The new Building Code Window and Door Labeling - What you need to know.

Presented by

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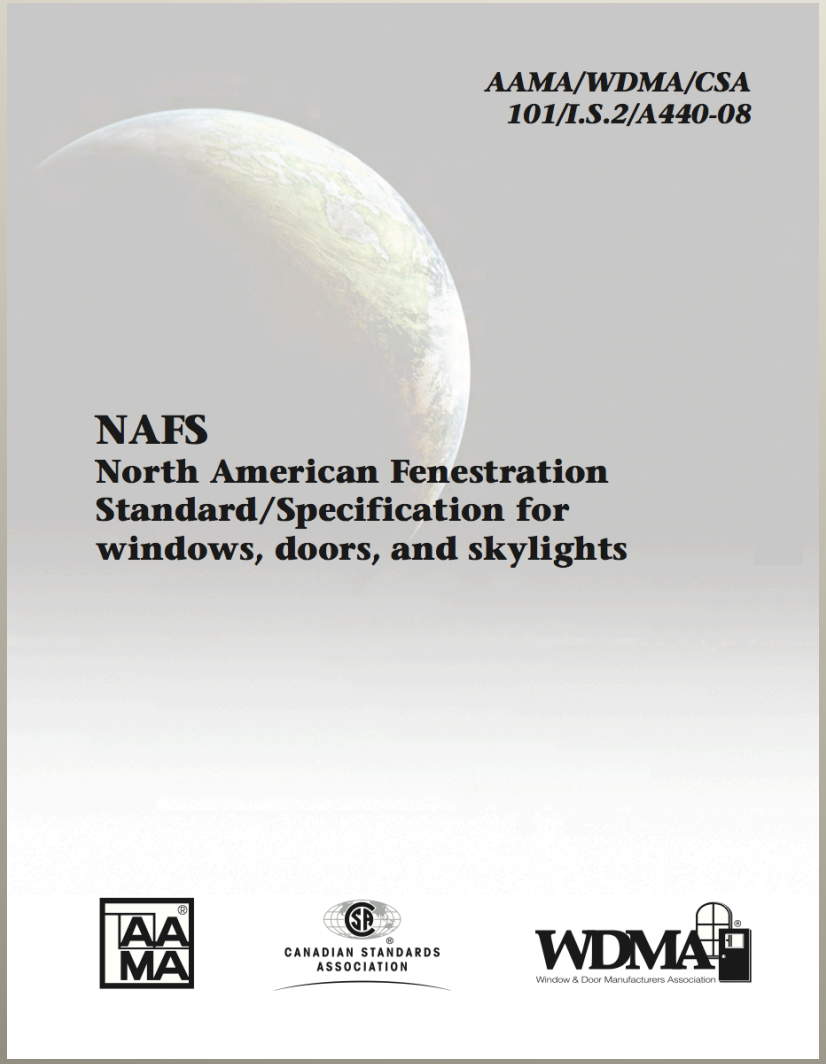
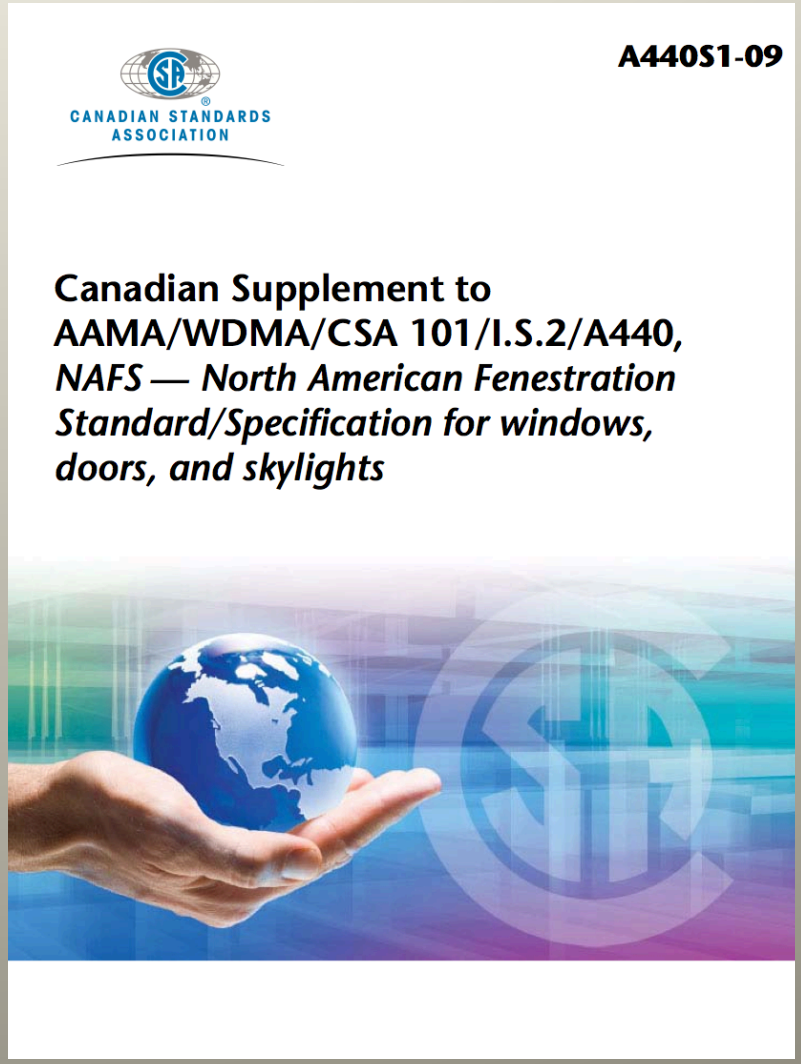
Overview

1. AAMA/WDMA/CSA 101/I.S. 2/A440 (NAFS)
2. NAFS Performance Requirements by Region
3. Fenestration Canada NAFS Calculator
4. Labeling Guidelines for Single Units
5. Labeling Guidelines for Products with Mullions

1. AAMA/WDMA/CSA 101/I.S. 2/A440 (NAFS)

North American Fenestration Standard (NAFS)





1. AAMA/WDMA/CSA 101/I.S. 2/A440 (NAFS)

North American Fenestration Standard (NAFS) – Products

- Windows, Doors and Skylights

Table 5
Product types
(See Clauses 4.4.2.1, 4.4.2.2, 8.1, and 8.3.2.)

AP	=	Awning, hopper, projected window	LW SHD	=	Limited water side-hinged door
ATD	=	Architectural terrace door	RW	=	Roof window
BW	=	Basement window	SD	=	Sliding door
C	=	Casement window	SHD	=	Side-hinged door
DASHD	=	Dual-action side-hinged door	SHW	=	Side-hinged (inswinging) window
DAW	=	Dual-action window	SKG	=	Unit skylight — glass glazed
FD	=	Fixed door	SKP	=	Unit skylight — plastic glazed
FW	=	Fixed window	SLT	=	Side lite
GH	=	Greenhouse window	SP	=	Specialty product
H	=	Hung window	TA	=	Tropical awning window
HE	=	Hinged rescue window	TDD	=	Tubular daylighting device
HP	=	Horizontally pivoted window	TH	=	Top-hinged window
HS	=	Horizontal sliding window	TR	=	Transom
J	=	Jalousie window	VP	=	Vertically pivoted window

1. AAMA/WDMA/CSA 101/I.S. 2/A440 (NAFS)

North American Fenestration Standard (NAFS) – Performance

- Limited prescriptive requirements
  - Hardware, fasteners, finishes, and anchors

- Performance Testing
  - Force to latch
  - Air leakage
  - Water Penetration
  - Uniform Load – Deflection
  - Uniform Load – Structural
  - Forced Entry Resistance
  - Thermoplastic Corner Weld
  - Operation / Cycling Performance
  - Vertical Load Resistance

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1. AAMA/WDMA/CSA 101/I.S. 2/A440 (NAFS)

North American Fenestration Standard (NAFS) – Performance Grades

Table 3 (modified to include gateway requirements)
Canada (only) optional performance grades (PG)
See Clauses 0.2.6.1, 4.3.2.2, 4.4.3.2–4.4.3.4, 5.3.3.1, 5.3.4.2, and 5.3.4.3.)

