



**BUILDING CODE COMPLIANCE OFFICE (BCCO)
PRODUCT CONTROL DIVISION**

**MIAMI-DADE COUNTY, FLORIDA
METRO-DADE FLAGLER BUILDING
140 WEST FLAGLER STREET, SUITE 1603
MIAMI, FLORIDA 33130-1563
(305) 375-2901 FAX (305) 375-2908**

NOTICE OF ACCEPTANCE (NOA)

**Sansone Hurricane Shutters, Inc.
505 N.E. 27th Street
Pompano Beach, Florida 33064**

SCOPE:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed by Miami-Dade County Product Control Division and accepted by the Board of Rules and Appeals (BORA) 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 Division (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. BORA reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Division 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 High Velocity Hurricane Zone of the Florida Building Code.

DESCRIPTION: ASSA / Economy Aluminum Accordion Shutter

APPROVAL DOCUMENT: Drawing No. 04-065, titled "ASSA/ Economy Accordion Shutter", sheets 1 through 9 of 9, prepared by Tilteco, Inc., dated June 8, 2004, signed and sealed by Walter A. Tillit Jr., 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 Division.

MISSILE IMPACT RATING: Large and Small Missile Impact

LABELING: Each unit shall bear a permanent label with the manufacturer's name or logo, city, state and the 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** NOA #02-0502.12 and consists of this page 1, evidence submitted page(s) as well as approval document mentioned above.

The submitted documentation was reviewed by **Helmy A. Makar, P.E.**



Helmy A. Makar
07/22/2004

**NOA No 04-0624.01
Expiration Date: 10/17/2006
Approval Date: 07/22/2004
Page 1**

Sansone Hurricane Shutters, Inc.

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

1. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL #97-1202.01

A. DRAWINGS

1. *Drawing prepared by Tilteco Inc. titled "ASSA/Economy Accordion Shutter," Drawing No. 97-283, dated November 18, 1997, sheets 1 through 9 of 9, signed and sealed by Walter A. Tillit, Jr., P.E.*

B. TESTS (Refer to American Shutter Systems Association, Inc., File No. 96-0091)

1. *Test report on Large Missile Impact Test, Cyclic Wind Pressure Test and Uniform Static Air Pressure Test "Aluminum Accordion Shutter", prepared by American Test Lab of South Florida, Report #ATL 0523.01-95, dated June 1, 1995, signed and sealed by William R. Mehner, P.E.*
2. *Test report on Large Missile Impact Test, Cyclic Wind Pressure Test and Uniform Static Air Pressure Test "Aluminum Accordion Shutter", prepared by American Test Lab of South Florida, Report #ATL 0201.01-96, dated July 13, 1996, signed and sealed by William R. Mehner, P.E.*
3. *Addendum to Test report on Large Missile Impact Test, Cyclic Wind Pressure Test and Uniform Static Air Pressure Test "Aluminum Accordion Shutter", prepared by American Test Lab of South Florida, Report No. ATL #0201.01-96R, dated September 16, 1997, signed and sealed by William R. Mehner, P.E.*

C. CALCULATIONS (Refer to American Shutter Systems Association, Inc., File No. 96-0091)

1. *Comparative analysis and anchor calculations dated June 14, 1995, pages 1 to 17 of 17, prepared by Tilteco Inc., signed and sealed by Walter A. Tillit, Jr., P.E.*
2. *Comparative analysis dated July 15, 1996, pages 1 to 16 of 16, prepared by Tilteco Inc., signed and sealed by Walter A. Tillit, Jr., P.E.*
3. *Anchor calculations dated August 15, 1997, pages 1 to 15 of 15, prepared by Tilteco Inc., signed and sealed by Walter A. Tillit, Jr., P.E.*

D. MATERIAL CERTIFICATIONS (Refer to American Shutter Systems Association, Inc., File No. 96-0091)

1. *Mill Certified Test Reports issued by Carolina Aluminum, dated June 9, 1995, with chemical composition and mechanical properties of the blade, DIE No. 839127 for aluminum alloy 6063-T6.*
2. *Tensile Test Report No. 5FM-1456, prepared by QC Metallurgical, Inc., dated June 23, 1995, signed and sealed by Frank Grate, P.E.*
3. *Mill Certified Test Reports issued by Easco Aluminum, dated May 20, 1996, with chemical composition and mechanical properties of the blade, DIE No. 839122 for Aluminum Alloy 6063-T6.*



Helmy A. Makar, P. E.

Product Control Examiner

NOA No 04-0624.01

Expiration Date: 10/17/2006

Approval Date: 07/22/2004

Sansone Hurricane Shutters, Inc.

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

4. *Tensile Test Report No. CTL-674B, prepared by Certified Testing Laboratories, dated August 13, 1996, signed and sealed by Ramesh Patel, P.E.*

E. STATEMENTS

1. *Release letter issued by the American Shutter Systems Association, Inc., dated November 17, 1997, certifying this product to meet the criteria of product tested and approved, and allowing Sansone Hurricane Shutters, Inc., to use the test results approved under Dade County Approval No. 96-0091, signed by Mr. John J. Cooper.*
2. *Acknowledgment letter by Sansone Hurricane Shutters, Inc., dated February 18, 1998, signed by Mr. Nino Sansone.*
3. *Letter by Tilteco Inc., dated November 26, 1997, certifying that the drawing (No. 97-283) prepared for Sansone Hurricane Shutters, Inc., signed and sealed by Mr. Walter A. Tillit, Jr., P.E., is engineering wise identical to ASSA's generic drawing (No. 95-62A).*

2. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL #98-1214.03

A. STATEMENTS

1. *Letter from Sansone Hurricane Shutters, Inc., dated December 1, 1998, stating that the product has not changed since it was last approved, signed by Dean Mannino.*
2. *Letter from Tilteco, Inc., dated December 1, 1998, stating that Tilteco is still in the engineering business, signed by Walter A. Tillit, P.E.*
3. *Acceptance letter, signed by Dean Mannino on January 13, 1999, marked please issue the proposed Notice of Acceptance as presented and reviewed.*

3. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL #01-0829.03

A. STATEMENTS

1. *Letter from Sansone Hurricane Shutters, Inc., dated July 23, 2001, stating that the product has not changed in any shape or form, signed by Dean Mannino.*
3. *Letter from Tilteco, Inc., dated August 27, 2001, stating that Tilteco is still in the engineering business, signed by Walter A. Tillit, P.E.*

4. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL #02-0502.12

A. DRAWINGS

1. *None.*

B. TESTS

1. *None.*

C. CALCULATIONS

1. *None.*



Helmy A. Makar, P. E.

Product Control Examiner

NOA No 04-0624.01

Expiration Date: 10/17/2006

Approval Date: 07/22/2004

Sansone Hurricane Shutters, Inc.

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

D. MATERIAL CERTIFICATIONS

1. *None.*

E. STATEMENTS

1. Letter from Sansone Hurricane Shutters, Inc., dated April 29, 2002, signed by Mr. Dean Mannino, requested this approval to be revised for Florida Building Code compliance.
2. *Acceptance Letter issued to Mr. Dean Mannino on May 09, 2002, and returned signed by Mr. Dean Mannino on May 09, 2002, indicating to please issue the proposed Notice of Acceptance as submitted and reviewed.*

5. NEW EVIDENCE SUBMITTED

A. DRAWINGS

1. *Drawing No. 04-065, titled "ASSA/ Economy Accordion Shutter", sheets 1 through 9 of 9, prepared by Tilteco, Inc., dated June 8, 2004, signed and sealed by Walter A. Tillit Jr., P.E.*

B. TESTS

1. *None.*

C. CALCULATIONS

1. *None.*

D. QUALITY ASSURANCE

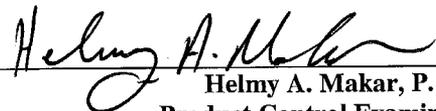
1. *By Miami-Dade County Building Code Compliance Office.*

E. MATERIAL CERTIFICATIONS

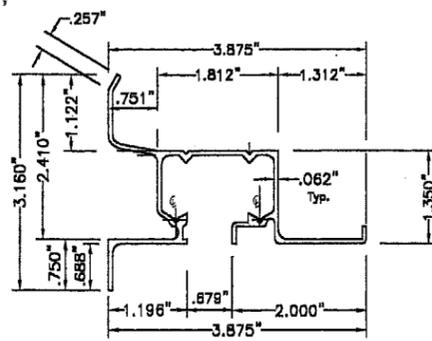
1. *None.*

E. STATEMENTS

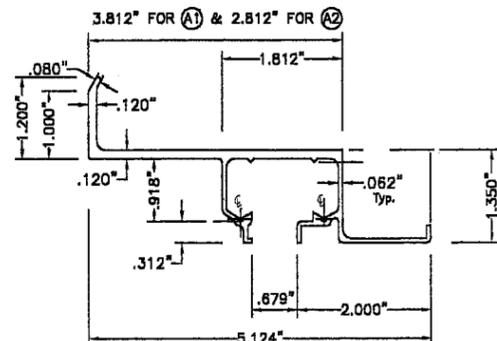
1. *Letter from Tilteco, Inc. dated June 8, 2004, signed and sealed by Walter A. Tillit Jr., P.E., to certify that the only changes added to drawing #04-065 for ASSA / Economy Accordion Shutter / Sansone Hurricane Shutters, Inc. as opposed to currently approved drawing #97-283 are on General Note #1, applicable to reference to the Florida Building Code, ASCE 7-98 Wind Standards, and to General Note #11, applicable to the Florida Board of Engineers Notes.*



