

Ask Jon Eakes

HOW CAN I RAISE THE NEUTRAL PLANE?

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If there are larger holes in the top of the house than in the bottom of the house, the neutral plane will be raised. I guarantee that if the roof of your house were removed (still blocking the snow with a giant umbrella) there would be no condensation problems in the walls. (This solution is not highly recommended because of the strain it imposes on the heating system.) Start by doing an exceptionally good job of sealing the upper half of the house with Air Barriers as we do not want to have any holes in the top of the house that lead into the walls or the attic. Then open a planned-hole-high-in-the-house (check out "neutral plane" in the keyword search) that will provide the hot air escape we need to raise the neutral plane but will send that hot moist air beyond the walls and the attic to the outdoors. This planned hole may already exist (a vent or chimney) or one may have to be created. This hole will go a long way toward keeping the inside of the walls safely dry. Unfortunately, a lot of energy is also wasted as hot air escapes through the hole. But with the neutral plane high, we can cut down on energy losses by blocking off the incoming cold-air leaks, by sealing the rest of the house and weather-stripping doors and windows. If no air can come in, no air can go out and no energy is lost. To avoid too much humidity and stale air in the house, make a controlled cold-air intake (search the keyword "ventilation" for the title "WHAT IS A CONTROLLED COLD-AIR INLET?"). Don't leave ventilation to accidental cold drafts.Â

Keywords:

Moisture, Condensation, Neutral Plane, Exhaust Fans, Ventilation

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