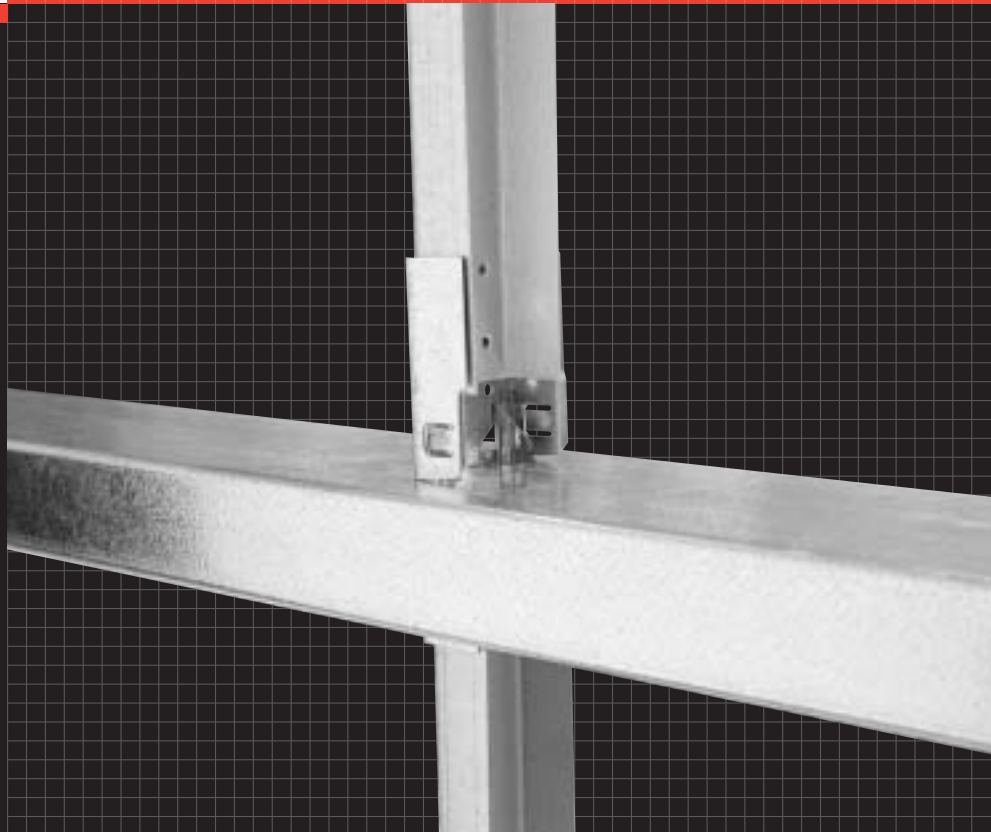


Technical Supplement

Stramit[®] Purlin & Girt

BRIDGING DETAILING GUIDE



This guide is intended to give specific details on **Stramit[®] Bridging** systems to structural detailers.

