



*Headline:*

## **Seal Air Shafts in Party Walls to Prevent Energy Loss and Wet Attics**

*Body copy:* In our previous columns, we've examined the causes of air migration and wet attics, as well as some steps you can take to prevent energy loss and condensation, mould and mildew in your home. In this column, we'll take a look at sealing the party wall to prevent warm, moist air from traveling to your attic.

"Party wall" is the term used to describe the common wall or firewall that separates one row house from another or divides semi-detached or other multiple occupancy dwellings from each other. Of course, if you decide to go ahead with this project, either by yourself or with the help of a contractor, you'll first have to get agreement from your neighbour.

There are often air spaces within the party wall itself - formed by the hollow cavities of masonry block - as well as between the masonry block wall and the internal drywall, which is strapped from the masonry with 1x2 furring at 16-inches on-centre (o.c.) across the full width of the party wall.

The 1x2 creates a cavity, which occurs on both sides of the party wall. It is often open to the basement as well as the attic. There are therefore three parallel upward air paths into the attic running from the front to the back of each dwelling at each party wall. These shafts are major contributors to attic moisture problems and energy loss.

To seal the shafts on each side of the masonry wall, existing insulation needs to be moved aside and the cavity sealed using a one or two-component polyurethane foam. The masonry wall itself needs to be blocked at the attic floor level by drilling 1/2-inch-diameter holes into the masonry block cores through which two-component polyurethane insulating foam sealant can be injected to fill the block cores at that level.

After foaming, the drill holes should be re-filled using a **fire-rated mortar** to return the wall to its original rating.

In addition to masonry block firewalls, drywall is frequently used. Such party walls are often not sealed at the top and often do not have their joints taped. The air space on each side of the party wall may still exist.

Sealing these walls involves blocking the top of the wall by stuffing it with glass fiber insulation (or some other convenient stuffing material), followed by foaming with either one or two-component foam sealants. The untaped joints in the drywall can be sealed with caulking.

Sealing the party wall is a big task, and the two-component foam product is not generally available from home improvement retail stores and must be purchased from industrial suppliers. However, it is a worthwhile project for the accomplished do-it-yourselfer to undertake, if you consider the rewards in terms of energy savings, improved indoor comfort and mould and mildew prevention.