9.28	9.28	9.28	9.28	14.83
4800	5.42	8.35	8.35	7.80	8.35	8.35	8.35	12.18
5100	4.65	7.55	7.55	6.42	7.55	7.55	7.55	10.12
5400	4.04	6.85	6.85	5.34	6.85	6.85	6.85	8.50
5700	3.53	6.24	6.24	4.49	6.24	6.24	6.24	7.21
6000	3.12	5.70	5.70	3.80	5.70	5.70	5.70	6.17
6300	2.77	5.23	5.23	3.23	5.23	5.23	5.23	5.32
6600	2.47	4.78	4.78	2.73	4.78	4.78	4.78	4.61
6900	2.22	4.37	4.37	2.33	4.19	4.37	4.37	4.04
7200	2.00	4.01	4.01	2.01	3.63	4.01	4.01	3.60
7500	1.81	3.65	3.65	1.74	3.06	3.65	3.65	3.23
7800	1.64	3.34	3.34	1.51	2.69	3.34	3.34	2.91
8100	1.49	3.07	3.07	1.31	2.37	3.07	3.07	2.63
8400	1.37	2.83	2.83	1.14	2.10	2.83	2.83	2.38
8700	1.25	2.62	2.62	1.00	1.87	2.62	2.62	2.15
9000	1.15	2.43	2.43	0.88	1.67	2.43	2.43	1.95
9300	1.07	2.37	2.40	0.80	1.55	2.31	2.40	1.78
9600	0.99	2.19	2.25	0.71	1.40	2.07	2.25	1.63
9900	0.91	2.02	2.10	0.63	1.25	1.80	2.10	1.49
10200	0.84	1.87	1.96	0.56	1.12	1.63	1.96	1.36
10500	0.78	1.73	1.84	0.51	1.00	1.48	1.84	1.26
10800	0.73	1.61	1.73	0.46	0.91	1.35	1.73	1.16
SECTIONS BELOW EXCEED THE NORMAL DELIVERY LENGTH OF 12000 mm								
11100	0.67	1.50	1.62	0.41	0.82	1.24	1.62	1.07
11400	0.63	1.40	1.53		0.75	1.13	1.52	0.99
11700	0.58	1.31	1.44		0.68	1.04	1.39	0.92
12000	0.54	1.22	1.37		0.62	0.95	1.28	0.86

Bold capacities require grade 8.8 purlin bolts. Values above horizontal line in body of table are governed by the strength of the grade 8.8 bolt.
 IN = Inward load capacity. OUT = Outward load capacity. See also: *Design notes for capacity tables.*

TL250.1

Limit state capacity tables

Three lapped spans



Three lapped span: Z25019/25024 (kN/m)

Three lapped span: Z25024 (kN/m)

Bridging > (mm)	IN			OUT				Load for deflect'n span/150	IN			OUT				Load for deflect'n span/150	
	0	1	2,3	0	1	2	3		0	1	2,3	0	1	2	3		
Span 3000	19.82	19.82	19.82	19.82	19.82	19.82	19.82	68.59	19.78	19.78	19.78	19.78	19.78	19.78	19.78	19.78	70.48
3300	17.09	17.88	17.88	17.88	17.88	17.88	17.88	51.26	17.87	17.99	17.99	17.99	17.99	17.99	17.99	17.99	52.70
3600	13.10	15.36	15.36	15.36	15.36	15.36	15.36	39.29	13.95	16.50	16.50	16.50	16.50	16.50	16.50	40.41	
3900	10.46	13.34	13.34	13.34	13.34	13.34	13.34	30.77	11.16	15.24	15.24	15.24	15.24	15.24	15.24	31.65	
4200	8.53	11.69	11.69	11.69	11.69	11.69	11.69	24.54	9.12	14.16	14.16	14.16	14.16	14.16	14.16	25.24	
4500	7.08	10.33	10.33	10.33	10.33	10.33	10.33	19.88	7.58	13.22	13.22	13.22	13.22	13.22	13.22	20.45	
4800	5.97	9.18	9.18	9.18	9.18	9.18	9.18	16.32	6.40	12.40	12.40	11.27	12.40	12.40	12.40	16.80	
5100	5.10	8.21	8.21	7.83	8.21	8.21	8.21	13.57	5.46	11.68	11.68	9.13	11.68	11.68	11.68	13.96	
5400	4.40	7.39	7.39	6.47	7.39	7.39	7.39	11.40	4.72	10.55	10.55	7.50	10.55	10.55	10.55	11.73	
5700	3.83	6.67	6.67	5.40	6.67	6.67	6.67	9.66	4.11	9.45	9.45	6.24	9.45	9.45	9.45	9.95	
6000	3.36	6.06	6.06	4.56	6.06	6.06	6.06	8.27	3.61	8.52	8.52	5.20	8.52	8.52	8.52	8.51	
6300	2.98	5.52	5.52	3.88	5.52	5.52	5.52	7.15	3.20	7.67	7.71	4.35	7.48	7.71	7.71	7.33	
6600	2.65	5.04	5.04	3.32	5.04	5.04	5.04	6.25	2.85	6.87	7.02	3.66	6.59	7.02	7.02	6.38	
6900	2.37	4.56	4.56	2.87	4.56	4.56	4.56	5.50	2.55	6.19	6.41	3.11	5.82	6.41	6.41	5.61	
7200	2.13	4.14	4.14	2.47	4.14	4.14	4.14	4.87	2.29	5.60	5.88	2.65	5.10	5.88	5.88	4.97	
7500	1.93	3.77	3.77	2.13	3.75	3.77	3.77	4.33	2.07	5.06	5.36	2.28	4.44	5.36	5.36	4.42	
7800	1.75	3.45	3.45	1.86	3.30	3.45	3.45	3.87	1.88	4.58	4.91	1.97	3.87	4.91	4.91	3.95	
8100	1.59	3.17	3.17	1.63	2.90	3.17	3.17	3.47	1.71	4.17	4.51	1.72	3.39	4.51	4.51	3.55	
8400	1.46	2.92	2.92	1.43	2.48	2.92	2.92	3.12	1.57	3.81	4.15	1.50	2.98	4.10	4.15	3.20	
8700	1.33	2.70	2.70	1.27	2.22	2.70	2.70	2.81	1.44	3.49	3.84	1.32	2.64	3.72	3.84	2.89	
9000	1.23	2.50	2.50	1.13	1.98	2.50	2.50	2.54	1.32	3.20	3.56	1.17	2.35	3.38	3.56	2.61	
9300	1.15	2.50	2.50	1.02	1.85	2.50	2.50	2.32	1.23	3.04	3.53	1.05	2.14	3.21	3.53	2.39	
9600	1.06	2.33	2.33	0.91	1.66	2.33	2.33	2.12	1.13	2.81	3.31	0.94	1.90	2.91	3.31	2.18	
9900	0.98	2.16	2.17	0.81	1.50	2.17	2.17	1.93	1.05	2.59	3.08	0.84	1.69	2.63	3.08	1.99	
10200	0.91	2.01	2.03	0.73	1.36	2.02	2.03	1.77	0.97	2.39	2.88	0.75	1.51	2.37	2.86	1.82	
10500	0.84	1.87	1.90	0.66	1.24	1.84	1.90	1.63	0.91	2.21	2.70	0.68	1.36	2.14	2.64	1.67	
10800	0.78	1.74	1.78	0.59	1.13	1.67	1.78	1.50	0.84	2.05	2.53	0.61	1.22	1.94	2.44	1.54	
SECTIONS BELOW EXCEED THE NORMAL DELIVERY LENGTH OF 12000 mm																	
11100	0.73	1.62	1.68	0.54	1.02	1.52	1.68	1.39	0.79	1.91	2.38	0.55	1.10	1.76	2.25	1.42	
11400	0.68	1.51	1.58	0.49	0.93	1.34	1.58	1.28	0.73	1.78	2.25	0.50	1.00	1.61	2.09	1.31	
11700	0.63	1.41	1.49	0.45	0.85	1.23	1.49	1.19	0.69	1.66	2.12	0.46	0.90	1.47	1.94	1.21	
12000	0.59	1.32	1.41	0.41	0.77	1.14	1.41	1.10	0.64	1.56	2.00	0.42	0.82	1.34	1.79	1.13	

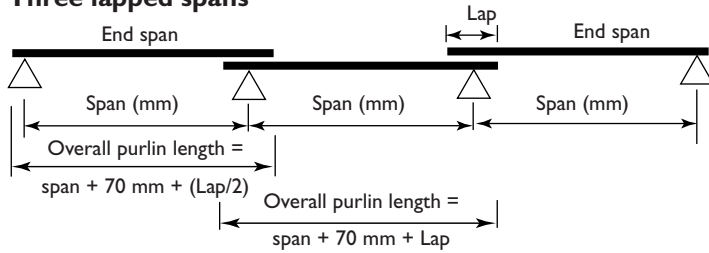
Bold capacities require grade 8.8 purlin bolts. Values above horizontal line in body of table are governed by the strength of the grade 8.8 bolt.
 IN = Inward load capacity. OUT = Outward load capacity. See also: Design notes for capacity tables. In mixed spans, the thicker section is used in the end spans.

TL250.2

Limit state capacity tables

Three lapped spans

Three lapped spans



Three lapped span: Z30024 (kN/m)

Three lapped span: Z30024/30030 (kN/m)

Spanning >	IN				OUT				Load for deflect'n span/150	IN				OUT				Load for deflect'n span/150
	0	1	2	3	0	1	2	3		0	1	2, 3	0	1	2	3		
6000	5.36	10.31	10.31	10.31	10.12	10.31	10.31	10.31	14.12	5.96	11.20	11.20	11.20	11.20	11.20	11.20	18.35	
6300	4.70	9.50	9.50	9.50	8.59	9.50	9.50	9.50	12.17	5.20	10.24	10.24	10.24	10.24	10.24	10.24	15.81	
6600	4.15	8.77	8.77	8.77	7.29	8.77	8.77	8.77	10.56	4.58	9.40	9.40	8.82	9.40	9.40	9.40	13.73	
6900	3.69	8.12	8.12	8.12	6.35	8.12	8.12	8.12	9.22	4.06	8.65	8.65	7.58	8.65	8.65	8.65	11.99	
7200	3.30	7.54	7.54	7.54	5.57	7.54	7.54	7.54	8.10	3.62	7.99	7.99	6.47	7.99	7.99	7.99	10.53	
7500	2.97	7.01	7.01	7.01	4.88	7.01	7.01	7.01	7.16	3.25	7.40	7.40	5.68	7.40	7.40	7.40	9.38	
7800	2.68	6.53	6.53	6.53	4.25	6.53	6.53	6.53	6.35	2.93	6.87	6.87	5.01	6.87	6.87	6.87	8.39	
8100	2.43	6.10	6.10	6.10	3.73	6.10	6.10	6.10	5.73	2.66	6.38	6.38	4.45	6.38	6.38	6.38	7.55	
8400	2.21	5.66	5.71	5.71	3.28	5.62	5.71	5.71	5.20	2.42	5.88	5.88	3.97	5.88	5.88	5.88	6.81	
8700	2.03	5.16	5.28	5.28	2.88	5.06	5.28	5.28	4.73	2.21	5.44	5.44	3.53	5.44	5.44	5.44	6.17	
9000	1.86	4.73	4.89	4.89	2.53	4.57	4.89	4.89	4.31	2.02	5.04	5.04	3.14	5.04	5.04	5.04	5.61	
9300	1.72	4.51	4.85	4.85	2.29	4.22	4.85	4.85	3.95	1.88	4.89	5.04	2.89	4.94	5.04	5.04	5.15	
9600	1.59	4.14	4.54	4.54	2.04	3.79	4.54	4.54	3.60	1.73	4.50	4.69	2.57	4.49	4.69	4.69	4.70	
9900	1.47	3.80	4.24	4.24	1.81	3.35	4.24	4.24	3.29	1.60	4.15	4.37	2.29	4.09	4.37	4.37	4.30	
10200	1.37	3.50	3.96	3.96	1.62	3.04	3.96	3.96	3.02	1.49	3.84	4.08	2.06	3.70	4.08	4.08	3.94	
10500	1.27	3.24	3.71	3.71	1.46	2.77	3.71	3.71	2.77	1.38	3.55	3.82	1.85	3.35	3.82	3.82	3.62	
10800	1.19	3.00	3.48	3.48	1.31	2.53	3.48	3.48	2.55	1.29	3.28	3.59	1.67	3.05	3.59	3.59	3.34	
SECTIONS BELOW EXCEED THE NORMAL DELIVERY LENGTH OF 12000 mm																		
11100	1.11	2.78	3.27	3.27	1.18	2.32	3.27	3.27	2.36	1.20	3.05	3.38	1.51	2.77	3.38	3.38	3.08	
11400	1.04	2.59	3.09	3.09	1.07	2.13	3.04	3.09	2.18	1.13	2.83	3.18	1.37	2.49	3.18	3.18	2.84	
11700	0.97	2.42	2.91	2.91	0.97	1.96	2.81	2.91	2.02	1.05	2.64	3.00	1.24	2.30	3.00	3.00	2.63	
12000	0.91	2.26	2.75	2.75	0.88	1.80	2.61	2.75	1.88	0.99	2.47	2.84	1.14	2.12	2.84	2.84	2.43	
12300	0.87	2.14	2.78	2.78	0.83	1.71	2.49	2.78	1.77	0.94	2.37	3.00	1.07	2.08	2.96	3.00	2.30	
12600	0.82	2.02	2.65	2.65	0.76	1.57	2.30	2.65	1.65	0.89	2.22	2.84	0.98	1.93	2.75	2.84	2.13	
12900	0.77	1.90	2.52	2.52	0.70	1.44	2.12	2.52	1.55	0.84	2.08	2.69	0.90	1.79	2.56	2.69	1.99	
13200	0.73	1.80	2.41	2.41	0.64	1.32	1.97	2.41	1.45	0.79	1.96	2.55	0.83	1.65	2.39	2.55	1.85	
13500	0.69	1.70	2.30	2.30	0.59	1.21	1.80	2.30	1.36	0.75	1.85	2.42	0.76	1.52	2.22	2.42	1.73	
13800	0.65	1.61	2.20	2.20	0.54	1.12	1.68	2.17	1.28	0.71	1.75	2.30	0.70	1.41	2.06	2.30	1.62	
14100	0.62	1.53	2.11	2.11	0.50	1.03	1.57	2.04	1.20	0.67	1.65	2.19	0.65	1.31	1.91	2.19	1.52	
14400	0.58	1.45	2.02	2.02	0.46	0.95	1.47	1.92	1.14	0.64	1.56	2.08	0.60	1.22	1.78	2.08	1.42	
14700	0.56	1.38	1.93	1.93	0.43	0.88	1.37	1.81	1.07	0.60	1.48	1.99	0.56	1.13	1.66	1.99	1.34	
15000	0.53	1.31	1.84	1.84	0.40	0.81	1.29	1.69	1.01	0.57	1.41	1.90	0.52	1.04	1.55	1.90	1.26	
15300	0.50	1.24	1.76	1.76		0.75	1.21	1.58	0.95	0.55	1.34	1.82	0.49	0.97	1.42	1.82	1.18	
15600	0.48	1.18	1.67	1.68		0.70	1.13	1.48	0.90	0.52	1.27	1.74	0.45	0.90	1.34	1.72	1.12	
15900	0.45	1.13	1.59	1.61		0.65	1.06	1.38	0.85	0.50	1.21	1.66	0.42	0.84	1.26	1.63	1.05	
16200	0.43	1.07	1.52	1.55		0.61	1.00	1.30	0.81	0.47	1.16	1.60	0.40	0.78	1.19	1.54	1.00	
16500	0.41	1.03	1.45	1.49		0.57	0.93	1.22	0.76	0.45	1.10	1.53		0.73	1.12	1.46	0.94	
16800		0.98	1.39	1.43		0.53	0.88	1.13	0.73	0.43	1.05	1.47		0.68	1.06	1.38	0.89	
17100		0.94	1.33	1.37		0.49	0.82	1.06	0.69	0.41	1.01	1.41		0.64	1.00	1.30	0.85	
17400		0.90	1.27	1.32		0.46	0.78	1.01	0.65		0.96	1.36		0.60	0.94	1.23	0.80	

