

American Lumber Standard Committee, Incorporated

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VIA E-MAIL

TO: ALSC MEMBERS & ALTERNATES
FROM: THOMAS D. SEARLES
DATE: AUGUST 6, 2010
SUBJ: DESIGN VALUES

Last week we received notice from SPIB stating it had been notified by unnamed parties that some pieces of lumber have tested lower than the values assigned to the visual grades, which were developed through the "In-Grade" testing program. We have not been presented with any of the data upon which the allegations are made. It is our understanding SPIB has not received any information either (attachment #1).

The A&F Subcommittee held a conference call to review the situation. SPIB indicated it had scheduled a meeting with the FPL the following week to review the allegations and begin helping to develop a protocol to evaluate this issue.

Today, we received from several sources a memo from Kirk Grundahl (attachment #2). You will notice there is no technical data provided with the release. It does state, however, regardless of their findings that testing of trusses and wall panels are not adversely affected.

We have written Kirk Grundahl to formally request the data upon which this release is based. We continue to be in touch with the FPL to review any and all information affecting design values (attachment #3).

The Board of Review has been informed of the above information. If you have any further questions, please be in touch with the ALSC office.

We will keep you informed as further information develops.

TDS:tw

Attachment

cc: Board of Review
Counsel

July, 28, 2010

Notice

APPLICATION: Visually Graded Structural Dimension Lumber, 2"- 4" Thick Graded under the Voluntary Product Standard 20 National Grading Rule

The Southern Pine Inspection Bureau has received information that some pieces of lumber have tested lower than the values assigned to the visual grade which were developed through the "In-grade" Testing Program. The information received applies to multiple species and is not limited to Southern Pine. The Bureau has not been provided the data nor the testing protocol used to observe these lower values but we believe the sources to be credible and justify an investigation into this phenomenon.

The Bureau has contacted the USDA Forest Products Laboratory, The American Wood Council, and the American Lumber Standard Committee to begin the process of developing a protocol to determine whether or not properly graded lumber in certain instances might have Fb values below the minimum. Since 1994, (publication of the in-grade design values) the SPIB has conducted an annual resource monitoring program to detect shifts in the resource which would require further examination of the design values. In a 1998 Forest Products Laboratory Research Paper FPL-RP-576 it was noted that: "In general, the results are favorable and do not indicate a significant departure from the results of the original In-Grade testing program or the FPL-64 test program. In fact, the observed MOE tends to be higher than that obtained in either of these programs." The SPIB and the FPL have been reviewing the results to date, and while the review is not complete, there is not an indication of a shift from the original in-grade test program.

Our investigation will evaluate if there is a need to make some adjustments to either the grading rules or the design values. If consumers of visually graded lumber have immediate concerns and want to pre-empt the possibility of using a piece with lower than needed design values they can take one or more of the following actions:

- Specify a higher grade
- Specify a larger dimension
- Specify Machine Graded Lumber (Machine Evaluated Lumber or Machine Stress Rated Lumber)
- Avoid "Value Engineered" Construction where individual pieces are subjected to the maximum design stress. Note: Such application already requires a reduction to 90% of assigned values.
- Do not take the 15% increase in bending stress allowed for three or more repetitive members

The Southern Pine Inspection Bureau will pursue an expeditious review of the efficacy of the American Society of Testing Material design value development procedures and if needed, develop a solution.

ALSC - Tania Wagner

Attachment 2

From: Kevin Cheung [kcheung@wwpa.org]
Sent: Thursday, August 05, 2010 8:15 PM
To: Tom Searles
Subject: FW: Very Important Lumber Design Value Notice Responding to SPIB
Attachments: 100805 SBCA Response to SPIB Bulletin.pdf

Hello Tom,

You may already received the same e-mail attached below. Just in case that's not the case, I am forwarding it to you.

Kevin

From: Kirk Grundahl
Sent: Thursday, August 05, 2010 2:55 PM
To: Kevin Cheung
Subject: Very Important Lumber Design Value Notice Responding to SPIB

On July 28, the Southern Pine Inspection Bureau (SPIB) published a notice essentially calling into question the veracity of the design values of grade-marked lumber that the truss industry has justifiably relied upon to provide engineered designs for trusses and wall panels for the last 50 years. While SBCA through SBCRI has intimate knowledge about the lumber design value issues, we also have confidence through the truss, floor, and roof system testing we have performed that lower than the design values/strength properties assigned to such visual grades does not adversely impact the overall full scale performance of truss, roof and floor systems installed and braced in accordance with SBCA industry guidelines. We are obviously very concerned that SPIB would suggest that our industry cannot rely upon the lumber design values that ALSC has stated to us in no uncertain terms that we can. SBCA will be taking all actions needed and will be working very hard to ensure that current and future use of structural lumber will have accurate and reliable design values provided by our lumber suppliers so that our industry can provide even more of the creative architectural and value engineered applications our country has grown to depend upon.

