

Guide to the Energy Efficiency Design Summary Form

The *Energy Efficiency Design Summary* form summarizes the compliance path used by a house designer to comply with energy efficiency requirements of the Ontario Building Code. This form is completed by the person responsible for the energy efficiency design of the project, and must be submitted with the building permit application. The information on this form MUST reflect the drawings and specifications being submitted, or the building permit will be refused. Refer to Supplementary Standard SB-12 for details about building code compliance requirements. Further information about energy efficiency requirements for new buildings is available from the provincial building code website at www.mah.gov.on.ca, or the municipal building department.

Beginning January 1, 2012, a house designer must use one of four energy efficiency compliance options in the building code:

1. Comply with the SB-12 Prescriptive design tables,
2. Use the SB-12 Performance compliance method, and model the design against the prescriptive standards,
3. Design to Energy Star standards, or
4. Evaluate the design according to EnerGuide technical procedures and achieve a rating of 80 or more.

COMPLETING THE FORM

B. Compliance Options

Indicate the compliance option being used.

- SB-12 Prescriptive requires that the building conforms to a package of thermal insulation, window and mechanical system efficiency requirements set out in Subsection 2.1.1. of SB-12. Energy efficiency design modeling and testing of the building is not required under this option.
- SB-12 Performance refers to the alternative method of compliance set out in Subsection 2.1.2. of SB-12. Using this approach the designer must use recognized energy simulation software (HOT2000 V9.34c1.2 or newer), and submit documents which show that the annual energy use of the building is equal to a prescriptive package.
- Energy Star houses must be designed to *Energy Star* requirements and be labelled on completion by Enerquality or other agency. The *Energy Star* BOP form must be submitted with the permit documents.
- EnerGuide80 houses are validated by NRCan authorized energy advisors and must achieve a rating of 80 or more when evaluated in accordance with EnerGuide administrative and technical procedures.

C. Project Design Conditions

Climatic Zone: The number of degree days for Ontario cities is contained in Supplementary Standard SB-1

Windows, Skylights and Glass Doors: If the ratio of the total gross area of windows, sidelights, skylights and glass doors to the total gross area of walls is more than 17%, higher efficiency glazing is required. If the ratio is more than 22% the SB-12 Prescriptive option may not be used. The total area is the sum of all the structural rough openings. Some exceptions apply. Refer to 2.1.1.1. of SB-12 for further details.

Fuel Source and Heating Equipment Efficiency: The fuel source and efficiency of the proposed heating equipment must be specified in order to determine which SB-12 Prescriptive compliance package table applies.

Other Building Conditions: These construction conditions affect SB-12 Prescriptive compliance requirements.

D. Building Specifications

Thermal Insulation: Indicate the RSI or R-value being proposed where they apply to the house design. Under the SB-12 Prescriptive option, RSI 3.52 wall insulation is permitted in certain conditions where other design elements meet higher standards. Refer to SB-12 for further details.

E. Performance Design Summary

This section is not required to be completed if the SB-12 Prescriptive option is being used.

AIRTIGHTNESS REQUIREMENTS FOR NEW HOUSES

All houses must comply with increased air barrier requirements in the building code. Notice of air barrier completion must be provided and an inspection conducted prior to it being covered. A blower door test to verify the air tightness of the house must be conducted during construction if the NRCan EnerGuide80 option is used, or if the SB-12 Performance or Energy Star options are used and an air tightness of less than 2.5 ACH @ 50 Pa in the case of detached houses, or 3.0 ACH @ 50 Pa in the case of attached houses is necessary to meet the required energy efficiency standard.

ENERGY EFFICIENCY LABELING FOR NEW HOUSES

Energy Star and *EnerGuide* issue labels for new homes constructed under their energy efficiency programs. The building code does not regulate new home labelling.

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	Loc/Con
Municipality	Reg. Plan number / other description	
Postal code		

B. Compliance Option

Table: Package: A B C D E F G H I J K L M
(circle one)

SB-12 Prescriptive [SB-12 - 2.1.1.]

SB-12 Performance * [SB-12 - 2.1.2.]

* Attach energy performance calculations using an approved software

*Energy Star** [SB-12 - 2.1.3.]

* Attach BOP form. House must be labeled on completion by Energy Star

*EnerGuide 800**

* 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"/> Zone 2 (≥ 5000 degree days)	<input type="checkbox"/> ≥ 90% AFUE <input type="checkbox"/> ≥ 78% < 90% AFUE	<input type="checkbox"/> Gas <input type="checkbox"/> Propane <input type="checkbox"/> Solid Fuel <input type="checkbox"/> Oil <input type="checkbox"/> Electric <input type="checkbox"/> Earth Energy
Windows+Skylights+Glass Doors		
Gross Wall Area = m ²	% Windows+ _____ %	
Gross Window+ Area = m ²		

Other Building Conditions

ICF Basement Walkout Basement Log/Post&Beam

ICF Above Grade Slab-on-ground

D. Building Specifications

Building Component	RSI / R values		Building Component	Efficiency Ratings	
	Required	Proposed		Required	Proposed
Thermal Insulation			Windows & Doors ¹		
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: _____