Bold capacities require grade 8.8 purlin bolts. Values above horizontal line in body of table are governed by the strength of the grade 8.8 bolt.

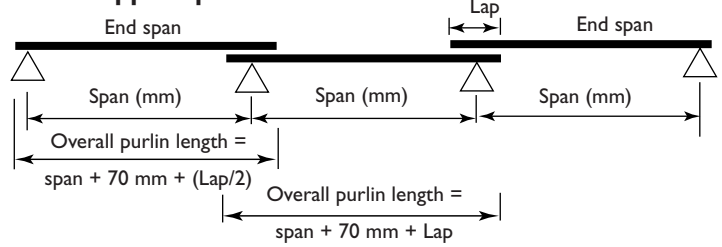
IN = Inward load capacity. OUT = Outward load capacity. See also: Design notes for capacity tables. In mixed spans, the thicker section is used in the end spans.

TL300.1

Limit state capacity tables

Three lapped spans

Three lapped spans



Three lapped span: Z30030 (kN/m)

Three lapped span: Z35030 (kN/m)

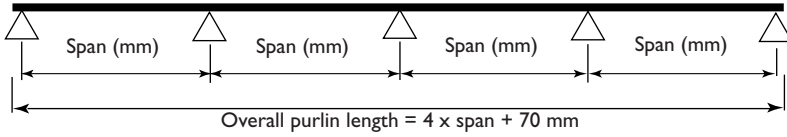
Bridging >	Z30030 (kN/m)								Load for deflect'n span/150	Z35030 (kN/m)								Load for deflect'n span/150
	IN				OUT					IN				OUT				
0	1	2	3	0	1	2	3	0	1	2	3	0	1	2	3			
Span 6000 (mm)	6.31	16.68	16.68	16.68	14.28	16.68	16.68	16.68	18.83	9.78	17.56	17.56	17.56	17.56	17.56	17.56	17.56	29.23
6300	5.51	15.10	15.10	15.10	12.15	15.10	15.10	15.10	16.23	8.46	16.20	16.20	16.20	16.20	16.20	16.20	16.20	25.20
6600	4.85	13.69	13.74	13.74	10.39	13.74	13.74	13.74	14.09	7.36	14.99	14.99	14.99	14.99	14.99	14.99	14.99	21.87
6900	4.30	12.31	12.55	12.55	8.83	12.55	12.55	12.55	12.30	6.45	13.90	13.90	13.90	13.90	13.90	13.90	13.90	19.10
7200	3.83	11.12	11.51	11.51	7.56	11.51	11.51	11.51	10.81	5.69	12.92	12.92	12.92	12.89	12.92	12.92	12.92	16.78
7500	3.44	10.01	10.49	10.49	6.50	10.47	10.49	10.49	9.55	5.05	12.03	12.03	12.03	11.23	12.03	12.03	12.03	14.82
7800	3.10	9.05	9.60	9.60	5.62	9.41	9.60	9.60	8.53	4.51	11.23	11.23	11.23	9.82	11.23	11.23	11.23	13.15
8100	2.81	8.21	8.82	8.82	4.89	8.49	8.82	8.82	7.66	4.06	10.50	10.50	10.50	8.64	10.50	10.50	10.50	11.73
8400	2.55	7.48	8.13	8.13	4.27	7.68	8.13	8.13	6.92	3.66	9.83	9.83	9.83	7.62	9.83	9.83	9.83	10.50
8700	2.33	6.84	7.52	7.52	3.75	6.97	7.52	7.52	6.27	3.32	9.21	9.21	9.21	6.76	9.21	9.21	9.21	9.44
9000	2.14	6.28	6.98	6.98	3.31	6.34	6.98	6.98	5.70	3.02	8.54	8.54	8.54	5.89	8.54	8.54	8.54	8.51
9300	1.98	5.97	6.91	6.91	3.00	6.00	6.91	6.91	5.23	2.78	8.27	8.46	8.46	5.50	8.46	8.46	8.46	7.80
9600	1.83	5.47	6.48	6.48	2.67	5.40	6.48	6.48	4.79	2.55	7.62	7.93	7.93	4.98	7.93	7.93	7.93	7.15
9900	1.69	5.02	6.04	6.04	2.38	4.87	6.04	6.04	4.40	2.35	7.00	7.39	7.39	4.51	7.39	7.39	7.39	6.60
10200	1.57	4.61	5.64	5.64	2.13	4.40	5.63	5.64	4.03	2.17	6.45	6.91	6.91	4.09	6.91	6.91	6.91	6.08
10500	1.46	4.26	5.29	5.29	1.91	3.97	5.20	5.29	3.70	2.01	5.92	6.47	6.47	3.72	6.39	6.47	6.47	5.59
10800	1.36	3.94	4.96	4.96	1.73	3.58	4.82	4.96	3.41	1.86	5.46	6.08	6.08	3.36	5.88	6.08	6.08	5.15
SECTIONS BELOW EXCEED THE NORMAL DELIVERY LENGTH OF 12000 mm																		
11100	1.27	3.66	4.67	4.67	1.56	3.23	4.47	4.67	3.15	1.74	5.04	5.71	5.71	3.05	5.42	5.71	5.71	4.76
11400	1.19	3.40	4.40	4.40	1.41	2.93	4.16	4.40	2.92	1.62	4.66	5.38	5.38	2.78	4.98	5.38	5.38	4.41
11700	1.12	3.16	4.15	4.15	1.29	2.66	3.87	4.15	2.70	1.51	4.33	5.08	5.08	2.53	4.57	5.08	5.08	4.09
12000	1.05	2.94	3.92	3.92	1.17	2.42	3.61	3.92	2.50	1.42	4.02	4.80	4.80	2.32	4.19	4.80	4.80	3.80
12300	1.00	2.80	3.88	3.97	1.10	2.27	3.52	3.97	2.36	1.34	3.86	4.85	4.85	2.20	4.00	4.85	4.85	3.58
12600	0.94	2.62	3.67	3.78	1.01	2.08	3.28	3.76	2.19	1.26	3.61	4.62	4.62	2.01	3.69	4.62	4.62	3.33
12900	0.89	2.45	3.47	3.60	0.93	1.90	3.03	3.54	2.04	1.19	3.38	4.41	4.41	1.84	3.41	4.41	4.41	3.11
13200	0.84	2.30	3.29	3.44	0.85	1.75	2.81	3.33	1.91	1.12	3.17	4.20	4.20	1.68	3.15	4.20	4.20	2.91
13500	0.80	2.16	3.12	3.28	0.78	1.61	2.61	3.15	1.78	1.06	2.97	4.02	4.02	1.55	2.92	4.02	4.02	2.73
13800	0.76	2.04	2.96	3.14	0.72	1.48	2.43	2.97	1.66	1.00	2.80	3.84	3.84	1.43	2.65	3.84	3.84	2.56
14100	0.72	1.92	2.81	3.00	0.67	1.36	2.25	2.81	1.56	0.95	2.57	3.68	3.68	1.32	2.48	3.63	3.68	2.40
14400	0.68	1.81	2.68	2.88	0.62	1.26	2.08	2.66	1.46	0.90	2.44	3.52	3.52	1.22	2.32	3.42	3.52	2.26
14700	0.65	1.71	2.54	2.75	0.58	1.17	1.93	2.50	1.37	0.86	2.30	3.36	3.36	1.13	2.17	3.21	3.36	2.13
15000	0.62	1.62	2.42	2.62	0.54	1.08	1.79	2.37	1.29	0.82	2.18	3.21	3.21	1.04	2.03	3.02	3.21	2.01
15300	0.59	1.53	2.30	2.51	0.50	1.00	1.66	2.23	1.22	0.78	2.07	3.07	3.07	0.97	1.90	2.84	3.07	1.90
15600	0.56	1.46	2.19	2.39	0.47	0.93	1.55	2.10	1.15	0.74	1.96	2.94	2.94	0.90	1.79	2.66	2.94	1.79
15900	0.53	1.38	2.09	2.28	0.44	0.87	1.44	1.97	1.08	0.71	1.87	2.82	2.82	0.84	1.68	2.49	2.82	1.69
16200	0.51	1.31	1.99	2.17	0.41	0.81	1.34	1.85	1.02	0.67	1.78	2.70	2.70	0.78	1.58	2.34	2.70	1.61
16500	0.49	1.25	1.90	2.08	0.38	0.76	1.25	1.74	0.97	0.64	1.69	2.57	2.59	0.73	1.49	2.20	2.59	1.53
16800	0.47	1.19	1.82	1.99	0.36	0.71	1.17	1.64	0.92	0.62	1.61	2.45	2.49	0.69	1.39	2.07	2.49	1.45
17100	0.45	1.13	1.74	1.90	0.34	0.66	1.10	1.54	0.87	0.59	1.54	2.34	2.39	0.64	1.31	1.95	2.39	1.38
17400	0.43	1.08	1.66	1.82	0.32	0.62	1.03	1.46	0.82	0.57	1.47	2.23	2.30	0.60	1.23	1.83	2.30	1.31

Bold capacities require grade 8.8 purlin bolts. Values above horizontal line in body of table are governed by the strength of the grade 8.8 bolt.
 IN = Inward load capacity. OUT = Outward load capacity. See also: Design notes for capacity tables.

