



Ontario Building Code Changes





Overview

Applicable to permits applied for after Dec. 31/11

- Energy Efficiency for Housing
- Energy Efficiency for Buildings other than Small Residential
- Air Barrier Construction and Inspection Requirements
- Occupancy Permits



Energy Efficiency for Housing

Division B, 12.2.1.2.

The energy efficiency of a building or part of a building of residential occupancy that is within the scope of Part 9 and is intended for occupancy on a continuing basis during the winter months shall,

- (a) meet the performance level that is equal to a rating of 80 or more when evaluated in accordance with NRCan, "*EnerGuide for New Houses: Administrative and Technical Procedures*",
OR
- (b) conform to Supplementary Standard SB-12
 - Prescriptive
 - Performance, or
 - ENERGY STAR for New Homes certification.



Energy Efficiency for Housing

Division B, 12.2.1.2.(a) – *EnerGuide80*

Key points - EnerGuide for New Houses (EGNH):

- Administered by Natural Resources Canada (NRCan).
- Service Organization required to implement and deliver EGNH service.
- Certified Energy Advisor (CEA) required.
- HOT2000 or HOT2 XP software required.
- Pre-construction evaluation (P file) may be prepared by CEA or by “trained” in-house personnel.
- As-built evaluation (N file) must be prepared by CEA.
- Blower door test (BDT), carried out by CEA, required on every house.
- CEA issues a final EGNH Report to the homeowner, identifying EnerGuide rating.
- Service Organization creates certificate and label.



Energy Efficiency for Housing

Division B, 12.2.1.2.(a) – *EnerGuide80*

Responsibilities of Applicant:

- Energy Efficiency Design Summary included in permit application submission.
- P file print-off submitted with permit drawings.
- EGNH Report shall be submitted to Building Department prior to passing of final building inspection.

Notes:

- If an EnerGuide rating of 80 is not achieved, remedial energy efficiency upgrades will be required, as recommended by the CEA.
- Once energy efficiency upgrades have been installed, an updated EGNH report shall be submitted, indicating an EnerGuide rating of at least 80.



Design Summary Chart

Energy Efficiency Design Summary (Part 9 Residential)

This form to be completed & signed by the person who reviews and takes responsibility for the energy efficiency design of the project
Information on completing this form is contained on the reverse

For use by Principal Authority	
Application No.:	Model/Certification Number

A. Project Information

Building number, street name	Unit number	Location
Municipality	Postal code	Reg. plan number / other description

B. Compliance Option

<input type="checkbox"/> SB-12 Prescriptive [SB-12 - 2.1.1.]	Table:	Package:
<input type="checkbox"/> SB-12 Performance* [SB-12 - 2.1.2.]	* Attach energy performance calculations using an approved software	
<input type="checkbox"/> Energy Star®* [SB-12 - 2.1.3.]	* Attach BOP form. House must be labeled on completion by Energy Star	
<input type="checkbox"/> EnerGuide 80®*	* House must be evaluated by NRCan advisor and meet a rating of 80	

C. Project Design Conditions

Climatic Zone (SB-1):	Heating Equipment Efficiency	Space Heating Fuel Source
<input type="checkbox"/> Zone 1 (< 5000 degree days)	<input type="checkbox"/> ≥ 90% AFUE	<input type="checkbox"/> Gas <input type="checkbox"/> Propane <input type="checkbox"/> Solid Fuel
<input type="checkbox"/> Zone 2 (≥ 5000 degree days)	<input type="checkbox"/> ≥ 78% < 90% AFUE	<input type="checkbox"/> Oil <input type="checkbox"/> Electric <input type="checkbox"/> Earth Energy

Windows+Skylights+Glass Doors	Other Building Conditions
Gross Wall Area = _____ m ²	<input type="checkbox"/> ICF Basement <input type="checkbox"/> Walkout Basement <input type="checkbox"/> Log/Post&Beam
Gross Window+ Area = _____ m ²	<input type="checkbox"/> ICF Above Grade <input type="checkbox"/> Slab-on-ground
% Windows+ _____ %	

D. Building Specifications

Building Component	RSI / R values	Building Component	Efficiency Ratings
Thermal Insulation		Windows & Doors	
Ceiling with Attic Space		Windows/Sliding Glass Doors	
Ceiling without Attic Space		Skylights	
Exposed Floor		Mechanicals	
Walls Above Grade		Space Heating Equip. ²	
Basement Walls		HRV Efficiency (%)	
Slab (all >600mm below grade)		DHW Heater (EF)	
Slab (edge only ≤600mm below grade)		NOTES	
Slab (all ≤600mm below grade, or heated)		1. Provide U-Value in W/m ² K, or ER rating	
		2. Provide AFUE or indicate if condensing type combined system used	

E. Performance Design Verification [complete applicable sections if SB-12 Performance, Energy Star or EnerGuide80 options used]

SB-12 Performance:
The annual energy consumption using Subsection 2.1.1. SB-12 Package _____ is _____ GJ (1 GJ =1000MJ)
The annual energy consumption of this house as designed is _____ GJ
The software used to simulate the annual energy use of the building is: _____
The building is being designed using an air leakage of _____ air changes per hour @50Pa.

Energy Star: BOP form attached. The house will be labeled on completion by: _____

Energy Star and EnerGuide80:
Evaluator/Advisor/Rater Name: _____ Evaluator/Advisor/Rater Licence #: _____
#####

F. Declaration [by the person who reviews and takes responsibility for the energy efficiency design]

I certify that I have reviewed the design documents submitted with the permit application, that the information contained on this form is consistent with the design documents, and that information used in any annual energy use calculations, if applicable, is a true representation of the design documents.

