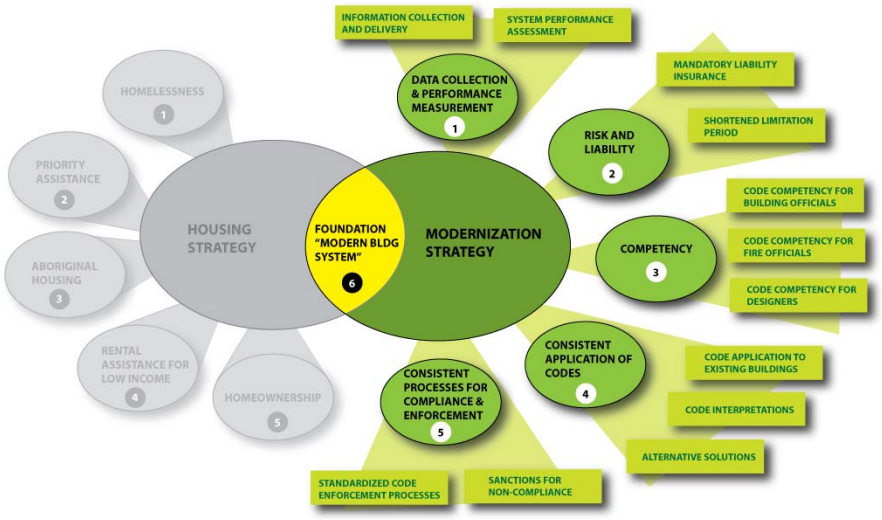


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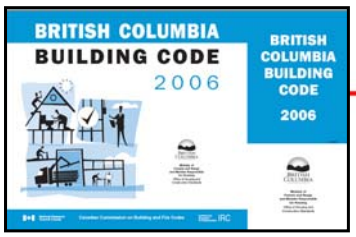


# Technical Changes
# **BC Building Code 2006**

## Division B – **Part 5**
## Environmental Separation

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## Outline

- Scope and Application
- Durability
- Loads and Procedures
- Performance Requirements
- Sound Transmission
- Referenced Standards

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## Outline

- Scope and Application
- Durability
- Loads and Procedures
- Performance Requirements
- Sound Transmission
- Referenced Standards

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## Scope and Application

BCBC 2005 – Expansion

- 5.1.1. Scope
  - control of condensation
  - transfer of heat, air and moisture
  - sound transmission

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## Outline

- Scope and Application
- Durability
- Loads and Procedures
- Performance Requirements
- Sound Transmission
- Referenced Standards

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## Durability

**5.1.4.2. — Resistance to Deterioration**

**2)** Design and construction of building components and assemblies described in Article 5.1.2.1. shall be in accordance with good practice such as described in CSA S478, "Guidelines for Durability in Buildings."

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## Outline

- Scope and Application
- Durability
- Loads and Procedures
- Performance Requirements
- Sound Transmission
- Referenced Standards

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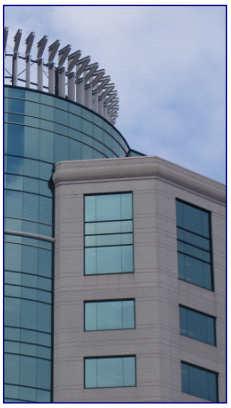
## Loads and Procedures

Historically Speaking…

- structural design and building envelope design were closely linked
- selected elements and loads
  - addressed in Part 5
  - designed to Part 4

Changes

- address performance of building envelope elements subject to structural loads



**courtesy of**
Heat & Moisture Performance of Envelopes,
Institute for Research in Construction

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## Loads and Procedures

BCBC 1998 – Resistance to Loads
Sentence 5.1.4.1.(1)

- Design
  - of all environmental separator elements
- to resist or accommodate all expected
  - environmental loads and effects

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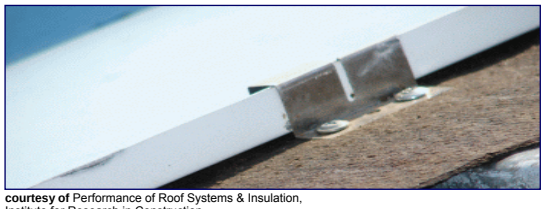
## Loads and Procedures

BCBC 2006 – Resistance to Loads
Sentence 5.1.4.1.(1)

- Design
  - of all environmental separator elements
  - assemblies exposed to the exterior
- to resist or accommodate all expected
  - environmental loads and effects
  - structural loads and effects



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## Loads and Procedures

BCBC 1998 – Resistance to Loads

All Across Part 5

- those elements and loads identified in Part 4 (5.2.2.)
- air pressure on air barrier systems (5.4.1.2)
- wind-uplift on roofing (5.6.1.3.)
- hydrostatic pressure on waterproofing (5.8.2.2.)

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## Loads and Procedures

BCBC 2006 – Resistance to Loads

Sentence 5.1.4.1.(3)

- those elements and loads identified in Part 4
- air pressure on air barrier systems
- wind-uplift on roofing
- hydrostatic pressure on waterproofing

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## Loads and Procedures

BCBC 2006 – Resistance to Loads

For elements and loads
not addressed in Sentence 5.1.4.1.(3)

Sentence 5.1.4.1.(4)

a) determine structural loads and design according to Subsection 5.2.2. (Part 4)

b) Exception:
for **common** materials, components, assemblies and their installation:
- demonstrate long-term proven performance

**A-5.1.4.1.(4)**

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## Loads and Procedures

BCBC 1998 – Air Barrier System Properties
Section 5.4.

