

Revision Date: **March 15, 2016**

★ Indicates test reports entered on current revision date



## **Kolbe Teutonic<sup>®</sup> Series**

### **Air-Water-Structural Test Reports Manual**



**[kolbecommercial.com](http://kolbecommercial.com)**

**KOLBE & KOLBE MILLWORK CO., INC.**

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**Comments:**

1. Manual's revision date is at upper right hand corner of each page. Check the Kolbe website to be sure of the latest revision.

**1st Column**

2. 1st column shows a sketch of the test unit or combination assembly. A bold line between units indicates a reinforcing mull. A normal line between units indicates a combination mull. See Mulling Information page for explanations. A sketch that's shaded in red indicates the unit's certification has expired, and is currently being recertified. This will be accompanied by the  symbol.

**2nd Column**

3. Description- Include most of the pertinent descriptions along with the 1st column figure and 3rd column rating frame sizes zeros in on the particular test product.

4. Glazing- Generally a gateway AWS test of single glazed also qualifies IG. But a gateway AWS test of IG does not qualify single glaze. Performance divided lite is accepted as equivalent to onelite. Outlite are generally not tested for AWS ratings because divider patterns vary, dividers may be either KSF or stacked and dividers have different widths & depths.

5. Impact Glazing- Generally only the particular glazing construction tested is qualified. See Glass Information page.

**3rd Column**

6. Contains the performance rating(s). USA air-water-structural ratings are per 101/I.S.2/NAFS-02', 101/I.S.2/A440-05', 101/I.S.2/A440-08' and 101/I.S.2/A440-11'. A key is on page 8. See report for revision of standard used.

7. May contain Canadian ratings for windows per CSA A440-00', which may look like A2, B2, C3. See page 12.

8. May contain results of impact-pressure cycling tests per ASTM E1886 & E1996. These standards are revised almost every year. See report for revision of standard used.

9. Impact tests will have a rating like IPD3, which means: impact, missile D, wind zone 3. See Lami Glass Codes page.

**4th Column**

11. Air leakage is usually tested and reported 3 ways,  $\pm 1.56\text{psf}$ . 101/I.S.2 only requires 1.56 psf infiltration for USA and has a 0.3 cfm/ft<sup>2</sup> maximum limit for the products Kolbe makes. There are Canadian ratings for better air tightness (A2, A3, fixed). Which are reflected in the 3rd column Canadian ratings.

**5th Column**

12. Water tests are usually done at the highest air pressure the test will sustain without leakage. This can be no less than 15 percent of overall design pressure rating. Thus, water test can limit the + rating of a high structural performing product, so equivalent DP is listed.

**6th Column**

13. Structural tests must be at least 1.5 x the overall design pressure rating. Since codes often specify higher-pressures than +pressures on buildings, the + and - structural tests may differ but the lowest determines the structural portion of rating.

14. Impact test entries may use this column to list the CWPL (cyclic wind pressure load), which is the + and - DP used as basis for wind pressure cycling after the impact.

**7th Column**

15. This entry contains test date & the report number. If this was not a gateway test, an associated gateway test report is listed.

The numbers highlighted in blue are links to actual test report.

The numbers highlighted in peach are links to the TDI evaluations.

The items highlighted in yellow are Impact units.

**Comments continued:****8th Column**

16. Hallmark certification number and expiration date come first, if applicable. If no expiration date refer to column 12.

**9th Column**

17. Texas department of Insurance numbers come second, if applicable (DR)-(WIN-).

**10th Column**

18. Florida statewide approval number comes third, if applicable (FL #).

**11th Column**

19. High Velocity Hurricane Zone Certification if applicable.

**12th Column**

20. Miami Dade County approval numbers and expiration dates are listed here.

**Miscellaneous**

21. Sliding Patio Doors-separate tests are required for 2 wide, 3 wide (really 2 wide mulled next to a Single Fixed Door), and 4 wide. Thus, a 3 wide test can qualify both 3 wide and 2 wide.

22. Side Hinged Doors-a 2 wide French Door qualifies itself and a 1 wide active door. A 2 wide stationary/active qualifies itself, 1 wide fixed, 1 wide active. Thus, a test of a 2 wide French with a Sidelight and Fixed Door with 4 Transoms above qualifies many units, mulls and combinations.

23. Mulls can be qualified three ways per AAMA 450. A.) Tested as part of a combination assembly, B.) Benched tested as a simply supported beam, C.) Designed by calculations based upon building code referenced design standard.

24. Installation-these tests qualify the units and combination assemblies not the installation. Field installations-A.) perimeter flashing and sealing and B.) structural anchorage will usually differ. See Kolbe's installation instructions on the website.

25. Energy, Acoustic ratings are in separate manuals on the website.

26. Special species of lumber, especially exotic hardwoods do not always have the same glue bond, preservative and water repellency, sealant adhesion and paint adhesion as Kolbe's standard western pine soft wood. Thus, air-water-structural and impact performance may be affected. All wood is Kolbe's western pine unless otherwise specified.

27. Testing of standard performance gateway size, will cover high performance of the same product of any size. Don't need gateway for both standard performance and high performance versions of the unit.