Name	Signature	Date:



EnerGuide Report



Energy Efficiency Evaluation Report

Smith, Bob
123 Happy Lane
Ottawa, Ontario
K4K4K4

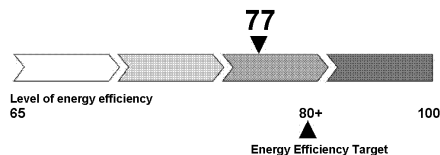
File Number: 9900N99999
Year Built: 2007
Date of Evaluation: Oct. 16, 2008
Builder Name: 00000 NRCan

Congratulations on the purchase of your new house!

This report contains information on how your new house will consume energy. Anyone can claim that a house is energy efficient, but the EnerGuide label and this report shows how efficient your house is. Any energy efficiency upgrades that you and your builder decided to include in your house will reduce energy consumption for years to come and will help protect our environment.

Your House's Energy Efficiency Rating

A qualified energy advisor has assessed the energy efficiency of your house by using Natural Resources Canada's EnerGuide Rating System procedures. **Based on this evaluation, your house has an energy efficiency rating of 77.**



The EnerGuide scale ranges from 0 to 100. It accommodates millions of houses across Canada - from older houses in need of renovation to newer, more energy-efficient ones. A "0" on the scale would represent an uncomfortable house that has major air leakage, no insulation and extremely high-energy consumption. At the other end of the scale, "100" represents a house that is very well insulated, airtight yet well ventilated, and heated by renewable energy sources, such as wind or solar power. Several factors, such as the size of a home's windows and the direction they face, can affect the rating. Even if two houses appear identical, their ratings can be very different if they have different levels of insulation, types of heating equipment, etc.

For many older houses, meeting 65 or higher on the scale would be quite an achievement. New houses typically receive a rating of 65 or higher, simply because of improvements in building standards and practices over the years. Relatively few houses achieve a rating of 80 or higher, and those that do represent the most energy-efficient houses on the market. Therefore, the EnerGuide rating scale shown ranges from 65 to 100.

Typical Energy Efficiency Ratings	Typical Rating
New house built to building code standards	65 - 72
New house with some energy-efficiency improvements	73 - 79
Energy-efficient new house	80 - 90
House requiring little or no purchased energy	91 - 100



Energy Efficiency for Housing

Division B, 12.2.1.2.(b) – *SB-12 Prescriptive*

Key points:

- OBC reference: SB-12, Chapter 2, Subsection 2.1.1.
- Certified Energy Advisor (CEA) not required.
- HOT2000 or HOT2 XP software not required.
- Blower door test (BDT) not required.
- House designer to take responsibility for ensuring design complies with Part 12.



Energy Efficiency for Housing

Division B, 12.2.1.2.(b) – *SB-12 Prescriptive*

Responsibilities of Applicant:

- Choose a compliance package from Table 2.1.1.2.A
Stratford: Zone 1, AFUE: $\geq 90\%$
 - Energy Efficiency Design Summary chart submitted with permit application.
 - Key Sentences from 2.1.1.1.:
(8): Glass/wall ratio $>17\%$ but $\leq 22\%$, upgraded glazing U-Values required.
(10): Glass/wall ratio $>22\%$, Subsection 2.1.2. applies.
(Performance Compliance)
- Note:* Glazing also includes skylights but not main entrance doors and sidelights.

Table 2.1.1.2.A

Table 2.1.1.2.A
ZONE 1 - Compliance Packages for Space Heating Equipment with AFUE $\geq 90\%$
Forming Part of Sentence 2.1.1.2.(1)

