

Technical Memo: Partition Separation

WHAT IS PARTITION SEPARATION?

Partition separation shows as gaps that develop between interior partition walls and ceilings or floor finishes, usually characterized by opening in winter and closing in summer. Partition separation is usually worse during the first year after construction when the house is drying out.

WHAT CAUSES IT?

There are numerous causes of partition separation. Truss design and manufacture is sometimes singled out as the cause of the problem, **but this is not correct**. Truss design and manufacture has little control over partition separation. It has been recognized that partition separation is a result of truss movement **less than 20% of the time**.

Design and inconsistent framing practices lead to problems. For example poor bearing support and soil bearing capacity, fluctuating water table, settlement, shrinkage, site-wetted lumber, poor attic ventilation, and leaking ceiling air/vapour barriers allowing intrusion of moist air. If truss movement continues after the first year of construction, the attic environment is almost always the cause. Wood expands and shrinks according to the amount of moisture it holds in a given relative humidity environment.

Tests have determined that when a pitched truss in an attic has its bottom chord buried in insulation, it remains relatively warm and dry. The top chord however is exposed to the attic relative humidity and therefore will be colder and wetter than the bottom chord in winter months. The top chord will expand relative to the bottom chord, and the result is an upward bow in the bottom chord. If the walls are firmly fastened to the trusses, the whole partition may also be lifted. **Do not alter the trusses in any way**; this movement is of no structural concern with respect to the trusses. **Don't pull trusses down to the plates**.

SOLUTION.

Insist that the drywall contractor use floated corners at interior non-bearing walls for instance as illustrated in Figures 1 & 2 below. Note that the first row of fasteners should be doubled to prevent pull-through.

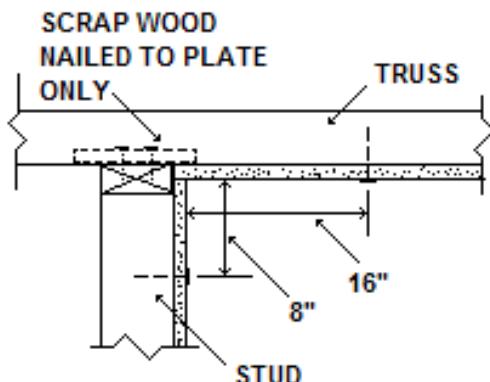


Figure 1

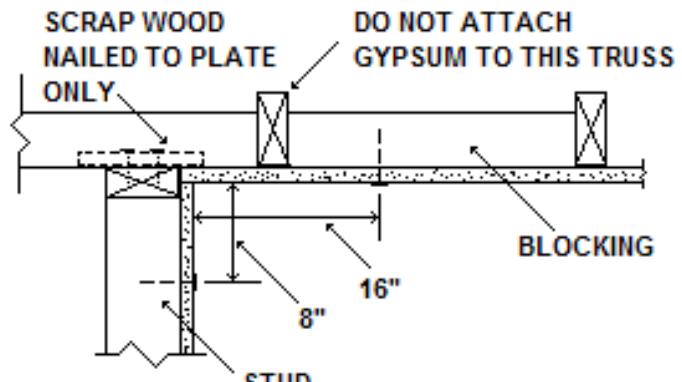


Figure 2

As an alternative, crown molding may be fastened to the ceiling only, so as to allow free movement of the ceiling relative to the wall and at the same time covering any gaps.

This information is intended to provide guidance only. Note that fire ratings may be required and therefore specific fire designs will take precedence. Local authorities having jurisdiction should be consulted prior to construction.