28. All IG is 7/8" nominal unless otherwise specified.

29. Any fixed unit tested in one orientation is qualified in a different orientation (Example - Test size of 96 x 60 also qualifies a 60 x 96). This applies to SP, HP, & IP products.

30. Testing a given width and thickness of solid stiles and rails, covers products with wider and/or thicker solid stiles and rails, provided that construction details are consistent. This is for Air, Water, Structural and Impact tested products.

**Comments Continued:****31. Do rectangular shaped test units qualify radius shapes?**

Yes	Fixed rectangular unit tested @ usually qualifies radius and geometric Operating Double Hung rectangular unit tested @ usually qualifies radius and geometric Fixed Door and Sidelight rectangular tested @ usually qualifies radius and geometric
No	Operating Casement rectangular test @ does not qualify radius Operating Side Hinge Door rectangular test @ does not qualify radius

**32. Impact units with an IPD4 rating qualify IPD3, IPC2, and IPC1 levels of protection.**

Impact units with an IPD3 rating qualify IPC2 and IPC1 levels of protection.

**33. Special Species - If a unit is made of pine, then if requested with a special species it is available as long as the density is greater than that of pine.**

- ◆ If a unit is made with a maple sash, then if requested with a special species it is available with a special species veneer to the interior only.

**34. Simulated dividers on impact products.**

- ◆ If an impact product has Single Glaze Lami, PDL is available, an aluminum bar is taped to #1 surface and a wood bar is taped to the #2 surface.
- ◆ If an impact product has Insulating Glass, PDL is available, an aluminum bar is taped to # 1 surface and a wood bar is taped to the # 4 surface.  
Also an additional optional bar between the glass is available, which is intermittently taped to # 3 surface. The # 3 surface tape is to minimize the chance of rattling.
- ◆ If an impact product has insulating glass and has no bars taped to # 1 & # 4 surface, GIA (Grill-In-Airspace) is not available.  
This is because the tape on #3 surface aesthetically not acceptable and without tape, the ratting problems are not acceptable.

**35. The use of 1/4" Steel Stiffeners is prohibited on Swing Doors with Handicap Sills.****36. Side Hinged Doors - are permitted by IBC-2006 and IRC-2006 to be non-impact qualified either**

- A.) Per 1011/I.S.2/A440-05 which includes air, water, structural, forced entry, latching force, and supplementary tests. or
- B.) Per ASTM E330, a structural test only. Be aware that structural only qualifications, implies possible lesser air, water, forced entry, latching force performance.  
likewise, switching to a handicap sill often reduces a side hinged door qualification to structural only.

