Vacation Silence

Interior soundproof framing system

Reducing noise and vibration is one of the top indoor environmental quality concerns for dwellers of seaside condominiums and duplex housing. The **QuietZone** acoustic wall system by Tembec and Owens Corning offers builders an option for sound-resistant interiors.

To dampen sound between rooms, use interior partitions framed with studs that are equipped with steel standoffs on which to secure the drywall. The standoff brackets (installed no more than 24 inches on-center along the length of each stud) isolate the drywall skin from the structure, decreasing the vibrations that transfer sound. Interior walls are then insulated with the Owens Corning Noise Control System, which includes both insulation batts and an acoustic caulk, before covering with Type X drywall. According to Tembec, such a QuietZone wall allows for an acoustic reduction of up to STC-65 — the acceptable standard for walls between multifamily units and for the partitions around home theaters. The only way to get a better acoustic system (approaching an STC-68) would be with a double wall.

For more information, contact Tembec, 514-871-0137; www.tembec.com or Owens Corning, 800-438-7465; www.owenscorning.com.

THE QUIETZONE FRAMING SYSTEM

Fastener-Friendly Exterior Trim

New PT-wood alternative promises to be kinder to galvanized grips

A new pressure-treated exterior wood trim uses a unique organic biocide formula that reportedly won't eat up fasteners — a problem some CCA-alternatives have faced.

Armourwood uses a combination of three active ingredients that create an effective barrier against rot, fungi, and termites. The new-generation treated material is currently available as preprimed exterior house trim, fascia, and siding made from finger-jointed New Zealand Radiata pine. However, the manufacturer — Fletcher Wood Solutions, the North American arm of New Zealand–based Tenon, Ltd. — plans to launch decking, sill-plate stock, and other exterior materials for aboveground use.

According to product manager Tim Myers, the active ingredients in Armourwood are insoluble in water, so the chemicals will not leach out of any treated product and will not react with metal hardware. During the treatment process, the chemicals are carried into the wood by a solvent that leaches out and flashes off completely, leaving the chemical plus a harmless waxy resin added to reduce the uptake of water by the wood. The result is a nearly dry product that is significantly lighter than CCA- and ACQ-treated woods. Armourwood chemicals are approved by the EPA, and the product is backed by a limited 25-year warranty.

For more information, contact Fletcher Wood Solutions, 866-372-9663; www.tenonusa.com.

ARMOURWOOD TRIM

Tintable Technology

Shading skylights offer relief from the sun

Skylights are wonderful for letting in much-needed light while affording privacy. But the intense coastal sun means that you risk increasing the heat load with those added rays. While insulated glass in these units helps, it might not be enough as skylights are typically angled toward the sun and therefore "see" more direct radiation than most windows.

Sage Electrochromics offers a solution with its **SageGlass** technology, pioneering the development of electronically tintable glass windows and skylights that can respond to changing sunlight conditions, controlling both visible light and solar heat. On a sunny day, the flip of a switch can darken windows and skylights to block annoying glare and heat, yet allows the glazing to let in as much light as possible when it's cloudy.

SageGlass is produced by coating the glass at the factory with multiple layers of very thin ceramic films. In total, these films are reportedly less than 1/50th the thickness of a human hair. The flick of a switch applies a low DC voltage to the films, causing the active electrochromic layers to darken. Turning off the switch reverses the voltage polarity, causing the layers to lighten. According to the manufacturer, it takes less energy to operate a house full of SageGlass windows than it does to run a single 40-watt incandescent lightbulb.

The product can presumably be installed by any window or skylight maker into a window or skylight unit. However, Velux and Marvin are the only two manufacturers we know about who are currently promoting this glazing option.

For more information, contact Sage Electrochromics, 507-333-0078; www.sage-ec.com.

VELUX

SAGEGLASS

Sill Sealer

Three-way protection from common air leak

Conventional sill sealers may not be thick enough to seal around foundation irregularities, and the resulting gap between the mudsill and foundation becomes a common site for air infiltration, insect access, and water leaks.

Triple Guard Energy Sill Sealer offers triple protection: At 3/8 inch thick, the closed-cell foam will span foundation irregularities, and its peel-and-stick adhesive simplifies installation, adhering to concrete and masonry without shrinking or peeling away. But best of all, this sill sealer features a peel-and-stick flap that spans and completely seals the joints above and below the mudsill.

