

May 2017

14-BCV-003

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WIND DATA FOR LOW-RISE BUILDINGS GUIDELINE

PURPOSE

To recognize the acceptability of the values within the “Guideline for specifying the required NAFS ratings of fenestration in low-rise buildings applicable to Part 9 of Division B of the Alberta Building Code 2014,” as prepared by Berkeley Vadocz Engineering Inc. (Issued May 11, 2016)

DISCUSSION

Article 9.7.4.3. of the Alberta Building Code 2014 (ABC 2014) requires that performance grades for manufactured windows, doors and skylights within the scope of the North American Fenestration Standard (NAFS) standard be selected according to CSA A440S1, “Canadian Supplement to AAMA/WDMA/CSA 101/I.S.2/A440, NAFS – North American Fenestration Standard/Specification for Windows, Doors, and Skylights,” for the conditions and geographic location in which the window, door or skylight will be installed.

CSA A440S1 provides a simplified method for determining the Specified Wind Load and Specified Driving Rain Wind Pressure, using exposure factors intended for high rise buildings from *User’s Guide – NBC 2010: Structural Commentary I*. This has resulted in excessively conservative values for housing and small buildings, requiring much higher ratings for the fenestration products than is necessary to meet the actual environmental loads.

The design values listed in the guideline recognized in this STANDATA were prepared by a registered engineering professional in accordance with more detailed methods provided in *User’s Guide – NBC 2010: Structural Commentary I*, allowing for more appropriate values can be used for low-rise Part 9 buildings. This prepared set of values makes additional engineering services unnecessary on a case-by-case basis.

CODE REFERENCES

Article 9.7.4.3. states:

9.7.4.3. Performance Requirements

- 1) Performance grades for windows, doors and skylights shall be selected according to the Canadian Supplement referenced in Clause 9.7.4.2.(1)(b) so as to be appropriate for the conditions and geographic location in which the window, door or skylight will be installed.
- 2) Windows, doors and skylights shall conform to the performance grades selected in Sentence (1) when tested in accordance with the Harmonized Standard referenced in Clause 9.7.4.2.(1)(a).
- 3) The minimum level of performance required for windows, doors and skylights shall be that of the Performance Class R.
- 4) Exterior wood doors shall conform to CAN/CSA-O132.2 Series, “Wood Flush Doors,” and shall have legibly indicated on them
 - a) the name of the manufacturer,

Unless stated otherwise, all Code references in this STANDATA are to Division B of the Alberta Building Code 2014.

Issue of this STANDATA is authorized by
the Building Administrator

[Original Signed]
Paul Chang



b) the standard according to which they were produced, and
c) that they are of an exterior type.

VARIANCE

This variance provides approximately equivalent or greater safety performance with respect to persons and property as that provided for by the Safety Codes Act and the ABC 2014.

The values for the Specified Driving Rain Wind Pressure and Specified Wind Load are permitted to be determined using the values from:

**Guideline for specifying the required NAFS ratings of fenestration in low-rise buildings applicable to Part 9 of Division B of the Alberta Building Code 2014
(Date of Issue: May 11, 2016)**

prepared by:

Berkeley Vadocz Engineering Inc.

published by:

Canadian Home Builders' Association – Alberta

distributed by and available for purchase:

Canadian Home Builders' Association – Alberta

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This guideline is acceptable in place of project-specific engineering on a case-by-case basis, provided the criteria outlined in the “scope and limitations” section of the guideline are met for the building project in question.

This VARIANCE is applicable throughout the province of Alberta.