



San Juan County
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POLICIES / PROCEDURES / INTERPRETATIONS

Heavy Timber Construction in Garage / Dwelling Separation

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ISSUE: Should structural elements that can be classified as "Heavy Timber"; used in support of a garage/dwelling separation; be permitted to remain unprotected with gypsum as required by R309.2?

ANALYSIS: IRC 309.2 requires a separation between a dwelling unit and an attached garage. This section states, in part:

"R309.2 Separation required. The garage shall be separated from the residence and its attic area by not less than 1/2-inch (12.7 mm) gypsum board applied to the garage side. Garages beneath habitable rooms shall be separated from all habitable rooms above by not less than 5/8-inch (15.9 mm) Type X gypsum board or equivalent. Where the separation is a floor-ceiling assembly, the structure supporting the separation shall also be protected by not less than 1/2-inch (12.7 mm) gypsum board or equivalent."

The IRC does not define "Heavy Timber Construction"; however the IBC does. Additionally, Section R201.3 of the IRC states that "Where terms are not defined in this code such terms shall have meanings ascribed to them as in other code publications of the International Code Council."

The IBC has multiple instances of allowing Heavy Timber Construction or Heavy Timber elements to be substituted for a 1 hour fire rated construction. A good example of this is Table 601, foot note "d", as pertaining to roof construction. The footnote states: "In all occupancies, heavy timber shall be allowed where a 1-hour or less fire-resistance rating is required". Review of the IRC Commentary for section R309.2 ascribes a 40 minute fire rating to 5/8" gypsum applied to a floor-ceiling system. Review of the IBC allowable building area and heights table (Table 503) shows that buildings of Type VA (rated construction) are lower in allowable height and area when compared to Type IV (heavy timber) construction. This would confirm the supposition that "Heavy Timber" offers protection equal to or greater than 1 hour construction.

POLICY: The use of Heavy Timber for columns and beams, defined by the IBC as:

602.4.1 Columns. Wood columns shall be sawn or glued laminated and shall not be less than 8 inches (203 mm), nominal, in any dimension where supporting floor loads and not less than 6 inches (152 mm) nominal in width and not less than 8 inches (203 mm) nominal in depth where supporting roof and ceiling loads only. Columns shall be continuous or superimposed and connected in an approved manner.

602.4.2 Floor framing. Wood beams and girders shall be of sawn or glued-laminated timber and shall be not less than 6 inches (152 mm) nominal in width and not less than 10 inches (254 mm) nominal in depth. Framed sawn or glued-laminated timber arches, which spring from the floor line and support floor loads, shall be not less than 8 inches (203 mm) nominal in any

dimension. Framed timber trusses supporting floor loads shall have members of not less than 8 inches (203 mm) nominal in any dimension.

Shall be allowed to be used as structural elements of a garage/dwelling separation without applying the required GWB, provided:

1. The nominal member size meets or exceeds the sizes listed in section 602 of the IBC
2. The remaining portions of the floor-ceiling and/or wall assembly are protected in accordance with R309.2
3. The required gypsum is tight against the member defined as heavy timber, OR the seam where the GWB and Heavy Timber meet is protected either with solid blocking minimum 2"x2" nominal dimensions or approved material to resist the free passage of flame and products of combustion.

This policy is limited to the garage/dwelling separation required by section R309.2 for 1 and 2 family dwellings.