Advanced Framing Technique/Optimum Value Engineering

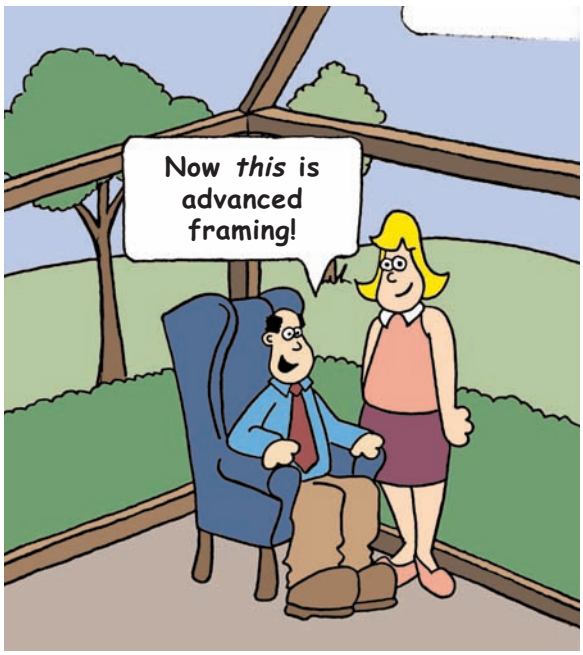
One of the latest trends in design and construction of new homes is Advanced Framing Techniques, or Optimum Value Engineering. The concept is to take more care in the assembly of the house frame to take maximum advantage of wood's inherent strength, thus reducing the total amount of wood in the home.

The theory behind AFT/OVE is sound. For example, locating joists and rafters directly over the studs reduces the load carrying requirements of the top plate, allowing the typical double plate to be reduced to one.

Theory aside, time will only tell whether AFT/OVE proves to be a worthwhile change to current practice. If you are presented this as a great feature by a home builder, consider the following:

- At least some of the strength of a home lies in its mass, not in the structural capacity of individual framing members. A home with more wood, hence more mass, might actually prove to perform better under hurricane-force wind conditions than an AFT home, given similar fastening techniques.
- Greater timber mass provides more fire resistance than less mass (consider the difficulty in starting a campfire with logs versus with kindling). This intrinsic fire resistance might be missed most in AFT homes at corners and top plates which tend to act as fire and smoke stops.
- The wider spacing of studs in AFT homes results in less support to drywall. The result is a more pronounced vertical "waviness" in walls than would be present in homes with closer stud spacing. This waviness might not be obvious on short walls or walls with heavy texturing and flat paints. On the other hand, it might be very objectionable on long walls, walls with strong natural or artificial lighting on them, or walls painted with high gloss paints.
- AFT requires more careful assembly than conventional construction. House framers not fully trained in the requirements could easily take advantage of the reduced lumber requirements and then frame conventionally, saving money but seriously jeopardizing the structural integrity of the home.
- Even if AFT proves to be structurally benign and pro-environment, there will almost certainly never be any direct benefit to the homeowner/buyer. Less lumber will never be intrinsically better than more lumber, and any builder touting AFT as a value-added feature is probably thinking more about the value added to his bottom line.

All our negativity aside, AFT/OVE may prove to be part of the trend toward greater economy in building, and it could have solid long-term benefits to society as a whole, including reduced burden on dwindling timber resources. For those who believe everyone needs to contribute to a better environment, AFT/OVE might be a feature that has great appeal. Those who are more pragmatic might want to carefully consider what they are giving up when their builder offers this "added feature".



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