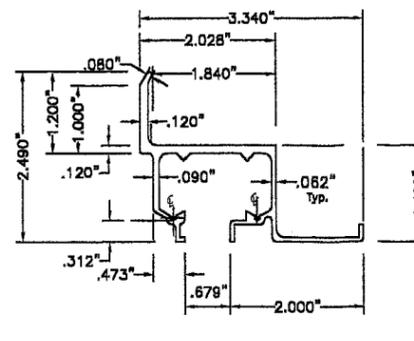
Helmy A. Makar, P. E.
Product Control Examiner
NOA No 04-0624.01
Expiration Date: 10/17/2006
Approval Date: 07/22/2004



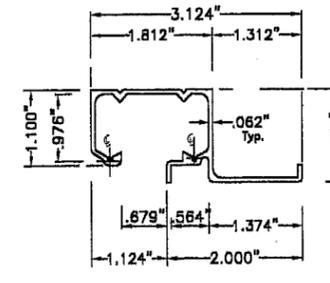
(A) HEADER-WALL MOUNT.



(A1) & (A2) HEADERS-WALL MOUNT.



(A3) HEADERS-WALL MOUNT.



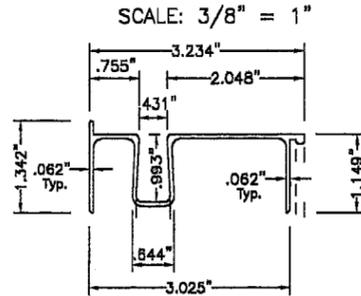
(B) HEADER CEILING MOUNT.

(A) SILL-WALL MOUNT. (INVERTED USE)

SCALE: 3/8" = 1"

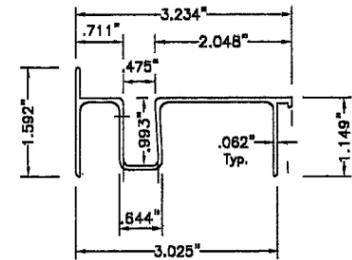
SCALE: 3/8" = 1"

SCALE: 3/8" = 1"



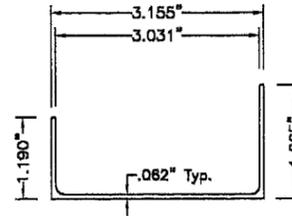
(C) SILL

SCALE: 3/8" = 1"



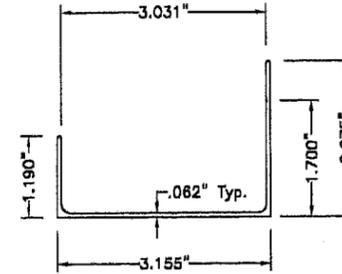
(C1) SILL

SCALE: 3/8" = 1"



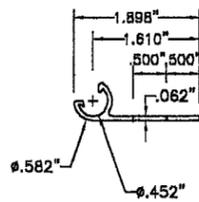
(D) SILL BOTTOM ADAPTER

SCALE: 3/8" = 1"



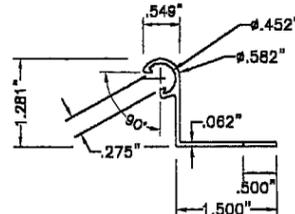
(D1) SILL BOTTOM ADAPTER

SCALE: 3/8" = 1"



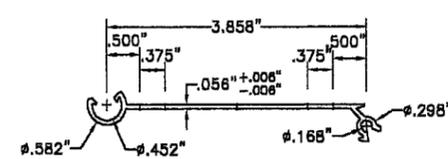
(E) 180° STARTER

SCALE: 3/8" = 1"



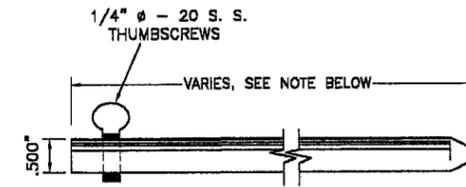
(E1) 90° STARTER

SCALE: 3/8" = 1"



(F) LOUVER BLADE

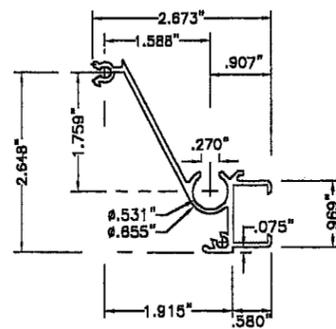
SCALE: 3/8" = 1"



(G) LOCKING PIN

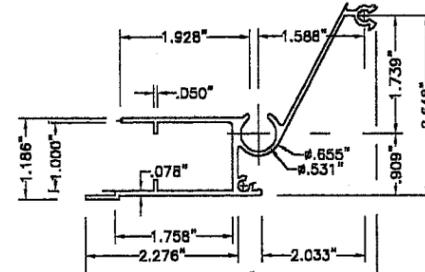
SCALE: 3/8" = 1"

12" Min. FOR UP TO 9'-0" SHUTTER BLADE LENGTHS AND 24" Min. FOR SHUTTER BLADE LENGTHS GREATER THAN 9'-0".



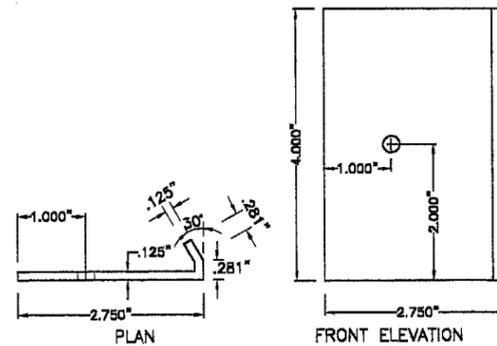
(H) MALE LOCK SLAT

SCALE: 3/8" = 1"



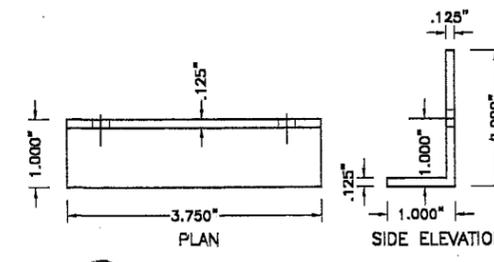
(I) FEMALE LOCK SLAT

SCALE: 3/8" = 1"



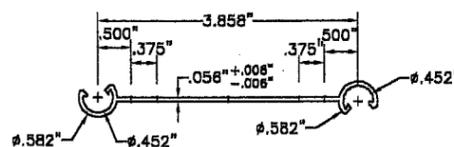
(J) OUTSIDE LOCKER # 1

SCALE: 3/8" = 1"



(K) INSIDE LOCKER # 2

SCALE: 3/8" = 1"



(L) FEMALE/FEMALE

ECONO BLADE

SCALE: 3/8" = 1"

COMPONENTS

Signature

JUN 08 2004

GENERAL NOTES:

- ACCORDION SHUTTER SHOWN ON THIS PRODUCT APPROVAL DOCUMENT HAS BEEN VERIFIED FOR COMPLIANCE IN ACCORDANCE WITH THE 2001 EDITION OF THE FLORIDA BUILDING CODE. DESIGN WIND LOADS SHALL BE DETERMINED AS PER SECTION 1619 OF THE ABOVE MENTIONED CODE, FOR A BASIC WIND SPEED OF 148 m.p.h., AND IN ACCORDANCE W/ ASCE 7-98 STANDARD. ACCORDION SHUTTER'S ADEQUACY FOR IMPACT AND FATIGUE RESISTANCE HAS BEEN VERIFIED IN ACCORDANCE WITH SECTION 1606.1.4 OF THE ABOVE MENTIONED CODE AS PER ATL REPORT # 0201.01-98 AS PER TAS-201, TAS-202 AND TAS-203.
- STAINLESS STEEL SHEET METAL SCREWS USED AT LOUVER PIN SHALL BE # 10 x 3", 410-HT MINIMUM SERIES W/ 138.0 ksi YIELD POINT & 180 ksi TENSILE STRENGTH. SCREWS SHALL BE COATED WITH XYLAN 5000 SERIES FLUOROPOLYMER COATINGS AS MANUFACTURED BY WHITFORD Co, BOX 507, WEST CHESTER PA. 19381.
- ALL ALUMINUM EXTRUSIONS SHALL BE ALUMINUM ASSOCIATION 8063-T6 ALLOY & TEMPER (UNLESS OTHERWISE NOTED).
- ALL SCREWS TO BE STAINLESS STEEL 304 OR 316 AISI SERIES OR CORROSION RESISTANT COATED CARBON STEEL AS PER DIN 50018 W/ 50 ksi YIELD POINT AND 90 ksi TENSILE STRENGTH.
- ALL ALUMINUM POP RIVETS TO BE 5052 ALUMINUM ALLOY WITH ALUMINUM MANDREL.
- BOLTS TO BE ALUMINUM ASSOCIATION 2024-T4 ALLOY & TEMPER, ASTM A-307 GALVANIZED STEEL OR AISI 304 SERIES STAINLESS STEEL, WITH 35 ksi MINIMUM YIELD POINT.
- ANCHORS TO WALL SHALL BE AS FOLLOWS: (UNLESS OTHERWISE NOTED)
 - (A) TO EXISTING POURED CONCRETE:
 - 1/4" # TAPCON ANCHORS, AS MANUFACTURED BY I.T.W. BUILDEX OR ELCO TEXTRON
 - 1/4" # ZAMAC NAILIN ANCHORS, AS MANUFACTURED BY POWERS FASTENERS, INC.
 - 1/4" # x 7/8" CALK-IN AS MANUFACTURED BY POWERS FASTENERS, INC.

NOTES:

- A.1) MINIMUM EMBEDMENT OF TAPCON ANCHORS INTO POURED CONCRETE IS 1 3/4". MINIMUM EMBEDMENT OF ZAMAC NAILIN IS 1 1/2".
- A.2) 7/8" CALK-IN ANCHORS SHALL BE ENTIRELY EMBEDDED INTO THE POURED CONCRETE. NO EMBEDMENT INTO STUCCO SHALL BE PERMITTED. 1/4" # -20 LONG MINIMUM SHOULD STUCCO EXIST.
- A.3) IN CASE THAT PRECAST STONE, PRECAST CONCRETE PANELS, OR PAVERS BE FOUND ON THE EXISTING WALL OR FLOOR, ANCHORS SHALL BE LONG ENOUGH TO REACH THE MAIN STRUCTURE BEHIND SUCH PANELS. ANCHORAGE SHALL BE AS INDICATED ON NOTES A.1) & A.2) ABOVE.
- (B) TO EXISTING CONCRETE BLOCK WALL:
 - 1/4" # TAPCON ANCHORS AS MANUFACTURED BY I.T.W. BUILDEX OR ELCO TEXTRON
 - 1/4" # ZAMAC NAILIN ANCHORS AS MANUFACTURED POWERS FASTENERS, INC.
 - 1/4" # x 7/8" CALK-IN AS MANUFACTURED BY POWERS FASTENERS, INC.

NOTES:

- B.1) MINIMUM EMBEDMENT OF TAPCON ANCHORS, AND ZAMAC NAILIN ANCHORS INTO THE CONCRETE BLOCK UNIT SHALL BE 1 1/4".
- B.2) 7/8" CALK-IN ANCHORS SHALL BE ENTIRELY EMBEDDED INTO THE CONCRETE. BLOCK UNIT. NO EMBEDMENT INTO STUCCO SHALL BE PERMITTED. 1/4" # -20 SCREWS USED SHALL BE 1 1/2" LONG MINIMUM SHOULD STUCCO EXIST.
- B.3) IN CASE THAT PRECAST STONE OR PRECAST CONCRETE PANELS BE FOUND ON THE EXISTING WALL, ANCHORS SHALL BE LONG ENOUGH TO REACH THE MAIN STRUCTURE BEHIND SUCH PANELS. ANCHORAGE SHALL BE AS INDICATED ON NOTES B.1) & B.2) ABOVE.
- (C) ANCHORS SHALL BE INSTALLED FOLLOWING ALL OF THE RECOMMENDATIONS AND SPECIFICATIONS OF THE ANCHOR'S MANUFACTURER.
- 6. BLADE (F), AND THE KNUCKLES FOR CENTERMATES (H) & (I) & THE STARTERS (E) & (E1) ARE UNDER THE PATENT OF EASTERN METALS.
- 9. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE SOUNDNESS OF THE STRUCTURE WHERE SHUTTER IS TO BE ATTACHED TO INSURE PROPER ANCHORAGE.
- 10. THE INSTALLATION CONTRACTOR IS TO SEAL/CAULK ALL SHUTTER COMPONENT EDGES WHICH REMAIN IN CONTINUOUS CONTACT WITH THE BUILDING TO PREVENT WIND/RAIN INTRUSION. CAULK AND SEAL SHUTTER TRACKS ALL AROUND FULL LENGTH.
- 11. (a) THE PRODUCT APPROVAL DOCUMENT (P.A.D.) PREPARED BY THIS ENGINEER IS GENERIC AND DOES NOT PROVIDE INFORMATION FOR A SITE SPECIFIC PROJECT; I.E. WHERE THE SITE CONDITIONS DEVIATE FROM THE P.A.D.
- (b) CONTRACTOR TO BE RESPONSIBLE FOR THE SELECTION, PURCHASE AND INSTALLATION INCLUDING LIFE SAFETY OF THIS PRODUCT BASED ON THIS PRODUCT APPROVAL PROVIDED HE/SHE DOES NOT DEVIATE FROM THE CONDITIONS DETAILED ON THIS DOCUMENT. CONSTRUCTION SAFETY AT SITE IS THE CONTRACTOR'S RESPONSIBILITY.
- (c) THIS PRODUCT APPROVAL DOCUMENT WILL BE CONSIDERED INVALID IF MODIFIED.
- (d) SITE SPECIFIC PROJECTS SHALL BE PREPARED BY A FLORIDA REGISTERED ENGINEER OR ARCHITECT WHICH WILL BECOME THE PROFESSIONAL OF RECORD (P.O.R.) FOR THE PROJECT AND WHO WILL BE RESPONSIBLE FOR THE PROPER USE OF THE P.A.D. PROFESSIONAL OF RECORD, ACTING AS DELEGATED ENGINEER TO THE P.A.D. ENGINEER, SHALL SUBMIT TO THIS LATTER THE SITE SPECIFIC DRAWINGS FOR REVIEW.
- (e) THIS P.A.D. SHALL BEAR THE DATE AND ORIGINAL SEAL AND SIGNATURE OF THE PROFESSIONAL ENGINEER THAT PREPARED IT.

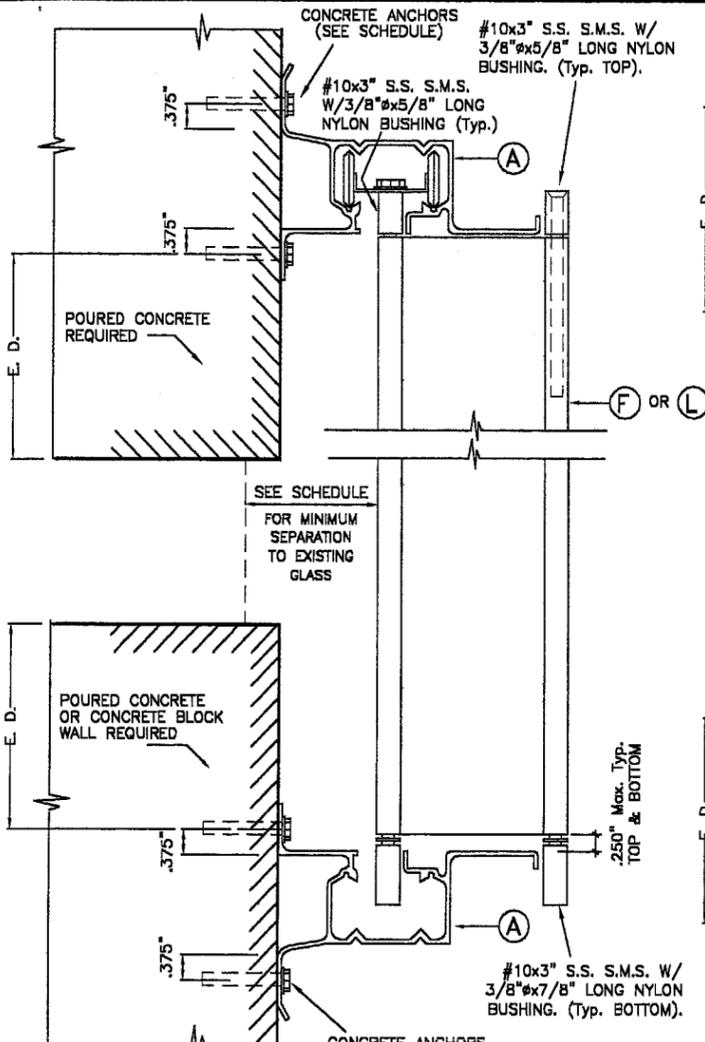
PRODUCT REVISED as complying with the Florida Building Code Acceptance No 04-0624.01 Expiration Date 10/17/2006

