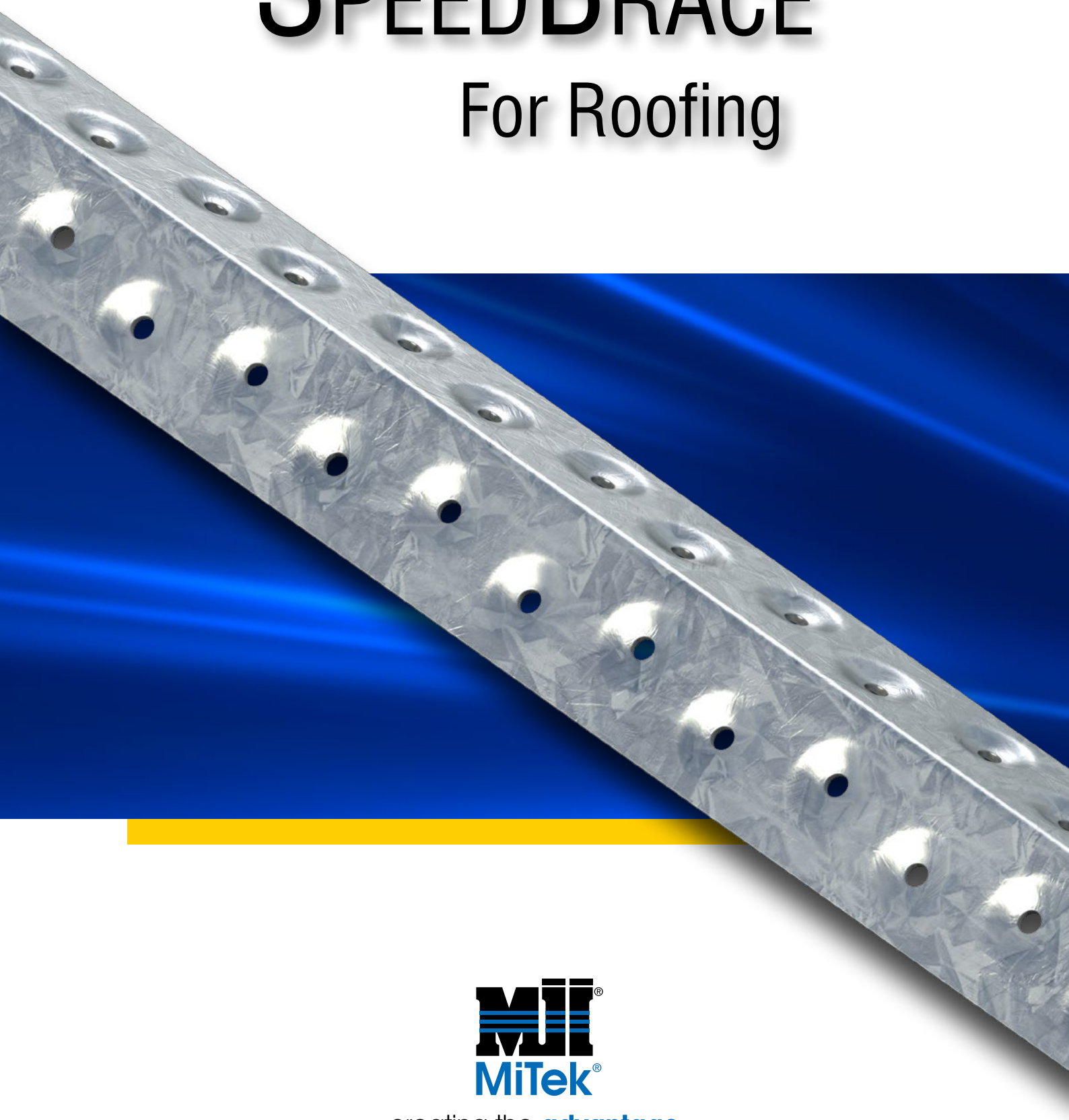
ENGINEERED BUILDING PRODUCTS

SpeedBrace

For Roofing



MiTek®

creating the advantage

FOR ROOF SECURITY UNDER EXTREME WIND CONDITIONS

APPLICATION:

SpeedBrace is a tension bracing system that uses a pre-punched shallow 'Vee' shaped member that is easily handled and installed. SpeedBrace is applied in an 'X' or 'V' pattern to the top of the top chord and braces trusses back to the frame. SpeedBrace is manufactured in accordance with AS4440 steel brace specifications.

