BUILDING PRODUCT

CycloneTie

FOR ROOF SECURITY UNDER EXTREME WIND CONDITIONS

CycloneTies are used to secure purlins, rafters and trusses to top plates and timber lintels in areas subject to cyclonic and high wind conditions.

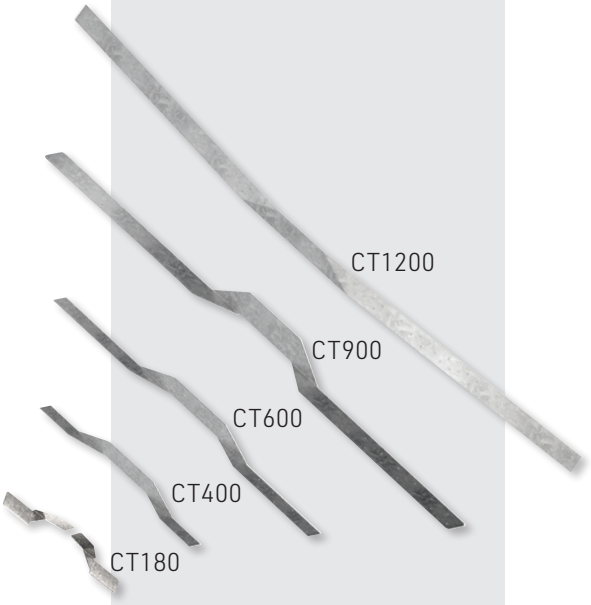
For durability information, please refer to **Corrosion Resistance of MiTek Metal Connectors,** available on the MiTek website at **mitek.com.au**

USES

- To achieve design capacity, CycloneTies must be fixed with MiTek 30 x 2.8mm hot dipped galvanized reinforced head nails.

ADVANTAGES

- Pre-bent legs for quick installation.
- Pre-punched holes for easy fixing.
- Available in 180mm, 400mm, 600mm, 900mm and 1200mm lengths.
- Coloured nails for easy identification.



This Certified Engineering Building Product complies with the National Construction Code and Australian Standards.

