

# Wall and Air Barrier Systems

## Wall Systems 1 & 2-Storey Capabilities

Wall systems are evaluated in terms of air leakage, water penetration and structural wind load resistance. Full-scale testing can be conducted on samples measuring 2.4 meters x 2.4 meters or on samples measuring up to 6.0 meters x 6.0 meters using a large two-storey test chamber. Testing includes but is not limited to the following:

ASTM E283: Determination for Rate of Air Leakage Through Exterior Windows, Curtain Walls and Doors Under Specified Pressure Differences Across the Specimen.

ASTM E330: Structural Performance of Exterior Windows, Curtain Walls and Doors by Uniform Static Air Pressure Difference.

ASTM E331: Water penetration of Exterior Windows, Skylights, Doors and Curtain Walls by Uniform Static Air Pressure Difference.

ASTM E547: Water penetration of Exterior Windows, Skylights, Doors and Curtain Wall By Cyclic Static Air Pressure Difference.

AAMA: Performance testing according to various American Architectural Manufacturers Association (AAMA) specifications, laboratory and field test Methods.

## Air Barrier Materials & Systems (1.0 x 1.0 meter up to 6.0 x 6.0 meters)

Tests are available to evaluate the air permeability characteristics of both air barrier materials and systems.

ASTM E283: Determination for Rate of Air Leakage Through Exterior Windows, Curtain Walls and Doors Under Specified Pressure Differences Across the Specimen.

CCMC: Technical Guide for Air Barrier Materials (Masterformat 07273).

CCMC: Technical Guide for Air Barrier Systems for Exterior Walls of Low-Rise Buildings (Masterformat 07195).

ASTM E2178: Standard Test Method for Air Permeance of Building Materials

## Stucco

A full range of test services are available to evaluate the performance of the raw materials, coatings, sealant, adhesives and insulation products that are used to build EIFS stucco exterior cladding. Test programs are based on E CCMC MF-07240 Exterior Insulation and Finish Systems (EIFS) Class PB.

## Roofing and Waterproofing Membranes

ASTM C836, ASTM D4073, ASTM D4434, ASTM D4437, ASTM D4798, ASTM D5147, CAN/CGSB 37.54M, CAN/CGSB 37.58M, CGSB 37-GP-52M, CGSB 37-GP-54M, CGSB 37-GP-56M, CGSB 37-GP-58M

## Pressure Equalized Rain Screen (PER) Wall Systems

Dynamic Response Test - Custom full-scale testing of PER systems (2.4 x 2.4 meter samples) to determine pressure equalization behaviour. The test method simulates positive or negative gust wind loads on a wall system and monitors the rate of pressure change within the wall cavity. The testing can incorporate water spray and/or temperature variations.

## Building Envelope Field Inspections / Field Testing

We conduct building envelope / curtain wall inspections and testing as well as on-site dew point determinations of insulating glass units. Infrared thermographic services are also available for building envelopes, electrical services or mechanical system evaluations.