



Expert Tips

## Using Wood in Types I and II Construction

Wood framing is permitted in some aspects of all five types of construction. Types I and II construction allow fire retardant-treated wood, heavy timber, and untreated wood in certain applications.



Section 602 of the International Building Code (IBC) defines five construction types (I-V), each with different levels of fire protection requirements and allowable use of combustible materials. Wood framing is permitted in some aspects of all five. Construction Types III, IV, and V may be framed exclusively with wood, but exterior walls in Types III and IV buildings are required to be fire retardant-treated wood (FRTW).

Construction Types I and II are defined in IBC Section 602 as having all elements of non-combustible materials except where permitted in IBC Section 603. This section permits the use of wood in the following applications in Construction Types I and II:

FRTW is permitted in:

- Nonbearing partitions where the required fire resistance rating is 2 hours or less
- Nonbearing exterior walls where fire-resistance-rated construction is not required
- Roof construction, including girders, trusses, framing and decking (note that FRTW is not permitted in roofs of buildings of Type IA construction, more than two stories above grade plane, where the roof is less than 20 feet above the upper most floor)
- Construction of balconies, porches, decks and exterior stairways not used as required exits where the building is three stories or less above grade plane

Partitions dividing portions of stores, offices or similar places occupied by one tenant only and that do not establish a corridor serving an occupant load of 30 or more shall be permitted to be constructed of fire retardant-treated wood, 1-hour fire-resistance-rated construction or of wood panels or similar light construction up to 6 feet in height.

Heavy timber is permitted in:

- Roof construction of any occupancy group and any construction type other than Type IA where a 1-hour or less fire-resistance rating is required
- Columns and arches of exterior applications where a horizontal separation of 20 feet or more is provided

Untreated wood is permitted in:

- Blocking or nailers used to support fixtures, railings, cabinets, and support of interior and exterior finishes (furring strips) as permitted in IBC Section 803.11
- Combustible exterior wall coverings, balconies and similar projections and bay or oriel windows in accordance with IBC Chapter 14
- Wall construction of coolers and freezers that are less than 1,000 sf, covered on both sides by non-combustible materials, and are in buildings that are equipped throughout with an NFPA 13 automatic sprinkler system
- Pickets, rails, and guardrail devices that are limited to 42 inches in height on balconies and similar projections

Other opportunities exist such as wood siding, veneer, and roof coverings. IBC Chapters 14 and 15 provide allowable uses and requirements.