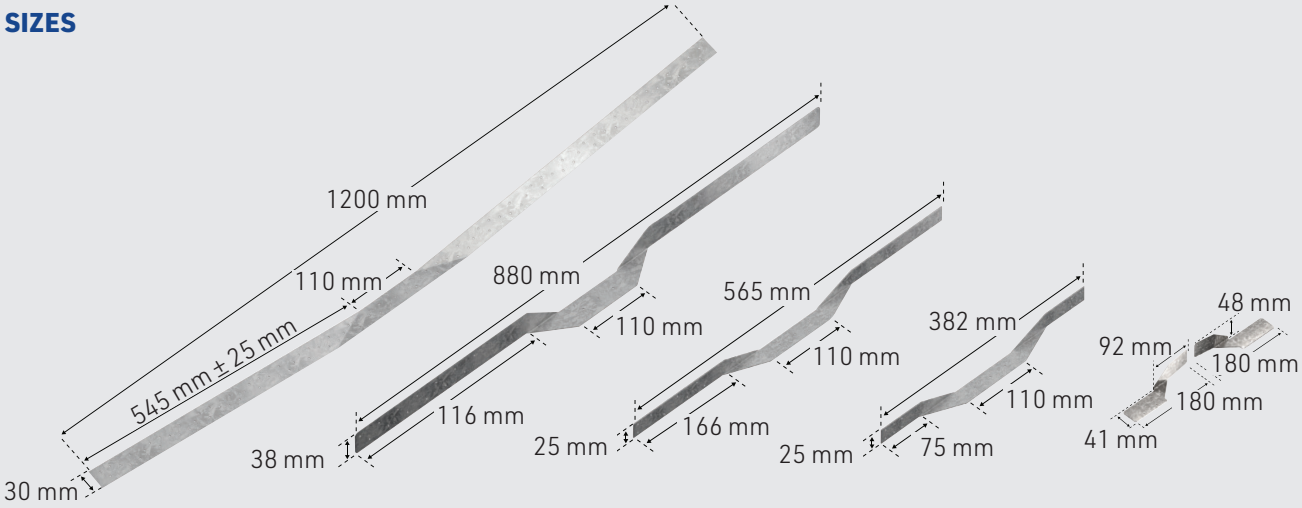
MITEK.COM.AU

CodeMark CM70055 Australia

SPECIFICATIONS

Steel Grade	G300
Thickness (Total Coated)	0.8mm for CT1200 1.0mm for CT180R & CT180L 1.0mm for CT400, CT900 1.2mm for CT600
Galvanised Coating	Z275
Nails	MiTek 30 x 2.8mm blue galvanised reinforced head or 32 x 2.5mm dia. AS2334 compliant helical twist shank hardened galvanised pneumatically driven nails (for CT180)
Screws	MSA1430 - MiTek No. 14x30mm anti-split, self drilling, HD galvanised screws with Ruspert® coating
Product Code	CT180; CT400; CT600; CT900; CT1200

SIZES



CYCLONETIE LOAD DATA

Limit State Design Wind Uplift Capacity per CycloneTie (kN)										
CycloneTie	**Fixing Method**	**[1]Timber Joint Group of Support Member**								
		J2	**J3**	**J4**	**J5**	**J6**	**JD2**	**JD3**	**JD4**	**JD5**	**JD6**
[2]CT180	Face Fix 4 MiTek nails/leg or [3]Face Fix 4 gun nails/leg or [4]Face Fix 2 MSA1430 screws/leg or Wrap Under	3.7	3.1	2.3	1.7	1.3	3.7	3.7	3.1	2.6	1.9
CT400	Face Fix 4 MiTek nails/leg	8.7	6.2	4.4	3.3	2.5	9.4	8.7	6.2	5.1	3.9
CT600	Face Fix 4 MiTek nails/leg	8.7	6.2	4.4	3.3	2.5	9.4	8.7	6.2	5.1	3.9
	Face Fix 6 MiTek nails/leg	11.4	8.2	5.8	4.4	3.3	12.3	12.1	8.6	7.1	5.4
	Wrap Under	12.7	12.7	10.9	8.2	6.1	12.7	12.7	12.7	12.7	9.6
CT900	Face Fix 4 MiTek nails/leg	8.7	6.2	4.4	3.3	2.5	9.4	8.7	6.2	5.1	3.9
	Face Fix 6 MiTek nails/leg	11.4	8.2	5.8	4.4	3.3	12.3	12.1	8.6	7.1	5.4
	Face Fix 8 MiTek nails/leg	12.7	10.4	7.3	5.5	4.1	12.7	12.7	11.2	9.3	7.1
	Wrap Under	12.7	12.7	10.9	8.2	6.1	12.7	12.7	12.7	12.7	9.6
CT1200	Face Fix/Truss-Stud 4 MiTek nails/leg	8.7	6.2	4.4	3.3	2.5	9.4	8.7	6.2	5.1	3.9
	Face Fix/Truss-Stud 6 MiTek nails/leg	11.2	8.2	5.8	4.4	3.3	11.2	11.2	8.6	7.1	5.4
	Face Fix/Truss-Stud 8 MiTek nails/leg	11.2	10.4	7.3	5.5	4.1	11.2	11.2	11.2	9.3	7.1
	Wrap Under	11.2	11.2	10.9	8.2	6.1	11.2	11.2	11.2	11.2	9.6
	Hip Hold Down	Recommended design capacity is 15% (Dead Load only, Dead + Live Load) or 30% (Dead + Wind Load) of selected Universal Girder Bracket capacity									

Notes:

1. For CycloneTie CT180, when different timbers are used in the support and supported member, select the design capacity base on the weaker joint group.

2. The capacity is doubled when a pair of CycloneTie CT180 is used in the connection.

3. All appropriate safety gear to be worn during nailing. The nails shall not be over driven and punched through the steel product. Gun nails to be located at least 5mm from any metal edge and nail hole. Gun nails to be located in the centre of target rings where cross hairs are marked on the product.