**37. A gateway AWS test consisting of dual pane glazing also qualifies product glazed with triple pane glazing.**

<b>Laminated Glass Codes</b>		<u>Glass Weight PSF</u>
<b>Single Glaze:</b>		
Lami 1 / A4	3.9 mm Ann .030" PVB 3.9 mm Ann	4.094
Lami 7 / A1	2.7 mm Ann .030" PVB 2.7 mm Ann	2.846
Lami 8 / A2	3.1 mm Ann .090" PVB 3.1 mm Ann	3.675
Lami 10 / C2	3.1 mm Ann .090" SGP 3.1mm Ann	3.675
Lami 11 / B3	3.9 mm Ann .090" PVB w/.007" PET 3.9 mm Ann	4.429
Lami 12 / B4	4.7 mm Ann .090" PVB w/.007" PET 4.7 mm Ann	5.230
Lami 13 / B5	5.7 mm Ann .090" PVB w/.007" PET 5.7 mm Ann	6.249
Lami 14 / C5	5.7 mm Ann .090" SGP 5.7 mm Ann	6.249
Lami 15	5.7 mm Ann .075" STM 5.7 mm Ann	6.165
Lami 16	3.9 mm Ann .075" STM 3.9 mm Ann	4.345
Lami 17 / C3	3.9 mm Ann .090" SGP 3.9 mm Ann	4.429
Lami 18 / C8	5.7 mm HS .090" SGP 5.7 mm HS	6.249
Lami 19 / B2	3.1mm Ann .090" PVB w/.007" PET 3.1 mm Ann	3.675
<b>Insulating:</b>		
Lami 20 / A1	3.1 mm Ann - 13.0 mm SS - 2.7 mm Ann .030" PVB 2.7 mm Ann	4.432
Lami 21 / C3	3.1 mm Ann - 8.0 mm SS - 3.9 mm Ann .090" SGP 3.9 mm Ann	6.015
Lami 22 / C3	3.1 mm T - 8.0 mm SS - 3.9 mm Ann .090" SGP 3.9 mm Ann	6.015
Lami 24 / C3	3.9 mm Ann - 8.0 mm SS - 3.9 mm Ann .090" SGP 3.9 mm Ann	6.392
Lami 25 / B3	3.1 mm Ann - 8.0 mm SS - 3.9 mm Ann .090" PVB w/.007" PET 3.9 mm Ann	6.015
Lami 27 / C3	3.9 mm T - 8.0 mm SS - 3.9 mm Ann .090" SGP 3.9 mm Ann	6.550
Lami 28 / B2	3.1 mm Ann - 9.8 mm SS - 3.1 mm Ann .090" PVB w/.007" PET 3.1 mm Ann	5.419
Lami 29	3.1 mm Ann - 9.0 mm Intercept - 3.1 mm Ann .060" PVB w/.015" PET 3.1 mm Ann	5.261
Lami 30	3.1 mm Ann - 9.0 mm Super Spacer - 3.1 mm Ann .060" PVB w/.015" PET 3.1 mm Ann	5.261
Lami 31	3.9 mm T - 9.0 mm Super Spacer - 3.9 mm Ann .060" PVB w/.015" PET 3.9 mm Ann	6.392
Lami 32	3.1 mm A - 9.0 mm Super Spacer - 3.9 mm Ann .075" STM 3.9 mm Ann	5.931
Lami 33	5.7 mm T - 9.8 mm Super Spacer - 5.7 mm HS .075" STM 5.7 mm HS	9.038
Lami 34 / C8	5.7 mm T - 9.8 mm SS - 5.7 mm HS .090" SGP 5.7 mm HS	9.122
Lami 35 / A3	3.9 mm T - 11.5 mm SS - 3.9 mm Ann .090" PVB - 3.9 mm Ann	6.392
Lami 36 / A2	3.1 mm Ann .090" PVB 3.1 mm Ann - 9.8 mm SS - 3.1 mm Ann	5.261
Lami 37 / C3	3.9 mm Ann .090" SGP 3.9 mm Ann - 9.8 mm SS - 3.9 mm Ann	6.392
Lami 38 / C7	4.7 mm T - 9.8 mm SS - 4.7 mm HS .090" SGP 4.7 mm HS	7.596
Lami 40 / C3	3.1 mm T - 8.0 mm SS - 3.9 mm Ann - 8.0 mm SS - 3.9 mm Ann .090" SGP 3.9 mm Ann	8.300
Lami 41 / B2	3.1 mm Ann - 9.8 mm SS - 3.1 mm Ann - 9.8 mm SS - 3.1 mm Ann .090" PVB w/.007" PET 3.1 mm	7.161
Lami 42 / B2	3.1 mm T - 9.8 mm SS - 3.1 mm Ann .090" PVB w/.007" PET 3.1 Ann	5.419
Lami 43 / D1	3.9mm Ann - 16.0mm SS - 5.7mm Ann .060" SAFLEX AC Acoustical SOUND CONTROL 5.7mm ,	8.044
Lami 44 / C5	5.7mm T - 9.8mm SS - 5.7mm Ann .090" SGP 5.7mm Ann	9.122
Lami 45 / C3	3.9 mm T - 11.5 mm SS - 3.9 mm Ann .090" SGP 3.9 mm Ann	6.932
Lami 46 / C3	3.9 mm Ann .090" SGP 3.9 mm Ann - 9.8 mm SS - 5.7 mm Ann	7.302
Lami 47 / C3	3.9 mm T - 8.0 mm SS - 3.9 mm HS .090" SGP 3.9 mm HS	6.550
Lami 48 / C4	4.7 mm T - 9.8 mm SS - 4.7 mm Ann .090" SGP 4.7 mm Ann	7.596
Lami 60 / C3	3.9mm Ann .090" SGP 3.9mm Ann - 8.00mm SS - 3.1mm Ann	6.015
Lami 61 / C3	3.9mm Ann .090" SGP 3.9mm Ann - 8.0mm SS - 3.1mm T	6.015
Lami 62 / A5	3.1mm Ann .030" PVB 3.1mm Ann - 12.0mm SS - 3.1mm Ann	4.926
Lami 63 / C3	3.9mm Ann .090" SGP 3.9mm Ann - 8.0mm SS - 3.9mm Ann	6.392
Lami 64 / B3	3.9mm Ann .090" PVB w/.007" PET 3.9mm Ann - 8.0mm SS - 3.1mm Ann	6.015
Lami 65 / C3	3.9mm Ann .090" SGP 3.9mm Ann - 8.0mm SS - 3.9mm T	6.550
Lami 66 / B2	3.1mm Ann .090" PVB w/.007" PET 3.1mm Ann - 9.8mm SS - 3.1mm Ann	5.419
Lami 67 / C8	5.7mm HS .090" SGP 5.7mm HS - 9.8mm SS - 5.7mm T	9.122
Lami 68 / C7	4.7mm HS .090" SGP 4.7mm HS - 9.8mm SS - 4.7 mm T	7.596
Lami 69 / B2	3.1mm Ann .090" PVB w/.007" PET 3.1mm Ann - 9.8mm SS - 3.1mm T	5.419
Lami 70 / C5	5.7mm Ann .090" SGP 5.7mm Ann - 9.8mm SS - 5.7mm T	9.122

