

Update No. 3

AAMA/WDMA/CSA 101/I.S.2/A440-08

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If you are missing any updates, please contact AAMA, WDMA, or CSA or visit

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The following revisions have been formally approved and are marked by the symbol delta (Δ) in the margin on the attached replacement pages:

Revised	Tables 4 and 27
New	None
Deleted	None

AAMA/WDMA/CSA 101/I.S.2/A440-08 originally consisted of **129 pages** (viii preliminary and 121 text), each dated **January 2008**. It now consists of the following pages:

January 2008	iii–viii, 1–28, 33–74, 77–80, 83–110, and 117–121
May 2008	29, 30, 75, 76, 115, and 116
September 2008	81, 82, 113, and 114
May 2009	31, 32, 111, and 112

- Update your copy by inserting these revised pages.
- Keep the pages you remove for reference.

Table 3
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 (PG)				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)
20	—	—	—	960	(20.00)	1 440	(30.00)	150	(3.00)	—	—
25	—	—	—	1 200	(25.00)	1 800	(37.50)	180	(3.75)	—	—
30	30	—	—	1 440	(30.00)	2 160	(45.00)	220	(4.50)	—	—
35	35	35	—	1 680	(35.00)	2 520	(52.50)	260	(5.25)	—	—
40	40	40	—	1 920	(40.00)	2 880	(60.00)	290	(6.00)	—	—
45	45	45	45	2 160	(45.00)	3 240	(67.50)	330	(6.75)	440	(9.00)
50	50	50	50	2 400	(50.00)	3 600	(75.00)	360	(7.50)	480	(10.00)
55	55	55	55	2 640	(55.00)	3 960	(82.50)	400	(8.25)	530	(11.00)
60	60	60	60	2 880	(60.00)	4 320	(90.00)	440	(9.00)	580	(12.00)
65	65	65	65	3 120	(65.00)	4 680	(97.50)	470	(9.75)	630	(13.00)
70	70	70	70	3 360	(70.00)	5 040	(105.00)	510	(10.50)	680	(14.00)
75	75	75	75	3 600	(75.00)	5 400	(112.50)	540	(11.25)	730	(15.00)
80	80	80	80	3 840	(80.00)	5 760	(120.00)	580	(12.00)	730	(15.00)
85	85	85	85	4 080	(85.00)	6 120	(127.50)	620	(12.75)	730	(15.00)
90	90	90	90	4 320	(90.00)	6 480	(135.00)	650	(13.50)	730	(15.00)
95	95	95	95	4 560	(95.00)	6 840	(142.50)	690	(14.25)	730	(15.00)
100	100	100	100	4 800	(100.00)	7 200	(150.00)	730	(15.00)	730	(15.00)
—	—	—	No limit*	No limit*	No limit*	1.5 × design pressure (DP)	1.5 × design pressure (DP)	730	(15.00)	730	(15.00)

*There is no limit for optional performance grades (PG) in the AW performance class.

Table 4
Optional performance grades (PG) for unit skylights,
TDDs, and roof windows

(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 grades (PG)		Design pressure (DP)		Structural test pressure (STP)		Water penetration resistance test pressure	
						R, CW	
R	CW	Pa	(psf)	Pa	(psf)	Pa	(psf)
20	—	960	(20.00)	1 920	(40.00)	150	(3.00)
25	—	1 200	(25.00)	2 400	(50.00)	180	(3.75)
30	—	1 440	(30.00)	2 880	(60.00)	220	(4.50)
35	35	1 680	(35.00)	3 360	(70.00)	260	(5.25)
40	40	1 920	(40.00)	3 840	(80.00)	290	(6.00)
45	45	2 160	(45.00)	4 320	(90.00)	330	(6.75)
50	50	2 400	(50.00)	4 800	(100.00)	360	(7.50)
55	55	2 640	(55.00)	5 270	(110.00)	400	(8.25)
60	60	2 880	(60.00)	5 760	(120.00)	440	(9.00)
65	65	3 120	(65.00)	6 240	(130.00)	470	(9.75)
70	70	3 360	(70.00)	6 720	(140.00)	510	(10.50)
75	75	3 600	(75.00)	7 200	(150.00)	540	(11.25)
80	80	3 840	(80.00)	7 680	(160.00)	580	(12.00)
85	85	4 080	(85.00)	8 160	(170.00)	580	(12.00)
90	90	4 320	(90.00)	8 640	(180.00)	580	(12.00)
95	95	4 560	(95.00)	9 120	(190.00)	580	(12.00)
100	100	4 800	(100.00)	9 600	(200.00)	580	(12.00)
105	105	5 040	(105.00)	10 080	(210.00)	580	(12.00)
Δ 110	110	5 270	(110.00)	10 540	(220.00)	580	(12.00)
No limit	No limit	No limit	No limit	2.0 × design pressure (DP)	2.0 × design pressure (DP)	580	(12.00)

