

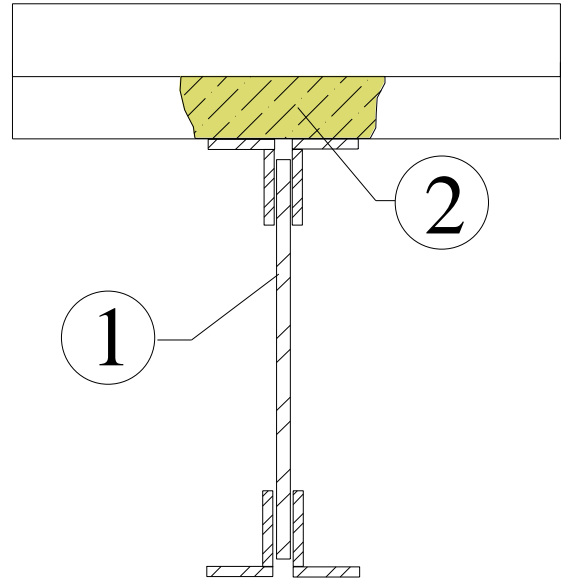


“Horseshoe” Frame Deflection – Unprotected Open Web Truss/Joist

- **Unprotected Open Web Truss/Joist**
- **Maintain Wall Rating/Deflection**
- **Tabbed Track (Bottom of Truss/Joist)**
- **Cavity Fill – Match Wall**
- **Drywall In-Fill around Penetrations**
- **Deflection Gap Framed Around**

1) **Structural Support** – Unprotected Steel Open Web Truss/Joist Penetration perpendicular to rated wall assembly

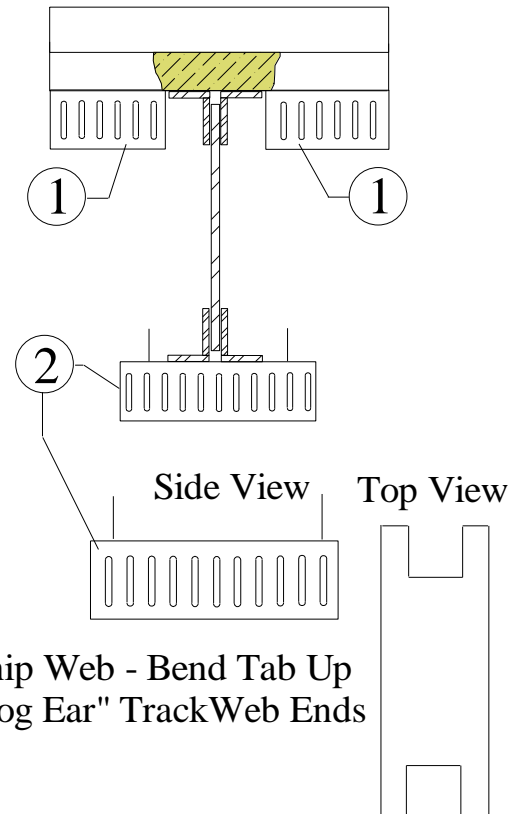
2) **Mineral Wool** – Min. 4 pcf mineral wool compressed a min. 25% filling fluted voids above Truss/Joist



1) **Deflection Track** – Deflection track (slotted or solid leg) profile attached to overhead substrate butting into Spray Applied Material

2) **Tabbed Deflection Track** – Deflection track with web snipped at each end forming attachment tabs

Alternate: Fasten angle clips to create attachment tabs at end of track profile

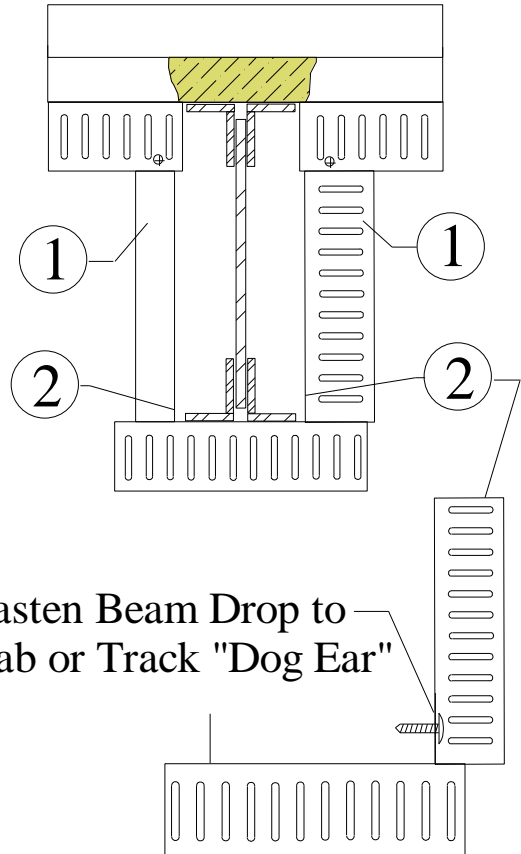




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“Horseshoe” Framing - Framing – Deflects & Cycles with Beam & Horizontal Substrate independent of Wall Framing and Gypsum Sheathing