By *Helmut A. Miller* Miami Dade Product Control Division

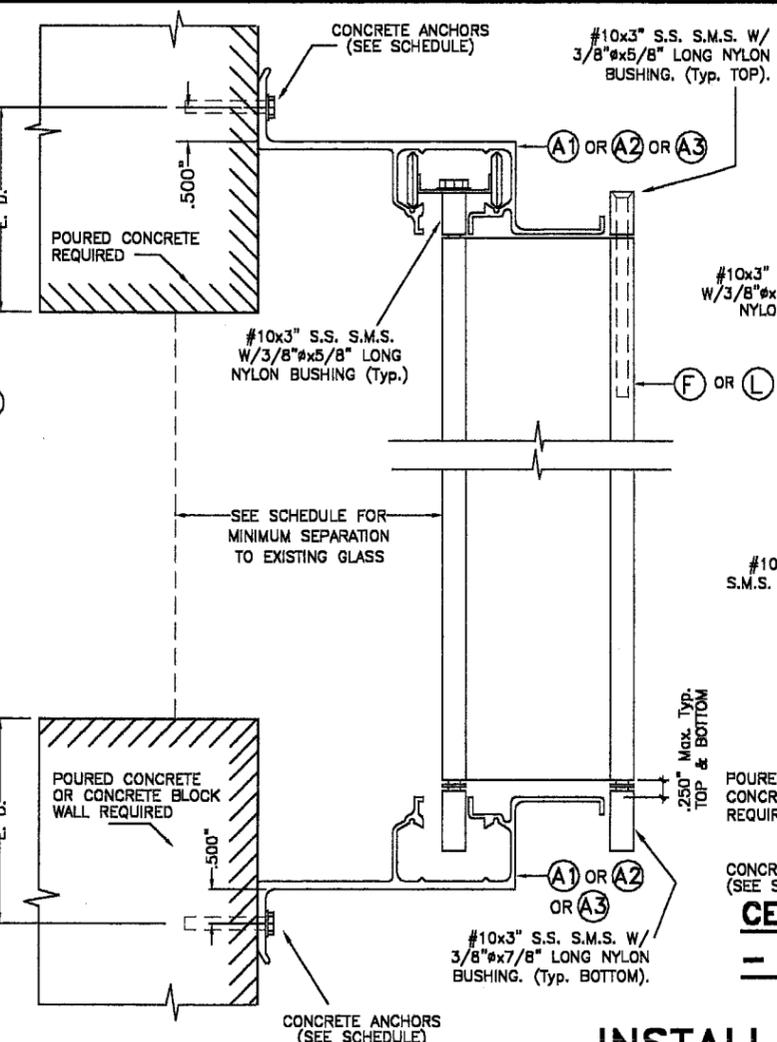
F.B.C.(H.V.H.Z.)/MIAMI-DADE COUNTY

TILECO Inc.
TILLIT TESTING & ENGINEERING COMPANY
8695 N.W. 36th St., Ste. 217, VIRGINIA GARDENS, FLORIDA 33166
Phone: (305)871-1530 Fax: (305)871-1531
EB-0008719
WALTER A. TILLIT Jr., P. E.
FLORIDA Lic. # 44167

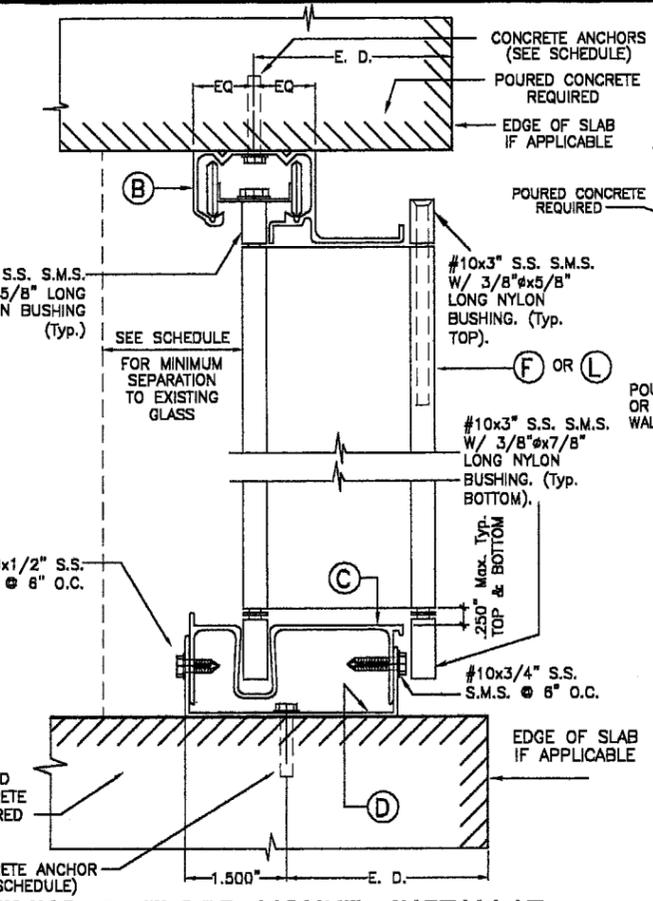
ASSA / ECONOMY ACCORDION SHUTTER		AS SHOWN SCALE
SANSONE HURRICANE SHUTTERS, INC.		8/8/04 DATE
(A.S.A. # 4) 505 N.E. 27th STREET POMPANO BEACH, FLORIDA 33064		04-065 DRAWING No
REV. NO	DESCRIPTION	DATE
1	-	-
2	-	-
REV. No	DESCRIPTION	DATE
3	-	-
4	-	-
SHEET 1 OF 9		



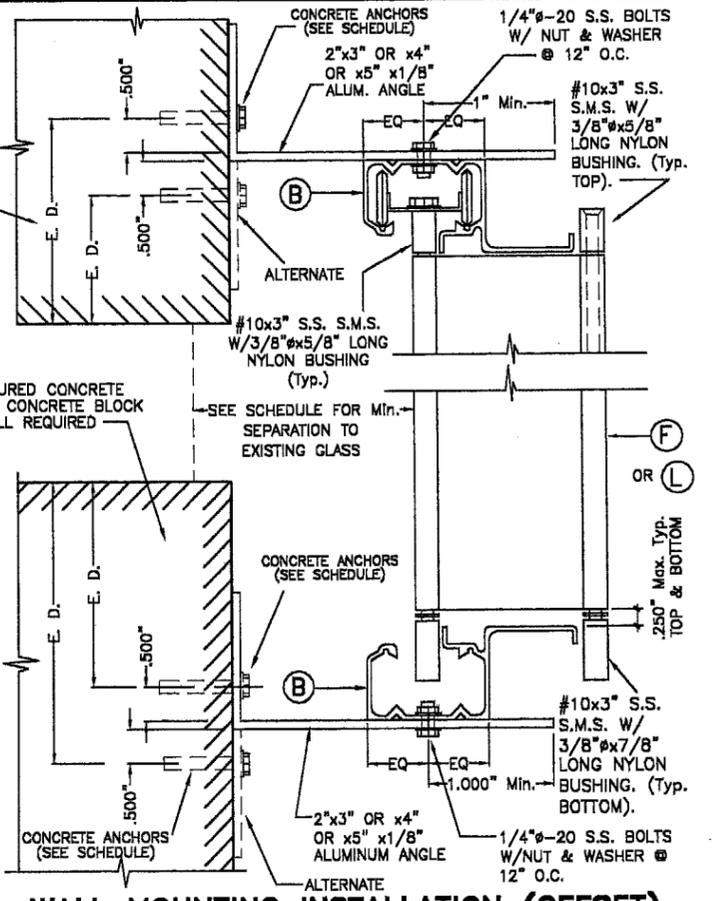
WALL MOUNTING INSTALLATION
- SECTION A SCALE: 3/8" = 1"



WALL MOUNTING INSTALLATION
- SECTION A1 SCALE: 3/8" = 1"

