

One of the largest privately-owned, independent wood products manufacturers on the West Coast, Freres has a history of being mindful about its environmental impact and observing sustainable management practices throughout its three operations—Freres Lumber Co., Freres Timber and Evergreen BioPower LCC. Freres has earned its place as a wood products industry leader in sustainable practices by being stewards of the land, committing to sustainable practices, and investing in innovative products and processes.

### Sustaining Timberland

Freres's commitment to sustainability starts in the forest. Stakeholders can be assured of this commitment, as Freres is certified by the **American Tree Farm System (ATFS)**, a third-party accredited certification body that provides forest certification to give consumers peace of mind that the products they purchase originate from sustainably managed forests that protect economic, social and environmental benefits. This ATFS certification means we stand among the best woodland stewards in America.

Freres Timber's 17,000 acres of timberland are harvested on a **sustained yield basis**. Freres replants more than 350,000 trees annually on private land and timber sale properties. This allows Freres Timber to provide high-quality timber today, while managing a healthy forest and providing timber production for future generations.

Freres Lumber has brought high-quality wood products to market for almost 100 years. With nearly 60 years producing veneer products, the company has employed that experience to engineer a monumental, patent-pending mass timber product, Mass Plywood Panels (MPP). MPP is an engineered wood product assembled by combining extremely thin layers of wood veneers. As a mass timber product, MPP pre-fabricated structural wood panels can be used as the primary load bearing material in the construction of multi-story buildings.

### Wasting Nothing

Freres uses 100 percent of the fiber delivered to its plants from timber harvesting. That means Freres uses a **zero waste** business model. Freres's veneer products are made with a lathe that peels thin layers from logs as large as 48 inches, or as small as 6 inches. This process reduces waste since more of the wood goes into the final product than cutting square lumber from round trees. Freres produces and sells residuals such as bark dust, chips and sawdust which are used in a variety of markets such as residential construction, farms and nurseries.



### Sustained Yield Basis

Sustained yield of natural resources is the ecological yield that can be harvested without depleting that resource. This approach is important in ensuring the long-term replacement of our resources by regrowth and reproduction.



Any residual wood remaining from manufacturing operations that does not have a higher-value use is burned to produce biomass energy. Biomass energy, a renewable energy, is obtained from combusting wood debris to generate steam, which is then either utilized as heat in manufacturing processes or used to generate electricity. Steam-generated electricity from Freres's cogeneration plant supplies the local utility with enough energy to power more than 5,000 households, while also delivering heat for plant production processes.

### **MPP: Building the Future with Wood**

Multi-story, mass timber component structured buildings are rapidly increasing in popularity for a variety of reasons. From an environmental standpoint, wood is a natural and renewable resource. New engineered Structural Composite Lumber (SCL) products use less wood, are strong and lightweight, and get excellent marks in seismic integrity and fire resistance.

Forests and timberland absorb and store CO<sub>2</sub>. Because wood products retain CO<sub>2</sub> for the lifetime of a building, harvesting and manufacturing wood products requires much less energy than traditional building materials, including concrete, steel and iron. According to the EPA's Inventory of U.S. Greenhouse Gas Emissions and Sinks (1990-2013), carbon dioxide (CO<sub>2</sub>) emitted from iron, steel and cement production are the first and second largest sources of industrial CO<sub>2</sub> emissions in the U.S.

- MPP uses 20-30% less wood than Cross Laminated Timber (CLT) and is as strong as or stronger than other SCL products.
- Like SCL or CLT, depending on the thickness, the dense layering of wood veneers in MPP can result in high levels of thermal insulation.
- According to Tallwood Design Institute, one of the nation's top research collaboratives focusing exclusively on the advancement of structural wood products, MPP has the ability to provide much lower embodied energy and greater carbon sequestering properties than concrete and steel.
- Producing one ton of concrete emits eight times more carbon dioxide (CO<sub>2</sub>) than lumber used in building. Steel produces 21 times the CO<sub>2</sub> (According to the EPA's Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2013).
- MPP can be produced in varying lengths, but is produced primarily of small-diameter, fast-growing trees. Large diameter trees do not need to be cut to produce large format MPP that can be used in place of heavy timbers.
- Freres replants nearly 1 million trees annually on private land and timber sale properties.

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**WASTE**  
business model

MPP is  
**4X**  
lighter than concrete  
and steel  
construction

Wood is  
**100%**  
**NATURAL**  
renewable and  
recyclable



3rd party certification  
by the American Tree  
Farm System.