Limit state capacity tables

Four continuous spans

Four spans



Bridging >	Four span: Z/C10010 (kN/m)				Four span: Z/C10012 (kN/m)				Four span: Z/C10015 (kN/m)				Four span: Z/C10019 (kN/m)				
	IN			Load for deflection span/150	IN			Load for deflection span/150	IN			Load for deflection span/150	IN			Load for deflection span/150	
	0,1,2,3	0	1,2,3		0,1,2,3	0	1,2,3		0,1,2,3	0	1,2,3		0,1,2,3	0	1,2,3		
Span (mm)	2100	4.64	4.64	4.64	6.78	5.64	5.64	5.64	8.36	7.35	7.35	7.35	10.94	10.26	10.26	10.26	14.51
	2400	3.55	3.52	3.55	4.57	4.32	4.20	4.32	5.60	5.63	5.63	5.63	7.33	7.85	7.85	7.85	9.72
	2700	2.80	2.30	2.80	3.26	3.41	2.84	3.41	3.98	4.45	3.93	4.45	5.16	6.20	5.34	6.20	6.87
	3000	2.27	1.55	2.27	2.40	2.77	2.00	2.77	2.93	3.60	2.67	3.60	3.82	5.03	3.57	5.03	5.02
SECTIONS BELOW EXCEED THE NORMAL DELIVERY LENGTH OF 12000 mm																	
	3300	1.88	1.13	1.88	1.83	2.29	1.40	2.29	2.23	2.98	1.87	2.98	2.92	4.15	2.49	4.15	3.79
	3600	1.58	0.83	1.58	1.42	1.92	1.02	1.92	1.73	2.50	1.34	2.50	2.28	3.49	1.80	3.49	2.94
	3900	1.34	0.62	1.34	1.13	1.64	0.75	1.64	1.38	2.13	0.99	2.13	1.82	2.97	1.33	2.97	2.33

Bridging >	Four span: Z/C15012 (kN/m)				Four span: Z/C15015 (kN/m)				Four span: Z/C15019 (kN/m)				Four span: Z/C15024 (kN/m)				
	IN			Load for deflection span/150	IN			Load for deflection span/150	IN			Load for deflection span/150	IN			Load for deflection span/150	
	0,1,2,3	0	1,2,3		0,1,2,3	0	1,2,3		0,1,2,3	0	1,2,3		0,1,2,3	0	1,2,3		
Span (mm)	2100	6.92	6.92	6.92	23.18	11.36	11.36	11.36	31.49	17.10	17.10	17.10	41.09	21.60	21.60	21.60	54.80
	2400	5.77	5.77	5.77	15.53	9.22	9.22	9.22	21.10	13.66	13.66	13.66	27.53	18.90	18.90	18.90	36.71
	2700	4.88	4.88	4.88	10.90	7.62	7.62	7.62	14.82	11.04	11.04	11.04	19.33	15.59	15.59	15.59	25.78
	3000	4.18	4.18	4.18	7.95	6.36	6.36	6.36	10.80	8.96	8.96	8.96	14.09	12.62	12.62	12.62	18.80
SECTIONS BELOW EXCEED THE NORMAL DELIVERY LENGTH OF 12000 mm																	
	3300	3.61	3.61	3.61	5.97	5.25	5.02	5.25	8.12	7.41	6.97	7.41	10.59	10.43	9.47	10.43	14.12
	3600	3.15	2.76	3.15	4.60	4.41	3.76	4.41	6.25	6.22	5.10	6.22	8.16	8.77	6.80	8.77	10.88
	3900	2.77	2.04	2.77	3.64	3.76	2.82	3.76	4.92	5.30	3.74	5.30	6.42	7.47	5.00	7.47	8.56

Bridging >	Four span: Z/C20015 (kN/m)				Four span: Z/C20019 (kN/m)				Four span: Z/C20024 (kN/m)				
	IN			Load for deflection span/150	IN			Load for deflection span/150	IN			Load for deflection span/150	
	0,1,2,3	0	1,2,3		0,1,2,3	0	1,2,3		0,1,2,3	0	1,2,3		
Span (mm)	2100	10.57	10.57	10.57	62.26	17.10	17.10	17.10	88.71	21.60	21.60	21.60	117.14
	2400	8.92	8.92	8.92	41.71	14.96	14.96	14.96	59.43	18.90	18.90	18.90	78.47
	2700	7.64	7.64	7.64	29.29	13.30	13.30	13.30	41.74	16.80	16.80	16.80	55.11
	3000	6.62	6.62	6.62	21.35	11.81	11.81	11.81	30.43	15.12	15.12	15.12	40.18
	3300	5.78	5.78	5.78	16.04	10.18	10.18	10.18	22.86	13.75	13.75	13.75	30.19
SECTIONS BELOW EXCEED THE NORMAL DELIVERY LENGTH OF 12000 mm													
	3600	5.09	5.09	5.09	12.36	8.85	8.85	8.85	17.61	12.60	12.60	12.60	23.25
	3900	4.52	4.52	4.52	9.72	7.76	7.70	7.76	13.85	11.29	11.10	11.29	18.29

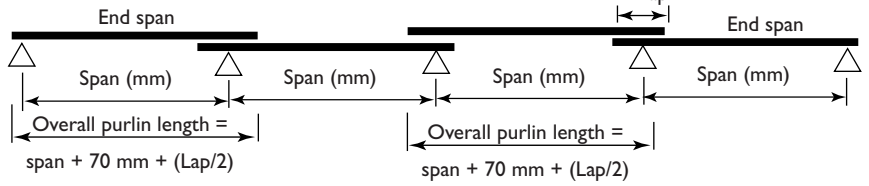
Bold capacities require grade 8.8 purlin bolts. Values above horizontal line in body of table are governed by the strength of the grade 8.8 bolt.
 IN = Inward load capacity. OUT = Outward load capacity. See also: Design notes for capacity tables.

F100/150/200

Limit state capacity tables

Four lapped spans

Four lapped spans



Four lapped span: Z10010 (kN/m)								Four lapped span: Z10010/10015 (kN/m)								Four lapped span: Z10012 (kN/m)								
Bridging >	IN			OUT				Load for deflect'n span/150	IN			OUT				Load for deflect'n span/150	IN			OUT				Load for deflect'n span/150
	0	1, 2, 3		0	1	2	3		0	1, 2, 3		0	1	2, 3			0	1, 2, 3		0	1	2	3	
Span 2100 (mm)	7.03	7.03	7.03	7.03	7.03	7.03	7.03	7.81	8.33	8.33	8.33	8.33	8.33	12.07	8.04	8.56	8.56	8.56	8.56	8.56	8.56	9.62		
2400	5.22	5.34	5.34	5.34	5.34	5.34	5.34	5.17	5.96	6.30	6.30	6.30	6.30	7.98	5.92	6.50	6.50	6.50	6.50	6.50	6.50	6.37		
2700	3.98	4.19	4.19	4.19	4.19	4.19	4.19	3.60	4.39	4.76	4.76	4.76	4.76	5.55	4.50	5.10	4.96	5.10	5.10	5.10	5.10	4.43		
3000	3.10	3.37	3.04	3.37	3.37	3.37	3.37	2.61	3.35	3.64	3.64	3.64	3.64	4.01	3.51	4.11	3.67	4.11	4.11	4.11	4.11	3.20		
3300	2.46	2.73	2.20	2.73	2.73	2.73	2.73	1.98	2.63	2.87	2.82	2.87	2.87	3.03	2.79	3.32	2.67	3.32	3.32	3.32	3.32	2.41		
3600	1.98	2.21	1.63	2.21	2.21	2.21	2.21	1.53	2.12	2.32	2.14	2.32	2.32	2.35	2.24	2.69	1.91	2.69	2.69	2.69	2.69	1.87		
3900	1.61	1.83	1.23	1.83	1.83	1.83	1.83	1.21	1.73	1.92	1.64	1.92	1.92	1.87	1.84	2.23	1.47	2.23	2.23	2.23	2.23	1.48		
4200	1.34	1.54	0.95	1.54	1.54	1.54	1.54	0.97	1.43	1.61	1.28	1.61	1.61	1.51	1.53	1.87	1.15	1.85	1.87	1.87	1.87	1.19		
4500	1.12	1.31	0.75	1.27	1.31	1.31	1.31	0.79	1.20	1.38	1.02	1.38	1.38	1.23	1.28	1.60	0.92	1.51	1.60	1.60	1.60	0.97		
4800	0.95	1.13	0.58	1.03	1.13	1.13	1.13	0.66	1.02	1.19	0.82	1.19	1.19	1.01	1.09	1.38	0.75	1.24	1.38	1.38	1.38	0.80		
5100	0.81	0.99	0.48	0.83	0.99	0.99	0.99	0.55	0.87	1.03	0.67	1.03	1.03	0.84	0.89	1.20	0.62	1.02	1.20	1.20	1.20	0.68		
5400	0.70	0.87	0.40	0.69	0.87	0.87	0.87	0.47	0.74	0.91	0.56	0.90	0.91	0.71	0.77	1.06	0.50	0.84	1.06	1.06	1.06	0.57		
5700	0.60	0.77		0.57	0.77	0.77	0.77	0.40	0.64	0.81	0.47	0.76	0.81	0.60	0.67	0.94	0.42	0.67	0.94	0.94	0.94	0.49		
6000	0.52	0.69		0.48	0.68	0.69	0.69	0.34	0.56	0.72		0.64	0.72	0.52	0.59	0.84		0.57	0.81	0.84	0.84	0.42		
6300	0.48	0.68		0.42	0.62	0.68	0.68	0.30	0.51	0.72		0.58	0.72	0.46	0.54	0.83		0.51	0.75	0.83	0.83	0.37		
6600	0.42	0.62			0.53	0.62	0.62	0.26	0.45	0.64		0.49	0.64	0.40	0.48	0.75		0.44	0.64	0.75	0.75	0.33		
6900		0.56			0.45	0.56	0.56	0.23	0.40	0.58		0.42	0.58	0.35	0.43	0.68		0.55	0.67	0.67	0.67	0.29		

Four lapped span: Z10012/10019 (kN/m)								Four lapped span: Z10015 (kN/m)								Four lapped span: Z10019 (kN/m)								
Bridging >	IN			OUT				Load for deflect'n span/150	IN			OUT				Load for deflect'n span/150	IN			OUT				Load for deflect'n span/150
	0	1, 2, 3		0	1	2, 3			0	1	2, 3		0	1	2, 3			0	1	2, 3	0	1	2		3
Span 2100 (mm)	9.92	11.41	11.41	11.41	11.41	11.41	15.94	9.64	11.16	11.16	11.16	11.16	11.16	11.16	12.59	12.64	15.57	15.57	15.57	15.57	15.57	15.57	16.70	
2400	6.91	7.97	7.97	7.97	7.97	7.97	10.54	7.12	8.47	8.47	8.47	8.29	8.47	8.47	8.34	9.10	11.82	11.82	11.71	11.82	11.82	11.82	11.06	
2700	5.08	5.83	5.83	5.83	5.83	7.32	5.43	6.65	6.65	6.65	6.14	6.65	6.65	6.65	5.80	6.83	9.27	9.27	8.61	9.27	9.27	9.27	7.69	
3000	3.88	4.45	4.45	4.45	4.45	5.31	4.25	5.35	5.35	5.35	4.65	5.35	5.35	5.35	4.19	5.31	7.47	7.47	6.41	7.47	7.47	7.47	5.56	
3300	3.05	3.51	3.46	3.51	3.51	3.97	3.39	4.33	4.33	4.33	3.53	4.33	4.33	4.33	3.13	4.22	6.04	6.04	4.83	6.04	6.04	6.04	4.17	
3600	2.45	2.85	2.68	2.85	2.85	3.05	2.73	3.51	3.51	3.51	2.67	3.50	3.51	3.51	2.43	3.40	4.90	4.90	3.60	4.90	4.90	4.90	3.20	
3900	2.00	2.35	2.11	2.35	2.35	2.40	2.25	2.90	2.90	2.90	2.06	2.81	2.90	2.90	1.93	2.80	4.05	4.05	2.77	3.99	4.05	4.05	2.51	
4200	1.66	1.98	1.67	1.98	1.98	1.92	1.88	2.44	2.44	2.44	1.59	2.29	2.44	2.44	1.56	2.34	3.41	3.41	2.15	3.25	3.41	3.41	2.01	
4500	1.40	1.69	1.34	1.69	1.69	1.56	1.59	2.08	2.08	2.08	1.25	1.89	2.08	2.08	1.28	1.98	2.91	2.91	1.69	2.66	2.91	2.91	1.64	
4800	1.19	1.45	1.05	1.45	1.45	1.28	1.35	1.80	1.80	1.80	1.00	1.58	1.80	1.80	1.06	1.70	2.51	2.51	1.36	2.20	2.51	2.51	1.36	
5100	1.01	1.27	0.87	1.27	1.27	1.07	1.17	1.57	1.57	1.57	0.82	1.33	1.56	1.57	0.88	1.46	2.19	2.19	1.10	1.84	2.19	2.19	1.13	
5400	0.87	1.11	0.73	1.11	1.11	0.90	1.01	1.38	1.38	1.38	0.67	1.12	1.34	1.38	0.74	1.27	1.92	1.92	0.91	1.55	1.90	1.92	0.95	
5700	0.73	0.99	0.62	0.95	0.99	0.76	0.89	1.22	1.22	1.22	0.56	0.95	1.16	1.22	0.63	1.11	1.71	1.71	0.76	1.30	1.65	1.71	0.80	
6000	0.64	0.88	0.54	0.82	0.88	0.65	0.78	1.09	1.09	1.09	0.47	0.80	1.01	1.09	0.54	0.98	1.52	1.52	0.64	1.10	1.43	1.52	0.69	
6300	0.59	0.88	0.49	0.76	0.88	0.57	0.71	1.06	1.09	1.09	0.41	0.71	0.95	1.07	0.48	0.89	1.48	1.51	0.56	0.98	1.33	1.51	0.61	
6600	0.52	0.79	0.43	0.65	0.79	0.50	0.63	0.95	0.98	0.98		0.61	0.83	0.94	0.42	0.79	1.32	1.36	0.48	0.83	1.16	1.34	0.53	
6900	0.47	0.71		0.56	0.71	0.44	0.56	0.85	0.88	0.88		0.52	0.73	0.83	0.36	0.71	1.18	1.23	0.42	0.71	1.01	1.18	0.46	
7200	0.41	0.65		0.47	0.64	0.38	0.50	0.77	0.80	0.80		0.45	0.64	0.74	0.32	0.63	1.06	1.12		0.61	0.89	1.05	0.40	
7500		0.59		0.41	0.57	0.34	0.44	0.69	0.73	0.73		0.56	0.66	0.78	0.35	0.57	0.96	1.02		0.53	0.77	0.93	0.35	
7800		0.54			0.51	0.30	0.40	0.63	0.67	0.67		0.50	0.59	0.72	0.31	0.51	0.87	0.93		0.46	0.68	0.83	0.31	

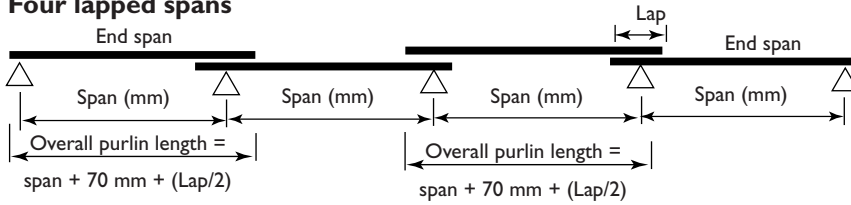
Bold capacities require grade 8.8 purlin bolts. Values above horizontal line in body of table are governed by the strength of the grade 8.8 bolt.

