

HWD Acquisition dba Hurd Windows & Doors Inc.
575 S. Whelen Avenue
Medford, WI 54451

SCOPE:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed and accepted by Miami-Dade County PERA -Product Control Section to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Section (In Miami Dade County) and/or the AHJ (in areas other than Miami Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. PERA reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Section that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein, and has been designed to comply with the Florida Building Code, including the High Velocity Hurricane Zone.

DESCRIPTION: Clipped Aluminum Tube Mullions- Impact

APPROVAL DOCUMENT: Drawing No. 1047A Rev B, titled "Clipped Impact & Non-Impact Aluminum Tube Mullions" Sheets 1 through 6 of 6, dated 07/24/01 and last revised on OCT 05, 2011, prepared by W. W. Schaefer Engineering & Consulting, P.A., signed and sealed by Warren W. Schaefer, P. E., bearing the Miami-Dade County Product Control Revision stamp with the Notice of Acceptance number and expiration date by the Miami-Dade County Product Control Section.

MISSILE IMPACT RATING: Large and Small Missile Impact

1. Lower Design Pressure of mullion, windows or door shall control. Mullion anchor installation must also provide anchors to the vicinity of mullion loaded areas not considered.
2. This mullion can be used with Non-Impacted units, having Hurricane protection devices, complying w/ FBC.

LABELING: Each unit shall bear a permanent label with the manufacturer's name or logo, city, state and series and following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

RENEWAL of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

TERMINATION of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

ADVERTISEMENT: The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

INSPECTION: A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA **revises & renews** NOA # 06-1201.04 and consists of this page 1 and evidence pages E-1, as well as approval document mentioned above.

The submitted documentation was reviewed by **Ishaq I. Chanda, P.E.**



2/2/12

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

A. DRAWINGS

1. Manufacturer's die drawings and sections. (transferred from file # **06-1201.03**)
2. Drawing No. **1047A Rev B**, titled "Clipped Impact & Non-Impact Aluminum Tube Mullions" Sheets 1 through 6 of 6, dated 07/24/01 and last revised on OCT 05, 2011, prepared by W. W. Schaefer Engineering & Consulting, P.A., signed and sealed by Warren W. Schaefer, P.E.

Note: This revision & renewal consists of FBC 2010 only.

B. TESTS (transferred from file # **06-1201.04** / # **05-0822.05**) Original test conducted per SFBC, PA 201, 202 & 203-94, now known as FBC, TAS 201, 202 & 203-94

1. Test reports on
 - 1) Air Infiltration Test, per FBC, TAS 202-94
 - 2) Uniform Load Static Air Pressure Test, per FBC, TAS 202-94
 - 3) Water Resistance Test, per FBC, TAS 202-94
 - 4) Forced Entry Resistance Test, per FBC, TAS 202-94
 - 5) Large Missile Impact Test, FBC, TAS 201-94
 - 6) Cyclic Loading Test, per FBC, TAS 203-94

Along with installation diagram of clipped aluminum mullion, marked-up by Certified Testing Laboratory, Inc., Test Report No. **CTLA-679WB**, & **CTLA-679WF**, both dated 10/02/01, signed and sealed by Ramesh Patel, P. E. (This test reports were revised by addendum letter dtd 11-29-2001 & 12-18-2001, signed & sealed by Ramesh Patel P. E.)

C. CALCULATIONS

1. Structural analysis & anchor verification calculations, complying w/ FBC 2007 & FBC 2010, prepared by W. W. Schaefer Engineering & Consulting, P.A., dated OCT 04, 2011, signed and sealed by Warren W. Schaefer, P.E.

D. QUALITY ASSURANCE

1. Miami Dade Department of Permitting, Environment, and Regulatory Affairs (PERA).

E. MATERIAL CERTIFICATIONS

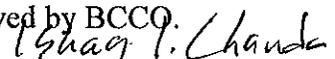
1. None

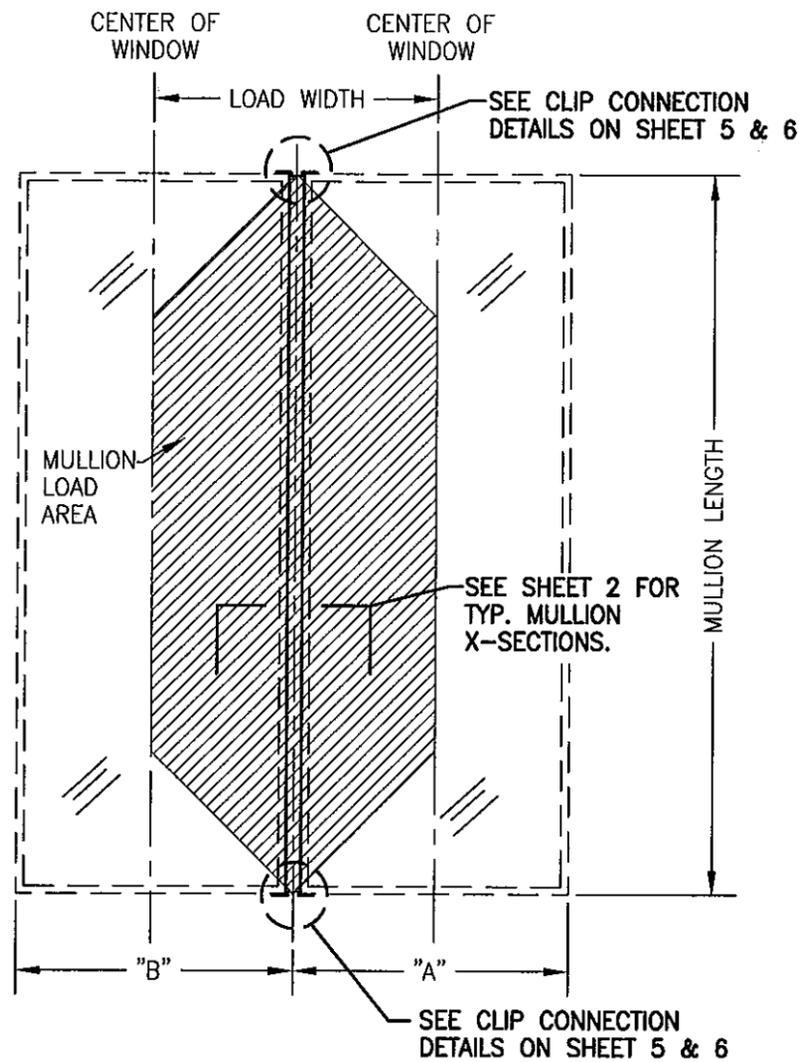
F. STATEMENTS

1. Statement letter of conformance to FBC 2010 & "No financial interest, both dated OCT 04, 2011, prepared by W. W. Schaefer Engineering & Consulting, P.A., signed and sealed by Warren W. Schaefer, P.E.
2. Lab compliance statements as a part of the above test reports.
3. Addendum letter to test report CTLA-679WB & CTLA-679WF issued by Certified Testing Lab, dated Nov. 29 & Dec. 18, 2001, signed & sealed by Ramesh Patel, P. E.
4. Asset Purchase and Sale Agreement dated OCT 15, 2008 among Monarch Holding Inc. & Hurd Windows & Doors Inc. (Sellers) and HWD Acquisition (Purchaser).
5. US Bankruptcy Court Order, dated November 21, 2008, among Monarch Holdings, Inc. and Hurd Windows & Doors, Inc. as Debtors and HWD Acquisition, Inc. as Purchaser, authorizing the Purchase Agreement.

G. OTHER

1. This NOA **revises & renews** NOA # **06-1201.04**, expiring on 02/14/12.
2. Proposal No. **00-0177**, dated January 11, 2001, approved by BCCO.


Ishaq I. Chanda, P.E.
Product Control Examiner
NOA No 11-1021.16
Expiration Date: February 14, 2017
Approval Date: February 02, 2012



FIXED WINDOW TO FIXED WINDOW

LOAD WIDTH = (A + B)/2

NOTE: "FIXED WINDOW" MAY BE A SASH GLAZED FIXED OR A DIRECT GLAZED FIXED WINDOW UNDER SEPERATE APPROVAL.

NOTE: MULLION MAY BE HORIZONTAL OR VERTICAL

GENERAL NOTES (ALL DRAWING SHEETS):

- DOORS ARE APPROVED UNDER SEPERATE N.O.A. WITH AN ALUMINUM PLATE MULLION AS AN UN-CLIPPED MULLION. CASEMENT WINDOWS & SASH GLAZED FIXED WINDOWS ARE APPROVED UNDER SEPERATE N.O.A. WITH AN UNREINFORCED JAMB TO JAMB MULLION. SEE THE PRODUCTS SPECIFIC N.O.A. FOR USE OF THESE MULLIONS WHEN THEY APPLY.
- THESE MULLION SYSTEMS HAVE BEEN TESTED, ANALYZED AND APPROVED FOR DESIGN PRESSURES NOT TO EXCEED THOSE SHOWN ON THESE DRAWINGS.
- BLOCK AND FRAME OPENINGS MUST BE DESIGNED & CONSTRUCTED TO WITHSTAND WIND LOADS TRANSFERRED BY THE MULLIONS & SUPPORTED WINDOWS/DOORS.
- ALL HARDWARE & FASTENERS SHALL BE IN ACCORDANCE WITH THESE DRAWINGS & MAY NOT VARY UNLESS SPECIFICALLY MENTIONED ON THE DRAWINGS.
- THESE MULLION SYSTEMS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE FLORIDA BUILDING CODE (FBC) INCLUDING HIGH VELOCITY HURRICANE ZONES (HVHZ).
- THIS MULLION PRODUCT HAS BEEN TESTED IN ACCORDANCE WITH FBC PROTOCOLS TAS-201, TAS-202 & TAS-203 FOR LARGE MISSILE IMPACT, STRUCTURAL & CYCLIC TESTING.
- ALL PRODUCTS TO BE USED WITH THESE MULLIONS MUST BE ALUMINUM CLAD WOOD FRAMED PRODUCTS MANUFACTURED BY HURD WINDOWS & DOORS AND MUST HOLD A IMPACT OR NON-IMPACT DADE COUNTY NOTICE OF ACCEPTANCE (N.O.A.) AND/OR FLORIDA APPROVAL.