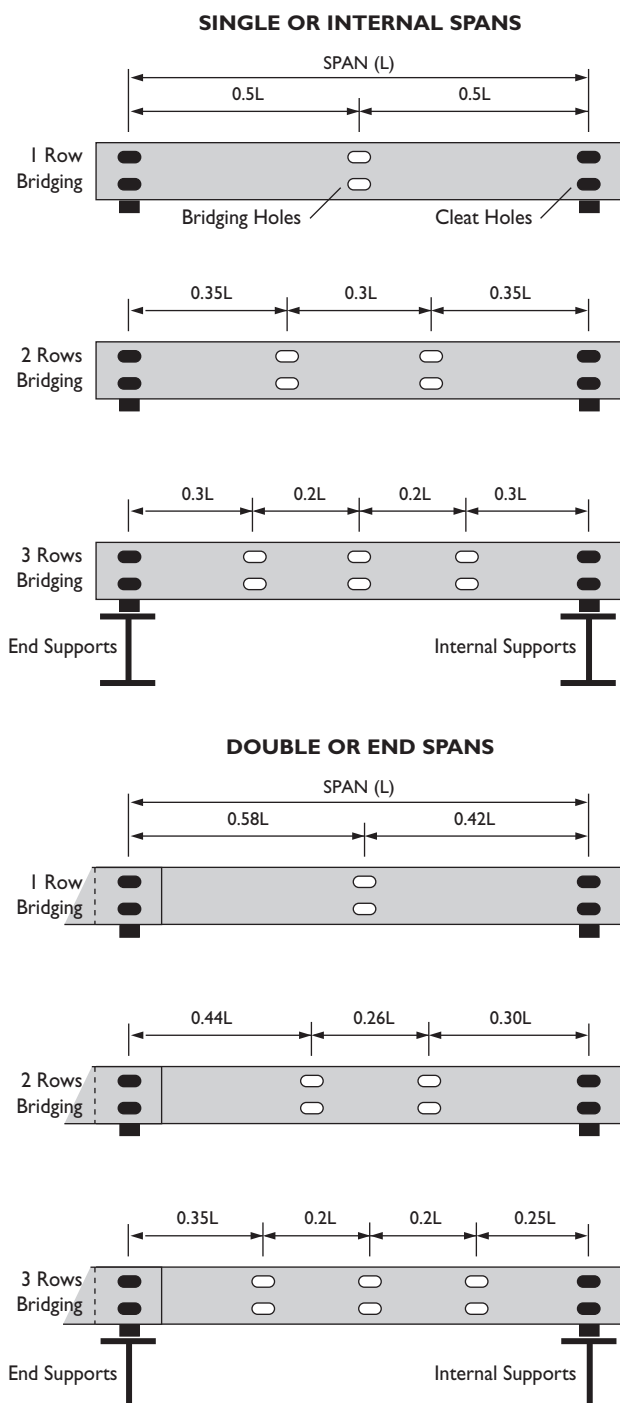
For more comprehensive information refer to **Stramit[®] Purlins, Girts & Bridging Detailing and Installation Guide**.

Bridging Positions

To enhance purlin performance and to assist with the erection of roof sheeting, **Stramit** recommends that bridging be installed such that the maximum unbraced length is $20 \times D$ (where D is the purlin web height), or 4000mm whichever is the least.

Stramit® Bridging conforms to AISC standards for hole size and hole centres for 100mm to 250mm purlins.

Location of bridging must be as shown below (to the nearest 50mm).



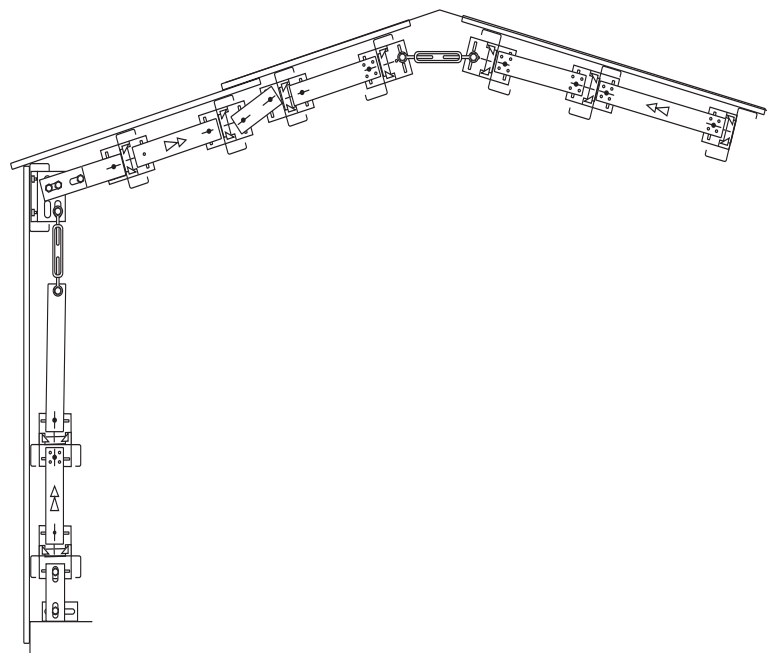
Bridging Capacity

Stramit® Bridging is only designed to allow purlins and girts to resist wind loads once the sheeting has been attached. Purlins, girts and bridging should not be subjected to loading from stacked material. Bridging should not be subjected to live loads or other construction loads.