IN = Inward load capacity. OUT = Outward load capacity. See also: Design notes for capacity tables. In mixed spans, the thicker section is used in the end spans.

Limit state capacity tables

Four lapped spans

Four lapped spans



Four lapped span: Z15012 (kN/m)								Four lapped span: Z15012/I5019 (kN/m)								Four lapped span: Z15015 (kN/m)							
Bridging > (mm)	IN			OUT			Load for def'n span/150	IN			OUT			Load for def'n span/150	IN			OUT			Load for def'n span/150		
	0	1,2,3	0	1	2	3		0	1,2,3	0	1	2	3		0	1	2,3	0	1	2		3	
3000	6.32	6.75	6.75	6.75	6.75	6.75	9.19	7.40	7.40	7.40	7.40	7.40	7.40	15.54	7.30	9.68	9.68	9.68	9.68	9.68	9.68	12.49	
3300	5.00	5.71	5.71	5.71	5.71	5.71	6.85	5.82	6.17	6.17	6.17	6.17	6.17	11.57	5.81	7.95	7.95	7.95	7.95	7.95	7.95	9.31	
3600	4.05	4.88	4.88	4.88	4.88	4.88	5.24	4.62	5.21	5.21	5.21	5.21	5.21	8.83	4.72	6.64	6.64	6.35	6.64	6.64	6.64	7.12	
3900	3.35	4.21	3.90	4.21	4.21	4.21	4.09	3.75	4.45	4.45	4.45	4.45	4.45	6.89	3.91	5.63	5.63	5.03	5.63	5.63	5.63	5.56	
4200	2.80	3.66	3.04	3.66	3.66	3.66	3.26	3.10	3.84	3.84	3.84	3.84	3.84	5.48	3.29	4.84	4.84	3.93	4.84	4.84	4.84	4.42	
4500	2.37	3.19	2.40	3.19	3.19	3.19	2.63	2.60	3.34	3.30	3.34	3.34	3.34	4.43	2.80	4.20	4.20	3.07	4.20	4.20	4.20	3.58	
4800	2.03	2.79	1.92	2.79	2.79	2.79	2.16	2.21	2.93	2.65	2.93	2.93	2.93	3.68	2.40	3.66	3.66	2.50	3.66	3.66	3.66	2.93	
5100	1.75	2.40	1.55	2.40	2.40	2.40	1.83	1.89	2.54	2.16	2.54	2.54	2.54	3.08	2.07	3.16	3.16	2.05	3.16	3.16	3.16	2.44	
5400	1.51	2.10	1.27	2.10	2.10	2.10	1.57	1.64	2.22	1.78	2.22	2.22	2.22	2.62	1.80	2.75	2.75	1.70	2.70	2.75	2.75	2.06	
5700	1.32	1.84	1.05	1.80	1.84	1.84	1.35	1.43	1.95	1.48	1.95	1.95	1.95	2.24	1.57	2.42	2.42	1.41	2.30	2.42	2.42	1.76	
6000	1.16	1.63	0.86	1.53	1.63	1.63	1.17	1.26	1.72	1.24	1.72	1.72	1.72	1.93	1.39	2.15	2.15	1.18	1.97	2.15	2.15	1.51	
6300	1.02	1.46	0.73	1.29	1.46	1.46	1.02	1.11	1.54	1.06	1.54	1.54	1.54	1.67	1.23	1.92	1.92	0.99	1.68	1.92	1.92	1.31	
6600	0.91	1.31	0.63	1.10	1.31	1.31	0.89	0.99	1.38	0.90	1.38	1.38	1.38	1.45	1.10	1.72	1.72	0.84	1.43	1.72	1.72	1.14	
6900	0.81	1.18	0.54	0.94	1.18	1.18	0.78	0.88	1.25	0.78	1.25	1.25	1.25	1.27	0.98	1.55	1.55	0.72	1.20	1.55	1.55	1.00	
7200	0.73	1.07	0.47	0.81	1.07	1.07	0.69	0.79	1.13	0.68	1.11	1.13	1.13	1.12	0.88	1.41	1.41	0.62	1.04	1.41	1.41	0.89	
7500	0.65	0.98	0.41	0.70	0.98	0.98	0.61	0.71	1.03	0.59	0.99	1.03	1.03	0.99	0.80	1.29	1.29	0.53	0.91	1.27	1.29	0.79	
7800	0.59	0.90		0.61	0.88	0.90	0.54	0.64	0.94	0.52	0.86	0.94	0.94	0.88	0.72	1.18	1.18	0.46	0.80	1.13	1.18	0.71	
8100	0.53	0.82		0.54	0.79	0.82	0.49	0.58	0.87	0.45	0.76	0.87	0.87	0.79	0.66	1.08	1.08	0.40	0.71	1.01	1.08	0.63	
8400	0.48	0.76		0.47	0.70	0.76	0.44	0.52	0.80	0.40	0.67	0.80	0.80	0.71	0.60	1.00	1.00		0.63	0.91	1.00	0.57	
8700	0.44	0.70		0.42	0.62	0.70	0.40	0.48	0.74		0.60	0.74	0.74	0.64	0.55	0.92	0.92		0.57	0.81	0.92	0.52	
9000	0.40	0.65			0.55	0.65	0.36	0.43	0.69		0.54	0.69	0.69	0.57	0.50	0.86	0.86		0.51	0.72	0.86	0.47	
9300		0.65			0.51	0.65	0.33	0.41	0.68		0.50	0.68	0.68	0.53	0.47	0.84	0.85		0.46	0.65	0.83	0.43	
9600		0.60			0.45	0.59	0.30		0.64		0.45	0.63	0.64	0.48	0.43	0.78	0.79		0.41	0.59	0.76	0.39	
9900		0.56			0.41	0.54	0.27		0.59		0.40	0.58	0.59	0.44	0.40	0.72	0.74			0.53	0.69	0.36	

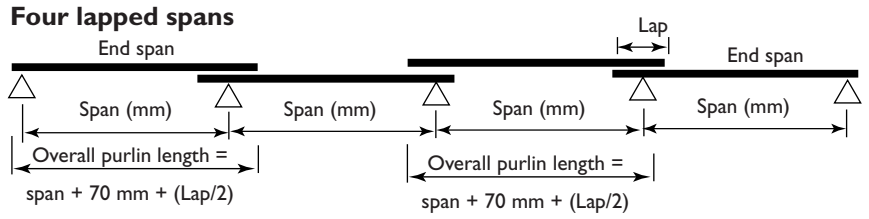
Bold capacities require grade 8.8 purlin bolts. Values above horizontal line in body of table are governed by the strength of the grade 8.8 bolt.

IN = Inward load capacity. OUT = Outward load capacity. See also: Design notes for capacity tables. In mixed spans, the thicker section is used in the end spans.

FL150.1

Limit state capacity tables

Four lapped spans



Four lapped span: Z15015/15024 (kN/m)										Four lapped span: Z15019 (kN/m)										Four lapped span: Z15024 (kN/m)																					
Bridging >	IN			OUT			Load for defl'n span/150											IN			OUT			Load for defl'n span/150											IN			OUT			Load for defl'n span/150
	0	1	2, 3	0	1	2		3	0	1	2	3	0	1	2	3	0	1	2	3	0	1	2		3	0	1	2	3	0	1	2	3								
Span (mm)	3000	9.17	12.11	12.11	12.11	12.11	12.11	20.75	9.42	13.64	13.64	13.64	13.56	13.64	13.64	13.64	16.29	11.57	18.71	18.71	18.71	18.71	18.71	18.71	18.71	21.73															
3300	7.02	9.79	9.79	9.79	9.79	9.79	9.79	15.44	7.39	11.21	11.21	11.21	10.61	11.21	11.21	11.21	12.14	8.97	15.79	15.79	15.79	14.89	15.79	15.79	15.79	16.20															
3600	5.55	8.05	8.05	8.05	8.05	8.05	8.05	11.79	5.95	9.37	9.37	9.37	8.43	9.37	9.37	9.37	9.29	7.15	13.20	13.20	13.20	11.71	13.20	13.20	13.20	12.38															
3900	4.49	6.59	6.59	6.59	6.59	6.59	6.59	9.20	4.89	7.94	7.94	7.94	6.77	7.94	7.94	7.94	7.25	5.82	11.19	11.19	11.19	9.33	11.19	11.19	11.19	9.67															
4200	3.71	5.43	5.43	5.28	5.43	5.43	5.43	7.32	4.09	6.82	6.82	6.82	5.39	6.82	6.82	6.82	5.77	4.83	9.61	9.61	9.61	7.38	9.61	9.61	9.61	7.70															
4500	3.11	4.56	4.56	4.28	4.56	4.56	4.56	5.93	3.47	5.92	5.92	5.92	4.29	5.92	5.92	5.92	4.67	4.06	8.34	8.34	8.34	5.78	8.34	8.34	8.34	6.22															
4800	2.64	3.88	3.88	3.51	3.88	3.88	3.88	4.88	2.96	5.16	5.16	5.16	3.43	5.02	5.16	5.16	3.82	3.46	7.27	7.27	7.27	4.59	7.13	7.27	7.27	5.10															
5100	2.27	3.34	3.34	2.88	3.34	3.34	3.34	4.07	2.54	4.45	4.45	4.45	2.78	4.22	4.45	4.45	3.20	2.98	6.23	6.27	6.27	3.69	5.96	6.27	6.27	4.25															
5400	1.97	2.91	2.91	2.38	2.91	2.91	2.91	3.43	2.21	3.88	3.88	3.88	2.29	3.59	3.88	3.88	2.71	2.59	5.37	5.47	5.47	3.01	5.04	5.47	5.47	3.58															
5700	1.72	2.56	2.56	1.94	2.56	2.56	2.56	2.93	1.93	3.40	3.41	3.41	1.88	3.07	3.41	3.41	2.32	2.26	4.68	4.81	4.81	2.48	4.29	4.81	4.81	3.05															
6000	1.51	2.27	2.27	1.65	2.27	2.27	2.27	2.50	1.70	2.99	3.03	3.03	1.56	2.64	3.03	3.03	2.01	2.00	4.11	4.26	4.26	2.07	3.68	4.26	4.26	2.63															
6300	1.34	2.02	2.02	1.42	2.02	2.02	2.02	2.16	1.51	2.65	2.70	2.70	1.31	2.29	2.70	2.70	1.74	1.77	3.63	3.80	3.80	1.74	3.18	3.80	3.80	2.28															
6600	1.20	1.82	1.82	1.23	1.82	1.82	1.82	1.87	1.34	2.37	2.43	2.43	1.10	1.97	2.39	2.43	1.53	1.58	3.23	3.42	3.42	1.48	2.75	3.40	3.42	1.97															
6900	1.07	1.64	1.64	1.07	1.64	1.64	1.64	1.63	1.20	2.12	2.19	2.19	0.94	1.71	2.11	2.19	1.34	1.42	2.89	3.09	3.09	1.26	2.37	3.00	3.00	1.72															
7200	0.96	1.49	1.49	0.94	1.45	1.49	1.49	1.43	1.08	1.92	1.99	1.99	0.81	1.48	1.88	1.99	1.18	1.28	2.60	2.80	2.80	1.09	2.03	2.66	2.66	1.51															
7500	0.87	1.36	1.36	0.83	1.29	1.36	1.36	1.26	0.98	1.74	1.81	1.81	0.70	1.28	1.68	1.81	1.04	1.16	2.35	2.55	2.55	0.95	1.76	2.37	2.55	1.33															
7800	0.79	1.24	1.24	0.74	1.15	1.24	1.24	1.12	0.88	1.58	1.66	1.66	0.61	1.12	1.51	1.66	0.93	1.05	2.14	2.34	2.34	0.83	1.53	2.11	2.34	1.18															
8100	0.72	1.14	1.14	0.66	1.03	1.14	1.14	1.00	0.80	1.44	1.52	1.52	0.53	0.98	1.36	1.52	0.83	0.96	1.95	2.15	2.15	0.73	1.33	1.90	2.15	1.05															
8400	0.65	1.05	1.05	0.58	0.91	1.05	1.05	0.89	0.73	1.32	1.41	1.41	0.47	0.87	1.22	1.38	0.74	0.88	1.78	1.98	1.98	0.64	1.17	1.71	1.97	0.94															
8700	0.60	0.97	0.97	0.52	0.82	0.97	0.97	0.80	0.67	1.21	1.30	1.30	0.41	0.77	1.11	1.26	0.67	0.81	1.63	1.83	1.83	0.57	1.03	1.54	1.79	0.85															
9000	0.55	0.90	0.90	0.47	0.73	0.90	0.90	0.72	0.61	1.12	1.21	1.21		0.68	0.99	1.15	0.61	0.74	1.50	1.70	1.70	0.51	0.92	1.39	1.63	0.76															
9300	0.52	0.90	0.90	0.44	0.67	0.90	0.90	0.67	0.57	1.08	1.18	1.20		0.62	0.93	1.11	0.56	0.70	1.45	1.64	1.69	0.47	0.83	1.29	1.56	0.70															
9600	0.48	0.84	0.84		0.60	0.82	0.84	0.61	0.53	1.00	1.09	1.12		0.55	0.83	1.01	0.51	0.64	1.34	1.51	1.58	0.42	0.74	1.15	1.42	0.64															
9900	0.44	0.78	0.78		0.55	0.75	0.78	0.55	0.48	0.93	1.01	1.04		0.49	0.75	0.93	0.46	0.60	1.24	1.40	1.47		0.67	1.03	1.30	0.58															
10200	0.40	0.73	0.73		0.50	0.69	0.73	0.50	0.45	0.86	0.94	0.98		0.44	0.67	0.85	0.42	0.55	1.15	1.30	1.37		0.60	0.92	1.19	0.53															
10500		0.68	0.68		0.46	0.63	0.68	0.46	0.41	0.80	0.87	0.91		0.40	0.61	0.78	0.39	0.51	1.07	1.20	1.29		0.54	0.83	1.09	0.48															
10800		0.64	0.64		0.42	0.58	0.64	0.42		0.75	0.81	0.86			0.55	0.72	0.35	0.48	1.00	1.12	1.21		0.49	0.75	1.01	0.44															
SECTIONS BELOW EXCEED THE NORMAL DELIVERY LENGTH OF 12000 mm																																									
11100		0.60	0.60		0.54	0.60	0.39		0.70	0.76	0.81			0.50	0.66	0.33	0.45	0.93	1.04	1.14		0.44	0.68	0.92	0.41																
11400		0.56	0.57		0.49	0.57	0.36		0.65	0.71	0.76			0.46	0.61	0.30	0.42	0.87	0.97	1.07		0.40	0.62	0.85	0.38																
11700		0.53	0.54		0.45	0.54	0.33		0.61	0.66	0.72			0.42	0.56	0.28		0.81	0.91	1.01			0.57	0.78	0.35																

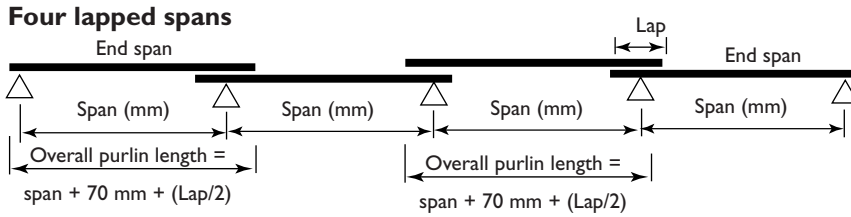
Bold capacities require grade 8.8 purlin bolts. Values above horizontal line in body of table are governed by the strength of the grade 8.8 bolt.

