

Notice

This presentation is intended for general information purposes only. It only identifies certain highlights of the Building Code. Code users are strongly advised to consult the official records for specific legislative and regulatory requirements, including:

- The *Building Code Act, 1992*, as amended; and
- The Building Code, including amendments not yet in force

Copies of these documents are available from Publications Ontario at 1-800-668-9938 or eLaws at www.e-laws.gov.on.ca

v. Aug 12, 2006

Part 9

This slide deck is part of a series of slide decks prepared to accompany the Ministry of Municipal and Affairs and Housing's information sessions on the 2006 Building Code. Other slide decks and locations for the Ministry's information sessions are available from the Building Code website at www.obc.mah.gov.on.ca.

The complete series of slides is intended to:

- Provide an overview of the 2006 Building Code's new objective-based format and
- Introduce certain technical highlights of Ontario's 2006 Building Code

Overview: Agenda

- The morning session:
 - Purpose
 - Introduction
 - Format and Structure
 - Highlights of changes to Part 3
 - Highlights of changes to Part 9
- The afternoon session:
 - Highlights of changes to Parts 4, 5, 6, 7, 8 and 11
 - Part 12: Resource Conservation (Energy and Water)

**Building Code 2006:
Technical Changes**

Division B – Part 9

Housing and Small Buildings

Outline

- Division A - Post-Disaster Buildings
- Decks
- 9.3. Concrete, Termite and Decay Protection
- 9.4. Part 9 Application, Snow Loads
- 9.5. Design and Areas of Spaces
- 9.7. Bedroom Windows and Window Standard
- 9.8. Stairs, Ramps, Handrails and Guards

Continued . . .

Outline

- . . . Cont'd
- 9.10. Fire Safety
- 9.12., 9.14., 9.15., 9.16. Deleterious Materials
- 9.13. Dampproofing, Waterproofing and Soil Gas Control
- 9.15. Footings and Foundations
- 9.15., 9.20. Insulating Concrete Form Walls
- 9.21., 9.22. Chimneys and Fireplaces
- 9.23. Wood Frame Construction
- 9.25. Low Permeance Materials, Vapour Barriers
- 9.26., 9.27. Precipitation Protection

Outline

Division A - Post-Disaster Buildings

Decks

- 9.3. Concrete, Termite and Decay Protection
- 9.4. Part 9 Application, Snow Loads
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Continued . . .

Division A Post-Disaster Buildings

OBC 1997 - 1.1.3.2.; OBC 2006 - Div. A,
1.4.1.2.(1)

- **Definition** includes all smaller emergency service storage facilities for vehicles or boats used for fire, rescue and police purposes



Division A Post-Disaster Buildings

Application of post-disaster buildings

Parts 3 or 9,

- classification of major occupancy,
- building area and
- building height

Part 4 of Division B for structural applies

- all post-disaster buildings,

Outline

Division A - Post- Disaster Buildings

Decks

- 9.3. Concrete, Termite and Decay Protection
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- 9.8. Stairs, Ramps, Handrails and Guards

Continued . . .

Decks 9.4., 9.12., 9.17., 9.23. A-9.15., A-9.17.

New requirements that apply to decks and similar types of construction:


- 9.4. maximum deflection - Table 9.4.3.1.
 - Single dwelling units (span/240)
 - Other (span/360)
- 9.12. foundation depth – 9.12.2.2.(7)
- 9.17. columns for decks- 9.17.1.1.(1)
lateral support exemptions - 9.17.2.2.(3)
- 9.23. anchorage of columns & posts – 9.23.6.2.

9.12. Minimum Depth of Foundations

9.12.2.2.(7) – exemption to minimum depth for decks

- 1 storey maximum
- 55 m² maximum
- 600 mm max to u/s of floor joists
- no roof
- **NOT** attached to another structure unless shown that differential movement will not affect structure






9.17. Columns

9.17.1.1. Application - columns used for support

- 4.8 kPa max.
 - sum of the specified snow load “and” load due to use and occupancy

9.17.2.2. Lateral Support of Columns


- Not required where
 - length is not more than 600 mm from ground to supported member



Outline

Division A - Post-Disaster Buildings
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Continued . . .