Performance class and optional performance grade				Design pressure (DP)		Structural test pressure (STP)		Water penetration resistance test pressure			
								R, LC, CW		AW	
R	LC	CW	AW	Pa	(psf)	Pa	(psf)	Pa	(psf)	Pa	(psf)
15	--	--	--	720	(15)	1080	(22.5)	140	(2.90)	--	--
20	--	--	--	960	(20)	1440	(30.0)	150	(3.00)	--	--
25	25	--	--	1200	(25)	1800	(37.5)	180	(3.75)	--	--
30	30	30	--	1440	(30)	2160	(45.0)	220	(4.50)	--	--
35	35	35	--	1680	(35)	2520	(52.5)	260	(5.25)	--	--
40	40	40	40	1920	(40)	2880	(60.0)	290	(6.00)	390	(8.0)
45	45	45	45	2160	(45)	3240	(67.5)	330	(6.75)	440	(9.0)
50	50	50	50	2400	(50)	3600	(75.0)	360	(7.50)	480	(10.0)
55	55	55	55	2640	(55)	3960	(82.5)	400	(8.25)	530	(11.0)
60	60	60	60	2880	(60)	4320	(90.0)	440	(9.00)	580	(12.0)
65	65	65	65	3120	(65)	4680	(97.5)	470	(9.75)	630	(13.0)
70	70	70	70	3360	(70)	5040	(105.0)	510	(10.50)	680	(14.0)
75	75	75	75	3600	(75)	5400	(112.5)	540	(11.25)	730	(15.0)
80	80	80	80	3840	(80)	5760	(120.0)	580	(12.00)	730	(15.0)
85	85	85	85	4080	(85)	6120	(127.5)	620	(12.75)	730	(15.0)
90	90	90	90	4320	(90)	6480	(135.0)	650	(13.50)	730	(15.0)
95	95	95	95	4560	(95)	6840	(142.5)	690	(14.25)	730	(15.0)
100	100	100	100	4800	(100)	7200	(150.0)	730	(15.00)	730	(15.0)

1. AAMA/WDMA/CSA 101/I.S. 2/A440 (NAFS)

Canadian supplement to NAFS – CSA A440S1-09

- Section 5.1
  - Insect screen serviceability test
  - 60 N force put in on outward direction
- Section 5.2.
  - Operating force requirement refers to Table 6 of NAFS
  - Maximum force used to operate more stringent than in US
- Section 5.3
  - Water penetration resistance test pressure
  - Refers to Clause 5.3.3 and Table 3 in NAFS
  - In Canada – water pressure goes to 730Pa
- Section 5.4
  - Air infiltration and exfiltration levels
  - **Minimum now is A2 level**
  - References Table 9 in NAFS

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1. AAMA/WDMA/CSA 101/I.S. 2/A440 (NAFS)

NAFS – Marking Requirements

Class R-PG30 — Size tested 760 × 1250 mm — C
Positive Design Pressure (DP) 1440 Pa

NAFS and Canadian Supplement – Marking Requirements

Class R-PG30 — Size tested 760 × 1250 mm — C	
Positive Design Pressure (DP)	**1440 Pa**
Negative Design Pressure (DP)	**–1440 Pa**
Water Penetration Resistance Test Pressure	**220 Pa**
Canadian Air Infiltration/Exfiltration	**A2 Level**

2. NAFS Performance Requirements by Region

North American Fenestration Standard (NAFS) – Performance

- Minimum Performance Grade and Water Pressure
  - Calculations in Canadian Supplement
  - Lookup tables in Canadian Supplement

- Minimum Air Infiltration
  - A2 Level

2. NAFS Performance Requirements by Region

Determinations

Rough terrain:

NBC 2010 definition: where rough terrain is suburban, urban or wooded terrain extending upwind from the building uninterrupted for at least 1 km or 20 times the height of the building, whichever is greater.

Open terrain

NBC 2010 definition: where open terrain is level terrain with only scattered buildings, trees or other obstructions, open water or shorelines.

Height

10m and up at 5m increments

2. NAFS Performance Requirements by Region

- **Location - Winnipeg**
- **Open Terrain at 10 meters**
  - **DRWP = 220**
  - **Hourly Wind pressure = 0.45**

Table A.1 (Continued)

Location	Column A Driving rain wind pressure (DRWP), Pa, 1/10	Column B Hourly wind pressure (HWP), kPa, 1/50	Column C Snow load, kPa, 1/50 Ground snow load, S_s	 Associated rain load, S_r	Column D January design temp. (JDT), °C, 2.5%
Split Lake	160	0.49	2.5	0.2	–38
Steinbach	220	0.40	2.0	0.2	–33
Swan River	160	0.38	2.0	0.2	–36
The Pas	200	0.44	2.1	0.2	–36
Thompson	120	0.49	2.4	0.2	–42
Virden	220	0.46	2.0	0.2	–33
Winnipeg	220	0.45	1.9	0.2	–33
Ontario					
Ailsa Craig	220	0.55	2.2	0.4	–17

2. NAFS Performance Requirements by Region

Winnipeg example

- Open Terrain at 10 meters
  - DRWP = 220 = 268 Pa

July 2009

Table 1
Specified DRWP (p_r) for open terrain
(See Clauses 4.2.1 and A.4.2.1 and Figure A.1.)

	p_r, Pa															
	1/10 DRWP, Pa															
Height, m	40	60	80	100	120	140	160	180	200	220	240	260	280	300	350	4
10	49	73	98	122	146	171	195	220	244	268	293	317	342	366	427	4
15	53	79	106	132	159	185	212	238	265	291	318	344	370	397	463	5
20	56	84	112	140	168	196	224	252	280	308	336	364	392	420	490	5
25	59	88	117	147	176	205	234	264	293	322	352	381	410	440	513	5
30	61	91	122	152	182	213	243	274	304	334	365	395	426	456	532	6
35	63	94	125	157	188	219	251	282	313	345	376	408	439	470	549	6

2. NAFS Performance Requirements by Region

Winnipeg example

- **Open Terrain at 10 meters**
  - **Hourly Wind pressure = 0.45 = 1.27 kPa or 1270 Pa**

Table 3

Specified wind load (p) for windows, doors, and positive loads on unit skyl

(See Clauses 4.2.2 and A.4.2.2 and Figure A.1.)

	p, kPa																
	1/50 Hourly wind pressure, kPa																
Height, m	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	1
10	0.56	0.70	0.84	0.98	1.13	1.27	1.41	1.55	1.69	1.83	1.97	2.11	2.25	2.39	2.53	2.67	2
15	0.61	0.76	0.92	1.07	1.22	1.37	1.53	1.68	1.83	1.98	2.14	2.29	2.44	2.59	2.75	2.90	3
20	0.65	0.81	0.97	1.13	1.29	1.45	1.62	1.78	1.94	2.10	2.26	2.42	2.58	2.75	2.91	3.07	3
25	0.68	0.84	1.01	1.18	1.35	1.52	1.69	1.86	2.03	2.20	2.36	2.53	2.70	2.87	3.04	3.21	3
30	0.70	0.88	1.05	1.23	1.40	1.58	1.75	1.93	2.10	2.28	2.45	2.63	2.80	2.98	3.15	3.33	3
35	0.72	0.90	1.08	1.26	1.45	1.63	1.81	1.99	2.17	2.35	2.53	2.71	2.89	3.07	3.25	3.43	3
40	0.74	0.93	1.11	1.30	1.48	1.67	1.86	2.04	2.23	2.41	2.60	2.78	2.97	3.15	3.34	3.53	3
45	0.76	0.95	1.14	1.33	1.52	1.71	1.90	2.09	2.28	2.47	2.66	2.85	3.04	3.23	3.42	3.61	3
50	0.78	0.97	1.16	1.36	1.55	1.75	1.94	2.13	2.33	2.52	2.72	2.91	3.10	3.30	3.49	3.69	3
55	0.79	0.99	1.19	1.38	1.58	1.78	1.98	2.18	2.37	2.57	2.77	2.97	3.16	3.36	3.56	3.76	3
60	0.80	1.01	1.21	1.41	1.61	1.81	2.01	2.21	2.41	2.62	2.82	3.02	3.22	3.42	3.62	3.82	4

2. NAFS Performance Requirements by Region

Winnipeg example

Table 3 (modified to include gateway requirements)
Canada (only) optional performance grades (PG)
See Clauses 0.2.6.1, 4.3.2.2, 4.4.3.2–4.4.3.4, 5.3.3.1, 5.3.4.2, and 5.3.4.3.)

