



Constructive Insights

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DOORS

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Wide Open

If you think about it, the largest opening in a home is usually the patio door, which makes it a high-profile ticket item for many reasons. The most obvious is that this large permanent fixture should be eye appealing. On top of good looks, it also has to be energy efficient, highly secure, withstand harsh weather, protect against UV rays and function like a workhorse. It's a tall order driven by consumers, state and local building codes, changing environmental conditions, and common sense. As we head into a greener 2009, there's no better time to take a look at patio door options, components and trends for builders and remodelers.

Material: Fiberglass

Fiberglass was first used commercially in 1938 by Owens Corning in the manufacture of insulation. Fiberglass wasn't used in door construction until 1983 when Therma-Tru brought fiberglass doors to market and launched the category. Fiberglass is made from extremely fine glass fibers and offers better thermal efficiency than wood or steel and more strength than vinyl. Because of its strength and thermal efficiency as well as its resistance to corrosion and direct impact, fiberglass doors typically have the industry's best warranties—as in lifetime and 20-year warranties.

According to Todd Kippel, product manager of patio door systems at Maumee, Ohio-based Therma-Tru Doors, "Fiberglass and vinyl are the only two patio door categories that are experiencing growth. The composite category as a whole is much more durable and has a longer lifetime." Other advantages of fiberglass are that it can be stained or painted, and manufactured to look remarkably similar to real wood and smooth steel.

Material: Low-E Glass

Now that consumers are on the energy-conservation fast track, Low-emissivity or low-E glass is not an unfamiliar feature to them and is fast becoming standard on patio doors. Low-E glass is also one of the advanced technologies that contributes to a door or window earning the Environmental Protection Agency's ENERGY STAR label. The ultra-thin metallic coating on Low-E glass reflects radiant heat back to its source, keeping heat inside in the winter and outside in the summer. Low-E glass also reflects damaging ultraviolet light, which protects interior furnishings and flooring from fading.

Hardware: Multi-Point Locking Systems



Safety will never go out of style. For patio doors, "safety" and "multipoint locking systems" are often used in the same sentence. Multiple locking points divide forced-entry pressure across the entire length of the door panel, instead of just in the middle. With the trend toward taller doors, the multi-point locks provide a better seal and help reduce air infiltration.

They also keep the door panel seated squarely in the frame, ensuring proper alignment and weather sealing even if a home settles. In terms of aesthetics, the handle sets, which are an integral part of multi-point lock systems, are available in numerous

Fiberglass Patio Door Systems

Therma-Tru's extensive line of fiberglass hinged and sliding patio door systems are all designed to give the homes you design, build and remodel maximum viewing capacity and are ENERGY STAR rated and certified by the National Fenestration Rating Council for maximum energy efficiency. The following products are just a sampling of Therma-Tru's **entire collection**.

Therma-Tru® Hinged Patio Door System with Tru-Defense®



When building or remodeling in areas with severe weather conditions, Therma-Tru offers a line of Fiber-Classic® and Smooth-Star® Hinged Patio Door Systems with Tru-Defense. The doors have a minimum DP-40 air, water and structural performance rating. Fiber-Classic Hinged Patio Doors offer an exterior wood grain look, while the interior is ready to stain or paint. Smooth-Star Hinged Patio Doors feature a smooth surface for the look of fine painted wood. The interior can be painted any color. Fiber-Classic Hinged Patio Doors offer a full-system, lifetime limited warranty and Smooth-Star Hinged Patio Doors are backed by a full-system, 20-year limited warranty. Both are available in a variety of sizes for new construction and remodeling, including 6'6", 6'8", and 8' tall systems, and both offer single, center-hinged, jamb-hung and French door configurations. All Therma-Tru built hinged patio doors with Tru-Defense® feature flush-glazed low-E glass, a high-heat composite frame, and a multi-point locking system.

Slim-Line™ Sliding Patio Door System



styles and finishes to match any patio door design and overall home design. A finish that continues to gain popularity is dark oil-rubbed bronze, which takes on its own unique patina over time and lends to a more rustic look.

Trend: Maintenance-Free, Interior Uses



Where a simple door may have joined a family room to a sunroom, a hinged or sliding patio door can bring more sunlight into a home and make it appear more spacious. And with the influx of between-the-glass blinds, home offices are fusing with kitchens, family rooms and bedrooms without losing privacy or gaining bulky vertical blinds and their inevitable vertical dust bunnies. Maintenance-free

Trend: Walls of Glass

As outdoor living becomes more and more important to homeowners, Therma-Tru's Kippel says homeowners are using their patio doors as much if not more than their front entryway doors. This trend toward outdoor living with working kitchens, fireplaces, entertainment areas, courtyards, etc., requires a patio door to be a top performer *and* unify the space between inside and outside so it's not obvious where one space ends and the other begins. One of the most common ways builders are achieving this is through wider patio door openings and/or multiple openings and filling those openings with three-panel patio doors, transoms, side-by-side fixed, hinged and/or sliding patio doors, and other configurations.



A wall of hinged patio doors makes the transition from outdoor living space to inside a home virtually (and visibly) seamless.

Another way to achieve walls of glass are folding and lift-and-slide doors, which have typically only appeared in commercial construction and high-end custom homes, but are starting to find their way into slightly more moderate homes. With their multi-panel configurations, allowing whole walls—even curved walls—of glass to be opened, lift-and-slide door systems almost make the boundaries between indoor and outdoor nonexistent. Many lift-and-slide door manufacturers now also offer panel screens, which opens up this market to cooler and more insect-friendly regions. Folding doors—with multiple glass panels that close like an accordion and can be stored in a door pocket—are the *crème de la crème* of hinged patio doors. If your clientele can afford the luxury of enormous moveable glass walls, the styles, components and configurations of lift-and-slide and folding patio doors are endless.

Therma-Tru's Slim-Line™ Sliding Patio Door System offers narrow-profile fiberglass lineals that create a larger glass viewing area that lets in more light than traditional patio doors. The lineals will not rot, crack, warp or split. Energy efficiency is enhanced by Low-E tempered insulated glass and two sets of weather stripping. An integral interlock, also with double weather-stripping, provides extra strength and blocks air infiltration at the interlock. Adjustable tandem steel rollers and a corrosion-resistant stainless steel roller track ensure trouble-free operation. Slim-Line Patio Doors are available ready-to-assemble in a wide variety of sizes for new construction and remodeling, including 8-foot tall systems. The panels are prefinished on both sides. Standard colors include white, almond, stone and bronze. Custom colors and two-tone finishes (with different colors on the interior and exterior) are available as options. The Slim-Line Sliding Patio Door System is backed by a 20-year limited warranty.

Patio Door Configurator



Therma-Tru's "Patio Door Configurator" walks trade professionals and consumers through each feature of a Therma-Tru patio door system. After users choose the options they want, they are presented with a patio door system and price sheet to take to a Therma-Tru dealer.