9.3.1.1. Concrete - General

CAN/CSA-A438-00, “Concrete Construction for Housing and Small Buildings”

- application limited to **ready-mixed** concrete
 - increased strength
 - water : cementing material ratio **in lieu of slump**

Site-Batched Concrete – unreinforced





- application as prescribed in the building code
 - Articles 9.3.1.2 to 9.3.1.9.

Flat insulating concrete form walls (ICF)

- Part 4 or Part 9 requirements

9.3.1.6. Compressive Strength

Compressive Strength of Concrete

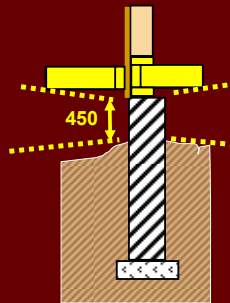
	Strength (MPa)	
	1997	2006
 Footings	15	
 Foundation Walls	15	
 Interior Slabs (*no dampproofing)	15 (25*)	20
 Exterior Slabs, (Flatwork, Garage floors)	32	

9.3.2.9. Termite and Decay Protection

Visibility or Wood Treatment

OBC 2006

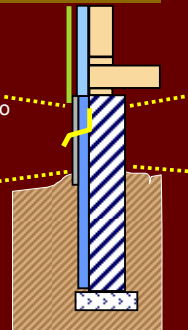
- supporting elements visible for inspection
- or
- preservative treated wood



9.3.2.9. Termite and Decay Protection

Termite protection

- clearances and supporting elements visible for inspection, **OR**
- Pressure treated with chemical toxic to termites
- for exterior insulated foundations
 - barrier through insulation and finish materials, and
 - all sides visible for inspection



9.3.2.9. Termite and Decay Protection



Decay Protection 9.3.2.9.(3) Structural Wood Elements

OBC 1997

- within 150 mm of ground
 - Pressure treated to resist decay



OBC 2006

- Within 150 mm of ground, or
- Where exposed to precipitation and
- Where moisture accumulates



Outline



Division A - Post-Disaster Buildings

Decks

9.3. Concrete, Termite and Decay Protection

9.4. Part 9 Application, Snow Loads

9.5. Design and Areas of Spaces

9.7. Bedroom Windows and Window Standard

9.8. Stairs, Ramps, Handrails and Guards

Continued . . .

9.4.1.1. Application of Part 9 Structural Requirements



Structural Requirements

Three options for Part 9 buildings:

- requirements in Part 9 “OR”
- designed according to **good engineering practice** such as in the CWC “Engineering Guide for Wood Frame Construction” “OR”
- Part 4 using loads, deflection and vibration limits from Part 4 or Part 9

9.4.2. Specified Loads

OBC 1997

9.4.2.2. Design Snow Loads

- specified snow loads from Column 12 or 13 of Table 2.5.1.1.
- based on 1-in-30 year return
- load adjustment factors
 - 0.55 and 0.65
- design loads were calculated in Table 2.5.1.1.

OBC 2006

9.4.2. Specified Loads

- Snow load calculation

$$S = C_b \cdot S_s + S_r$$
- based on 1-in-50 years return
- load adjustment factors
 - 0.45 and 0.55
- design loads now must be calculated based on the formula

9.4.2.2. Specified Snow Loads

9.4.2.2.(1) Snow Load Calculation

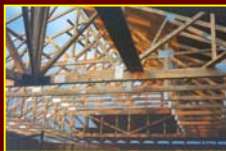
$$S = C_b \cdot S_s + S_r$$


- S = specified snow load
- C_b = basic snow load roof factor (0.45 or 0.55)
- S_s = 1 in 50 year ground snow load in kPa (SB-1)
- S_r = associated 1 in 50 year rain load in kPa (SB-1)

9.4.2.4. Attic and Roof Spaces

9.4.2.4. Ceiling joists and truss bottom chords in residential attic or roof spaces designed for:

- 1997 OBC - total specified load of 0.5 kPa
- 2006 OBC - total specified load of 0.35 kPa
 - limited attic accessibility no storage and
 - maximum attic height of 1 000 mm from top of truss bottom chord to underside of roof deck






Outline

Division A - Post-Disaster Buildings
 Decks
 9.3. Concrete, Termite and Decay Protection
 9.4. Part 9 Application, Snow Loads
 9.5. **Design and Areas of Spaces**
 9.7. Bedroom Windows and Window Standard
 9.8. Stairs, Ramps, Handrails and Guards

Continued . . .