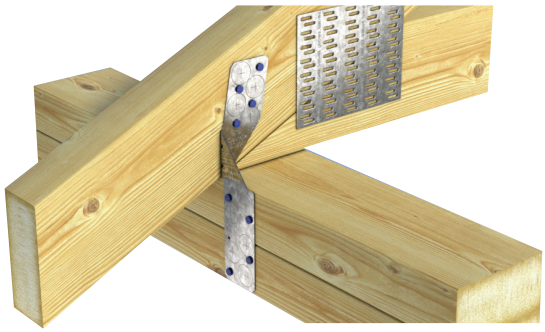
4. Substitute 1 MSA1430 screw for every 2 nails. Fix screws into pre-punched holes, diagonally across each other.

5. Values in this table incorporate the Category 1 capacity factor (Ø) for houses. For other categories, multiply the design capacities by the following factors. Refer to AS1720.1 for afull definition of each category.

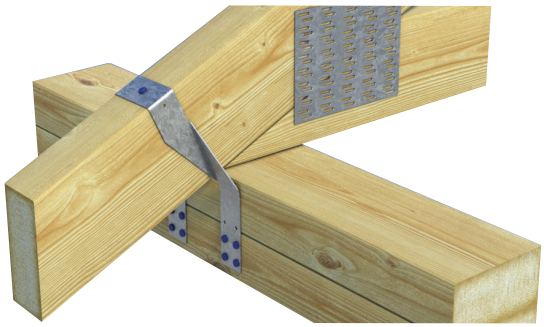
Category	1	2	3
Adjustment factor	1.00	0.94	0.88

6. Design capacities have been obtained from laboratory testing and procedures given in AS 1720.1.

CT180



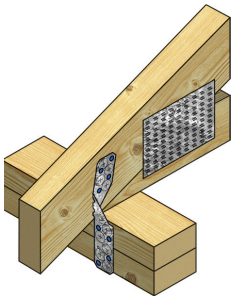
CT400



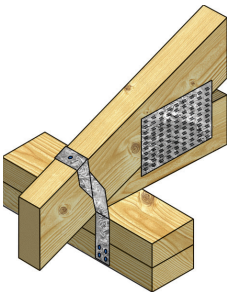
VARIOUS SIZES FOR VARIOUS USES

SIZE	USE
CycloneTie 180	Suits tie-down connection to both single and double top plates.
CycloneTie 400	Suits tie-down connection to double top plates.
CycloneTie 600	Fits a wide range of rafter sizes.
CycloneTie 900 and 1200	They suit deep timber lintel construction.
The CycloneTie 1200	Can be used for hip hold down in conjunction with MidLoad, HiLoad or ExtraHeavy HiLoad Girder Bracket (see Data Sheet), and for rafter/truss hold down to stud.

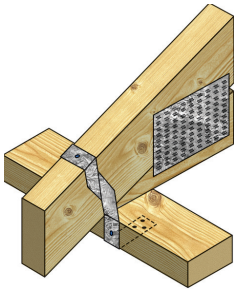
CT180 (R/L)



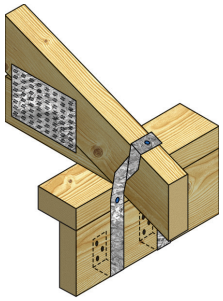
CT400



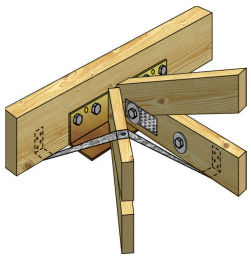
CT600



CT900



CT1200

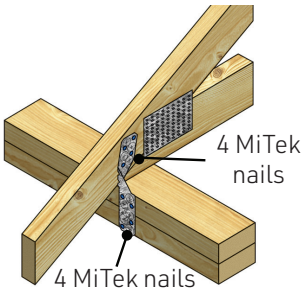


INSTALLATION

CT180 (R/L) (Standard Fixing with MiTek Blue Nail)