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25	25	--	--	1200	(25)	1800	(37.5)	180	(3.75)	--	--
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35	35	35	--	1680	(35)	2520	(52.5)	260	(5.25)	--	--
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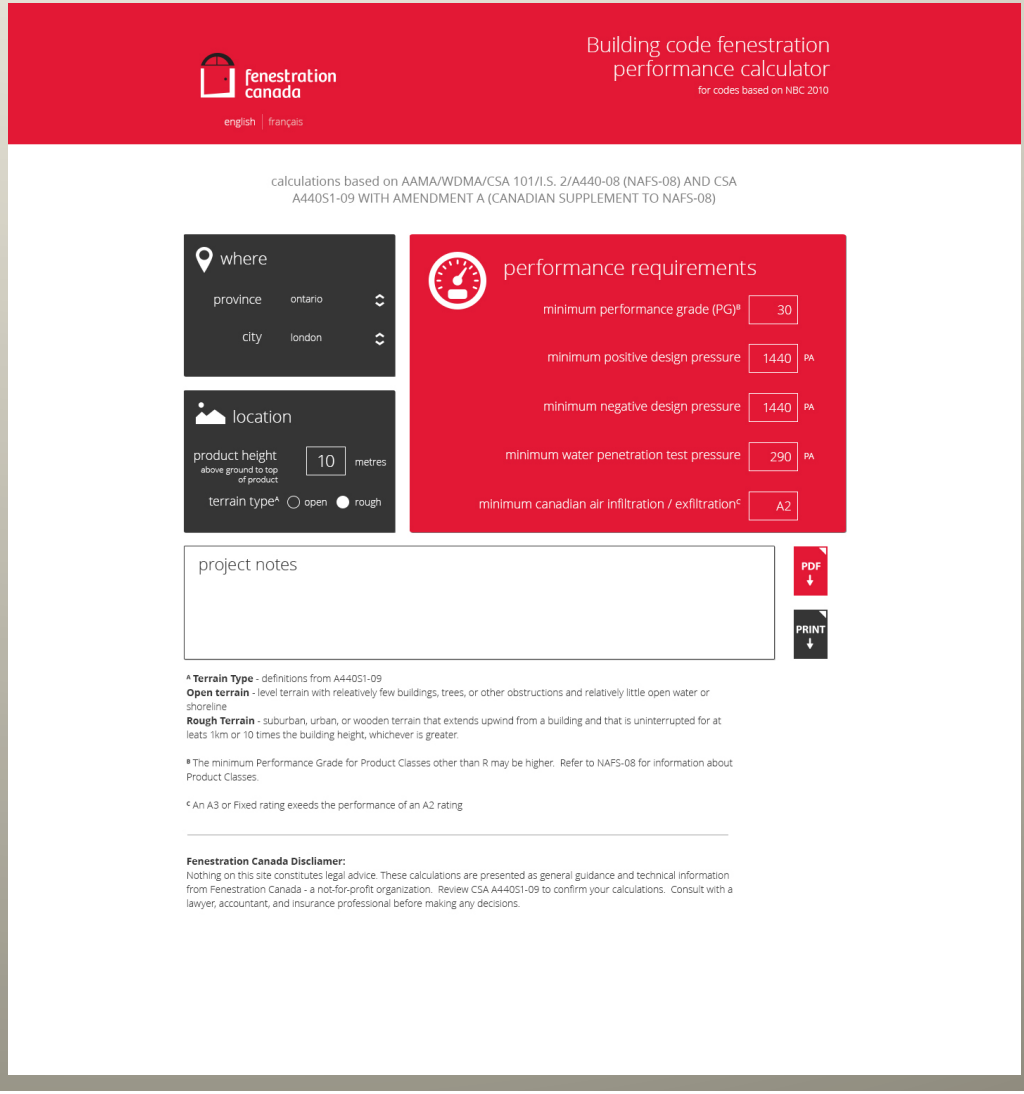
100	100	100	100	4800	(100)	7200	(150.0)	730	(15.00)	730	(15.0)

- **Selection performance levels for windows, doors and skylights**
  - **Minimum PG –Winnipeg example – R – PG30 and 290 Pa or more for water**

3. Fenestration Canada NAFS Calculator

North American Fenestration Standard (NAFS) – Performance

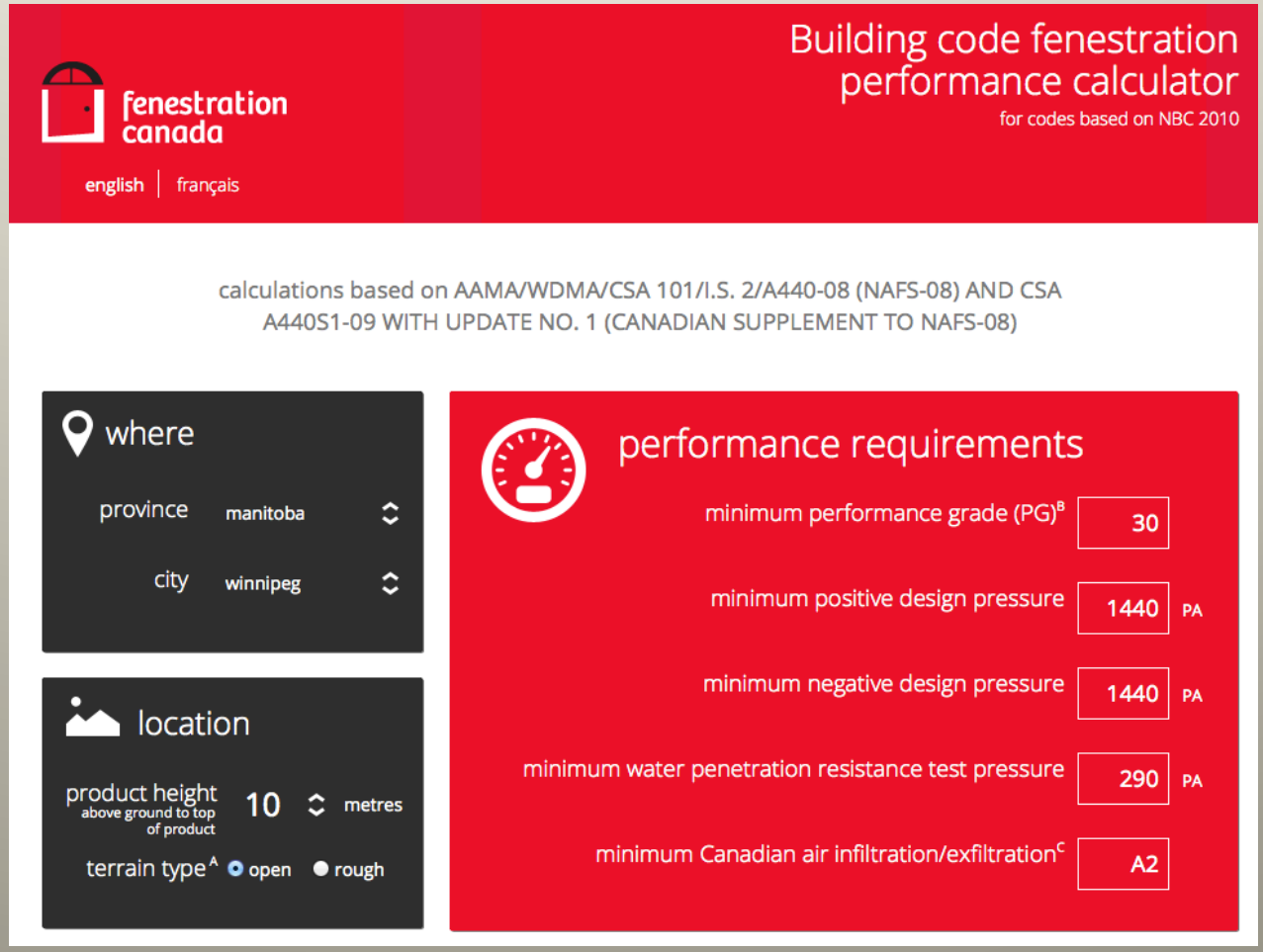
- Enter
  - Province
  - City
  - Height of Product
  - Terrain
    - Open or Rough
- Calculates
  - Performance Grade (PG)
  - Positive and Negative Design Pressure (Pa)
  - Water Penetration Test Pressure (Pa)



3. Fenestration Canada NAFS Calculator

North American Fenestration Standard (NAFS) – Performance

- Location
- Height
- Terrain



- www.fenestrationcanada.ca

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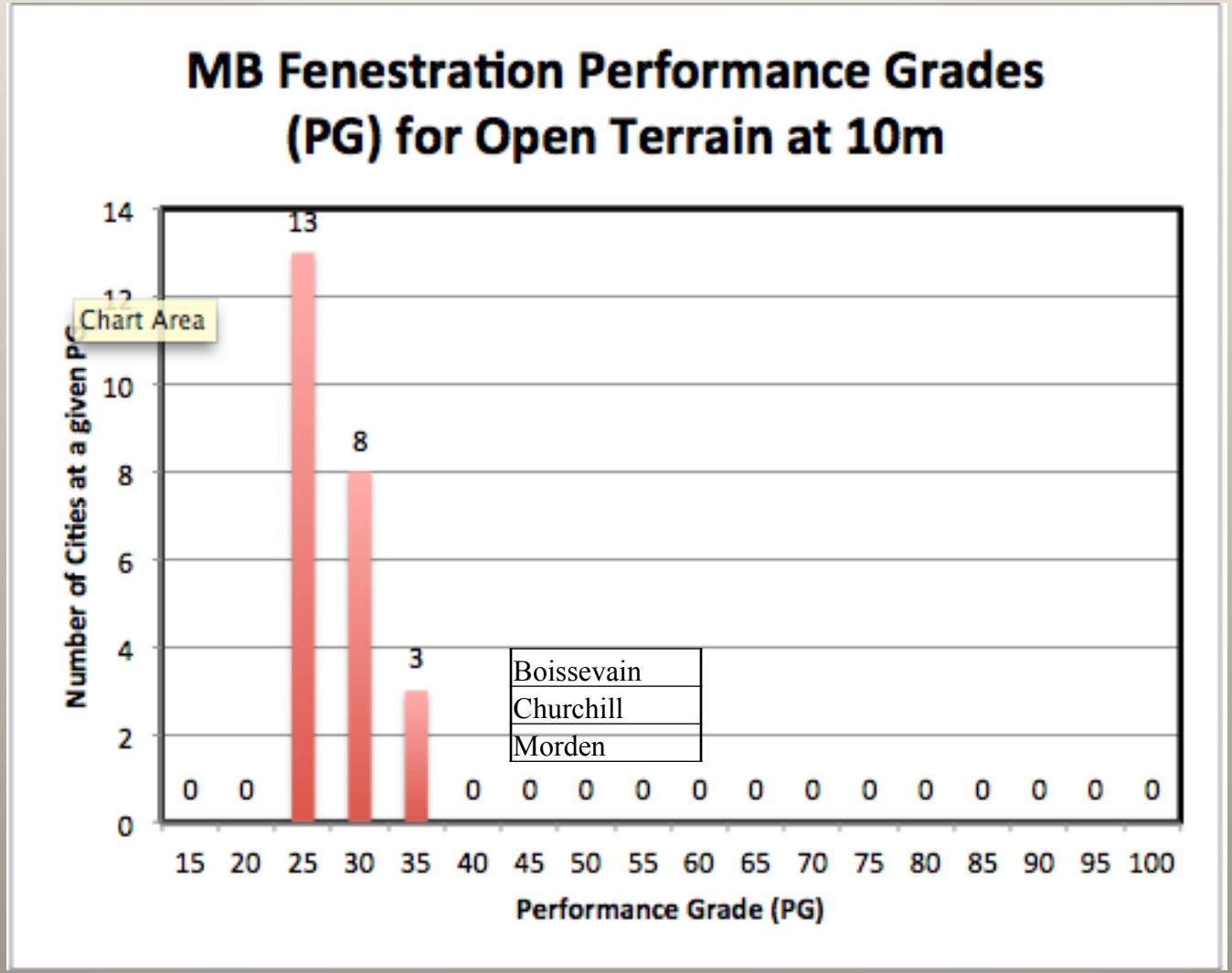