Please contact Peggy Meskan with any comments, questions or concerns at 608/239-2608 or email her at pmeskan@sbcindustry.com. We will be more than happy to set up a SBC Connection meeting to address all the issues before us should we find there is enough interest in doing so. Thank you so much in advance for any thoughts you provide us and for your support of SBCA's effort here and overall!

Best regards,

Kirk

Peggy Meskan
Structural Building Components Association (SBCA)
 608/310-6723 (office) • 608/239-2608 (cell phone) • 608/274-3329 (fax)
www.sbcindustry.com

SBCA, in concert with its Wood Truss Council (WTCA) and Cold Formed Steel Council (CFSC), is the voice of the structural building components industry. Please support SBC Advertisers and BCMC Exhibitors who support our industry and make SBC and BCMC possible.

This message is intended only for the use of the individual to whom it is addressed; permission of the sender is required prior to any publication of this message. Thank you.

8/6/2010



Structural Building Components Association

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Bulletin Regarding SPIB Notice Dated July 28, 2010

Background

On July 28, 2010, the Southern Pine Inspection Bureau (“SPIB”) published a notice (the “SPIB Notice”) on its website at <http://www.spib.org> advising of information received establishing that some lumber (including Southern Yellow Pine and other species) had tested lower than the design values for the visual grade of such lumber. The SPIB Notice was published without prior notification to SBCA. The SPIB Notice further advises of plans on the part of the USDA Forest Products Laboratory, the American Wood Council, and the American Lumber Standard Committee (“ALSC”) to develop a protocol to determine whether or not properly visually graded lumber might have design values below the minimum.

Discussion and Recommendations

For users of structural lumber (i.e., any load bearing applications like floors, walls, roofs, decks, etc., per the IRC and IBC span tables and all engineered applications for lumber) such as the component manufacturing members of SBCA, the grade-mark applied by the manufacturer through the grade-marking supervision services of an ALSC approved agency (which includes SPIB) indicates the existence of the published minimum design or strength properties.¹ ALSC has specifically advised SBCA that a properly grade-marked stick of lumber maintains the minimum design or strength properties.² As an example, this simply means that a stick of lumber grade-marked as Southern Yellow Pine No. 2 has a minimum allowable fiber bending stress design value of 1500 psi when that stick of lumber is used for single bending member (i.e. non-repetitive member) use. This same concept applies for all other allowable stress values assigned to that grade.³

How the design values and correlation to the lumber grade stamp are then used in truss and component design software programs is contained in ANSI/TPI 1-2007, *National Design Standard for Metal Plate Connected Wood Truss Construction* which specifically states “Design values [as stated above] for solid sawn lumber and approved, grade stamped, finger jointed lumber shall be as defined by the grade stamp prior to cross cutting and in accordance with the published values of lumber rules writing agencies approved by the Board of Review of the American Lumber Standards Committee.”⁴ Thus component manufacturers are required to rely on lumber grade-marks and the corresponding design values.

Lumber testing undertaken by SBCA in recent months through its ANSI/ACCLASS accredited testing facility, the *SBC Research Institute (SBCRI)*, confirms that the lumber of various species tests lower than the values published for the corresponding grade-mark for the visual grade using testing procedures

¹ Lumber strength values are assigned to five basic properties: fiber stress in bending (Fb), tension parallel to grain (Ft) horizontal shear (Fv), compression parallel to grain (Fc), and compression perpendicular to grain (Fc[⊥]).

² See ALSC letter dated April 5, 2006 to the Wood Truss Council of America (the predecessor in name to SBCA).

³ See Southern Pine Council *Southern Pine Reference Design Values*.

⁴ Section 6.3.1 of ANSI/TPI 1-2007, *National Design Standard for Metal Plate Connected Wood Truss Construction*



SBCA Councils

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described in ASTM D1990 and D4761⁵ when testing modulus of elasticity (E)⁶ and modulus of rupture (MOR).