USES

- SpeedBrace is a bracing system for bracing roof trusses and wall frames in both low wind speed and cyclonic areas.

ADVANTAGES

- Applied to top of top chord.
- Quick and simple to fix.
- Pre-tensioned - no turnbuckle or similar devices required.
- Pre-punched - nailing made quick and easy.
- Uniform strength - assured performance.

SPECIFICATIONS:

Steel Grade	**G300**
Thickness (Total Coated)	**1.0mm**
Galvanized Coating	**Z275**
Nails	**MiTek 30 x 2.8mm hot dipped galvanized reinforced head.**
Product Code	**SB3.6 - 3.6 metres** **SB4.0 - 4.0 metres** **SB5.0 - 5.0 metres** **SB6.0 - 6.0 metres**

This Engineered Building Product complies with the National Construction Code Series and Australian Standards.

ROOF TRUSS PERMANENT BRACING

Roof trusses must be braced back to the building wall structure. This bracing is essential to prevent rotation or buckling of trusses under the weight of roofing and ceiling material or under wind uplift.

The layout of the bracing is related to span and shape of roof. The following recommendations provide for:

a) Wind Classification areas as specified in Table 1.

b) Walls being stable in their own right.

c) Maximum truss centres - 900mm for tiled roof or 1200mm for sheet roof in Wind Classification for areas up to C2.

IMPORTANT: These details have only been designed to restrain loads imposed by direct action of wind on the roof structure and do not make any allowance for wind loads on walls.

For roofs with truss spans less than the maximum spans in Table 1, use bracing layouts as specified in Typical Bracing Layouts.

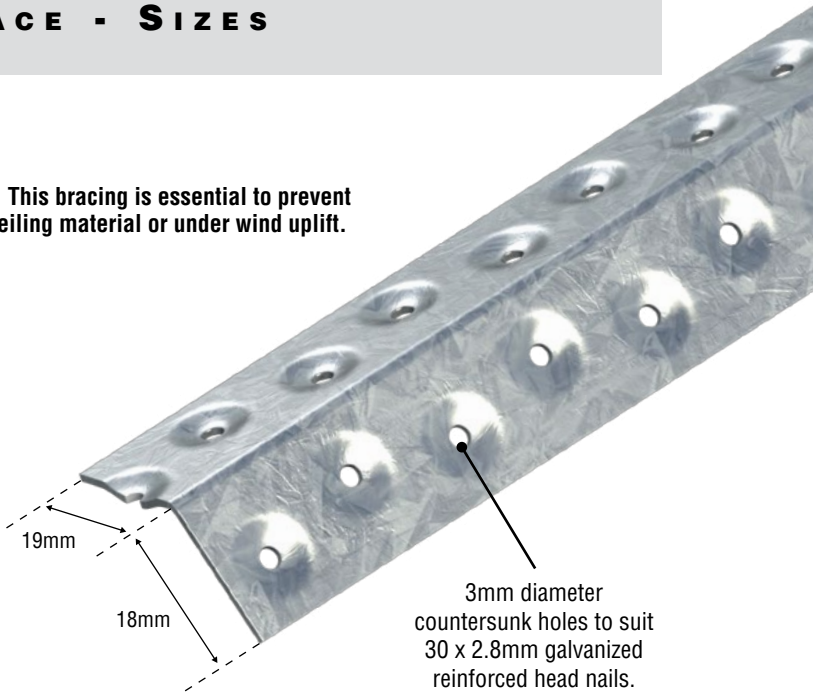
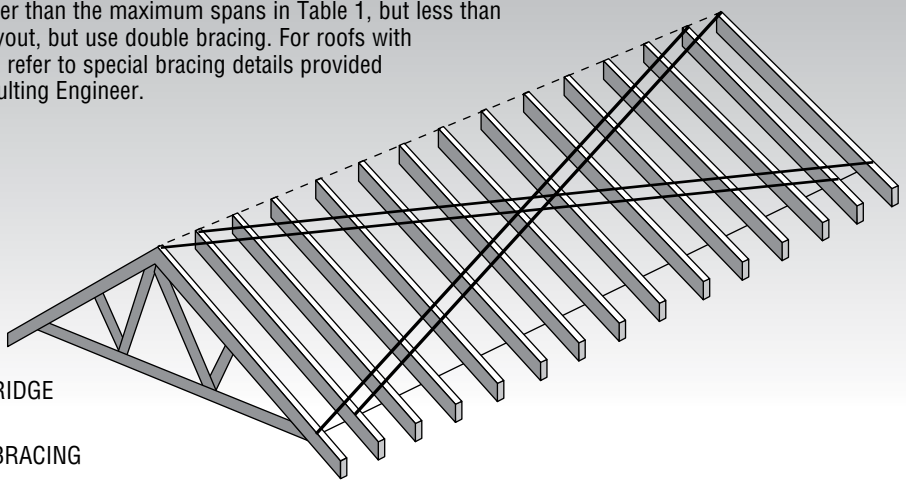