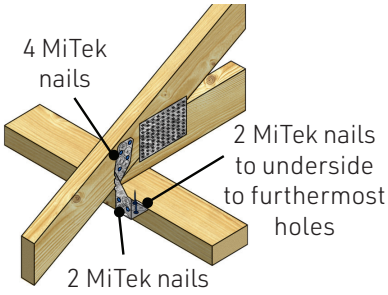
Rafter or Truss to Double Top Plate

1. Fix 4 MiTek nails to rafter/ truss top chord and 4 MiTek nails to top plates.



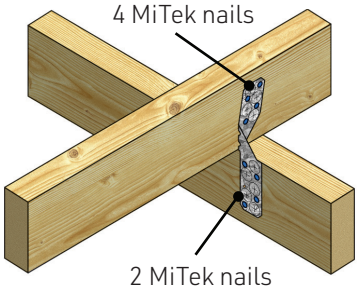
Rafter or Truss to Single Top Plate

1. Fix 4 MiTek nails to rafter/ truss top chord and 4 MiTek nails to top plates.



Purlin to Rafter Connection

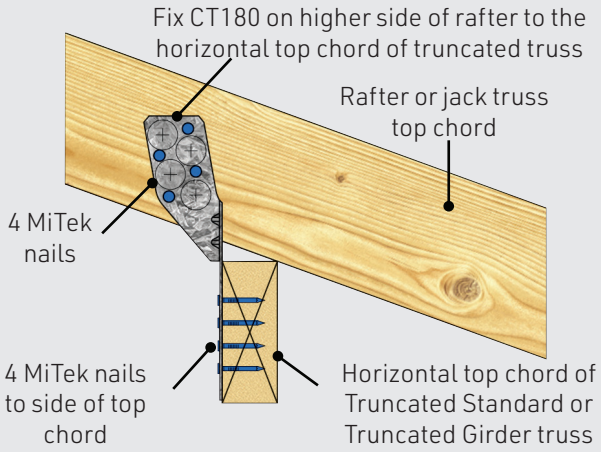
1. Fix 4 MiTek nails to purlin and 4 MiTek nails to rafter.



Rafter or Jack Truss to Truncated Trusses Connection

1. Place the CycloneTie CT180 behind the horizontal top chord of Truncated Standard or Truncated Girder Truss.

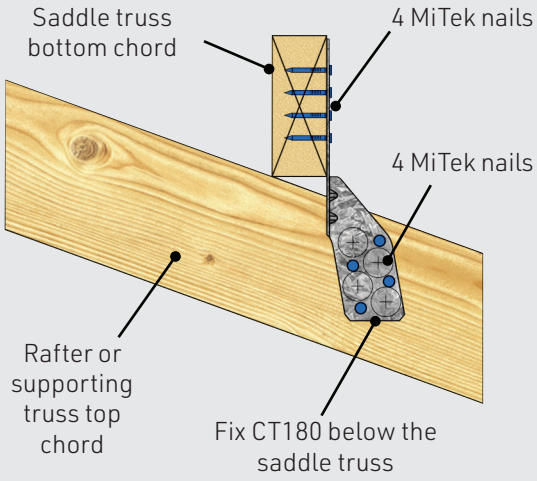
2. Fix 4 MiTek nails to the rafter or jack truss top and 4 MiTek (side and/or under) nails to the horizontal top chord of the Truncated Standard or Truncated Girder Truss.



Rafter or Jack Truss to Saddle Truss Connection

1. Place the CycloneTie CT180 below the Saddle Truss.

2. Fix 4 MiTek nails to the Saddle Truss bottom chord and 4 MiTek nails to the supporting truss top chord.

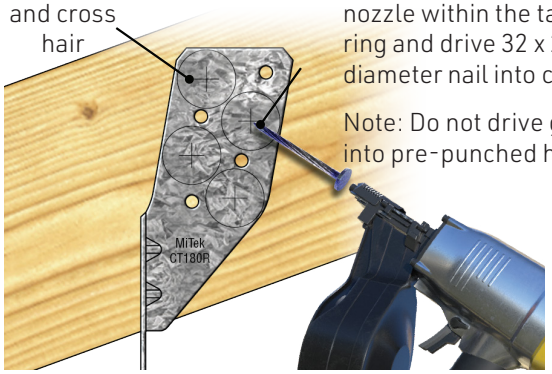


CT180 (Alternative Fixing with Nail Gun)

Target ring and cross hair

Centrally locate nail gun's nozzle within the target ring and drive 32 x 2.5mm diameter nail into cross hair.