IN = Inward load capacity. OUT = Outward load capacity. See also: Design notes for capacity tables. In mixed spans, the thicker section is used in the end spans.

FL150.2

Limit state capacity tables

Four lapped spans



Four lapped span: Z20015 (kN/m)

Four lapped span: Z20015/20024 (kN/m)

Bridging > (mm)	Four lapped span: Z20015 (kN/m)						Load for deflection span/150	Four lapped span: Z20015/20024 (kN/m)						Load for deflection span/150
	IN			OUT				IN			OUT			
	0	1, 2, 3	0	1	2	3		0	1, 2, 3	0	1	2, 3		
3000	10.05	10.05	10.05	10.05	10.05	10.05	24.69	11.35	11.35	11.35	11.35	11.35	44.18	
3300	8.62	8.62	8.62	8.62	8.62	8.62	18.40	9.60	9.60	9.60	9.60	9.60	32.87	
3600	6.93	7.47	7.47	7.47	7.47	7.47	14.07	8.16	8.22	8.22	8.22	8.22	25.09	
3900	5.67	6.53	6.53	6.53	6.53	6.53	10.99	6.55	7.11	7.11	7.11	7.11	19.58	
4200	4.72	5.74	5.74	5.74	5.74	5.74	8.75	5.37	6.20	6.20	6.20	6.20	15.57	
4500	3.98	5.08	5.08	5.08	5.08	5.08	7.07	4.47	5.45	5.45	5.45	5.45	12.57	
4800	3.40	4.53	4.53	4.53	4.53	4.53	5.79	3.78	4.82	4.82	4.82	4.82	10.30	
5100	2.92	4.05	3.69	4.05	4.05	4.05	4.81	3.24	4.30	4.30	4.30	4.30	8.54	
5400	2.53	3.64	3.02	3.64	3.64	3.64	4.03	2.80	3.85	3.85	3.85	3.85	7.16	
5700	2.21	3.28	2.50	3.28	3.28	3.28	3.42	2.44	3.46	3.46	3.46	3.46	6.07	
6000	1.95	2.91	2.09	2.91	2.91	2.91	2.92	2.15	3.08	2.99	3.08	3.08	5.24	
6300	1.73	2.60	1.76	2.60	2.60	2.60	2.51	1.90	2.75	2.58	2.75	2.75	4.55	
6600	1.54	2.33	1.50	2.33	2.33	2.33	2.18	1.69	2.47	2.21	2.47	2.47	3.98	
6900	1.38	2.11	1.28	2.11	2.11	2.11	1.91	1.52	2.23	1.91	2.23	2.23	3.50	
7200	1.24	1.91	1.07	1.89	1.91	1.91	1.70	1.36	2.02	1.65	2.02	2.02	3.10	
7500	1.13	1.74	0.93	1.67	1.74	1.74	1.53	1.23	1.84	1.44	1.84	1.84	2.75	
7800	1.02	1.60	0.82	1.48	1.60	1.60	1.37	1.12	1.69	1.27	1.69	1.69	2.44	
8100	0.93	1.47	0.72	1.30	1.47	1.47	1.24	1.02	1.55	1.12	1.55	1.55	2.18	
8400	0.85	1.35	0.64	1.14	1.35	1.35	1.12	0.93	1.43	0.99	1.43	1.43	1.96	
8700	0.78	1.25	0.57	1.01	1.25	1.25	1.02	0.85	1.32	0.88	1.32	1.32	1.76	
9000	0.71	1.16	0.51	0.90	1.16	1.16	0.93	0.78	1.22	0.79	1.22	1.22	1.60	
9300	0.65	1.16	0.47	0.83	1.16	1.16	0.86	0.71	1.22	0.70	1.21	1.22	1.47	
9600	0.60	1.08	0.42	0.74	1.06	1.08	0.78	0.65	1.14	0.64	1.10	1.14	1.34	
9900	0.56	1.00		0.67	0.97	1.00	0.71	0.60	1.06	0.58	1.00	1.06	1.22	
10200	0.51	0.94		0.60	0.89	0.94	0.65	0.56	0.99	0.53	0.91	0.99	1.12	
10500	0.48	0.88		0.54	0.81	0.88	0.60	0.52	0.93	0.48	0.83	0.93	1.02	
10800	0.45	0.82		0.47	0.73	0.82	0.55	0.48	0.87	0.44	0.75	0.87	0.94	
SECTIONS BELOW EXCEED THE NORMAL DELIVERY LENGTH OF 12000 mm														
11100	0.42	0.78		0.43	0.66	0.78	0.51	0.45	0.82	0.40	0.68	0.82	0.86	
11400		0.73			0.61	0.73	0.47	0.42	0.77		0.63	0.77	0.80	
11700		0.69			0.55	0.69	0.44		0.73		0.57	0.73	0.73	
12000		0.65			0.51	0.65	0.41		0.69		0.53	0.69	0.68	

Bold capacities require grade 8.8 purlin bolts. Values above horizontal line in body of table are governed by the strength of the grade 8.8 bolt.

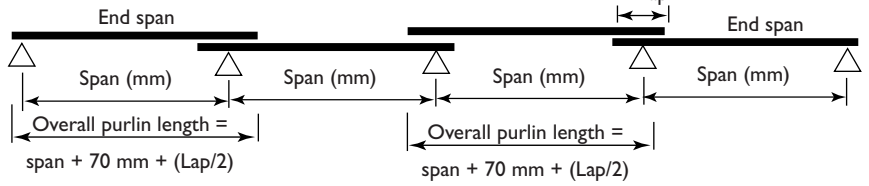
IN = Inward load capacity. OUT = Outward load capacity. See also: Design notes for capacity tables. In mixed spans, the thicker section is used in the end spans.

FL200.1

Limit state capacity tables

Four lapped spans

Four lapped spans



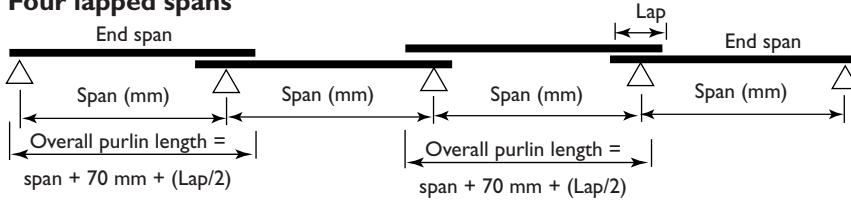
Span (mm)	Four lapped span: Z20019 (kN/m)								Load for def'n span/150	Four lapped span: Z20024 (kN/m)								Load for def'n span/150	Four lapped span: Z25019 (kN/m)								Load for def'n span/150
	IN				OUT					IN				OUT					IN				OUT				
	0	1	2,3	0	1	2	3	0		1	2	3	0	1	2	3	0		1	2,3	0	1	2	3	0	1		2	3
3000	14.21	18.71	18.71	18.71	18.71	18.71	18.71	35.18	18.71	18.71	18.71	18.71	18.71	18.71	18.71	18.71	46.45	16.52	16.52	16.52	16.52	16.52	16.52	16.52	57.13		
3300	11.11	16.38	16.38	16.38	16.38	16.38	16.38	26.22	14.52	17.04	17.04	17.04	17.04	17.04	17.04	17.04	34.62	14.29	14.29	14.29	14.29	14.29	14.29	14.29	42.58		
3600	8.92	13.72	13.72	13.72	13.72	13.72	13.72	20.05	11.35	15.65	15.65	15.65	15.65	15.65	15.65	15.65	26.47	11.46	12.49	12.49	12.49	12.49	12.49	12.49	32.56		
3900	7.31	11.63	11.63	11.63	11.63	11.63	11.63	15.66	9.10	14.47	14.47	14.47	14.47	14.47	14.47	14.47	20.68	9.36	11.01	11.01	11.01	11.01	11.01	11.01	25.43		
4200	6.09	9.99	9.99	9.77	9.99	9.99	9.99	12.46	7.44	13.45	13.45	13.45	13.33	13.45	13.45	13.45	16.45	7.75	9.78	9.78	9.78	9.78	9.78	9.78	20.24		
4500	5.13	8.66	8.66	8.01	8.66	8.66	8.66	10.07	6.19	12.57	12.57	12.57	11.06	12.57	12.57	12.57	13.30	6.48	8.73	8.73	8.73	8.73	8.73	8.73	16.36		
4800	4.36	7.56	7.56	6.48	7.56	7.56	7.56	8.26	5.23	10.99	10.99	10.99	9.12	10.99	10.99	10.99	10.90	5.50	7.84	7.84	7.84	7.84	7.84	7.84	13.41		
5100	3.73	6.52	6.52	5.10	6.52	6.52	6.52	6.85	4.46	9.48	9.48	9.48	7.40	9.48	9.48	9.48	9.05	4.70	7.07	7.07	6.78	7.07	7.07	7.07	11.13		
5400	3.23	5.68	5.68	4.22	5.68	5.68	5.68	5.75	3.85	8.26	8.26	8.26	6.06	8.26	8.26	8.26	7.59	4.07	6.40	6.40	5.59	6.40	6.40	6.40	9.33		
5700	2.82	5.00	5.00	3.53	5.00	5.00	5.00	4.87	3.35	7.26	7.27	7.27	5.02	7.27	7.27	7.27	6.43	3.55	5.82	5.82	4.66	5.82	5.82	5.82	7.90		
6000	2.48	4.43	4.43	2.99	4.43	4.43	4.43	4.16	2.94	6.37	6.44	6.44	4.21	6.33	6.44	6.44	5.49	3.12	5.31	5.31	3.93	5.31	5.31	5.31	6.75		
6300	2.20	3.95	3.95	2.55	3.95	3.95	3.95	3.58	2.60	5.63	5.75	5.75	3.55	5.53	5.75	5.75	4.73	2.76	4.86	4.86	3.34	4.86	4.86	4.86	5.81		
6600	1.96	3.55	3.55	2.19	3.55	3.55	3.55	3.12	2.32	5.01	5.16	5.16	3.00	4.85	5.16	5.16	4.14	2.46	4.46	4.46	2.86	4.46	4.46	4.46	5.04		
6900	1.75	3.21	3.21	1.88	3.12	3.21	3.21	2.74	2.08	4.49	4.66	4.66	2.55	4.28	4.66	4.66	3.65	2.20	4.07	4.07	2.44	4.07	4.07	4.07	4.40		
7200	1.58	2.91	2.91	1.62	2.75	2.91	2.91	2.41	1.87	4.04	4.23	4.23	2.18	3.80	4.23	4.23	3.23	1.98	3.70	3.70	2.09	3.68	3.70	3.70	3.86		
7500	1.43	2.65	2.65	1.40	2.42	2.65	2.65	2.14	1.69	3.65	3.86	3.86	1.88	3.38	3.86	3.86	2.87	1.79	3.37	3.37	1.81	3.22	3.37	3.37	3.40		
7800	1.30	2.43	2.43	1.22	2.12	2.43	2.43	1.91	1.54	3.32	3.53	3.53	1.63	3.00	3.53	3.53	2.57	1.63	3.08	3.08	1.57	2.81	3.08	3.08	3.02		
8100	1.18	2.23	2.23	1.07	1.87	2.23	2.23	1.71	1.40	3.02	3.25	3.25	1.42	2.67	3.24	3.25	2.31	1.48	2.83	2.83	1.37	2.40	2.83	2.83	2.71		
8400	1.08	2.06	2.06	0.94	1.60	2.06	2.06	1.54	1.28	2.77	2.99	2.99	1.25	2.35	2.94	2.99	2.07	1.36	2.61	2.61	1.21	2.12	2.61	2.61	2.45		
8700	0.99	1.91	1.91	0.83	1.43	1.91	1.91	1.39	1.17	2.54	2.77	2.77	1.10	2.08	2.67	2.77	1.86	1.24	2.42	2.42	1.06	1.89	2.42	2.42	2.23		
9000	0.91	1.77	1.77	0.73	1.28	1.77	1.77	1.26	1.08	2.34	2.57	2.57	0.98	1.85	2.44	2.57	1.68	1.14	2.24	2.24	0.94	1.69	2.24	2.24	2.04		
9300	0.86	1.73	1.76	0.67	1.20	1.70	1.76	1.16	1.01	2.27	2.56	2.56	0.89	1.71	2.35	2.56	1.55	1.07	2.23	2.23	0.85	1.58	2.23	2.23	1.88		
9600	0.79	1.59	1.64	0.59	1.08	1.55	1.64	1.06	0.93	2.09	2.38	2.38	0.79	1.54	2.14	2.38	1.41	0.99	2.08	2.08	0.75	1.42	2.08	2.08	1.72		
9900	0.73	1.48	1.53	0.53	0.98	1.41	1.53	0.97	0.87	1.94	2.21	2.22	0.71	1.38	1.96	2.22	1.29	0.92	1.94	1.94	0.67	1.28	1.88	1.94	1.58		
10200	0.68	1.37	1.43	0.47	0.89	1.28	1.43	0.89	0.80	1.80	2.05	2.08	0.64	1.24	1.80	2.04	1.18	0.85	1.81	1.81	0.60	1.16	1.70	1.81	1.46		
10500	0.63	1.27	1.34	0.43	0.81	1.16	1.34	0.82	0.75	1.68	1.91	1.95	0.58	1.11	1.65	1.89	1.08	0.79	1.68	1.70	0.54	1.05	1.54	1.70	1.34		
10800	0.59	1.19	1.26	0.43	0.73	1.05	1.26	0.75	0.70	1.56	1.78	1.83	0.52	1.00	1.51	1.75	1.00	0.74	1.57	1.59	0.49	0.94	1.35	1.59	1.23		
SECTIONS BELOW EXCEED THE NORMAL DELIVERY LENGTH OF 12000 mm																											
11100	0.55	1.11	1.18	0.43	0.66	0.93	1.18	0.70	0.65	1.46	1.66	1.72	0.47	0.91	1.38	1.63	0.92	0.69	1.46	1.50	0.44	0.85	1.24	1.50	1.14		
11400	0.52	1.04	1.11	0.43	0.60	0.85	1.10	0.64	0.61	1.36	1.55	1.62	0.43	0.82	1.25	1.51	0.85	0.64	1.36	1.41	0.40	0.77	1.13	1.41	1.05		
11700	0.48	0.97	1.05	0.43	0.55	0.79	1.02	0.60	0.57	1.27	1.46	1.53	0.43	0.75	1.15	1.41	0.78	0.60	1.27	1.33	0.40	0.70	1.04	1.33	0.97		
12000	0.45	0.91	0.99	0.43	0.50	0.72	0.95	0.56	0.54	1.19	1.37	1.45	0.43	0.68	1.05	1.31	0.73	0.56	1.18	1.26	0.40	0.64	0.96	1.26	0.91		