9.5.1.4. Combination Rooms

Where two or more areas are combined together

OBC 1997	OBC 2006
<ul style="list-style-type: none"> • dividing wall occupies less than 60 % of the separating plane • doors and/or openings were not addressed 	<ul style="list-style-type: none"> • opening between areas occupies the larger of 3 m² or 40% or more of the wall • opening must not contain doors or windows



9.5.2.3. Stud Wall Reinforcement

NEW:

Main bathrooms in dwelling units require:

• **Reinforcement for future grab bars (based on barrier-free design requirements in Section 3.8)**

- adjacent to waterclosets
- adjacent to shower or bathtub

Outline

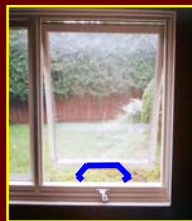
- Division A - Post-Disaster Buildings
- Decks
- 9.3. Concrete, Termite and Decay Protection
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- 9.7. Bedroom Windows and Window Standard**
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Continued . . .

9.7.1.3. Bedroom Windows

9.7.1.3.(1)(c) NEW

- maintain the required opening **without the need for additional support**



9.7.2.1. Window Standard

New window Standards

- CAN/CSA-A440, "Windows"
- CSA A440.1, "User Selection Guide to CSA Standard ... Windows"
 - Climate conditions
 - Building height

9.7.5.3. Windows over Stairs, Ramps and Landings



OBC 1997 Windows in Exit Stairways

- Protection of windows at exit stairways
- Did not include dwelling units

OBC 2006 Windows over Stairs Ramps and Landings

- Protection of windows at stairs, ramps and landings
- Includes within dwelling units

Outline



- Division A - Post-Disaster Buildings
- Decks
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- 9.7. Bedroom Windows and Window Standards
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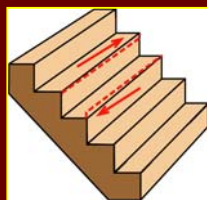
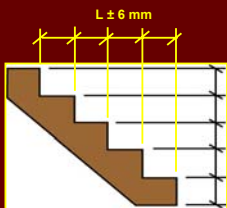
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9.8.4. Stairs - Treads



9.8.4.1. Tolerances on Dimensions:

- limit on tread depth variation: 6 mm
- limit on tread height variation: 6 mm
- limit on slopes of treads: 1 in 100



9.8.6.2. Required Landings

New landing requirements/exemption:

- Required at entrance from an attached garage 9.8.6.2.(3)

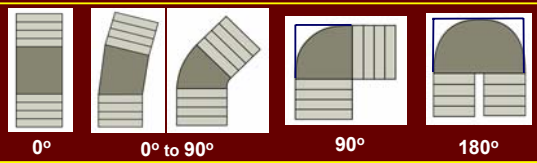
Where a stair does not contain more than 3 risers it may be omitted:

- at sliding doors - 9.8.6.2.(3)(b)
- where storm or screen doors swing over stairs when equipped with hardware to hold door open - 9.8.6.2.(3)(c)
- at bottom of exterior stair or ramp where there is no obstruction such as a gate or door are located within the specified width - 9.8.6.2.(4)

9.8.6.3. Dimensions of Landings

OBC 2006

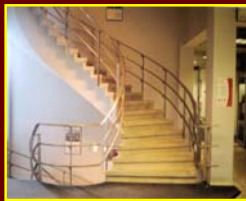
- allows angled landings
 - turn through any angle
 - minimum widths and lengths depending on
 - angle
 - if it serves an interior or exterior stair or ramp
 - if it serves a single dwelling unit or other