**Glass Callouts:**  
 Ann = Annealed  
 HS = Heat Strengthened  
 T = Tempered

**Spacer Callouts:**  
 SS = Stainless Steel Spacer  
 AS = Aluminum Spacer

**Abbreviation Key:**  
 xx-xxxx.xx = AAMA / WDMA Report  
 xx-xxxx.xx = Dade County NOA  
 DWG XXXX = HVHZ Engineering Drawings  
 C.W.P.L. = Cyclic Wind Pressure Loading

**Performance Options**

AP= Alternate Performance  
 SP = Standard Performance  
 MP = Modified Performance  
 HP = High Performance

IPC2 = Impact Performance, 4.5# Missile C, Wind Zone 2 or less

IPD3 = Impact Performance, 9# Missile D, Wind Zone 3 or less

IPD4 = Impact Performance, 9# Missile D, Wind Zone 4 or less

**HVHZ LMI = High Velocity Hurricane Zone Large Missile Impact**

**HVHZ HP = High Velocity Hurricane Zone Non Impact**

FL # = Florida Product approval number

In Process (KOLBE) = Product application is being prepared for  
 submittal to the FBC.

Pending FBC Approval = Product application has been submitted  
 and is currently being reviewed by the FBC.

For approvals go to <http://www.floridabuilding.org>

**Wind Zone Levels**

All wind speeds are 3-second gust

Wind Zone 1 110 mph < Wind Speed < 120 mph

Wind Zone 2 120 mph ≤ Wind Speed < 130 mph

Wind Zone 3 130 mph ≤ Wind Speed ≤ 140 mph

Or 120 mph ≤ Wind Speed ≤ 140 mph

and ≤ 1 mile from coastline

Wind Zone 4 140 mph < Wind Speed

**Millimeter to Inch Conversion: mm = millimeters**

2.4 mm = .094" = 3/32"

2.7 mm = .106" = 3/32"

3.1 mm = .122" = 1/8"

3.9 mm = .153" = 5/32"

4.7 mm = .185" = 3/16"

5.7 mm = .224" = 1/4"

**TDI #** = Texas Department of Insurance

with a link to TDI approval (PDF version).

In Process (KOLBE) = Product application is being prepared for  
 submittal to TDI.

**Pending** = TDI Evaluation Report letter

Submitted = Product application has been submitted to TDI

Also can find these at <http://www.tdi.state.tx.us>

PRODUCT PERFORMANCE INFORMATION

Performance Class	Performance Grade or (Design Pressure)	Year of Standard Referenced In	Product Types
R = Residential	R = 15 minimum	05, '08, '11	
LC = Light Commercial	LC = 25 minimum		AAMA/WDMA/CSA 101/I.S.2/A440
CW = Commercial	CW = 30 minimum		
AW = Architectural	AW = 40 minimum		

Examples of '05 test standard:

**C - R50 914mm x 1829mm ( 36in x 72in )**  
 C = Product Type (Casement)  
 R = Performance Class (Residential)  
 50 = Performance Grade (Design Pressure = 50 psf)

**H - LC25 1156mm x 2043mm ( 45.50in x 80.44in )**  
 H = Product Type (Hung)  
 LC = Performance Class (Light Commercial)  
 25 = Performance Grade (Design Pressure = 25 psf)

Examples of '08 & '11 test standard:

**Class LC-PG55 - Size tested 914 x 1829mm (36x72 in) - C**  
 LC = Performance Class (Light Commercial)  
 55 = Performance Grade (Design Pressure = 55 psf)  
 C = Product Type (Casement)

Standard Year Requirements:

101/I.S.2/A440-'05 (metric) primary requires frame width x height, to be listed to the nearest millimeter. Optional frame size to be rounded to the nearest inch, may

101/I.S.2/A440-'08 requires listing the performance class, then the performance grade or design pressure, then the frame width x height in mm first and inches second and then the product type listed last.

101/I.S.2/A440-'11 requires listing the performance class, then the performance grade or design pressure, then the frame width x height in mm first and inches second and then the product type listed last.

	'05	'08	'11	
	AP	AP	AP	Awning, hopper, projected window
	ATD	ATD	ATD	Architectural terrace door
	BW	BW	BW	Basement window
	C	C	C	Casement window
	DASHD	DASHD	DASHD	Dual-action side-hinged door
	DAW	DAW	DAW	Dual action window
	FD	FD	FD	Fixed door
	FW	FW	FW	Fixed window
	GH	GH	GH	Greenhouse window
	H	H	H	Hung window
	HE	HE	HE	Hinged rescue window
	HP	HP	HP	Horizontally pivoted window
	HS	HS	HS	Horizontal sliding window
	J	J	J	Jalousie window
	JA	JA	JA	Jal-awning window
	LW DASHD	LW DASHD	LW DASHD	Limited water dual-action side-hinged door
	LW SHD	LW SHD	LW SHD	Limited water side-hinged door
	--	--	MA	Mullion assembly
	--	--	POW	Parallel opening window
	RW	RW	--	Roof window
	--	--	RWG	Roof window - glass glazed
	--	--	RWP	Roof window - plastic glazed
	SD	SD	SD	Sliding door
	SHD	SHD	SHD	Side-hinged door
	SHW	SHW	SHW	Side hinged (inswing) window
	SKG	SKG	SKG	Skylight - glass glazed
	SKP	SKP	SKP	Skylight - plastic glazed
	SLT	SLT	SLT	Sidelite
	SP	SP	SP	Specialty product
	--	--	SSP	Secondary storm product
	TA	TA	TA	Tropical awning window
	--	TDD	--	Tubular daylighting device
	--	--	TDDCC	Tubular daylighting device - closed ceiling
	--	--	TDDOC	Tubular daylighting device - open ceiling
	TH	TH	TH	Top hinged window
	TR	TR	TR	Transom
	VP	VP	VP	Vertically pivoted window
	VS	VS	VS	Vertical sliding window