Component	Compliance Package												
	A	B	C	D	E	F	G	H	I	J	K ⁽³⁾	L ⁽⁴⁾	M ⁽⁵⁾
Ceiling with Attic Space Minimum RSI (R)-Value ⁽¹⁾	8.81 (R50)	8.81 (R50)	8.81 (R50)	8.81 (R50)	8.81 (R50)	8.81 (R50)	8.81 (R50)	8.81 (R50)	8.81 (R50)	8.81 (R50)	8.81 (R50)	8.81 (R50)	8.81 (R50)
Ceiling Without Attic Space Minimum RSI (R)-Value ⁽¹⁾	5.46 (R31)	5.46 (R31)	5.46 (R31)	5.46 (R31)	5.46 (R31)	5.46 (R31)	5.46 (R31)	5.46 (R31)	5.46 (R31)	5.46 (R31)	5.46 (R31)	5.46 (R31)	5.46 (R31)
Exposed Floor Minimum RSI (R)-Value ⁽¹⁾	5.46 (R31)	5.46 (R31)	5.46 (R31)	5.46 (R31)	5.46 (R31)	5.46 (R31)	5.46 (R31)	5.46 (R31)	5.46 (R31)	5.46 (R31)	5.46 (R31)	5.46 (R31)	5.46 (R31)
Walls Above Grade Minimum RSI (R)-Value ⁽¹⁾	4.23 (R24)	4.75 (R27)	4.75 (R27)	4.23 (R24)	4.23 (R24)	4.23 (R24)	4.23 (R24)	4.23 (R24)	3.87 (R22)	3.87 (R22)	3.87 (R22)	4.23 (R24)	4.23 (R24)
Basement Walls Minimum RSI (R)-Value ⁽¹⁾	3.52 (R20)	3.52 (R20)	3.52 (R20)	3.52 (R20)	3.52 (R20)	2.11 (R12)	2.11 (R12)	2.11 (R12)	3.52 (R20)	2.11 (R12)	3.87 (R22)	3.87 (R22)	3.52 (R20)
Below Grade Slab Entire surface > 600 mm below grade Minimum RSI (R)-Value ⁽¹⁾	0.88 (R5)	-	-	-	-	-	-	-	-	-	-	-	-
Edge of Below Grade Slab < 600 mm Below Grade Minimum RSI (R)-Value ⁽¹⁾	1.76 (R10)	1.76 (R10)	1.76 (R10)	1.76 (R10)	1.76 (R10)	1.76 (R10)	1.76 (R10)	1.76 (R10)	1.76 (R10)	1.76 (R10)	1.76 (R10)	1.76 (R10)	1.76 (R10)
Heated Slab or Slab < 600 mm below grade Minimum RSI (R)-Value ⁽¹⁾	1.76 (R10)	1.76 (R10)	1.76 (R10)	1.76 (R10)	1.76 (R10)	1.76 (R10)	1.76 (R10)	1.76 (R10)	1.76 (R10)	1.76 (R10)	1.76 (R10)	1.76 (R10)	1.76 (R10)
Windows and Sliding Glass Doors Maximum U-Value ⁽²⁾	1.6	1.6	1.8	1.8	1.8	1.8	1.8	2	1.8	1.8	1.8	1.8	1.8
Skylights Maximum U-Value ⁽²⁾	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
Space Heating Equipment Minimum AFUE	90%	90%	94%	94%	90%	94%	92%	94%	92%	94%	90%	94%	90% ⁽⁸⁾
HRV ^{(6),(7)} Minimum Efficiency	-	-	-	-	55%	60%	60%	70%	55%	60%	-	-	-
Domestic Hot Water Heater Minimum EF	0.57	0.57	0.62	0.67	0.57	0.57	0.62	0.67	0.62	0.67	0.57	0.57	0.80 ⁽⁸⁾
Column 1	2	3	4	5	6	7	8	9	10	11	12	13	14

Notes to Table 2.1.1.2.A:

- (1) The values listed are minimum RSI-Values for the thermal insulation component only. RSI-Values expressed in (m²·K)/W.
- (2) U-Value is the overall coefficient of heat transfer expressed in W/(m²·K).
- (3) Compliance package K applies only to a building with both ICF basement walls and ICF above grade walls. Alternatively, any other compliance package is permitted to be used for a building with both ICF basement walls and ICF above grade walls. The thermal insulation value of an ICF wall is the sum of the insulation value on both sides of the walls.
- (4) Compliance package L applies only to a building with ICF basement walls. Alternatively, any other compliance package except compliance package K, is permitted to be used for a building with ICF basement walls. The thermal insulation value of an ICF wall is the sum of the insulation value on both sides of the walls.
- (5) Applies to a building with combined space heating and domestic hot water heating system.
- (6) Except as required in Subsection 9.32.3. of Division B in the *Building Code*, an HRV is only required as a part of the compliance package where a minimum efficiency level is specified.
- (7) The minimum efficiency of an HRV shall be based on a test temperature of 0°C. In addition, where an HRV is installed to meet the requirements of Subsection 9.32.3. of Division B in the *Building Code*, the energy efficiency of the HRV shall also meet the minimum efficiency requirements of Sentence 9.32.3.11.(2).
- (8) Combined space heating and domestic hot water heating equipment shall have minimum energy efficiency ratings specified or shall be of the condensing type.



Energy Efficiency for Housing

Division B, 12.2.1.2.(b) – *SB-12 Performance*

Key points:

- OBC reference: SB-12, Chapter 2, Subsection 2.1.2.
- Applies when glass/wall ratio >22%
- Certified Energy Advisor (CEA) required.
- Software programs: HOT2000/HOT2 XP, OptiMiser, EnergyGauge, EnergyInsights, REM/Rate
- Blower door test (BDT) may be required. (Div. B 2.1.2.1.(6))

Note:

- Alternative energy efficiency programs such as R2000 and LEED shall be designed in accordance with the Performance Compliance requirements of Subsection 2.1.2
- Equivalent to prescriptive.



Energy Efficiency for Housing

Division B, 12.2.1.2.(b) – *SB-12 Performance*

Responsibilities of Applicant:

- Comparison summary shall be prepared by a Certified Energy Advisor using a recognized annual energy simulation software and submitted at time of building permit application.
- If insulation values in house design are less than the Compliance Package which it has been compared against, the reduction shall be not more than 25%.
- The annual energy use of the proposed house shall not be greater than the annual energy use of the comparative compliance package.



Energy Efficiency for Housing

2.1.3. - ENERGY STAR

The Ministry, after receiving strong feedback from industry leaders such as the Ontario Home Builders Association and the O.B.O.A., has amended SB-12 to allow ENERGY STAR qualified new homes as an other acceptable compliance method.

Key points – ENERGY STAR for New Homes:

- Administered by Natural Resources Canada (NRCan).
- Service Organization required to implement and deliver ENERGY STAR service.
- Certified Energy Advisor (CEA) required.
- HOT2000 software required.
- Blower door test (BDT), carried out by CEA, required on every house.
- Service Organization creates certificate and label.



Energy Efficiency for Housing




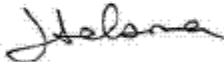

2.1.3 - ENERGY STAR

Responsibilities of Applicant:

- Energy Efficiency Design Summary included in permit application submission.
- P file print-off submitted with permit drawings.
- ENERGY STAR for New Homes certificate shall be submitted to Building Department prior to passing of final building inspection.