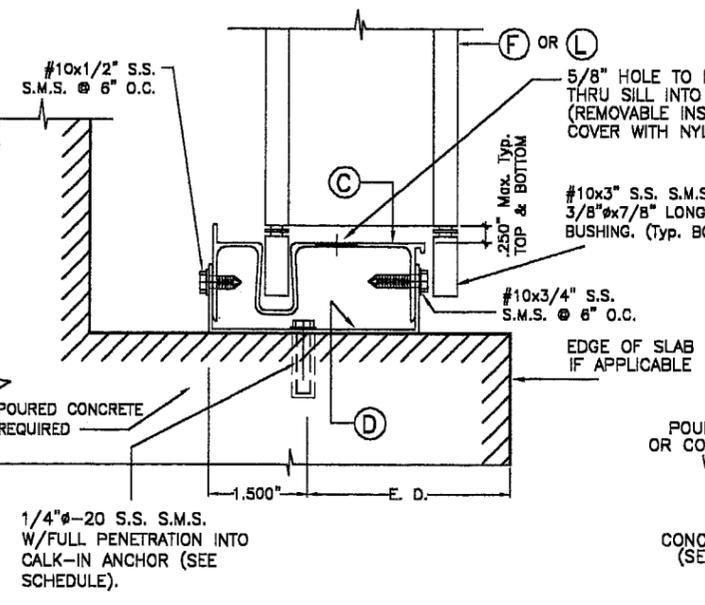


CEILING & FLOOR MOUNT. INSTALLAT.
- SECTION B SCALE: 3/8" = 1"

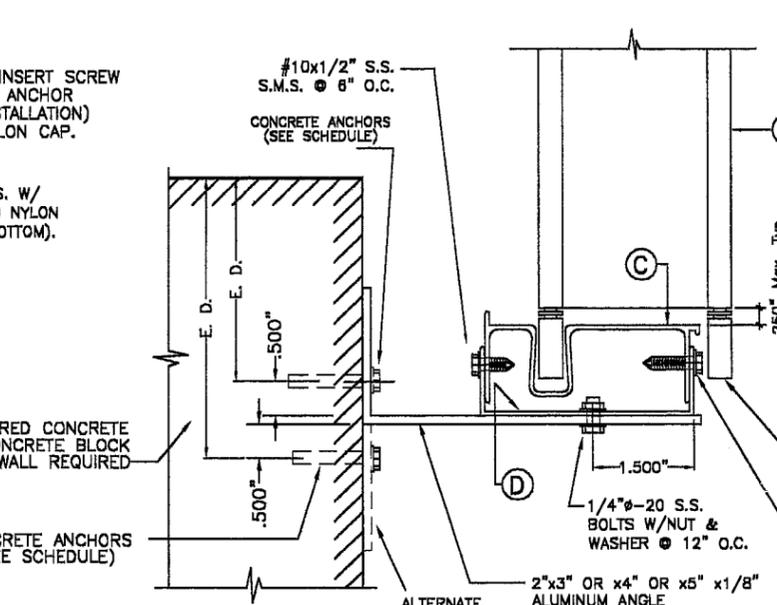


WALL MOUNTING INSTALLATION (OFFSET)
- SECTION C SCALE: 3/8" = 1

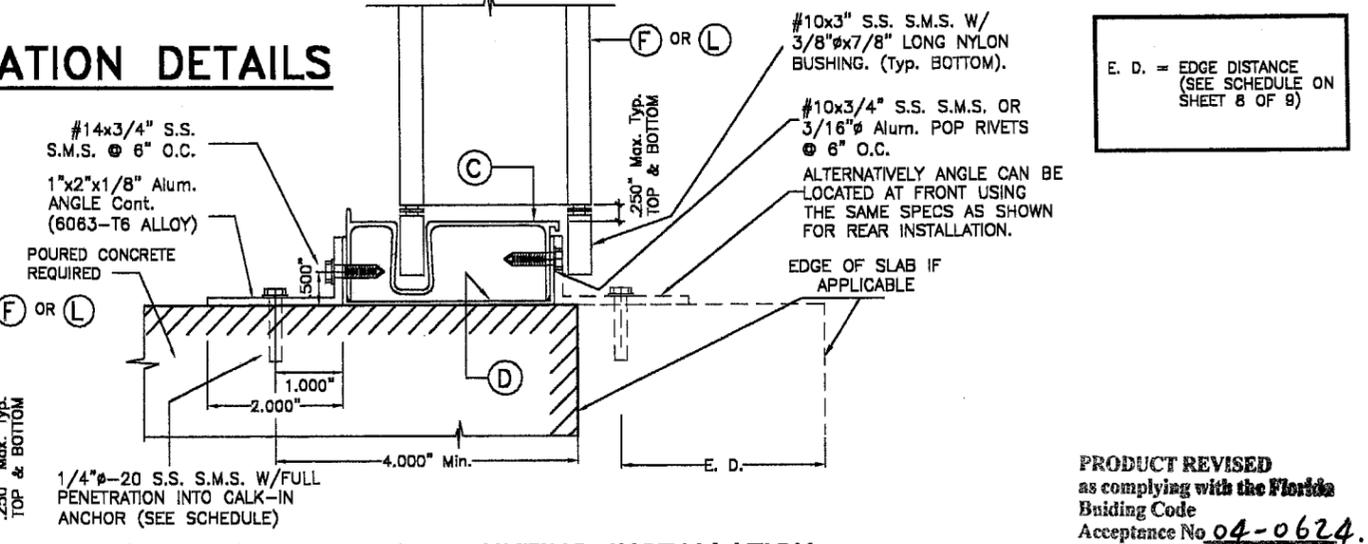
INSTALLATION DETAILS



REMOVABLE FLOOR MOUNTING INSTALLATION
- SECTION B1 SCALE: 3/8" = 1"



WALL MOUNTING INSTALLATION (OFFSET)
- SECTION C1 SCALE: 3/8" = 1"



REMOVABLE FLOOR MOUNTING INSTALLATION
- SECTION B2 SCALE: 3/8" = 1"