9.8.7.1. Handrails - Required

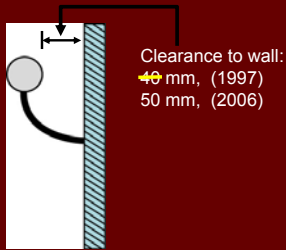
Handrails required for

- stairs and ramps
- on **two sides** of all **curved stairs** of **any width** not within the dwelling unit



9.8.7.5. Ergonomic Design of Handrails

Clearances between handrail and any surface behind it



9.8.7.7. Handrails - Strength

OBC 2006

Strength of handrails, same as Part 3

9.8.7.7.(1)

- minimum concentrated load **0.9 kN at any point**
- minimum uniformly distributed load **0.7 kN**

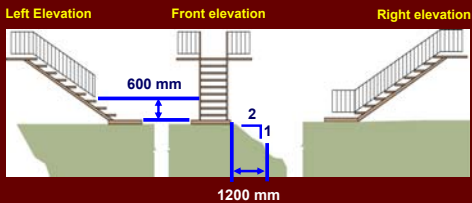
9.8.7.7.(2) Single dwelling units

- First attachment point located 300 mm from either end of handrail

9.8.8.1. Guards - Required

OBC 2006

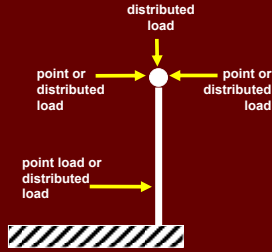
- 600 mm or
- the adjacent surface within 1.2 m of the walking surface has a slope of more than 1 in 2



9.8.8.2. Guards - Loads

New Table with criteria for

- horizontal load (outward or inward)
- point load
- vertical load



Exceptions:

- Guards within dwelling units and exterior guards serving not more than 2 dwelling units – past performance
- Supplementary Standard SB-7


9.8.8. Additional Changes to Guards

- **Guards to unfinished basements in a dwelling unit**
 - 1997 OBC – permitted one unprotected side
 - 2006 OBC – guard now required on unprotected sides
- **Height of guards at stairs in dwelling units**
 - 1997 OBC - 800 mm (guards for stairs)
 - 2006 OBC – 900 mm (guards for flights of steps)

9.8.8.6.(2) Design to Prevent Climbing

New requirements to address elements within a guard that would not facilitate climbing

- elements protruding from the vertical within 140 mm and 900 mm above floor or walking surface
- located more than 450 mm horizontally and vertically from each other
- 15 mm horizontal offset maximum
- no toe-space more than 45 mm horizontally and 20 mm vertically
- more than 1-in-2 slope on the offset



Other Changes to Stairs


NEW

9.8.9.1. Loads on stairs and ramps

- 1.9 kPa for stairs and ramps – single dwelling units
- 4.8 kPa for all other stairs and ramps
- Exceptions - prescriptive requirements in Part 9

9.8.9.6. Finish for Treads and Landings

- 2006 OBC more specific
- exception to unfinished basement removed
- stairs to attached garages now addressed



Outline

. . . Continued

9.10. Fire Safety

9.12., 9.14., 9.15., 9.16. Deleterious Materials

9.13. Dampproofing, Waterproofing and Soil Gas Control

9.15. Footings and Foundations


9.15., 9.20. Insulating Concrete Form Walls

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9.26., 9.27. Precipitation Protection



9.10.9.16. Separation of Storage Garages

Separation of attached or built-in storage garages and residential occupancies

- Separation to incorporate an air barrier system
 - An air barrier system required to provide the barrier to gas and exhaust fumes
 - Joints must be sealed and structurally supported

9.10.14. Spatial Separation Between Buildings



9.10.14. Spatial Separation Between Buildings



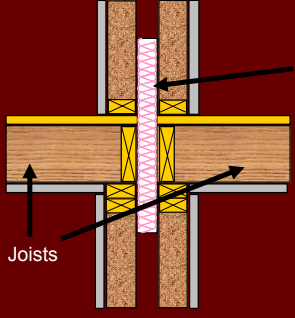
9.10.15. Spatial Separation Between Houses



9.10.16.3. Fire Stop Materials



New - double framed wall assembly at header location



Semi-rigid fibre insulation board (density of not less than 45 kg/m³) fastened to one set of studs permitted as fire stop

