Covers bracing of the roof section on gable end construction.
Includes bracing on extra high gables.
All timber to be minimum grade SG8 as defined in NZS 3604:2011 apart from gable end webs which are either SG6 or SG8 (see Tables 1A & 1B).
Tables cover gable end truss installed as single component 45mm thick, double component 90mm thick, 45x70mm or 45x90mm webs “on flat”.
“On flat” description here refers to truss fabrication terminology.
Design assumes restraints are provided at the ceiling and roof lines.
Bracing covers loading conditions as per NZS 3604:2011 up to Extra High wind and includes full height brick veneer gables.
Height of webs design for wind serviceability deflection limit of h/180 and a maximum of 15mm in accordance with NZS 3604:2011.
TABLE 1A - STRONGBACK LOCATION FOR WEBS @ 600MM CRS.

<table>
<thead>
<tr>
<th>WIND ZONE</th>
<th>70x45 Web</th>
<th>90x45 Web</th>
<th>Double Component Gable End Webs</th>
<th>45x70 on flat</th>
<th>45x90 on flat</th>
</tr>
</thead>
<tbody>
<tr>
<td>SG6</td>
<td>SG8</td>
<td>SG6</td>
<td>SG8</td>
<td>SG6</td>
<td>SG8</td>
</tr>
<tr>
<td>LOW</td>
<td>1750</td>
<td>1900</td>
<td>2200</td>
<td>2450</td>
<td>2650</td>
</tr>
<tr>
<td>MEDIUM</td>
<td>1600</td>
<td>1750</td>
<td>2000</td>
<td>2200</td>
<td>2400</td>
</tr>
<tr>
<td>HIGH</td>
<td>1400</td>
<td>1500</td>
<td>1750</td>
<td>1900</td>
<td>2100</td>
</tr>
<tr>
<td>VERY HIGH</td>
<td>1250</td>
<td>1400</td>
<td>1600</td>
<td>1750</td>
<td>1900</td>
</tr>
<tr>
<td>EXTRA HIGH</td>
<td>1150</td>
<td>1350</td>
<td>1300</td>
<td>1450</td>
<td>1700</td>
</tr>
</tbody>
</table>

*Use these values for full height brick veneer attached to gable end.
Please note that the maximum height of brick veneer on a gable end wall is 5.5m.

TABLE 1B - STRONGBACK LOCATION FOR WEBS @ 400MM CRS.

<table>
<thead>
<tr>
<th>WIND ZONE</th>
<th>70x45 Web</th>
<th>90x45 Web</th>
<th>Double Component Gable End Webs</th>
<th>45x70 on flat</th>
<th>45x90 on flat</th>
</tr>
</thead>
<tbody>
<tr>
<td>SG6</td>
<td>SG8</td>
<td>SG6</td>
<td>SG8</td>
<td>SG6</td>
<td>SG8</td>
</tr>
<tr>
<td>LOW</td>
<td>2000</td>
<td>2200</td>
<td>2550</td>
<td>2750</td>
<td>2950</td>
</tr>
<tr>
<td>MEDIUM</td>
<td>1800</td>
<td>2000</td>
<td>2300</td>
<td>2550</td>
<td>2750</td>
</tr>
<tr>
<td>HIGH</td>
<td>1600</td>
<td>1750</td>
<td>2000</td>
<td>2200</td>
<td>2400</td>
</tr>
<tr>
<td>VERY HIGH</td>
<td>1450</td>
<td>1600</td>
<td>1850</td>
<td>2000</td>
<td>2200</td>
</tr>
<tr>
<td>EXTRA HIGH</td>
<td>1400</td>
<td>1550</td>
<td>1500</td>
<td>1750</td>
<td>2100</td>
</tr>
</tbody>
</table>

*Use these values for full height brick veneer attached to gable end.
Please note that the maximum height of brick veneer on a gable end wall is 5.5m.

SELECTION PROCESS

- Where (a) is less than or equal to (h) - no strongback required.
- Where (a) is greater than (h) but less than 2(h) - lower strongback is required.
  Locate the strongback at height of (a/2).
- Where (a) is greater than 2(h) but less than 3(h) - lower and upper strongbacks are required.
  Locate strongbacks at height increments of (a/3).

STRONGBACK OPTIONS

- 90x45 on edge: Fix to each truss web with 2/ LUMBERLOK Blue Screws
- 90x45 on flat: Fix to each truss web with 2/ LUMBERLOK Blue Screws
- 90x45 on flat plus 90x45 on edge: Fix with 90mm nails @ 150mm crs.
- 90x45 on flat plus 90x45 on edge: For double component webs fix with LUMBERLOK CPC40 with 2 /14g screws per flange

TABLE 2 - STRONGBACK SPAN AND GABLE BRACE LOCATION

<table>
<thead>
<tr>
<th>OPTION 1</th>
<th>OPTION 2</th>
<th>OPTION 3</th>
<th>OPTION 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>90x45 on edge</td>
<td>140x45 on edge</td>
<td>90x45 on flat</td>
<td>90x45 on flat plus 90x45 on edge</td>
</tr>
<tr>
<td>Max. span and/or gable brace location 1200mm</td>
<td>Max. span and/or gable brace location 1400mm</td>
<td>Max. span and/or gable brace location 1600mm</td>
<td>Max. span and/or gable brace location 2000mm</td>
</tr>
</tbody>
</table>
LUMBERLOK CPC80 fixed with 4/ 14g screws per flange for strongback Option 3 & 4

5/ LUMBERLOK Blue Screws for strongback Option 1 & 2

Gable end truss Truss web

Dashed line indicates 90x45 on flat where strongback Option 4 is used

Fixings (required on all webs) as per Strongback Options on previous page

Gable brace location as per Table 2

Indicates gable brace location as per Table 2

Dashed line indicates 90x45 on flat where strongback Option 4 is used

Upper brace (if required 2/ 90x45, max. length 5m. Nail together with 90mm nails@ 250mm crs.)

Upper strongback as per Table 2

Gable brace as per next page

Upper strongback span maximum 2000mm using strongback Option 4

2/ 90x45mm runner as required for upper brace

Lower strongback as per Table 2

Upper strongback as per Table 2

Lower strongback as per Table 2

Double strongback details for all gable end options

(full height brick veneer option shown)
LUMBERLOK CPC80 fixed with 4/14g screws per flange at each gable brace connection to strongback.

Gable brace 90x45 up to 2m long. 2/90x45 above 2m long. See Table 2 for spacing.

2/90mm skew nails plus a pair of LUMBERLOK Sheet Brace Straps 200mm fixed with 6/30 x 3.15mm nails each end.

Gable end truss

Strongback on edge (Options 1, 2 and 4)

Strongback on flat (Option 3)

90x45 runner over 3 trusses. Fix to truss bottom chords with single LUMBERLOK Multigrip fully nailed with 30 x 3.15mm plus 2/90mm skew nails.

LUMBERLOK CPC80 fixed with 4/14g screws per flange at each gable brace connection to strongback.

GABLE BRACE DETAIL FOR ALL GABLE END OPTIONS (full height brick veneer option shown)

Full height brick veneer - Max. height 5.5m on gable end wall, Clause 1.1.2(o) NZS 3604:2011

Note: Double component gable end truss or 45x90 webs on flat required for full height brick veneer gable.

Stud wall as per NZS 3604:2011

Stud wall as per NZS 3604:2011

Cross section (full height brick veneer option shown)