- Design of elements subject to air pressure loads must address:
  - Load Transfer
  - Deflection

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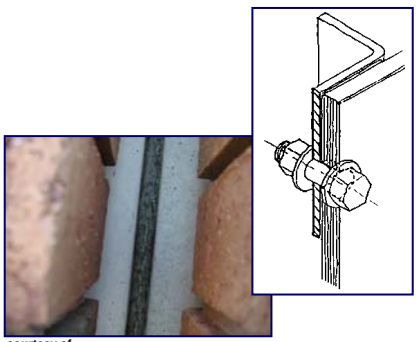
## Loads and Procedures

BCBC 2006 – Resistance to Loads
Sentence 5.1.4.1.(5)

- Design of elements, assemblies, connections subject to structural loads must address:
  - Load Transfer
  - Deflection
  - Structural Movement
  - Tolerances



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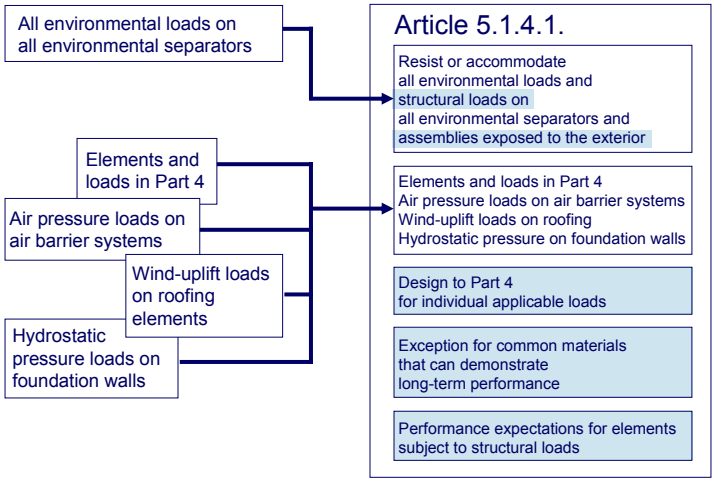
# Loads and Procedures






# Loads and Procedures

BCBC 2006 – Determination of Structural Loads Article 5.2.2.1.

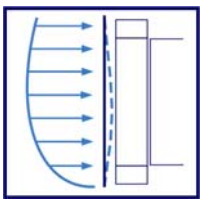
1) Determination of loads according to Part 4
2) Types of loads
   - dead loads
   - live loads
   - climatic loads
3) Consideration of other expected applicable loads

**courtesy of** Performance of Roof Systems & Insulation, Institute for Research in Construction

## Loads and Procedures

BCBC 1998 – Determination of Wind Load
Section 5.4. and Article 5.6.1.2.

- Required for:
  - air barrier systems
  - roofing
- Specified Load
  - 100% according to Part 4
  - Exception for air barrier systems
    - smaller loads allowed – if based on test or analysis



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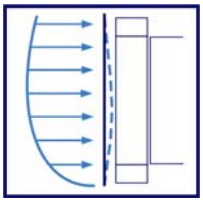
## Loads and Procedures

BCBC 2006 – Determination of Wind Load
Article 5.2.2.2.

- Required:
  - for all elements subject to wind load
  - where those elements are required to be designed to resist that load
- Specified Load
  - 100% according to Part 4 based on
    - reference velocity pressure
    - gust effect factor
  - Exception
    - smaller loads allowed – if based on test or analysis



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# Loads and Procedures

BCBC 2006 – Design Procedure
Article 5.2.2.3.

- Structural design shall be carried out
  - in accordance with Subsection 4.1.3. and
  - other applicable requirements in Part 4

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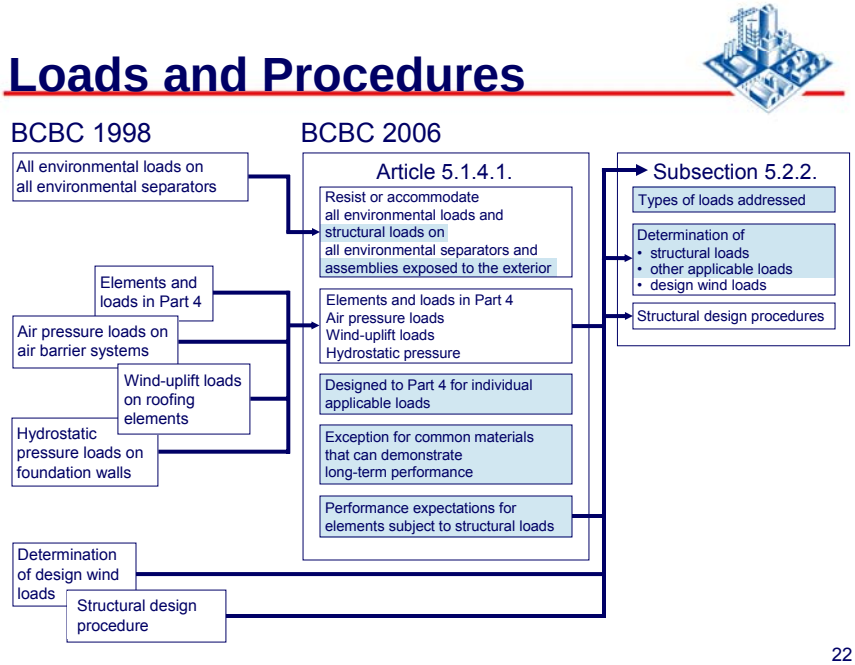
# Loads and Procedures

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