ENERGY STAR Certificate

	Natural Resources Canada	Ressources naturelles Canada	
An ENERGY STAR® Qualified New Home			
This certifies that the home built at			
Address			
and evaluated by Building Knowledge Canada Inc.			
meets ENERGY STAR for New Homes guidelines for energy efficiency as established by Natural Resources Canada.			
ENERGY STAR qualified homes save you money and protect the environment by using less energy.			
B36772			
January 4, 2011			
File Number:			
			
R. Kevin Lee, P. ENG., MARCH Director Housing Division			Jennifer Talsma Chief New Housing Programs
www.energystarfornewhomes.gc.ca			
			
<small>The ENERGY STAR name and symbol are registered trademarks of the United States Environmental Protection Agency and are used with permission.</small>			



Energy Efficiency for Housing

2.1.1.10 – Additions

An addition to an existing building is to comply with

a) Compliance package listed in Table 2.1.1.2.B.

OR

b) Thermal performance req'ts in Table 2.1.1.10.

Note: 2.1.1.10.(2) applies only to one-storey sunroom additions with doors/windows/wall with a max. U-Value of 1.6 and roof glazing/skylights with a max. U-Value of 2.6.

Energy Efficiency for Housing

Table 2.1.1.10.
Thermal Performance Requirements for Additions to Existing Buildings⁽³⁾
Forming Part of Sentence 2.1.1.10.(2)

Component	Zone 1 Less than 5000 Degree-Days	Zone 2 5000 or more Degree-Days	Electric Space Heating Zones 1 and 2
Ceiling with Attic Space Minimum RSI (R)-Value ⁽¹⁾	8.81 (R50)	8.81 (R50)	8.81 (R50)
Ceiling Without Attic Space Minimum RSI (R)-Value ⁽¹⁾	5.46 (R31)	5.46 (R31)	5.46 (R31)
Exposed Floor Minimum RSI (R)-Value ⁽¹⁾	5.46 (R31)	5.46 (R31)	5.46 (R31)
Walls Above Grade Minimum RSI (R)-Value ⁽¹⁾	4.23 (R24)	4.23 (R24)	5.46 (R31)
Basement Walls Minimum RSI (R)-Value ⁽¹⁾	3.52 (R20)	3.52 (R20)	3.52 (R20)
Edge of Below Grade Slab ≤ 600 mm Below Grade Minimum RSI (R)-Value ⁽¹⁾	1.76 (R10)	1.76 (R10)	1.76 (R10)
Heated Slab or Slab ≤ 600 mm below grade Minimum RSI (R)-Value ⁽¹⁾	1.76 (R10)	1.76 (R10)	1.76 (R10)
Windows and Sliding Glass Doors Maximum U-Value ⁽²⁾	1.8	1.6	1.6
Skylights Maximum U-Value ⁽²⁾	2.8	2.8	2.8
Column 1	2	3	4

Notes to Table 2.1.1.10.:

- (1) The values listed are minimum RSI-Values for the thermal insulation component only. RSI-Values expressed in (m²· K)/W.
- (2) U-Value is the overall coefficient of heat transfer expressed in W/(m²· K).
- (3) The *building* need not conform to minimum efficiency requirements for HRV's, domestic hot water heaters and space heating equipment required in Article 2.1.1.2. or 2.1.1.3.



Energy Efficiency for Housing

Questions?



Energy Efficiency for Buildings other than Small Residential

SB-10

Division 3 of SB-10 applicable for permits applied for after December 31, 2011.

- Energy Efficiency Design in Chapter 3 of SB-10 req'd to meet one of the following three requirements based on Supplementary Standard SB-10, Chapter 1, Sentence 1.1.2.1.(1):
 - "...the Energy Efficiency of all buildings shall be designed to
 - Exceed by not less than 25% the energy efficiency levels attained by conforming to CCBFC, " Model National Energy Code for Buildings."
 - Exceed by not less than 5% the energy efficiency levels attained by conforming to ANSI/ASHRAE/IESNA 90.1., " Energy Standard for Buildings Except Low-Rise Residential Buildings" OR
 - Achieve the energy efficiency levels attained by conforming to ANSI/ASHRAE/IESNA 90.1, Energy Standard for Buildings Except Low-Rise Residential Buildings" and Chapter 2."
- Energy Efficiency Certification Form updated to reflect changes.



Energy Efficiency for Buildings other than Small Residential

Energy Efficiency Certification Form



Project Address:

Application Number:

<p>Each individual responsible for the subject building shall affix their seal and signature in the applicable box thereby certifying that pursuant to Article 12.2.1.1. of Division B, of the Ontario Building Code, the energy efficiency of each building has been designed and will be constructed to:</p> <p><input type="checkbox"/> exceed by not less than 25% the energy efficiency levels attained by conforming to the CCBFC, "Model National Energy Code for Buildings."</p> <p><input type="checkbox"/> exceed by not less than 5% the energy efficiency levels attained by conforming to the ANSI/ASHRAE/IESNA 90.1-2010, "Energy Standard for Buildings Except Low-Rise Residential Buildings", OR</p> <p><input type="checkbox"/> achieve the energy efficiency levels attained by conforming to the ANSI/ASHRAE/IESNA 90.1-2010, "Energy Standard for Buildings Except Low-Rise Residential Buildings" AND Chapter 2.</p> <p>In the case of a shell building, the design values for the most stringent situation that is likely to occur has been assumed.</p>	<p>Building Envelope</p> <p>Signature _____ Date (yy/mm/dd)</p> <p>Name and Title _____</p> <p>Address _____</p> <p>City _____ Province _____ Postal Code _____</p>	Professional Seal:
	<p>Mechanical Systems</p> <p>Signature _____ Date (yy/mm/dd)</p> <p>Name and Title _____</p> <p>Address _____</p> <p>City _____ Province _____ Postal Code _____</p>	Professional Seal:
	<p>Electrical Systems</p> <p>Signature _____ Date (yy/mm/dd)</p> <p>Name and Title _____</p> <p>Address _____</p> <p>City _____ Province _____ Postal Code _____</p>	Professional Seal:
	<p>Other:</p> <p>Signature _____ Date (yy/mm/dd)</p> <p>Name and Title _____</p> <p>Address _____</p> <p>City _____ Province _____ Postal Code _____</p>	Professional Seal:

Where a performance path is chosen:

- The individual responsible for the energy modeling shall affix their seal and signature on the Energy Efficiency Form. This individual must be licensed to practice as an architect or professional engineer in the province of Ontario.
- The individuals responsible for building envelope, mechanical systems and electrical systems by signing the certification form, confirm they have reviewed that the inputs to the energy model accurately represent the proposed building design.

Building and Planning Department
 82 Erie St. Second Floor
 Stratford, Ontario, N5A 2M4
 T: 519 271 0250
 F: 519 271 5966



Energy Efficiency for Buildings other than Small Residential

Questions?



Improved Air Barrier Requirements

Division B, Subsection 9.25.3. & SB-12 Chapter 3

- Mandatory/separate inspection for air barrier system for all buildings is added under “Prescribed Notices” (Div. C, Article 1.3.5.1.)

Key points:

- Improved windows to reduce air leakage are required. (Div. B, Article 9.7.1.7.)
- Air barrier to be continuous in basement.
- Prescriptive requirements for air barriers for window/door, floor, wall, or vent/chimney



Improved Air Barrier Requirements

Division C, Sentence 1.3.5.1.(2)

- Added a separate inspection for air barrier system.

The person to whom a permit under section 8 of the Act is issued shall notify the chief building official or, where a registered code agency is appointed under the Act in respect of the construction to which the notice relates, the registered code agency of, (e.1) substantial completion of air barrier systems,

- * At least one separate air barrier inspection is required **after** all service penetrations are installed/sealed and may be required **before** exterior cladding installation.



Improved Air Barrier Requirements

Division B, Article 9.7.1.7.

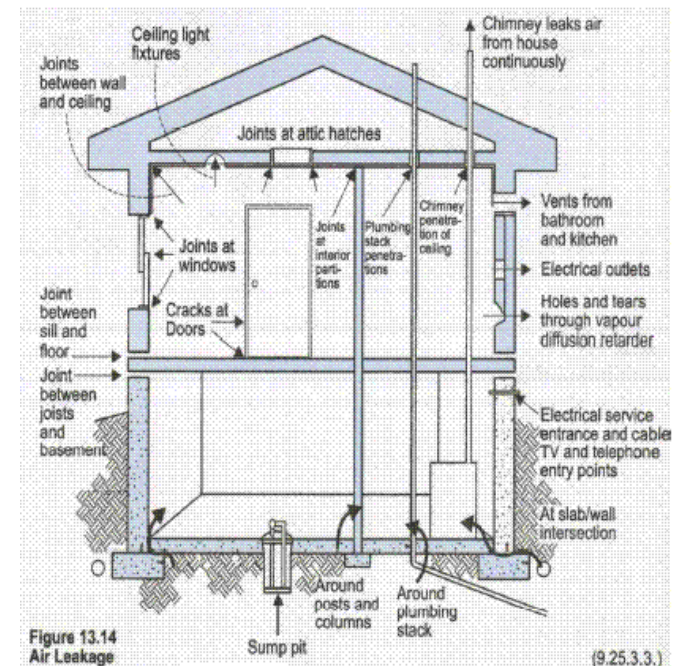
The maximum air leakage rate of windows to be changed/decreased.

from 2.79 m³/h tested per ASTM E283,
to 1.65 m³/h tested per CAN/CSA-A440.1

Improved Air Barrier Requirements

Division B, Subsection 9.25.3.

- Required Barrier to Air Leakage
All wall, ceiling and floor assemblies, including the basement floor, that separate conditioned space from non-conditioned space shall be constructed to include an air barrier system that will provide a continuous barrier to air leakage.





Improved Air Barrier Requirements

Division B, Sentence 9.25.3.3.(2)

- Prescriptive requirements

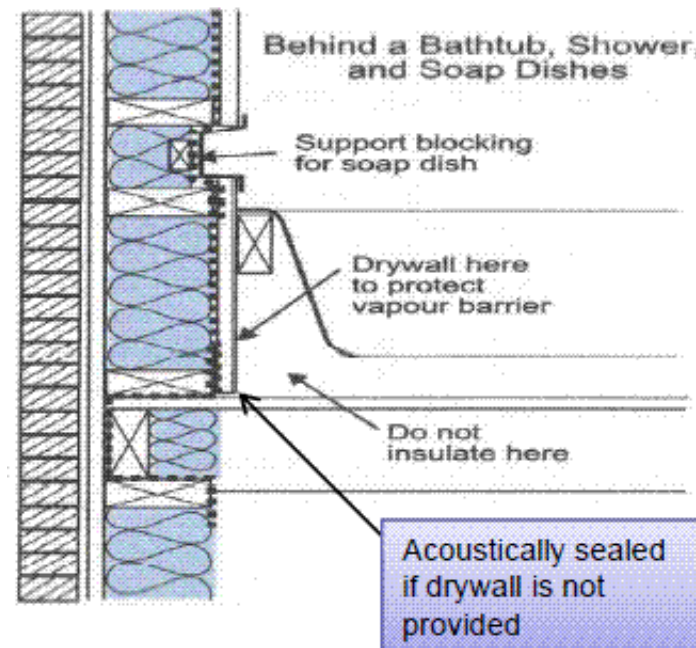
Caulking, taping and foaming with appropriate compatible products are all identified as acceptable methods.