Bold capacities require grade 8.8 purlin bolts. Values above horizontal line in body of table are governed by the strength of the grade 8.8 bolt.
 IN = Inward load capacity. OUT = Outward load capacity. See also: Design notes for capacity tables. In mixed spans, the thicker section is used in the end spans.

Limit state capacity tables

Four lapped spans

Four lapped spans



Four lapped span: Z25019/25024 (kN/m)									Four lapped span: Z25024 (kN/m)								
Bridging >	IN			OUT				Load for deflect'n span/150	IN			OUT				Load for deflect'n span/150	
	0	1	2, 3	0	1	2	3		0	1	2	3	0	1	2		3
Span 3000 (mm)	18.72	18.72	18.72	18.72	18.72	18.72	18.72	76.40	18.71	18.71	18.71	18.71	18.71	18.71	18.71	18.71	78.80
3300	15.97	15.97	15.97	15.97	15.97	15.97	15.97	56.91	17.04	17.04	17.04	17.04	17.04	17.04	17.04	17.04	58.73
3600	12.77	13.79	13.79	13.79	13.79	13.79	13.79	43.50	14.20	15.65	15.65	15.65	15.65	15.65	15.65	15.65	44.90
3900	10.19	12.03	12.03	12.03	12.03	12.03	12.03	33.97	11.35	14.47	14.47	14.47	14.47	14.47	14.47	14.47	35.08
4200	8.32	10.58	10.58	10.58	10.58	10.58	10.58	27.02	9.27	13.45	13.45	13.45	13.45	13.45	13.45	13.45	27.91
4500	6.91	9.37	9.37	9.37	9.37	9.37	9.37	21.84	7.70	12.57	12.57	12.57	12.57	12.57	12.57	12.57	22.56
4800	5.82	8.35	8.35	8.35	8.35	8.35	8.35	17.90	6.48	11.80	11.80	11.80	11.80	11.80	11.80	11.80	18.50
5100	4.97	7.49	7.49	7.49	7.49	7.49	7.49	14.85	5.53	11.12	11.12	11.12	9.68	11.12	11.12	11.12	15.35
5400	4.29	6.74	6.74	6.74	6.74	6.74	6.74	12.46	4.76	10.51	10.51	10.51	7.90	10.51	10.51	10.51	12.87
5700	3.74	6.10	6.10	5.45	6.10	6.10	6.10	10.55	4.14	9.31	9.31	9.31	6.53	9.31	9.31	9.31	10.90
6000	3.28	5.54	5.54	4.60	5.54	5.54	5.54	9.01	3.63	8.26	8.26	8.26	5.47	8.26	8.26	8.26	9.31
6300	2.90	5.05	5.05	3.91	5.05	5.05	5.05	7.76	3.21	7.37	7.37	7.37	4.60	7.37	7.37	7.37	8.01
6600	2.59	4.63	4.63	3.36	4.63	4.63	4.63	6.73	2.86	6.62	6.62	6.62	3.87	6.49	6.62	6.62	6.95
6900	2.31	4.19	4.19	2.90	4.19	4.19	4.19	5.87	2.56	5.97	5.98	5.98	3.28	5.72	5.98	5.98	6.06
7200	2.08	3.80	3.80	2.53	3.80	3.80	3.80	5.16	2.30	5.36	5.42	5.42	2.80	5.05	5.42	5.42	5.32
7500	1.88	3.47	3.47	2.21	3.47	3.47	3.47	4.58	2.08	4.84	4.95	4.95	2.41	4.48	4.95	4.95	4.70
7800	1.71	3.17	3.17	1.93	3.17	3.17	3.17	4.09	1.89	4.39	4.53	4.53	2.09	3.95	4.53	4.53	4.19
8100	1.56	2.91	2.91	1.69	2.91	2.91	2.91	3.66	1.72	4.00	4.16	4.16	1.82	3.48	4.16	4.16	3.75
8400	1.42	2.69	2.69	1.49	2.61	2.69	2.69	3.30	1.57	3.66	3.84	3.84	1.59	3.07	3.84	3.84	3.38
8700	1.30	2.49	2.49	1.32	2.31	2.49	2.49	2.98	1.44	3.36	3.55	3.55	1.40	2.71	3.55	3.55	3.06
9000	1.20	2.31	2.31	1.17	2.06	2.31	2.31	2.70	1.33	3.09	3.29	3.29	1.23	2.41	3.26	3.29	2.77
9300	1.13	2.30	2.30	1.08	1.86	2.30	2.30	2.49	1.23	2.97	3.28	3.28	1.12	2.22	3.13	3.28	2.55
9600	1.04	2.14	2.14	0.96	1.68	2.14	2.14	2.27	1.14	2.74	3.05	3.05	1.00	1.99	2.85	3.05	2.33
9900	0.96	1.99	1.99	0.86	1.52	1.99	1.99	2.07	1.06	2.53	2.85	2.85	0.89	1.78	2.61	2.85	2.13
10200	0.89	1.86	1.86	0.77	1.37	1.86	1.86	1.89	0.98	2.34	2.66	2.66	0.80	1.59	2.38	2.66	1.96
10500	0.83	1.75	1.75	0.70	1.25	1.75	1.75	1.74	0.91	2.17	2.49	2.49	0.72	1.43	2.17	2.49	1.80
10800	0.77	1.64	1.64	0.63	1.14	1.64	1.64	1.60	0.85	2.02	2.34	2.34	0.65	1.28	1.97	2.34	1.65
SECTIONS BELOW EXCEED THE NORMAL DELIVERY LENGTH OF 12000 mm																	
11100	0.72	1.54	1.54	0.57	1.04	1.53	1.54	1.47	0.80	1.88	2.20	2.20	0.59	1.16	1.79	2.18	1.52
11400	0.67	1.45	1.45	0.52	0.95	1.40	1.45	1.36	0.74	1.75	2.07	2.08	0.53	1.05	1.63	2.02	1.40
11700	0.63	1.37	1.37	0.47	0.87	1.28	1.37	1.26	0.70	1.64	1.94	1.96	0.49	0.95	1.49	1.88	1.30
12000	0.59	1.28	1.30	0.43	0.80	1.17	1.30	1.17	0.65	1.53	1.82	1.85	0.44	0.87	1.36	1.75	1.20

Bold capacities require grade 8.8 purlin bolts. Values above horizontal line in body of table are governed by the strength of the grade 8.8 bolt.

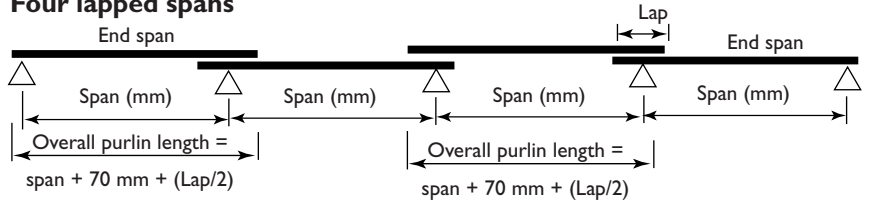
IN = Inward load capacity. OUT = Outward load capacity. See also: Design notes for capacity tables. In mixed spans, the thicker section is used in the end spans.

FL250.2

Limit state capacity tables

Four lapped spans

Four lapped spans



Four lapped span: Z30024 (kN/m)

Four lapped span: Z30024/30030 (kN/m)

