

1997 NOVA AWARD WINNER**FiRP Reinforced Glulam Technology**

FiRP Reinforced Glulam Technology includes methods to design and manufacture glued, laminated wood timbers reinforced with high-strength fiber reinforced plastics (FRP) for use in structural applications. The design method for FiRP Glulam timber is compression based, akin to the method used for reinforced concrete, and is a radical departure from the tensile based method for design of conventional glulam members. The patented FiRP Glulam Technology has many potential applications in residential, commercial, and infrastructure construction. It is especially well suited to structures such as bridges and domes wherein dead load is a large component of the total expected design load. In comparison to conventional glulam, FiRP Glulam presents substantial economies as less wood and lower grades are required when the FiRP Technology is used. FiRP Glulam's stiffness and strength properties are less variable, and therefore more reliable, than conventional glulam. Environmental impacts of the technology are also very positive. Wood is an environmentally friendly, sustainable resource, the plastic matrix reinforcement components can be made from recycled plastic, and there is reduced pollution and energy usage when used instead of metals and concrete.

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