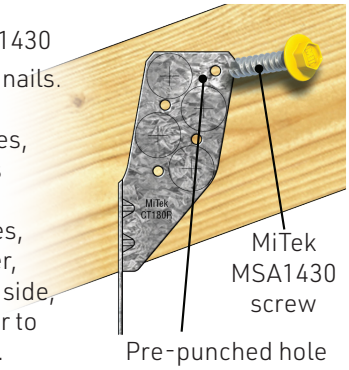
Note: Do not drive gun nail into pre-punched hole.



CT180 (Alternative Fixing with Screws)

The conditions of use are as follows:

- Substitute 1 MSA1430 screw for every 2 nails.
- Fix screws into pre-punched holes, diagonally across each other
- In single top plates, wrap CT180 under, and fix 1 screw to side, and 1 screw under to furthermost hole.

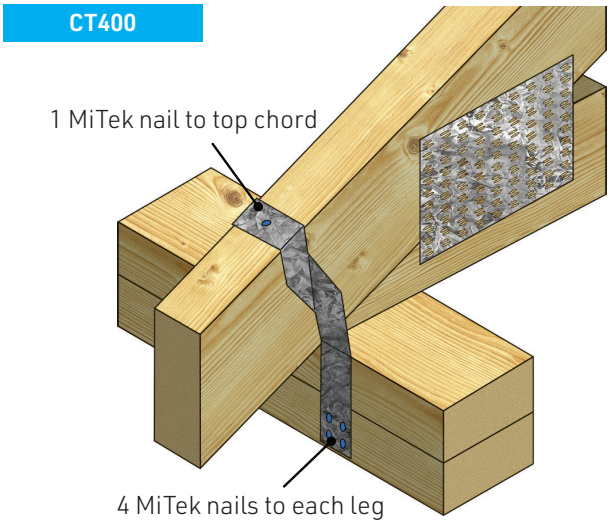


CT400 (Face Fix Only)

1. Bend CycloneTie over rafter/truss top chord, move CycloneTie along rafter/truss top chord until legs make contact with wall top plate.

2. Fix CycloneTie to top of rafter/truss top chord with one MiTek nail. Bend legs vertical and fix each leg with 4 MiTek nails to lower top plate 1.

CT400

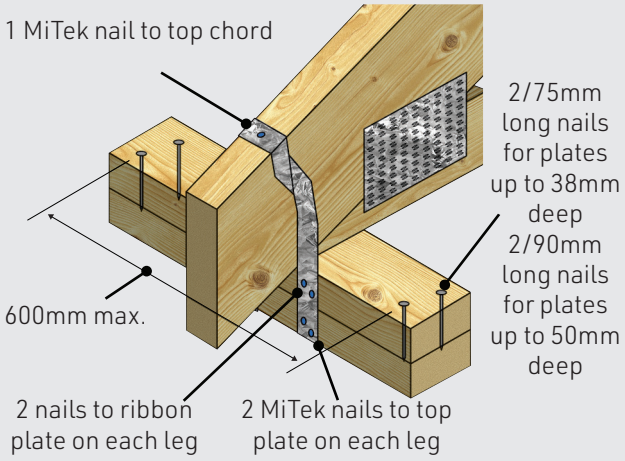


CT600/CT900 (Face Fix)

