Precision Points

Interior Lateral Deflection 01

010000 10.10.2024

There are two types of deflection when it comes to walls:

Live Load Floor Deflection (*up & down*)

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Interior Lateral Load Deflection (*in & out*)

The specifications in Division 09, framing or drywall sections will identify the interior lateral load (*in & out*) deflection:

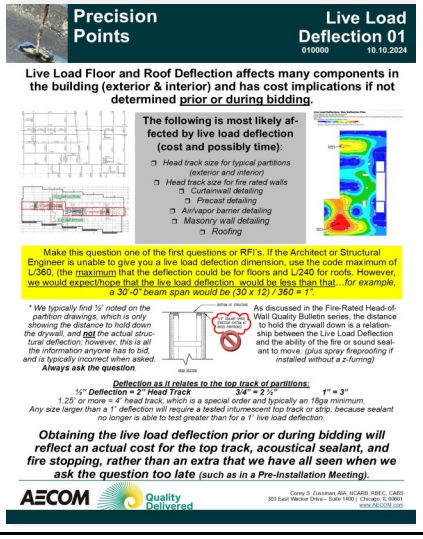
(This will determine the dimension from plumb when we push up against the wall)

	USE	DESIGN PRESSURE	MAXIMUM DEFLECTION
Wall Performance Criteria (General…if not specifically noted on the drawings):	Wall enclosing stairs, elevator hoistways, and other vertical shafts	10#/ft^2	L/120
	Wall enclosing vestibules, ground floor lobbies, and similar intermittent exposure to exterior wind conditions	15#/ft^2	L/240
	Walls scheduled with tile backer board, moisture resistant bd, or abuse resistant bd	5#/ft^2	L/360
	Walls scheduled to receive tile, lath & plaster, or veneer plaster.	5#/ft^2	L/360
	Typical interior wall/partition	5#/ft^2	L/240
	Interior ceilings/soffits and bulkheads	5#/ft^2	L/360

When we request the Live Load Deflection, we are asking the Structural Engineer to review the structural components and give us a maximum deflection (center of span) so that we could properly design the head track and fire rated head of wall joint.

If the Architect responds with "L/240" or "*review the specification*", they are typically referring to Lateral Deflection and further discussions will be needed.

Please review Precision Points "*Live Load Deflection-01*" *dated 10.10.2024* for more information on structural Live Load Deflection (*up & down*).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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

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 defection 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 x 12) / 360 = 1".

* We typically find ½" 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:

½" Deflection = 2" Head Track 3/4" = 2 ½" 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).*

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