Improved Air Barrier Requirements

Division B, Sentence 9.25.3.3.(3)

- Prescriptive requirements

Behind bath tubs, shower enclosures, fire places and other concealed spaces where the air barrier may not be fully supported.

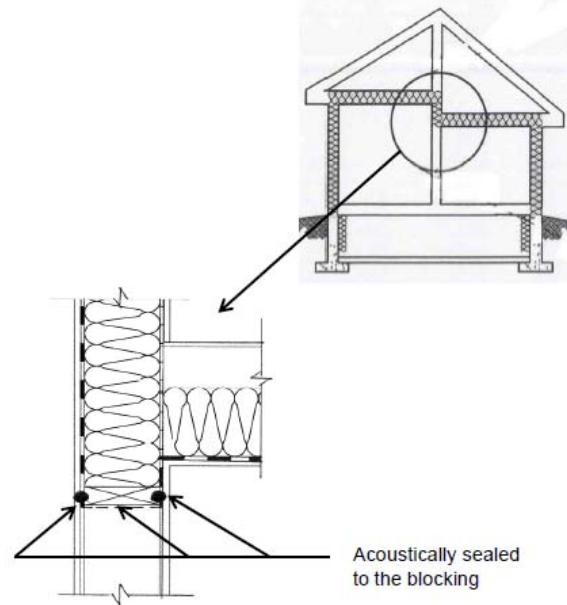


Improved Air Barrier Requirements

Division B, Sentence 9.25.3.3.(7)

- Prescriptive requirements

Where an interior wall projects through a ceiling or extends to become an exterior wall shall be sealed each air barrier to the blocking or wrapping around the transition.





Improved Air Barrier Requirements

Division B, Sentence 9.25.3.3.(8)

- Prescriptive requirements

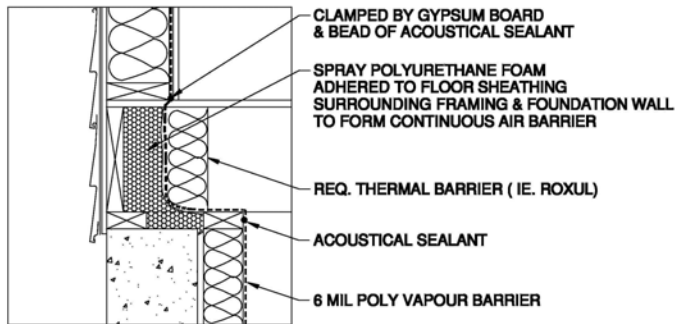
Where a header wrap is used as an air barrier, it shall be sealed or lapped and clamped to the wall air barrier above and below.

Note: In unfinished basements where interior poly is the air barrier, the following is required:

- a) all laps must be sealed (taped or acoustically sealed),
- b) all penetrations sealed such as for electrical boxes shall be wrapped and sealed and poly to floor joint shall also be sealed.

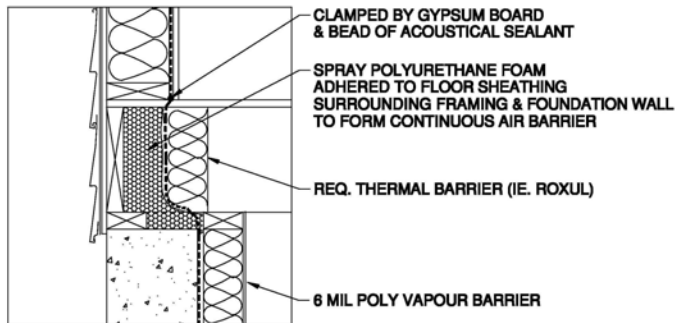
Improved Air Barrier Requirements

SAMPLE 1



**BASEMENT WALL AIR BARRIER UTILIZING
6 MIL POLY**

SAMPLE 2



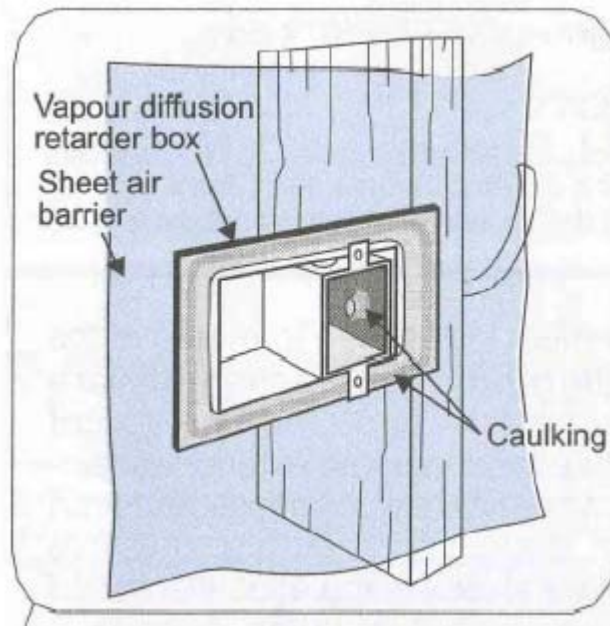
**BASEMENT WALL AIR BARRIER UTILIZING
CONCRETE FOUNDATION WALL**

Improved Air Barrier Requirements

Division B, Sentence 9.25.3.3.(9)

- Prescriptive requirements

Electrical wiring, electrical boxes, piping, vents or duct work shall be sealed with compatible material such as tape or caulking.