FIXED WINDOW TO FIXED WINDOW TABLE							
LENGTH (IN.)	LOAD WIDTH (IN.) A+B 2	ALLOWABLE PRESSURES (PSF)					
		4X1X1/8 TUBE		4X2X1/8 TUBE		5X2X1/8 TUBE	
		CONN. "A"	CONN. "B"	CONN. "A"	CONN. "B"	CONN. "A"	CONN. "B"
60	54	100.0	100.0	100.0	100.0	100.0	100.0
	60	97.5	97.5	100.0	100.0	100.0	100.0
	66	97.5	97.5	100.0	100.0	100.0	100.0
	72	97.5	97.5	100.0	100.0	100.0	100.0
66	42	100.0	100.0	100.0	100.0	100.0	100.0
	48	91.6	91.6	100.0	100.0	100.0	100.0
	54	81.4	81.4	100.0	100.0	100.0	100.0
	60	73.3	73.3	100.0	100.0	100.0	100.0
72	66	66.6	66.6	97.3	97.3	100.0	100.0
	72	66.6	66.6	100.0	100.0	100.0	100.0
	24	100.0	100.0	100.0	100.0	100.0	100.0
	30	100.0	100.0	100.0	100.0	100.0	100.0
	36	94.1	94.1	100.0	100.0	100.0	100.0
	42	80.6	80.6	100.0	100.0	100.0	100.0
	48	70.6	70.6	100.0	100.0	100.0	100.0
	54	62.7	62.7	91.6	91.6	100.0	100.0
84	60	56.4	56.4	82.5	82.5	100.0	96.7
	66	51.3	51.3	75.0	75.0	100.0	94.7
	72	47.0	47.0	68.7	68.7	100.0	94.0
	24	88.9	88.9	100.0	100.0	100.0	100.0
	30	71.1	71.1	100.0	100.0	100.0	100.0
	36	59.2	59.2	86.5	86.5	100.0	100.0
	42	50.8	50.8	74.2	74.2	100.0	100.0
	48	44.4	44.4	64.9	64.9	100.0	95.2
96	54	39.5	39.5	57.7	57.7	100.0	89.1
	60	35.5	35.5	51.9	51.9	90.8	84.6
	66	32.3	32.3	47.2	47.2	82.6	81.5
	72	29.6	29.6	43.3	43.3	75.7	75.7
	24	59.5	59.5	87.0	87.0	100.0	100.0
	30	47.6	47.6	69.6	69.6	100.0	100.0
	36	39.7	39.7	58.0	58.0	100.0	97.6
	42	34.0	34.0	49.7	49.7	86.9	86.9
96	48	29.8	29.8	43.5	43.5	76.0	76.0
	54	26.5	26.5	38.7	38.7	67.6	67.6
	60	-	-	34.8	34.8	60.8	60.8
	66	-	-	31.6	31.6	55.3	55.3
72	-	-	29.0	29.0	50.7	50.7	

ALL ALUMINUM TUBES SHALL BE 6061-T6 OR 6005-T5 ALUMINUM

- ALLOWABLE PRESSURE ON THE MULLED UNIT SHALL BE CONTROLLED BY THE LESSER ALLOWABLE PRESSURE OF THE MULLION OR THE INDIVIDUAL DOOR/WINDOW UNITS.
- FOR WINDOW OR DOOR FRAME TO OPENING ATTACHMENT, SEE THE RESPECTIVE PRODUCT APPROVAL DRAWINGS FOR THE WINDOW/DOOR.
- MULLION LENGTHS ARE RESTRICTED BY THOSE SHOWN IN THE TABLES.
- THE LOADS IN THESE GRAPHS CONSIDER WORSE CASE OF MULLION STRESS, DEFLECTION AND END REACTION.
- ANY CONDITIONS NOT COVERED IN THIS APPROVAL SHALL BE SUBJECT TO SEPERATE ENGINEERING REVIEW.
- ALL TUBES SHALL BE 6061-T6 OR 6005-T5 ALUMINUM. ALL CONNECTION ANGLES SHALL BE 6063-T5 ALUMINUM
- ALL EMBEDMENTS SPECIFIED ARE TO BE BEYOND WALL FINISH.
- MATERIALS, INCLUDING BUT NOT LIMITED TO STEEL SCREWS, THAT COME INTO CONTACT WITH OTHER DISSIMILAR MATERIALS SHALL MEET THE REQUIREMENTS OF FLORIDA BUILDING CODE CHAPTER 20.

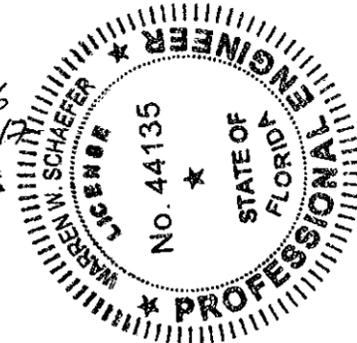
FIXED WINDOW TO FIXED WINDOW TABLE							
LENGTH (IN.)	LOAD WIDTH (IN.) A+B 2	ALLOWABLE PRESSURES (PSF)					
		4X1X1/8 TUBE		4X2X1/8 TUBE		5X2X1/8 TUBE	
		CONN. "A"	CONN. "B"	CONN. "A"	CONN. "B"	CONN. "A"	CONN. "B"
108	24	41.8	41.8	61.1	61.1	100.0	100.0
	30	33.4	33.4	48.9	48.9	85.5	85.5
	36	27.9	27.9	40.7	40.7	71.2	71.2
	42	-	-	34.9	34.9	61.0	61.0
	48	-	-	30.5	30.5	53.4	53.4
	54	-	-	27.1	27.1	47.5	47.5
	60	-	-	-	-	42.7	42.7
	66	-	-	-	-	38.8	38.8
120	72	-	-	-	-	35.6	35.6
	24	30.5	30.5	44.5	44.5	77.9	77.9
	30	24.4	24.4	35.6	35.6	62.3	62.3
	36	-	-	29.7	29.7	51.9	51.9
	42	-	-	25.4	25.4	44.5	44.5
	48	-	-	-	-	38.9	38.9
	54	-	-	-	-	34.6	34.6
	60	-	-	-	-	31.1	31.1
132	66	-	-	-	-	28.3	28.3
	72	-	-	-	-	26.0	26.0
	24	-	-	33.5	33.5	58.5	58.5
	30	-	-	26.8	26.8	46.8	46.8
	36	-	-	-	-	39.0	39.0
	42	-	-	-	-	33.4	33.4
	48	-	-	-	-	29.3	29.3
	54	-	-	-	-	26.0	26.0
144	24	-	-	25.8	25.8	45.1	45.1
	30	-	-	-	-	36.0	36.0
	36	-	-	-	-	30.0	30.0
	42	-	-	-	-	25.7	25.7

CONN "A" = CONNECTION METHOD "A". SEE SHEET 5 & 6 FOR DETAIL.
CONN "B" = CONNECTION METHOD "B". SEE SHEET 5 & 6 FOR DETAIL.

NOTE: TUBE TO TUBE CONNECTION, AS DETAILED ON SHEET 5 & 6, IS ACCEPTABLE FOR ALL CONN. "A" LOADS.

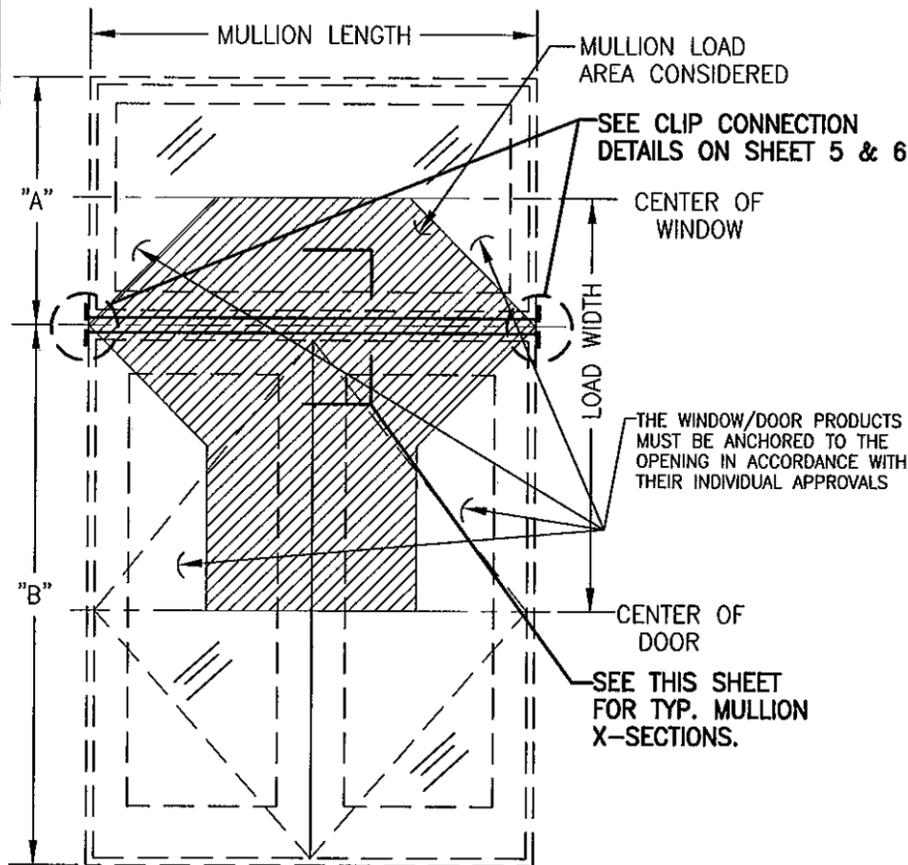
NOTE: INDIVIDUAL UNIT SIZES & SHUTTER REQUIREMENTS ARE LIMITED BY THEIR OWN INDIVIDUAL "NOTICE OF ACCEPTANCE"

PRODUCT REVISED
as complying with the Florida
Building Code
Adoption No 11-1021-16
Expiration Date 22/14/2017
W. Schaefer Engineering
Professional Engineer



THESE DRAWINGS ARE APPLICABLE ONLY TO THE PRODUCT SPECIFIED. THEY MAY NOT BE USED FOR THE ASSEMBLY AND/OR INSTALLATION OF ANY OTHER PRODUCT NOR MAY THEY BE USED FOR RATIONAL AND/OR LOCAL APPROVAL OF ANY PRODUCT NOT PRODUCED BY THE MANUFACTURER STATED ON THESE DRAWINGS.