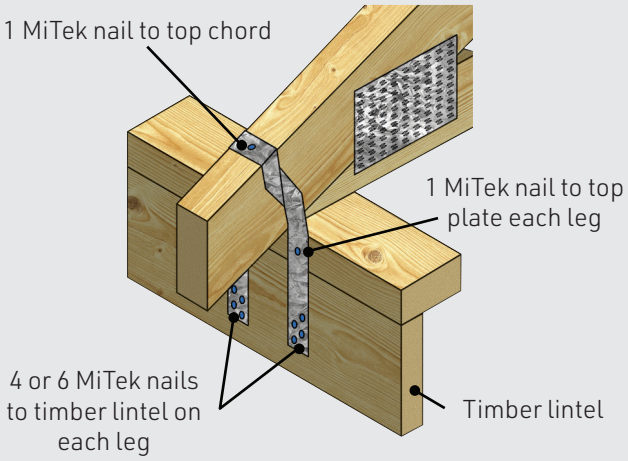
1. Bend CycloneTie over rafter/truss top chord, move CycloneTie along rafter/truss top chord until legs make contact with wall top plate or timber lintel.

2. Fix CycloneTie to top of rafter/truss top chord with one MiTek nail. Bend legs vertical and fix MiTek nails to each leg as required in the table to achieve the design capacity.

CT600



CT600 / CT900

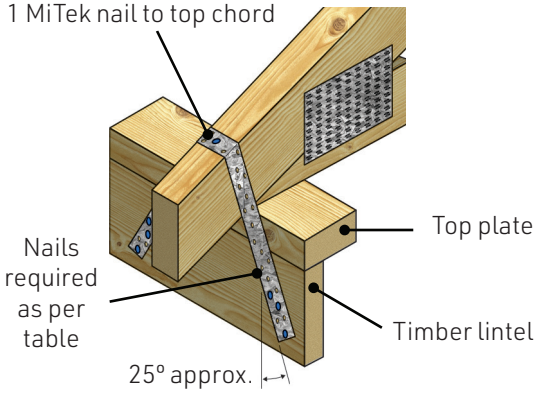


CT1200 (Face Fix)

1. Bend CycloneTie over rafter/truss top chord, move CycloneTie along rafter/truss top chord until legs make contact with wall top plate.

2. Fix CycloneTie to top of rafter/truss top chord with one MiTek nail. Bend legs and tap both sides of CycloneTie lightly to make a tight bend, then make sure legs are aproximately 25° to the vertical.

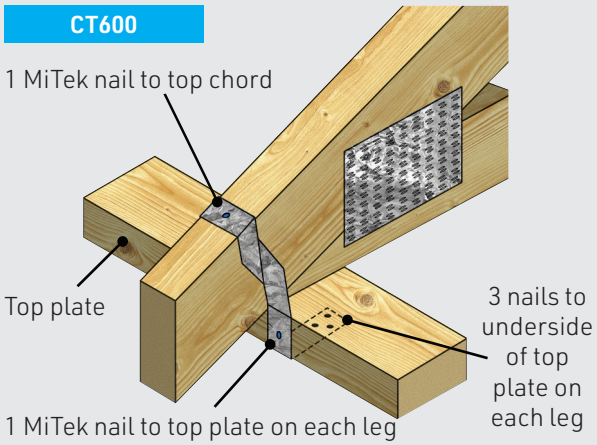
3. Fix CycloneTie to lintel with MiTek nails to each leg as required in the table to achieve the design capacity.



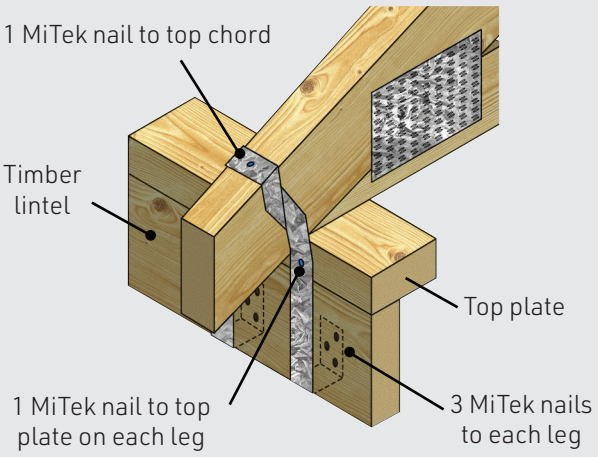
CT600/CT900 (Wrap Under)

1. Bend CycloneTie over rafter/truss top chord, move CycloneTie along rafter/truss top chord until legs make contact with wall top plate.
2. Fix CycloneTie to top of rafter/truss top chord with one MiTek nail. Bend legs vertical and fix one MiTek nail in each leg to side of top plate.
3. Bend legs under bottom edge of the timber lintel or top plate and fix MiTek nails to each leg as required to achieve the design capapcity.

