

Residential Air Infiltration

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Understanding Air Infiltration Related to Windows, Doors and Skylights

Defining Air Infiltration

To some extent, every home, regardless of age or location, needs to “breathe.” You may feel some air coming into your home around windows, doors, skylights, electrical outlets, walls, floors or the roof. This is air infiltration, and it is the result of air pressure differences between the inside and outside of the home. Every home has *some* level of air infiltration. Glass surface temperature, by itself, is not an indication of air infiltration.

Product Types

Different types of products allow different air infiltration rates. For example, fixed products – those that do not open (such as a picture window) – are the most airtight. Those that do open, like casements (commonly referred to as crank-out windows) or double- or single-hung windows that open vertically have the most potential for air infiltration. This is due to design tradeoffs that allow the units to open and close using reasonable effort to move them.

Air Infiltration Frequently Asked Questions

General Information

Q: What is air infiltration?

A: Air infiltration is a term that relates to air moving into a home through small spaces in doors, windows, skylights, electrical outlets, walls, floors or the roof. This is the result of pressure differences between the inside and outside of the home.

Q: Is air infiltration bad?

A: No. To some extent, every home, regardless of age or location, needs to “breathe” so that it is not completely airtight. Well-placed and installed windows allow for natural ventilation in the home. Fresh air is needed inside the home to help eliminate odors and pollutants harmful to human health. Fresh air also helps eliminate excessive moisture that harms the building structure and furnishings and is the source of mold and mildew growth. However, concerns can arise when homeowners perceive that too much air is entering the home through openings.

Q: What is the most airtight window?

A: A fixed window – a product type that do -hC -6ns3d th[homs.)]TEM C /P A MCD BDC /TT1 1 T0.0002 Tc -0.0026 Tw 0 -2.252 Td[C

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Q: Why do some windows have more air infiltration than others?

A: The design of the window may be different, such as a picture window or casement, allowing less air to pass through. It may also be in a part of your home that does not get direct wind contact. All windows have some