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Institute for Research in Construction

Bringing quality to the built environment

Whole-Building Heat, Air and Moisture Flows

Objective

To define outdoor and indoor thermal and moisture loads and parameters to be used in forthcoming International Energy Agency (IEA) whole-building heat, air and moisture (HAM) approaches to modeling.

Background

The IEA has launched Annex 41, which will explore heat, air and moisture flows across interior and exterior building façades and their effects on human comfort, energy use and the durability of the envelope. IRC has volunteered to lead one of the subtasks of the project, which will develop an international consensus on some of the critical inputs to hygrothermal modeling.

Statement of Work

- Carry out and report building-analysis exercises alongside other participants. Reports have been drafted and will be presented in April 2007.
- Coordinate and analyse inputs from eighteen participating countries, and produce a final report.
- Train future Canadian experts in building hygrothermal analysis by supervising two graduate theses.

Expected Outcomes

Guidelines on incorporating all relevant interior and exterior conditions into an analysis of the energy use and durability of whole buildings.

Partners

Concordia University, the University of Saskatchewan and Icynene Inc. The following countries are participating in IEA Annex 41: Austria, Belgium, Brazil, Canada, Denmark, Estonia, Finland, France, Germany, Japan, The Netherlands, Norway, Portugal, Spain, Slovakia, Sweden, the U.S.A. and the United Kingdom.

Start/Expected Completion Dates

This project began in August 2004 and will be completed in 2008.

Project Manager

Dr. Mavinkal (Kumar) Kumaran: 613-993-9611; Kumar.Kumaran@nrc-cnrc.gc.ca

For more information, see http://irc.nrc-cnrc.gc.ca/bes/hmpe/whole_e.html

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IEA Annex 41
Whole Building Heat, Air And Moisture Response
MOIST-ENG