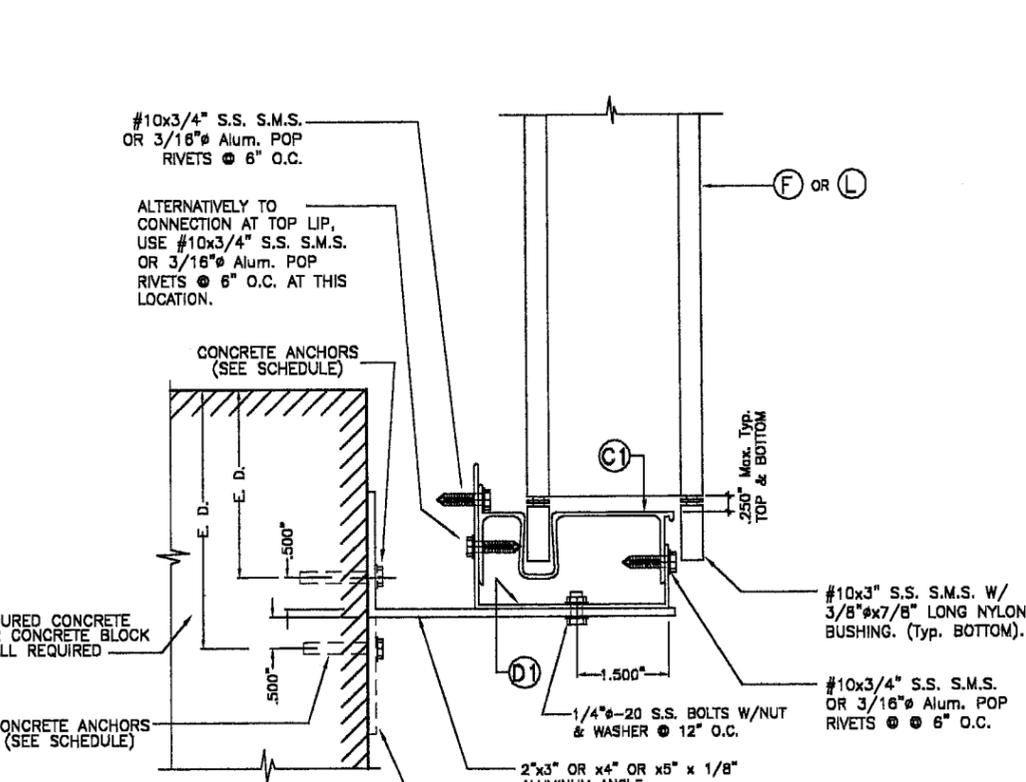
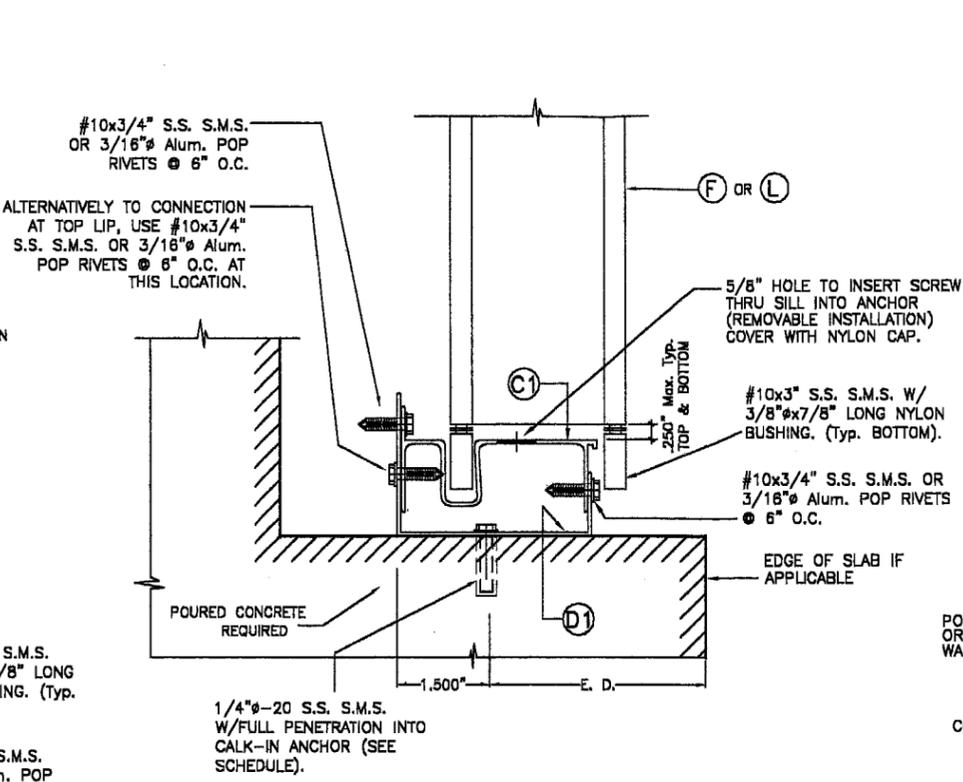
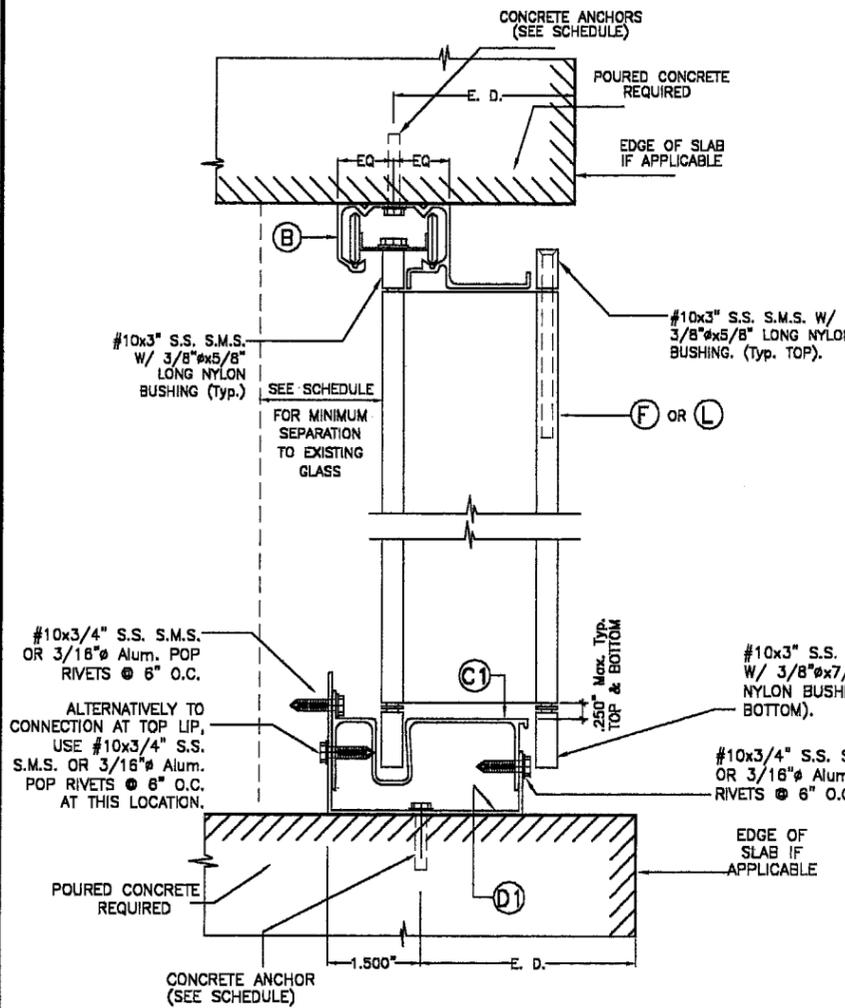
E. D. = EDGE DISTANCE
(SEE SCHEDULE ON SHEET 8 OF 9)

PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No 04-0624.01
Expiration Date 10/17/2006
By *Helmut A. Tillit*
Miami Dade Product Control
Division
F.B.C.(H.V.H.Z.)/MIAMI-DADE COUNTY

TILECO inc.
TILLIT TESTING & ENGINEERING COMPANY
8566 N.W. 38th St., Ste. 217, VIRGINIA GARDENS, FLORIDA 33166
Phone: (305)871-1530 Fax: (305)871-1531
EQ-0006719
WALTER A. TILLIT JR., P. E.
FLORIDA Lic. # 44167

ASSA / ECONOMY ACCORDION SHUTTER		AS SHOWN SCALE
SANSONE HURRICANE SHUTTERS, INC. (A.S.A. # 4) 505 N.E. 27th STREET POMPANO BEACH, FLORIDA 33064		6/8/04 DATE
		04-065 DRAWING No
REV. NO	DESCRIPTION	DATE
1		
2		
		SHEET 2 OF 9

JUN 08 2004

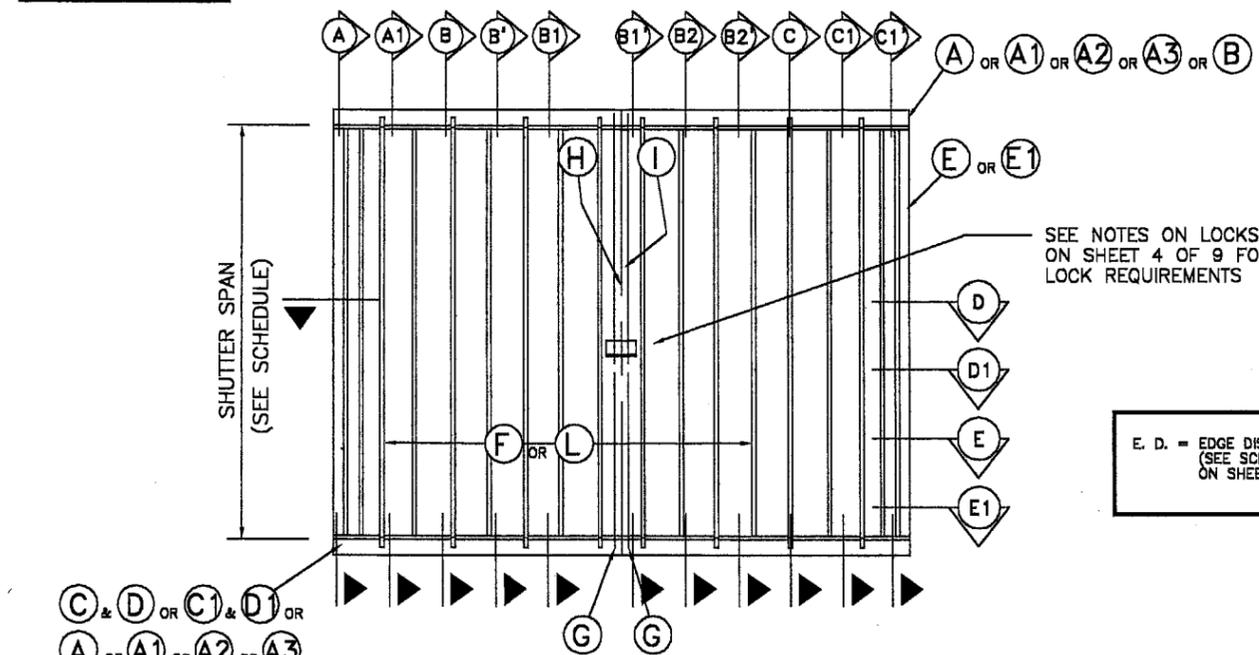


REMOVABLE FLOOR MOUNTING INSTALLATION
- SECTION B1' SCALE: N.T.S.

