Over the past 10 years, as a consultant to the gypsum industry, I have become increasingly appalled at the number of cases where improperly stacked gypsum board has toppled over and caused serious injury, damage and even death.

A death in Georgia ... Serious injuries in Virginia, Utah and Colorado... Significant structural damage in North Carolina.

Each incident noted above occurred in wood-framed residential con-
Few residential job sites are secure after working hours or on weekends. Neighborhood children often can’t resist their curiosity to explore. Childhood temptations and the lack of judgment to recognize unsafe conditions at these easily accessible sites spells disaster.

During the personal injury research, we were able to identify more than 40 cases that involved litigation in just the past few years. I suspect there were many more instances where the degree of damage or injuries did not result in a lawsuit, and therefore were not detected by our search of legal filings.

Residential construction sites can be notoriously unsafe. Hazards include nails and other sharp objects, scrap materials, slick mud, open stairwells and vent holes, narrow ramps and unsecured stacks of building materials... even those bundles of shingles on the roof can—and do—slide off.

Many residential builders even invite their prospective new owners and real estate agents to visit the “job in progress”... just use “good judgment” one brochure cautions.

Why are residential sites so much more unsafe to the general public than commercial and industrial job sites? One reason is that most general contractors now
commercial job sites after hours and often enclose the site with temporary fencing.

Many larger companies reduce their insurance premiums by having designated and trained safety managers that continuously monitor their job sites. And, the architect and general contractor must be knowledgeable of and work within the parameters of the local building codes and industry safety practices.

**Now, About the Board**

Gypsum board is deceptively heavy. Each 4’ x 12’ x ½” panel typically weighs between 72 and 80 pounds. Twenty-four pieces stacked on edge against a wall, produces more than 1,800 pounds of weight concentrated in about 12 square feet. That is more than 150 pounds per square foot—more than the designed live load of most residential floor systems during their regular use.

If the same panels were stacked flat, the weight would be distributed over some 48 square feet, creating 37.5 pounds per square foot—a considerable difference. But even here, care must be taken not to overload the floor system with the gypsum panels. Never stack more than 20 pieces in any one room unless the floor is a concrete slab.

For at least the past 25 years, the gypsum industry, working through ASTM, the model codes and the Gypsum Association, has adamantly maintained that gypsum board must be delivered, protected from moisture and stocked or stored in a warehouse and on a job site in a flat orientation. The key word here for safety concerns is “flat.”

The Gypsum Association, representing every gypsum board producer in North America, had even developed and promoted a special handbook called “Handling Gypsum Board. A handbook for distributors, retailers, and contractors,” also known as “GA-801.” (Note: Although still referenced, GA-801 is no longer current as the information is now contained in the building codes.) This
3. The panels can fall and cause structural damage.

Basically, never stack the board on edge.

All the major state, city and model codes, including the CABO One- and Two-Family Housing Code, and the new International Residential Code, reference ASTM C36 “Standard Specification for Gypsum Wallboard.” Section 8.1 under “Sampling, Inspection, Rejection, Certification, Packaging, Marking, Shipping, Handling and Storage” states: “Shall” (which is a mandatory condition) be in accordance with Specification C1264. ASTM C1264, Section 7.2 for Shipping, Handling, and Storage states: “Gypsum board shall be stored so as to be kept dry, preferably inside a building, under a roof. Gypsum board shall be neatly stacked flat with care taken to prevent sagging or damage to edges, ends and surfaces.”

The codes also reference ASTM C840, “Standard Specification
over. At 4 to 5 inches, a common kick-out distance, it takes just over 50 pounds of pull to topple the stack. The small amount of time saved in stacking the panels vertically does not justify the risk.

Regardless of “local custom,” if you, the drywall contractor, continue to demand that your board be delivered and stacked on edge, and you, the supplier, continue to do it, I can only hope that you both have an exceptionally good liability policy and access to adequate legal representation. The odds are against you.

Now, I am a realist and fully recognize there are conditions on many job sites where the rooms are small or irregular and hallways can be too narrow to lay the gypsum board flat. Under these situations I see USG, in the latest issue of its “Gypsum Construction Handbook,” has recognized that it may be less hazardous to distribute a few bundles around the side walls with at least a 4- to 6-inch kickout.

Many Ignore the Rules

Why is it, then, that an estimated 85 percent of gypsum board delivered to residential job sites is stacked on edge? Simply put, the contractors prefer it.

I can appreciate that the stockers save some time, and that the hangers must have the board on edge to cut, snap, trim and fit. However, engineering tests have demonstrated that at a 2-inch to 3-inch kickout (the distance between the vertical wall and the bottom edge of the closest panel), it takes less than 30 pounds of lateral force to bring a stack of 24 pieces toppling...
What can be done to decrease this potential hazard!

1. Inquire about the security at the site. Is the job locked?

2. Time the delivery close to the application as practical so material is not left on the job for an extended period of time.

3. Educate and train your delivery personnel and stockers about the importance of their job and correct methods of product placement at the job site.

Your primary thrust should be to deliver the board flat instead of stacking it on edge. If not, it is only a matter of time until you find out that stacking gypsum board on edge is truly “an accident waiting to happen.”

Is the viability and profitability of your business really worth the risk?

About the Author
James L. Houser is an Honorary Member of the Association of the Wall and Ceiling Industries—International. He is the author of “The Levels of Dry Wall Finish,” “The Methods of Application,” and has authored numerous articles over his 49 years in the industry. He now resides in Hickory, N.C., and does consulting work as J.L. Houser and Associates.