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MEMORANDUM

TO: Construction Officials

FROM: Edward M. Smith 
Director
Division of Codes and Standards

DATE: August 30, 2017

SUBJECT: Weyerhaeuser TJI Joists with Flak Jacket Protection

This memorandum is intended to provide guidance on TJI Joists with Flak Jacket protection manufactured after December 1, 2016. It appears that there was some change made at that time causing the protective coating applied to these joists for fire resistance to emit formaldehyde. Weyerhaeuser indicates that there are 320 affected homes in New Jersey in various stages of construction. The code issues are the structural integrity and fire resistance of any proposed remediation. Accordingly, this guidance is limited to how to address the administrative and technical code issues involved with any proposed remediation method. This guidance does not address the effectiveness of any proposed remediation in preventing the off-gassing of formaldehyde nor is it the role of the code official or of the Department to offer advice on which remediation method to select. (This is between the builder, the manufacturer and the homebuyer.)

Several different remediation methods have been proposed by the manufacturer, including replacing the TJI joists entirely, applying a coating to prevent the formaldehyde emissions ("top coat solution") or mechanical removal of the Flak Jacket protection. Descriptions and additional information on these remediation methods is available on Weyerhaeuser's website. <https://www.weyerhaeuser.com/builderfj>

In buildings for which a certificate of occupancy (CO) was already issued, the presence of these joists would not, in itself, be a code issue and would not impact the certificate of occupancy. Once a remediation method is chosen for a building with a CO, a permit should be applied for, issued and inspections performed, as described below. For buildings still under construction, the remediation may be undertaken under the existing permit.

Replacement

In a building where the TJI joists are being replaced by a similar product, a letter from an architect should be required stating that the substitution is acceptable and an inspection should be performed to ensure that the replacement components are properly installed. In a building where the TJI joists are being replaced by a different product (e.g. 2x10's per exception 4. of Section R302.13 of the 2015 International Residential Code (IRC) included below for your reference), revised drawings should be required and an inspection should be performed to ensure that the replacement components are properly installed.



Top Coat Solution

This remediation method consists of applying a coating that prevents the off-gassing of formaldehyde. At this time, there is no ICC-ES (International Code Council Evaluation Services) report documenting that the application of this coating does not affect the fire resistance of the TJI Joists with Flak Jacket protection. Accordingly, if the top coat solution is chosen, some other, additional measure must be taken to ensure that the home continues to meet the applicable fire protection requirements of Section R302.13 of the IRC. Revised drawings should be required documenting the code compliance of the measure(s) chosen and an inspection should be performed to verify compliance. If and when a new ICC-ES report is issued, the TJI joists with Flak Jacket protection and the top coating applied may be accepted as meeting the requirements of Section R302.13 of the IRC without the need for any additional measure(s).

Coating Removal

If the coating is to be removed through mechanical means, then similar to the top coat solution described above, some other measure must be taken to ensure that the home continues to meet the applicable fire protection requirements of the IRC. An inspection should be performed following coating removal to ensure that there are no visible signs of damage to the joists. Revised drawings should be required documenting the code compliance of the measure(s) chosen and an inspection should be performed to verify compliance.

Should you have any questions, please feel free to contact the Code Assistance Unit at codeassist@dca.nj.gov or (609) 984-7609.

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.

Exceptions:

1. Floor assemblies located directly over a space protected by an automatic sprinkler system in accordance with Section P2904, NFPA 13D, or other approved equivalent sprinkler system.
2. Floor assemblies located directly over a crawl space not intended for storage or fuel-fired appliances.
3. Portions of floor assemblies shall be permitted to be unprotected where complying with the following:
 - 3.1. The aggregate area of the unprotected portions does not exceed 80 square feet (7.4 m²) per story.
 - 3.2. Fireblocking in accordance with Section R302.11.1 is installed along the perimeter of the unprotected portion to separate the unprotected portion from the remainder of the floor assembly.
4. Wood floor assemblies using dimension lumber or structural composite lumber equal to or greater than 2-inch by 10-inch (50.8 mm by 254 mm) nominal dimension, or other approved floor assemblies demonstrating equivalent fire performance.