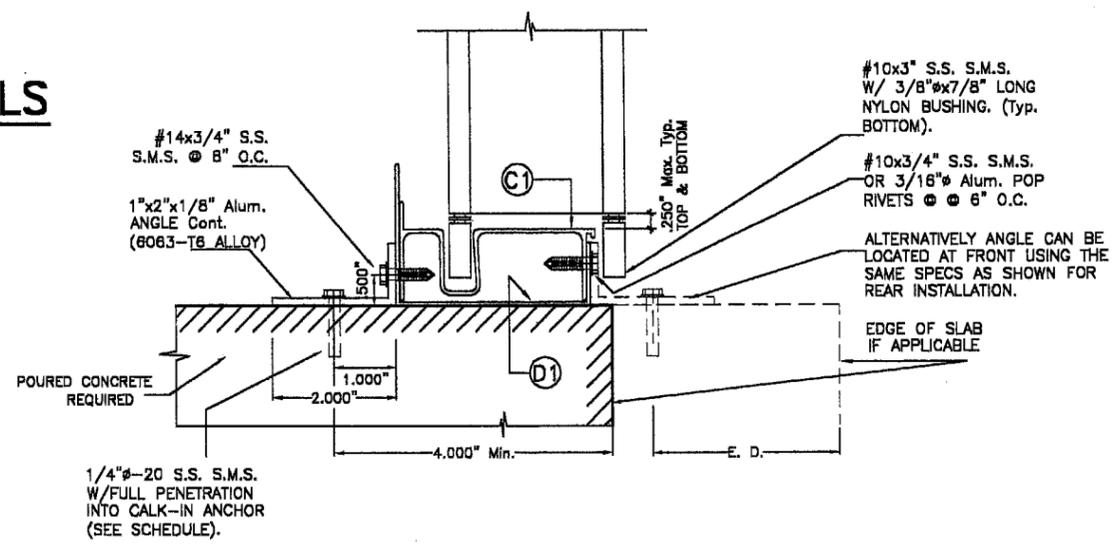
WALL MOUNTING INSTALLATION (OFFSET)
- SECTION C1' SCALE: N.T.S.

CEILING & FLOOR MOUNTING INSTALLATION
- SECTION B1' SCALE: N.T.S.

INSTALLATION DETAILS



TYPICAL ELEVATION N. T. S.



REMOVABLE FLOOR MOUNTING INSTALLATION
- SECTION B2' SCALE: N.T.S.

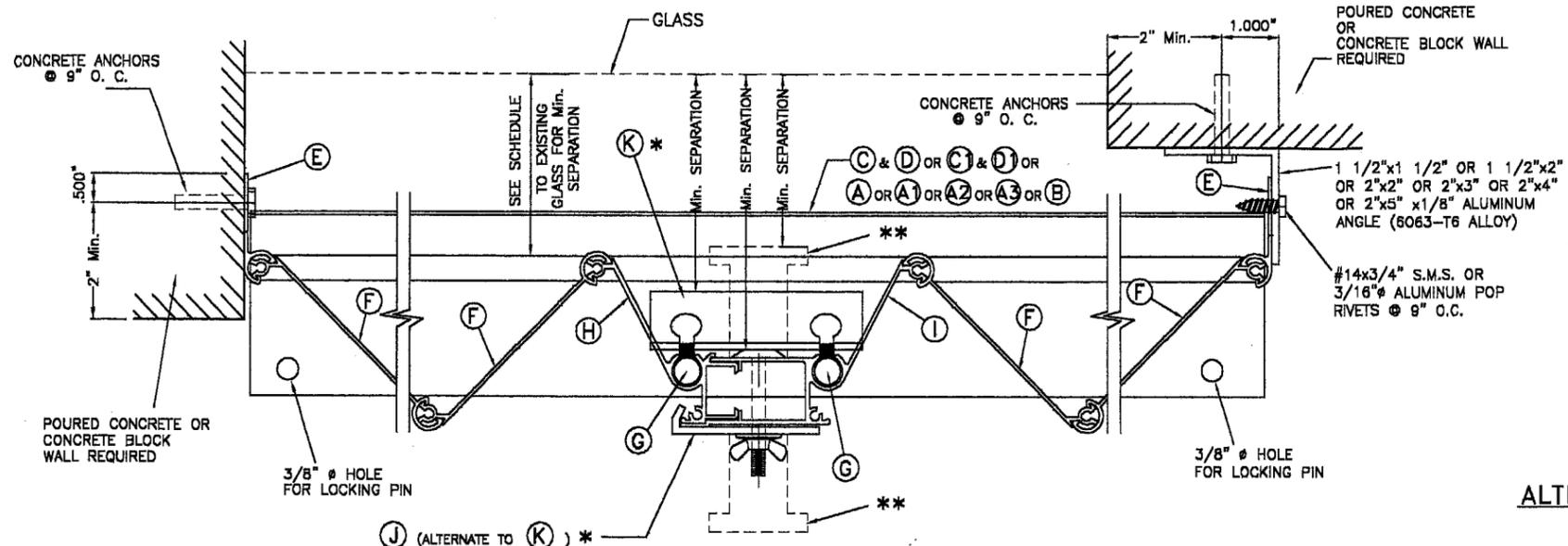
PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No 04-0624.01
Expiration Date 10/17/2006
By *Heather A. Miller*
Miami Dade Product Control
Division

F.B.C.(H.V.H.Z.)/MIAMI-DADE COUNTY

TILECO inc.
TILLIT TESTING & ENGINEERING COMPANY
8595 N.W. 38th St., Ste. 217, VIRGINIA GARDENS, FLORIDA 33166
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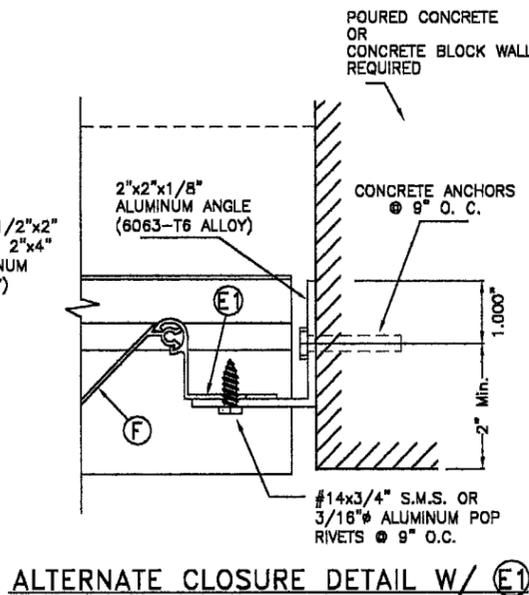
ASSA / ECONOMY ACCORDION SHUTTER					AS SHOWN SCALE
SANSONE HURRICANE SHUTTERS, INC.					8/8/04 DATE
(A.S.A. # 4) 505 N.E. 27th STREET POMPANO BEACH, FLORIDA 33064					04-065 DRAWING No
REV. NO	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	-	-	3	-	-
2	-	-	4	-	-
					SHEET 3 OF 9

[Signature]
JUN 08 2004



SECTION D

NOTE: SEE NOTES ON LOCKS ON THIS SHEET, VALID ALSO FOR SECTION E1 AND ONE SIDED SHUTTER.
SCALE: N.T.S.



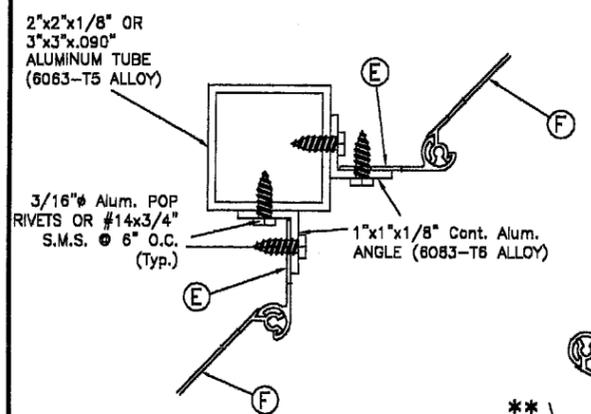
ALTERNATE CLOSURE DETAIL W/ (E1)

NOTES ON LOCKS:

- INSIDE LOCKER (K) OR OUTSIDE LOCKER (J) SHALL ALWAYS BE USED FOR ANY SPAN AT INSTALLATIONS WITHIN THE FIRST 30 FEET OF BUILDING, AND FOR SHUTTER SPANS GREATER THAN 8'-0", FOR INSTALLATIONS ABOVE 30 FEET ELEVATION OF BUILDING MEASURED AT BOTTOM OF SHUTTER. INSIDE LOCKER (K) SHALL BE ATTACHED TO (H) & (I) BY MEANS OF 2 THUMB SCREWS ONLY WHEN USING (K) LOCKER.
- OUTSIDE LOCKER (J) MAY BE USED AS AN INSIDE LOCKER IF ATTACHED TO (H) & (I) W/ 1/4"-20x1" LONG S.S. THREADED BOLT W/ 1/4"-20x5/8" INTERNALLY THREADED ALUMINUM RIVNUT. SEE INSTALLATION DETAIL ON THIS SHEET.
- OUTSIDE LOCKER (J) SHALL BE ATTACHED THRU (H) & (I) W/ 1/4"-20 S.S. SIDEWALK BOLT W/ 7/8" WING NUT OR W/ 1/4"-20x1" LONG S.S. THREADED BOLT W/ 1/4"-20x5/8" INTERNALLY THREADED ALUMINUM RIVNUT. SEE INSTALLATION DETAIL ON THIS SHEET.