Bridging used with girts may be subjected to compressive (or tensile) loading due to gravity during installation. These loads become cumulative with increased wall height, unless a separation joint is included. The capacity of **Stramit® Bridging** to resist these loads is shown in the following tables. These capacities are based on the mass of the girts plus a 1.1 kN load to allow for riggers. Please refer to 'Stramit® Bridging For 150 - 250 Girts - Maximum Wall Heights' table.

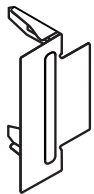
Bridging System

Stramit have designed a range of bridging assemblies to form a complete bridging system from the floor to ridge. Details of the various assemblies are shown below.

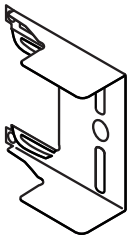


Bridging Components

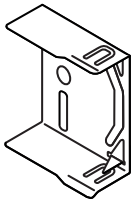
Stramit® Bridging system utilizes a range of components that provide flexible solutions for designers while being quick for the riggers to install. Each of the component brackets come in a range of sizes to suit 100mm to 250mm purlins.



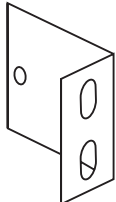
**Starter Clip
(SC)**



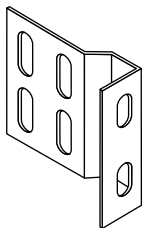
**Locator
(LR)**



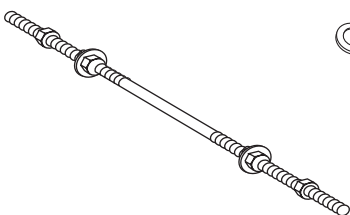
**Lock
(LK)**



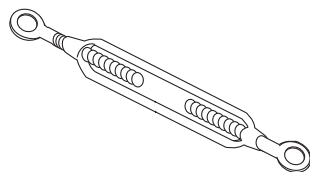
**Bolted
(BO)**



**Fascia
(FB)**



**Tie Rod
(TR)**

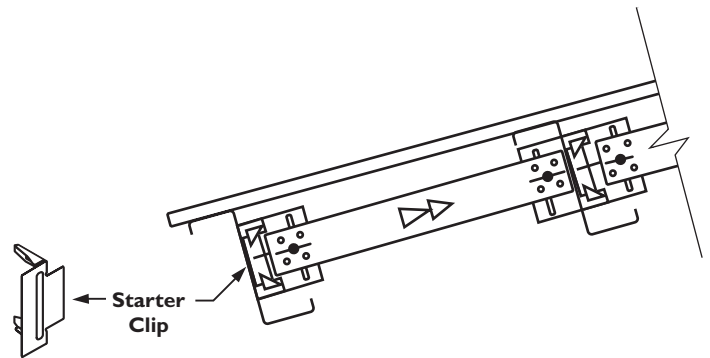


**Turnbuckle
(TB)**

Bridging Assemblies

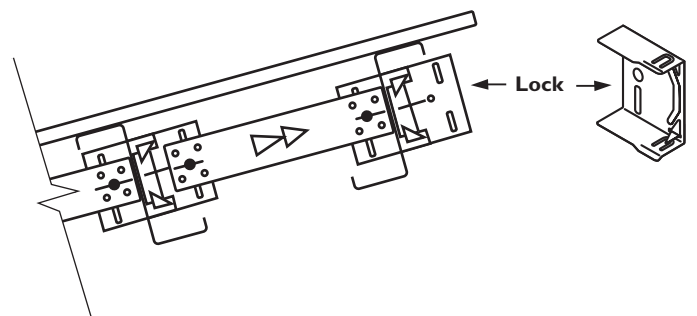
Starter Clip

The Starter Clip is primarily used when a bridging run commences from a Zed purlin (e.g. a skillion roof with a box gutter). The Starter Clip is also useful where there are openings within the bridging run or where the ends of the bridging run need to be flush (e.g. window openings, exposed Cee purlins or Cee purlins bolted to masonry walls). The Starter Clip is a faster and less expensive method of commencing a bridging run compared to traditional purlin bolts.



