

HEAVY & MASS TIMBER STRUCTURES

BUILDING STRUCTURE, PART II BY MEYERFIRE UNIVERSITY | AUGUST 2022

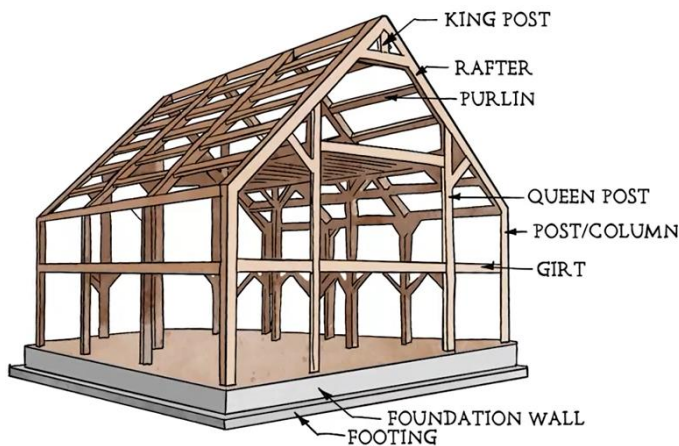
SUMMARY

Heavy Timber construction has been used for nearly two centuries. Historically:

- The early origins of Factory Mutual in 1835 standardized the way that Heavy Timber Structures are built.
- Use of Heavy Timber was a way to improve fire-resistance for structures, where the building could char but not collapse during a fire.

Heavy Timber vs. Mass Timber Construction

- Heavy Timber is defined by **large wood structural members** with greater spacing than light-frame construction
- **Mass Timber** Construction is a newer form of Heavy Timber which makes **greater use of lamination techniques** (CLT, NLT, DLT)
- Sloped roof structures include roof panels, purlins, rafters, posts, floor panels, beams, girts, and foundations.
- Flat roof structures include roof panels, floor panels, beams, posts, and foundations.
- Mass Timber offers a more environmentally-friendly method of construction (with other benefits) and is becoming more widely adopted today.



Heavy Timber Construction

(note the similar terminology to other building structure types)



Mass Timber Construction

(laminated floor panels being hoisted into position)

CODE/STANDARD REFERENCES



NFPA 5000 – Building Construction and Safety Code: Section 7.2.5.5 Type IV (2HH) Allowable Dimensions

IBC – 2021: Section 2304.11 on Dimensions for Heavy Timber Construction

VIDEO LINK

www.meyerfire.com/university/components-of-heavy-mass-timber-construction

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