MT Group
MATERIALS TESTING

Window, Door
and
Curtain Wall Testing

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

TEST REPORT

Render to:
CT International Aluminum Corp.

TITLE	SUMMARY OF RESULTS
Product manufacturer:	CT International Aluminum Corp
Product type:	Sliding Door
Product series/ model:	CT-43 Series
Primary product designator:	Class: CW - PG30 SD 94"x95" (2387.6 mm x 2413mm)
Force entry resistance:	Grade 10
Air infiltration @6.24 PSF :	0.19 cfm/ft² (0.95 L/sm2)
Water penetration resistance:	4.5 Psf (215 Pa)
Test completion date:	03/24/15
Report # 14-032-A	

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Window, Door and Curtain Wall Testing

Report No: 14-0032-A **Test Completion Date: 3-24-15** **Report Date: 4-20-15** **Report Retention Date: 4-20-25**	**Client:** CT International Corp 5235 74th Street Elmhurst, NY 11373

Test Specification

AAMA/WDMA/CSA 101/I.S2/A440-08 ***"NAFS North American Fenestration Standard/Specification for Windows, doors, and unit skylights".***

Test Specimen Designation

Model: CT 43 Series Patio Door

Class: CW - PG30 SD 2387.6 mm x 2413 mm (94"x95")

Frame

The frame members are extruded aluminum.

Overall dimensions are 94"x95" (2387.6 mm x 2413mm)

Head: part no 4304

Sill: part no 4321

Jambs: part no 4305.

Bottom Corners: Are butt and coped and held together with five screws (1.5" long no. 12-14 with a 5/16 flange-ed hex head drive) per corner.

Top Corners: Are butt and coped and held together with Three screws (1.5" long no. 12-14 with a 5/16 flange-ed hex head drive) per corner.

Sash

Sash members are made of extruded aluminum. The Overall dimensions of both sashes is 1041.4 mm x 2159 mm (41" x 85").

Top/Bottom Rail : Part no. 4301

Left/Right Styles: Part no. 4300.

Corners: Coped and Butted together with two 3.5" 12-14 screws per corner with no. 3 Philips drive button head.

Inter locker: part no 4302. Located on meeting styles. Fastened to meeting styles with no2 Philips button head drive no. 12-20 3/8" long screws

Weather seals:

QTY	Location	Description
1 row	Sill leg	Polly mid fin wool pile 0.270" backing 0.25" tall
1 row	Sill threshold cover	Polly mid fin wool pile 0.270" backing 0.25" tall
1 row	Head	Bulb gasket for non operable unit
1 row	Head outer leg	Polly mid fin wool pile 0.270" backing 0.25" tall for operable unit
1 row	Head	Polly mid fin wool pile 0.270" backing 0.4" tall for operable unit supported with additional extrusion fastened to head with screws
2 rows	Top rail operable door	Polly mid fin wool pile 0.270" backing 0.25" tall on each door flange
2 rows	One for each interlock	Polly mid fin wool pile 0.270" backing 0.25" tall
3 rows	Operable jamb	Bulb gasket, two for operable door and one is for jamb insert
4 pcs	Frame Butt connections	foam rubber sheet gasket placed in-between butt joins
2 rows	fixed jamb	Bulb gasket, one for fixed panel door and one is for jamb insert

Glazing:

Glass Size	IG thickness	Glass thickness	Glass type	Spacer Thickness	Spacer type	Identification
35 1/8" x 78" (892.2mm x 1981.2mm)	1" (25.4 mm)	3/16"	tempered	5/8" (15.9 mm)	Aluminum	Local vendor

The unit is channel glazed using a rubber channel glazing gasket. There is a 12.7 mm (1/2") glass bite. There is two panes of glass same thickness.