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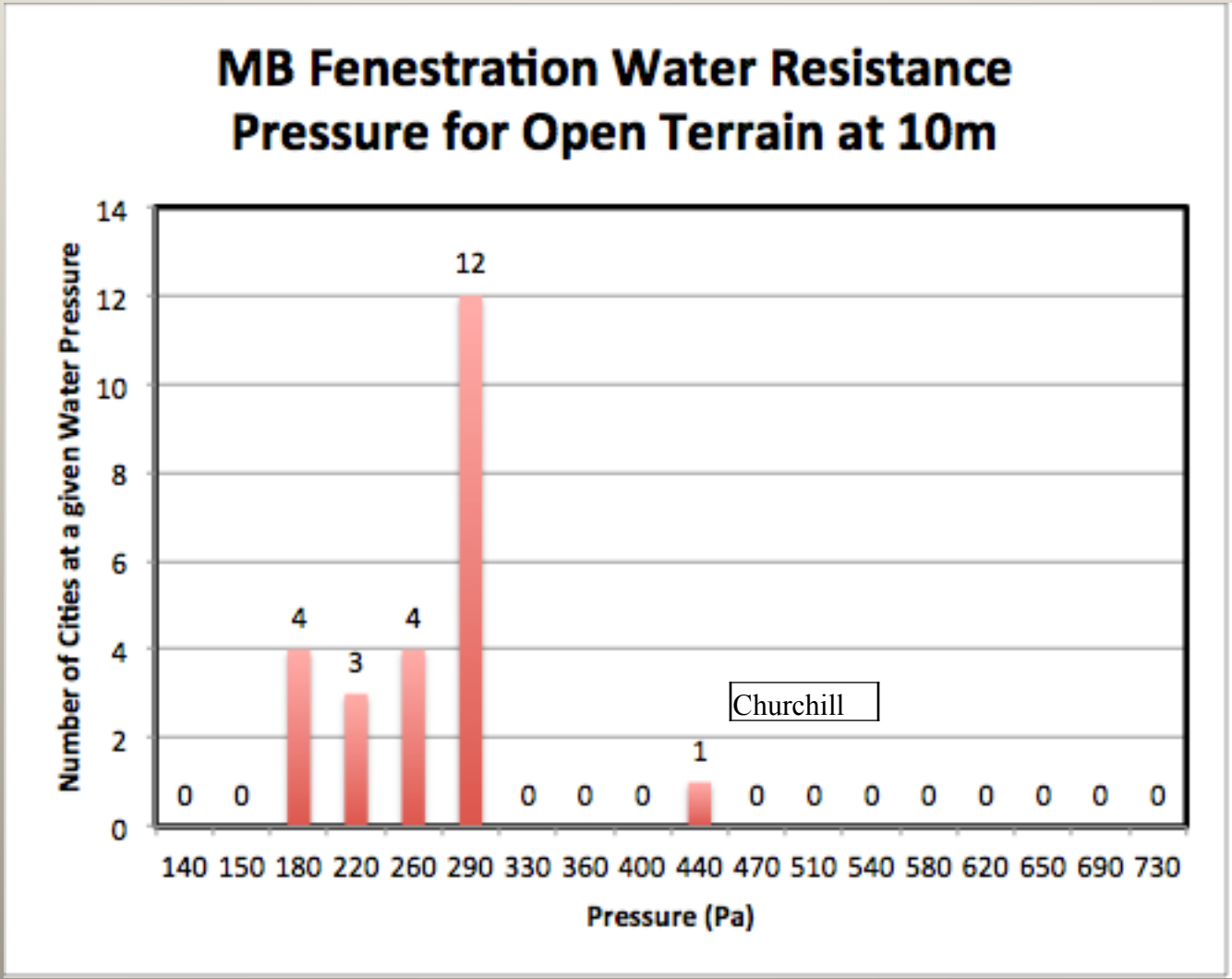
3. Fenestration Canada NAFS Calculator



4. Labeling Guidelines for Single Units

NAFS Labeling Guidelines for Canada

- Cover single units only
- Document available at fenestrationcanada.ca

4. Labeling Guidelines for Single Units

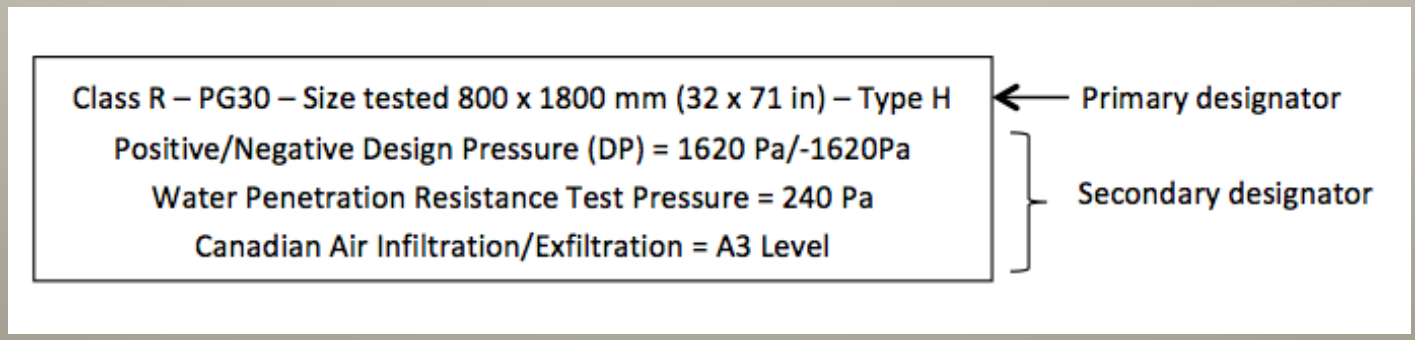
Fenestration Canada NAFS Labeling Guidelines

- This document defines the labeling requirements included in NAFS-08 and CSA A440S1-09
- 10 Guidelines are presented to help manufacturers comply with the labeling requirements

4. Labeling Guidelines for Single Units

Fenestration Canada NAFS Labeling Guidelines

- Guideline 1. Performance rating labels shall include both primary and secondary designators, and shall follow NAFS-08 rules for the use of secondary designators



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4. Labeling Guidelines for Single Units

Fenestration Canada NAFS Labeling Guidelines

- Guideline 2. Performance rating labels shall identify the standards that the Building Code requires products to conform to

- Guideline 3. Performance rating labels should state that products "conform to" NAFS-08 and the Canadian Supplement

4. Labeling Guidelines for Single Units

Fenestration Canada NAFS Labeling Guidelines

- Guideline 4. Performance rating labels should include the manufacturer's identification by name or traceable certification number, product line/series information, and may at the manufacturer's discretion include operator type

- Guideline 5. The performance rating information should be enclosed within a single lined boundary border to separate and distinguish it from other ratings or labels on the fenestration product in order to make the labels more visible to code officials

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4. Labeling Guidelines for Single Units

Fenestration Canada NAFS Labeling Guidelines

- Guideline 6. The secondary designator should report pressure values in metric units (Pascal) and may also include pressure values in IP units

- Guideline 7. Performance rating labels are encouraged to use the IP performance grade designations

4. Labeling Guidelines for Single Units

Fenestration Canada NAFS Labeling Guidelines

- Guideline 8. Performance rating labels may use abbreviated primary designators as permitted in the United States

Original NAFS examples for a hung window	Permitted abbreviations
Class R – PG30 – Size tested 800 x 1800 mm (32 x 71 in) – H	R-PG30-800x1880 (32x71)-H
Class R – PG30 – Size tested 31.5 x 70.9 in	R-PG30-31.5x70.9 in
Class R – PG1440 (metric) – Size tested 800 x 1800 mm	R-PG30-800x1880
Class R – PG30 – Size tested 800 x 1800 mm (32 x 71 in) – Hung	R-PG30-800x1880 (32x71)-Hung
Class R – PG30 – Size tested 800 x 1800 mm (32 x 71 in) – Type H	R-PG30-800x1880 (32x71)-Type H

- Guideline 9. Performance rating labels should include a "premature removal" caution