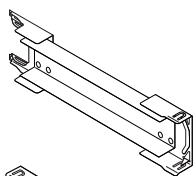
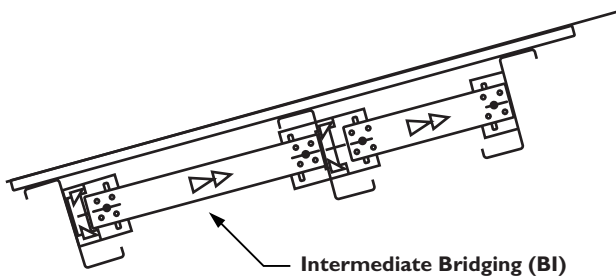
Lock

When the bridging run terminates at a Zed purlin, the last intermediate bridging piece can be secured by applying a loose Lock.

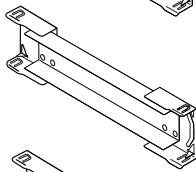


Intermediate Bridging

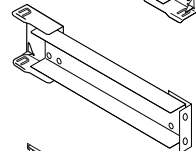
The Intermediate Bridging assembly consists of a down end component and an up end component "toxed" to a plain bridging channel. Usually the down end component is a Lock (LK) and the up end component is a Locator (LR). However, the flexibility of the system allows for these components to be interchanged with Bolted End Brackets (BO) to accommodate interfacing with tie rods or other structural members. When purlins are not parallel (e.g. oblique boundary walls) it is recommended that Bolted End Brackets (BO) bent on-site to the required angle be used. The tolerances within the components allow for rigid bridging to be used in some curved roof applications. Refer to the attached table. Minimum length is 250mm.



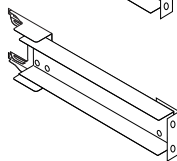
Locator/Lock



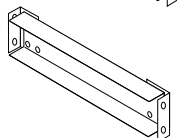
Lock/Lock



Lock/Bolted



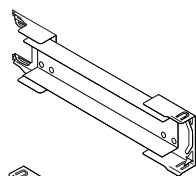
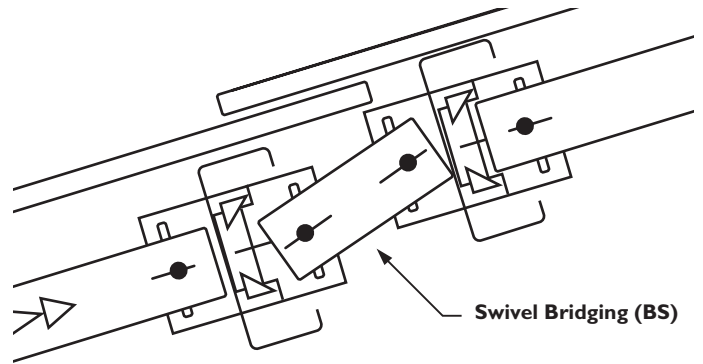
Locator/Bolted



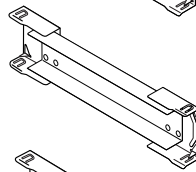
Bolted/Bolted

Swivel Bridging

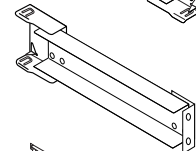
The Swivel Bridging assembly consists of a down end component and an up end component bolted to a plain bridging channel. This allows the end components to rotate in relation to the channel and remain square to the purlin. This feature is particularly useful when the adjacent purlins are offset as in stepped roofs, (expansion/contraction joints) curved roofs and where adjacent purlins are of different section heights. Minimum length is 250mm.



