



Bringing quality
to the
built environment

Sound Insulation in Japanese and Korean 2x4 Multi-Unit Buildings

Objectives

To consolidate information on building practices and materials in Japan and Korea, and prepare a follow-on project to encourage wood-frame house construction in those countries.

Background

Export of Canadian lumber to Japan and Korea is impeded in part by the acoustical requirements of performance indication systems and building codes in those countries, which specify apparent sound insulation between units (the sum of direct transmission and all flanking paths), and also include stringent requirements for control of low-frequency footstep noise. NRC-IRC's Guide for Sound Insulation in Wood Frame Construction, which provides design advice on details to manage such transmissions and impact sounds, cannot be directly applied in these countries because of differences in materials, building practice, and standardised impact sources. There is therefore a requirement for acoustical design details suitable for those markets.

Statement of Work

- Determine constraints on acoustical design in the Korean and Japanese housing markets imposed by building practice and materials.
- Evaluate one typical construction in the NRC-IRC Flanking Sound Transmission Facility and use the results to assess the difficulty of meeting Japanese home quality standards.
- Establish the scope of a follow-on project to deliver acoustical design details that would be accepted in those markets.

Expected Outcomes

- A report identifying the technology needed to meet Japanese and Korean standards and quality indication systems.
- A plan for a follow-up project to create the needed technology and transfer it to builders, engineers, and architects.

Partner

The Council of Forest Industries (COFI)

Start/Expected Completion Dates

This project began in December 2006 and will be completed in 2007.

Project Manager

Dr. Trevor Nightingale: 613-993-0102; Trevor.Nightingale@nrc-cnrc.gc.ca

For more information, please see http://irc.nrc-cnrc.gc.ca/ie/acoustics/flanking/multi_e.html

Factsheet 80, March 2007