- Guideline 10. Performance rating labels may be permanent or non-permanent

4. Labeling Guidelines for Single Units

Fenestration Canada NAFS Labeling Guidelines

- Examples

1 Example labels for product rated to more than one standard

Competent Windows Builder Line 4000 Hung Window
Conforms to **AAMA/WDMA/CSA 101/I.S.2/A440-08 and A440S1-09** R-PG30-800 x 1800 mm (32 x 71 in)-H DP: +1680 Pa / -1440 Pa Water Test Pressure: 260 Pa Canadian Air Infiltration/Exfiltration: A3
CSA A440-00 A3 B2 C2 S1 F10
[Other standards/ratings]

[Other label content]	
[Certification agency name and/or logo]	[Certification agency's manufacturer code, and product identification if applicable]
AAMA/WDMA/CSA 101/I.S.2/A440-08	**R-PG30-800 x 1800 mm (32 x 71 in)**
A440S1-09	**DP: + 1680 Pa / -1440 Pa** **Water Resistance: 260 Pa**
A440S1-09	**Air In/Ex A3**
[Other standards]	[Other ratings]

4. Labeling Guidelines for Single Units

Fenestration Canada NAFS Labeling Guidelines

- Examples

2. Example labels where manufacturer's name or identity is indicated elsewhere on the performance rating label

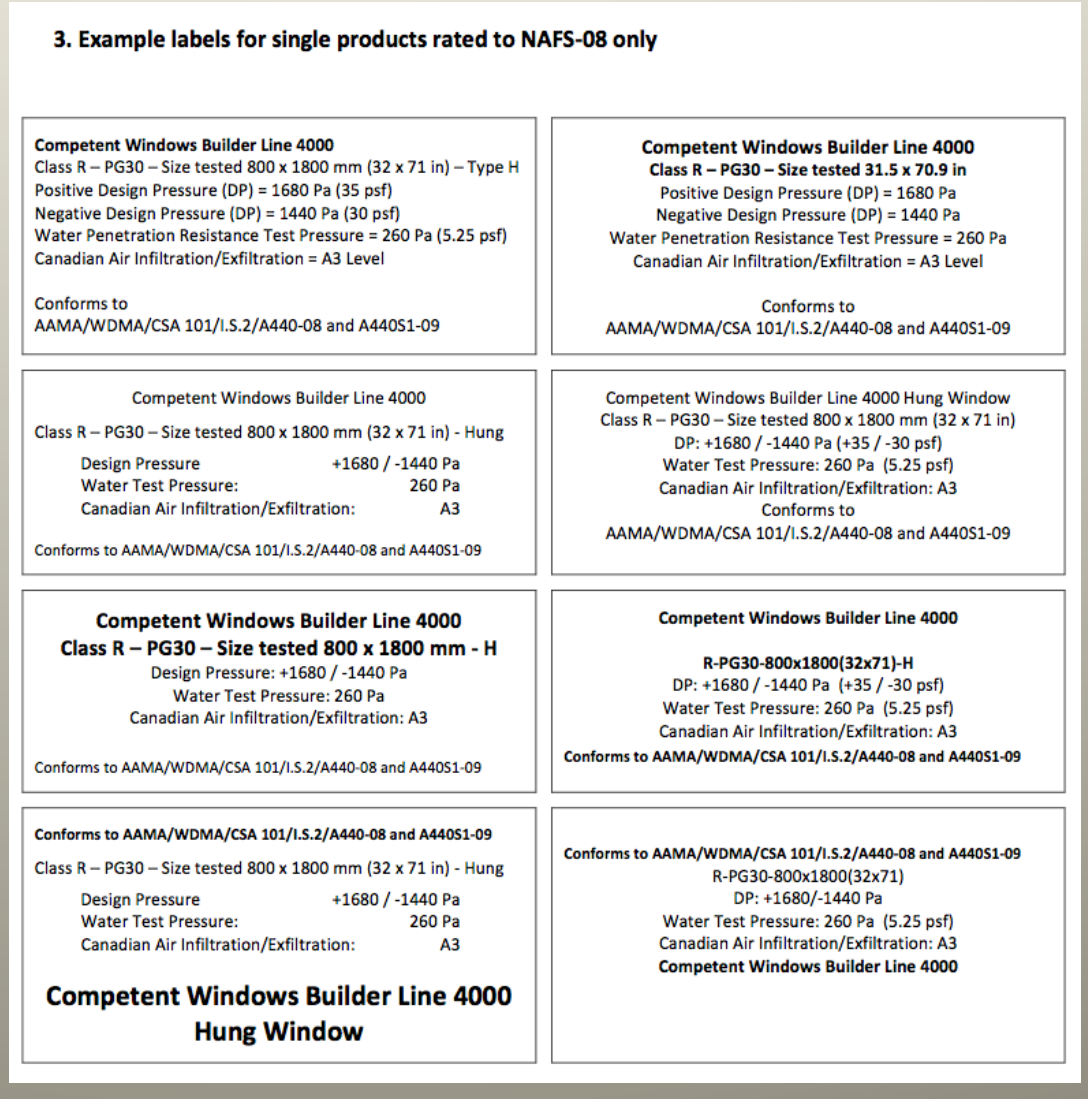
Conforms to AAMA/WDMA/CSA 101/I.S.2/A440-08 and A440S1-09	R-PG30-800 x 1800 mm (32 x 71 in)-H DP: +1680 / -1440 Pa (+35 / -30 psf) Water Test Pressure: 260 Pa (5.25 psf) Canadian Air Infiltration/Exfiltration: A3

AAMA/WDMA/CSA 101/I.S.2/A440-08 A440S1-09	R-PG30-800 x 1800 mm (32 x 71 in) DP: +1680 / -1440 Pa Water Test Pressure: 260 Pa Canadian Air Infiltration/Exfiltration: A3

4. Labeling Guidelines for Single Units

Fenestration Canada NAFS Labeling Guidelines

- Examples



3. Example labels for single products rated to NAFS-08 only

Competent Windows Builder Line 4000
Class R – PG30 – Size tested 800 x 1800 mm (32 x 71 in) – Type H
Positive Design Pressure (DP) = 1680 Pa (35 psf)
Negative Design Pressure (DP) = 1440 Pa (30 psf)
Water Penetration Resistance Test Pressure = 260 Pa (5.25 psf)
Canadian Air Infiltration/Exfiltration = A3 Level

Conforms to
AAMA/WDMA/CSA 101/I.S.2/A440-08 and A440S1-09

Competent Windows Builder Line 4000
Class R – PG30 – Size tested 31.5 x 70.9 in
Positive Design Pressure (DP) = 1680 Pa
Negative Design Pressure (DP) = 1440 Pa
Water Penetration Resistance Test Pressure = 260 Pa
Canadian Air Infiltration/Exfiltration = A3 Level

Conforms to
AAMA/WDMA/CSA 101/I.S.2/A440-08 and A440S1-09

Competent Windows Builder Line 4000

Class R – PG30 – Size tested 800 x 1800 mm (32 x 71 in) - Hung

Design Pressure	+1680 / -1440 Pa
Water Test Pressure:	260 Pa
Canadian Air Infiltration/Exfiltration:	A3

Conforms to AAMA/WDMA/CSA 101/I.S.2/A440-08 and A440S1-09

Competent Windows Builder Line 4000 Hung Window
Class R – PG30 – Size tested 800 x 1800 mm (32 x 71 in)
DP: +1680 / -1440 Pa (+35 / -30 psf)
Water Test Pressure: 260 Pa (5.25 psf)
Canadian Air Infiltration/Exfiltration: A3
Conforms to
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Competent Windows Builder Line 4000

R-PG30-800x1800(32x71)-H
DP: +1680 / -1440 Pa (+35 / -30 psf)
Water Test Pressure: 260 Pa (5.25 psf)
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Conforms to AAMA/WDMA/CSA 101/I.S.2/A440-08 and A440S1-09

Class R – PG30 – Size tested 800 x 1800 mm (32 x 71 in) - Hung

Design Pressure	+1680 / -1440 Pa
Water Test Pressure:	260 Pa
Canadian Air Infiltration/Exfiltration:	A3

Competent Windows Builder Line 4000
Hung Window

Conforms to AAMA/WDMA/CSA 101/I.S.2/A440-08 and A440S1-09
R-PG30-800x1800(32x71)
DP: +1680/-1440 Pa
Water Test Pressure: 260 Pa (5.25 psf)
Canadian Air Infiltration/Exfiltration: A3
Competent Windows Builder Line 4000

4. Labeling Guidelines for Products with Mullions

NAFS Labeling Guidelines for Canada

- http://cwdma.ca//downloads/NAFS_Labeling_Guidelines_for_Canada_11-2013.pdf

5. Labeling Guidelines for Products with Mullions

Voluntary NAFS Labeling Guidelines for Products with Mullions

- Covers Composite Units, and Single units mulled together as a combination assembly
- Document available at fenestrationcanada.ca

5. Labeling Guidelines for Products with Mullions

NAFS Testing of Products with Mullions

•The NAFS standard is clear that the air-water-structural performance ratings of products with mullions must be based on the tested performance of products with mullions.

•It is not permissible to test only single operator types, such as a fixed, sliding, awning, and casement window, and to apply these ratings to products containing more than one operator type separated by one or more mullions. This practice is not supported under NAFS-08.

