



Brick veneer is not watertight. Wind-driven rains will drive water through most masonry walls. The air gap and sheathing paper behind the brick protect the wall.

Brick veneer walls should allow for differential movement between the brick and wood frame, and should protect the wood frame walls from moisture, since we can't rely on the brick. Early brick veneer walls did not address these issues.

Masonry is secured to stud walls with metal ties. In old construction, these metal ties were nails driven part way

into studs. As the brick wall was laid up, the heads of the nails were embedded in the mortar joints.

Modern brick ties are typically 1 inch wide "L" shaped galvanized steel straps. The straps are nailed to the studs (ideally with large head nails). The tabs are bent out to form an "L" and the strap is embedded in the mortar. The part of the strap embedded in the mortar is corrugated to provide a good bond between the strap and the mortar.

Since roughly 1970, brick veneer walls have had weep holes provided at the bottom. A brick veneer wall built today employs a rain screen principle. This principle acknowledges that a wind driven rain will pass through a brick wall, and as a result, a one inch air space is left behind the brick, between the inner face of the brick and the sheathing on the wood studs. Water is allowed to pass through the wall and run down the inner face of the brick, or the outer surface of the sheathing.

At the bottom row of bricks, every fourth vertical mortar joint (typically) is left out. A flashing is used that allows water at the bottom of the wall cavity to drain out through the weep holes. The flashing prevents the water from entering the foundation. It is also common to find weep holes above door and window openings in the brick walls. Where steel lintels are used above openings, the joint between the steel and the brick above should not be caulked.

Water may be trapped behind the caulking and rust the steel. The other function of the weep holes is to allow a balancing of the pressures on either side of the brick. If air is allowed to enter the cavity behind the brick, as wind is blowing on the brick, the pressure differential, and hence the tendency for water to be driven through, is reduced.

When the brick veneer is supported on a metal angle fastened to the foundation wall, the brick veneer can move if this support angle rusts, deflects or pulls away from the foundation. In this case, there can be considerable cracking and movement of the brick veneer, with no foundation movement or wood frame wall movement. In most cases, this is readily visible from the outside. Where brick veneer has been added, carefully inspect the integrity of the angle and sight up the wall carefully for evidence of cracking, leaning or bowing. While unusual, it's possible for the foundation wall to move or deteriorate due to the load imposed.