



THE ULTIMATE GREEN FRAMING MATERIALS



AND A GREENER BUILDING PROCESS.



BOISE ENGINEERED WOOD PRODUCTS.

Are there more environmentally-friendly, sustainable building products on planet Earth than Boise Engineered Wood Products? They're designed from the ground up to build homes more efficiently, at lower cost, faster than dimension lumber. But the real story is the environmental side of Boise Engineered Wood Products, starting with logs purchased in compliance with the Sustainable Forestry Initiative (SFI) program.

BOISE IS CERTIFIED BY SFI, AMERICA'S LEADING FORESTRY CERTIFICATION PROGRAM:



Boise doesn't own forests, but buys wood fiber in compliance with SFI®, the Sustainable Forestry Initiative. SFI has the dominant share of North American certified forest acreage (132 million acres) and is supported by the National Association of Homebuilders (NAHB) Model Green Homebuilding Guidelines, the American Fisheries Society, Wildlife Society, National Fish & Wildlife Foundation, Wildlife Habitat Council, Izaak Walton League of America, and leading universities including Yale and Duke. Boise is an active participant in SFI, which balances the sustainable growth and harvest of trees with protection of wildlife, plants, and soil and water quality.



NATIONAL CHAIN OF CUSTODY-CERTIFIED EWP SUPPLIER:

Boise is a national SFI chain of custody-certified engineered wood products supplier with certified mills. Chain of custody is the process of tracking and recording the possession and transfer of wood and fiber from forests of origin through the different stages of production to the end user. Chain of custody is essential to companies concerned that their products are made from responsibly managed forests, and not from areas that were illegally harvested, major tropical wilderness areas, or biodiversity hotspots. Many wood building material manufacturers belong to SFI, but only Boise and a few others have actual chain of custody certifications for sustainability. The ability to assure Boise customers that the product they are buying is made of wood fiber from sustainable sources is critical to Boise. So Boise has developed a computerized chain-of-custody system that documents the sources of every piece of wood fiber purchased. This ensures that no wood fiber gets into Boise inventory unless it comes from acceptable sources.



Dimension lumber cuts the heart out of the tree, with only about 60% of the tree going to structural "best" use.

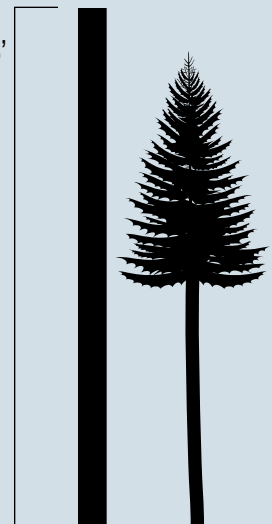


Boise peels the tree into veneers, with nearly all of the wood fiber going to structural "best" use.

HOW CAN BOISE MAKE 24" WIDE, 66' BEAMS FROM 10" DIAMETER, 60' TREES?

Dimension lumber beams have to be smaller than the trees they're cut from. But Boise Versa-Lam beams can be any size up to 66' long and can be made from smaller trees. Instead of cutting the heart out of the tree, as dimension lumber does, Boise peels each tree, tests every sheet of veneer (millions annually) to assure high strength, dries the thin veneers to low moisture content, laminates layer upon layer, and combines with other products to make engineered lumber for beams, joists and columns. The result is stronger lumber that uses less actual wood fiber.

66'



BOISE IS A LEADER IN USING RENEWABLE RESOURCES:

To manufacture engineered wood products Boise starts with basic wood, a renewable resource courtesy of Mother Nature and good sustainable forest management principles. Seedlings are planted in environments conducive to growth, with nutrients, moisture and light supplied naturally by the soil, rain and sun. The trees are nurtured like any other crop -- planted, grown, harvested and re-planted to supply a new crop about every 30-50 years. As trees grow, the forest consumes CO², a greenhouse gas, earning carbon credits. Boise products manufactured from these trees then maintain the carbon encased by the trees' growth. Using younger trees also helps keep forests thinned, making them



Wood is a renewable resource, courtesy of Mother Nature and sustainable forest management.

healthier and reducing the possibility of calamitous forest fires. For more information on Boise's environmental principles, view <http://www.bc.com/environment/index.jsp>

WHY CUT MORE TREES THAN NECESSARY?