DRAWN BY: W.W.S.	CHECKED BY: W.W.S.
PLOT: 1=24	DATE: 07/24/01
DATE: 07/28/05	DATE: 10/05/11
BY: W.W.S.	DATE: 10/05/11
REVISION DESCRIPTION	DATE
A1 UPDATE TO 2004 CODE	
B1 UPDATE TO CURRENT STANDARDS	
DRAWING TITLE CLIPPED IMPACT & NON-IMPACT ALUMINUM TUBE MULLIONS	
MANUFACTURER HWD ACQUISITION, INC. dba HURD WINDOWS & DOORS 575 S. WHELEN AVE. MEDFORD, WI 54451 800-433-4873	
CONSULTANTS W. W. SCHAEFER ENGINEERING & CONSULTING, P.A. (CA 6809) 7480 150TH COURT NORTH PALM BEACH GARDENS, FL 33418 PHONE: 561-744-3424	
CERTIFICATION	DATE OCT 05 2011
DRAWING NO. 1047A	REV. B
SHEET NO. 1 OF 6	



DOUBLE DOOR WITH TRANSOM
LOAD WIDTH = (A + B)/2

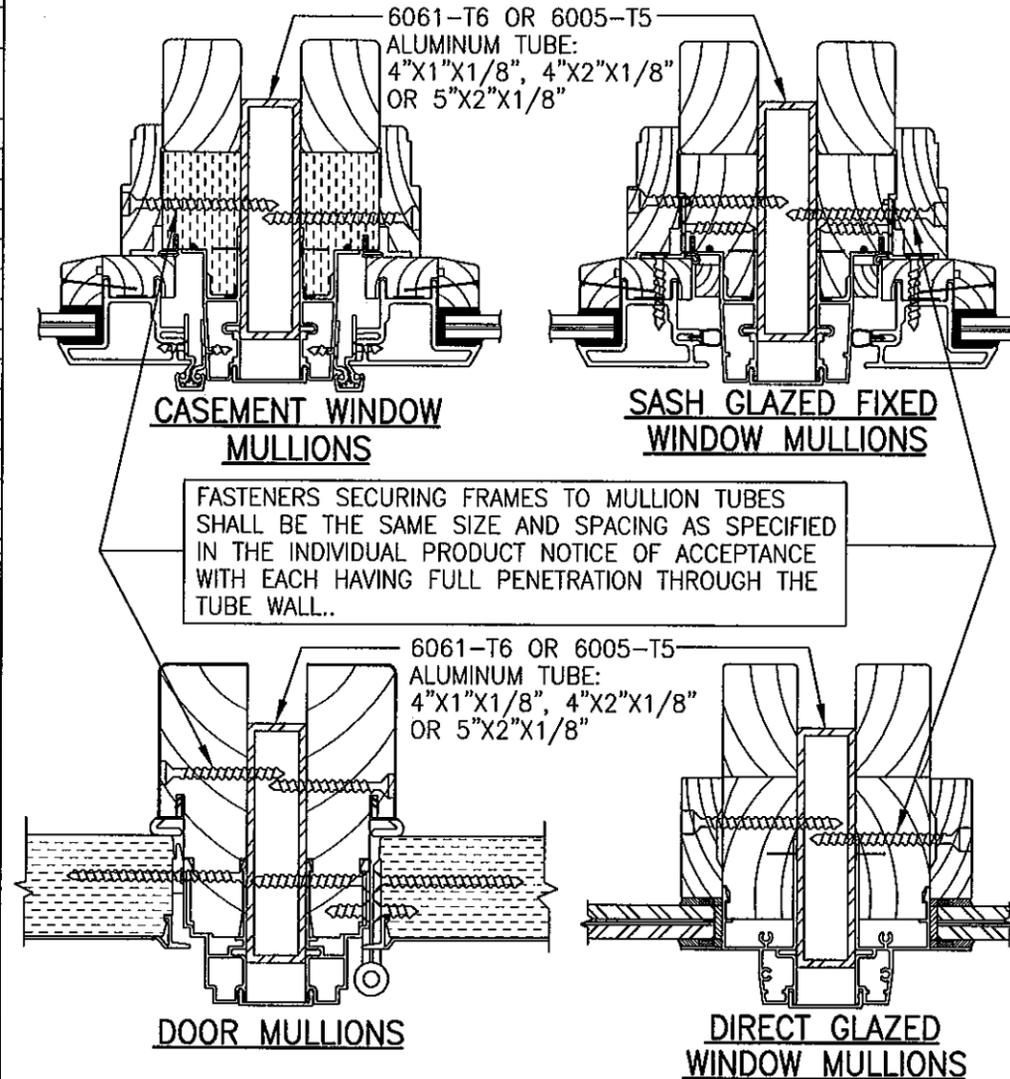
NOTE: "TRANSOM" MAY BE A SASH GLAZED FIXED WINDOW, DIRECT GLAZED FIXED WINDOW OR A FIXED DOOR PANEL UNDER SEPERATE APPROVAL.

CONN "A" = CONNECTION METHOD "A". SEE SHEET 5 & 6 FOR DETAIL.
CONN "B" = CONNECTION METHOD "B". SEE SHEET 5 & 6 FOR DETAIL.
NOTE: TUBE TO TUBE CONNECTION, AS DETAILED ON SHEET 5 & 6, IS ACCEPTABLE FOR ALL CONN. "A" LOADS.

DOUBLE DOOR WITH TRANSOM							
LENGTH (IN.)	LOAD WIDTH (IN.) A+B 2	ALLOWABLE PRESSURES (PSF)					
		4X1X1/8 TUBE		4X2X1/8 TUBE		5X2X1/8 TUBE	
		CONN. "A"	CONN. "B"	CONN. "A"	CONN. "B"	CONN. "A"	CONN. "B"
48	78	100.0	100.0	100.0	100.0	100.0	100.0
	84	100.0	97.1	100.0	97.1	100.0	97.1
	72	100.0	100.0	100.0	100.0	100.0	100.0
54	78	98.1	93.0	100.0	93.0	100.0	93.0
	84	91.1	86.3	100.0	86.3	100.0	86.3
	54	100.0	100.0	100.0	100.0	100.0	100.0
60	60	97.5	97.5	100.0	100.0	100.0	100.0
	66	88.7	88.7	100.0	98.9	100.0	98.9
	72	81.3	81.3	100.0	90.7	100.0	90.7
	78	75.0	75.0	100.0	83.7	100.0	83.7
	84	69.7	69.7	100.0	77.7	100.0	77.7
66	48	91.6	91.6	100.0	100.0	100.0	100.0
	54	81.4	81.4	100.0	100.0	100.0	100.0
	60	73.3	73.3	100.0	98.9	100.0	98.9
	66	66.6	66.6	97.3	89.9	100.0	89.9
	72	61.1	61.1	89.2	82.4	100.0	82.4
	78	56.4	56.4	82.4	76.1	100.0	76.1
	84	52.3	52.3	76.5	70.6	95.0	70.6
72	48	70.6	70.6	100.0	100.0	100.0	100.0
	54	62.7	62.7	91.6	91.6	100.0	100.0
	60	56.4	56.4	82.5	82.5	100.0	90.7
	66	51.3	51.3	75.0	75.0	100.0	82.4
	72	47.0	47.0	68.7	68.7	100.0	75.6
78	78	43.4	43.4	63.4	63.4	93.8	69.7
	84	40.3	40.3	58.9	58.9	87.1	64.8
	48	55.5	55.5	81.1	81.1	100.0	100.0
	54	49.3	49.3	72.1	72.1	100.0	93.0
	60	44.4	44.4	64.9	64.9	100.0	83.7
	66	40.4	40.4	59.0	59.0	100.0	76.1
	72	37.0	37.0	54.0	54.0	93.8	69.7
84	78	34.1	34.1	49.9	49.9	86.6	64.4
	84	31.7	31.7	46.3	46.3	80.4	59.8
	48	44.4	44.4	64.9	64.9	100.0	97.1
	54	39.5	39.5	57.7	57.7	100.0	86.3
	60	35.5	35.5	51.9	51.9	90.8	77.7
84	66	32.3	32.3	47.2	47.2	82.6	70.6
	72	29.6	29.6	43.3	43.3	75.7	64.8
	78	27.3	27.3	39.9	39.9	69.9	59.8
84	25.4	25.4	37.1	37.1	64.9	55.5	

