

Vancouver Building By-Law Energy Performance and Certification: Windows and Doors for 1 and 2 Family Homes

The Vancouver Building By-law (VBBL) requires window and door energy performance to be verified by a certification organization or determined by a BC registered professional engineer.

This document provides a review of the current energy performance certification requirements for builders and for window and door manufacturers. It also provides contact information for certification organizations and a review of U-value performance requirements for windows and doors.

What is energy performance certification?

Certification of energy performance values confirms that the window or door has been tested by a recognized laboratory and that the labeled energy performance ratings are verified by a certification organization.

Certified labels can only be applied by manufacturers who participate in one of the recognized certification programs offered by organizations listed at the end of this document.

What products require this certification?

Windows, glass doors, and side hinged doors, with or without glass. One main entrance door is exempt from this requirement to allow homes to have a custom, decorative or heritage style entrance door. Heritage homes are also exempt from this requirement when they are undergoing renovation.

How can I tell if a window or door product is certified?

Certified products are labeled under the authority of a recognized certification organization. Certified products have two labels:

1. A small, permanent label or marking on the product frame or the glass identifies the manufacturer and the certification organization.
2. A larger, removable energy performance label that is visible and conforms to the requirements of the particular certification organization.

Both labels must be present on a certified product when it is delivered to the jobsite, and the removable energy performance label must not be removed until final inspection.

Does the entire door assembly need to be certified, or just the slab?

The certified label on the door must represent the entire door system. Using an NFRC certified and labeled door slab does not certify a door or a door frame. Contact an NFRC certification organization for information about the correct use of NFRC certified components.

For a door to be certified by NFRC (National Fenestration Rating Council) the local pre-hanger who manufactures the door must be a participant of the NFRC Product Certification Program (PCP).

What about site-built and commercial window and door products?

Energy certification programs apply labels to factory glazed products only (i.e. 'residential' products). Some custom homes are designed with 'commercial' fenestration products that fall outside the scope of certification programs. Such products must have their energy performance certified by a registered professional. This provision can only be used when the City of Vancouver has been notified in advance of the building permit being issued.

Can labels be applied at the jobsite?

All labels must be applied at the factory. On-site labelling is not permitted. If labels are incorrect, the product(s) are subject to removal and return to the factory for correct labelling.

Can average overall U-values be used?

The flexibility provision in VBBL A-10.2.2.2 allows a registered professional to establish the average overall U-value of all vertical fenestration products, in order to meet $U \leq 1.4 \text{ W/m}^2 \cdot \text{°K}$, or for **sloped glazing** and skylights $U \leq 2.4 \text{ W/m}^2 \cdot \text{°K}$. This provision can only be used when the City of Vancouver has been notified in advance of the building permit being issued.

Which organizations can certify the energy performance of windows and doors?

Currently there are eight organizations that can certify the energy performance of window and door products in Canada. Each organization certifies energy performance to one of the two standards in the VBBL: CSA A440.2 (Canadian) or NFRC 100 (American).

Each certification program has its own policies for labeling and costs for certification. A list of the certification organizations is presented at the end of this document.

For companies that do business in Canada only, it is more economical to work with a Canadian certifier. For companies that also do business in the United States, and for companies whose American suppliers are certified in the United States, it can be more economical to work with an American certifier.

Window and Door Compliance Enforcement

Certification and labelling requirements have not been well understood in the door industry and energy performance certification enforcement actions have focused more on windows. City staff will be increasing enforcement efforts for door labelling going forward.

It is the builder's responsibility to ensure certified products are used. Except for the main entrance door, exterior doors that do not have proper certified energy performance labelling shall be replaced with a certified code compliant door at the builder's expense. Builders must purchase windows and doors from suppliers who are certified and can sell products that comply with the VBBL energy performance requirements.

More Information on VBBL Requirements for Door and Window Compliance

Please refer to the following documentation for more detailed information:

<http://vancouver.ca/files/cov/verifying-energy-performance-of-windows-doors-skylights.pdf>

<http://vancouver.ca/files/cov/windows-and-doors-faq.pdf>

SUMMARY OF U-VALUES FOR ONE AND TWO FAMILY DWELLINGS



Windows and “glass doors”
 $U \leq 1.4 \text{ W/m}^2\cdot\text{K}$ (0.25 Btu/h•ft²•°F)

Skylights (and overhead sloped glazing)
 $U \leq 2.4 \text{ W/m}^2\cdot\text{K}$ (0.42 Btu/h•ft²•°F)

Sliding doors, Folding doors, Lift and Slide Doors, Curtain Wall, Commercial Windows
 $U \leq 1.4 \text{ W/m}^2\cdot\text{K}$ (0.25 Btu/h•ft²•°F)

Side Hinged Doors, Glazed or Opaque, including Transoms* and Sidelites
 $U \leq 1.8 \text{ W/m}^2\cdot\text{K}$ (0.32 Btu/h•ft²•°F)

Note: Transoms or sidelites must be in the same rough opening as a door. If not, it is a window.

If a unit is rated as U 1.44, the rating is rounded down to U 1.4. If it is rated at U 1.45, it is rounded up to U 1.5

ENERGY PROGRAM CERTIFICATION ORGANIZATIONS

| Energy standard | Organization | Contact information |
|--------------------------|---|---|
| CSA A440.2 (Canadian) | Canadian Standards Association (CSA) | Phone: (866) 797-4272 Email: client.services@csagroup.org Mail: 178 Rexdale Boulevard Toronto, ON M9W 1R3 |
| | Intertek | Phone: (604) 520-3321 Mail: 1500 Brigantine Drive Coquitlam, BC V3K 7C1 |
| | Labtest Certifications Inc. | Phone: (604) 247-0444 Email: info@labtestcert.com Mail: Unit 205, 8291 92 Street Delta, BC V4G 0A4 |
| | Quality Auditing Institute (QAI) | Phone: (604) 527-8378 Email: info@qai.org Mail: 3980 North Fraser Way Burnaby, BC V5J 5K5 |
| NFRC 100 (American) | Keystone Certifications Inc. | Phone: (717) 932-8500 Email: jhill@keystonecerts.com Mail: 564 Old York Road, Suite 5 Etters, PA 17319 U.S.A. |
| | National Accreditation & Management Institute Inc. (NAMI) | Phone: (804) 684-5124 Email: nami@namiinc.com Mail: 4794 George Washington Memorial Highway Hayes, VA 23072 U.S.A. |
| | AAMA Gold Label Certification / Associated Laboratories Inc. (ALI) | Phone: (214) 565-0593 Mail: P.O. Box 152837 Dallas, TX 75315 U.S.A. |
| | WDMA Hallmark Certification / Administrative Management Systems, Inc. (AMS) | Phone: (315) 646-2234 Email: staff@amscert.com Mail: 205 West Main, PO Box 730 Sackets Harbor, NY 13685 U.S.A. |