Table 1 - Maximum Truss Span (m) for Single SpeedBrace of Roof Spans 8m to 13m

Roof Pitch	Wind Classification		
	N3, C1	N4, C2	C3
< 15°	13.0	13.0	12.0
15° to 20°	13.0	13.0	11.0
21° to 30°	12.5	10.5	8.5
31° to 35°	11.5	9.5	Not Suitable
36° to 45°	9.5	8.0	Not Suitable

1. Refer to AS4055-1 "Wind loads for housing" for wind classification area.

For roofs with truss spans greater than the maximum spans in Table 1, but less than 13.0 m - adopt same bracing layout, but use double bracing. For roofs with truss spans greater than 13.0 m refer to special bracing details provided by the Truss Fabricator or Consulting Engineer.



LEGEND:

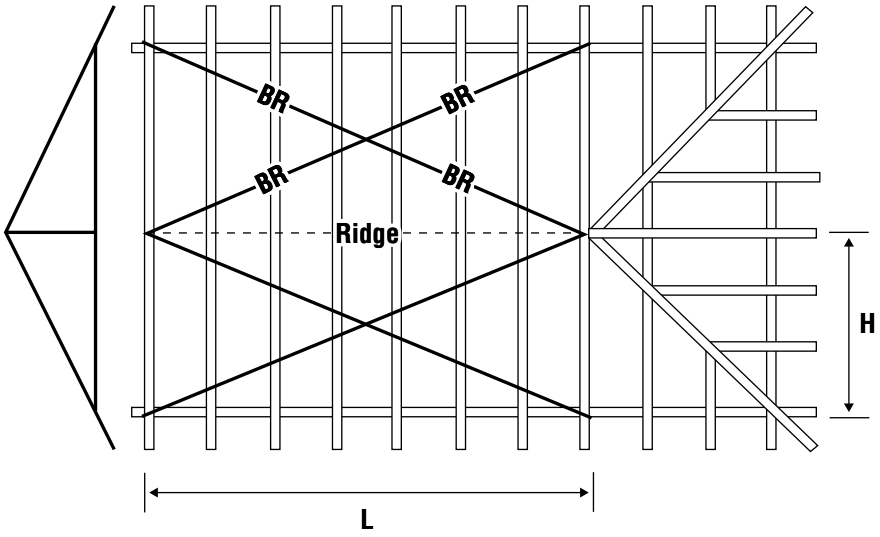
RIDGE

BR — BR BRACING

TRUSS / SUPPORT

GABLE ROOF

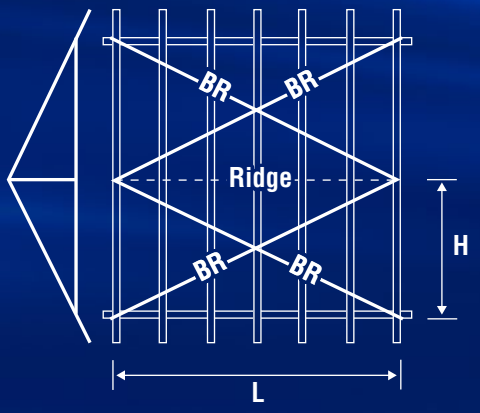
Select a roof layout such that the angle between the ridge line and the brace is between 30° and 45°. There are eight basic bracing arrangements to consider depending on truss span and building length as given above. Bracing bays should extend from end trusses on the building.