Span (mm)	IN				OUT				Load for def'n span/150	IN				OUT				Load for def'n span/150	
	0	1	2	3	0	1	2	3		0	1	2	3	0	1	2	3		
6000	5.40	9.68	9.68	9.68	9.68	9.68	9.68	9.68	15.45	5.84	10.24	10.24	10.24	10.24	10.24	10.24	10.24	10.24	20.01
6300	4.73	8.90	8.90	8.90	8.86	8.90	8.90	8.90	13.30	5.10	9.38	9.38	9.38	9.38	9.38	9.38	9.38	9.38	17.23
6600	4.17	8.21	8.21	8.21	7.55	8.21	8.21	8.21	11.53	4.49	8.62	8.62	8.62	8.62	8.62	8.62	8.62	8.62	14.94
6900	3.70	7.59	7.59	7.59	6.39	7.59	7.59	7.59	10.06	3.98	7.94	7.94	7.94	7.94	7.94	7.94	7.94	7.94	13.03
7200	3.31	7.03	7.03	7.03	5.57	7.03	7.03	7.03	8.83	3.55	7.34	7.34	7.34	6.66	7.34	7.34	7.34	7.34	11.44
7500	2.98	6.53	6.53	6.53	4.89	6.53	6.53	6.53	7.79	3.19	6.80	6.80	6.80	5.80	6.80	6.80	6.80	6.80	10.09
7800	2.69	6.08	6.08	6.08	4.32	6.08	6.08	6.08	6.91	2.88	6.32	6.32	6.32	5.00	6.32	6.32	6.32	6.32	8.95
8100	2.44	5.68	5.68	5.68	3.83	5.68	5.68	5.68	6.16	2.61	5.87	5.87	5.87	4.44	5.87	5.87	5.87	5.87	7.98
8400	2.22	5.27	5.27	5.27	3.38	5.27	5.27	5.27	5.51	2.37	5.41	5.41	5.41	3.96	5.41	5.41	5.41	5.41	7.14
8700	2.03	4.87	4.87	4.87	2.99	4.87	4.87	4.87	4.95	2.17	5.01	5.01	5.01	3.54	5.01	5.01	5.01	5.01	6.46
9000	1.86	4.52	4.52	4.52	2.67	4.49	4.52	4.52	4.46	1.99	4.64	4.64	4.64	3.19	4.64	4.64	4.64	4.64	5.87
9300	1.73	4.40	4.51	4.51	2.43	4.27	4.51	4.51	4.11	1.84	4.63	4.63	4.63	2.98	4.63	4.63	4.63	4.63	5.40
9600	1.60	4.05	4.19	4.19	2.15	3.86	4.19	4.19	3.76	1.70	4.31	4.31	4.31	2.67	4.31	4.31	4.31	4.31	4.94
9900	1.48	3.74	3.91	3.91	1.92	3.48	3.91	3.91	3.46	1.57	4.01	4.02	4.02	2.40	4.01	4.02	4.02	4.02	4.53
10200	1.37	3.46	3.65	3.65	1.72	3.14	3.65	3.65	3.19	1.46	3.71	3.76	3.76	2.16	3.67	3.76	3.76	3.76	4.16
10500	1.28	3.21	3.42	3.42	1.54	2.84	3.42	3.42	2.95	1.36	3.44	3.52	3.52	1.94	3.36	3.52	3.52	3.52	3.83
10800	1.19	2.98	3.21	3.21	1.39	2.53	3.21	3.21	2.72	1.27	3.20	3.30	3.30	1.75	3.09	3.30	3.30	3.30	3.54
SECTIONS BELOW EXCEED THE NORMAL DELIVERY LENGTH OF 12000 mm																			
11100	1.11	2.76	3.02	3.02	1.25	2.32	3.02	3.02	2.51	1.18	2.98	3.11	3.11	1.59	2.82	3.11	3.11	3.11	3.27
11400	1.04	2.57	2.85	2.85	1.13	2.13	2.85	2.85	2.33	1.11	2.78	2.93	2.93	1.44	2.58	2.93	2.93	2.93	3.02
11700	0.98	2.40	2.69	2.69	1.03	1.96	2.69	2.69	2.15	1.04	2.61	2.76	2.76	1.31	2.36	2.76	2.76	2.76	2.80
12000	0.92	2.24	2.54	2.54	0.94	1.81	2.54	2.54	2.00	0.97	2.44	2.61	2.61	1.20	2.17	2.61	2.61	2.61	2.60
12300	0.87	2.18	2.68	2.68	0.89	1.78	2.53	2.68	1.90	0.93	2.38	2.75	2.75	1.13	2.08	2.75	2.75	2.75	2.47
12600	0.82	2.00	2.53	2.53	0.81	1.63	2.35	2.53	1.77	0.87	2.23	2.60	2.60	1.04	1.93	2.60	2.60	2.60	2.30
12900	0.77	1.88	2.40	2.40	0.74	1.50	2.16	2.40	1.65	0.82	2.09	2.47	2.47	0.95	1.79	2.47	2.47	2.47	2.15
13200	0.73	1.77	2.27	2.27	0.68	1.38	2.00	2.27	1.54	0.78	1.96	2.34	2.34	0.88	1.66	2.33	2.34	2.34	2.01
13500	0.69	1.67	2.16	2.16	0.63	1.28	1.85	2.16	1.44	0.74	1.85	2.22	2.22	0.81	1.54	2.18	2.22	2.22	1.88
13800	0.66	1.58	2.05	2.05	0.58	1.18	1.72	2.05	1.35	0.70	1.74	2.11	2.11	0.75	1.44	2.04	2.11	2.11	1.76
14100	0.62	1.49	1.95	1.95	0.53	1.09	1.59	1.95	1.27	0.66	1.64	2.01	2.01	0.69	1.34	1.91	2.01	2.01	1.65
14400	0.59	1.41	1.85	1.86	0.49	1.00	1.46	1.86	1.20	0.63	1.55	1.92	1.92	0.64	1.25	1.79	1.92	1.92	1.54
14700	0.56	1.34	1.75	1.78	0.46	0.93	1.36	1.76	1.13	0.60	1.44	1.83	1.83	0.59	1.16	1.67	1.83	1.83	1.45
15000	0.53	1.27	1.66	1.70	0.42	0.86	1.28	1.66	1.06	0.57	1.37	1.75	1.75	0.55	1.08	1.56	1.75	1.75	1.36
15300	0.51	1.21	1.57	1.62		0.80	1.20	1.57	1.01	0.54	1.30	1.67	1.67	0.52	1.01	1.46	1.67	1.67	1.28
15600	0.48	1.15	1.49	1.56		0.74	1.13	1.48	0.95	0.51	1.24	1.60	1.60	0.48	0.95	1.36	1.60	1.60	1.21
15900	0.46	1.09	1.42	1.49		0.69	1.06	1.39	0.90	0.49	1.18	1.53	1.53	0.45	0.88	1.28	1.53	1.53	1.14
16200	0.44	1.04	1.35	1.43		0.64	1.00	1.31	0.86	0.47	1.12	1.46	1.47	0.42	0.82	1.20	1.47	1.47	1.08
16500	0.42	0.99	1.29	1.37		0.60	0.94	1.23	0.81	0.45	1.07	1.39	1.41		0.77	1.11	1.41	1.41	1.02
16800	0.40	0.95	1.22	1.32		0.56	0.89	1.16	0.77	0.43	1.02	1.33	1.35		0.72	1.05	1.35	1.35	0.96
17100		0.91	1.16	1.27		0.52	0.84	1.09	0.74	0.41	0.98	1.27	1.30		0.67	0.99	1.28	1.28	0.91
17400		0.87	1.11	1.22		0.49	0.79	1.03	0.70		0.93	1.21	1.25		0.63	0.94	1.21	1.21	0.87

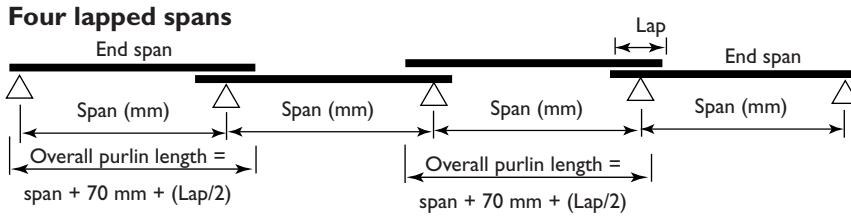
Bold capacities require grade 8.8 purlin bolts. Values above horizontal line in body of table are governed by the strength of the grade 8.8 bolt.

IN = Inward load capacity. OUT = Outward load capacity. See also: Design notes for capacity tables. In mixed spans, the thicker section is used in the end spans.

FL300.1

Limit state capacity tables

Four lapped spans



Four lapped span: Z30030 (kN/m)

Four lapped span: Z35030 (kN/m)

Span (mm)	Four lapped span: Z30030 (kN/m)								Load for deflect' ⁿ span/150	Four lapped span: Z35030 (kN/m)								Load for deflect' ⁿ span/150
	IN				OUT					IN				OUT				
Bridging >	0	1	2	3	0	1	2	3	0	1	2	3	0	1	2	3		
6000	6.38	15.60	15.60	15.60	14.54	15.60	15.60	15.60	20.61	9.82	16.52	16.52	16.52	16.52	16.52	16.52	16.52	32.00
6300	5.56	14.14	14.14	14.14	12.49	14.14	14.14	14.14	17.74	8.51	15.22	15.22	15.22	15.22	15.22	15.22	15.22	27.54
6600	4.89	12.88	12.88	12.88	10.66	12.88	12.88	12.88	15.38	7.43	14.06	14.06	14.06	14.06	14.06	14.06	14.06	23.88
6900	4.33	11.70	11.70	11.70	9.18	11.70	11.70	11.70	13.42	6.50	13.02	13.02	13.02	13.02	13.02	13.02	13.02	20.84
7200	3.86	10.60	10.62	10.62	7.89	10.62	10.62	10.62	11.78	5.74	12.09	12.09	12.09	12.09	12.09	12.09	12.09	18.29
7500	3.46	9.56	9.68	9.68	6.79	9.68	9.68	9.68	10.40	5.09	11.24	11.24	11.24	11.24	11.24	11.24	11.24	16.14
7800	3.12	8.65	8.87	8.87	5.88	8.87	8.87	8.87	9.22	4.55	10.48	10.48	10.48	9.96	10.48	10.48	10.48	14.31
8100	2.83	7.86	8.15	8.15	5.12	8.15	8.15	8.15	8.21	4.08	9.79	9.79	9.79	8.77	9.79	9.79	9.79	12.75
8400	2.57	7.17	7.51	7.51	4.48	7.39	7.51	7.51	7.35	3.69	9.16	9.16	9.16	7.76	9.16	9.16	9.16	11.41
8700	2.35	6.56	6.95	6.95	3.94	6.72	6.95	6.95	6.60	3.34	8.51	8.51	8.51	6.88	8.51	8.51	8.51	10.25
9000	2.15	6.03	6.45	6.45	3.48	6.13	6.45	6.45	5.98	3.04	7.89	7.89	7.89	6.13	7.89	7.89	7.89	9.24
9300	2.00	5.83	6.42	6.42	3.17	5.90	6.42	6.42	5.51	2.80	7.86	7.86	7.86	5.54	7.86	7.86	7.86	8.50
9600	1.84	5.38	5.97	5.97	2.81	5.39	5.97	5.97	5.03	2.57	7.31	7.31	7.31	5.00	7.31	7.31	7.31	7.72
9900	1.70	4.96	5.57	5.57	2.51	4.92	5.57	5.57	4.61	2.37	6.80	6.82	6.82	4.53	6.82	6.82	6.82	7.02
10200	1.58	4.58	5.21	5.21	2.25	4.47	5.21	5.21	4.24	2.18	6.28	6.38	6.38	4.11	6.38	6.38	6.38	6.41
10500	1.47	4.24	4.88	4.88	2.02	4.05	4.88	4.88	3.91	2.02	5.80	5.97	5.97	3.74	5.97	5.97	5.97	5.86
10800	1.37	3.92	4.58	4.58	1.82	3.68	4.58	4.58	3.61	1.88	5.38	5.61	5.61	3.42	5.61	5.61	5.61	5.38
SECTIONS BELOW EXCEED THE NORMAL DELIVERY LENGTH OF 12000 mm																		
11100	1.28	3.63	4.31	4.31	1.65	3.36	4.28	4.31	3.34	1.75	5.00	5.28	5.28	3.13	5.28	5.28	5.28	4.99
11400	1.20	3.38	4.06	4.06	1.49	3.06	3.98	4.06	3.10	1.63	4.65	4.97	4.97	2.87	4.91	4.97	4.97	4.65
11700	1.13	3.15	3.84	3.84	1.36	2.78	3.71	3.84	2.88	1.52	4.32	4.69	4.69	2.62	4.55	4.69	4.69	4.34
12000	1.06	2.94	3.63	3.63	1.24	2.53	3.47	3.63	2.67	1.43	4.02	4.44	4.44	2.39	4.22	4.44	4.44	4.04
12300	1.01	2.85	3.71	3.82	1.17	2.40	3.50	3.82	2.54	1.35	3.92	4.67	4.67	2.31	4.13	4.67	4.67	3.83
12600	0.95	2.66	3.49	3.61	1.07	2.19	3.27	3.61	2.36	1.27	3.65	4.42	4.42	2.12	3.81	4.42	4.42	3.57
12900	0.90	2.49	3.28	3.42	0.99	2.01	3.06	3.42	2.21	1.20	3.41	4.18	4.18	1.95	3.51	4.18	4.18	3.33
13200	0.85	2.33	3.09	3.24	0.91	1.84	2.84	3.24	2.06	1.13	3.19	3.97	3.97	1.79	3.24	3.97	3.97	3.11
13500	0.80	2.19	2.91	3.08	0.83	1.69	2.64	3.05	1.93	1.07	2.99	3.77	3.77	1.64	3.00	3.77	3.77	2.92
13800	0.76	2.06	2.75	2.93	0.77	1.56	2.45	2.87	1.81	1.01	2.81	3.58	3.58	1.51	2.78	3.58	3.58	2.73
14100	0.72	1.94	2.60	2.79	0.71	1.44	2.28	2.70	1.70	0.96	2.64	3.41	3.41	1.39	2.58	3.41	3.41	2.57
14400	0.69	1.83	2.46	2.66	0.66	1.33	2.12	2.55	1.59	0.91	2.49	3.25	3.25	1.29	2.40	3.25	3.25	2.41
14700	0.65	1.73	2.34	2.53	0.61	1.23	1.98	2.41	1.50	0.86	2.35	3.10	3.10	1.19	2.18	3.10	3.10	2.27
15000	0.62	1.63	2.22	2.42	0.57	1.14	1.84	2.28	1.41	0.82	2.22	2.96	2.96	1.11	2.04	2.96	2.96	2.14
15300	0.59	1.54	2.11	2.32	0.53	1.06	1.72	2.16	1.32	0.78	2.10	2.83	2.83	1.03	1.91	2.78	2.83	2.02
15600	0.56	1.46	2.00	2.22	0.50	0.99	1.60	2.04	1.25	0.74	1.99	2.71	2.71	0.96	1.80	2.63	2.71	1.91
15900	0.54	1.39	1.91	2.12	0.46	0.92	1.49	1.93	1.18	0.71	1.89	2.60	2.60	0.89	1.69	2.48	2.60	1.81
16200	0.51	1.32	1.82	2.04	0.43	0.86	1.39	1.84	1.11	0.68	1.75	2.49	2.49	0.83	1.59	2.34	2.49	1.71
16500	0.49	1.25	1.73	1.96	0.41	0.80	1.30	1.74	1.05	0.65	1.66	2.39	2.39	0.78	1.50	2.21	2.39	1.62
16800	0.47	1.19	1.64	1.88		0.75	1.21	1.65	0.99	0.62	1.59	2.28	2.30	0.73	1.41	2.08	2.30	1.54
17100	0.45	1.14	1.57	1.81		0.70	1.14	1.55	0.94	0.59	1.51	2.17	2.21	0.68	1.33	1.96	2.21	1.46
17400	0.43	1.08	1.49	1.74		0.66	1.07	1.47	0.89	0.57	1.45	2.07	2.13	0.64	1.26	1.85	2.13	1.39

Bold capacities require grade 8.8 purlin bolts. Values above horizontal line in body of table are governed by the strength of the grade 8.8 bolt. IN = Inward load capacity. OUT = Outward load capacity. See also: Design notes for capacity tables.

