



Top-of-Wall Bond Beam for Masonry Walls

There are three different conditions which require different solutions with masonry walls:

- A) Non-load bearing masonry wall built below framing, used to resist out-of-plane loads only.
- B) Non-load bearing masonry wall built below framing, used to resist both out-of-plane loads and in-plane loads (masonry shear wall, masonry wall in hybrid frame, etc.)
- C) Load bearing walls, with no framing members above.

For Condition A, a top-of-wall bond beam is both:

- 1. Difficult, (grouting, bar placement, etc)
- 2. Not necessary. Some think the bond beam is good for integrity, but horizontal joint reinforcement is there for integrity. Therefore a difficult, costly, and unnecessary bond beam that slows down construction should not be used for partition walls or exterior masonry walls that only resist out-of-plane loads.

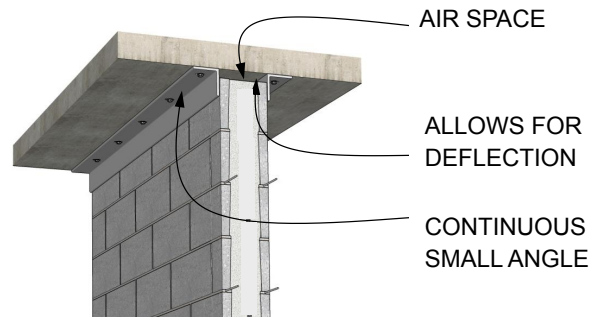


Figure 1: continuous angles

Suggestions for Condition A:

- 1. First option would be to use SMALL continuous angles at the top. Small angles (L2x2 or L3x3) are easy to fasten, and easy to handle - NO TOP-OF-WALL BOND BEAM. See Figure 1.
- 2. Second option would be to place heavier angle connections at the reinforced cores (when reinforcing is required) - NO TOP-OF-WALL BOND BEAM. See Figure 2.

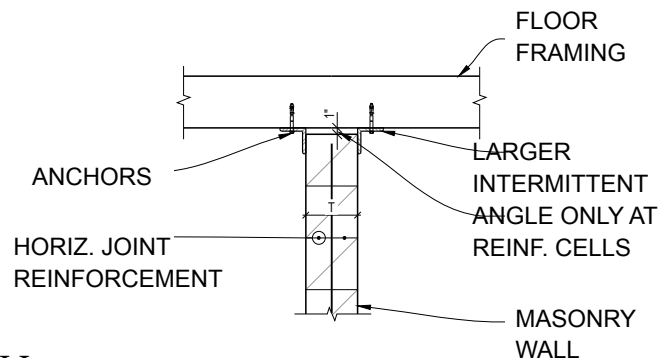


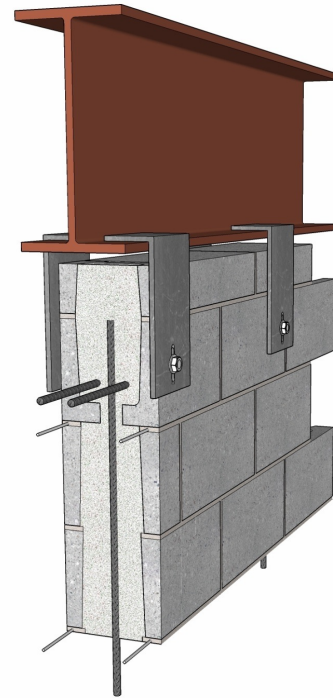
Figure 2: intermittent angles

For Condition B, such as a hybrid design or other cases where the masonry wall is a shear wall, a top-of-wall bond beam is:

1. Still difficult, (grouting, bar placement, etc)
2. However, because it is a shear wall, consider the top-of-wall bond beam good practice, although not required by code (even in seismic section for Ordinary or Intermediate shear walls)

Suggestions for Condition B:

1. Allow the option to use standard grout to build bond beam.
2. Consider self-consolidating grout. this grout can easily be placed in difficult locations.
3. Move the bond beam down one course and leave a larger gap or use a solid top course; this will require heavier steel connections.
4. Minimize the number of shear walls. Fewer heavily reinforced shear walls limit the number of required top-of-wall bond beams.



For Condition C, a top-of-wall bond beam is:

1. Easy to install with no framing members above top-of-wall.
2. Good practice, especially with point loads.

Suggestions for Condition C:

1. Consider flow-through bond beam units, where vertical reinforcement can extend into (or through) the bond beam

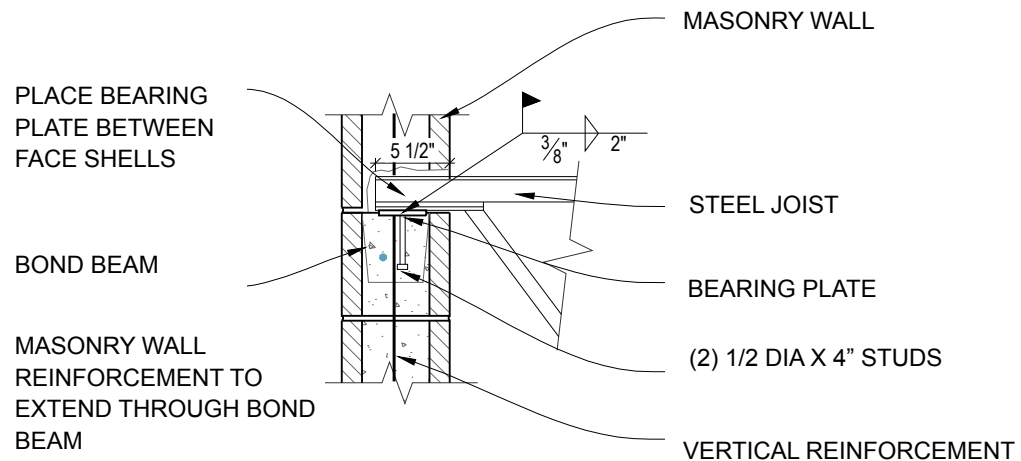


Figure 3: flow-through bond beam