

The Art of Timber Framing



by Rolf Priesnitz

Photos by Sweet Timber Frames

Timber framing or post and beam, as it's also known, is a traditional style of construction that is making a comeback. That's because it creates buildings that are strong, sustainable and full of character. In Europe and North America, there are many timber frame structures – homes, churches and barns – that are centuries old. We've even heard of a timber frame temple in Japan that was apparently built 1300 years ago.

Timber framing is a simple but elegant building system consisting of large wooden posts and beams that fit together with traditional interlocking mortise and tenon joinery and are secured with wooden pegs rather than nails. The pegs act as a locking mechanism with the joints of the timbers, so that when the frame of the house is assembled on-site, the only element holding the entire structure together is wood. Once the structure is assembled, the walls are completed by in-filling between the wooden structural members with natural building materials such as straw, cob, cordwood or planed wood, or by wrapping the structure with insulation and siding, which creates a tight building envelope.

The post and beam framework supports the roof by transferring roof loads to principal posts and onto the foundation of the building, eliminating the need for load-bearing interior partition walls. The result is a strong, self-supporting timber structure with open living spaces, which are easy to heat and cool, and an abundance of energy-saving natural light. A timber frame is structurally stronger than conventional wood construction and uses less wood. It can also employ recycled timbers from other homes and barns.

Some in the green building community don't feel that timber framing is completely environmentally friendly due to its use of wood. However, some critics admit that since it has been recognized and approved by most building code authorities, it is a way of approaching a natural building project that might otherwise have difficulty getting permits. Others point out that the use of natural timbers, as compared to brick, concrete or other fabricated products, can considerably reduce the carbon footprint of a home – both during construction and throughout the life of the building. It has been found that the embodied energy



in timber is low, even when taking into account transport and treatment requirements and the processing of timber to the finished state, and that timber framing uses over twenty-five percent less energy than that required for other construction types, partly because it uses less wood. The U.K. Timber Frame Association cites research suggesting that if all homes built in the U.K. since 1945 had been of timber frame construction, more than 300m tons of CO₂ emissions would have been eliminated. Of course, to be truly green, locally sourced trees that are harvested sustainably must be used.

One of the major attractions of timber frame construction is the considerable charm of a traditional, hand-made building. John Sweet, owner of Sweet Timber Frames, which built the house pictured in this article, describes a timber frame as “a unique wooden sculpture.” The 28-year-old family-owned and operated company is passionate about the challenges and rewards of each frame cut and erected, knowing it’s a piece of art, and wanting to be sure each structure’s construction is as tight and energy-efficient as possible.

The twenty-four by forty-foot house pictured here was built by Sweet Timber Frames in 2006/2007 in Mount Desert, Maine. Costs were \$225 per square foot, which Sweet says is comparable to a similar conventionally constructed home in that location. **- NL -**



Beauty and character of traditional timber frame homes are a result of natural materials being crafted by the hands of the builder. Each building frame is a unique wooden sculpture composed of large wooden beams that lock together with wooden pegs to form the visible interior.





Learn More

The Timber Framing Book by Stewart Elliott and Eugenie Wallas (Alan C Hood & Co, 2007)

Natural Timber Frame Homes: Building with Wood, Stone, Clay and Straw by Wayne Bingham and Jerod Pfeffer (Gibbs Smith, 2007)

Timber Framing for the Rest of Us: A Guide to Contemporary Post and Beam Construction by Rob Roy (New Society Publishers, 2004)

Timberframe: The Art and Craft of the Post-and-Beam Home by Tedd Benson (Taunton Press, 2002)

A Timber Framer's Workshop Joinery, Design & Construction of Traditional Timber Frames by Steve Chappell (Fox Maple Press, 1998)

The Craft of Modular Post & Beam: Building Log and Timber Homes Affordably by James Mitchell Hartley & Marks, 1997)

Build a Classic Timber-Framed House by Jack Sobon (Storey Communications, 1994)

Fine Homebuilding: Timber Frame Houses (Taunton Press, 1992)

The Timber Frame Raising by Stewart Elliott (Brick House Publishing Co, 1979)

Timber Framers Guild
www.tfguild.org

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www.sweettimberframes.com