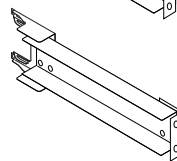
Locator/Lock



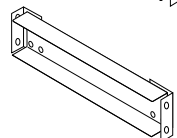
Lock/Lock



Lock/Bolted



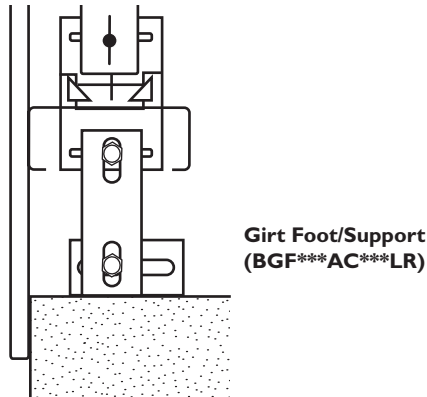
Locator/Bolted



Bolted/Bolted

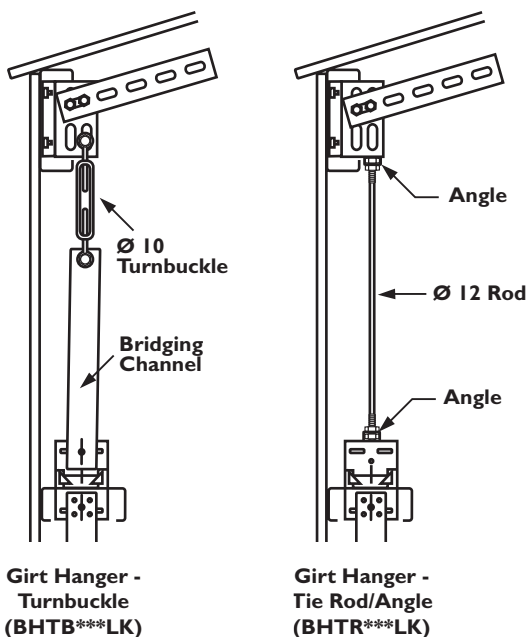
Girt Foot / Support

The Girt Foot/Support consist of an Angle Connector, Adjustable Channel and an up end component (usually a Locator (LR)). The specified length incorporates 50mm of adjustment. Minimum length is 140mm.



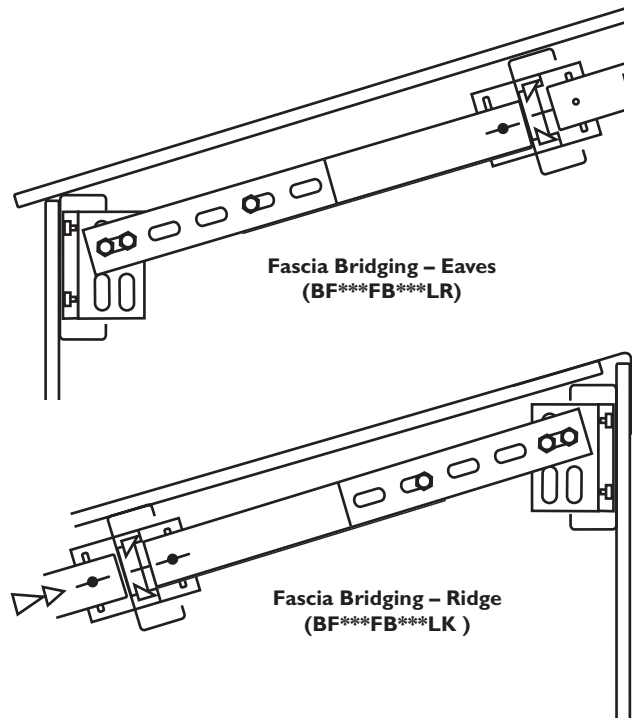
Girt Hanger – Turnbuckle (HTB) / Tie rod (HTR)

The Girt Hanger can either consist of a down end component, plain bridging channel and turnbuckle which is connected to the fascia bracket or a down end component and tie rod with adapting angle bracket which is connected to the fascia bracket or fascia flange. In both cases the Girt Hanger specified length incorporates 50mm of adjustment. Minimum length is 350mm. Alternatively a Tie Rod can be used from the web of the girt to the bottom flange of the fascia.