Joists

Outline



- . . . Continued
- 9.10. Fire Safety
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**9.12., 9.14., 9.15., 9.16.
Deleterious Materials**



Avoiding Movement Due to Pyritic Expansion and Other Mechanisms

This is noted in the following requirements:

- 9.4.4.4.(1): nature of the soil
- 9.12.3.3.(2): backfill material
- 9.14.4.1.(1): granular drainage material
- 9.15.3.2.(2): under footings
- 9.16.2.2.(1): under slabs-on-ground

Outline

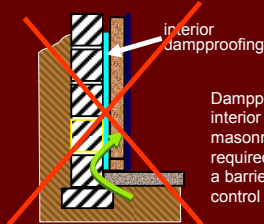


- ... Continued
- 9.10. Fire Safety
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**9.13. Dampproofing,
Waterproofing and Soil Gas Control**



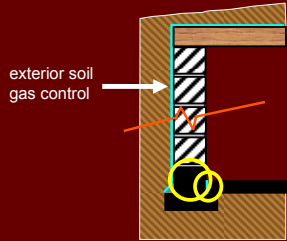
- 9.13.7.1 → SG-9 – 1.1 → 2006 Section 1.1.SB-9
- Sealing of Masonry Walls



Dampproofing on interior surface of masonry walls required to provide a barrier to soil gas control not required

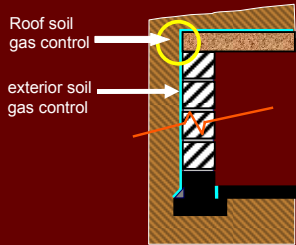
9.13. Dampproofing, Waterproofing and Soil Gas Control 

- 9.13.4.2. Required Soil Gas Control → SB-9
- Soil Gas Control for Masonry Walls



9.13. Dampproofing, Waterproofing and Soil Gas Control 

- 9.13.4.2. Required Soils gas Control → SB-9
- Soil Gas Control for Roofs



Outline

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9.15. Footings and Foundations

9.15.1. Application

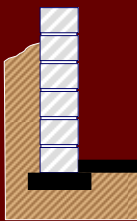
- prescriptive requirements apply if not subject to surcharge

9.15.2.1. Concrete

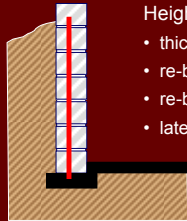
- concrete block foundation walls required to be reinforced (NEW)

9.15.4. Reinforced Concrete Block Foundation Walls

Unreinforced



Reinforced



Height based on:

- thickness
- re-bar size
- re-bar spacing
- lateral support

9.15.3.4. Basic Footing Widths and Area

New formula to determine size of footings where supported joist spans exceeds 4.9 m
(1997 SG-10 determination of Footing Sizes)

$$W = w \cdot [\sum s_j s / (\text{storeys} \cdot 4.9)]$$

W = minimum footing width

w = minimum width of footings supporting joists not exceeding 4.9 m, as defined by Table 9.15.3.4.

$\sum s_j s$ = the sum of the supported joist lengths on each storey whose load is transferred to the footing

storeys = number of storeys supported by the footing

Outline

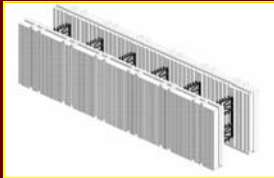
- ... Continued
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9.15., 9.20. Insulating Concrete Form (ICF) Walls

NEW

Prescriptive requirements for flat insulating concrete form (ICF) walls

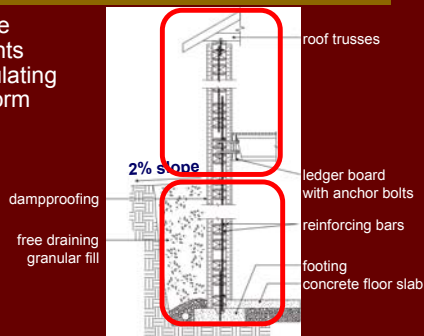
- footing and foundation walls
- walls above grade