ALL ALUMINUM TUBES SHALL BE 6061-T6 OR 6005-T5 ALUMINUM

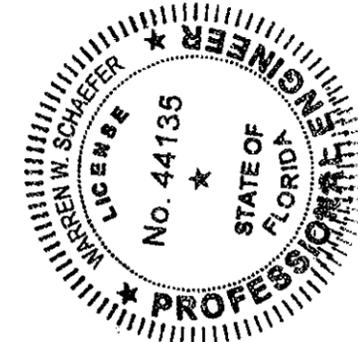
NOTE: INDIVIDUAL UNIT SIZES & SHUTTER REQUIREMENTS ARE LIMITED BY THEIR OWN INDIVIDUAL "NOTICE OF ACCEPTANCE"



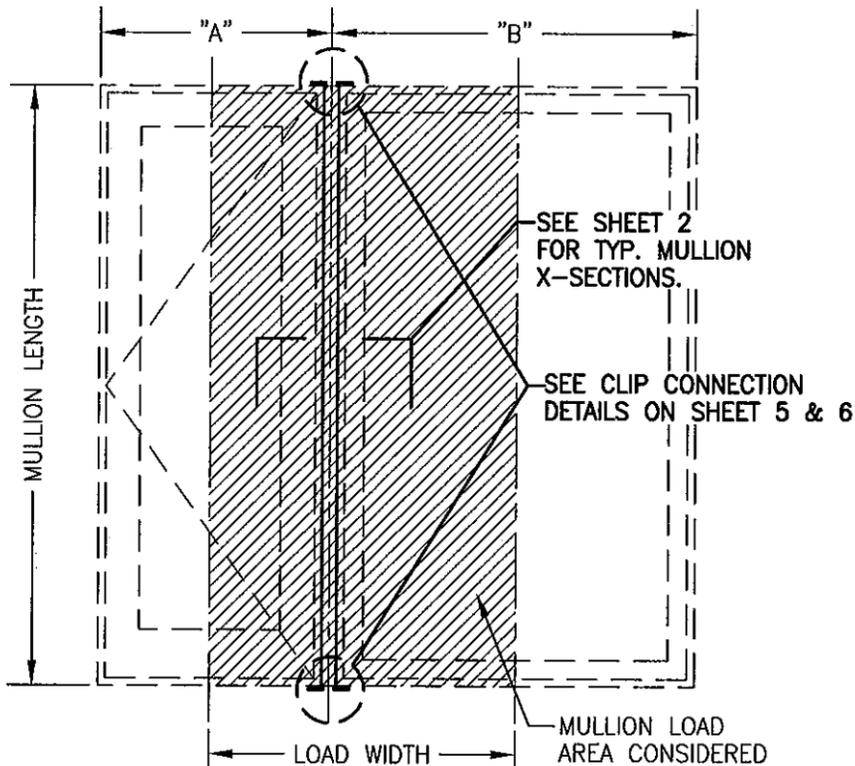
TYPICAL MULLION CONDITIONS

NOTE: PRODUCTS CAN BE INTERMIXED & ARE NOT LIMITED TO THOSE SHOWN. PRODUCTS USED WITH THE MULLIONS MUST BE ALUMINUM CLAD WOOD WINDOW/DOOR PRODUCTS MANUFACTURED BY HURD WINDOWS & DOORS & MUST HOLD A MIAMI-DADE COUNTY "NOTICE OF ACCEPTANCE" OR FLORIDA APPROVAL

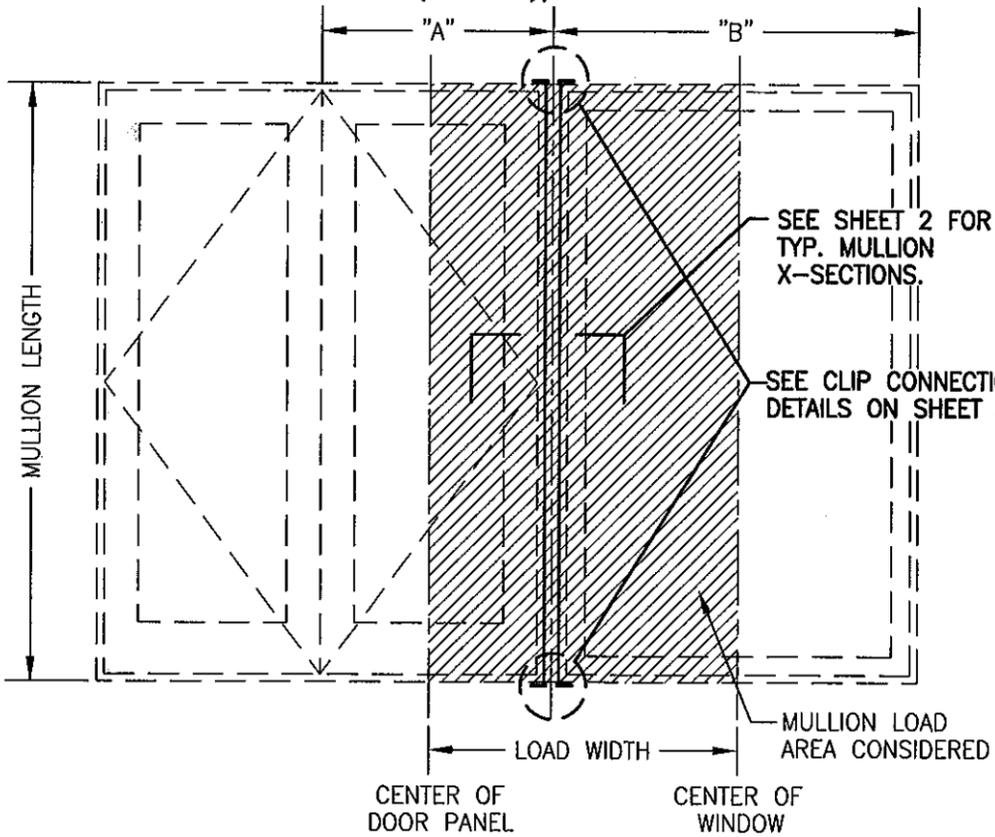
PRODUCT REVISED
in compliance with the Florida
Building Code
Acceptance No. 11-1021-16
Expiration Date 02/14/17
By: [Signature]
Miami Dade Product Control



DRAWN BY: W.W.S.	CHECKED BY: W.W.S.
PLOT: 1=24	DATE: 07/24/01
NO.	REVISION DESCRIPTION
DATE	BY
NO.	REVISION DESCRIPTION
DRAWING TITLE CLIPPED IMPACT & NON-IMPACT ALUMINUM TUBE MULLIONS	
CONSULTANTS W. W. SCHAEFFER ENGINEERING & CONSULTING, P.A. (CA 6809)	MANUFACTURER HWD ACQUISITION, INC. dba HURD WINDOWS & DOORS
7480 150TH COURT NORTH PALM BEACH GARDENS, FL 33418 PHONE: 561-744-3424	575 S. WHELEN AVE. MEDFORD, WI 54451 800-433-4873
CERTIFICATION OCT 05 2011 WARREN W. SCHAEFFER, P.E. P.E. NO. 44135	DRAWING NO. 1047A REV. B SHEET NO. 2 OF 6



**SINGLE DOOR OR CASEMENT WITH SIDELIGHT,
DOOR TO DOOR OR CASEMENT TO CASEMENT**
LOAD WIDTH = (A + B)/2



DOUBLE DOOR W/SIDELIGHT OR DOUBLE DOOR TO DOOR
LOAD WIDTH = (A + B)/2

DOOR OR CASEMENT WITH SIDELIGHT							
LENGTH (IN.)	LOAD WIDTH (IN.) A+B/2	ALLOWABLE PRESSURES (PSF)					
		4X1X1/8 TUBE		4X2X1/8 TUBE		5X2X1/8 TUBE	
		CONN. "A"	CONN. "B"	CONN. "A"	CONN. "B"	CONN. "A"	CONN. "B"
48	48	100.0	100.0	100.0	100.0	100.0	100.0
	54	100.0	100.0	100.0	100.0	100.0	100.0
	60	100.0	95.2	100.0	95.2	100.0	95.2
54	42	100.0	100.0	100.0	100.0	100.0	100.0
	48	100.0	100.0	100.0	100.0	100.0	100.0
	54	100.0	94.0	100.0	94.0	100.0	94.0
60	36	100.0	100.0	100.0	100.0	100.0	100.0
	42	100.0	100.0	100.0	100.0	100.0	100.0
	48	100.0	95.2	100.0	95.2	100.0	95.2
	54	100.0	84.6	100.0	84.6	100.0	84.6
66	36	100.0	100.0	100.0	100.0	100.0	100.0
	42	100.0	98.9	100.0	98.9	100.0	98.9
	48	91.6	86.5	100.0	86.5	100.0	86.5
	54	81.4	76.9	100.0	76.9	100.0	76.9
72	30	100.0	100.0	100.0	100.0	100.0	100.0
	36	94.1	94.1	100.0	100.0	100.0	100.0
	42	80.6	80.6	100.0	90.7	100.0	90.7
	48	70.6	70.6	100.0	79.3	100.0	79.3
	54	62.7	62.7	91.6	70.5	94.8	70.5
60	56.4	56.4	82.5	63.5	85.3	63.5	

NOTE: "SIDELIGHT" MAY BE A SASH GLAZED FIXED WINDOW, A DIRECT GLAZED FIXED WINDOW, OR A FIXED DOOR PANEL UNDER SEPERATE APPROVAL.

NOTE: IF DOOR IS MULLED TO DOOR, DIMENSION "B" WILL BE HALF THE WIDTH OF THE DOOR PANEL AS WITH DIMENSION "A".