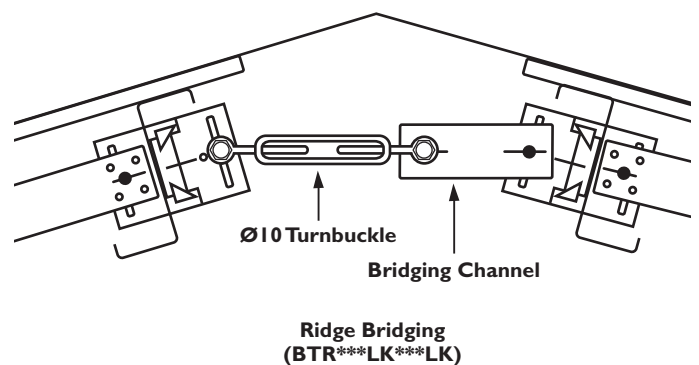
Fascia Bridging

The Fascia Bridging assembly consists of a Fascia Bracket (FB), adjustable bridging channel and purlin end component. The Fascia bracket needs to be attached to the fascia with Fascia Bolts. The specified length incorporates 50mm of adjustment. Minimum length is 400mm.




Ridge Bridging


The Ridge Bridging assembly consists of end components and a turnbuckle. The minimum length for this method is 370mm. Alternatively a Tie Rod can be used.



STRAMIT® BRIDGING For 150-250 Girts - Maximum Wall Height (m)																														
	1 row of girt bridging														2 rows of girt bridging															
girt span (m) >	3	4	5	6	7	8	9	10	11	12	13	14	3	4	5	6	7	8	9	10	11	12	13	14						
150-10 girt spacing (m)	0.9 - 1.5			36	30	26	22	20	18								40	35	31	28	25									
	1.6 - 2.0							40	36																					
	2.1 - 2.5																													
	2.6 - 3.0																													
150-12 girt spacing (m)	0.9 - 1.5		37	30	25	21	18	16	15								38	33	29	26	23	21	19							
	1.6 - 2.0						37	33	30																					
	2.1 - 2.5																													
	2.6 - 3.0																													
150-15 girt spacing (m)	0.9 - 1.5	40	30	24	20	17	15	13	12	11							38	31	27	24	21	19	17	16	14					
	1.6 - 2.0				40	34	30	27	24	22											38	34	31	29						
	2.1 - 2.5								40	37																				
	2.6 - 3.0									40	36	33																		
150-19 girt spacing (m)	0.9 - 1.5	32	24	19	16	14	12	11	10	9	8						37	30	25	21	19	17	15	14	12	11	11			
	1.6 - 2.0				38	32	27	24	21	19	17	16						37	33	30	27	25	23	21						
	2.1 - 2.5						40	35	32	29	26															38	35			
	2.6 - 3.0							36	32	29	26	24											40	37	34	32				
150-24 girt spacing (m)	0.9 - 1.5	25	19	15	13	11	9	8	8	7	6	6					39	30	24	20	17	15	13	12	11	10	9	8		
	1.6 - 2.0				38	30	25	22	19	17	15	14	13	12				39	34	30	26	24	21	20	18	17				
	2.1 - 2.5						36	31	28	25	23	21	19								39	36	33	30	28					
	2.6 - 3.0							38	33	28	25	23	21	19	17							39	36	32	30	27	25			
200-15 girt spacing (m)	0.9 - 1.5	32	24	19	16	14	12	11	10	9	8	7						38	30	25	21	19	17	15	14	12	12	11		
	1.6 - 2.0				38	32	27	24	21	19	17	16	15						38	33	30	27	25	23	21					
	2.1 - 2.5						40	36	32	29	27	25														38	36			
	2.6 - 3.0							36	32	29	26	24	22												38	35	32			
200-19 girt spacing (m)	0.9 - 1.5	25	19	15	13	11	9	8	8	7	6	6	5				39	29	23	20	17	15	13	12	11	10	9	8		
	1.6 - 2.0				38	30	25	21	19	17	15	14	13	12	11				39	34	29	26	23	21	20	18	17			
	2.1 - 2.5						36	31	28	25	23	21	19	18							39	36	33	30	28					
	2.6 - 3.0							38	32	28	25	23	21	19	17	16						39	35	32	29	27	25			
200-24 girt spacing (m)	0.9 - 1.5	20	15	12	10	9	7	7	6	5	5	5	4				31	23	19	15	13	12	10	9	8	8	7	7		
	1.6 - 2.0				40	30	24	20	17	15	13	12	11	10	9	9				37	31	27	23	21	19	17	15	14	13	
	2.1 - 2.5						40	33	28	25	22	20	18	17	15	14					39	34	31	28	26	24	22			
	2.6 - 3.0							36	30	26	22	20	18	16	15	14	13					40	35	31	28	25	23	22	20	
250-19 girt spacing (m)	0.9 - 1.5	22	17	13	11	9	8	7	7	6	6	5	5				34	26	21	17	15	13	11	10	9	9	8	7		
	1.6 - 2.0				33	26	2	19	17	15	13	12	11	10	9					34	30	26	23	21	19	17	16	15		
	2.1 - 2.5						37	32	28	25	22	20	18	17	16						38	34	31	29	27	25				
	2.6 - 3.0							40	33	28	25	22	20	18	17	15	14					39	35	31	28	26	24	22		
250-24 girt spacing (m)	0.9 - 1.5	17	13	11	9	8	7	6	5	5	4	4	4				27	21	16	14	12	10	9	8	7	7	6	6		
	1.6 - 2.0				35	26	21	17	15	13	12	10	10	9	8	7					33	27	23	21	18	16	15	14	13	12
	2.1 - 2.5						35	29	25	22	19	17	16	15	13	12						39	34	30	27	25	23	21	20	
	2.6 - 3.0							40	32	26	23	20	18	16	14	13	12	11					35	31	27	25	22	21	19	18

