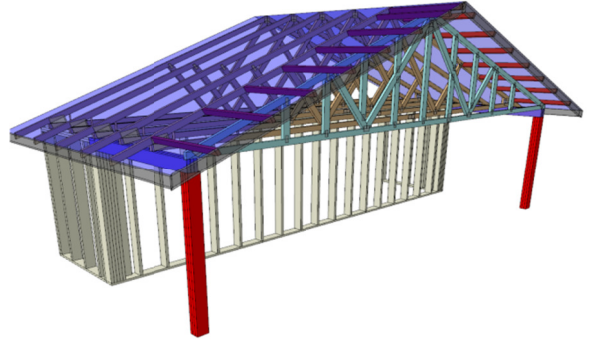


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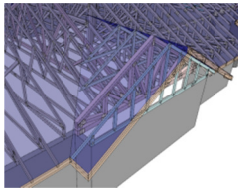
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Special Load Considerations for Trusses

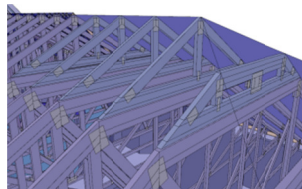
There are many conditions that impose additional loads on a truss even though it may not be a traditional girder. Additional loading is to be applied when the weight of the material and or variable loads supported by a truss is greater than basic loading (minimum specified loads). The most common example is a structural gable truss. The additional loading includes the weight of the studs, cladding and the modified tributary of the basic loads. An example of how to calculate the loads is on the following page.



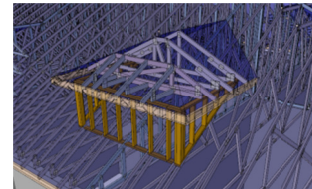
Some other examples that require special consideration of additional loading would include but is not be limited to:



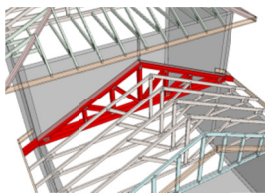
Valley truss over framing



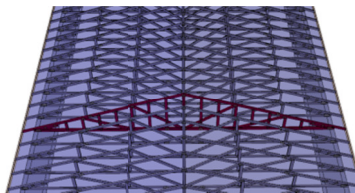
Piggy back trusses



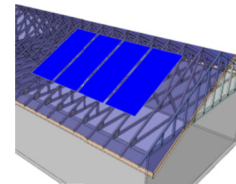
Walls supported on common trusses (ie false dormers)



Self weight of heavy girders



Cladding applied on unsupported smoke separation gables



Solar panels

An additional consideration when supporting non uniform loads is to be aware that the load sharing increase is not allowed when the applied loads are not mutually supported by three or more trusses at a maximum spacing of 24" o/c.

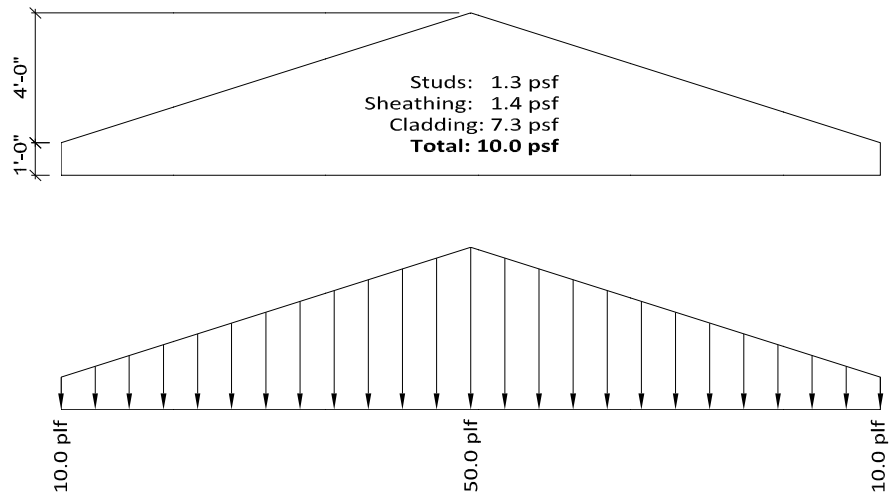
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Special Load Considerations for Trusses

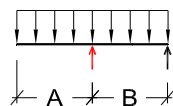
Following is an example of the load considerations for a structural gable truss:

1. **Self Weight:** determine the uniform area loading of the gable studs, gable sheathing and exterior finish. The loading may be distributed between the top and bottom chords or fully applied on the bottom chord. This load is to be applied to the truss as a dead load. See example to the right:



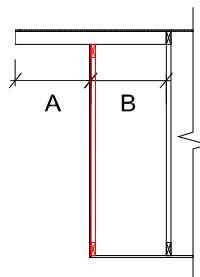
2. **Tributary:** gable trusses have unique load conditions as the top and bottom chord tributaries are typically not the same. The ladder rung (aka outlook) acts as a cantilever drawing load to the gable top chord. The following formula (and examples) is recommended to accurately determine the effective tributary area appropriate for loading a gable truss:

$$\text{Top Chord Tributary} = (A+B)^2 / (2B)$$



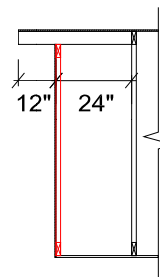
$$\text{Bottom Chord Tributary} = B/2$$

$$\text{Top Chord Tributary} = (A+B)^2 / (2B)$$



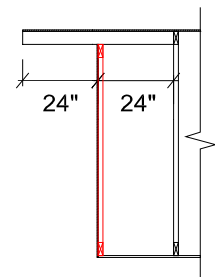
$$\text{Bottom Chord Tributary} = B/2$$

$$\text{Top Chord Tributary} = 27''$$



$$\text{Bottom Chord Tributary} = 12''$$

$$\text{Top Chord Tributary} = 48''$$



$$\text{Bottom Chord Tributary} = 12''$$

The truss design loading should be determined in all load cases, using this approach, to reflect the load conditions. Longer overhangs may require special design considerations to resist overturning.