Source: CCMC 13101-R

9.15., 9.20. Insulating Concrete Form (ICF) Walls

Prescriptive requirements for flat insulating concrete form (ICF) walls



9.20.17. Above-Ground Flat Insulating Form Walls 

NEW requirements specific to above-ground flat insulating form walls

- Thickness
- Reinforcement
- Openings in non-loadbearing flat ICF walls
- Lintels over openings in loadbearing flat ICF walls
- Framing supported on
- Anchoring of roof framing to top of flat ICF walls
- Protection from precipitation and damage

9.15., 9.20. Insulating Concrete Form (ICF) Walls 

Application limited to buildings:

- of **light-frame** or flat insulating concrete form construction
- max. **two storeys** in building height
- max. **3 m floor-to-floor** height
- containing a **single dwelling unit** only
- in seismic $S_a(0.2) \leq 0.4$

9.20.5.2. Lintels or Arches 

New and expanded Tables for openings in Masonry Veneer

- **Steel Lintels Supporting Masonry veneer**
- Table 9.20.5.2.B
 - increased spans
 - new lintel sizes
- **Steel Beams Supporting Masonry veneer**
- Table 9.20.5.2.C
 - NEW Table
 - supporting masonry veneer and wood studs and a maximum roof live load
 - steel posts required for support

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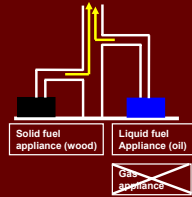
9.21. Masonry and Concrete Chimneys and Flues

9.21.2.1.(2)(3)

Connections to Chimneys:

- appliances listed for such installation
- installation of both appliances meets their respective installation requirements

Where solid fuel burning appliance is listed for such installations



9.22.10. Fireplace Inserts

Provision deleted:

- Direct sealed connection to smoke chamber for fireplace inserts-(deleted)
- Deleted 9.22.10.2.(3)(c)
 - A direct sealed connection to the smoke chamber and a cleanout provided to any inaccessible parts of the smoke chamber.

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9.23.10.1. Stud Size and Spacing

NEW TABLES A30 to A33

- **Maximum unsupported wall - stud lengths increased** 9.23.10.1.(2)
 - Increased height
 - 1997(4.2 m) → 2006 (5.6 m)
 - Additional requirements apply

9.23.10.7. Stud Posts Built into Walls

NEW Tables A-34 to A-37 for exterior stud walls supporting girder trusses and roof beams

- Stud height, size and species
- Span of beam/girder
- Number of studs
- Specified roof design snow loads
- Supported length



Other Changes in Section 9.23.

• **Wood Roof Trusses- ceiling load 9.23.13.11.**

- 1997 0.5 kPa → 2006 0.35 kPa

• **Many new Standards referenced**

- More current standards and New

• **Reference numbers changes**

- Example: 1997 - 9.23.5.4. → 2006 - 9.23.5.5.

• **Wall Sheathing membrane- relocated**

- 1997 - 9.23.17 → 2006 - 9.27

Outline


. . . Continued

- 9.10. Fire Safety
- 9.12., 9.14., 9.15., 9.16. Deleterious Materials
- 9.13. Dampproofing, Waterproofing and Soil Gas Control
- 9.15. Footings and Foundations
- 9.15., 9.20. Insulating Concrete Form Walls
- 9.21., 9.22. Chimneys and Fireplaces
- 9.23. Wood Frame Construction
- 9.25. Low Permeance Materials, Vapour Barriers
- 9.26., 9.27. Precipitation Protection

9.25.4.2. Vapour Barrier Materials

OBC 2006

	Permeance ng/(Pa*s*m ²)	Referenced Standard
MCI > 6300 RH ≤ 35%	60	non-polyethylene CAN/CGSB-51.33
OR MCI ≤ 6300 RH ≤ 60%	Type 2	polyethylene CAN/CGSB-51.34 "durability" requirements
Other cases	design to Part 5	


 Ontario

Changes related to Energy Efficiency

Changes in Section 9.25. and 9.38

- relocated to Section 12.3


9.25 → Section 12.3 Energy Efficiency for
9.38 → Buildings within the Scope of Part 9.