PRODUCT PERFORMANCE INFORMATION

Product Types		Year of Standard Referenced In	Performance Class	Performance Grade or (Design Pressure)
		'05, '08, '11	R = Residential	R = 15 minimum
			LC = Light Commercial	LC = 25 minimum
			C = Commercial	C = 30 minimum
			CW = Commercial	CW = 30 minimum
			HC = Heavy Commercial	HC = 40 minimum
			AW = Architectural	AW = 40 minimum
<b>05, '08 &amp; '11</b>	<b>WINDOWS</b>			
AP	Awning, hopper, projected window			
BW	Basement window			
C	Casement window			
DAW	Dual-action window			
FW	Fixed window			
GH	Greenhouse window			
H	Hung window			
HE	Hinged rescue window			
HP	Horizontally pivoted window			
HS	Horizontally sliding window			
J	Jalousie window			
JA	Jal-awning window			
RW	Roof window			
SHW	Side-hinged (inswing) window			
SKG	Skylight unit-glass glazed			
SKP	Skylight unit-plastic glazed			
SP	Specialty product			
TA	Tropical awning window			
TH	Top-hinged window			
TR	Transom			
VP	Vertically pivoted window			
VS	Vertical sliding window			
	<b>DOORS</b>			
	ATD	Architectural Terrace door		
	DASHD	Dual-action side-hinged door		
DAHGD	DAHGD	Dual-action hinged glass doors		
	FD	Fixed door		
HGD	HGD	Hinged glass doors		
	LW DASHD	Limited water dual-action side-hinged door		
	LW SHD	Limited water side-hinged door		
	SD	Sliding door		
SGD	SGD	Sliding glass door		
	SHD	Side-hinged door		
	SLT	Side lite		

Examples of '05 test standard:

**C - R50 914mm x 1829mm ( 36in x 72in )**  
 C = Product Type (Casement)  
 R = Performance Class (Residential)  
 50 = Performance Grade (Design Pressure = 50 psf)

**H - LC25 1156mm x 2043mm ( 45.50in x 80.44in )**  
 H = Product Type (Hung)  
 LC = Performance Class (Light Commercial)  
 25 = Performance Grade (Design Pressure = 25 psf)

Examples of '08 & '11 test standard:

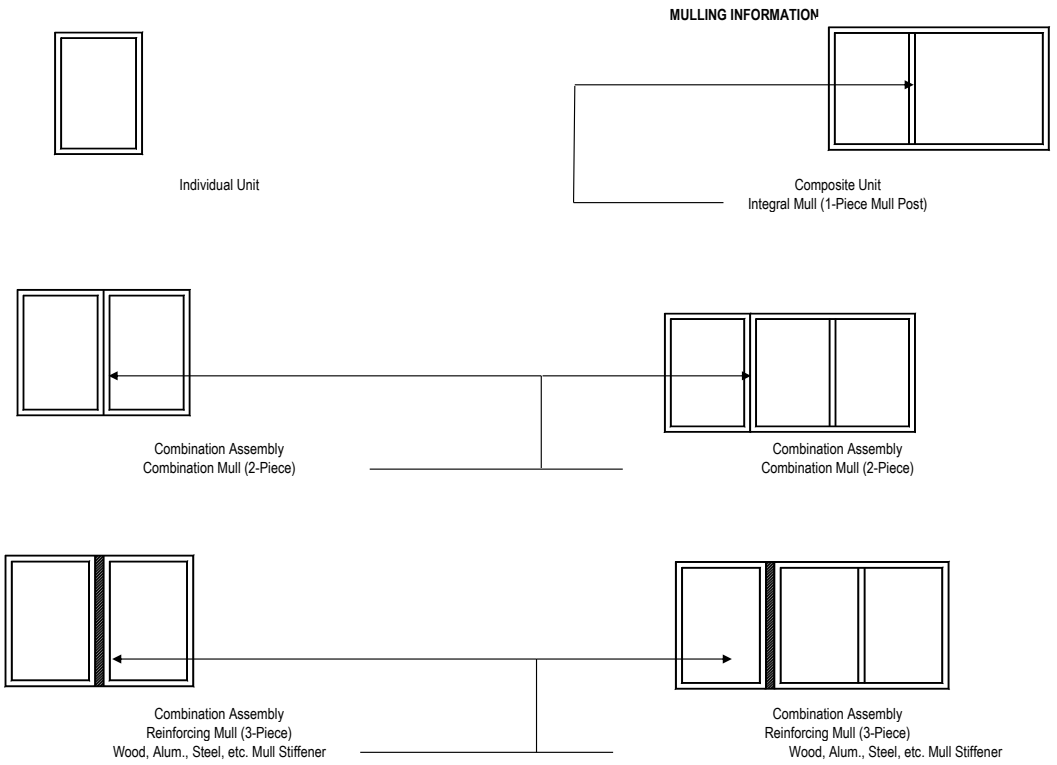
**Class LC-PG55 - Size tested 914 x 1829mm (36x72 in) - C**  
 LC = Performance Class (Light Commercial)  
 55 = Performance Grade (Design Pressure = 55 psf)  
 C = Product Type (Casement)