5. Labeling Guidelines for Products with Mullions

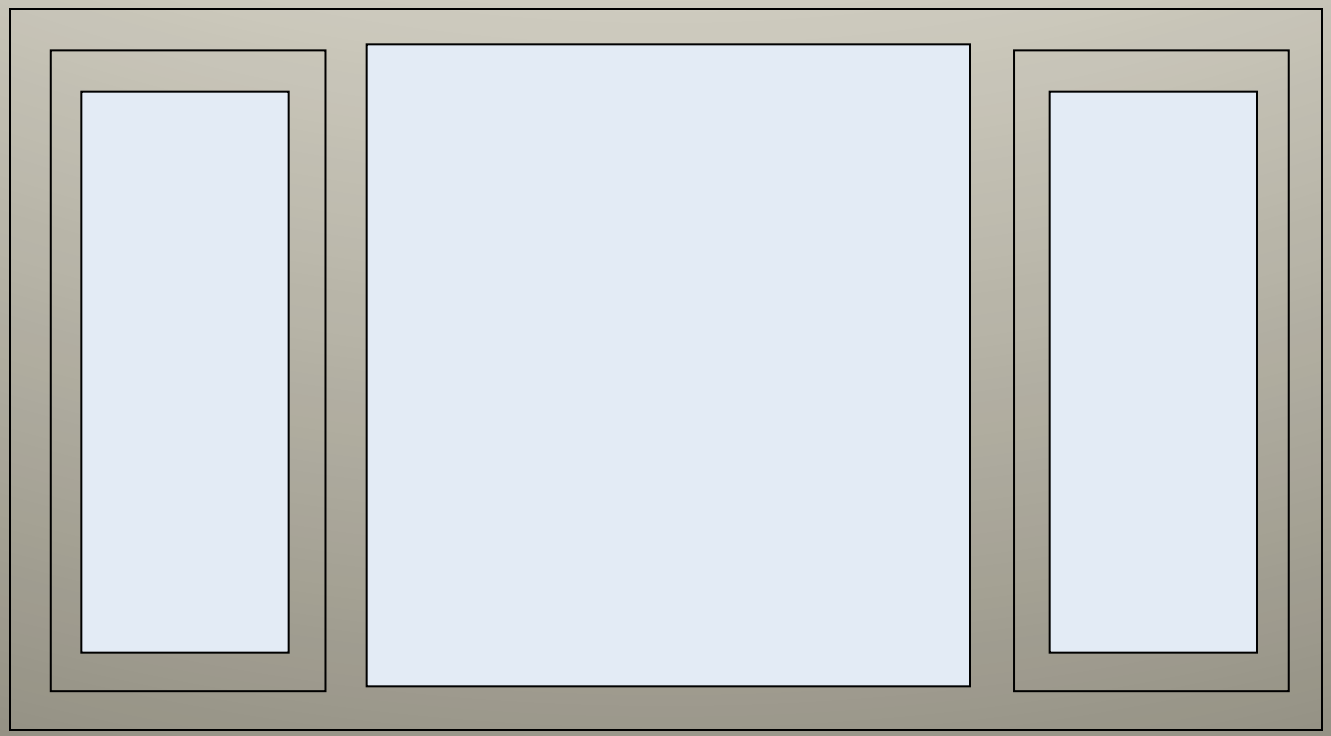
Voluntary Guidelines for NAFS Labeling of Products with Mullions

•This guideline document is offered to assist manufacturers, test labs, and certification entities to determine and label the air-water-structural performance of products that have integral, combination or reinforcing mullions in a uniform way, using primary and secondary NAFS designators as required by the Canadian Supplement CSA A440S1-09.

5. Labeling Guidelines for Products with Mullions

Definitions

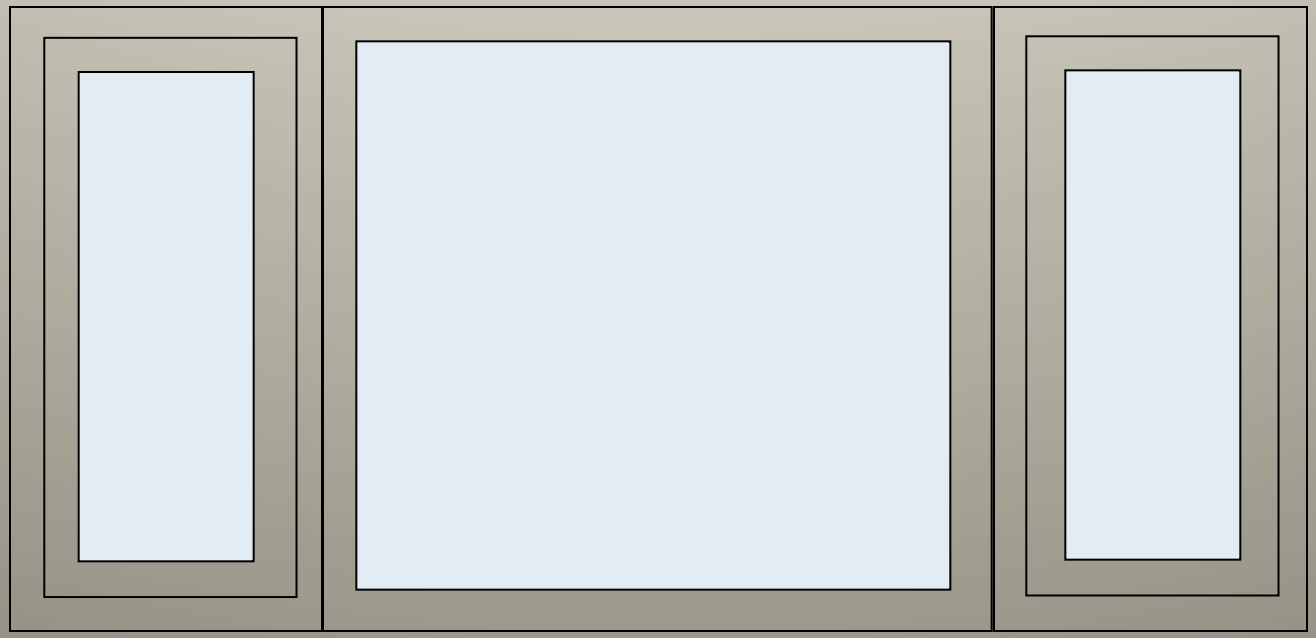
•**Composite unit** — a fenestration product consisting of two or more sash, leaves, lites, or sliding door panels within a single frame utilizing an integral mullion.



5. Labeling Guidelines for Products with Mullions

Definitions

•**Combination assembly** — an assembly formed by a combination of two or more separate fenestration products whose frames are mulled together utilizing a combination mullion or reinforcing mullion.



5. Labeling Guidelines for Products with Mullions

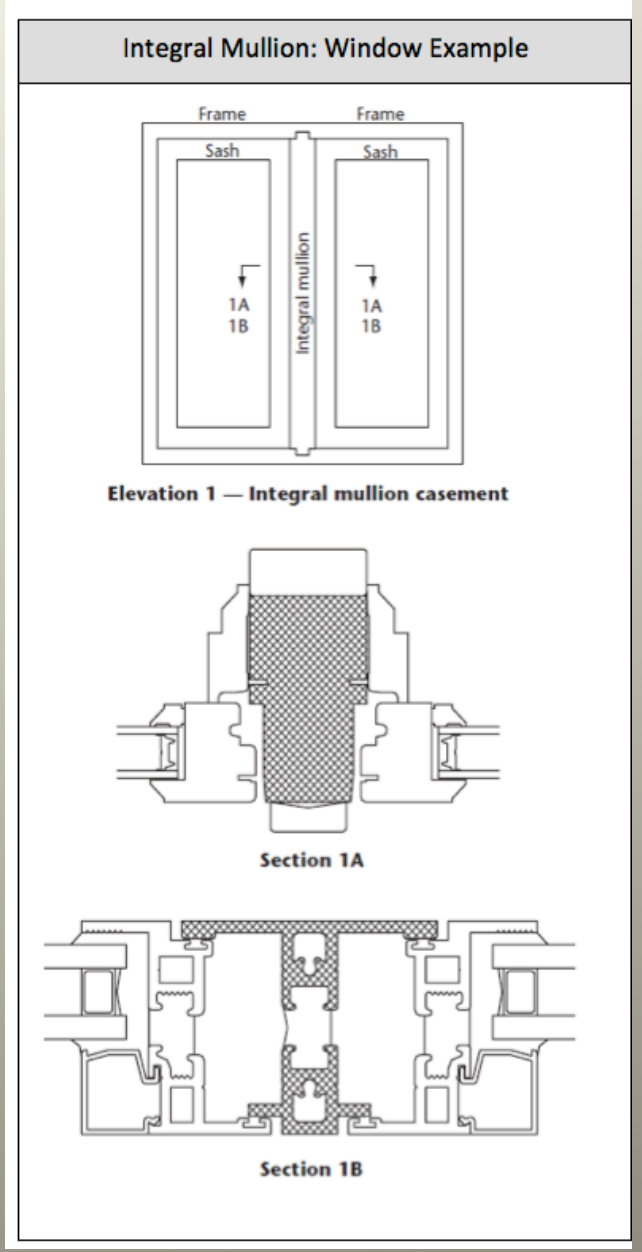
Definitions

- **Individual unit** – a single fixed or operating product or a composite unit.

