Underfloor Protection Requirements

(*Residential Code Only*)

Background: **Section R302.13** specifies requirements for underfloor protection for manufactured I-joists (*see code section below*). An illustration provided in the ***2015 International Residential Code Transition Document*** depicts protective materials affixed directly to the bottom of the joists (*see illustration below*). In new construction, this is easy to achieve. When adding structure to an existing condition, it may be a bit more challenging.

Question: Does the ***Massachusetts Ninth Edition Residential Code*** require protective materials specified in **Section R302.13** to be affixed directly to the underside of the I-joist in an existing condition?

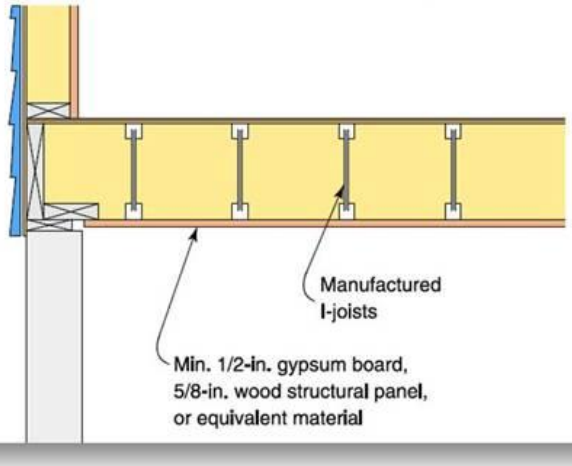
Answer: **No** (*see explanation next page*).

R302.13 Fire protection of floors.

Floor assemblies that are not required elsewhere in this code to be fire-resistance rated, shall be provided with a $^{1}/_{2}$-inch (12.7 mm) gypsum wallboard membrane, $^{5}/_{8}$-inch (16 mm) wood structural panel membrane, or equivalent on the underside of the floor framing member. Penetrations or openings for ducts, vents, electrical outlets, lighting, devices, luminaires, wires, speakers, drainage, piping and similar openings or penetrations shall be permitted.

2015 International Residential Code –Transition from the 2009 IRC

Topic	2012	2015
Part 2 Building Planning (Chapter 3), Continued		
Garage Opening Protection	**R302.5.1** Doors between the garage and dwelling unit now require self-closing devices.	
Fire Protection of Floors	**R302.13 (R501.3)** With some exceptions, the code now requires 1/2-inch gypsum board or equivalent material to be applied to the underside of floor assemblies in buildings regulated by the IRC.	**R302.13** The provisions for fire protection of floors have been relocated from Chapter 5 to the fire-resistant construction provisions of Section R302. New language clarifies that the code does not regulate penetrations or openings in the fire protection membrane.



Explanation: **Section 302.13** does state that the gypsum board (*or other product*) is to be *". . . on the underside of the floor framing member . . . "and* the illustration provided in the transition document shows the gypsum adhered directly to the bottom of the I-joist (*see illustration above*). In many cases, it may not be possible to affix material directly to the new structure due to existing floor elevations or other existing conditions. **Section 302.13** does not ***specify*** that the gypsum (*or panel*) needs to be affixed directly to the underside of the framing member; it simply states that the floor assembly must be ***provided*** on the underside.

The International Code Council's IRC Commentary explains that the reason for floor protection is to help achieve better\longer burn characteristics for the I-joists to provide a greater opportunity for occupants to escape and firefighters and first responders to perform search and rescue in the structure, if necessary.