Note: Girt spacing is equivalent to bridging length

 allowable wall height exceeds 40m - contact Stramit for applications in this range

 beyond practical range for this girt size

Minimum Roof Radius for Transversely Curved Roofs														
Purlin Spacing	900 (mm)	1000 (mm)	1100 (mm)	1200 (mm)	1300 (mm)	1400 (mm)	1500 (mm)	1600 (mm)	1700 (mm)	1800 (mm)	1900 (mm)	2000 (mm)	2100 (mm)	Note
C/Z100-10	13.1	14.6	16.1	17.5	19.0	20.4	21.9	23.4	24.8	26.3	27.8	29.2	30.7	Stramit Bolted Bridging
C/Z100-12	13.1	14.6	16.1	17.5	19.0	20.4	21.9	23.4	24.8	26.3	27.8	29.2	30.7	
C/Z100-15	13.9	15.4	17.0	18.5	20.0	21.6	23.1	24.7	26.2	27.8	29.3	30.8	32.4	
C/Z100-19	17.8	19.8	21.8	23.8	25.8	27.8	29.7	31.7	33.7	35.7	37.7	39.6	41.6	
C/Z150-10	17.9	19.9	21.9	23.8	25.8	27.8	29.8	31.8	33.8	35.8	37.8	39.7	41.7	
C/Z150-12	17.9	19.9	21.9	23.8	25.8	27.8	29.8	31.8	33.8	35.8	37.8	39.7	41.7	
C/Z150-15	18.9	21.0	23.1	25.2	27.3	29.4	31.5	33.6	35.7	37.8	39.8	41.9	44.0	
C/Z150-19	24.3	27.0	29.7	32.4	35.1	37.8	40.4	43.1	45.8	48.5	51.2	53.9	56.6	
C/Z150-24	37.8	41.9	46.1	50.3	54.5	58.7	62.9	67.1	71.3	75.5	79.7	83.9	88.1	
C/Z200-10	31.4	34.9	38.3	41.8	45.3	48.8	52.3	55.8	59.3	62.8	66.2	69.7	73.2	
C/Z200-12	40.3	44.8	49.3	53.8	58.3	62.8	67.2	71.7	76.2	80.7	85.2	89.6	94.1	
C/Z200-15	62.8	69.7	76.7	83.7	90.6	97.6	104.6	111.6	118.5	125.5	132.5	139.4	146.4	
C/Z200-19	56.4	62.7	68.9	75.2	81.5	87.8	94.0	100.3	106.6	112.8	119.1	125.4	131.6	
C/Z200-24	87.8	97.5	107.3	117.0	126.8	136.5	146.3	156.0	165.8	175.5	185.3	195.0	204.8	

**SYDNEY**

33-83 Quarry Road, Erskine Park NSW 2759
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Telephone (08) 9721 8046 Facsimile (08) 9721 8017

WEBSITE www.stramit.com.au

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