5. Labeling Guidelines for Products with Mullions

Definitions

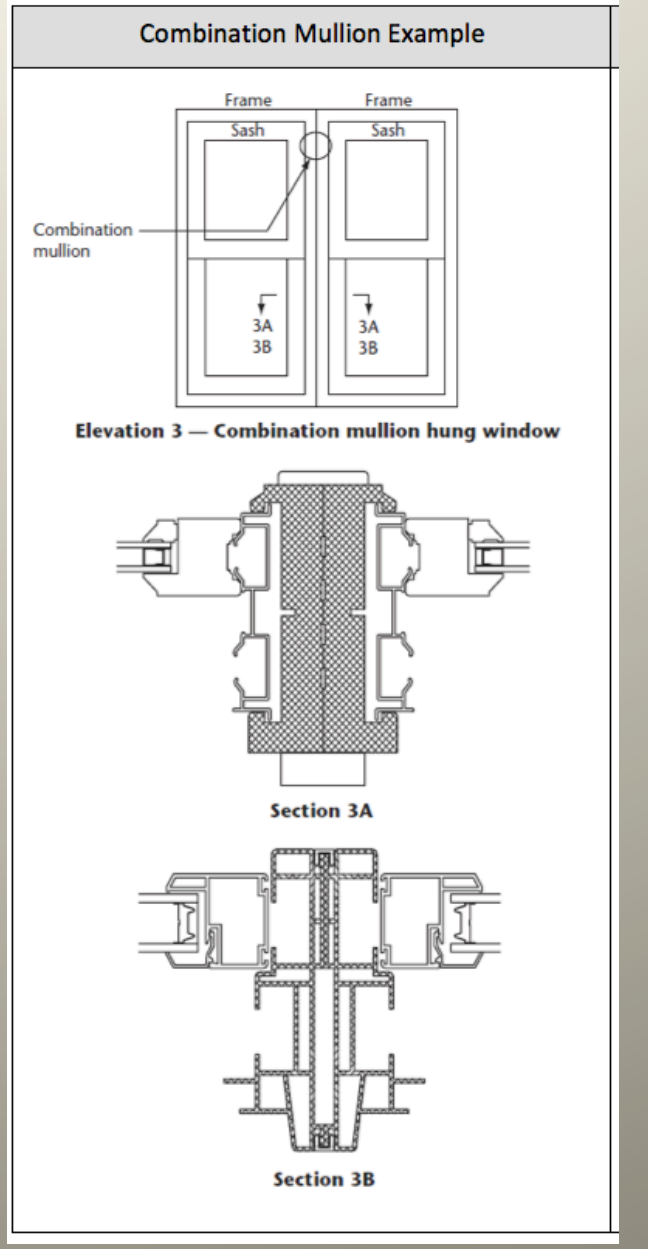
•**Integral mullion —** a horizontal or vertical member that is bounded at either end or both ends by crossing frame members.



5. Labeling Guidelines for Products with Mullions

Definitions

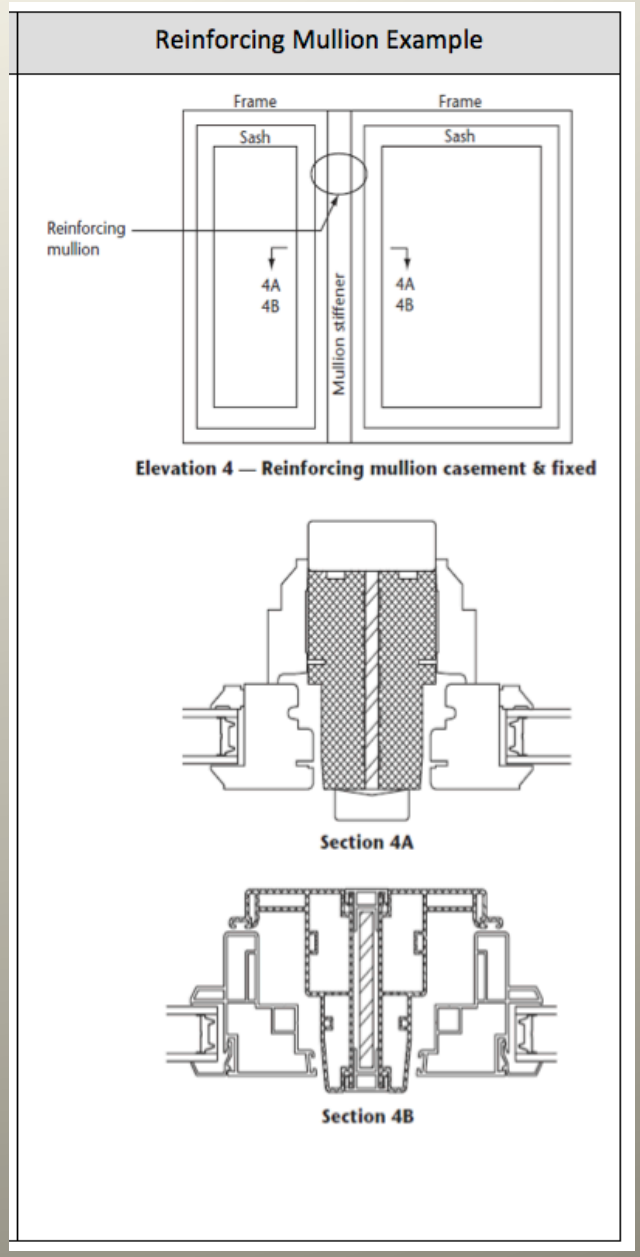
•**Combination mullion** — a horizontal or vertical member formed by joining two or more individual units together without a mullion stiffener.



5. Labeling Guidelines for Products with Mullions

Definitions

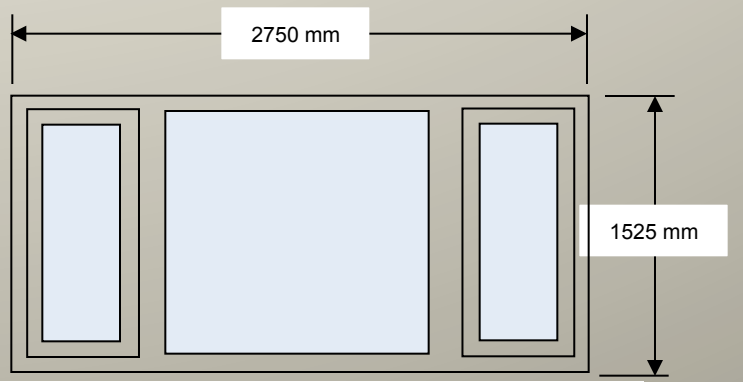
•**Reinforcing mullion** — a horizontal or vertical member with an added continuous mullion stiffener and joining two or more individual units along the sides of the mullion stiffener.



5. Labeling Guidelines for Products with Mullions

Labeling of Composite Unit Products

- Composite Unit products must be labeled with overall performance ratings that are based on testing of complete units with integral mullions.



Competent Windows Builder Line 4000

Class R – PG30 –Size tested 2750 x 1525 mm (108 x 60 in)

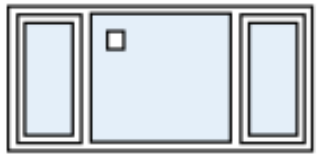
Positive Design Pressure (DP) = 1680 Pa (35 psf)

Negative Design Pressure (DP) = 1440 Pa (30 psf)

Water Penetration Resistance Test Pressure = 220 Pa (4.50 psf)

Canadian Air Infiltration/Exfiltration = A2 Level

Conforms to AAMA/WDMA/CSA 101/I.S.2/A440-08 and A440S1-09



5. Labeling Guidelines for Products with Mullions

Labeling of Combination Assembly Products

- The performance of a Combination Assembly product is determined by testing it as a Combination Assembly or by testing the individual units and rating the mullions according to AAMA 450.

5. Labeling Guidelines for Products with Mullions

Labeling of Combination Assembly Products

- Label Option 1: Using a single overall performance rating label, in the same manner as a Composite Unit.
- Label Option 2: Labeling each individual Unit and Mullion Assembly separately. In this case, the Combination Assembly would have multiple individual labels on it, one for each unique Unit and each unique Mullion Assembly.
- Label Option 3: Using a single label to display the performance rating for each unique Unit and each unique Mullion Assembly. This label may optionally show the Overall Rating of the Combination Assembly as the first rating on the label.
- Label Option 4: Labeling each individual Unit separately with two ratings: one for the Unit, and the other for the Overall Rating.

