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renovation handbook:

windows and doors

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WRITTEN BY CAROLYN WEBER PHOTOGRAPHS BY AIMEE HERRING

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windows

Whether you want to replace drafty windows or simply give yourself a better view, carefully consider your options before plunking down the cash.

before you begin

Figure out what your priorities are. If you desire an unobstructed view, opt for a fixed (or picture) window. If you want air to circulate freely, take a look at a casement window that opens fully. Also think about how much time you're willing to spend on keeping the windows shipshape. Wooden frames may need to be scraped and painted periodically; vinyl is virtually maintenance-free.

know your materials

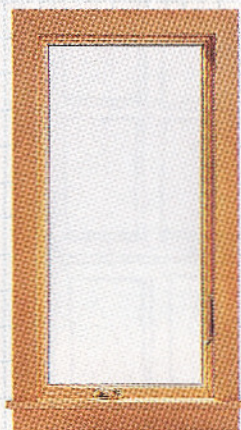
Select your window frame from four main materials: wood, clad, aluminum, and vinyl. Wood is beautiful and lets you match the interior trim to your molding and baseboards, but it can warp, is susceptible to rotting or destruction by wood-boring insects, and is generally expensive. Clad windows—typically, a wood frame coated with aluminum, vinyl, or fiberglass—stand up well to the elements and don't require painting. Lightweight, rust- and mildew-resistant aluminum windows are favored by architects for their clean lines and thin frames, but the most affordable options tend not to be very energy-efficient. The least pricey (and most popular) material is vinyl; it's durable, moisture-resistant (great for coastal and humid climates), and a breeze to care for—but it shouldn't be painted.

keep in mind

In bedrooms and basements, you'll need at least one window that's large enough to escape through—fire codes require this. Proper installation is critical, so hire a licensed contractor. Installation prices vary greatly. A 24-by-48-inch vinyl window starts at about \$75; a custom-made wood window of comparable size can cost upwards of \$1,000.



types of windows



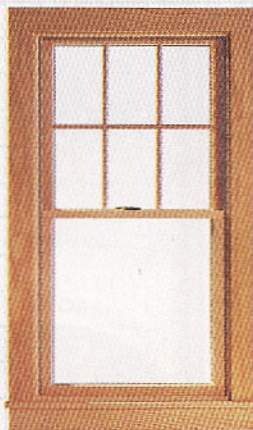
casement

WHAT IT IS: A window that is hinged on the right- or left-hand side and opens outward with a turn of a crank handle.

PRO: It offers excellent ventilation. And since this model is sealed all the way around when shut, it boasts a low air-leakage rate and good noise reduction.

CON: Because it swings out, it won't work near a walkway or a deck. The crank can get tedious.

COST: About \$185 to \$1,000.



double-hung

WHAT IT IS: This type features two sashes (movable panels) that slide vertically open and closed.

PRO: Opening both the top and the bottom creates a natural convection—cool air comes in at the bottom and warm air escapes out the top. Many models tilt inward so you can scrub the panes from the inside.

CON: The horizontal rail in the middle obstructs your view.

COST: About \$100 to \$2,300.

glass options

All window styles are available with these four types of glass.*

DUAL PANE

Two panes are separated by metal spacers at the edges and air in the center, providing energy-efficiency and noise reduction.

LOW-E (LOW EMISSIVITY)

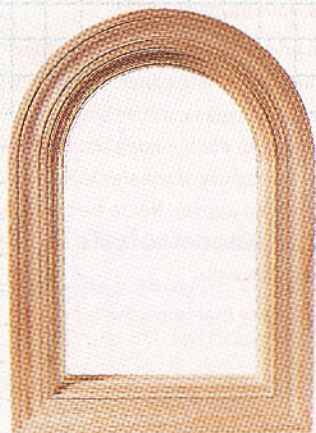
A thin, transparent metal or metallic oxide coating reflects infrared radiation, keeping a house warm in the winter and cool in the summer.

HURRICANE-RESISTANT

A reinforced glass that features two panes surrounding a tough fiberglass core.