Drainage System:

QTY	Title	Description	location	
2	Weeps	0.275" tall x 1-5/8" wide includes anti clog baffle and flapped weep hole cover	Either end of sill on front face centered 2.5" from edge of unit	

Hardware:

QTY	Title	Location	Description
1	Keeper	Centered at 41.5" from bottom of unit on operable frame jamb	Metal Keeper held in with two screws
1	Handle set	In operable door style Centered at 40.5" from bottom of sash	bottom sash rail 9" from edge

Reinforcements:

Two solid aluminum reinforcements in each meeting style. Each measuring about 1.25" deep and 0.6" wide for a total of four of these.

Interior & Exterior Surface Finish:

Natural Aluminum mill Finish

Sealant Application:

Sealant is applied to frame and sash corners, In the glazing track, stationary door perimeter, the threshold, jamb insert, and is used to plug door rails.

Insect Screen:

None

Installation:

Unit is installed into a 2x8 Douglas fur buck with a blind stop on both sides of the door fastened to the buck with 1-5/8" dry wall screws every foot.

Operating Force Test Results

Paragraph No.	Test title & (Method)	Results	Allowed	Allowed
5.3.1.2	Operating Force	ASTM E2068	180N (40 lbf) in motion	115N (25 lbf) in motion

Sizes	Operable Door	
Sash open break away	20 Lbf (90N)	
Sash close break away	20 Lbf (90N)	
Sash open in-motion	18 Lbf (80N)	
Sash close in-motion	18 Lbf (80N)	

Resistance against opportunistic Burglar

Paragraph	Test	Result	Allowable	
(5.3.5)	Forced Entry ASTM F588	No Entry Grade 10	No Entry	

Air and Water Test Results

Paragraph	Test	Result	Allowable	
(5.3.2)	Air Infiltration ASTM E283 @300 Pa (6.24psf)	Pass 0.95 L/sm2 0.19 cfm/ft2	1.5 L/sm2 0.3 cfm/ft2	
(5.3.2)	Air Infiltration ASTM E283 @75 Pa (1.57psf)	Pass 0.6 L/sm2 0.12 cfm/ft2	1.5 L/sm2 0.3 cfm/ft2	
(5.3.3)	Cyclic Water Penetration ASTM E547 @ 220 Pa (4.5Psf)	Pass	No Water	

Structural Testing Results

Paragraph	Test	Result	Allowable	
(5.3.4.2)	Preload ASTM E330 @ 718 Pa Positive (15 PSF)	Pass	No breakage	
(5.3.4.2)	Uniform Load max Deflection ASTM E330 @ 1436 Pa Positive (30 PSF)	Pass 0.48" (12 mm)	L/175 0.53" (13.5 mm)	
(5.3.4.2)	Uniform Over load permanent Deflection ASTM E330 @ 2155 Pa (Positive 45 PSF)	Pass 0.02" (0.51 mm)	0.3% L 0.28" (7.11 mm)	
(5.3.4.2)	Preload ASTM E330 - 718 Pa Negative (-15 PSF)	Pass	No breakage	
(5.3.4.2)	Uniform Load Max Deflection ASTM E330 - 1436 Pa Negative (-30 PSF)	Pass 0.52" (13.21mm)	L/175 0.53" (13.5 mm)	
(5.3.4.2)	Uniform Over load permanent Deflection ASTM E330 @ - 2155 Pa (Negative 45 PSF)	Pass 0.04" (1.02mm)	0.3% L 0.28" (7.11 mm)	

Deglazing Test (ASTM E 987) Results

Paragraph 5.3.6.3	Test Feature	Results	Allowed
320 N (70Lbf) Interior	Left Style	12.00%	<90%
	Right Style		
230 N (50Lbf) Interior	Top Rail	12.00%	<90%
	Bottom Rail		
320 N (70Lbf) Middle	Left Style	12.00%	<90%
	Right Style		
230 N (50Lbf) Middle	Top Rail	12.00%	<90%
	Bottom Rail		
320 N (70Lbf) Exterior	Left Style	12.00%	<90%
	Right Style		
230 N (50Lbf) Exterior	Top Rail	12.00%	<90%
	Bottom Rail		

For Materials Testing Lab, Inc.

Craig Ginsberg
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4/16/15

Approved by: Frank Pennisi
Frank Pennisi
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4/16/15