



PACIFIC LUMBER INSPECTION BUREAU

June 17, 2021

Response to N.C. DOI News Release on European Lumber in North Carolina

On June 11, the North Carolina Department of Insurance, issued a news release warning of the use of European lumber in North Carolina. PLIB believes that additional information related to some of the statements will be helpful to those who may have questions about the notice.

Statement:

“The council has determined European lumber, which is being imported to help with the nation’s lumber shortage, does not meet N.C. building code requirements and, in some cases, could cause catastrophic failures in wall, floor and roof framing.”

Response:

While it is true that there has been an increase in the amount of European lumber imported to the U.S. as a result of the nation’s lumber shortage, European lumber has been accepted and used in the U.S. and in North Carolina for decades. PLIB is unaware of any catastrophic failures in wall, floor, or roof framing applications. The prescriptive portions of the N.C. code are based on four major species commonly used in the U.S.: Douglas fir (U.S.), Hem-Fir (U.S.), Southern Yellow Pine (U.S.) and Spruce-Pine-Fir aka SPF (Canada). Alternative species (from North America or Europe) can be used with the prescriptive code if their design properties are equal or greater to the lowest value of these four major species. If a critical design property is found to be lower, alternative species can still be used with supporting documentation (such as span tables) and/or engineering evaluation.

Statement:

“A primary concern is the specific gravity or wood density that affects the performance of fastening devices, such as nails, screws or gusset plates. A lower specific gravity may result in a decreased resistance capacity of a shear wall designed to withstand wind and seismic loads, lower gripping strength of a truss metal plate, or lower bending strength that could affect wall height.”

Response:

The prescriptive portion of the North Carolina building code is based on an assumed minimum specific gravity value of 0.42. All European species with one exception have a specific gravity value or 0.42 or greater.

Statement:

“There are also concerns with the differences between U.S. and imported lumber milling processes.”

Response:

It is difficult to pinpoint what is meant by this statement but lumber produced in Europe that has the grade stamp of an ALSC accredited agency is manufactured, graded, and held to the same quality standards and quality audit requirements as North American lumber. This means the size requirements and tolerances are the same, the grade specifications are the same, the inspection requirements are the same, etc. All structural



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dimension lumber, regardless of the country of origin, that is graded and grade stamped under the supervision of an ALSC accredited agency follow the same quality standards as outlined in Product Standard 20 published by NIST and enforced by the ALSC.

Statement:

“I urge builders to know the difference between imported and domestic ‘No. 2’ stamped lumber so they don’t mistakenly use the wood in an unsafe manner that does not meet code.”

Response:

Lumber that is stamped No. 2 (or any other NGR grade) with an ALSC accredited agency stamp, whether imported or domestic, has been manufactured using the exact same grade rules. In other words, No. 2 produced in Europe uses the same grade rule as No. 2 produced in North America. Differences in design values are not due to different rules being applied for domestic versus imported lumber. Each species, be it U.S., Canadian or European, has its own set of design values.

Statement:

“As a result of these significant issues, the N.C. Building Code Council has issued an advisory that European lumber can only be used as an alternate material that must be reviewed by the code enforcement official before it is used.”

Response:

There are also many North American species that are commonly used in North Carolina that are not one of the four major species that the code is based on. These may not meet the prescriptive code requirements and must also be reviewed by the code official before being used.

Statement:

“Code enforcement officials must ensure the documentation includes the testing or evaluation performed on the lumber to support compliance with the building code requirements. Without the documentation, the use of European lumber products will require an engineering analysis and subsequent seal to verify code compliance.”

Response:

It is not clear what is meant by “...testing or evaluation performed on the lumber...” but allowable design values for all European species have been approved by the ALS Board of Review and published by PLIB. These design values also appear in the American Wood Council’s *National Design Specification (NDS) Supplement*. Generic span tables for joists and rafters are published in AWC’s *Span Tables for Joists and Rafters (STJR)*. These span tables can be used with the published design values to determine appropriate spans for European species. In addition, PLIB’s website includes a span calculator that can be used with domestic and European species. PLIB has also published Technical Report No. 5 *Maximum Allowable Stud Length Tables for European Species and Countries in High Wind Zones*. Additional tables for girders, headers and jack studs are being produced to further assist the engineer and code enforcement official. These will be made available on PLIB’s website www.plib.org/resources.



**NORTH CAROLINA
DEPARTMENT OF INSURANCE**
MIKE CAUSEY, COMMISSIONER

NEWS RELEASE

FOR IMMEDIATE RELEASE
June 11, 2021

Contact: [Marla Sink](#)
919.807.6017

N.C. Building Code Council warns of the use of European lumber in North Carolina

RALEIGH — North Carolina Insurance Commissioner Mike Causey today has issued an alert about the use of European lumber in the construction of homes and buildings throughout the state. The N.C. Department of Insurance regulates the state’s building codes and oversees the N.C. Building Code Council.

The council has determined European lumber, which is being imported to help with the nation’s lumber shortage, does not meet N.C. building code requirements and, in some cases, could cause catastrophic failures in wall, floor and roof framing.

A primary concern is the specific gravity or wood density that affects the performance of fastening devices, such as nails, screws or gusset plates. A lower specific gravity may result in a decreased resistance capacity of a shear wall designed to withstand wind and seismic loads, lower gripping strength of a truss metal plate, or lower bending strength that could affect wall height.

There are also concerns with the differences between U.S. and imported lumber milling processes.

The American Lumber Standard Committee (ALSC) requires the lumber species to be identified in the grade stamp on each piece of lumber. The structural properties widely vary by species and the origin where the wood was grown and harvested.

“Contractors should be aware that, despite a piece of lumber bearing a ‘No. 2’ stamp, there can be significant differences in the wood’s engineering properties depending on where it came from,” said Commissioner Causey. “I urge builders to know the difference between imported and domestic ‘No. 2’ stamped lumber so they don’t mistakenly use the wood in an unsafe manner that does not meet code.”

As a result of these significant issues, the N.C. Building Code Council has issued an advisory that European lumber can only be used as an alternate material that must be reviewed by the code enforcement official before it is used. This does not mean European wood products are prohibited, it simply requires additional supporting documentation to assure the wood characteristics are properly reflected in the overall project design.

Code enforcement officials must ensure the documentation includes the testing or evaluation performed on the lumber to support compliance with the building code requirements. Without the documentation, the use of European lumber products will require an engineering analysis and subsequent seal to verify code compliance.