 Ontario

Outline

... Continued

- 9.10. Fire Safety
- 9.12., 9.14., 9.15., 9.16. Deleterious Materials
- 9.13. Dampproofing, Waterproofing and Soil Gas Control
- 9.15. Footings and Foundations
- 9.15., 9.20. Insulating Concrete Form Walls
- 9.21., 9.20. Chimneys and Fireplaces
- 9.23. Wood Frame Construction
- 9.25. Low Permeance Materials, Vapour Barriers
- 9.26., 9.27. Precipitation Protection

 Ontario

9.26. Roofing

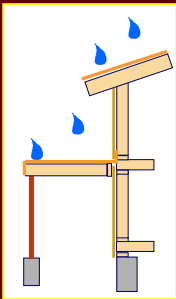
9.26.1.1. Purpose of Roofing

OBC 1997

- applied to roofs

OBC 2006

- roofs to include other platforms that serve as roofs
 - balconies
 - decks
 - exterior walkways
 - etc.

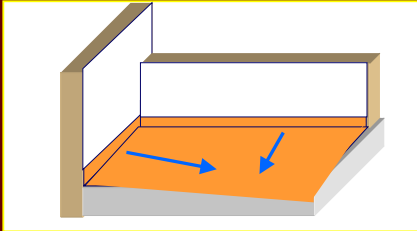


9.26. Roofing

9.26.3.1. Slope

OBC 2006

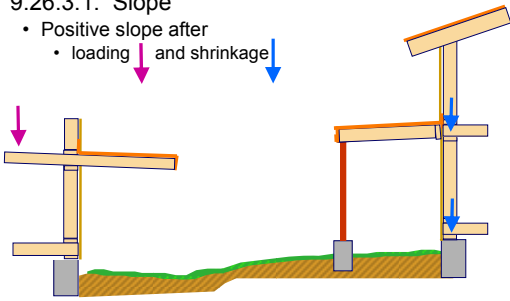
- away from walls and solid guards



9.26. Roofing

9.26.3.1. Slope

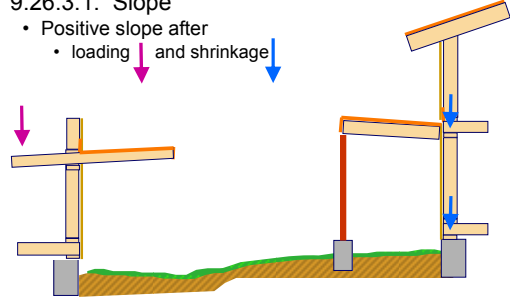
- Positive slope after loading and shrinkage



9.26. Roofing

9.26.3.1. Slope

- Positive slope after loading and shrinkage



9.26. Roofing

9.26.3.1. Slope



Balconies with positive slope to accommodate shrinkage

Photo permission of Polygon Construction Management Ltd., Vancouver

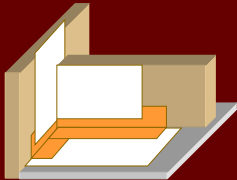
9.26. Roofing

9.26.4.1. Required Flashing OBC 2006

- all roof-wall junctions

AND


- junctions of similar types of elements



9.26. Roofing – Other Changes

NEW


- **Valley flashing must be installed over continuous sheathing [9.26.4.3.(2)]**
- **Securing of shingle courses on asphalt shingles on slope of less than 1 in 3 [9.26.8.4.]**
 - Location of continuous band of cement – 100 mm
 - Band located 50 mm above butt of overlying course
 - Shingles at hips and ridges
- **Spaced support for sheet metal roofing [9.26.13.2.]**



9.27. Cladding

9.27.1. to 9.27.3.