DOOR OR CASEMENT WITH SIDELIGHT							
LENGTH (IN.)	LOAD WIDTH (IN.) A+B/2	ALLOWABLE PRESSURES (PSF)					
		4X1X1/8 TUBE		4X2X1/8 TUBE		5X2X1/8 TUBE	
		CONN. "A"	CONN. "B"	CONN. "A"	CONN. "B"	CONN. "A"	CONN. "B"
78	24	100.0	100.0	100.0	100.0	100.0	100.0
	30	88.8	88.8	100.0	100.0	100.0	100.0
	36	74.0	74.0	100.0	97.6	100.0	97.6
	42	63.4	63.4	92.7	83.7	100.0	83.7
	48	55.5	55.5	81.1	73.2	98.5	73.2
	54	49.3	49.3	72.1	65.1	87.5	65.1
80	24	100.0	100.0	100.0	100.0	100.0	100.0
	30	82.3	82.3	100.0	100.0	100.0	100.0
	36	68.6	68.6	100.0	95.2	100.0	95.2
	42	58.8	58.8	85.9	81.6	100.0	81.6
	48	51.4	51.4	75.1	71.4	96.0	71.4
	54	45.7	45.7	66.8	63.5	85.3	63.5
84	24	88.9	88.9	100.0	100.0	100.0	100.0
	30	71.1	71.1	100.0	100.0	100.0	100.0
	36	59.2	59.2	86.5	86.5	100.0	90.7
	42	50.8	50.8	74.2	74.2	100.0	77.7
	48	44.4	44.4	64.9	64.9	91.4	68.0
	54	39.5	39.5	57.7	57.7	81.3	60.4
92	24	67.6	67.6	98.8	98.8	100.0	100.0
	30	54.1	54.1	79.1	79.1	100.0	99.3
	36	45.1	45.1	65.9	65.9	100.0	82.8
	42	38.7	38.7	56.5	56.5	95.4	71.0
	48	33.8	33.8	49.4	49.4	83.5	62.1
	54	30.1	30.1	43.9	43.9	74.2	55.2
96	24	59.5	59.5	87.0	87.0	100.0	100.0
	30	47.6	47.6	69.6	69.6	100.0	95.2
	36	39.7	39.7	58.0	58.0	100.0	79.3
	42	34.0	34.0	49.7	49.7	86.9	68.0
	48	29.8	29.8	43.5	43.5	76.0	59.5
	54	26.5	26.5	38.7	38.7	67.6	52.9
60	23.8	23.8	34.8	34.8	60.8	47.6	

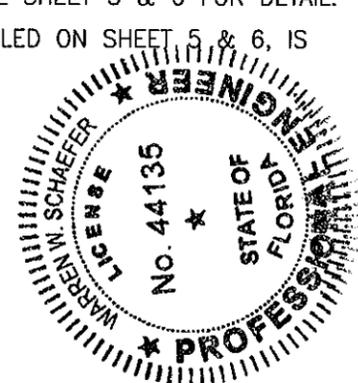
ALL ALUMINUM TUBES SHALL BE 6061-T6 OR 6005-T5 ALUMINUM

NOTE: INDIVIDUAL UNIT SIZES & SHUTTER REQUIREMENTS ARE LIMITED BY THEIR OWN INDIVIDUAL "NOTICE OF ACCEPTANCE"

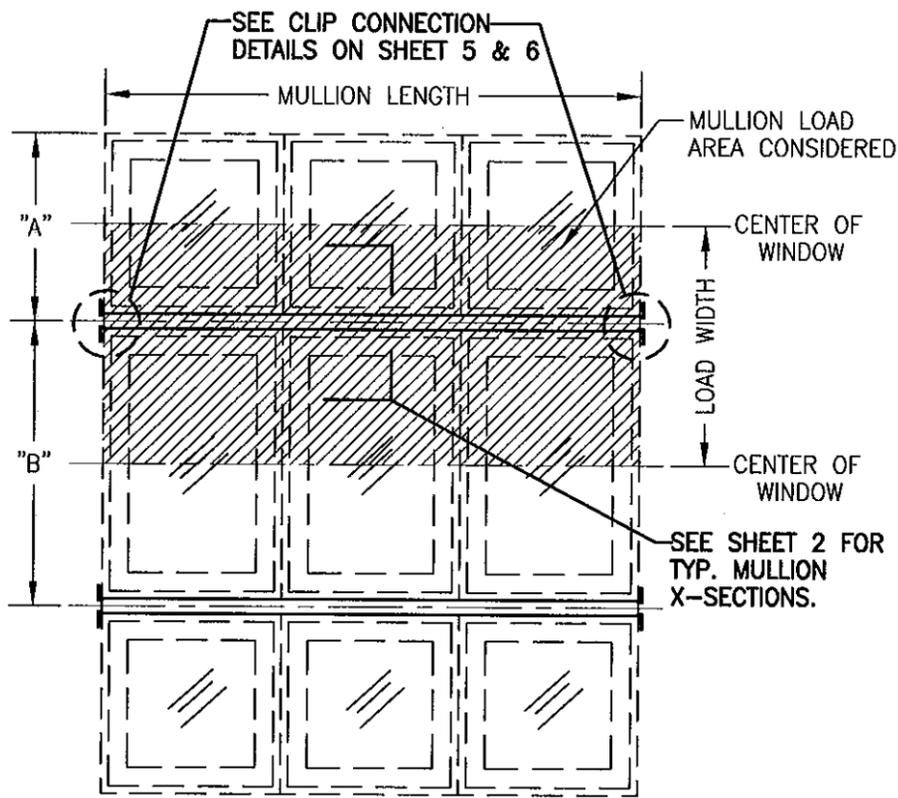
CONN "A" = CONNECTION METHOD "A". SEE SHEET 5 & 6 FOR DETAIL.
CONN "B" = CONNECTION METHOD "B". SEE SHEET 5 & 6 FOR DETAIL.

NOTE: TUBE TO TUBE CONNECTION, AS DETAILED ON SHEET 5 & 6, IS ACCEPTABLE FOR ALL CONN. "A" LOADS.

PRODUCT REVISED
to comply with the Florida
Building Code
Adoptance No. 11-1021-16
Expiration Date 02/19/17
By: [Signature]
[Signature]



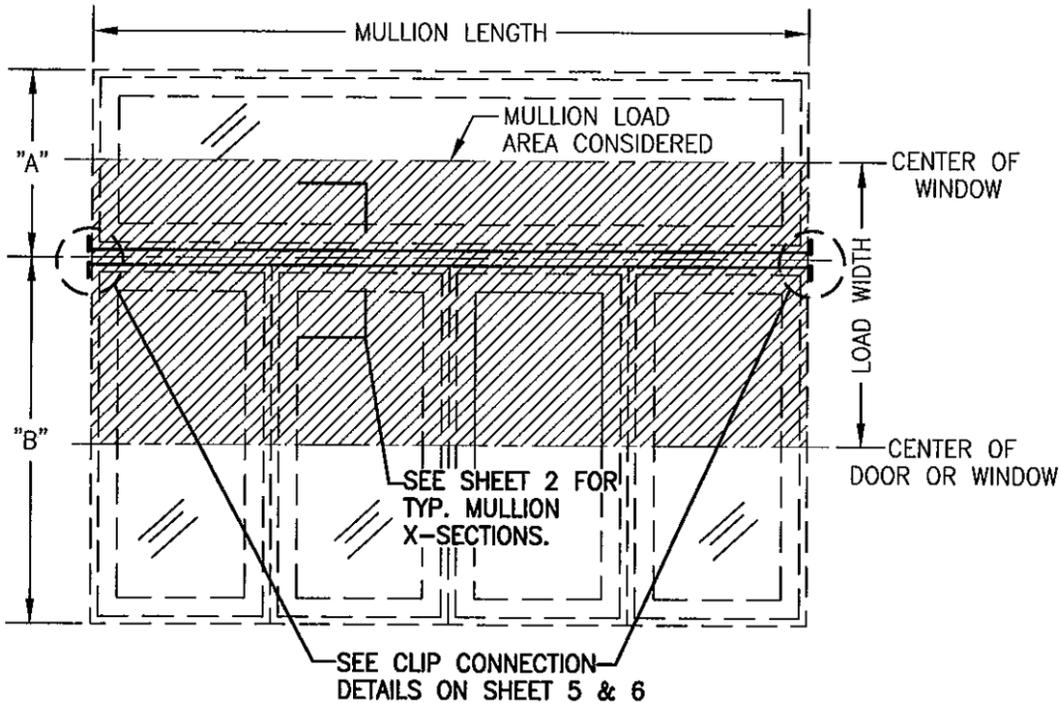
DRAWN BY: W.W.S.	CHECKED BY: W.W.S.
PLOT: 1=24	DATE: 07/24/01
DATE	
BY	
REVISION DESCRIPTION	
NO.	
CLIPPED IMPACT & NON-IMPACT ALUMINUM TUBE MULLIONS	
MANUFACTURER HWD ACQUISITION, INC. dba HURD WINDOWS & DOORS 575 S. WHELEN AVE. MEDFORD, WI 54451 800-433-4873	
CONSULTANTS W. W. SCHAEFER ENGINEERING & CONSULTING, P.A. (CA 6809) 7480 150TH COURT NORTH, 33418 PALM BEACH GARDENS, FL PHONE: 561-744-3424	
CERTIFICATION	OCT 05 2011 WARREN W. SCHAEFER, P.E. P.E. NO. 44135
DRAWING NO. 1047A	REV. B
SHEET NO. 3 OF 6	



MULTIPLE WINDOWS (HORIZONTAL MULLION)

