



NRC-CNRC

*Institute for
Research in
Construction*

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Evaluation of Innovative Single Ply Roofs Under Dynamic Wind Conditions

Objectives

To determine the effects of dynamic wind conditions on innovative single ply roofing components and application techniques.

Background

Recent innovations have been made in roofing technology including the development of new components such as wider roofing membranes, and polyisocyanurate (ISO) insulations with embedded facers, and new seaming techniques such as double-sided welds. The wind uplift behaviour of these advanced roofing systems under dynamic conditions is not yet sufficiently understood.

Statement of Work

In this project we will investigate the wind uplift behaviour of double sided welds in mechanically attached single ply roofing systems (MAS), as well as the wind behaviour of foam insulation facers in fully bonded systems (FBS).

Expected Outcomes

The results of the project will be published journals and roofing industry magazines. A report will also be produced containing the collected data and directives to help interpret it.

Start/Expected Completion Dates

This project began in 2003 and will be completed in 2007.

Project Manager

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

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Dynamic wind gusts over a mechanically attached single ply roofing system



Fully bonded system after wind testing showing failure modes in the insulation and adhesive



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