4.4.2 Primary designator

4.4.2.1 General

The primary designator in this Standard/Specification is a three- or four-part code, which includes performance class, performance grade (PG), maximum size tested to achieve this rating, and (optionally) product type. When used, the product type shall be presented in full or represented by abbreviations as shown in Figures 2 to 4. The abbreviations shall be as indicated in Table 5.

Primary designators shall only be permitted in the format indicated in the following examples.

Table 27
Gateway performance requirements

(See Clauses 0.1.2, 3 [definition of “Gateway performance requirements”], 4.2.1, 4.2.2, 4.3.2, 4.4.2.1, 5.2.4, 5.3.6.9, 5.4.2, 8.3.4, and 9.)

Product type	Product designation	Minimum test size, mm (in)	Minimum design pressure (DP), Pa (lbf/ft ²)	Deflection at design pressure (DP), mm (in)	Minimum structural pressure (STP), Pa (lbf/ft ²)	Minimum water pressure, Pa (lbf/ft ²)	Air leakage resistance		Operating force test	Force to latch test	Deadbolt force test	Forced-entry resistance test	Thermoplastic corner weld test	Deglazing test	Sash/leaf torsion test	Sash vertical deflection test	Sash/leaf concentrated load test on latch rail	Vertical concentrated load test	Vertical concentrated load test on intermediate frame rails	Distributed load test	Stabilizing arm load test	Hold-open arm/stay bar test	Hinge test	Awning, hopper, projected hardware load test	Safety drop test	Unit dead load test	Life cycle testing	Operation/cycling performance	Vertical loading resistance				
							Pa (lbf/ft ²)	L/s•m ² (cfm/ft ²)																									
Architectural terrace door	Class AW-PG40-ATD	1200 × 2430 (48 × 96)	1920 (40.0)	L/175	2880 (60.0)	390 (8.0)	300 (6.2)	0.5 (0.1)																									
Awning, hopper, projected window	Class R-PG15-AP	1200 × 400 (48 × 16)	720 (15.0)	Reported	1080 (22.5)	140 (2.9)	75 (1.6)	1.5 (0.3)	•			•	•										•										
	Class LC-PG-25-AP	1200 × 800 (48 × 32)	1200 (25.0)	Reported	1800 (37.5)	180 (3.8)	75 (1.6)	1.5 (0.3)	•			•	•										•										
	Class CW-PG30-AP	1200 × 800 (48 × 32)	1440 (30.0)	L/175	2160 (45.0)	220 (4.5)	75 (1.6)	1.5 (0.3)	•			•	•										•										
Basement window	Class AW-PG40-AP	1500 × 900 (60 × 36)	1920 (40.0)	L/175	2880 (60.0)	390 (8.0)	300 (6.2)	0.5 (0.1)	•			•	•			•																	
	Class R-PG15-BW	800 × 360 (32 × 14)	720 (15.0)	Reported	1080 (22.5)	140 (2.9)	75 (1.6)	1.5 (0.3)	•			•	•																				
Casement window	Class R-PG15-C	600 × 1500 (24 × 60)	720 (15.0)	Reported	1080 (22.5)	140 (2.9)	75 (1.6)	1.5 (0.3)	•			•	•			•																	
	Class LC-PG25-C	800 × 1500 (32 × 60)	1200 (25.0)	Reported	1800 (37.5)	180 (3.8)	75 (1.6)	1.5 (0.3)	•			•	•			•																	
Dual-action side-hinged door	Class CW-PG30-C	800 × 1500 (32 × 60)	1440 (30.0)	L/175	2160 (45.0)	220 (4.5)	75 (1.6)	1.5 (0.3)	•			•	•			•																	
	Class AW-PG40-C	900 × 1500 (36 × 60)	1920 (40.0)	L/175	2880 (60.0)	390 (8.0)	300 (6.2)	0.5 (0.1)	•			•	•			•																	
	Class R-PG15-DASHD	900 × 2000 (36 × 79)	720 (15.0)	Reported	1080 (22.5)	140 (2.9)	75 (1.6)	1.5 (0.3)	•	•	•	•																					

