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to the
built environment

Suitable Acoustic and Fire Stop Technologies

Objective

To develop a best practice guide to provide appropriate sound and fire control with fire stops and fire blocks, and to validate the guide through a systematic review process.

Background

Fire resistance and sound transmission ratings are available for a broad range of wall and floor assemblies. However, in addition to choosing suitable assemblies using these ratings, designers and builders need to be able to ensure satisfactory performance of complete building systems—that is, they must use a systems approach that meshes the requirements for both sound and fire control.

While there are many proprietary and generic systems that provide continuity of fire separations at locations such as wall/ceiling junctions or where services penetrate a fire-rated assembly, they may not resolve—or may in fact worsen—acoustic problems such as noise from plumbing services, noise leaks at service penetrations, or structure-borne sound and vibration. Good design requires a systems approach that addresses requirements for both sound and fire control for both fire stops and fire blocks.

Statement of Work

A Special Interest Group was formed and has developed a guideline document based on a synthesis of available information.

Outcome

A Best Practice Guide on Fire Stops and Fire Blocks and Their Impact on Sound Transmission (NRCC-49677) is now available.

Participating organizations in the Special Interest Group

3M Canada, A/D Fire Protection Systems, Affinity Architecture Inc., Bibby-Ste-Croix Inc., Canada Mortgage and Housing Corporation, Canadian Copper & Brass Development Association, Canadian Wood Council, The City of Calgary, Gypsum Association, IPEX Inc, Ken Richardson Fire Technologies Inc., North American Insulation Manufacturers Association (NAIMA), National Research Council Canada (NRC), NUCO Inc., Cobri Technologies Inc., Tremco Inc., Hilti Inc., and International Firestop Council.

Start/Expected Completion Dates

This project began in March 2004 and was completed in July 2007.

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For more information, see http://irc.nrc-cnrc.gc.ca/ie/acoustics/signsaft/index_e.html

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