DECORATIVE

Styles include frosted, textured, stained glass, and more.



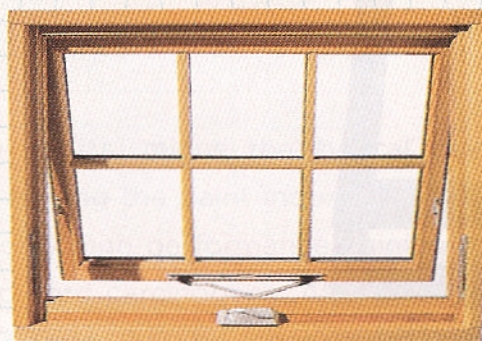
fixed (or picture)

WHAT IT IS: It doesn't open but offers unobstructed views.

PRO: A small one can brighten up a stairwell, while a large one showcases an amazing vista. A fixed window comes in many shapes. Plus, no drafts here: It's completely airtight.

CON: You won't get any ventilation, of course, and you'll need to clean the exterior from the outside.

COST: About \$60 to \$2,600.



awning

WHAT IT IS: Similar to a casement but hinged at the top.

PRO: When extended, the glass slopes downward, so the window can be left open when it rains. It can be used as a clerestory (a window near the top of a wall) to let hot air escape.

CON: Offers only partial ventilation and is usually too small to use in the event of an evacuation.

COST: About \$100 to \$1,100.

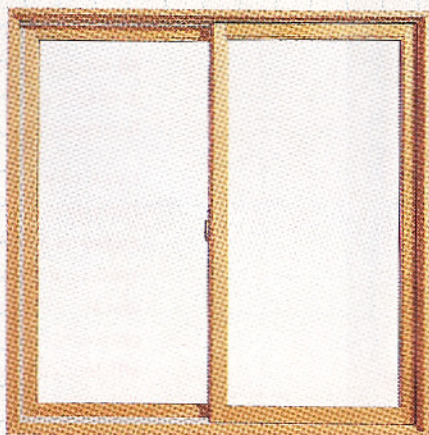


Check labels

for a window's U-value (aim for 0.35 or lower). The lower the number, the better its insulating property.

*Some come free when you order windows; others cost extra. Check with your retailer.

types of windows



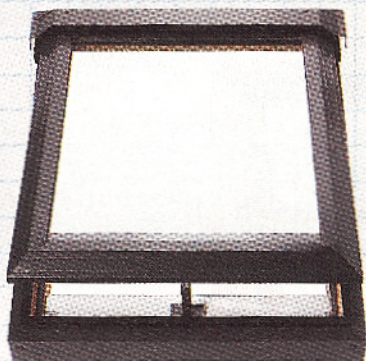
gliding

WHAT IT IS: A window with a moving panel that slides to the left or the right to open.

PRO: It is easy to open and doesn't project outward, so it works well next to walkways and patios. The opening is usually big enough for an emergency evacuation. Fixed screens can be added.

CON: You can open only one side at a time.

COST: About \$80 to \$930.