**Standard Year Requirements:**

101/I.S.2/A440-05 (metric) primary requires frame width x height, to be listed to the nearest millimeter. Optional frame size to be rounded to the nearest inch, may follow in parentheses (). Kolbe often list optional frame size to the nearest hundredth of an inch.

101/I.S.2/A440-08 requires listing the performance class, then the performance grade or design pressure, then the frame width x height in mm first and inches second and then the product type listed last.

101/I.S.2/A440-11 requires listing the performance class, then the performance grade or design pressure, then the frame width x height in mm first and inches second and then the product type listed last.



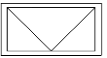
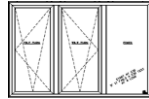
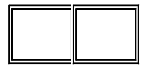
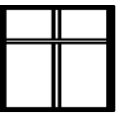



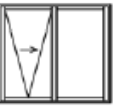
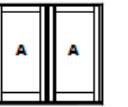


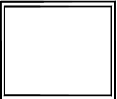
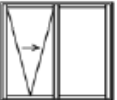
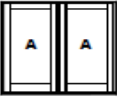


	Product Name & Description	DP Rating & Box Size W x H	Air	Water	Structural	Test Date Prod ID Code Report #	Hallmark # Expiration	TDI#	FL#	HVHZ#	Dade NOA
	Teutonic Euro Frame Hopper Vinyl Onelite, IG, 3/16" Ann - 3/16" Ann Half Turn Multi Point Lock R&D 13205	LC-PG75 1524 x 803 (60.00 x 32.00) AP '11 LC-PG75 1524 x 803 (60.00 x 32.00) AP '08 13.3ft <sup>2</sup> A3 LC-PG3600 Pa 1524mm x 803mm AP	<0.01 cfm/ft <sup>2</sup> +1.57psf A3	100 15.04psf 720 Pa	+75 -80 +112.78psf -120.30psf +3600 Pa -3840 Pa	8/14/2013 N/A ATI <a href="#">C9746.02-109-47</a>	416-H-1027.00 416-H-1027.01 8/14/2017	In Process	FL 20049	No	No
	Teutonic Tilt Turn/Tilt Turn/Fixed Composite Mull Assembly w/ Steel Reinforced Integral Mull Post North American Frame Vinyl Onelite, IG, 5/32" Ann - 5/32" Ann Multi Point Lock R&D 14084	CW-PG30 1219 x 1829 (96.00 x 72.00) DAW '11 CW-PG30 1219 x 1829 (96.00 x 72.00) DAW '08 48.00ft <sup>2</sup> A3 CW-PG1440 Pa 1219mm x 1829mm DAW	<0.01 cfm/ft <sup>2</sup> +1.57psf A3	30 4.59psf 220 Pa	±30 ±45.11psf ±1440 Pa	11/6/2014 N/A Element <a href="#">ESP018113P-1633</a>	416-H-1031.04 416-H-1031.05 12/4/2022	In Process	FL 17608 <a href="#">DWG 1894</a>	No	No
	Teutonic Fixed Window Vinyl, European Frame Onelite, IG, 3/16" T - 3/16" T R&D 13204	R-PG40 1219 x 2489 (48.00 x 98.00) FW '11 R-PG40 2438 x 2489 (96.00 x 98.00) FW '08 R-PG40 2489mm (98") Span/3.0m <sup>2</sup> (32.6ft <sup>2</sup> ) MA 65.3ft <sup>2</sup> Fixed CW-PG1920 Pa 2438mm x 2489mm FW	<0.01 cfm/ft <sup>2</sup> +1.57psf Fixed	100 15.04psf 730 Pa	±40 ±60.15psf ±1920 Pa	8/14/2013 N/A ATI <a href="#">C9360.02-109-47</a>	416-H-1028.00 416-H-1028.01 416-H-1028.02 8/14/2017	In Process	FL 20050	No	No
