



AES Informational Bulletin **Importance of Adequate Fresh Air**

Every home is a slightly different situation and depending on the design of the air movement within the home, might be easy to distribute heat or very difficult. If you have boiler heat or other non-ducted central heating this becomes even more of a challenge as adequate circulation within the home and proper make up air for combustion might be lacking.

When a forced-air system is put into a home that is not designed with proper circulatory patterns, it might be necessary to add return air ducts or at least vents to get the air moving around the home. Fresh air for the home and fresh air for combustion will have to be added or the stove or furnace will burn dirty and efficiency will suffer.

The installer of the appliance is responsible and required to assess the fresh air requirements for the home. At a minimum, there should be a 6" or larger (this should be determined by figuring what the home requires) fresh air vent coming in to a neutral part of the home to make sure that there is adequate fresh air to the home. Then the 3" make up air to the unit is required to be provided.

The most common cause of corn not burning properly is wet/dirty, contaminated air or negative pressure in the home. It can be as simple as the air adjustment not set properly on the side of the stove or it could be that there is a serious lacking of good quality air in the home caused by negative pressure. If you have done any remodeling or if this is a newer home, it is a very real possibility that this is happening. Most basements have negative pressure even if you feel that your home is drafty. This is called the stack or chimney effect.

If there is a black coating of soot coming into the home it is caused by the reversal of the exhaust that would normally exit the stove outside being drawn into the home by negative pressure or improperly installed (leaking) venting. Depending on your venting configuration this could be aggravated by back drafts, high wind and cold chimneys.

Sometimes this also occurs if there is an intake for fresh air too close to the exhaust on the outside of the home or other conditions causing the exhaust to be pulled back into the home. The first indications of negative pressure affecting the stove occurs app. 3 days after the stove is lit. The glass gets dirty very easy, the firepot might keep filling up even though you pull the air adjustment out, and you notice that the venting fills up with soot rapidly. After a few days, the exhaust can no longer adequately pull out all of the fly ash so it reverses and is pulled into the home. This might happen through the venting if it is not sealed properly or it might come out when you open the door for maintenance and also backwards through the air wash system. This can be easily corrected by adding the fresh air for the home and also for the appliance. It is imperative that you would have your dealer or installer check the unit out for proper operation to make sure that there is nothing mechanical wrong with the appliance and then determine your need for proper fresh air. Your dealer can contact the factory with any questions that he might have.