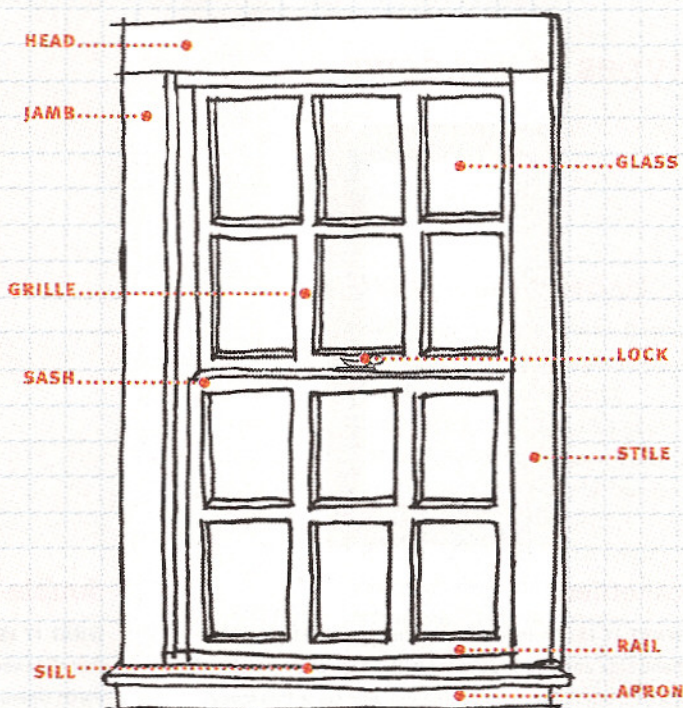
skylight

WHAT IT IS: A window installed in the ceiling. Some (called roof windows) are fixed; others open for ventilation.

PRO: Some come with remote-control blinds and coated glass that minimizes exposure to UV rays. If you have an attic, you can get sunlight into a dark closet or room via a tunnel-like skylight that runs to the space from the roof.

CON: You'll have to climb onto the roof to clean the exterior.

COST: About \$150 to \$1,500.



anatomy of a window

APRON: A horizontal piece of trim underneath the sill.

GLASS: Also called light or glazing. Four main kinds are available (see Glass Options, page 107).

GRILLE: Also called grid or muntin. Decorative cross pieces that divide the window into panes. Some grilles are suspended between the glass; others snap off for easy cleaning. Grilles for double-hung windows are named according to the number of squares they form (like six over six, as shown above). Not to be confused with mullions, which are vertical or horizontal pieces between adjoining window units.

HEAD: The horizontal piece that forms the top of the window frame.

JAMB: The pieces that form the top, sides, and bottom of the window frame (includes the head).

LOCK: Most new windows come with locks, and there are upgrades, such as magnetic locks, that allow windows to lock automatically when closed.

RAIL: The horizontal part of a sash.

SASH: The movable part of the window; the framework that holds the glass in place.

SILL: A piece that runs along the base of the window frame.

STILE: The vertical part of a sash.



doors

A new door for your entryway or patio ought to look great, of course. But, more important, it should stand up to sunshine, wind, and rain.

before you begin

For accurate results, have a pro measure the height, width, and thickness of the original door. (Standard thicknesses range from 1 $\frac{3}{4}$ to 2 $\frac{1}{4}$ inches.) If you want a larger door, or if you would like to add sidelights (windows on the sides of the door, as above), you'll have to modify the size of the frame. Brick or stucco openings are difficult to change, but a wood frame can be adjusted fairly easily.

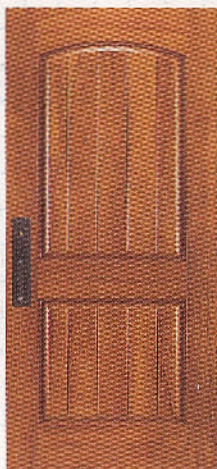
know your materials

When deciding on a door type, think about maintenance. If you don't mind applying a fresh coat of paint or stain every few years, consider a wood door, which can be fit with glass inserts, clavos (rustic iron nails), or a speakeasy opening (a tiny door-within-a-door that lets you peek outside without revealing your pj's to the world). Fiberglass looks like wood, offers excellent insulation, and is easy to care for. Steel is the most affordable; it comes in many colors and can be repainted, but it can dent. Also pay attention to the location of the door. "If it faces south, be careful with wood, because sun can cause the finish to fade or crack," says Daniel Morales, an architectural designer at Gilday Renovations, in Silver Spring, Maryland. In this case, painted wood is better. "Stained doors in particular take a beating when exposed to the sun," says Morales.

keep in mind

When ordering a door, you must specify left or right hand, which refers to the side the handle or knob will be on. Think about hardware, too. If you tend to lose house keys, consider a biometric lock (about \$200), which can be programmed to read your fingerprint. Door installation starts at about \$150.

types of doors



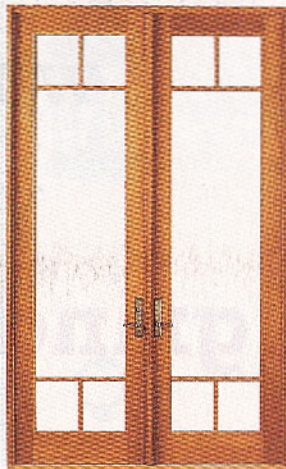
slab

WHAT IT IS: Your standard door; the most popular kind.