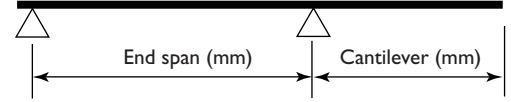
FL300.2/350

Limit state capacity tables

Cantilever spans

1. The capacities are for cantilevers with single end span. The ends of the cantilevers are stabilised by fascias, bridging, barge boards, perimeter beams or similar structural members.
2. Bold capacities require grade 8.8 purlin bolts.
3. Bridging shown is for end spans only.
4. See also *Design notes for capacity tables*

Cantilever spans



Section	End-span (mm)	Cantilever 1000 mm (kN/m)							Cantilever 2000 mm (kN/m)							Cantilever 3000 mm (kN/m)									
		IN bridging			OUT bridging				Load Def. s/150	IN bridging			OUT bridging				Load Def. s/150	IN bridging			OUT bridging				Load Def. s/150
		0	1	2	0	1	2	0		1	2	0	1	2	0	1		2	0	1	2				
Z/C 10010	2000	4.38	4.38	4.38	4.38	4.38	4.38	3.50	0.91	1.10	1.10	0.99	1.10	1.10	0.48	0.25	0.37	0.43	0.49	0.49	0.49	0.07			
	4000	1.25	1.25	1.25	0.62	1.12	1.25	0.26	0.59	0.61	0.61	0.18	0.32	0.52	0.12	0.24	0.34	0.38	0.26	0.43	0.49	0.14			
	6000	0.52	0.52	0.52	0.14	0.26	0.43	0.06																	
Z/C 10012	2000	5.33	5.33	5.33	5.33	5.33	5.33	4.26	1.09	1.33	1.33	1.20	1.33	1.33	0.57	0.33	0.44	0.53	0.59	0.59	0.59	0.09			
	4000	1.52	1.52	1.52	0.79	1.36	1.52	0.31	0.67	0.75	0.75	0.22	0.40	0.64	0.14	0.31	0.40	0.47	0.34	0.52	0.59	0.17			
	6000	0.63	0.63	0.63	0.18	0.33	0.52	0.07																	
Z/C 10015	2000	6.95	6.95	6.95	6.95	6.95	6.95	5.60	1.43	1.69	1.74	1.53	1.74	1.74	0.72	0.45	0.62	0.68	0.77	0.77	0.77	0.11			
	4000	1.83	1.98	1.98	1.05	1.73	1.98	0.38	0.81	0.97	0.97	0.30	0.55	0.83	0.17	0.42	0.57	0.63	0.46	0.67	0.77	0.21			
	6000	0.74	0.82	0.82	0.24	0.45	0.69	0.09																	
Z/C 10019	2000	9.69	9.69	9.69	9.69	9.69	9.69	7.18	1.94	2.41	2.42	2.13	2.42	2.42	0.90	0.62	0.86	0.95	1.08	1.08	1.08	0.13			
	4000	2.41	2.76	2.76	1.41	2.41	2.76	0.48	1.01	1.36	1.36	0.42	0.74	1.15	0.22	0.58	0.79	0.88	0.65	0.95	1.08	0.27			
	6000	0.96	1.14	1.14	0.34	0.60	0.95	0.12																	
Z/C 15012	2000	6.87	6.87	6.87	6.87	6.87	6.87	11.35	2.31	2.33	2.33	2.33	2.33	2.33	1.59	0.78	1.04	1.04	1.04	1.04	1.04	0.26			
	4000	2.65	2.65	2.65	1.92	2.65	2.65	0.91	1.20	1.31	1.31	0.56	1.00	1.31	0.42	0.71	1.00	1.04	0.79	1.04	1.04	0.50			
	6000	1.10	1.10	1.10	0.46	0.82	1.10	0.22	0.62	0.66	0.66	0.17	0.33	0.54	0.11	0.56	0.79	0.79	0.22	0.40	0.66	0.29			
	8000	0.60	0.60	0.60	0.16	0.30	0.49	0.09																	
Z/C 15015	2000	11.11	11.11	11.11	11.11	11.11	11.11	15.12	2.87	3.06	3.06	3.06	3.06	3.06	2.09	1.00	1.36	1.36	1.36	1.36	1.36	0.32			
	4000	3.37	3.49	3.49	2.48	3.49	3.49	1.14	1.40	1.72	1.72	0.73	1.28	1.72	0.52	0.91	1.28	1.36	1.00	1.36	1.36	0.63			
	6000	1.33	1.44	1.44	0.59	1.06	1.44	0.27	0.72	0.87	0.87	0.22	0.45	0.71	0.14	0.68	1.04	1.04	0.29	0.56	0.87	0.36			
	8000	0.71	0.79	0.79	0.20	0.41	0.64	0.11																	
Z/C 15019	2000	16.64	16.64	16.64	16.64	16.64	16.64	19.82	3.74	4.32	4.32	4.25	4.32	4.32	2.68	1.44	1.80	1.91	1.92	1.92	1.92	0.40			
	4000	4.24	4.92	4.92	3.46	4.92	4.92	1.43	1.74	2.42	2.42	0.95	1.83	2.38	0.65	1.23	1.71	1.82	1.43	1.90	1.92	0.80			
	6000	1.64	2.04	2.04	0.78	1.50	1.98	0.34	0.88	1.21	1.23	0.30	0.59	0.98	0.18	0.86	1.36	1.45	0.39	0.74	1.20	0.45			
	8000	0.86	1.10	1.11	0.28	0.54	0.88	0.14																	
Z/C 15024	2000	23.04	23.04	23.04	23.04	23.04	23.04	26.35	5.02	6.09	6.09	6.02	6.09	6.09	3.38	2.00	2.55	2.71	2.71	2.71	2.71	0.50			
	4000	5.43	6.93	6.93	4.68	6.93	6.93	1.80	2.06	3.37	3.41	1.29	2.52	3.38	0.82	1.61	2.40	2.57	1.96	2.70	2.70	1.00			
	6000	1.98	2.86	2.87	1.06	2.06	2.82	0.43	1.03	1.62	1.73	0.43	0.80	1.37	0.23	1.01	1.84	2.06	0.54	1.00	1.67	0.57			
	8000	1.01	1.48	1.57	0.39	0.72	1.23	0.17																	
Z/C 20015	4000	4.73	4.73	4.73	4.53	4.73	4.73	2.44	3.93	3.93	3.93	3.93	3.93	4.14	1.80	1.85	1.85	1.85	1.85	1.85	1.85	0.70			
	6000	1.88	1.96	1.96	1.06	1.93	1.96	0.60	2.01	2.33	2.33	1.29	2.32	2.33	1.12	1.50	1.85	1.85	1.80	1.85	1.85	1.29			
	8000	0.98	1.07	1.07	0.40	0.74	1.07	0.24	1.01	1.18	1.18	0.44	0.81	1.18	0.31	1.00	1.41	1.41	0.55	1.01	1.41	0.76			
Z/C 20019	4000	6.53	7.20	7.20	6.55	7.20	7.20	3.21	6.04	6.33	6.33	6.33	6.33	6.33	5.59	2.61	2.81	2.81	2.81	2.81	2.81	0.90			
	6000	2.30	2.98	2.98	1.66	2.82	2.98	0.77	2.49	3.54	3.54	1.94	3.39	3.54	1.47	2.01	2.81	2.81	2.59	2.81	2.81	1.75			
	8000	1.19	1.63	1.63	0.56	1.07	1.61	0.30	1.24	1.80	1.80	0.62	1.18	1.79	0.40	1.29	2.14	2.14	0.78	1.45	2.14	1.01			
Z/C 20024	4000	8.48	10.47	10.47	9.12	10.47	10.47	4.06	8.05	9.20	9.20	9.20	9.20	9.20	7.47	3.62	4.09	4.09	4.09	4.09	4.09	1.13			
	6000	2.97	4.34	4.34	2.18	3.89	4.34	0.97	3.16	5.15	5.15	2.63	4.67	5.15	1.85	2.73	4.04	4.09	3.59	4.09	4.09	2.25			
	8000	1.50	2.25	2.37	0.76	1.53	2.21	0.38	1.53	2.47	2.62	0.83	1.68	2.44	0.51	1.54	2.89	3.11	1.04	2.08	2.95	1.28			
Z/C 25019	4000	8.50	9.14	9.14	8.72	9.14	9.14	5.35	6.98	6.98	6.98	6.98	6.98	9.14	3.46	3.57	3.57	3.57	3.57	3.57	3.57	1.52			
	6000	3.00	3.79	3.79	2.09	3.77	2.79	1.30	3.16	4.31	4.31	2.39	4.31	4.31	2.02	2.61	3.57	3.57	3.44	3.57	3.57	2.88			
	8000	1.53	2.07	2.07	0.72	1.41	2.07	0.51	1.59	2.28	2.28	0.79	1.55	2.28	0.68	1.63	2.72	2.72	0.99	1.91	2.72	1.66			
	10000	0.93	1.31	1.31	0.31	0.64	1.03	0.26	0.95	1.39	1.39	0.33	0.68	1.10	0.30	0.97	1.55	1.55	0.37	0.77	1.24	0.44			
Z/C 25024	4000	10.86	13.41	13.41	12.09	13.41	13.41	6.86	10.50	11.46	11.46	11.46	11.46	11.46	12.35	4.79	5.24	5.24	5.24	5.24	5.24	1.92			
	6000	3.77	5.56	5.56	2.85	5.19	5.56	1.64	3.94	6.33	6.33	3.21	5.95	6.33	2.56	3.46	5.24	5.24	4.75	5.24	5.24	3.80			
	8000	1.87	2.99	3.04	0.96	1.98	2.95	0.65	1.91	3.28	3.35	1.04	2.18	3.27	0.86	1.92	3.83	3.99	1.31	2.70	3.94	2.16			
	10000	1.11	1.80	1.93	0.42	0.86	1.48	0.32	1.11	1.90	2.05	0.44	0.91	1.58	0.38	1.12	2.10	2.28	0.50	1.03	1.79	0.55			



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	Mackay	07 4955 7355
	Rockhampton	07 4927 6666
NSW	Townsville	07 4774 9500
	Chullora	02 8707 9000
	Canberra	02 6289 9477
	Cardiff	02 4956 5177
	Dubbo	02 6882 6077
	Tamworth	02 6765 9003
	Chester Hill	02 9795 2507
VIC/TAS	Emu Plains	02 4720 1900
	Lyndhurst	03 8795 2100
	Albury	02 6025 9106
	Geelong	03 5275 1422
SA/NT	Launceston	02 6334 9285
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WA	Darwin	08 8347 4093
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2 pesan

andri hadyawan <andri.takasi@gmail.com>
Kepada: edifrizal darma <edifrizal@gmail.com>

17 Januari 2013 19.52






dari asistensi kemarin sudah saya masukkan dalam bab 2 pak peraturan SNI baja hot rolled tidak bisa digunakan untuk baja cold formed, karena dari cara untuk membuat profil tersebut berbeda, hot rolled dibentuk dalam kondisi panas bahan dasarnya, sedangkan untuk cold formed dibentuk dengan menjadikan bahan dasar material menjadi koil lembaran (gulungan baja tipis) untuk selanjutnya baru dibentuk profil sesuai yang diinginkan.

dan untuk profil C75.75.1 (profil Lysaght C7510) section propertisnya ada pada tabel yang di bab 3 pak dimana nilai A, Ix, Iy, ix(Zx), iy(Zy) yang sudah dikeluarkan dari pabrikan.

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Desain gording lebih dahulu, kemudian pembebanan pada kuda-kuda.

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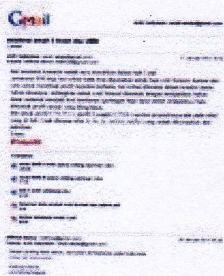
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* gording ok, lanjutkan dengan periksa kekuatan btg tarik dan tekan
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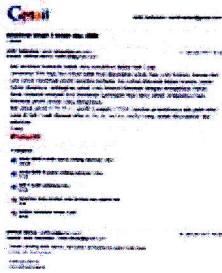
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Pagi pak Edi, ini asistensi bab 4 siap dilanjutkan bab 5, mohon di cek. Trims

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29 Januari 2013 23.32

Acc, siap disidangkan

2013/1/28 andri hadyawan <andri.takasi@gmail.com>:



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16 Januari 2013 18.10

- * Pada Bab II belum terjawab, apakah SNI baja Hot Rolled bisa digunakan untuk baja Cold form?
- * Section properties profil cold form C 75.75.1 bagaimana? Ix, Iy, Ix, Iy, A dll yang dibutuhkan untuk perhitungan kekuatan dan kekakuan?

On Wed, Jan 16, 2013 at 9:52 AM, andri hadyawan <andri.takasi@gmail.com> wrote:

Trims.

--

@takasi99

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Edifrizal Darma
sekolahalamdepok



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KARTU ASISTENSI

NAMA : Andri Eka Hadyawan
IM : 4406110038
AK/JUR. : T. SIPIL

MATA KULIAH : TA
SMT/THN.AKAD : _____
DOSEN : Dr. Edifrizal Dharma MT

NO	TGL	KETERANGAN	PARAF	NO	TGL	KETERANGAN	PARAF
1	2/10/12	* Judul dirubah perencanaan alternatif d/ biaya ringan		4		Bab III → Metodologi d/ perbandingan harga estimasi	
		* Pada buku → alternatif 1 A 2 ?		5	12/01/13	* Bgn mendiskusikan propertis, mis : $I_x, I_y,$ A, i_x, i_y ?	
		* Apa yg dibandingkan				→ Untuk periksa kekuatan & kekakuan	
2	12/10/12	* Acc, siap diseminarkan		6	14/01/13	- Pada Bab II belum diketahui apakah srl Baja Hot Rolled bisa digunakan untuk cold form - section perertis profil Cold form C 75. X-1 bagaimana i_x, i_y, I_x, I_y, A dll yang dibutuhkan & perhitungan kekakuan	
3	16/11/12	* perbaiki: batasan masalah di Bab I * Gambar struktur alternatif di batasan masalah			20/01/13	- Desain Gording lebih dahulu, kemudian penempatan pada kuda-kuda	
		* penggunaan istilah text book		7	25/01/13	- Gording OK, buktikan dengan periksa kekuatan batangnya turet dan titek	
	6/01/13	* Gambar struktur harus sama antara hot rolled d/ cold form pada bab 9				Acc, siap diseminarkan	
		* Bab II → tambahkan catatan 2 : apakah MS1 Baja konvensional bisa digunakan pada baja cold form ?		8			
				9			