



From forest to floor

American lumber icon advises what to know before specifying hardwood flooring.

By Ron Treister



Construction of multi-family luxury condos and apartments still represents great opportunity for architectural specification, even in spite of the ongoing pandemic. In particular, for end-users consisting of millennials relocating to metropolitan areas and baby boomers.

From young families starting out, to empty nesters looking to downsize, the multifamily construction market still remains strong. Clearly, demand for higher-end condos and high-rise apartments in major markets has kept those in the commercial construction arena very busy during these highly insane times.

Overall, various floor coverings continue to replace carpet for many reasons. This is in part because today's buyers or renters are opting for more luxurious larger kitchens, upscale foyers and stately dining rooms and thus, are insisting upon hardwood flooring.

Perhaps the main reason for this demand is that imitation is the best example of flattery. Quick: Think of how many of today's porcelain tile, luxury vinyl, laminate and other flooring products are manufactured with a "wood-look."

Why are these faux wood flooring products so popular? The answer is obvious. The look of natural wood is and always will be in vogue. Those others are wood wannabes. The real deal is real wood.

Builders of extravagant high-rises, particularly in major metro areas and 55-plus retirement communities are being pushed to cater to the luxury market due to rising costs of land, labor and construction materials. Hardwood flooring truly is in demand, especially when a great majority of these new apartments and condos target the more affluent.

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Dave Graf is President of Graf Brothers, a northern Kentucky-based firm that sells logs, rough lumber and is back to producing hardwood flooring. This being his fifth decade within the industry, Graf knows a thing or two about wood.

When queried why hardwood flooring is in demand, especially for today's higher-end spenders, his answer was simple, "It's sexier."

Located on an 80-acre site, Graf's company specializes in —and is the world's

largest producer/provider of —Rift and Quartered white oak lumber products. "It all starts out with the logs," Graf says. "Clearly, the best logs equal the best lumber. Most other sawmills, which cut down trees to ultimately produce lumber for flooring purposes, start with logs having a 12-inch diameter. We believe in 'selective cutting' and insist on logs with at least a 16" diameter."

Why? Graf says it has to do with sustainability. "Because when harvesting logs this size, every 20 years you can then go in and re-harvest that forest again. Cutting down logs which are 12-inches in diameter ultimately means the forest won't grow enough to be re-harvested, at least for another 50 years."

Graf Brothers manages its own forests and also recommends to other landowners what must be done to gain optimal tree growth. The company is focused on taking care of log-bearing forests. "We even have gone as far as building 'board roads,' where after harvest, the mats will be removed and the owner can use that area for planting more new trees. The planks could be re-purposed, as well."

The journey continues...

Once logs are cut, they go to one of four Graf Brothers sawmills. At the log yards,

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GrafBro Solid Flooring Ends



each log is kept underwater from April to November to prevent cracking or checking, minimize rotting or drying out and also, to optimize color and visual character. White oak, which is Graf Brothers' specialty, goes on to its milling department, to be Rift and quarter sawn.

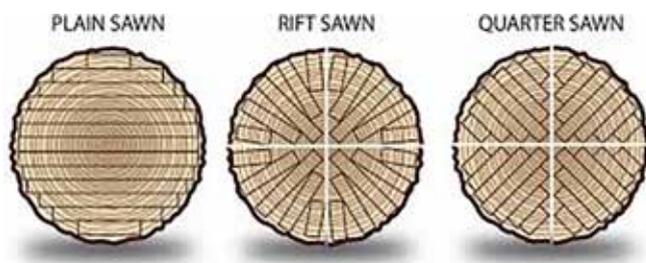
"Two or three centuries ago, the only large transport vehicles for logs were river rafts," Graf says. "A century or so later, due to upgraded technology and more, submerged inventories could somehow be reclaimed. Once dried and then cut into planks, wood patterns were extremely pronounced, and wood color was greatly brightened. And, the cut wood material was very hard."

This type of wood still occasionally is located and then reclaimed. The lumber product that can be made from it is very good-looking and high-performance.

Graf Brothers has five log yards in Kentucky, West Virginia and Ohio. It also turnarounds and regularly sells cut logs to other sawmills within a 100 mile radius of its locations. The logs it cannot use for in-house production work such as cutting into blanks for other firms or its internal own hardwood flooring production, is sold to various companies within a 10-state area.

There basically are four types of lumber produced in America that are made into hardwood flooring. How these lumber types are categorized depends upon procedures in which each log is positioned and then cut at the sawmill.

The most common—PLAIN SAWN (or "flat sawn")—is 98% of the total production in North America. It is the least expensive way to transform logs into lumber. The annular rings range from 30 degrees or less to the face of the board. Plain Sawn lumber is that which most of the commodity hardwood flooring materials is produced.



**Dave and Greg Graf,
The Original Graf Brothers**

Quarter Sawn Lumber, costlier than Plain Sawn, has straight grain patterns, where annular growth rings intersect the board's face at angles of 60 degrees to 90 degrees. Each log is cut into four quarters at a radial angle, resulting in interesting flecking patterns.

Even more expensive, Rift Sawn is the least common. Here, annual rings range between 30-60 degrees; with 45 degrees the most sought after. Manufactured by milling perpendicular to the growth rings produces a linear grain pattern containing no flecking. This method produces the most waste, increasing cost. Rift Sawn lumber is dimensionally stable, and has a unique linear appearance. It is often produced to complement Quarter Sawn lumber, thus the category, "Rift & Quartered (R&Q)."

R&Q cuts are very dimensionally stable and can withstand seasonal expansion and contraction in wood flooring. Along with stability, these cuts offer higher-ranked hardness ratings than standard cuts. Rift & Quarter sawn produces a tight, straight grain running

parallel to the board with little to no ray fleck. Quarter Sawn displays the straight grain along with ray flecks that run across the grain.

For the most part, Graf says that once architects and designers know about the high performance of Rift and Quarter sawn lumber, they will want to specify it for their projects. He says they want it for its looks, but more importantly, for its beauty.

"They also want it for its long-term durability and performance," he says.

"Over the course of time, we all know wood moves. R&Q does not buckle and/or pyramid upward. Rather, due to its composition, each board gets thicker. Thus, end-users' floors are tighter and even less apt to be repaired or replaced than those using less expensive commodity plain sawn log material."

Architects, developers and installers all must consider cost-saving measures such as specifying products with long life cycles that need less replacement. Higher-end wood flooring is the ideal choice, as not only will it increase property value, but it won't have to be replaced each time a tenant moves out.

"There are many people, such as those in my age group, who don't buy for investment purposes, but buy a new home, whether a major or seasonal residence, to be enjoyed for as long as possible," Graf says. "This marketplace of buyers should be educated on the benefits of higher end lumber cuts, especially that of Rift and Quartered." **CCR**



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