



**NRC-CNRC**

*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 building-analysis exercises alongside other participants.
- Coordinate and analyse the inputs from nineteen participating countries, and produce a final report.
- Train future Canadian experts in building hygrothermal analysis.

### *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, Israel, 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*

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For more information, see [http://irc.nrc-cnrc.gc.ca/bes/hmpe/whole\\_e.html](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



National Research  
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Conseil national  
de recherches Canada

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