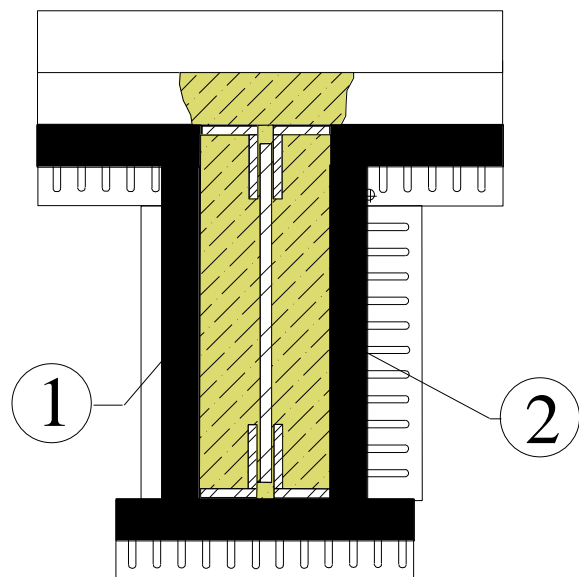
- 1) **Beam Drops** - Beam Drop Backing min. 25ga framing material (Stud or Track profile) to extend from upper deflection track down to deflection track under beam.
- 2) **Attachment** – Fasten Beam Drop sections to upper deflection track and attachment tabs of deflection track under beam with typical steel fasteners



Fasten Beam Drop to Tab or Track "Dog Ear"

Penetration Drywall “In-Fill” Install

- 1) **Safti-Seal FRG** – Apply Safti-Seal Fire Rated Gasket (FRG) to deflection track and beam drop framing materials continuous
 - Horizontally at deck and under beam install FRG width to accommodate specified deflection
 - Vertically at beam drop backing a min 3/4” wide FRG (FRG-50) applied continuous from deflection track to deflection track
- 2) **Cavity Fill** – Fill “Truss/Joist cavity” similar method as wall assembly (i.e. fiberglass insulation for STC values)





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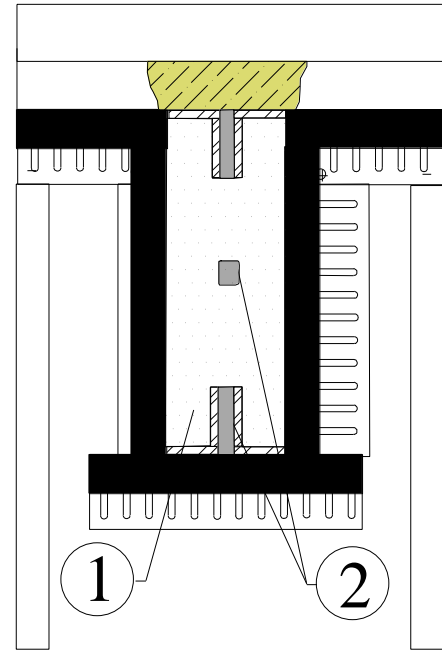
1) **Finished “In-Fill” Drywall** – Contour cut “In-fill” drywall around Truss/Joist penetrations, overlap vertical FRG a min. 1/4", and attach to “horseshoe framing” with typical drywall fasteners

2) **Penetration Seal** -Seal annular space around penetrations with sealant or drywall mud for ambient air seal and to maintain STC rating

- **“In-Fill” Drywall and sealed penetrations will deflect with floor & Truss/Joist up to 4.00”**

- **Do not fasten wall sheathing to "Horseshoe" framing around beam penetration**

