

Precision Points

Live Load Deflection 01

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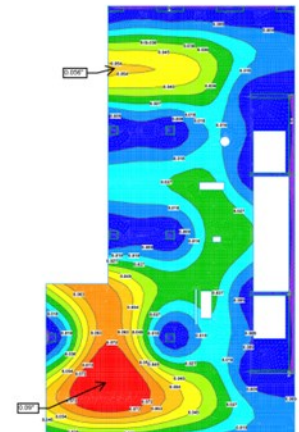
10.10.2024

Live Load Floor and Roof Deflection affects many components in the building (exterior & interior) and has cost implications if not determined prior or during bidding.

The following is most likely affected by live load deflection (cost and possibly time):

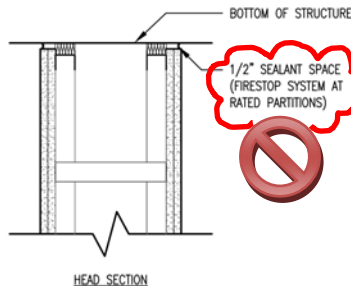
- Head track size for typical partitions (exterior and interior)
- Head track size for fire rated walls
 - Curtainwall detailing
 - Precast detailing
- Air/vapor barrier detailing
- Masonry wall detailing
 - Roofing

Live Load Deflection: Max Deflection Plan



Make this question one of the first questions or RFI's. If the Architect or Structural Engineer is unable to give you a live load deflection dimension, use the code maximum of L/360, (the maximum that the deflection could be for floors and L/240 for roofs. However, we would expect/hope that the live load deflection would be less than that...for example, a 30'-0" beam span would be $(30 \times 12) / 360 = 1"$.

* We typically find 1/2" noted on the partition drawings, which is only showing the distance to hold down the drywall, and **not** the actual structural deflection; however, this is all the information anyone has to bid, and is typically incorrect when asked. **Always ask the question.**



As discussed in the Fire-Rated Head-of-Wall Quality Bulletin series, the distance to hold the drywall down is a relationship between the Live Load Deflection and the ability of the fire or sound sealant to move. (plus spray fireproofing if installed without a z-furring)

Deflection as it relates to the top track of partitions:

1/2" Deflection = 2" Head Track 3/4" = 2 1/2" 1" = 3"

1.25" or more = 4" head track, which is a special order and typically an 18ga minimum.

Any size larger than a 1" deflection will require a tested intumescent top track or strip, because sealant no longer is able to test greater than for a 1" live load deflection.

Obtaining the live load deflection prior or during bidding will reflect an actual cost for the top track, acoustical sealant, and fire stopping, rather than an extra that we have all seen when we ask the question too late (such as in a Pre-Installation Meeting).