

AMERICAN LUMBER STANDARD COMMITTEE  
BOARD OF REVIEW

In the Matter of the Submission of the Southern Pine Inspection  
Bureau for Approval of Supplement 9.

This matter came before the Board of Review (the "Board") on the submission of the Southern Pine Inspection Bureau ("SPIB") for approval of proposed Supplement 9 to the 2002 Standard Grading Rules for Southern Pine Lumber containing revised design values for the major and minor species of Southern Pine (the "Submission").

The Board notes that the issue of the adequacy of design values for these species was originally raised in anecdotal information from outside parties in 2010, indicating that their testing of some Southern Pine lumber had resulted in breakage below the published values. SPIB developed a sampling and testing plan (the "Plan") to determine if there were grounds to believe that the resource had changed. The consideration of the Plan followed normal established procedures. The Plan was submitted to the Forest Products Laboratory ("FPL") for technical review and advice, the matter was noticed on the agenda of the Board's meeting, the agenda was sent to all members and alternates of the Committee and all other parties that had requested Board of Review agendas. The agenda noted that all background materials were available upon request. The Plan was a statistically appropriate approach based on a random sample of No. 2 2x4 lumber on a production-weighted basis from all producing regions. This Plan was approved by the Board on November 18, 2010.

SPIB and Timber Products Inspection ("TP") gathered a statistically valid sample and sent pieces for testing of MOE and MOR to the SPIB lab and pieces for testing of MOE and tension to the TP lab. Because of the magnitude of the indicated reductions in the design values based on the No. 2 2x4 testing, SPIB submitted an additional Sampling Plan on September 15, 2011, to evaluate a range of different sizes and grades (the "Matrix") which the Board approved after consultation with the FPL, notice to interested parties and an open meeting on October 20, 2011. The results and analysis is expected later in 2012.

The Submission was originally made to the Board by cover letter dated September 15, 2011. Because the Board was aware that the Submission was of great interest and concern to affected parties, it conducted a hearing on October 20, 2011 pursuant to Section 10.10 of the American Lumber Standard, Voluntary Product Standard 20-10 (the "Standard"), to allow presentations. Approximately 50 people attended that session. Prior to the hearing, the Board also determined that affected parties should have additional time to review the matter and make submissions. A

second hearing was duly noticed and held on January 5, 2012, at which approximately 90 people attended in person and another 25 by phone. All interested parties were afforded an opportunity to provide comments to the Board, in writing and in person or by phone.

In reviewing this Submission, the Board is subject to the provisions of the Standard, including Section 6.3.2.1 which provides in relevant part:

Development of design values – Design values contained in grading rules shall be developed in accordance with appropriate ASTM standards and other technically sound criteria. The National Institute of Standards and Technology, with the advice and counsel of the U.S. Forest Products Laboratory, shall be the final authority as to the appropriateness of such standards or criteria.

NIST has specifically approved ASTM D-1990 – “Standard Practice for Establishing the Allowable Properties for Visually-Graded Dimension Lumber from In-Grade Tests of Full-Size Specimens” as an appropriate standard for developing design values.

D-1990 contains restrictions on the use of data. For example, Section 7.2 provides in relevant part:

Grade – To adequately model grade performance, it is necessary to sample a minimum of two grades representative of the range of grade quality ... Grades sampled to model grade relationships shall be separated by no more than one intermediary grade and no more than one quarter of the total possible range ... in assumed bending GQI.

Similarly, Section 7.3 addresses width:

Width – In order to adequately develop the data for width, at least three widths per grade shall be tested, and the maximum difference in width between two adjacent widths shall be 4 in. (10 cm).

As noted above, the current phase of the testing performed by SPIB and Timber Products Inspection involved only No. 2 2x4's.

The Board is constrained by this controlling authority to decline to approve the proposed design values for grades and sizes of Southern Pine other than No. 2 2x4 at this time. In reaching this conclusion, the Board is mindful that testing is currently

underway on a full matrix sample consistent with Section 7.4 of the D-1990. The Board urges SPIB to proceed with all deliberate haste to complete this testing and analysis at the earliest opportunity.

ASTM D-1990 does contemplate the development of design values for a single size and species cell. (See, Section 4.2.) The information submitted on this size and grade did, in the Board's judgment, comport with D-1990 and applicable statistical principles. These No. 2 2x4 design values are approved with a recommended effective date of June 1, 2012, which will allow for their orderly implementation.

Although given the facts, circumstances and controlling authority of this particular matter, the Board did not approve design values for the other sizes and grades and has recommended a future effective date, **it cautions all interested parties to take note of all available information in making design decisions in the interim.** The values in the SPIB proposal represent approximately a 25-30% reduction. Many of the critics of the proposal acknowledged that some reductions were in order, albeit the magnitude of those reductions was disputed. **All design professionals are advised in the strongest terms by the Board to evaluate this information in formulating their designs in the interim period.**

The Board also wishes to commend the Southern Pine Inspection Bureau. The original testing did not contemplate the results that ensued nor was it designed to be a full matrix. Faced with sizable indicated reductions, SPIB felt obliged to expand the scope of its recommendations to other sizes and grades in an abundance of caution and in furtherance of its stewardship of the Southern Pine rules.

Dated: January 11, 2012

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**SUPPLEMENTAL RULING**

This is to clarify the January 11, 2011 ruling of the Board regarding the proposed design values for southern pine species. The ruling should have made clear that the approval was for No. 2 2x4 lumber and all lower grades of this size ( i.e. No. 3, Stud, Construction, Standard and Utility ). The recommended effective date for all of these grades is June 1, 2012. This approach is consistent with ASTM D-1990 and is mandated by the practical applications of these grades in the construction industry.

As the Board pointed out in its initial ruling, Section 7.2 of D-1990 addresses limitations on the use of data from one grade for extrapolations to other grades. Given the full context of D-1990 and its practical implications, however, the Board has concluded that the principle of Section 7.4 does not apply to extrapolations from No. 2 2x4's to lower grades in this size. For instance, Section X8.2.1 of D-1990 provides: "Property estimates for all grades below No.2 are estimated as the model predicted value at the grade minimum strength ratio (as listed in the grading rules)." Thus, the design values for grades lower than No. 2 are controlled by the No 2 2x4 cell and would not likely to be effected by the ongoing matrix testing of higher grades.

This interpretation is also mandated by the discontinuities of grade properties that would otherwise occur if the lower grades were maintained while No. 2 values were substantially reduced. This would lead to the anomalous result that Construction grade 2x4 would have higher values than No 2 2x4, for example. Because of different knot size allowances and other grading factors, Construction grade is, by definition, weaker than No. 2 2x4.

The Board regrets any confusion that this may have caused.