

# 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 must accompany the building permit application. The information on this form MUST reflect the drawings and specifications being submitted, or the building permit may 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](http://www.mah.gov.on.ca), or the municipal building department.

Beginning January 1, 2017, 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 NRCan 2012 R2000 Standard.

## 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 3.1.1. 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 3.1.2. of SB-12. Using this approach the designer must use recognized energy simulation software (such as HOT2000 version 10.51 or newer, REM/Rate v14.6.2. etc.), 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.
- R2000 houses are validated by NRCan authorized energy advisors. Builder must be a licensed R2000 builder to use this option.

### 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 3.1.1.1. 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 effective RSI or R-value being proposed where they apply to the house design.

## E. Performance Design Summary

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

## Building Code Requirements for Airtightness in 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. The building code requires that a blower door test be conducted to verify the air tightness of the house during construction if the SB-12 Performance option is used or 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 R2000 issue labels for new homes constructed under their energy efficiency programs. The building code does not regulate new home labelling.