(Continued)

Table 27 (Continued)

Product type	Product designation	Minimum test size, mm (in)	Minimum design pressure (DP), Pa (lbf/ft ²)	Deflection at design pressure (DP), mm (in)	Minimum structural pressure (STP), Pa (lbf/ft ²)	Minimum water pressure, Pa (lbf/ft ²)	Air leakage resistance		Operating force test	Force to latch test	Deadbolt force test	Forced-entry resistance test	Thermoplastic corner weld test	Deglazing test	Sash/leaf torsion test	Sash vertical deflection test	Sash/leaf concentrated load test on latch rail	Vertical concentrated load test	Vertical concentrated load test on intermediate frame rails	Distributed load test	Stabilizing arm load test	Hold-open arm/stay bar test	Hinge test	Awning, hopper, projected hardware load test	Safety drop test	Unit dead load test	Life cycle testing	Operation/cycling performance	Vertical loading resistance
							Pa (lbf/ft ²)	L/s•m ² (cfm/ft ²)																					
Δ Dual-action side-hinged door (continued)	Class LC-PG25-DASHD	900 × 2100 (36 × 83)	1200 (25.0)	Reported	1800 (37.5)	180 (3.8)	75 (1.6)	1.5 (0.3)		•	•	•	•			•					•						•	•	
	Class CW-PG30-DASHD	1000 × 2100 (40 × 83)	1440 (30.0)	L/175	2160 (45.0)	220 (4.5)	75 (1.6)	1.5 (0.3)		•	•	•	•			•					•								
Dual-action window	Class R-PG15-DAW	1100 × 1500 (44 × 60)	720 (15.0)	Reported	1080 (22.5)	140 (2.9)	75 (1.6)	1.5 (0.3)				•	•			•					•								
	Class LC-PG25-DAW	1200 × 1500 (48 × 60)	1200 (25.0)	Reported	1800 (37.5)	180 (3.8)	75 (1.6)	1.5 (0.3)				•	•			•					•								
Fixed door	Class CW-PG30-DAW	1200 × 1800 (48 × 71)	1440 (30.0)	L/175	2160 (45.0)	220 (4.5)	75 (1.6)	1.5 (0.3)				•	•			•					•								
	Class AW-PG40-DAW	1500 × 2500 (60 × 99)	1920 (40.0)	L/175	2880 (60.0)	390 (8.0)	300 (6.2)	0.5 (0.1)				•	•	•		•					•					•			
	Class R-PG15-FD	900 × 2000 (36 × 79)	720 (15.0)	Reported	1080 (22.5)	140 (2.9)	75 (1.6)	1.5 (0.3)				•	•			•													
	Class LC-PG25-FD	900 × 2100 (36 × 83)	1200 (25.0)	Reported	1800 (37.5)	180 (3.8)	75 (1.6)	1.5 (0.3)				•	•			•													
	Class CW-PG30-FD	1000 × 2100 (40 × 83)	1440 (30.0)	L/175	2160 (45.0)	220 (4.5)	75 (1.6)	1.5 (0.3)				•	•			•													
Δ Fixed window	Class AW-PG40-FD	1500 × 2500 (60 × 99)	1920 (40.0)	L/175	2880 (60.0)	390 (8.0)	300 (6.2)	0.5 (0.1)				•	•			•													
	Class R-PG15-FW	1200 × 1200 (48 × 48)	720 (15.0)	Reported	1080 (22.5)	140 (2.9)	75 (1.6)	1.5 (0.3)				•	•			•													
	Class LC-PG25-FW	1400 × 1400 (56 × 56)	1200 (25.0)	Reported	1800 (37.5)	180 (3.8)	75 (1.6)	1.5 (0.3)				•	•			•													
Δ	Class CW-PG30-FW	1500 × 1500 (60 × 60)	1440 (30.0)	L/175	2160 (45.0)	220 (4.5)	75 (1.6)	1.5 (0.3)				•	•			•													

(Continued)