LOAD WIDTH = (A + B)/2

MULLIONS MAY BE HORIZONTAL OR VERTICAL



MULTIPLE WINDOWS/DOORS WITH TRANSOM

LOAD WIDTH = (A + B)/2

TRANSOM MAY BE SINGLE OR MULTIPLE WINDOWS

MULTIPLE WINDOWS/DOORS

LENGTH (IN.)	LOAD WIDTH (IN.)	ALLOWABLE PRESSURES (PSF)					
		4X1X1/8 TUBE		4X2X1/8 TUBE		5X2X1/8 TUBE	
		CONN. "A"	CONN. "B"	CONN. "A"	CONN. "B"	CONN. "A"	CONN. "B"
36	66	100.0	100.0	100.0	100.0	100.0	100.0
	72	100.0	100.0	100.0	100.0	100.0	100.0
	78	100.0	97.6	100.0	97.6	100.0	97.6
42	54	100.0	100.0	100.0	100.0	100.0	100.0
	60	100.0	100.0	100.0	100.0	100.0	100.0
	66	100.0	98.9	100.0	98.9	100.0	98.9
	72	100.0	90.7	100.0	90.7	100.0	90.7
48	78	100.0	83.7	100.0	83.7	100.0	83.7
	48	100.0	100.0	100.0	100.0	100.0	100.0
	54	100.0	100.0	100.0	100.0	100.0	100.0
	60	100.0	95.2	100.0	95.2	100.0	95.2
54	66	100.0	86.5	100.0	86.5	100.0	86.5
	72	100.0	79.3	100.0	79.3	100.0	79.3
	78	98.5	73.2	98.5	73.2	98.5	73.2
	42	100.0	100.0	100.0	100.0	100.0	100.0
60	48	100.0	100.0	100.0	100.0	100.0	100.0
	54	100.0	94.0	100.0	94.0	100.0	94.0
	60	100.0	84.6	100.0	84.6	100.0	84.6
	66	100.0	76.9	100.0	76.9	100.0	76.9
	72	94.8	70.5	94.8	70.5	94.8	70.5
	78	87.5	65.1	87.5	65.1	87.5	65.1
	36	100.0	100.0	100.0	100.0	100.0	100.0
72	42	100.0	100.0	100.0	100.0	100.0	100.0
	48	100.0	95.2	100.0	95.2	100.0	95.2
	54	100.0	84.6	100.0	84.6	100.0	84.6
	60	97.5	76.2	100.0	76.2	100.0	76.2
	66	88.7	69.2	93.1	69.2	93.1	69.2
	72	81.3	63.5	85.3	63.5	85.3	63.5
	78	75.0	58.6	78.8	58.6	78.8	58.6
84	30	100.0	100.0	100.0	100.0	100.0	100.0
	36	94.1	94.1	100.0	100.0	100.0	100.0
	42	80.6	80.6	100.0	90.7	100.0	90.7
	48	70.6	70.6	100.0	79.3	100.0	79.3
	54	62.7	62.7	91.6	70.5	94.8	70.5
	60	56.4	56.4	82.5	63.5	85.3	63.5
	66	51.3	51.3	75.0	57.7	77.6	57.7
84	72	47.0	47.0	68.7	52.9	71.1	52.9
	78	43.4	43.4	63.4	48.8	65.6	48.8
	24	88.9	88.9	100.0	100.0	100.0	100.0
	30	66.6	66.6	97.4	97.4	100.0	100.0
	36	59.2	59.2	86.5	86.5	100.0	90.7
	42	50.8	50.8	74.2	74.2	100.0	77.7
84	48	44.4	44.4	64.9	64.9	91.4	68.0
	54	39.5	39.5	57.7	57.7	81.3	60.4
	60	35.5	35.5	51.9	51.9	73.1	54.4
	66	32.3	32.3	47.2	47.2	66.5	49.5
	72	29.6	29.6	43.3	43.3	61.0	45.3
	78	27.3	27.3	39.9	39.9	56.3	41.8

ALL ALUMINUM TUBES SHALL BE 6061-T6 OR 6005-T5 ALUMINUM

NOTE: INDIVIDUAL UNIT SIZES & SHUTTER REQUIREMENTS ARE LIMITED BY THEIR OWN INDIVIDUAL "NOTICE OF ACCEPTANCE"

MULTIPLE WINDOWS/DOORS

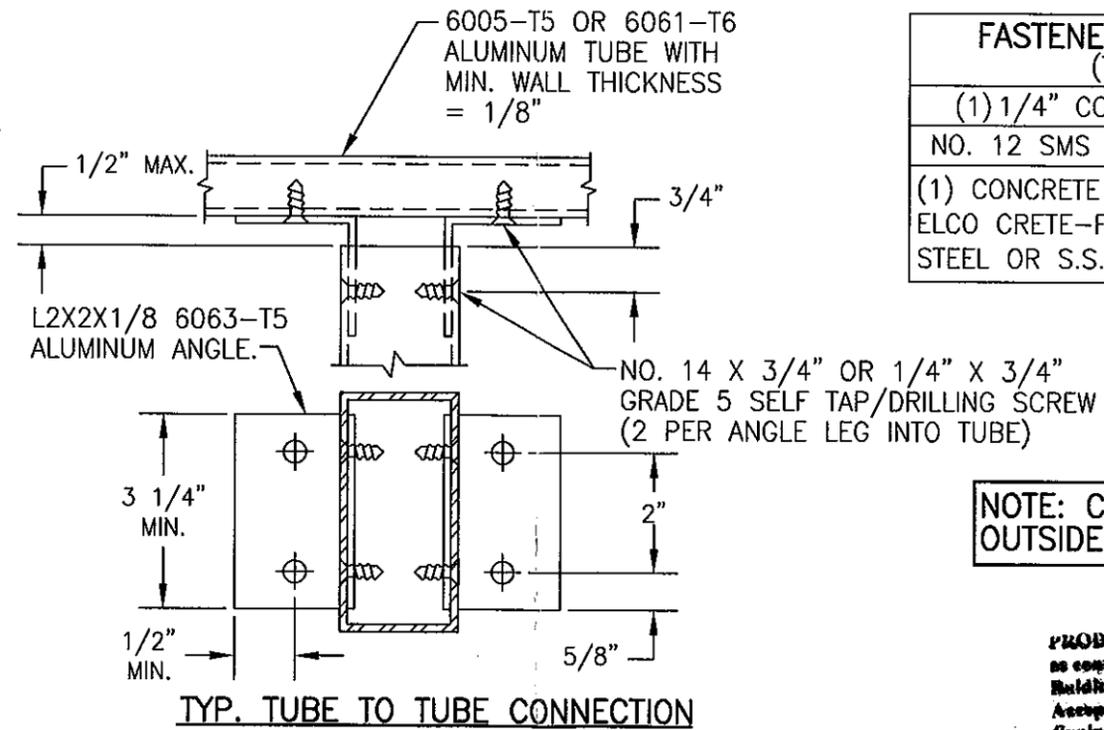
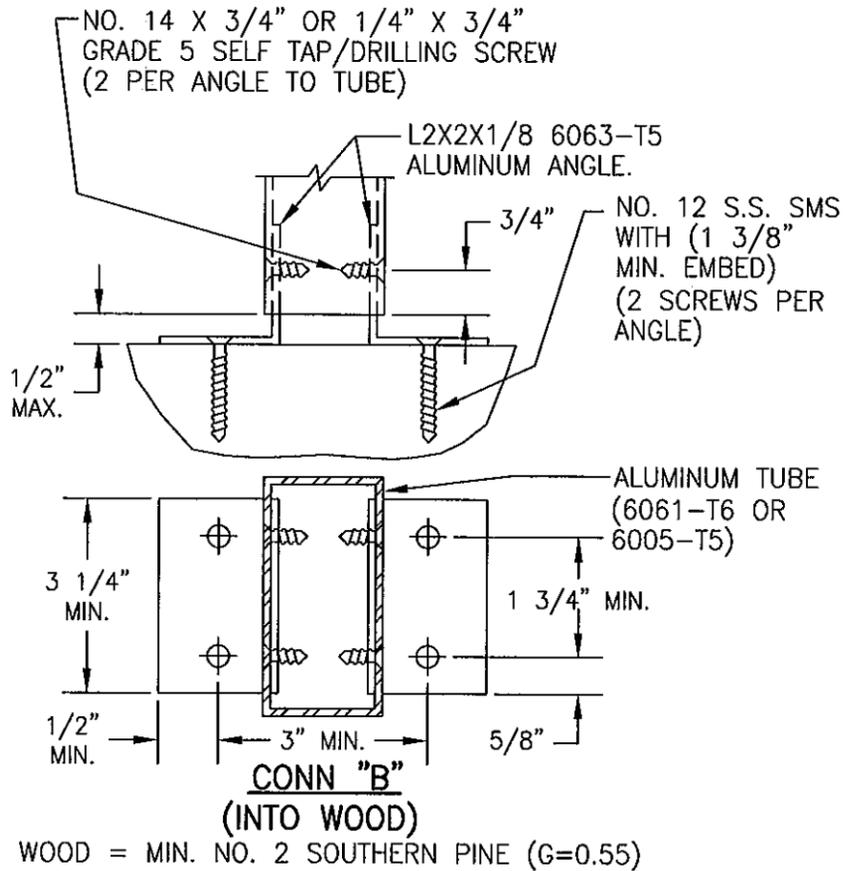
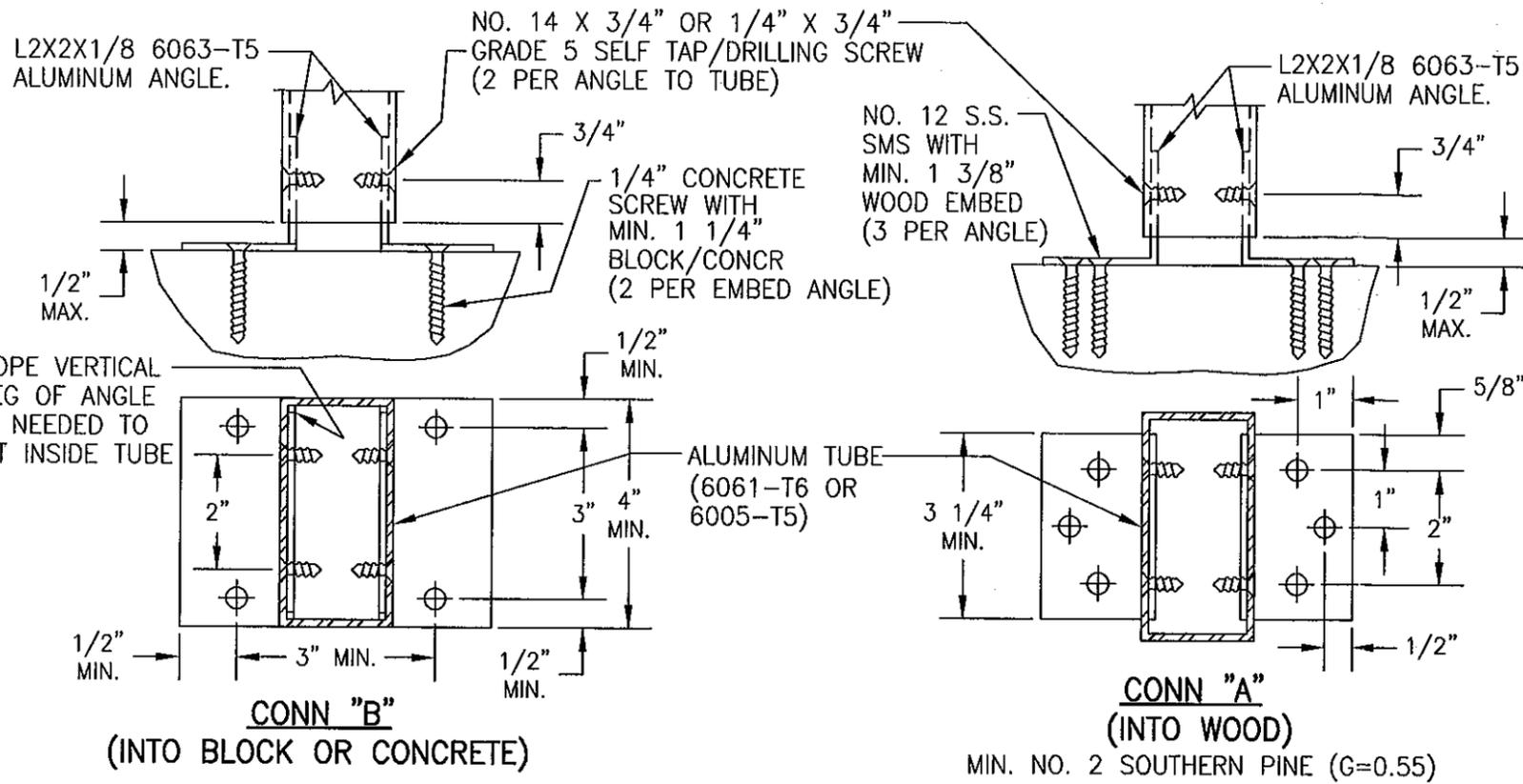
LENGTH (IN.)	LOAD WIDTH (IN.)	ALLOWABLE PRESSURES (PSF)					
		4X1X1/8 TUBE		4X2X1/8 TUBE		5X2X1/8 TUBE	
		CONN. "A"	CONN. "B"	CONN. "A"	CONN. "B"	CONN. "A"	CONN. "B"
96	24	59.5	59.5	87.0	87.0	100.0	100.0
	30	47.6	47.6	69.6	69.6	100.0	95.2
	36	39.7	39.7	58.0	58.0	100.0	79.3
	42	34.0	34.0	49.7	49.7	86.9	68.0
	48	29.8	29.8	43.5	43.5	76.0	59.5
	54	26.5	26.5	38.7	38.7	67.6	52.9
108	60	-	-	34.8	34.8	60.8	47.6
	66	-	-	31.6	31.6	55.3	43.3
	72	-	-	29.0	29.0	50.7	39.7
	78	-	-	26.8	26.8	46.8	36.6
	24	41.8	41.8	61.1	61.1	100.0	100.0
	30	33.4	33.4	48.9	48.9	85.5	84.6
120	36	27.9	27.9	40.7	40.7	71.2	70.5
	42	23.9	23.9	34.9	34.9	61.0	60.4
	48	-	-	30.5	30.5	53.4	52.9
	54	-	-	27.1	27.1	47.5	47.0
	60	-	-	24.4	24.4	42.7	42.3
	66	-	-	-	-	38.8	38.5
132	72	-	-	-	-	35.6	35.3
	78	-	-	-	-	32.9	32.5
	24	30.5	30.5	44.5	44.5	77.9	77.9
	30	24.4	24.4	35.6	35.6	62.3	62.3
	36	-	-	29.7	29.7	51.9	51.9
	42	-	-	25.4	25.4	44.5	44.5
144	48	-	-	-	-	38.9	38.9
	54	-	-	-	-	34.6	34.6
	60	-	-	-	-	31.1	31.1
	66	-	-	-	-	28.3	28.3
	72	-	-	-	-	26.0	26.0
	24	-	-	33.5	33.5	58.5	58.5
132	30	-	-	26.8	26.8	46.8	46.8
	36	-	-	-	-	39.0	39.0
	42	-	-	-	-	33.4	33.4
	48	-	-	-	-	29.3	29.3
144	54	-	-	-	-	26.0	26.0
	24	-	-	25.8	25.8	45.1	45.1
	30	-	-	-	-	36.0	36.0
	36	-	-	-	-	30.0	30.0
42	-	-	-	-	25.7	25.7	