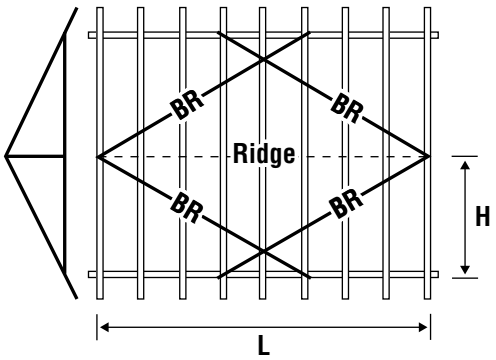
ROOF SPANS LESS THAN 8000mm

The forces in a roof of less than 8000 mm span are relatively low and may be restrained by the use of SpeedBrace in a "V" configuration. The angle of SpeedBrace to wall frame should be between 30° and 45°, and each truss should be crossed with at least two braces.

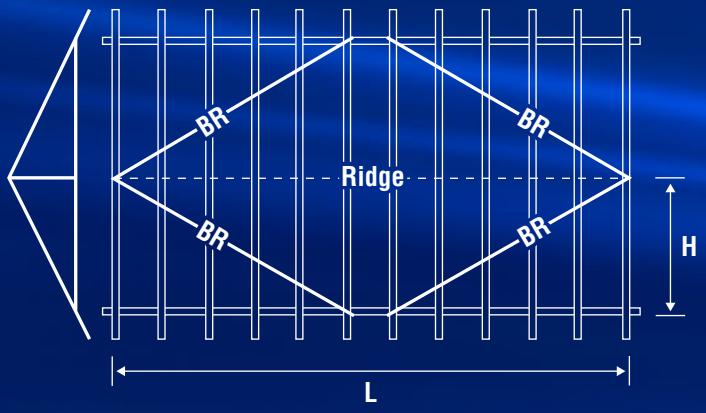
(i) VERY SHORT ROOF. Where the roof length "L" is 1 to 1½ times the half span "h" of the roof truss.



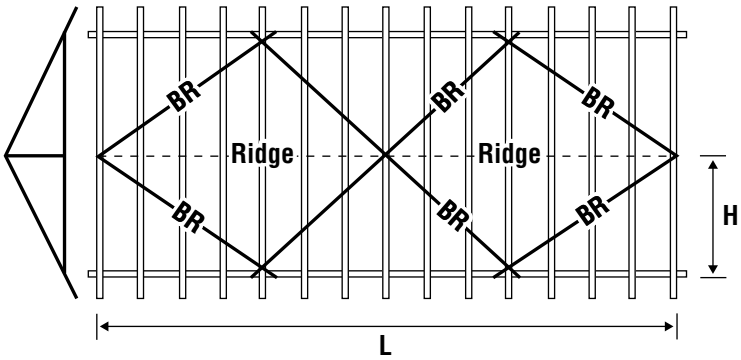
(ii) SHORT ROOF. Where the roof length "L" is 1½ to 3½ times the half span "h" of the roof truss.



(iii) LONG ROOF. Where the roof length "L" is 3½ to 4 times the half span "h" of the roof truss.

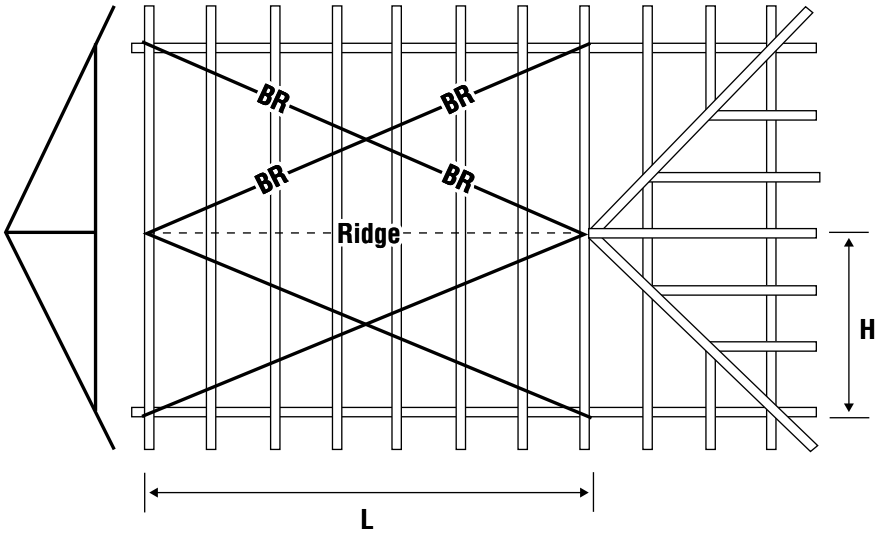


(iv) VERY LONG ROOF. Where the roof length "L" is more than 4 times the half span "h" of the roof truss.