- application
- protection against ...
- minimum precipitation protection
- location of sheathing membrane requirements
- flashing locations
- flashing configurations
- **Part 5** option



9.27. Cladding

9.27.1. Application

OBC 2006 Requirements	9.27. Cladding	9.20. Masonry	9.28. Stucco	Other
Performance	✓	✓	✓	Part 5
Protection Level	✓	✓	✓	↓
Sealing	✓	✓ ref 9.27.	✓ ref 9.27.	↓
Flashing	✓	✓	✓ ref 9.27.	↓
Materials				↓
lumber	✓			↓
shingles	✓			↓
wood-based	✓			↓
metal	✓			↓
vinyl	✓			↓




9.27. Cladding

9.27.2. Required Protection

9.27.2.1. Minimizing and Preventing Ingress and Damage

- two performance requirements
 - precipitation protection consistent with Part 5
 - other damage mechanisms (mechanical, UV, etc.)

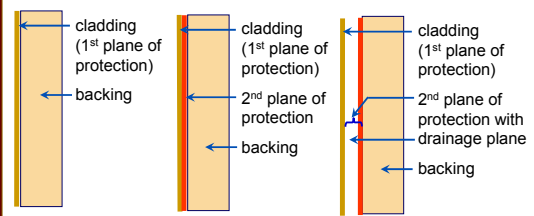


9.27. Cladding
9.27.2. Required Protection



9.27.2. Required Protection from Precipitation for dwelling units

- first and second planes of protection
- minimize ingress of precipitation into assembly
- prevent ingress into interior space



9.27. Cladding
9.27.2. Required Protection



9.27.2.3. First and Second Planes of Protection

- First Plane (cladding, trim, etc.)
 - minimize passage of rain and snow
- Second Plane
 - intercept incidental water
 - dissipate it to the exterior
- Continuity

9.27. Cladding
9.27.3. 2nd Plane of Protection



9.27.3.1.

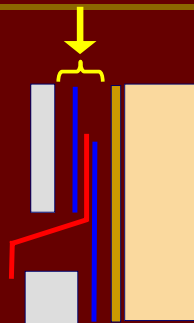
- elements of 2nd plane of protection

9.27.3.2. to 9.27.3.6.

- sheathing membranes

9.27.3.7. and 9.27.3.8.

- flashing and installation



9.27. Cladding



9.27.3. 2nd Plane of Protection

9.27.3.8. Flashing Installation
Sentence (4) Configuration

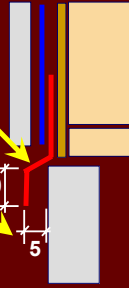


minimum 6% slope

minimum lap

minimum offset

end dams



9.27. Cladding



9.27.3. 2nd Plane of Protection

9.27.3.8. Flashing Installation
Sentence (6)

- exception for flanged windows
- NOT generally applicable
- new Appendix note A-9.27.3.8.(6)

9.32. Ventilation



OBC 2006 changes:

- Clothes dryer exhaust ducts must conform to Part 6 - 9.32.1.1.(5)
- Supplemental exhaust fans serving multiple exhaust air intakes 9.32.3.5.(6) and (7)
- Exhaust duct screen requirements – 9.32.3.12.(10)

9.32.3.9. Fan Ratings

Fan Capacity Ratings for required fans and Sound Ratings

- New standards referenced
 - HVI916, "Airflow Test procedure"
 - HVI915, "Procedure for Loudness ratings of residential Fan Products"

Fan Sound Ratings – Table 9.32.3.9.

	CAN/CSA-C260	HVI 915
principal ventilation fan	2.0	2.5
bathroom fans	2.5	3.5
kitchen fans	no rating req'd	no rating req'd

9.33. Heating and Air Conditioning

9.33.1.3. Structural movement


- Applies to buildings located where spectral response acceleration, $S_a(0.2)$, is greater than 0.55
 - heating and air-conditioning equipment
 - with fuel or power connections
 - must be secured to resist overturning or displacement

Construction of Farm Buildings

(OBC 1997) 9.40 Construction of farm Buildings



Relocated to the Supplementary Standard SB-11

 **9.40 Reinforced Concrete Slabs**

NEW - Reinforced Concrete Slabs

- Slabs suspended over cold rooms in basement
- Slabs with clear spans not more than 2.5 m along the shortest dimension of the slab

Does NOT apply to:

- Slabs for other than conditions noted above
- Slabs that support motor vehicles, or
- Slabs designed in accordance with → Part 4

 **Further Information**

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