Attachment of Brick Lintel to Versa-Lam® Beams

Brick veneer is normally supported across openings by steel lintels sized to carry the design loads of the brick veneer. Often these lintels are attached to Versa-Lam® beams that span the same opening to support the wood framing of the structure. The lintel may be attached to the wood member for lateral support as well as for proper placement during construction.

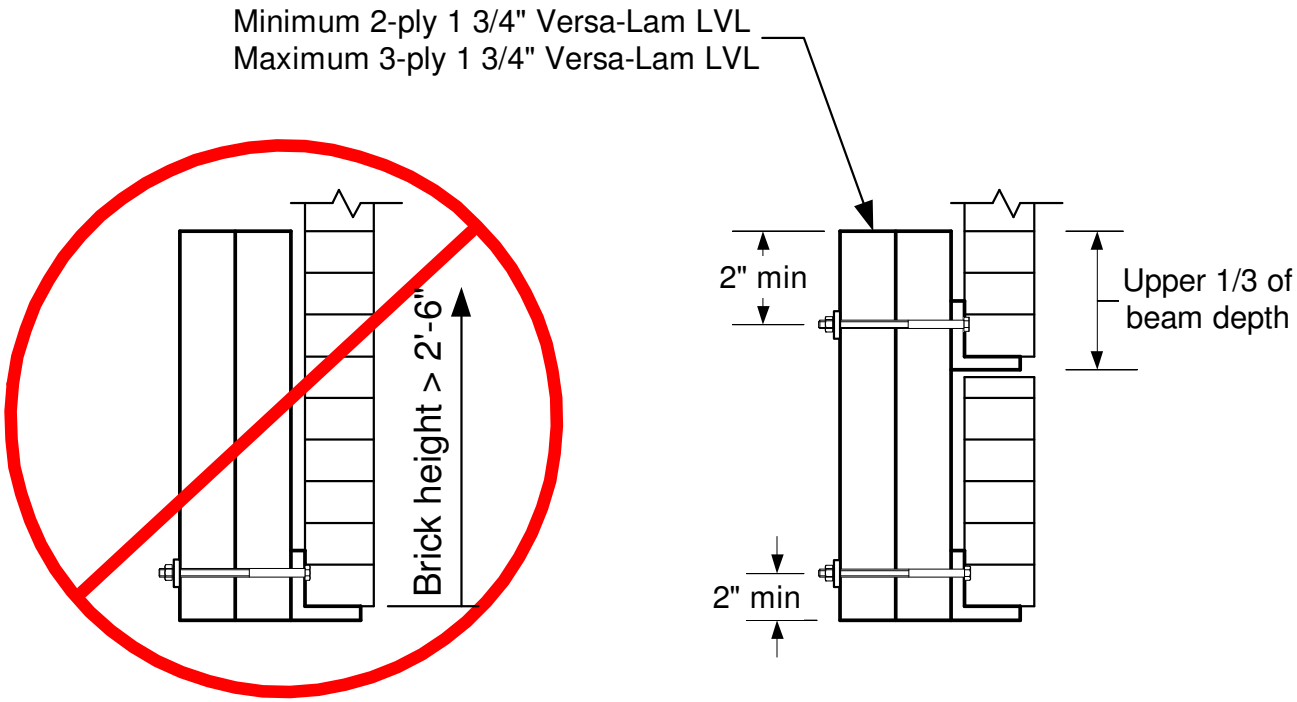
If the steel lintel has **not** been designed to support the brick veneer loads, the Versa-Lam beam may be designed to support the additional design loads imposed by the brick veneer. The International Residential Code (2006 ICC, 703.7.2) allows wood members to be used to support exterior walls with brick veneer (*verify local amended code*) excluding seismic zones D1 & D2 provided the veneer weighs no more than 40 pounds per square foot and the deflection of the wood member is limited to 1/600th of the span under total load. Standard 4 inch thick clay brick veneer weighs 39 pounds per square foot. Questions about local code restrictions should be directed to the local building department.

In order for the brick veneer loads to be properly transferred into the Versa-Lam beam, the steel brick lintel must be properly attached to the beam. For brick heights of 2'-6" or less, the lintel may be attached near the bottom with ½" through bolts at 24" on center. Brick heights greater than 2'-6" supported on lintels attached near the bottom can create tension forces perpendicular to grain that may cause the member to split.

For proper support of higher brick heights, a main and secondary lintel system should be used. The main support lintel should be attached to the Versa-Lam beam in the upper 1/3 of the member depth with ½" through bolts spaced per the table below. A second lintel may be attached near the bottom to carry the remaining brick veneer. The lower lintel should be attached with ½" through bolts at 24" on center. Depending on the design loads, the bolts used to attach lintels may be considered as all or part of the multiple member connection for both side loaded and top loaded conditions as specified in Boise Cascade EWP literature.

Spacing of ½" bolts with washers*	Max. height of supported brick veneer**
24 in.	5'-6"
16 in.	8'-6"
12 in.	11'-6"
8 in.	16'-6"

* Based on ¼" thick steel lintel
** Height measured from top lintel


Minimum 2-ply 1 3/4" Versa-Lam LVL
Maximum 3-ply 1 3/4" Versa-Lam LVL
Brick height > 2'-6"
2" min
Upper 1/3 of beam depth
2" min