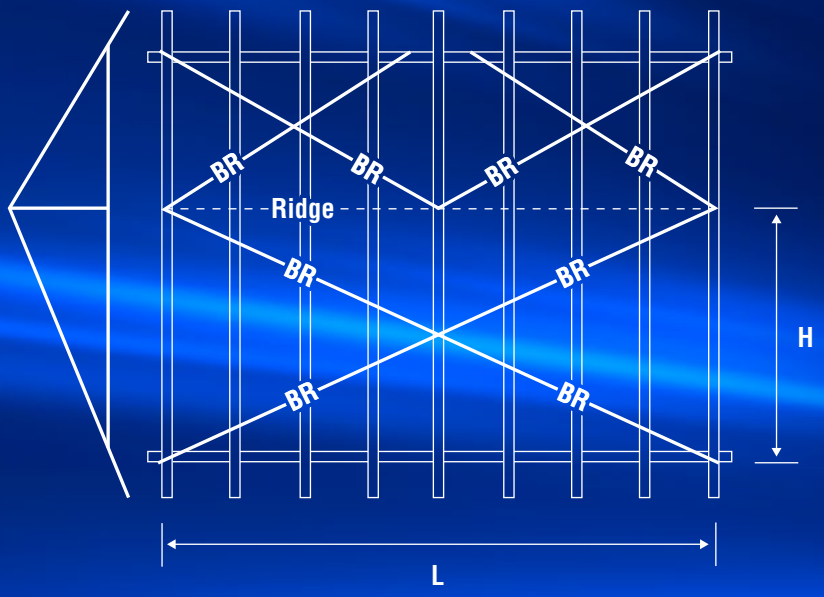
HIP ROOF

For roofs on buildings of rectangular plan with trussed hip ends or dutch hip ends, bracing is required between apex of hip ends only. In such cases, the roof length "L" is taken as being the distance between the intersection of hip and ridge lines at each end of the building, and either of the above gable recommendations adopted.



DUAL PITCHED

On dual pitched roofs and cut-off roofs, where the ridge line is not central on the building, it may be necessary to determine bracing layout from a combination of (i), (ii), (iii) and (iv) above. In such cases each side of the ridge shall be considered as a separate case.



SKILLION

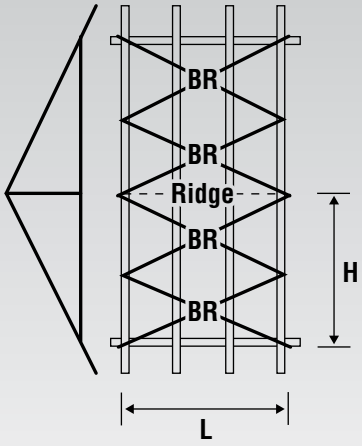
Where the roof consists of half trusses the span of the half truss should be taken as the half span "h" when using the above recommendations and the apex braced to supporting structure.

ROOF SPANS 8000mm TO 13000mm

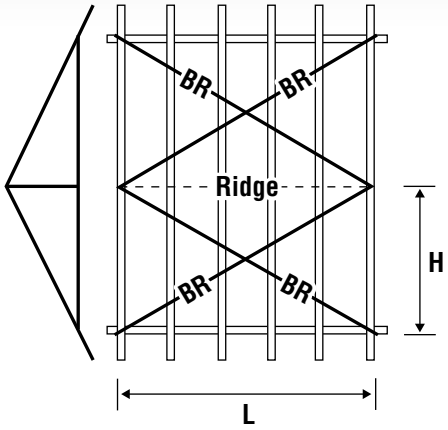
The increase in span increases the forces to be restrained requiring the use of SpeedBrace in an "X" configuration. The angle of the SpeedBrace to the frame should be between 30° and 45°. For larger spans consult your Truss Fabricator for details.

Each truss should be crossed with at least four braces and bracing bays should extend from the end trusses of the building unless noted otherwise below.