CONN "A" = CONNECTION METHOD "A". SEE SHEET 5 & 6 FOR DETAIL.
 CONN "B" = CONNECTION METHOD "B". SEE SHEET 5 & 6 FOR DETAIL.
 NOTE: TUBE TO TUBE CONNECTION, AS DETAILED ON SHEET 5 & 6, IS ACCEPTABLE FOR ALL CONN. "A" LOADS.

PRODUCT REVISED
 as complying with the Florida
 Building Code
 Acceptance No. 11-1021-16
 Expiration Date 02/14/17
 W. Schaefer, P.E.
 Product Control



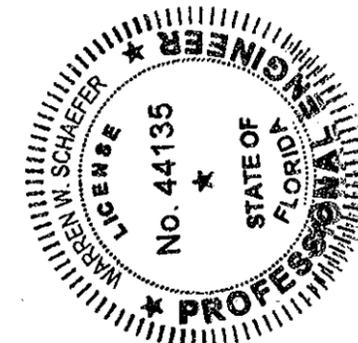
DRAWN BY: W.W.S.	CHECKED BY: W.W.S.
PLOT: 1-24	DATE: 07/24/01
DATE	BY
REVISION DESCRIPTION	NO.
DRAWING TITLE CLIPPED IMPACT & NON-IMPACT ALUMINUM TUBE MULLIONS	
MANUFACTURER HWD ACQUISITION, INC. dba HURD WINDOWS & DOORS 575 S. WHELEN AVE. MEDFORD, WI 54451 800-433-4873	
CONSULTANTS W. W. SCHAEFER ENGINEERING & CONSULTING, P.A. (CA 6809) 7480 150TH COURT NORTH, #3418 PALM BEACH GARDENS, FL 33418 PHONE: 561-744-3424	
CERTIFICATION	OCT 05 2011 WARREN W. SCHAEFER, P.E. P.E. NO. 44135
DRAWING NO. 1047A	REV. B
SHEET NO. 4 OF 6	



FASTENER EDGE DISTANCE REQUIRED (TO WOOD/CONCR./BLOCK)	
(1) 1/4" CONCRETE SCREWS	2 1/4"
NO. 12 SMS OR WOOD SCREWS	3/4"
(1) CONCRETE SCREWS SHALL BE ELCO ULTRACONS, ELCO CRETE-FLEX, OR HILTI KWIK-CON II (HARDENED STEEL OR S.S.).	

NOTE: CLIPS MAY BE PLACED INSIDE OR OUTSIDE OF THE TUBE.

PRODUCT REVISED
 as complying with the Florida
 Building Code
 Acceptance No. 11-1021.16
 Expiration Date 02/14/17
 By: *W. Schaefer*
 Manual Date Product Control



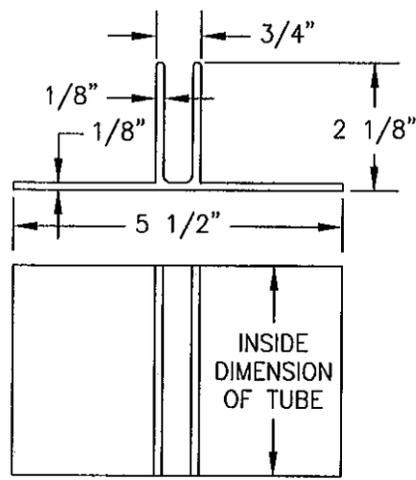
DRAWN BY: W.W.S.	CHECKED BY: W.W.S.
PLOT: 1=3	DATE: 07/24/01
NO.	REVISION DESCRIPTION
DATE	BY

DRAWING TITLE
CLIPPED IMPACT & NON-IMPACT ALUMINUM TUBE MULLIONS

CONSULTANTS
W. W. SCHAEFER ENGINEERING & CONSULTING, P.A. (CA 6809)
7480 150TH COURT NORTH
PALM BEACH GARDENS, FL 33418
PHONE: 561-744-3424

