

American hardwood lumber grading Q&A series

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The Grading Rules for North American hardwood lumber were established 100 years ago by the National Hardwood Lumber Association (NHLA), which is now headquartered in Memphis, Tennessee. I have been writing a series of articles, answering a variety of questions pertaining to the application of those grading rules. This month's article is intended to refresh, inform, and stimulate the reader about the grading rules. All the questions in these articles have been generated from individuals in the hardwood trade all over the world.

I live in India and purchased some American white ash for a hotel project last year. We used the wood throughout the project in doors, mouldings, and window framing. We were very pleased with the outcome and found the wood to be very workable. Now we have a big problem as a lot of the wood is cracking, joints are loose, and the overall craftsmanship looks shoddy. We were concerned about using this wood in our climate and now I am disappointed. What can we do?

My first response to this question is to ask whether the ash had been purchased in log form for milling and drying in India, or whether it was imported as kiln dried lumber. The answer, as I suspected, was that it had been imported in log form for processing in India. I think this solves the riddle of why the ash has not performed as expected in application.

Drying temperate hardwoods is a very specialised, highly technical process and great care is taken in, not only getting the moisture content correct, but also in the conditioning of the wood. I am certain that what happened in the case in question is that the wood was high in moisture content when installed and, over the last year, has had a chance to dry out. This would cause

the wood to crack and joints to open up. This is certainly not the first case like this that I have heard of and, unfortunately, there is not much that can be done now, except to live with it and hope it swells up with the rainy season.

I have no doubt that kiln dried white ash lumber would have worked perfectly in this project. All wood will "move" with the seasons, but starting with the proper moisture content is critical. There is a huge risk involved with buying sawlogs and converting them to lumber and Indian buyers and end users need to consider this when specifying them.

Could you tell me the difference between hickory and pecan, and something about the properties of both?

First of all, note that both species are of the same family, *Carya*, and that the fruit bearing trees are called pecan hickory, while the rest of the family are true hickories. The wood is virtually identical and often sold unsorted. As a general rule, in the northern and Appalachian regions of the USA, the wood is sold as hickory, while in the southern region, it is pecan. Even in the NHLA grading rules for hardwood lumber there is no distinction made between these two and no separation will be made. The hickories are the hardest of the commercial American species with a specific gravity of 0.75, as compared to the oaks or hard maple, which are in the mid 0.60's.

This very dense wood has an interlocking grain which makes it ideal for heavy duty use in handles, such as axes and hammers. We even use it for the lumber grading rulers used by inspectors worldwide. Hickory is susceptible to bird pecks and the grading rules allow for these natural characteristics. Bird pecks tend to be a "V" shape with purple streaks of colour emanating from them. The sapwood is a creamy white to yellow and the heartwood runs light tan to dark brown. The dense wood lends itself extremely well to hardwood flooring, especially when a character look is desired. Hickory has also become very popular in kitchen cabinets as well as western style furniture.

We keep hearing about the 4% allowed to be off grade every time we buy a load of lumber. What is this and where does it say we have to accept it?

The 4% you refer to is probably one of the most misunderstood issues in the NHLA rule book.

First of all, if a buyer and seller disagree on a load of lumber and there is mutual agreement that this dispute be resolved by a national inspector, the outcome of this inspection is determined by this 4% factor. If the outcome of the national inspection is within 4% of the original dollar value of the lumber, then the wood will be on grade and the buyer keeps and pays for the wood, plus the national inspection. If the two inspections are not within 4% monetary value, the buyer keeps and pays for the on grade lumber and it is up to the shipper to take care of the off grade and pay for the national inspection. This has been the procedure for many years in resolving disputes and the industry has adopted this 4% factor in lumber transactions. The key is money value, not volume. For instance, if I have 100 board feet at \$1.00 per foot, the total for this shipment is \$100. If my buyer re-grades this lumber and comes up with 75 board feet at \$1.00 per board foot and 20 board feet at \$0.70 per board foot his total value is \$90, a difference from the original shipment of 10%. This is how the 4% was intended to be used.

Are mineral streaks considered a defect in red oak?

Mineral streaks are not considered a defect, but they are limited to one twelfth of the clear cutting area. This is calculated by taking the number of cutting units required to make the grade and allowing the same amount of square inches of mineral. For example, a board with a four foot surface measure needs forty cutting units to make the FAS grade. This piece would allow forty square inches of mineral and still be considered on grade. This is not measured in great detail in most cases and usually comes down to a visual assessment by the inspector. If there is excessive mineral streak, the grade is lowered.

NOTE: I have moved to China and have set up an office in Shanghai for the NHLA. I will continue to work closely with AHEC and conduct seminars with them throughout the world. It was thought that being in Asia would bring me closer to the market. If you are interested in any on the job training, please send me an e-mail. I appreciate the questions I receive which make these articles possible. Contact me at: [Dit e-mailadres is beschermd tegen spambots. U heeft Javascript nodig om het te kunnen zien.](mailto:dit.e-mailadres@beschermdd.nl)

American Hardwood Export Council

The American Hardwood Export Council (AHEC) is the leading international trade association for the US hardwood industry, representing the committed exporters among US hardwood companies and all the major US hardwood product trade associations. AHEC concentrates its efforts on providing architects, specifiers, designers and end-users with technical information on the range of species, products and sources of supply.

AHEC produces a full range of technical publications which are available free of charge by visiting www.ahec-europe.org or by faxing (44) 20 7626 4222.

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