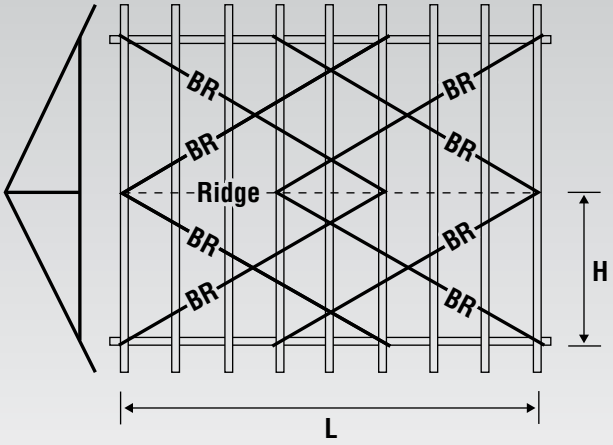
(i) VERY SHORT ROOF. Where the roof length "L" is very short compared with the half span "h" of the roof trusses and would result in a brace angle greater than 45°, a diagonal bracing arrangement is required each side of the ridge line as given below. Bracing bays should be spaced across roof such that the brace angle is always between 30° and 45°.



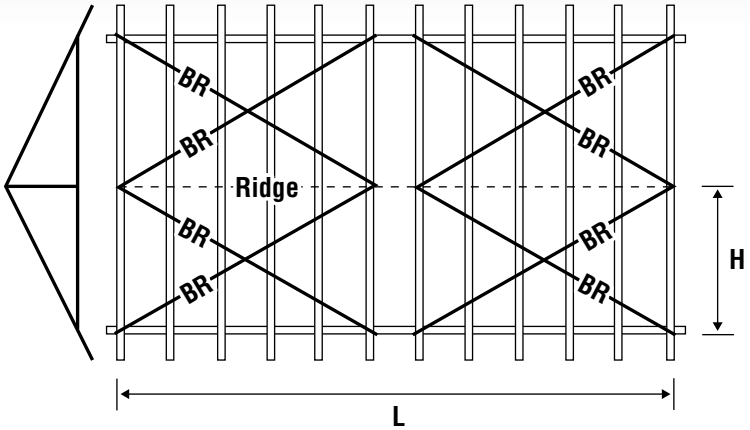
(ii) SHORT ROOF. Where the roof length "L" is of length to give a brace angle between 30° and 45° then only one bay of bracing is required each side of the ridge line as shown.