MANUFACTURER
HWD ACQUISITION, INC. dba
HURD WINDOWS & DOORS
575 S. WHELEN AVE.
MEDFORD, WI 54451
800-433-4873

CERTIFICATION	OCT 05 2011
WARREN W. SCHAEFER, P.E.	P.E. NO. 44135
DRAWING NO.	REV.
1047A	B
SHEET NO.	OF
5	6

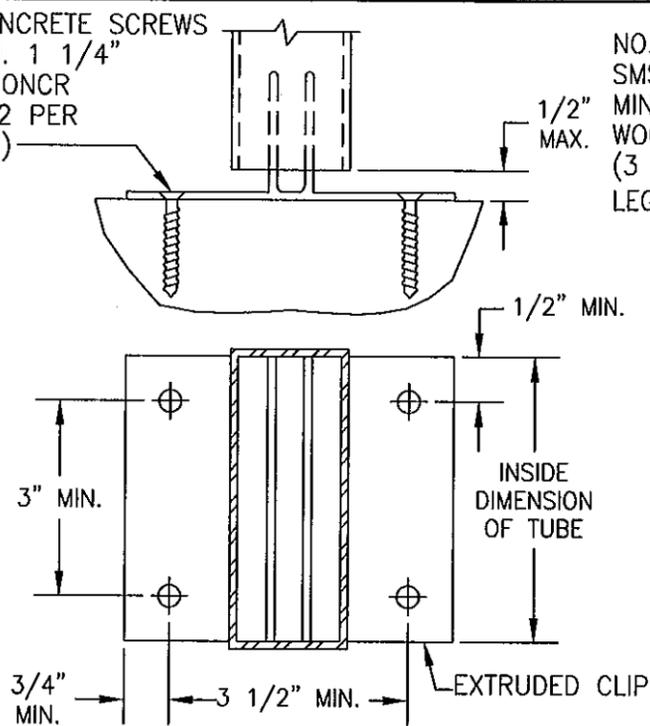


EXTRUDED CLIP
6063-T5 ALUMINUM

INSTALLATION INSTRUCTION:

1. SLIP CLIP INTO TUBE (CLIP MUST BE CUT TO THE INSIDE DIMENSION OF THE TUBE & BE CENTERED WITH THE TUBE). NOTE THAT NO SCREWING OF TUBE TO CLIP IS REQUIRED.
2. SECURE CLIP TO STRUCTURE USING FASTENING METHOD DESCRIBED WITH EACH CONNECTION TYPE "A" & "B" AND THE APPLICABLE OPTION CONSIDERING ALL DIMENSION REQUIREMENTS SPECIFIED AS MIN & MAX.

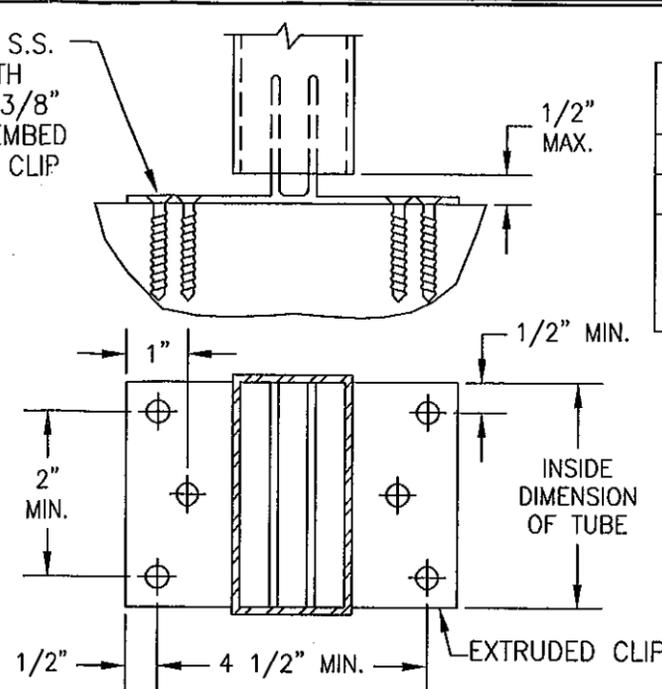
1/4" CONCRETE SCREWS WITH MIN. 1 1/4" BLOCK/CONCR EMBED (2 PER CLIP LEG)



CONN "B"
(INTO BLOCK OR CONCRETE)

IF REQUIRED TO FIT INSIDE A 4" TUBE, THE VERTICAL LEGS MAY BE TRIMMED TO FIT INSIDE THE TUBE.

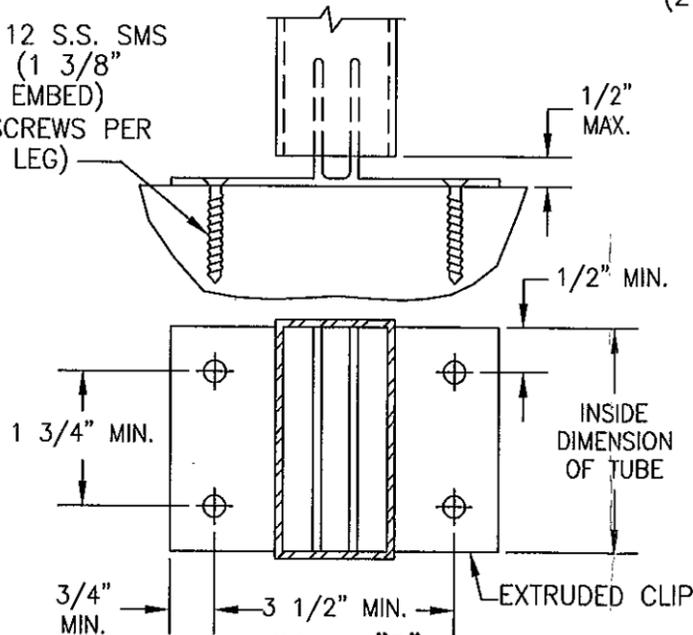
NO. 12 S.S. SMS WITH MIN. 1 3/8" WOOD EMBED (3 PER CLIP LEG)



CONN "A"
(INTO WOOD)

MIN. NO. 2 SOUTHERN PINE (G=0.55)

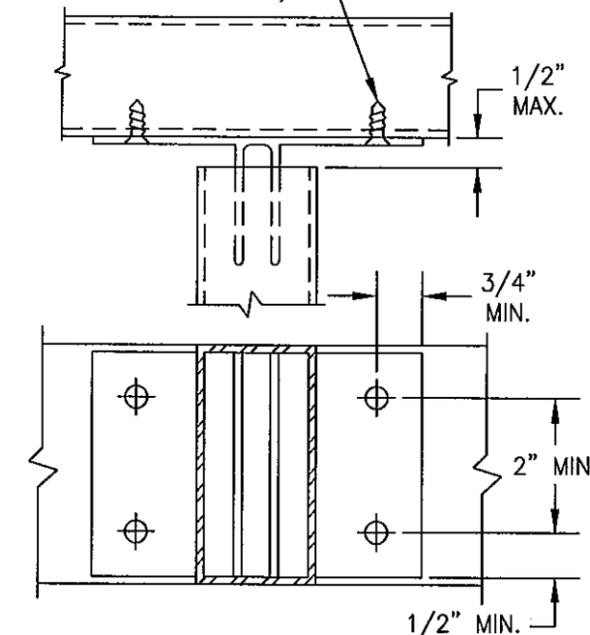
NO. 12 S.S. SMS WITH (1 3/8" MIN. EMBED) (2 SCREWS PER CLIP LEG)



CONN "B"
(INTO WOOD)

WOOD = MIN. NO. 2 SOUTHERN PINE (G=0.55)

NO. 14 X 3/4" OR 1/4" X 3/4" GRADE 5 SELF TAP/DRILLING SCREW (2 PER CLIP LEG INTO TUBES)

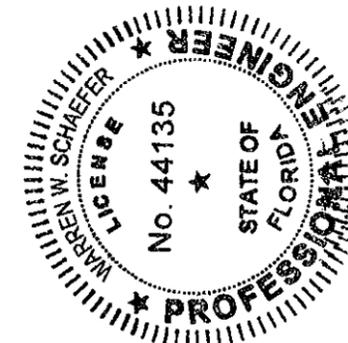


TYP. TUBE TO TUBE CONNECTION

FASTENER EDGE DISTANCE REQUIRED
(TO WOOD/CONCR./BLOCK)

(1) 1/4" CONCRETE SCREWS	2 1/4"
NO. 12 SMS OR WOOD SCREWS	3/4"
(1) CONCRETE SCREWS SHALL BE ELCO ULTRACONS, ELCO CRETE-FLEX, OR HILTI KWIK-CON II (HARDENED STEEL OR S.S.).	

PRODUCT REVISED as complying with the Florida Building Code
Acceptance No. 11-1021.16
Expiration Date: 2/14/2017
Warren W. Schaefer
Professional Product Control



DRAWN BY: W.W.S.	CHECKED BY: W.W.S.
PLOT: 1-3	DATE: 07/24/01
NO.	REVISION DESCRIPTION

CLIPPED IMPACT & NON-IMPACT ALUMINUM TUBE MULLIONS

MANUFACTURER
HWD ACQUISITION, INC. dba HURD WINDOWS & DOORS
575 S. WHELEN AVE.
MEDFORD, WI 54451
800-433-4873

CONSULTANTS
W. W. SCHAEFER ENGINEERING & CONSULTING, P.A. (CA 6809)
7480 150TH COURT NORTH
PALM BEACH GARDENS, FL 33418
PHONE: 561-744-3424

CERTIFICATION
Warren W. Schaefer
OCT 05 2011
WARREN W. SCHAEFER, P.E.
P.E. NO. 44135

DRAWING NO. 1047A	REV. B
SHEET NO. 6 OF 6	

MULLION END CONNECTION DETAILS
USING EXTRUDED CLIP