PRO: It can be flush (flat) or textured (with detailing). You can customize it with glass inserts.

CON: None!

COST: About \$130 to \$5,000.



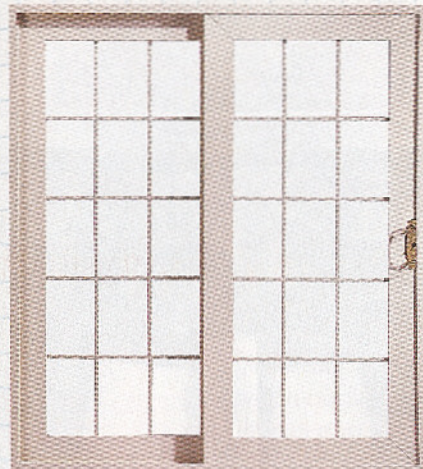
French

WHAT IT IS: Two door panels that lock in the middle and swing in or out.

PRO: The doors let in breezes and natural light.

CON: "You'll need to account for clearance on each side," says Morales.

COST: About \$1,500 to \$5,500.



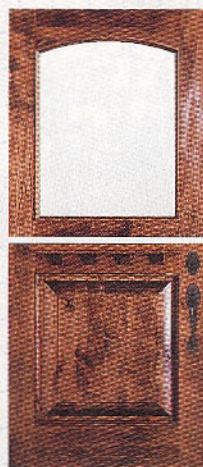
gliding

WHAT IT IS: A door with two to four panels that slide past one another.

PRO: It provides a tight seal (so it's energy-efficient) and doesn't require any clearance.

CON: Only one side opens at a time.

COST: About \$300 to \$2,500.



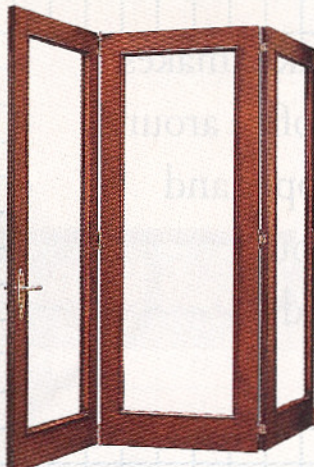
Dutch

WHAT IT IS: A door divided horizontally into two halves.

PRO: You can leave the top open and the bottom shut (so Fido stays in or out).

CON: Air can leak in or out if weather stripping is not properly installed.

COST: About \$1,550 to \$3,500.



bifold

WHAT IT IS: A system of hinged doors that stack against a wall.

PRO: Perfect for indoor-outdoor living, it's weather-tight when closed.

CON: It's expensive, and you'll have to buy custom-made screens.

COST: About \$3,000 per panel.

selecting a storm door

If your flimsy storm door has seen better days (could it have any more dents?), consider making an upgrade. Although not a necessity, storm doors can provide ventilation and add another layer of protection against the elements. The newest versions can be fitted with Low-E glass, which blocks solar radiation, or screens that retract when not in use. Storm doors are typically made of wood, steel, fiberglass, or aluminum and come in full view or midview (with a solid bottom). For maximum flexibility, choose one with removable panels that can be switched out according to the seasons—glass in the winter and screens in the summer. One caveat: If your front door gets even a few hours of direct sunlight a day, a glass storm door may trap heat and damage your front door. Prices range from about \$90 to \$350 (with screens and glass included).

Visit www.realsimple.com/renovationhandbook for a printable PDF of this guide, along with the first installment, *Cabinets and Countertops*.

—additional reporting by Allegra Muzzillo