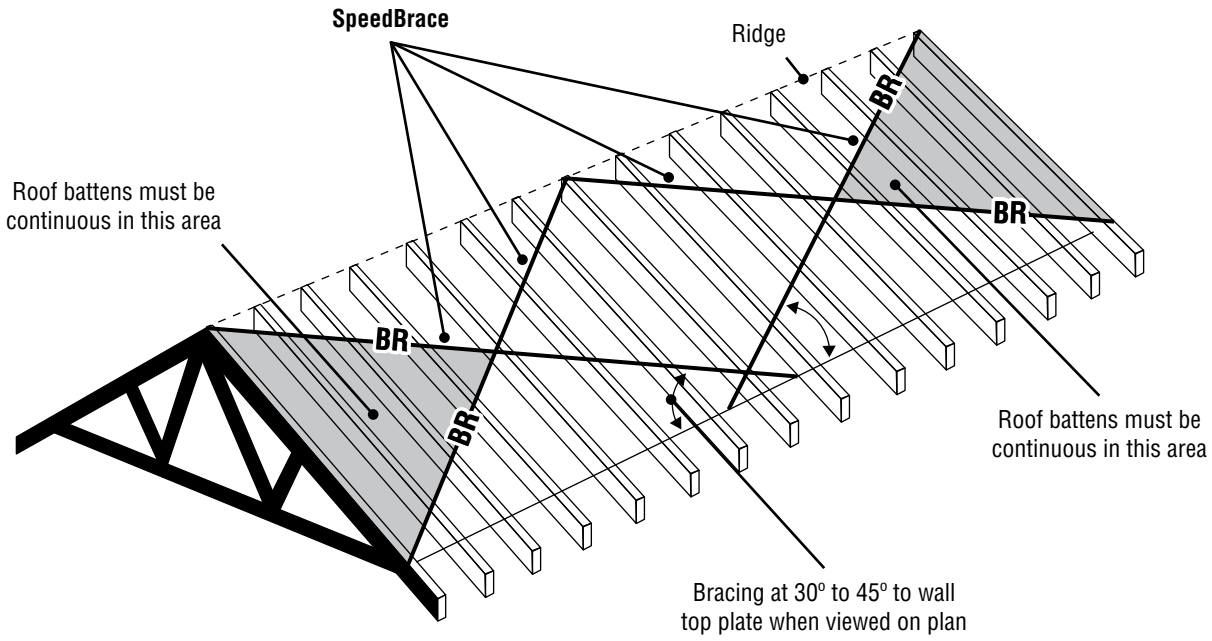


(iii) LONG ROOF. Where the roof length "L" is long compared to the half span "h" of the roof trusses and would result in a brace angle less than 30°, two or more crossed bracing bays are required each side of the ridge to ensure the brace angle is between 30° and 45° as shown.

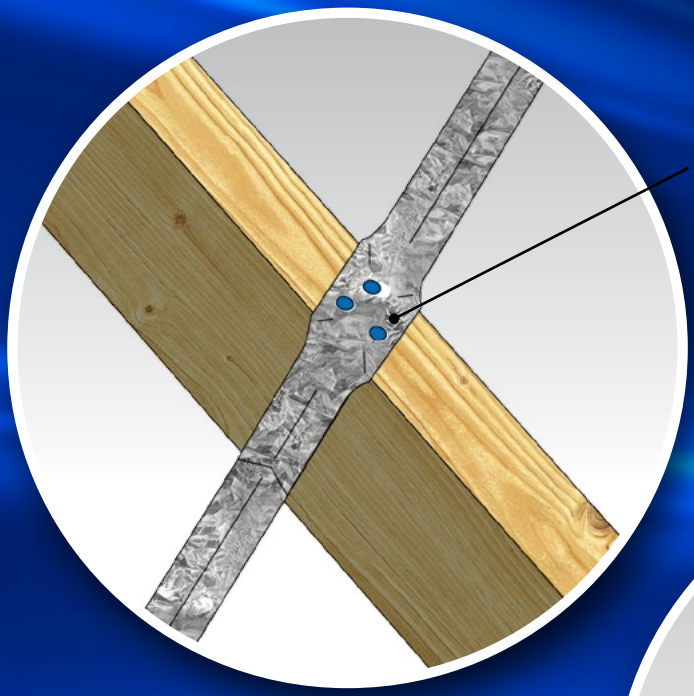


(iv) VERY LONG ROOF. As for long roofs except continue bracing for length of building such that each truss is crossed with at least four braces.