TRIPLE GUARD ENERGY SILL SEALER

For more information, contact ProtectoWrap, 800-759-9727; www.protectowrap.com.

Efficient Foam Goes Green

Soy-based spray-foam insulation stops air cold

Combining energy efficiency with resource efficiency, **BioBased Insulation** — a soy-based spray-in-place foam insulation — can significantly reduce energy consumption by virtually eliminating air leakage, a major source of energy loss in homes. Rated at an R-value of 3.7 per inch, the two-part soy-based polyurethane product is competitive with similar open-cell .5-pound foams and has approximately the same R-value as fiberglass batts or loose-fill cellulose. However, unlike fiberglass or loose-fill cellulose, foam expands to fill cavities and works its way into all the crevices of a wall or roof system to block airflow.

Spray-foam insulation adheres well to most clean surfaces, including masonry and irregular stone foundations, making it a good choice for sealing and insulating the perimeter walls of crawlspaces. According to the manufacturer, the foam won't settle, is not affected by moisture, and the R-value does not deteriorate over time. The manufacturer also claims the material is pest resistant and completely resistant to mold and mildew. Installed prices typically run $1 to $1.25 per square foot.

BIOBASED INSULATION

For more information, contact BioBased Systems, 800-803-5189; www.biobased.net.

Peel-and-Stick Underlayment

Self-adhering membranes come into their prime

Preliminary evidence from the aftermath of the four 2004 hurricanes suggests that the worst damage resulted from failed roofs, which led to extensive interior water damage. Poorly fastened asphalt and tile topped the list, according to early insurance industry reports. Yet much of this damage, it turns out, may have been avoided if roofs had been covered with a full-coverage, self-adhering underlayment.

Among the new self-adhesive membranes on the market is **Atlas WeatherMaster** — a 55-mil-thick glass-reinforced, SBS-modified asphalt roof underlayment. According to the manufacturer, the glass-reinforced backing is highly tear-resistant, and its skid-resistant surface provides better traction for roofers — both features that simplify installation. The rolls are packaged in standard one and two-square 36-inch rolls.

For more information, contact Atlas Roofing, 800-251-2852; www.atlasroofing.com.

ATLAS WEATHERMASTER UNDERLAYMENT

Truly Hidden Deck Fastener

Black stainless-steel "claws" space decking and prevent splitting

Surface-fastened decks have never made much sense, regardless of the deck material. Hidden deck fasteners not only look better, but they also won't break the surface, which opens up an entry point for water penetration. A relatively recent entry to the field of hidden deck fasteners, the **Tiger Claw** was invented by two brothers and veteran contractors looking for a decent stainless-steel fastener that would automatically space decking and could be installed into the joists without leaning underneath or cutting a slot in the board edges. The result is a series of stainless-steel "claws" coated with a black oxide finish that can't easily be seen between boards. Several types are available for different types of woods — from exotic hardwoods to plastic and composite materials to treated softwood.

TIGER CLAW HIDDEN DECK FASTENER

Each Tiger Claw Hidden Deck Fastener has a series of prongs (sized and spaced differently to hold different materials) that you drive into the edge of the boards at each joist. The fastener is then screwed at a 45-degree angle to the top of the joist. The next board is driven onto the same fastener with a strike block and sledgehammer. The fasteners pin both sides of the board to reduce curling, but allow for some differential movement to prevent boards from splitting.

For more information, contact Tiger Claw, 800-928-4437; www.tigerclawproducts.com.

TPO Roofing

The next best single-ply since EPDM

Owing to its UV resistance, light weight, and easy installation, thermoplastic olefin (TPO) — a blend of polypropylene and ethylene-propylene polymers — is one of the fastest-growing membrane products in the roofing market today. Among the latest entries to the market, GAF Materials Corp. offers 5- and 10-foot-wide rolls of **Freedom TPO**, so named because, unlike many TPO products, the seams do not require heat welding. Installation is carried out like most other low-slope membrane systems over a structural deck and an insulation layer. Yet with GAF's Freedom TPO, the only trick is aligning the membrane, removing the release liner, and rolling it in; no open flames or adhesive solvents are required. The surface reportedly exceeds the minimum reflectivity requirements for Energy Star compliance to help reduce cooling loads.

FREEDOM TPO ROOFING

For more information, contact GAF, 973-628-3000; www.gaf.com.