Improved Air Barrier Requirements

Division B, Sentences 9.25.3.3.(10), (11), & (12)

- Prescriptive requirements

Sealing the air barrier to window and door frames (i.e. foam)

Improved Air Barrier Requirements

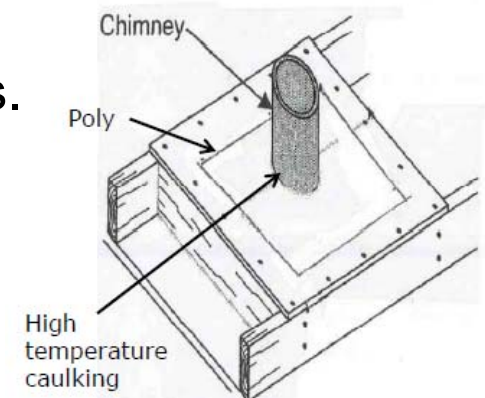
Division B, Sentence 9.25.3.3.(14)

- Prescriptive requirements

Chimney or gas vent penetrations shall be sealed to the air barrier with tape or another compatible material and to the vent with high temperature caulking in conformance with the manufacturer's installation instructions.

Note: When installing direct-vent fireplace, builder to ensure vent penetrations are sealed

This requirement also applies to all penetrations.

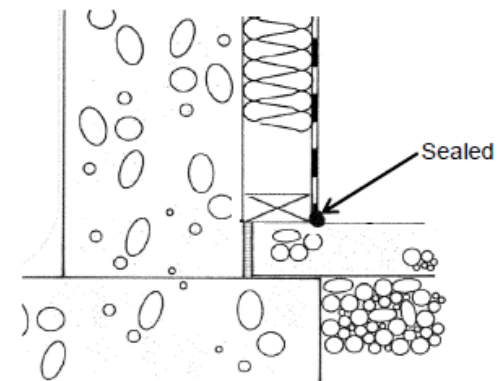
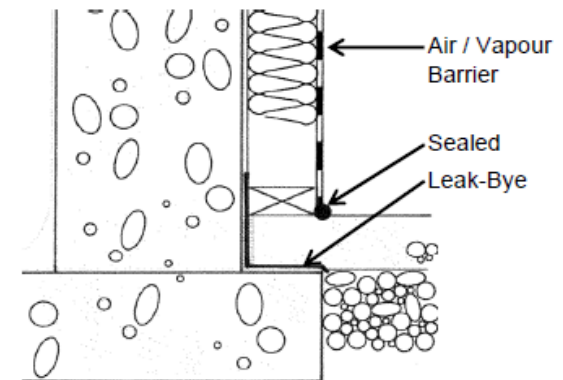


Improved Air Barrier Requirements

Division B, Sentence 9.25.3.3.(15)

- Prescriptive requirements

Where the foundation wall and floor slab are used as an air barrier, foundation wall and floor slab they shall be caulked at all joints, intersections and penetrations.



Improved Air Barrier Requirements

Division B, Sentence 9.25.3.3.(16)

- Prescriptive requirements
Sump pit covers shall be sealed.
(i.e. gasket seal and bolt)



Install w/ a min. 1"
clearance above slab





Air Barrier System Properties

Division B, Article 9.25.3.2. & Appendix A-9.25.3.2.

Materials which have been tested and are considered to have low air permeance include:

- Smooth surface roofing membrane (2 mm)
- Particle board (12.7 mm)
- Tempered hardboard (3.2 mm)
- Gypsum board (12.7 mm)
- Foil back urethane insulation (25.4 mm)
- Aluminum foil
- Plywood (8 mm)
- Modified bituminous self-adhesive membranes (1.3 mm)
- Modified bituminous torch-on membranes (2.7 mm)
- Waferboard (11 mm)
- Extruded polystyrene (38 mm)
- Cement board (12.7 mm)
- Phenolic insulation board (24 mm)
- Polyethylene sheet
- Reinforced non-perforated polyolefin



Improved Air Barrier Requirements

Questions?



Occupancy Permits

Division C, 1.3.3.4.(1)

- General Requirements:

Occupancy Permits are now a Building Code requirement for single detached, semi-detached and townhouses for all permits applied for after December 31, 2011 under Div. C Article 1.3.3.4. titled “Occupancy Permit - Certain Types of Residential Occupancy”

Sentence 1.3.3.4.(1), Division C in this Article states:

“No person shall occupy or permit to be occupied ...unless the chief building official or person designated by the chief building official has issued a permit authorizing occupation of the building of part of it in accordance with Sentence (5)”.

Note:

Occupancy Permit requirements do not apply to renovations or extensions of existing buildings.



Occupancy Permits

Division C, 1.3.3.4.(1)

Occupancy Inspection Notification Requirements:

Inspection notification is set out in Division C, Sentence 1.3.5.1.(2)(o), as follows:

“The person to whom the building permit is issued...shall notify the chief building official of:

(o) completion of construction and installation of components required to permit the issue of an occupancy permit under Sentence 1.3.3.4.(5).”

