The Drying of Wood Framing in Residential Construction

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ABSTRACT

The primary objective of this research project, which was government- and industry- sponsored, was to obtain a better understanding of the moisture-related performance of various wall assemblies constructed with built-in moisture. In particular, the drying characteristics of initially wet framing lumber were to be monitored and documented.

A full-scale, permanent test and demonstration facility was constructed on a university campus. Twelve pairs of panels representing ten different wall assemblies, differing in sheathing material, orientation, and cladding, were tested. When installed, these 24 wall panels contained framing lumber installed with moisture contents significantly higher than the limit of 19% specified in the National Building Code of Canada. Moisture content, temperature, and relative humidity values were continuously monitored from December 12, 1989, to November 16, 1990.

The performance of all those wall systems that complied with the suppliers' requirements and were well constructed was satisfactory. The framing lumber dried down to an equilibrium level within a reasonable period of time without giving rise to visible moisture-related damage or impairment. The main component variable was the exterior sheathing, and, insofar as drying of the wood framing is concerned, the sheathing plays a significant role

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