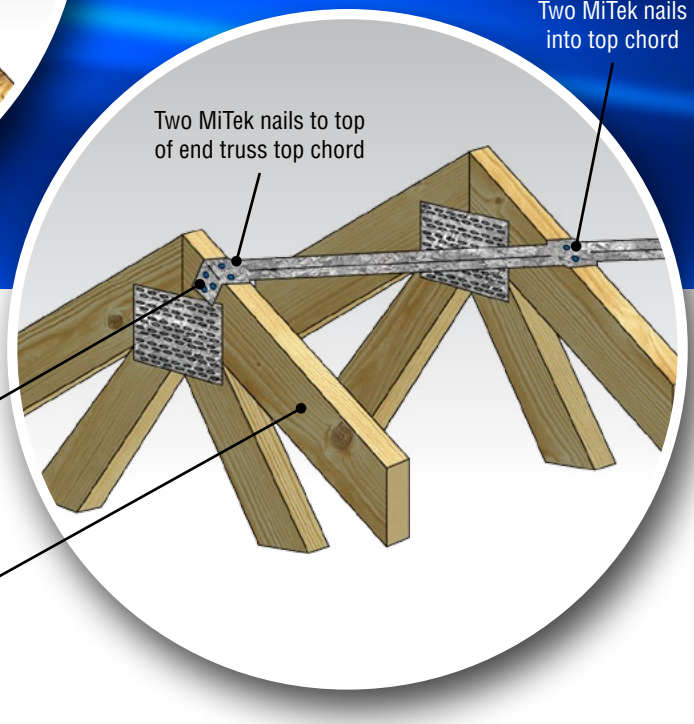




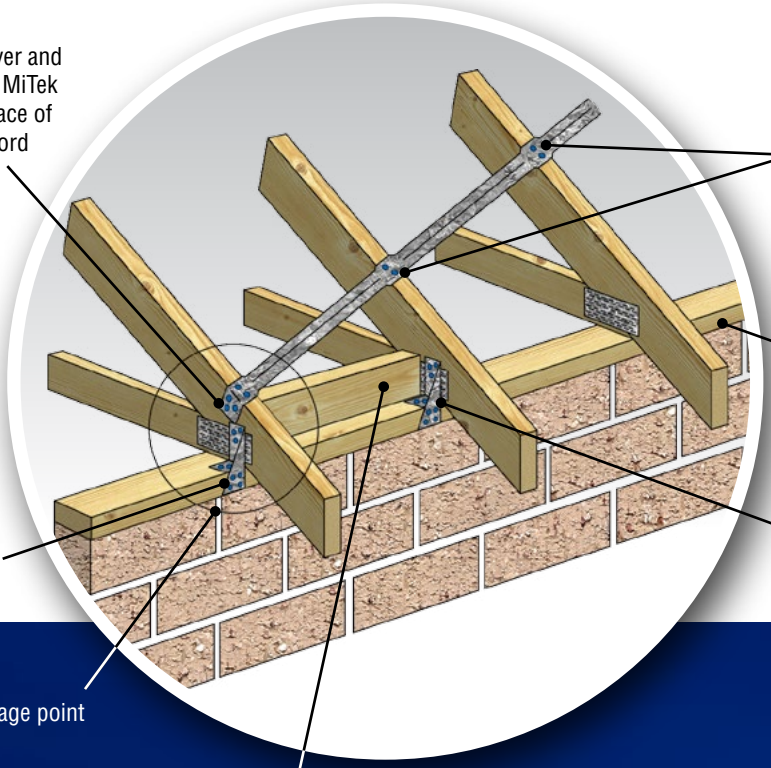
SPLICING DETAIL



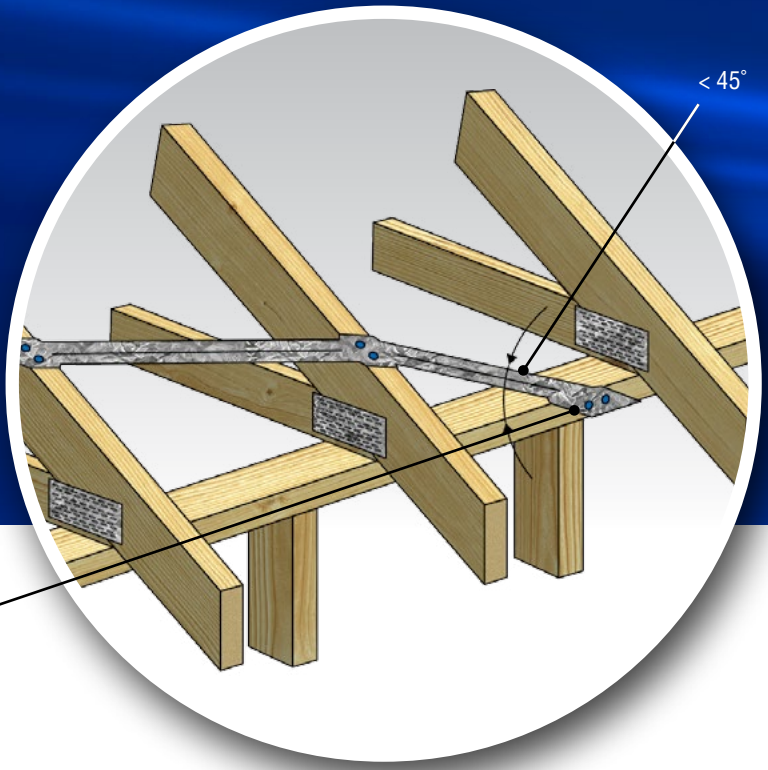
END FIXING DETAIL



HEEL END FIXING DETAIL
TOP PLATE FOR BRICK WALL



HEEL END FIXING DETAIL



For more information about MiTek's Engineered Building Products or any other MiTek products or your nearest licensed MiTek fabricator, please call your local state office or visit: **mitek.com.au**

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