Armstrong® Ceilings Home Fire Safety

International Residential Code Floor I-Joist Fire Safety:

The Facts

In the last twenty years, engineered I-joist floor systems have grown in popularity over real wood. In UL tests, however, the engineered wooden I-beams only withstood the fire test for 6 minutes.

The original International Residential Code R501.3 (I-joist safety code) called for sprinklers installed in a basement. Not many states adopted this into local code. The 2012 version (R501.3) and 2015 version (R302.13) were updated to allow instead for a membrane of either 1/2-inch gypsum wallboard, 5/8-inch wood structural panel membrane (plywood), or the EQUIVALENT to be attached to the underside of the joists, if sprinklers or 2' x 10' dimensional lumber are not in place.

States are now adopting this new version of the Floor Fire Safety code into their local codes. Pennsylvania, Massachusetts, and Ohio have already adopted versions of the Floor Fire Safety code. Check your local code requirements.

Armstrong® Ceilings Safe and Sound Solution

Armstrong Ceilings has a safe and attractive solution that performs better than the recommended gypsum or plywood membranes. When tested side by side with the IRC R501.3 recommended solution, our grid and ceiling panel solution lasted 60% longer.**

Watch our video on ceilings.com/firesafety

*UL study, Report on Structural Stability of Engineered Lumber in Fire Conditions
**Large-scale comparative test based on ASTM E119, 4/8/13, see table for approved ceiling products

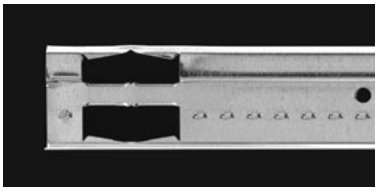
Armstrong Ceilings provide additional minutes of protection**

Timeline

- **20 Years Ago:** Engineered wood I-joist floor system introduced.
- **2006:** Department of Homeland Security, with assistance from Chicago Fire Department develop floor safety guidelines.
- **2009:** International Residential Code 501.3 introduced, requires sprinklers in the basement.
- **2012:** R501.3 Code updated to allow plywood, drywall membrane or equivalent.
- **2015:** R302.13 Floor Joist Safety Code is a new number, but requirements and exceptions are unchanged.
- **Now:** More states are adopting the Floor Joist Safety Code. Armstrong Ceilings has safe and sound solutions!

Armstrong® CEILINGS

Armstrong® Prelude® Main Beams with the fire relief notch (Items 8300 or 7400) installed with Humiguard® Plus acoustical ceiling panels withstood the ASTM E119 fire test for 23 minutes and 40 seconds versus the 14 minutes and 47 seconds for the plywood installation!


Main beam under normal conditions


Main beam exposed to fire

Added Benefits of the Armstrong Ceilings Solution

- Access Pipes, Ducts and Wiring—With other recommended membrane solutions, cutting through plywood or gypsum means breaking the seal. With Armstrong drop ceilings in a basement, simply remove a panel, finish your work, and replace the panel to re-seal your fire safety membrane.
- Mold and Mildew Resistance—perfect for basements
- Humidity Resistance—stays flat in moist conditions up to 95% humidity. Got a leak? No problem! Fix the leak and simply drop in a new ceiling panel to replace the old stained one.
- Acoustics—block noise between floors and reduce the echo-chamber effect.

What to Order to Complete your Armstrong Safe and Sound Ceiling

1. Grid System: Prelude Fire Rated Main Beams (8300 or 7400), standard Cross Tees and Wall Molding
2. Ceiling Panel Options:

Approved Ceiling Items	Ceiling Description
241	24" x 24" SuperTuff™ Tegular
269	24" x 24" Sand Pebble Tegular
271	24" x 24" Sahara™ Tegular
273	24" x 24" Sahara Lay-in
915	24" x 48" Fire Guard™ Textured Lay-in
922	24" x 48" Fine Fissured Lay-in
928	24" x 24" Fine Fissured Lay-in
932	24" x 24" Fine Fissured Tegular
954	24" x 24" Classic Fine Textured Tegular
973*	24" x 24" Lumawash™ Lay-in
9768*	24" x 48" Sahara™ Scored II
9769*	24" x 48" Sahara Scored I
1728BL	24" x 24" Fine Fissured Lay-in (Black)

*New product EQUIVALENT to Humiguard Plus ceilings listed in report, but not included in the evaluation.

1728BL FINE FISSURED BLACK

Test Report Available

Armstrong Ceilings has an engineering report available through TechLine that provides our testing and performance information which can be submitted to local code officials as a code EQUIVALENT solution.

To contact TechLine, call:
1-877-ARMSTRONG (276-7876)
ceilings.com