

The logo for 'Home Energy Faire' features the word 'Home' in purple, 'Energy' in white with a black outline, and 'Faire' in yellow with a black outline. A blue outline of a house roof is positioned above the 'Home' and 'Energy' text. To the right of the text is a stylized flag with purple, green, and red sections.

Home Energy Faire

Energy Savings, Simply

Doors and Windows



Introduction

- Doors and windows can leak significant quantities of heating and cooling energy
- If they are literally falling apart, they can divert an energy project into a structural re-hab project
- Let's look at cases where problems can look worse than they are but can be solved economically and still contribute to energy savings



Types of Doors



Solid Wood – medium insulating value, relatively long life



Metal Insulated – high insulating value and life



Doors

French Type Patio
- should be used
with storms



Molded
Vinyl –
different
types and
insulation
values



Slider (usually a candidate
for major air leakage) --
should be used with storms



Issues with Doors:



Air leakage – a big energy waste that can be solved quickly and inexpensively using weatherstripping, insulation and caulk



Types of Windows



Single Glazed, Double Hung –
Lowest insulation value. Needs
serious weatherizing.



Double Glazed – Lots of different
insulation values available, depending on
age and the construction of the window.
Also, type of gas used between the 2
glass layers affects its insulation value.



Types of Windows



Vinyl Clad Double Pane
Casement Window



Single Pane
Basement Window – Typically, an air
sieve



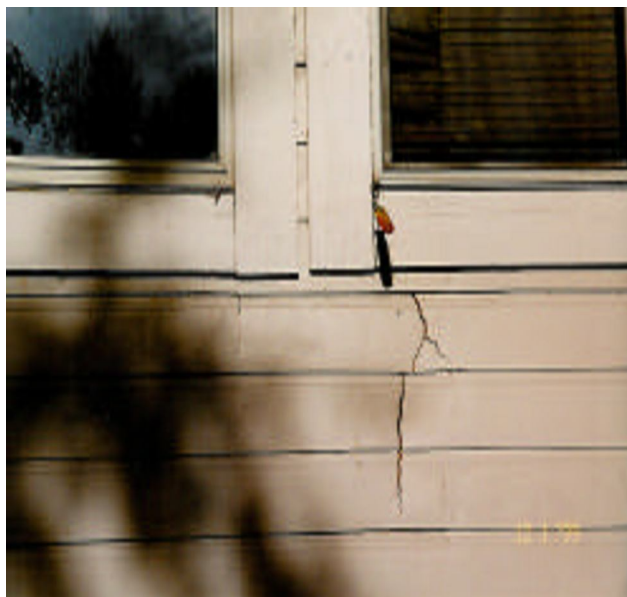
Windows: Problems



Condensation in double glazed windows – may be trivial or a sign of bigger issues. Very often, you can have a glass shop reglaze the window for you for a fraction of the cost of window replacement. The new glass layers will probably only have air between them (as opposed to the original insulating gas such as argon). The glass will be well sealed, and while the unit it out, you can caulk, insert foam, and insulate between the window and wall. This is an easy and non-invasive process.



Windows: Problems



Siding decay due to leaky window



Poor flashing and sealing

These problems can be fixed at a reasonable cost assuming no further damage has occurred from water leakage



Windows: Problems



Example of a worthless window.

This is when you need to replace the window, and use the frame for kindling or some architectural art project.



Windows: Problems



Damage from faulty windows can be pervasive in homes.

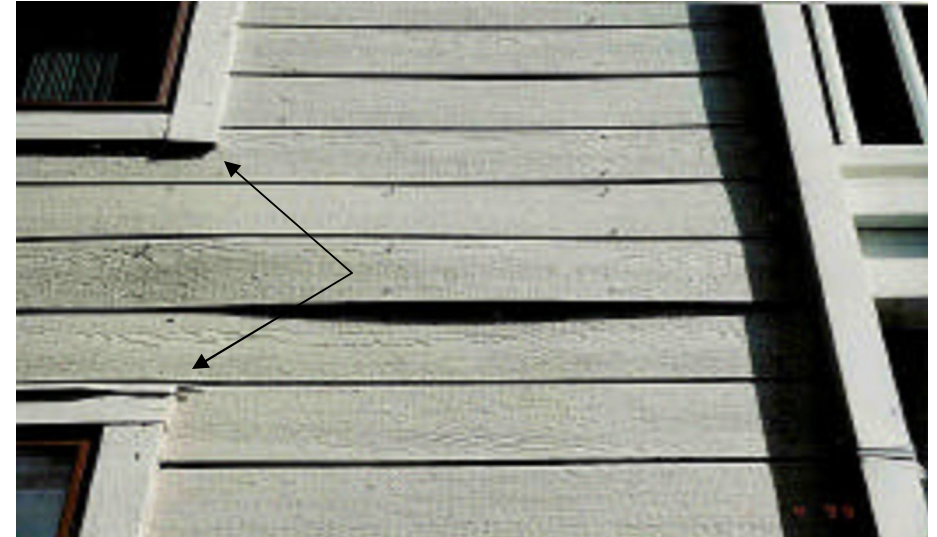
Here is carpet mold caused by leaky window



Windows: Problems



No sealant or metal flashing indicated at arrow, e.g., air leakage



No window frame-to-trim sealant at arrows

These are issues that can easily be corrected by air sealing techniques used by weatherization crews



Doors and Windows- Survey Summary

These survey questions help organize the information of your existing home condition. Use this information to obtain cost estimates, and prioritize the repairs, and energy upgrades to windows and doors.

DOORS

- Number of Un-Insulated ("knock" test)
- Number of Insulated ("knock" test)
- Number in Good Condition
- Number in Bad Condition

- Average Condition of Frames (Tight; Leaky)

WINDOWS & SKYLIGHTS

Single Pane Units

- Number
- Average condition of frames (# Tight; # Leaky)
- Any special heat gain/loss treatments? (Yes; No; Don't know)

Double Pane Units

- Number
- Average condition of frames (# Tight; # Leaky)
- Any special heat gain/loss treatments? (Yes; No; Don't know)

Triple Pane Units

- Number
- Average condition of frames (# Tight; # Leaky)
- Any special heat gain/loss treatments? (Yes; No; Don't know)