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From: Codes and Standards Information
Sent: Monday, November 06, 2017 11:57 AM
To: Codes and Standards Information <cstandards@dca.nj.gov>
Subject: Weyerhaeuser TJI Joists with Flak Jacket Protection update

It has been reported to the Department that problems have occurred with the Flak Jacket protection: both cracking or delaminating of the Flak Jacket protection due to exposure to weather (unrelated to the remediation) and cracking or flaking of the top coating (W20115 paint) applied to address the formaldehyde emissions. Because the testing performed for the ICC-ES report (ESL-1091) did not involve coating with cracks or other damage, it is not known whether this cracking impacts fire protection. Accordingly, the guidance issued on August 30 should be followed. Compliance with the requirements of Section R302.13 of the IRC/2015 should be required.

October 6, 2017 message (below) superseded except for August 30, 2017 memo:

As a follow up to the memo from Director Edward Smith dated August 30, 2017, please be advised that a revised ICC-ES report (ESL-1091) has been issued. Accordingly, TJI joists with Flak Jacket protection and the top coating (W20115 paint) applied may be accepted as meeting the requirements of Section R302.13 of the IRC.

A link to the newly-revised ICC ES report is included below:

http://www.icc-es.org/Reports/pdf_files/load_file.cfm?file_type=pdf&file_name=ESL-1091.pdf

A link to the August 30 memo is included below for your convenience:

http://www.nj.gov/dca/divisions/codes/alerts/pdfs/TJI_Flak_Jacket_Guide.pdf

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



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ICC-ES Listing Report

ESL-1091

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Reissued 11/2017

This listing is subject to renewal 11/2018.

DIVISION: 06 00 00—WOOD, PLASTICS AND COMPOSITES
SECTION: 06 17 33—WOOD I-JOISTS

REPORT HOLDER:

WEYERHAEUSER

POST OFFICE BOX 6049
FEDERAL WAY, WASHINGTON 98063-6049

EVALUATION SUBJECT:

TJI JOISTS® WITH FLAK JACKET™ PROTECTION



Look for the trusted marks of Conformity!

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ICC-ES Listing Report

ESL-1091

Reissued November 2017

This listing is subject to renewal November 2018.

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CSI: DIVISION: 06 00 00—WOOD, PLASTICS AND COMPOSITES
Section: 06 17 33—Wood I-Joists

Product Certification System:

The ICC-ES product-certification system includes evaluating reports of tests of standard manufactured product, prepared by accredited testing laboratories and provided by the listee, to verify compliance with applicable codes and standards. The system also involves factory inspections, and assessment and surveillance of the listee's quality system.

Product: TJI® Joists with Flak Jacket™ Protection

Listee: WEYERHAEUSER
POST OFFICE BOX 6049
FEDERAL WAY, WASHINGTON 98063-6049
(888) 453-8358
wood@weyerhaeuser.com
www.weyerhaeuser.com

Evaluation: TJI® Joists with Flak Jacket™ Protection applied to both sides of the web were tested in accordance with the following standards:

- ICC-ES Acceptance Criteria for Prefabricated Wood I-Joists (AC14), Appendix A, Sections A4.4.1 through A4.4.3, approved June 2016.

Findings: TJI® Joists with Flak Jacket™ Protection applied to both sides of the web are evaluated to be an alternative to 2-by-10 dimension lumber, based on the results of fire testing in accordance with Sections A4.4.1 through A4.4.3 of Appendix A of AC14, and have met the requirements for equivalent fire performance prescribed in the applicable sections of the following code editions:

- 2015 *International Residential Code*® Applicable Section: R302.13 Exception 4
- 2012 *International Residential Code*® Applicable Section: R501.3 Exception 4

Identification: TJI® prefabricated wood I-joists with Flak Jacket™ Protection are identified, prior to application of field-applied W20115 Paint, by web markings including a Flak Jacket™ Protection stamp or label, manufacturer's name or logo, plant number, coating production date, the name or logo of the inspection agency (PFS Corporation) and the ICC-ES listing report number (ESL-1091), and when applicable the listing mark, along with a stamp on the I-Joist flanges that identifies the I-Joist member's product designation, manufacturer's name or logo, plant number, production date, the name or logo of the inspection agency (PFS Corporation), and the ICC-ES evaluation report number ([ESR-1153](#)). The W20115 Paint is provided by Weyerhaeuser in 5 gallon pails or 275 gallon totes and identified by a label on each pail or tote identifying the contents as the W20115 paint. The painted joists are identified by the flange markings and gray paint (W20115) covering the Flak Jacket™ coating and flanges as required by the Weyerhaeuser application instructions. A remediation tag will also be attached to a joist adjacent to nearby mechanical equipment or other suitable location to certify that the joists in the home were remediated according to Weyerhaeuser requirements by applicators approved by Weyerhaeuser.

Installation: TJI® Joists with Flak Jacket™ Protection shall be installed in accordance with Weyerhaeuser's published installation instructions and applicable codes. W20115 Paint may be field applied over the TJI® Joists with Flak Jacket™ Protection. The W20115 Paint shall be applied in accordance with Weyerhaeuser's published installation instructions.

Listings are not to be construed as representing aesthetics or any other attributes not specifically addressed, nor are they to be construed as an endorsement of the subject of the listing or a recommendation for its use. There is no warranty by ICC Evaluation Service, LLC, express or implied, as to any finding or other matter in this listing, or as to any product covered by the listing.



Conditions of Listing:

1. Additional attributes and their applications can be found in the ICC-ES Evaluation Report, [ESR-1153](#).
2. TJI® Joists with Flak Jacket™ Protection are permitted to be painted with a field-applied paint produced by Weyerhaeuser and identified as W20115 provided that the framing inspection (IRC Section R109.1.4) is conducted prior to the application of the field paint.
3. The listing report addresses only conformance with the standards and code sections noted above.
4. Approval of the product's use is the sole responsibility of the local code official.
5. The listing report applies only to the materials tested and as submitted for review by ICC-ES.



State of New Jersey
DEPARTMENT OF COMMUNITY AFFAIRS
101 SOUTH BROAD STREET
PO Box 802
TRENTON, NJ 08625-0802


CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

CHARLES A. RICHMAN
Commissioner

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.