SBCRI testing further confirms that there appears to be a pith center⁷ (juvenile wood) effect with respect to the lumber it has tested and that the design value for pith center lumber is reduced compared to non-pith center or free of heart center lumber. In other words, the minimum design values appear to be achieved through testing where free of heart center lumber is the only lumber contained in the test population. The SBCRI lumber testing data has been provided in various formats to some of the major lumber manufacturers and confirmed by at least one lumber manufacturer, through an independent testing program, as an accurate design property assessment.

Full scale floor truss and roof truss system assembly testing has also been undertaken by SBCRI validating the fact that visually graded lumber that tests lower than the design values/strength properties for such visual grades does not adversely impact the overall full scale performance of truss roof and floor systems installed and braced in accordance with SBCA industry guidelines. SBCA plans to issue additional bulletins in the future pertaining to the information gleaned from its truss assembly testing.

SBCA is calling on the senior leadership of the lumber manufacturing industry⁸ to respond in one week and to convene a working group to immediately meet with representatives of the structural building component manufacturing industry to discuss the broad range of issues that have been set forth in the SPIB Notice and this SBCA Bulletin. SBCA believes an industry crafted set of options and solutions is appropriate as opposed to manufacturing companies or industry associations talking action that is not well thought out. The participation and insight of the customer groups of structural lumber, such as the component manufacturing members of SBCA,⁹ will provide valuable perspective with respect to providing public assurance that structural lumber will continue to be utilized reliably and safely and will provide design values/properties that allow for even more creative architectural and value engineered applications our country has grown to depend upon.

⁵ Testing was undertaken per the ASTM D1990 Standard Practice for Establishing Allowable Properties for Visually-Graded Dimension Lumber from In-Grade Tests of Full-Size Specimens, and ASTM D4761 Standard Test Methods for Mechanical Properties of Lumber and Wood-Base Structural Material.

⁶ The modulus of elasticity (E) is a ratio of the amount a material will deflect in proportion to an applied load. It is a measure of stiffness and not a strength property.

⁷ The generally less dense core occurring in the structural center of the log.

⁸ This includes the following lumber manufacturing companies: Beadles Lumber Co., Canadian Forest Products Ltd., Georgia-Pacific Corporation, Weyerhaeuser, Rayonier Wood Products, Temple-Inland Forest Products, Tolko Marketing and Sales Ltd, West Fraser, Inc., AbitibiBowater, Atikokan Forest Products Ltd., Canfor Wood Products Marketing Ltd., Domtar Inc., FH Stoltze Land & Lumber Company, Idaho Forest Group, International Forest Products Ltd., Kruger Inc., Lecours Lumber Company Ltd., Maibec Industries, Inc., Materiaux Blanchet Inc., Tembec Forest Products Group, Tolleson Lumber, TR Miller Mill Co Inc., and Vaagen Bros Lumber Company.

⁹ Participation in this group ought to include representatives of the metal connector plate industry who use published lumber allowable stress design values in the truss and wall panel designs and software products they provide to their component manufacturing customers.

American Lumber Standard Committee, Incorporated

Attachment 3

R.K. Caron, Chairman
T.F. Brodie, Vice Chairman
H.B. Sager, Treasurer
T.D. Searles, President

P.O. Box 210
Germantown, Maryland 20875-0210
Telephone: 301.972.1700
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E-Mail: alsc@alsc.org

VIA E-MAIL

August 6, 2010

Mr. Kirk Grundahl
Structural Building Components Association
6300 Enterprise Lane
Madison Wisconsin 53719

Dear Kirk:

We received this morning your "Bulletin Regarding SPIB Notice dated July 28, 2010." In recent days, we too have been apprised of the information that is referenced, but to date have not been able to obtain any of the specific data or particulars on the testing that the SBC Research Institute or other unnamed parties have conducted. It is our understanding that SPIB has similarly not been given access to any of the data giving rise to these assertions.

As you know, the in-grade test program that is the basis of the design values was conducted over the course of many years with the participation of the Forest Products Laboratory and numerous industry experts from the United States and Canada. It was based on testing of over 70,000 individual pieces of lumber and has been recognized for almost twenty years.

If, as has been suggested, there are concerns with published design values or their application, it is essential that they be addressed by the ALSC in a thorough, professional and prompt manner. The appropriate ALSC Subcommittee has already met once on this subject and there will be a meeting at the FPL to review these concerns and receive their guidance to evaluate the situation.

We agree with you that "action that is not well thought out" would be counterproductive. We specifically request access to the data that you reference in your bulletin. It is premature to discuss the reservations of various parties without review of the underlying data and the input of the FPL and other experts.

Sincerely,

A handwritten signature in cursive script that reads "Thomas D. Searles".

Thomas D. Searles
President

TDS:tw