Note:

The existing practice of requesting a final building inspection will continue and the inspectors will note whether occupancy is permitted. It is up to the builder to ensure all items are completed to allow occupancy and notify the purchaser of any delays.



Occupancy Permits

Division C, 1.3.3.4.(1)

Documentation:

Field Reports:

There is no prescribed occupancy permit form in the Building Code. The City of Stratford will continue to use our existing field inspection report with an added section for the occupancy permit.

CITY OF STRATFORD OCCUPANCY INSPECTION REPORT

Date: _____ Inspector: _____ Building Permit #: _____
 Address: _____ Unit #: _____

	BUILDING ENVELOPE	COMMENTS
	Cladding, Roofing, Windows, Doors	
	Insulation, Vapour Barriers, Air Barriers	
	Exterior Caulking/Flashing Substantially Complete	
	Attic Hatch Insulated & Weather-stripped	
	Ceiling Insulation (tag in place)	
	Assemblies Requiring F.R.R. and Closures	
	EXTERIOR	
	Exterior Stairs & Landings (Handrail/Guard)	
	Patio Door <input type="checkbox"/> / Door <input type="checkbox"/> > 2' Blocked	
	Site Grading Substantially Complete	
	Site Grading Finalized	
	Fire Fighting Access Route Provided and Accessible	
	BASEMENT	
	Stair Protection (Handrail/Guard)	
	Smoke Alarm <input type="checkbox"/> C.O. Detector <input type="checkbox"/>	
	HVAC System Operational	
	Required Electrical Supply Provided	
	Plumbing/Sewage System Signed Off	
	Sump Pit and Pump <input type="checkbox"/> Check Valve <input type="checkbox"/>	
	Mixing Valve Installed <input type="checkbox"/>	
	Max. Temp. of Mixing Valve ≤ 49°C <input type="checkbox"/> OR	
	Water Temp. Measured @ Tub in Main Bathroom ≤ 49°C <input type="checkbox"/>	
	Insulation Protected from Mechanical Damage	
	Structure Substantially Complete	
	Columns Secured	
	Notching/Drilled Joists Reinforced/Bracing	
	Fire Separation/Fire Stopping	
	WAIN FLOOR <input type="checkbox"/> FIRST FLOOR <input type="checkbox"/>	
	Stair Protection (Handrail/Guard)	
	Smoke Alarm <input type="checkbox"/> C.O. Detector <input type="checkbox"/>	
	Insulation Protected from Mechanical Damage (drywall)	
	Dead Bolt/Door Viewer <input type="checkbox"/> Window <input type="checkbox"/>	
	2 ND FLOOR	
	Stair Protection (Handrail/Guard)	
	Insulation Protected from Mechanical Damage (drywall)	
	Smoke Alarm <input type="checkbox"/> C.O. Detector <input type="checkbox"/>	
	GARAGE	
	Stair Protection (Handrail/Guard)	
	Door Closer	
	Gas Proofing	
	OTHER	
	EnerGuide 80 Certification	
	Energy Star	
Not Complete		
Complete		

NOTES: 1. This permit will remain active until all NOT COMPLETE items are completed and reinspected
 2. All bolded items required to be completed for occupancy

White = Office Copy Yellow = FINAL Builder Copy Pink = DEFICIENCY Builder Copy

CITY OF STRATFORD OCCUPANCY PERMIT
 (Permit Valid if Occupancy Authorized – See Below)

Issued Pursuant to Div. C 1.3.3.4. of the Ontario Building Code

Occupancy Permit Issued and Occupancy Authorized Date: _____

Inspector's Signature: _____



Occupancy Permits

Division C, 1.3.3.4.(5)

Items that MUST be completed in order for an Occupancy Permit to be issued are indicated in Sentence 1.3.3.4(5), Division C which states:

The chief building official or a person designated by the chief building official shall issue a permit authorizing occupation of a building described in Sentence (4), where

- (a) the structure of the building with respect to the dwelling unit to be occupied is substantially complete and ready to be used for its intended purpose,
- (b) the building envelope, including, but not limited to, cladding, roofing, windows, doors, assemblies requiring fire-resistance ratings, closures, insulation, vapour barriers and air barriers, with respect to the dwelling unit to be occupied, is substantially complete,
- (c) the walls enclosing the dwelling unit to be occupied conform to Sentence 9.25.2.3. (7) of Division B,
- (d) site grading with respect to the building is substantially complete,
- (e) required electrical supply is provided for the dwelling unit to be occupied,
- (f) required fire fighting access routes to the building have been provided and are accessible,
- (g) the following building components and systems are complete and operational for the dwelling unit to be occupied:
 - (i) required exits, floor access and egress systems, handrails, guards, smoke alarms, carbon monoxide detectors and fire separations, including, but not limited to, fire stopping,
 - (ii) required exhaust fume barriers and self-closing devices on doors between an attached or built-in garage and the dwelling unit, and
 - (iii) water supply, sewage disposal, lighting and heating systems,
- (h) the following building components and systems are complete, operational and tested for the dwelling unit to be occupied:
 - (i) water system,
 - (ii) building drain and building sewer, and
 - (iii) drainage system and venting system,
- (i) required plumbing fixtures in the dwelling unit to be occupied are substantially complete and operational, and
- (j) where applicable, the building conforms to Article 9.1.1.7. of Division B with respect to the dwelling unit to be occupied.



Occupancy Permits

Questions?

Thank You



Please forward any additional comments, questions or concerns to David Carroll, Chief Building Official

David Carroll

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E: dcarroll@city.stratford.on.ca