Boise Engineered Wood Products are stronger, more reliable, and when installed, use 50% less wood fiber than dimension lumber – about half the number of trees. Boise eliminates waste associated with unusable lumber by taking out the inconsistencies found in dimension lumber. Using Boise Engineered Wood Products is a more efficient use of valuable natural resources.

Boise BCI Joists® – 50% stronger than dimension lumber with half the wood fiber:

Boise's strong new wide-flange 6000-series BCI Joists are 54% stronger and 33% stiffer than dimension lumber joists, yet use 48% less wood fiber.

Versa-Lam® makes the most of every tree:

Versa-Lam laminated veneer lumber headers, beams and columns are stronger than dimension lumber, so less material may be needed.



Versa-Stud® helps eliminate expensive callbacks:

Versa-Stud offers at least 2.1 times more bending strength and 20% more stiffness than #2 SPF 2x6 studs, so you'll get better construction and fewer callbacks. Versa-Stud also means straighter walls that require less finishing time, so fewer trips to the jobsite.



WHAT MAKES A FLOOR SQUEAK?

Squeaks are often caused by a dimension lumber joist that dried to shorter height between two full-depth ones. When the sub floor doesn't snug down to the middle joist, the nail can push in and out as people walk by.



LESS WEIGHT MEANS LOWER SHIPPING COSTS:

Boise BCI Joists weigh about half as much as dimension lumber joists. So in addition to requiring less energy on the jobsite, per-mile transportation costs are lower.

FEWER FRAMING DAYS MEAN LESS DRIVING:

It takes only 46.5 hours to frame a typical engineered wood floor vs. 64.5 hours to frame the same floor in dimension lumber. The 18 hours saved means fewer framing days, fewer trips to the job, less fuel burned and higher productivity.



BOISE BRINGS GREEN TECHNOLOGY TO HOME DESIGN AND CONSTRUCTION:

WHAT'S THE REAL COST OF A CALLBACK?

What's the total cost of a callback to fix a dimension lumber problem when a drying stud twists in a wall after move-in? It's replacement of the defective lumber, tearing it out, re-installing, re-sheetrocking, and repainting. It includes wasted time, materials, fuel, and air pollution from many extra trips, which wouldn't happen with Boise Engineered Wood Products.



Boise has become the leader in providing new electronic tools to design and build homes with less material waste, less paper, fewer deliveries and trips to the jobsite, less needless driving and air pollution – the other elements of building in a “green” way.

BC Framer®/BC Calc® streamlines home plans, eliminates material waste, reduces building costs, and cuts trips to the jobsite. **The Boise Build-Rite™** process does even more of that for volume builders.

Boise® PlanSwift™ does electronic take-offs, replacing multiple trips to the jobsite for measuring.

Boise® Plans Room™ lets builders manage projects online, eliminate paper, save time, deliveries, and trips to the job.

Precise material and cut lists mean buying and cutting only what's needed to build the plan. **Squaring diagrams** mean walls and floors built square, level and plumb, for faster finishing and less wasted time. **Color-coded framing placement plans** can eliminate framing errors, wasted material, and extra trips to the jobsite.



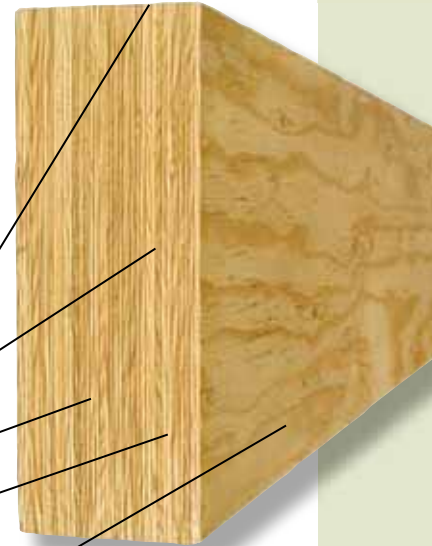
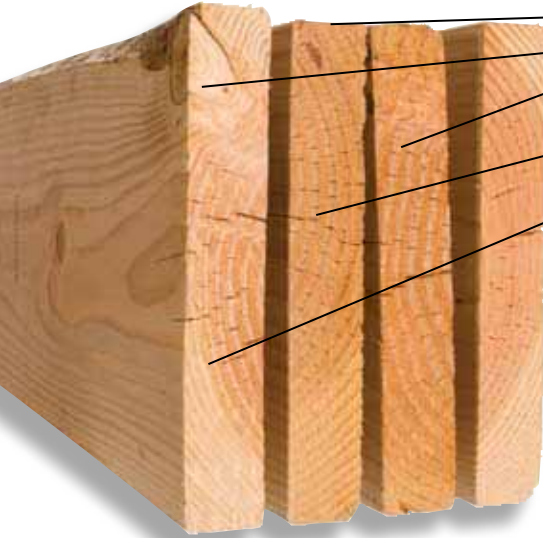
WHY BOISE ENGINEERED WOOD PRODUCTS ARE BETTER FOR BUILDING:

Dimension lumber:

- Different depths can cause floor squeaks
- Often has deep cracks, knots and other imperfections
- Made with 18-20% moisture content, which can cause warping and twisting as it dries
- Inconsistent structural characteristics because of natural flaws
- Not as strong as engineered wood, so more may be needed

Boise Engineered Wood Products:

- Always uniform depths and thicknesses
- Flaws are virtually eliminated or widely dispersed in the manufacturing process
- Made with about 10% moisture content, perfect for home construction
- Stable and consistent – doesn't warp, twist or change shape
- Stronger than dimension lumber, so less may be needed



MORE HEADROOM, COURTESY OF BOISE ENGINEERED WOOD PRODUCTS:

HVAC, plumbing and electrical lines can be run through engineered wood joists, but not through dimension lumber. Homes have a lot more headroom when utility lines are run through the joists, not below them as with dimension lumber. It's just better space utilization.

MORE EFFICIENT CUTTING BY BOISE DEALERS FURTHER REDUCES WASTE:

Boise SawTek® automated cutting systems help Boise dealers achieve faster, safer, more accurate trimming and processing with very little waste. Now, dealers with Boise SawTek processing systems can deliver products to the jobsite

trimmed to 1/16" accuracy and ready to install, with as little as 1/2" waste in a 66' length.



LIFE CYCLE ASSESSMENT:

Life Cycle Assessment is a method of assessing the environmental performance of materials, assemblies and whole structures over the course of their entire lives, from extraction through manufacturing, transportation, installation, use, maintenance and disposal or recycling. Impacts are measured in terms of a wide range of potential effects such as depletion of resources including fossil fuels, water use, global warming potential, stratospheric ozone depletion, smog creation, acidification and acid deposit, toxic releases to air, water or land, and other factors. All of these measures are indicators of the environmental loadings that can result from the manufacture, use and disposal of building products. Life Cycle Assessment enables architects, engineers and others to factor environmental considerations into the design process from the conceptual stage onward.



WOOD BEATS STEEL OR CONCRETE AS A PRIMARY BUILDING MATERIAL:

In addition to being the only major building material that's renewable and sustainable over the long term, studies show wood is superior to steel and concrete in almost every environmental impact category. Using "Life Cycle Assessment," a study by the Canadian Wood Council compared life cycle impacts of three 2,400 square foot homes designed primarily in wood, steel and concrete:

FASTER-GROWING FORESTS MEAN A BIGGER SUPPLY, SOONER:

The growth cycle for wood fiber is shorter today. It used to take 80-120 years for trees to be ready to harvest, but now takes only 30-50 years to grow trees to make engineered wood products. Shorter growing cycles and the ability to use smaller trees means a virtually inexhaustible supply of wood fiber for homes. It means using more medium-size, second-growth trees and leaving the big old-growth trees.

The steel and concrete designs...

- Released 24% and 47% more air pollution
- Produced 8% and 23% more solid wastes
- Used 11% and 81% more resources
- Required 26% and 57% more energy
- Emitted 34% and 81% more greenhouse gases
- Discharged 4 and 3.5 times more water pollution

... than the wood design.



IN GREEN BUILDING, GREAT PRODUCTS ARE ONLY THE BEGINNING:

Boise is contributing to Green building with:

- Green products made from SFI-certified sustainable forests - stronger than dimension lumber so only about half the number of trees are cut.
- Green, paperless design processes that make home plans more efficient, reduce material waste and eliminate most framing errors.
- Green construction processes that result in square, level, plumb homes that can be built in fewer days with less material and virtually no waste.

Because in Green building, Great products are only the beginning.

Great products are only the beginning.™

BOISE®
Engineered Wood Products