

Southern Pine Design Values To Change

Maximum Spans For Typical Joist And Rafter Applications Will Be Reduced

Gary Raven, LAT Legislative committee co-chair, let us know about this unprecedented change this week, and is concerned that the ramifications could be severe. The NAHB has been notified, and The Structural Building Components Association has sent talking points out which we'll have at the upcoming LAT Legislative committee meeting Oct. 26 in San Antonio. In addition, NLBMDA will address this issue at meetings over the same date in San Antonio.

According to Raven, this change in the design value of all SYP is based upon data that has not been released to industry or to the public, with no hearings or testimony. The American Lumber Standards Committee has its Board members appointed by the Secretary of the U.S. Dept. of Commerce, so his feeling is that a modicum of due process should prevail here. It's not just truss and panel operations that will be impacted, it's lumberyards as well. If approval is given on 10/20, then the following week all #2 grade SYP in our members' yards becomes #3, for strength purposes.

According to the Southern Forest Products Association (SFPA) upon American Lumber Standard Committee (ALSC) approval design values for visually graded Southern Pine dimension lumber will be reduced as much as 35% for four of the six basic lumber properties:

- Bending (Fb) -30%
- Tension Parallel-to-grain (Ft) -20%
- Compression Parallel-to-grain (Fc) -35%
- Modulus of Elasticity (E and Emin) -200,000 psi

ALSC's Board of Review may approve new design values as soon as their next meeting, scheduled for October 20, 2011. Or, ALSC may decide they need additional information, such as the results from SPIB's full In-Grade matrix test results, before granting final approval. SPIB will publish new design values for visually graded Southern Pine lumber upon receiving final approval from ALSC.

The 2012 Edition of the National Design Specification (NDS) for Wood Construction is adopted by reference into the 2012 International Building Code. If the new design values are approved at the October 20, 2011 ALSC Board of Review meeting, the American Wood Council (AWC) will include the new design values for visually graded Southern Pine dimension lumber in the printed version of the 2012 NDS® Design Values for Wood Construction Supplement; **at that time, the values will become part of the International Building Code.** If the new design values are approved by ALSC at a later date, AWC will likely publish an addendum to the NDS Supplement at that time.

Existing inventories of Southern Pine dimension lumber can still be used, but may need to be used differently. **Existing inventory will have the new design values associated with it as of the effective date of SPIB's Supplement No. 9 of the 2002 Standard Grading Rules for Southern Pine Lumber.**

The impact on end users will depend on the specific application but, **in general, maximum spans for typical joist and rafter applications will be reduced for a given visual grade.** There are several options available to achieve similar maximum spans as before. One is to specify a higher grade and/or larger size of visually graded Southern Pine Lumber. Another is to specify mechanically graded lumber.

Dense lumber will remain an option for Southern Pine users requiring Dense material. **If Dense lumber is specified, it will have the same new design values as the corresponding unclassified lumber grade.**

In a communication addressing the design value changes the **Structural Building Component Association (SBCA)** stated:

"SBCA finds it implausible that the lumber design value reductions now being suggested by SPIB occurred without previous warning or notice of some type as they were responsible for monitoring lumber properties as required by ASTM D1990 "Establishing Allowable Properties for Visually-Graded Dimension Lumber from In-Grade Tests of Full-Size Specimens." This standard specifically states in section 4.3 that: "A review and reassessment of values derived from this practice shall be conducted if there is cause to believe that there has Southern Pine Lumber Potential Design Value Reductions.

The obvious question that needs an answer is: Are we to conclude that a 2x4 with a load resisting value of 1,500 psi changes almost overnight to a value of approximately 1,000 psi?"

SBCA further pointed out that that in a August 5, 2010 response to a July 28, 2010 bulletin from SPIB—stating that the Bureau was going to investigate if there was a need to make design value changes—the association urged the lumber producer industry and its associations to act proactively and responsibly with the following statement:

"...SBCA is calling on the senior leadership of the lumber manufacturing industry 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 taking 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, 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."

In its October 11th communication the SBCA outlined unintended economic impacts to designers, lumber remanufacturers, contractors, builders and retailers that could result from a sudden change in design values. These included:

1. Possible stoppage and delays to thousands of single-family, multi-family and commercial construction projects directly resulting from a publication of new design values for Southern Pine;
2. Buildings, units of buildings, and entire projects that may have to be re-designed directly relating to the publication of new Southern Pine design values;
3. A significant reduction in Southern Pine lumber inventory economic value overnight for component manufacturers, lumber yards, builders, and homeowners; and
4. An inadequate supply of Southern Pine lumber with sufficient design properties to meet the growing construction demand for use in roof and floor trusses (and roof rafters and floor joists) and wall panels and conventionally framed walls by builders and contractors who prefer to construct with Southern Pine.

SBCA made the following recommendation:

"The Southern Pine industry, and perhaps the lumber industry as a whole, furthermore needs to develop or have developed by others (e.g., through legislation or regulation), a transparent process and procedure for systematically testing and confirming lumber design values on at least an annual basis. This process would need to further provide that the design value changes if any occurring from such process and procedure be implemented in a fair, reasonable, and time specific manner."

In response to the proposed change in design values, as part of a notice to its members, the **National Lumber and Building Material Dealers Association** stated, *"NLBMDA is also deeply concerned about the lack of communication from the inspection bureau about the testing that was clearly underway for many months that could lead to the revision of design values. The October 3 notice by SPIB that it was submitting the proposed revisions to the ALSC Board of Review for consideration on October 20 creates legitimate concerns that we feel should be addressed now as a way of bringing transparency and accountability to this issue. The lack of leadership on this issue leaves far too much ambiguity and uncertainty in the marketplace."*

The last major change for visually graded dimension lumber occurred in 1991 when design values for Southern Pine and other North American species were published based on In-Grade testing of full-size samples of commercially produced lumber. Since 1994, SPIB has conducted an annual resource monitoring program developed in collaboration with the U.S. Forest Products laboratory (FPL). Although the level established to trigger additional testing was never reached, overall trends in the annual test data suggested a possible shift in the resource mix. These trends, along with anecdotal external information, prompted SPIB to conduct a year-long program of testing and data review.

SPIB and Timber Products Inspection selected full-size No. 2 2x4 specimens following a sampling plan approved by ALSC. SPIB and Timber Products conducted destructive tests in bending and tension, plus gathered stiffness and property data, all in accordance with established ASTM standards. SPIB also performed the data analysis in conformance with ASTM standards and then submitted the results to ALSC. SPIB's data analysis is currently being reviewed by FPL.