	Teutonic Fixed Reinforced Integral Mull Assembly Vinyl Onelite, IG, 5/32" T - 5/32" T R&D 14038	LC-PG50 1524 x 2438 (60.00 x 96.00) FW '11 LC-PG50 1524 x 2438 (60.00 x 96.00) FW '08 LC-PG50 1524 x 2438 (60 x 96) FW S1 - '09 40.00ft <sup>2</sup> Fixed LC-PG2400 Pa 1524mm x 2438mm FW	<0.01 cfm/ft <sup>2</sup> +1.57psf Fixed	50 7.52psf 360 Pa	±50 ±75.19psf ±2400 Pa	6/16/2014 N/A Element <a href="#">ESP016991P-1575</a>	416-H-1032.08 416-H-1032.09 416-H-1032.10 6/20/2022		FL 17608 <a href="#">DWG 1894</a>	No	No
	Teutonic Fixed Reinforced Integral Mull Assembly w/ External Reinforcement Vinyl Onelite, IG, 5/32" T - 5/32" T R&D 14039	CW-PG30 1524 x 2515 (60.00 x 99.00) FW '11 CW-PG30 1524 x 2515 (60 x 99) FW S1 - '09 41.25ft <sup>2</sup> Fixed CW-PG1440 Pa 1524mm x 2515mm FW	<0.01 cfm/ft <sup>2</sup> +1.57psf Fixed	50 7.52psf 360 Pa	±30 ±45.11psf ±1440 Pa	6/16/2014 N/A Element <a href="#">ESP016992P-1576</a>	416-H-1032.11 416-H-1032.12 416-H-1032.13 6/27/2022	In Process	FL 17608 <a href="#">DWG 1894</a> <a href="#">DWG 1895</a> <a href="#">DWG 1896</a>	No	No
	Teutonic Fixed Composite, Steel Reinforced Comb Mull Alongside a Teutonic Fixed Composite European Frames Vinyl Onelite, IG, 5/32" T - 5/32" T R&D 14083	LC-PG30 2515mm Span/1529mm Trib. Wid (99.00 in Span/60.19 in Trib Wid) MA '11 LC-PG30 3058 x 2515 (120.38 x 99.00) FW '08 LC-PG30 3058 x 2515 (120.38 x 99.00) FW S1 - '09 LC30 AAMA 450-10 82.76ft <sup>2</sup> Fixed LC-PG1440 Pa 3058mm x 2515mm FW	<0.01 cfm/ft <sup>2</sup> +1.57psf Fixed	30 4.59psf 220 Pa	±65 ±97.74psf ±3120 Pa	11/3/2014 N/A Element <a href="#">ESP018102P-1632</a>	416-H-1032.04 416-H-1032.05 416-H-1032.06 416-H-1032.07 11/3/2022	In Process	FL 17608 <a href="#">DWG 1894</a> <a href="#">DWG 1895</a> <a href="#">DWG 1896</a>	No	No
	Teutonic Tilt Sliding Door Vinyl, Screw Installation Onelite, IG, 1/4" T - 1/4" T Multi Point Lock R&D 12173	CW-PG55 2419 x 2100 (95.25 x 82.62) SD '08 54.9ft <sup>2</sup> CW-PG2640 Pa 2419mm x 2100mm SD	0.01 cfm/ft <sup>2</sup> +1.57psf A3	80 12.11psf 580 Pa	±55 ±82.71psf ±2640 Pa	3/31/2011 N/A ATI <a href="#">A8465.03-109-47</a>	416-H-1011.00 3/31/2019	Submitted	FL 16814	No	No
	Teutonic Tilt Sliding Door Vinyl, Clip Installation Onelite, IG, 1/4" T - 1/4" T Multi Point Lock R&D 14018	LC-PG40 2419 x 2100 (95.25 x 82.62) SD '11 LC-PG40 2419 x 2100 (95.25 x 82.62) SD '08 54.7ft <sup>2</sup> A3 LC-PG1920 Pa 2419mm x 2100mm SD	0.02 cfm/ft <sup>2</sup> +1.57psf A3	60 9.19psf 440 Pa	+40 -45 +60.15psf -67.67psf +1920 Pa	6/26/2013 N/A ATI <a href="#">C9361.02-109-47</a>	416-H-1011.01 416-H-1011.02 6/26/2017	Submitted	FL 16814	No	No
	Teutonic Outswing French Door w/ Aluminum Sill Vinyl Onelite, IG, 1/4" T - 1/4" T Multi Point Lock R&D 14072	R-PG20 2032 x 2489 (80.00 x 98.00) SHD '11 54.4ft <sup>2</sup> A3 R-PG960 Pa 2032mm x 2489mm SHD	0.02cfm/ft <sup>2</sup> +1.57psf A3	20 3.13psf 150 Pa	±30 ±45.11psf +1440 Pa	10/21/2013 N/A ATI <a href="#">D1377.02-109-47</a>	416-H-1029.06 10/21/2021	In Process	FL 20052	No	No