5. Labeling Guidelines for Products with Mullions

Labeling of Combination Assembly Products

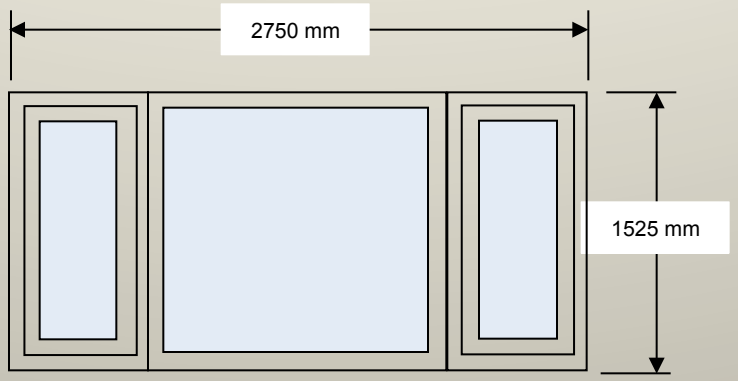


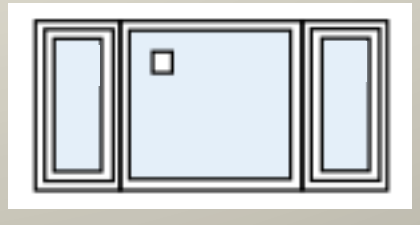
Table 1 - Performance ratings and sizes of individual units for Combination Assembly label examples

Component	Size Tested	Performance Class	Performance Grade	Positive Design Pressure	Negative Design Pressure	Water Test Pressure	Air Infiltration/ Exfiltration Level	Rating Document
Casement window	610 mm wide x 1600 mm high	**R**	**PG30**	1680 Pa (35 psf)	1440 Pa (30 psf)	290 Pa	A3	NAFS test report
Fixed window	1830 mm wide x 1830 mm high	LC	PG45	2400 Pa (50 psf)	2160 Pa (45 psf)	360 Pa	Fixed	NAFS test report
Mullion Assembly	1830 mm span x 1220 mm tributary width	LC	PG30	1680 Pa (35 psf)	1440 Pa (30 psf)	**220 Pa**	**A2**	NAFS test report or AAMA 450 report

5. Labeling Guidelines for Products with Mullions

Labeling of Combination Assembly Products

•Example: Label Option 1—Single Label Reporting Overall Rating Performance



Competent Windows Builder Line 4000

Class R – PG30 – Size Tested 2750 x 1525 mm (108 x 60 in)

Positive Design Pressure (DP) = 1680 Pa (35 psf)

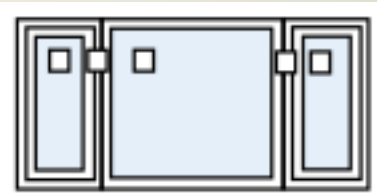
Negative Design Pressure (DP) = 1440 Pa (30 psf)

Water Penetration Resistance Test Pressure = 220 Pa (4.50 psf)

Canadian Air Infiltration/Exfiltration = A2

Conforms to AAMA/WDMA/CSA 101/I.S.2/A440-08 and A440S1-09

5. Labeling Guidelines for Products with Mullions



Labeling of Combination Assembly Products

- Example: Label Option 2 —Separate Product Performance Labels for Individual Units and Mullion Assemblies

Mullion Assembly Label[11]

Competent Windows Builder Line 4000

Class LC – PG30 - MA Span 1830 x 1220 mm (72 x 48 in.) Trib Wd
Positive Design Pressure (DP) = 1680 Pa (35 psf)
Negative Design Pressure (DP) = 1440 Pa (35 psf)
Water Penetration Resistance Test Pressure = 220 Pa (4.50 psf)
Canadian Air Infiltration/Exfiltration = A2

Conforms to AAMA/WDMA/CSA 101/I.S.2/A440-08 and A440S1-09

Individual Unit Label: Casement Window

Competent Windows Builder Line 4000

Class R – PG30 – 610 x 1600 mm (24 x 63 in) – Type C
Positive Design Pressure (DP) = 1680 Pa (35 psf)
Negative Design Pressure (DP) = 1440 Pa (30 psf)
Water Penetration Resistance Test Pressure = 290 Pa (6.00 psf)
Canadian Air Infiltration/Exfiltration = A3

Conforms to AAMA/WDMA/CSA 101/I.S.2/A440-08 and A440S1-09

Individual Unit Label: Fixed Window

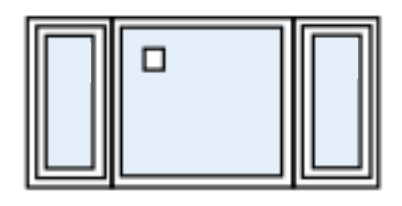
Competent Windows Builder Line 4000

Class LC – PG45 –1830 x 1830 mm (72 x 72 in) – Type FW
Positive Design Pressure (DP) = 2400 Pa (50 psf)
Negative Design Pressure (DP) = 2160 Pa (45 psf)
Water Penetration Resistance Test Pressure = 360 Pa (7.50 psf)
Canadian Air Infiltration/Exfiltration = Fixed

Conforms to AAMA/WDMA/CSA 101/I.S.2/A440-08 and A440S1-09

5. Labeling Guidelines for Products with Mullions

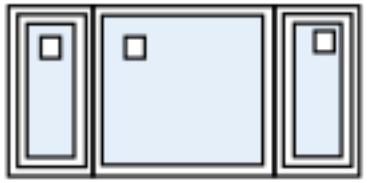
Labeling of Combination Assembly Products



- Example: Label Option 3 — Single Label Reporting Individual Component Ratings

Competent Windows Builder Line 4000 Casement Picture Casement Conforms to AAMA/WDMA/CSA 101/I.S.2/A440-08 and A440S1-09
OVERALL RATING **Class R – PG30 – Size Tested 2750 x 1525 mm (108 x 60 in)** Positive Design Pressure (DP) = 1680 Pa (35 psf) Negative Design Pressure (DP) = 1440 Pa (30 psf) Water Penetration Resistance Test Pressure = 220 Pa (4.50 psf) Canadian Air Infiltration/Exfiltration = A2
Class R – PG30 – 610 x 1600 mm (24 x 63 in) – Type C Positive Design Pressure (DP) = 1680 Pa (35 psf) Negative Design Pressure (DP) = 1440 Pa (30 psf) Water Penetration Resistance Test Pressure = 290 Pa (6.00 psf) Canadian Air Infiltration/Exfiltration = A3
Class LC – PG45 –1830 x 1830 mm (72 x 72 in) – Type FW Positive Design Pressure (DP) = 2400 Pa (50 psf) Negative Design Pressure (DP) = 2160 Pa (45 psf) Water Penetration Resistance Test Pressure = 360 Pa (7.50 psf) Canadian Air Infiltration/Exfiltration = Fixed
Class LC – PG30 - MA Span 1830 x 1220 mm (72 x 48 in.) Trib Wd Positive Design Pressure (DP) 1680 Pa (35 psf) Negative Design Pressure (DP) = 1440 Pa (30 psf) Water Penetration Resistance Test Pressure = 220 Pa (4.50 psf) Canadian Air Infiltration/Exfiltration = A2

5. Labeling Guidelines for Products with Mullions



Labeling of Combination Assembly Products

- Example: Label Option 4 — Separate Product Performance Labels that Include Overall Product Performance

Competent Windows Builder Line 4000 Conforms to AAMA/WDMA/CSA 101/I.S.2/A440-08 and A440S1-09
Class R – PG30 – 610 x 1600 mm (24 x 63 in) – Type C Positive Design Pressure (DP) = 1680 Pa (35 psf) Negative Design Pressure (DP) = 1440 Pa (30 psf) Water Penetration Resistance Test Pressure = 290 Pa (6.00 psf) Canadian Air Infiltration/Exfiltration = A3 Conforms to AAMA/WDMA/CSA 101/I.S.2/A440-08 and A440S1-09
OVERALL RATING **Class R – PG30 – Size Tested 2750 x 1525 mm (108 x 60 in)** Positive Design Pressure (DP) = 1680 Pa (35 psf) Negative Design Pressure (DP) = 1440 Pa (30 psf) Water Penetration Resistance Test Pressure = 220 Pa (4.50 psf) Canadian Air Infiltration/Exfiltration = A2

Competent Windows Builder Line 4000 Conforms to AAMA/WDMA/CSA 101/I.S.2/A440-08 and A440S1-09
Class LC – PG45 –1830 x 1830 mm (72 x 72 in) – Type FW Positive Design Pressure (DP) = 2400 Pa (50 psf) Negative Design Pressure (DP) = 2160 Pa (45 psf) Water Penetration Resistance Test Pressure = 360 Pa (7.50 psf) Canadian Air Infiltration/Exfiltration = Fixed
OVERALL RATING **Class R – PG30 – Size Tested 2750 x 1525 mm (108 x 60 in)** Positive Design Pressure (DP) = 1680 Pa (35 psf) Negative Design Pressure (DP) = 1440 Pa (30 psf) Water Penetration Resistance Test Pressure = 220 Pa (4.50 psf) Canadian Air Infiltration/Exfiltration = A2

5. Labeling Guidelines for Products with Mullions

Annex A: Combination Assembly Product Ratings

While AAMA 450 requires the air and water tightness of the Mullion Assembly joints to be determined by physical testing of these properties, it allows the structural performance of mullions to be determined in one of three different ways:

- Option 1 – by physical testing of the total mulled assembly
- Option 2 – by testing a mullion element as an individual component
- Option 3 – by rating the mullion element by structural calculation

5. Labeling Guidelines for Products with Mullions

Annex A: Combination Assembly Product Ratings

- A1 Application of AAMA 450 to Fenestration Products Sold in Canada
- A2 Reporting Mullion Assembly Performance in Canada

5. Labeling Guidelines for Products with Mullions

Voluntary NAFS Labeling Guidelines for Products with Mullions

- http://cwdma.ca//downloads/NAFS_Labeling_Guidelines_for_Canada_Mullions_09-2014_rev2.pdf

fenestration canada

THANK YOU …

… QUESTIONS?