

GABLE END FRAMING



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The construction of a Gable Ended Roof may appear simple, but it unfortunately is not well understood. There are a number of different ways in which Gable Ends or verge overhangs can be constructed.

These include:

1. Cantilevered battens
2. Underpurlins
3. Outriggers over Raking Truss
4. Verge sprockets

The selection of a particular method will depend on a number of factors including verge overhang distance, roof and ceiling material, truss spacing, end wall construction, wind load and preferred local building practice and cost.

Gable End Studs

Gable End Studs are required (see Fig.1) to provide support to the cladding material or brickwork.

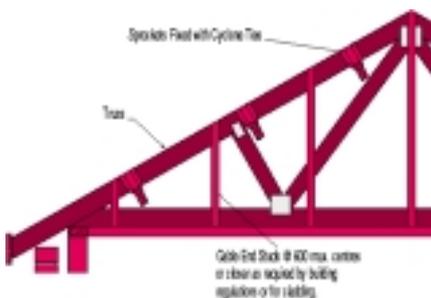


Fig. 1 Gable End Truss with Sprockets

In some cases, studs for gable ends may be narrower in depth than standard studs in order to accommodate a raking truss, eg. 90x35 (F5) standard studs for the support structure, with 70x35 (F5) studs at the gable end.

The size, grade and fixing requirements should comply with AS1684 "Timber Framing Code" or local building regulations.

End Wall Bracing

Gable end walls on buildings with horizontal ceilings require bracing to provide lateral stability to the end wall top plate.

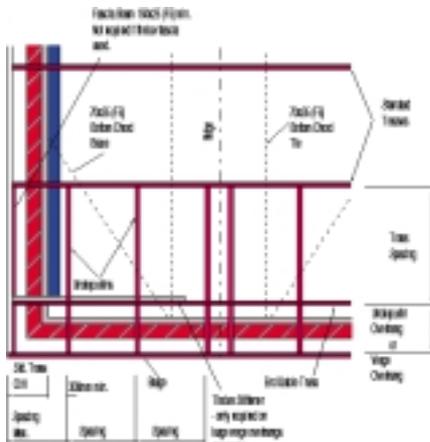


Fig. 2 Part Plan

This applies to both trussed and conventional roofs where trusses or ceiling joists run parallel to the end wall.

Suitable bracing would be provided by permanent bottom chord ties, hanging beams or binders at centres require by Timber Framing Manuals.

Ties, hanging beams or binders should be securely fixed to the end gable wall plate and be diagonally braced to the side walls. (see Fig. 2)

Standard Truss at Gable Ends

To avoid using special trusses, a standard truss may be used to provide a framework on which to construct the Gable End.

This end standard truss may be either supported along the full length of the gable end wall, or alternatively at its heels, just inside the end walls.

In this case it is important to securely fix the truss to each gable end stud.

In both cases provision should be made to ensure studs and lintel over openings are adequate to transfer roof loads from gable end studs to the foundations

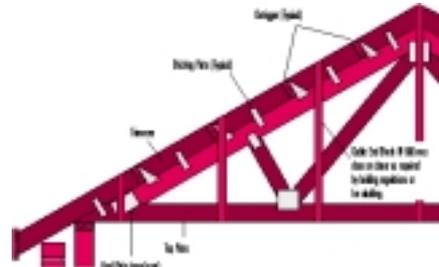


Fig. 3 Raking Truss With Laminated Top Chord

unless a special truss has been designed for the additional loads.

Raking Truss at Gable Ends

Raking trusses are special trusses with larger top chords cut-out to accommodate outriggers. (see Fig. 3)

They may be supported over the end gable wall or inside the end wall as noted above for standard end gable trusses.

In all cases, raking trusses should be securely fixed to gable end studs and the supporting wall should be capable of transferring roof loads from the gable end studs to foundations.

Due to the cut-out in the top chords, care should be taken to ensure adequate support is provided to the verge overhang near the truss heel joint. A hip verge rafter is recommended for larger overhangs.

Fixing of Ceilings

Where trusses are supported over the end wall, a fixing batten may be required to provide a base on which to secure ceiling material.

This batten should be nailed to the inside face of the bottom chord for the full truss length.

Ceilings may be fixed direct to trusses supported inside the end wall.

Trusses with Eaves Overhangs

The method used to construct Gable Ends is often governed by the length of the verge overhang.

Cantilevered battens are suitable for small overhangs, while verge rafters or sprockets are required where verge overhangs are larger.

In the absence of special designs, it is recommended that verge overhangs be limited to a maximum of truss centres or 900mm.

Whatever the method used, clear instructions should be provided to the builder to ensure the roof is installed as designed.