

Insulated Wall System

for the outside log walls

The Government of Canada introduced new energy efficiency requirements for houses and small buildings in 2015, which now also include log houses and log cabins.

Reference: BC Building Code, Part 9: housing and small buildings, Section 9.36: energy efficiency

The change in the Building Code demands a minimum insulation value of R-22 for outside walls for any log structure, including cabins and cottages.

Softwood, such as spruce, has a mathematical R-value of approx. 1.2 per inch thickness. The thermal mass of softwood (e.g. spruce) is very high, which means it stores the heat for a long time in its system while it slowly travels through the log. This thermal mass of a 3+ 1/8" thick milled spruce beam is approx. comparable to an R-12 to R-15 conventional fiberglass insulation.

To meet the new energy efficiency demands of the Building Code, we offer our insulated double wall system for a mathematical R-27 insulation value, including the spruce log wall (see illustration below).

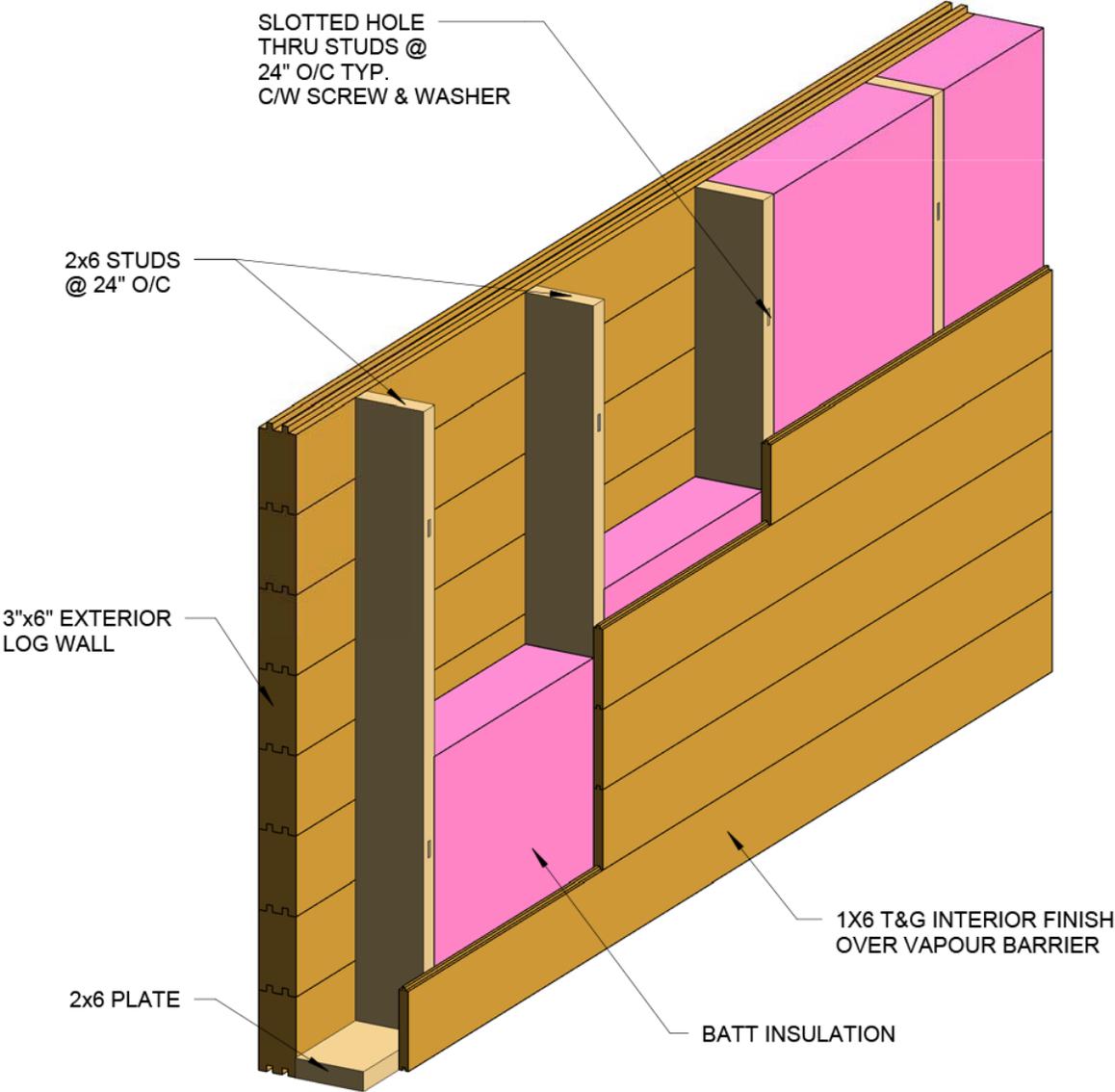
How it's done:

Following the complete assembly of the cabin log wall structure, 2x6 studs are installed to the inside surface of the exterior log walls on 24" centers. The studs are fastened to the log walls with 4" log screws in slotted spots to allow the interior studs and the exterior log walls to expand and contract independently. The space between the studs is filled with fiberglass insulation (R-22). The studs are then covered with vapor barrier for damp proving and 1¼"x 6¼" t&g boards to match the interior divisional walls.

This way the outside wall system is insulated and wired the same way as in conventional house construction.

All interior walls remain single 3"x 6¼" log walls.

The finished insulated wall system has the exact same appeal as the inside log walls, but with an R-27 insulation value. Considering the thermal mass factor of softwood, realistically the insulation value of the outside log wall is between an R-30 to R-35.



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