Image	Product Name & Description	DP Rating & Box Size W x H	Air	Water	Structural	Test Date Prod ID Code Report #	Hallmark # Expiration	TDI#	FL#	HVHZ#	Dade NOA
			0.02 cfm/ft <sup>2</sup> +1.57psf	80 12.11psf	±80 ±120.30psf	12/19/2013 N/A Element <a href="#">ESP015404P-1497</a>	416-H-1031.00 416-H-1031.01 416-H-1031.02 416-H-1031.03 2/27/2022	Submitted	FL 17051 ('14)	No	No
	Teutonic Tilt / Turn Window HP, Vinyl, Clip & Screw Installation Onelite, IG, 3/16" T - 3/16" T Multi Point Lock R&D 13180	CW-PG80 1219 x 1829 (48.00 x 72.00) DAW '11 CW-PG80 1219 x 1829 (48.00 x 72.00) DAW '08 24.00ft <sup>2</sup> A3, B5, C5, C5  CW-PG3840 Pa 1219mm x 1829mm DAW	0.02 cfm/ft <sup>2</sup> +1.57psf	80 12.11psf	±80 ±120.30psf	12/19/2013 N/A Element <a href="#">ESP015404P-1497</a>	416-H-1031.00 416-H-1031.01 416-H-1031.02 416-H-1031.03 2/27/2022	Submitted	FL 17051 ('14)	No	No
	Teutonic Fixed Window HP, Vinyl, Clip & Screw Installation Onelite, IG, 1/4" T - 1/4" T R&D 13185	CW-PG70 1524 x 2515 (60.00 x 99.00) FW '11 CW-PG70 1524 x 2515 (60.00 x 99.00) FW '08 41.25ft <sup>2</sup> Fixed, B5, C5, C5  CW-PG3360 Pa 1524mm x 2515mm FW	<0.01 cfm/ft <sup>2</sup> +1.57psf	70 10.65psf	±70 ±105.26psf	12/19/2013 N/A Element <a href="#">ESP015404P-1497.2</a>	416-H-1032.04 416-H-1032.05 416-H-1032.06 416-H-1032.07 2/27/2022	Submitted	FL 17052 ('14)	No	No
	Teutonic Fixed Window HP, Vinyl, Clip & Screw Installation Onelite, IG, 3/16" T - 3/16" T R&D 13183	CW-PG75 1829 x 1829 (72.00 x 72.00) FW '11 CW-PG75 1829 x 1829 (72.00 x 72.00) FW '08 36.00ft <sup>2</sup> Fixed, B5, C5, C5  CW-PG3600 Pa 1829mm x 1829mm FW	<0.01 cfm/ft <sup>2</sup> +1.57psf	75 11.28psf	±75 ±112.78psf	12/19/2013 N/A Element <a href="#">ESP015404P-1497.1</a>	416-H-1032.00 416-H-1032.01 416-H-1032.02 416-H-1032.03 12/19/2021	Submitted	FL 17052 ('14)	No	No
	Teutonic Tilt Sliding Door IPD4, Vinyl Onelite, IG, Lami 48 Multi Point Lock R&D 13064	CW-PG80 2438 x 2438 (96.00 x 96.00) SD '08 64.0ft <sup>2</sup>  <b>IPD4</b>	<0.01 cfm/ft <sup>2</sup> +1.57psf	80 12.11psf	±80 ±120.30psf C.W.P.L. ±80.00psf	2/8/2013 N/A ATI <a href="#">C2187.04-301-18</a> <a href="#">C2187.05-301-44</a> <a href="#">C2187.06-301-44</a>	416-H-1022.00 416-H-1022.01 416-H-1022.02 2/8/2017	Submitted	FL 17336	Yes	No
	Teutonic Outswing French Door IPD4, Vinyl Onelite, IG, Lami 48 Multi Point Lock R&D 12181 & 12182	SHD-C65 1880 x 2489 (74.00 x 98.00) '05  <b>IPD4</b>	0.01cfm/ft <sup>2</sup> +1.57psf	65 9.75psf	±65 ±97.50psf C.W.P.L. ±65.00psf	4/4/2011 N/A NCTL <a href="#">NCTL-210-3841-3</a> <a href="#">NCTL-210-3841-3A</a>	416-H-1029.00 416-H-1029.01 416-H-1029.02 416-H-1029.03 416-H-1029.04 416-H-1029.05 4/4/2019	Submitted	FL 17140	Yes	No
	Teutonic Tilt Turn Window IPD4, Vinyl Onelite, IG, Lami 48 Multi Point Lock R&D 12183 & 12184	DAW-R65 1118 x 2032 (44.00 x 80.00) '05  <b>IPD4</b>	0.04cfm/ft <sup>2</sup> +1.57psf	65 9.75psf	±65 ±97.50psf C.W.P.L. ±65.00psf	4/5/2011 N/A NCTL <a href="#">NCTL-210-3841-1</a> <a href="#">NCTL-210-3841-1A</a>	416-H-1016.00 416-H-1016.01 416-H-1016.02 416-H-1016.03 4/5/2019	Submitted	FL 17139	Yes	No
	Teutonic Fixed Window IPD4, Vinyl Onelite, IG, Lami 48 R&D 12179 & 12180	FW-R65 1219 x 2489 (48.00 x 98.00) '05  <b>IPD4</b>	0.01cfm/ft <sup>2</sup> +1.57psf	65 9.75psf	±65 ±97.50psf C.W.P.L. ±65.00psf	4/4/2011 N/A NCTL <a href="#">NCTL-210-3841-2</a> <a href="#">NCTL-210-3841-2A</a>	416-H-1018.00 416-H-1018.01 416-H-1018.02 416-H-1018.03 4/4/2019	Submitted	FL 17138	Yes	No