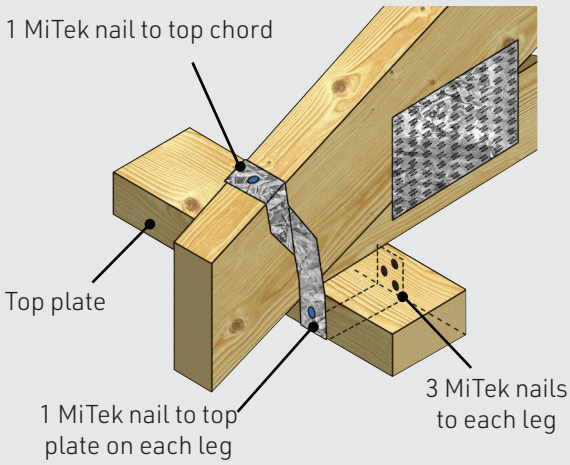
CT600



CT900

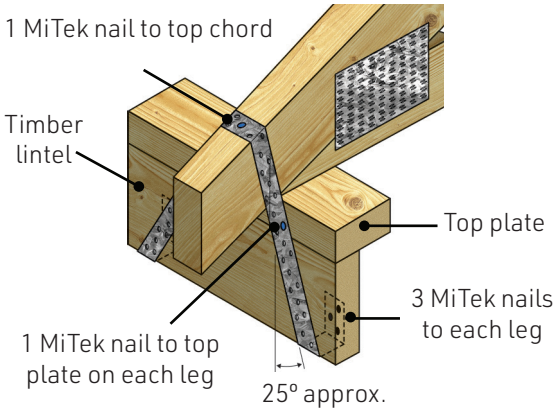


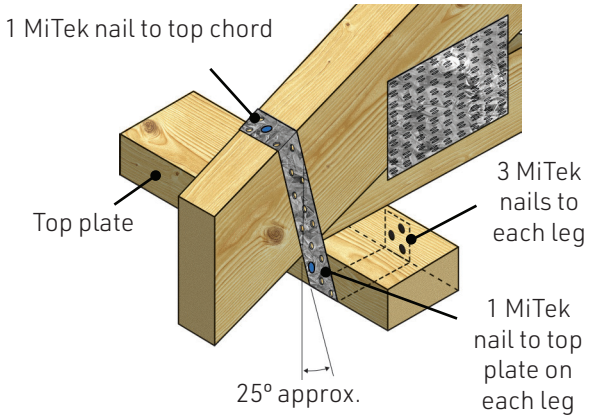
CT900



CT1200 (Wrap Under)

1. Fix one MiTek nail in each leg to top plate.
2. Bend legs under bottom edge of the timber lintel or top plate and fix MiTek nails to each leg as required to achieve the design capacity.

