

Backfill

Weatherization Crews Go for Gold

Weatherizing older homes is hard, isolating, and often thankless work. It involves a lot of squeezing into tight, dusty spaces, many of which are hung with cobwebs and studded with rusty nails. So when weatherization workers get together for regional conferences, it's only natural they should want to show off their skills in front of those best equipped to appreciate them: their peers.

Bob Scott, a former director of the West Virginia weatherization program, has been judging crew-skills competitions for years. He says that these events are designed to approximate the conditions faced by workers in the field — though without the spiders, bats, and other wildlife. In one regular event, for example, crews build an air-sealed enclosure around an attic-mounted hvac unit, working while perched atop simulated joists blocked above the floor. Scott also recalls a conference at which enterprising organizers hauled a complete mobile home onto the exhibit-hall floor for a blower-door and duct-leakage competition.

A perennial crowd-pleaser is the dense-pack cellulose competition, in which two-person crews face off to see which can most efficiently air-seal and insulate a sample wall section. As in a real-world house with uninsulated walls, the loca-



The weatherizing crew that worked on this wall section achieved excellent density and found most of the cavities, including the one defined by the hidden diagonal brace at upper right. Unfortunately, they completely missed the narrow stud bay at far left — an omission that would significantly reduce the final R-value of a real-world wall assembly.

tion and spacing of the framing members is unknown. Crews must find and completely fill every framing cavity by boring through the sheathing and tracking the position of the cellulose nozzle as they work their way along.

When their time is up, the judges unscrew the plywood back panels on each wall section and grade the installation for completeness, with any unfilled cavities costing the team points. The test walls are also scored on how closely the fill density approaches 3.5 pounds per cubic foot — generally considered the optimum amount for eliminating settling and providing effective air-sealing without using unnecessary material. Although quality is the most important factor in judging performance, speed plays a part too: In cases where quality is otherwise the same, the fastest team wins. — *Jon Vara*



Freestanding wall assemblies used in the dense-pack cellulose competition consist of 2x4 framing sheathed on both sides with plywood. The outer layer of building paper serves as camouflage: It hides the nailheads in the sheathing that would otherwise provide a road map of the framing beneath.



Spectators wait expectantly for the judges to unscrew the sheathing panels and evaluate the installed cellulose. If the scene looks something like a rodeo, that's because this particular competition was held in an agricultural sciences building at a Virginia university.