- **Do not fasten vertical stud framing to vertical “beam drop” framing**



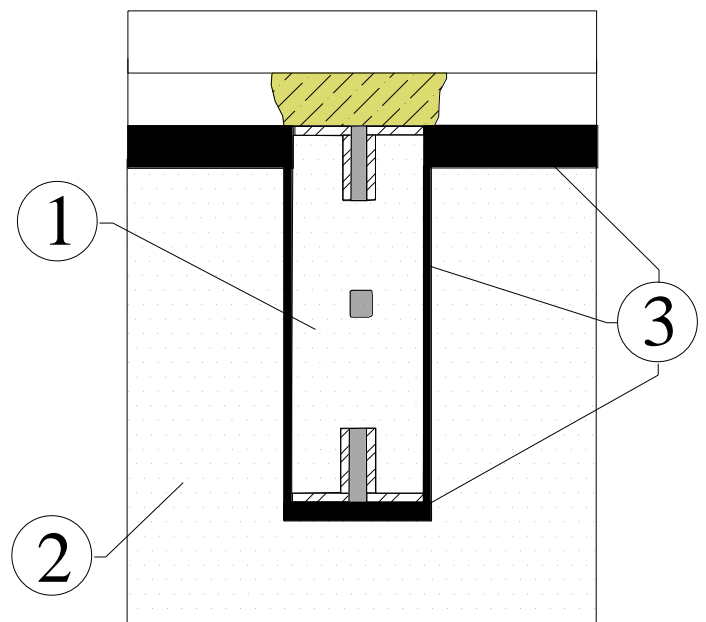
1) **Finished “In-Fill” Drywall & Penetration Seals** – “In-Fill” drywall around Truss/Joist penetrations, overlap vertical FRG a min. 1/4", attach to “horseshoe framing” with typical drywall fasteners, and Seal around Chord and Web Penetrations

2) **Square Cut Drywall** – Square cut drywall installed “framed” around Truss/Joist and In-Fill drywall overlapping FRG (Fire Rated Gasket) a min. 1/4" with horizontal deflection gaps at deck & below Truss/Joist

- **Vertical “shear” gaps – edges of In-Fill drywall allow deflection**

-**Do not attach** square cut drywall to Deflection Tracks or Horseshoe Framing

3) **Safti-Seal FRG** – Exposed FRG (Fire Rated Gasket) protection of deflection joints surrounding Truss/Joist & In-Fill Drywall



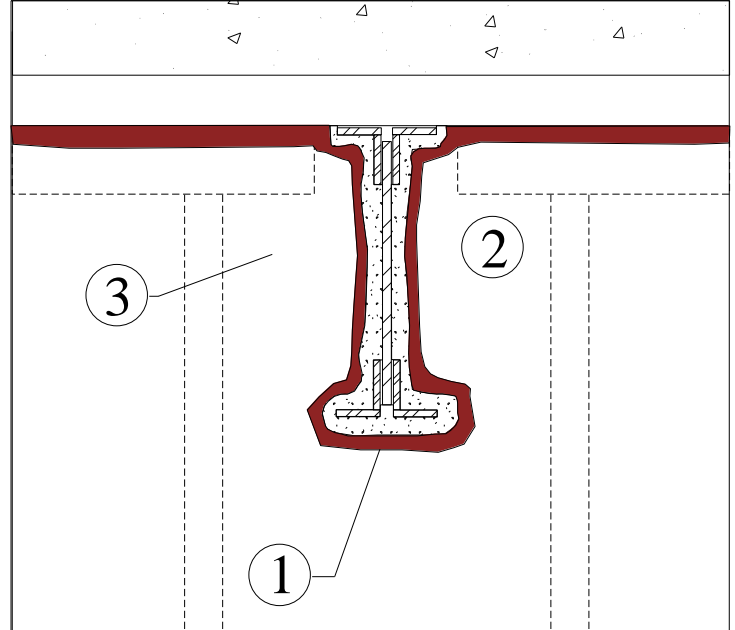


“Horseshoe” Frame Deflection – Unprotected Open Web Truss/Joist

Comparison Alternates - UL 2079

- Require Lath & SFRM Coated Truss/Joist
- Max Deflection: 1/16” Compress Only

- 1) **Missing Backing Support** – No framing under beam as backing to support to hold joint sealants in place
- 2) **Sealant Shearing Failure** - Third-party certified for **1/16” compression only** “vertical shearing” of failure of sealants applied to Spray Applied Material and Gypsum
- 3) **Contour Cut Gypsum** – Max 1/2” to 3/4” gap around beam – consideration how to cut gyp for install and repairs of “split board” install



Limited Deflection: Max 3/8” Overall

- 1) **Header Framing** – Header framing required a min 1” below SFRM applied to beam allowing for additional compressed mineral wool fill below beam as well as in beam cavity
- Header Framing Doesn’t deflect with Deflection of I-Beam/Horizontal Substrate
- 2) **Square Cut Drywall** – Square cut drywall edges need be supported by “framed out” metal framing
- 3) **Sealant** – Sealant required min 1/8” thickness covering all mineral wool overlapping a min. 1” onto gypsum and 2” onto SFRM Spray Applied Material per UL listed requirements