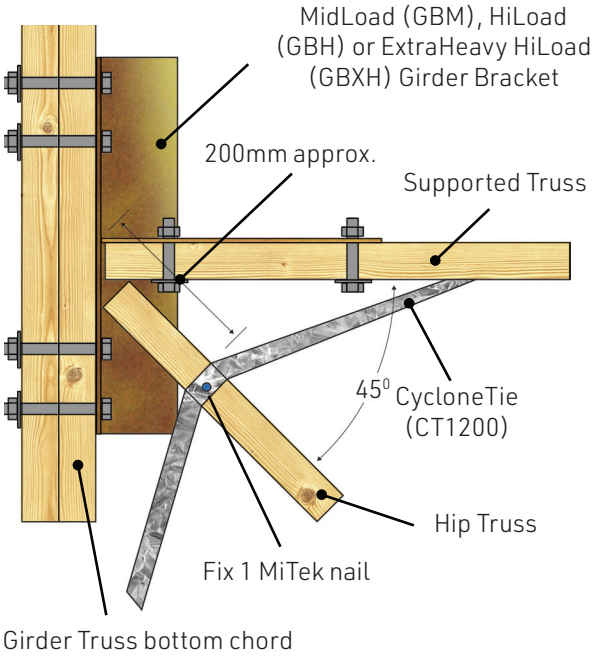


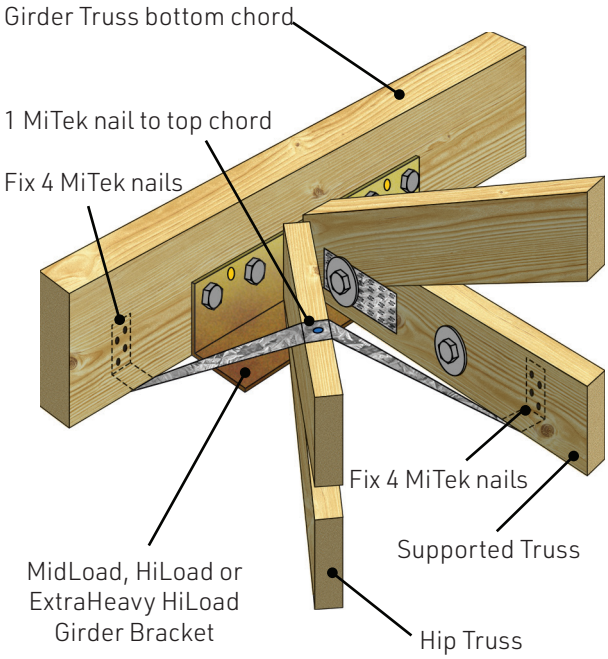


CT1200 (Hip Hold Down)

1. Secure supported truss to Girder Bracket and locate the hip truss into position. Bend CycloneTie 1200 over the top chord of the hip truss and move about 200mm along top chord and fix with one MiTek nail.

2. Bend one leg under the bottom chord of the incoming girder and the other under the bottom chord of the supporting girder. Tap slightly to make a tight bend then wrap them under the chords and fix with 4 MiTek nails as shown in diagram below.



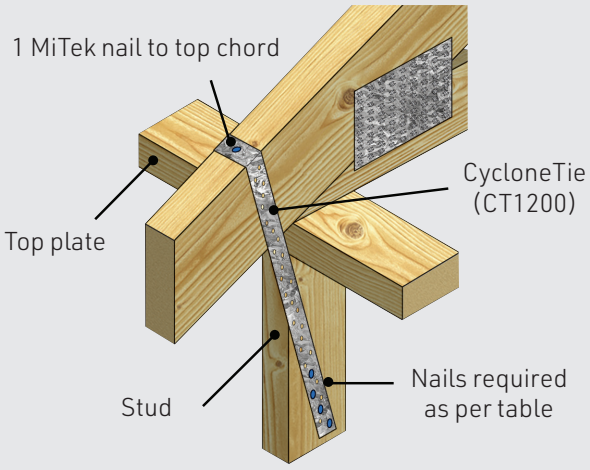


CT1200 (Wrap Under)

Bend CycloneTie 1200 over rafter/truss top chord and fix to stud as shown in diagram below with MiTek nails to each leg as required in the table to achieve the design capacity.

Structural TieDown Strap TD223030 may be used in lieu of CycloneTie 1200.

CycloneTie 1200 complies as a metal strap with minimum net section area of 21mm^2 and the corresponding alternative uplift capacities in AS1684 may be used in design within the confines of the standard.



MITEK.COM.AU

NSW +61 2 8525 8000
QLD +61 7 3861 2100
SA +61 8 8234 1326
VIC +61 3 8795 8888
WA +61 8 6279 8925