

Question : If I were to construct a house with big logs, 8 to 10 inch square logs, rather than traditional 2x6 methods would the end result be more energy efficient? Louise Beauchemin, Duclos, Quebec.

Answer : The Quick answer would have to be NO, conventional 2x6 framing and insulation would be the more energy efficient of the two. However, there are a lot of variables to your question. First lets look at wood. In a log home wood does provide some insulation. Woods thermal resistance or resistance to heat flow is measured by R-value. The higher the R-value the higher the thermal resistance. The lower the less, which seems pretty obvious.

Most softwood logs have an R-value of approximately R-1.41 per inch and some hardwood logs have an R-value of as low as R- 0.71 per inch. Assuming you were to install a 9 inch softwood log that would give you R- 12.69. The other factors that would affect your heat loss could be the irregular sizing of the logs as well as the Chinking (mortar) between the logs.

Also, with logs, the seals at the windows and doors are often tricky at the best of times. What could be done would be to now install a 2x4 wall, insulation, vapour barrier and drywall on the inside of the log wall. This could provide you with an additional R-12 giving you a total of R-24.69. That technique would make it the better choice. However most people choose a log home for the look and that method would certainly ruin that.

Secondly, conventional 2x6 framing would provide you with (5.5 inches of batt type Insulation) R-20 in the walls, which in most parts of the country is the minimum building code energy standard, vapour barrier and then your choice of interior finish. Perhaps nice wooden boards !! Other factors or variables that could affect the " Energy Efficiency " of the house would be the heating / cooling system, air exchange systems, attic and basement configuration and as mentioned before, windows and doors.

So, as you can see 8 to 10 inch logs are not as good an insulator but they sure look nice. It would be my opinion that unless you were to build your home with huge logs over 16 inches thick, conventional 2x6 framing is still the best and most cost effective way to go.

I welcome your questions please forward them to , Inspector Weeks ,c/o Peter Weeks Home Inspections PWHI@sympatico.ca or by phone at 613.290.3697.

Peter Weeks has been a Chelsea resident for 17 years. As a general contractor since 1988, he has been doing **Residential Home Inspections** for about three years. He is an Associate Member of OAHI (Ontario Association

of Home Inspectors), CAHPI (Canadian Association of Home & Property Inspectors) and a member of the BBB and BNI. **He is a Qualified and Fully Insured Inspector.** You may Visit his Website at www.PWHOMEINSPECTIONS.COM.