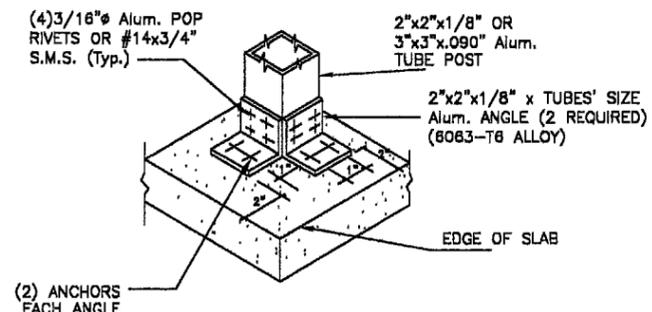
**

- FOR INSTALLATIONS WITHIN THE FIRST 30 FEET ELEVATION OF BUILDING MEASURED AT BOTTOM OF SHUTTER AND IN ADDITION TO EITHER (K) OR (J) USED LOCKERS, A REGULAR T LOCK MAY BE USED FOR SECURITY PURPOSES AT ANY DESIRED LOCATION OF CENTERMATE (INSIDE OR OUTSIDE). WHEN USED INSIDE, MINIMUM SEPARATION TO GLASS SHALL ALSO BE VERIFIED FROM THE TIP OF SUCH T LOCK OR FROM THE OTHER SHUTTER COMPONENTS SHOWN ON SECTION D (WHICHEVER IS MORE CRITICAL).
- FOR INSTALLATIONS ABOVE 30 FEET ELEVATION OF BUILDING MEASURED AT BOTTOM OF SHUTTER AND SHUTTER SPANS UP TO 8'-0", ONE T LOCK MAY BE USED IN LIEU OF LOCKERS (K) OR (J) AT MIDSPAN OF CENTERMATE FACING OUTSIDE OR INSIDE. WHEN USED INSIDE, MINIMUM SEPARATION TO GLASS SHALL ALSO BE VERIFIED FROM THE TIP OF SUCH T LOCK OR FROM THE OTHER SHUTTER COMPONENTS SHOWN ON SECTION D (WHICHEVER IS MORE CRITICAL).

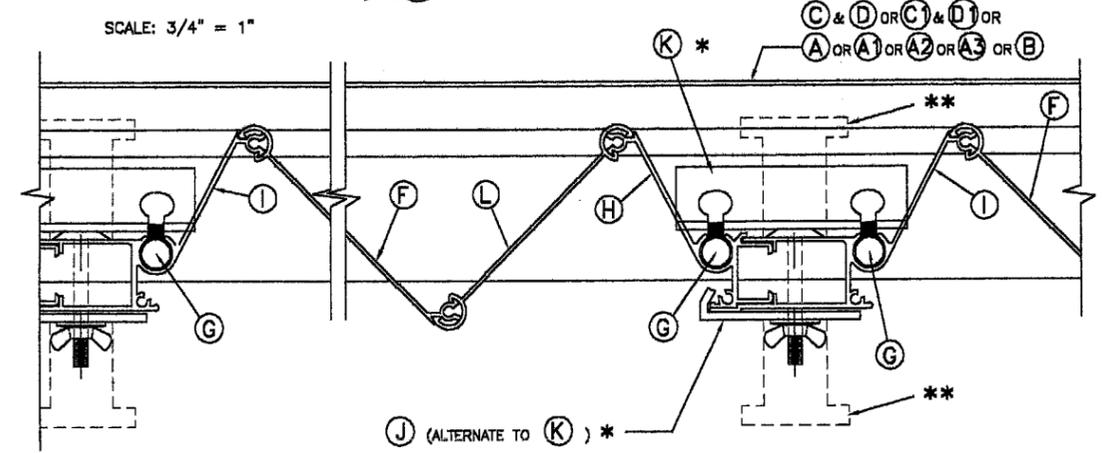


SECTION E

SCALE: N.T.S.



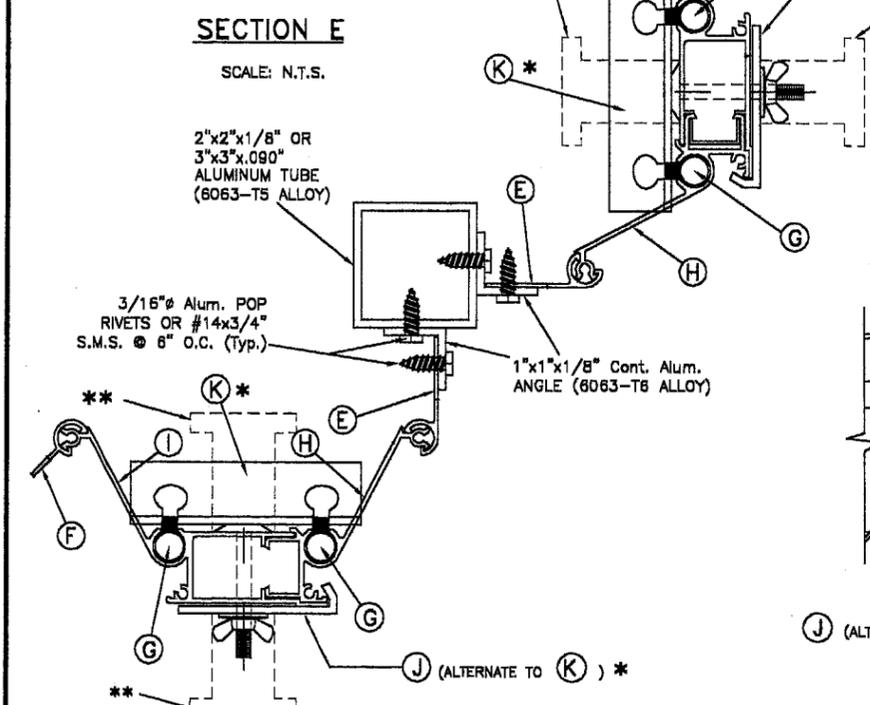
ISOMETRIC (CORNER POST) & BOTTOM SLABS



SECTION D1 (MULTIPLE SHUTTERS)

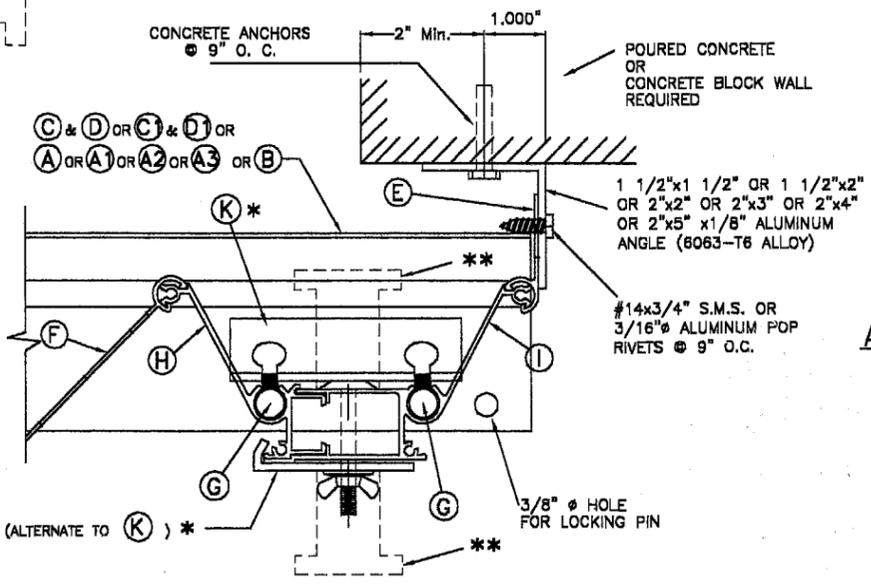
SCALE: N.T.S.

†: SERIES 9444 ALUMINUM (2024-T3 ALLOY) LARGE FLANGE THIN SHEET NUTSERT, PART # 0820, AS MANUFACTURED BY AVDEL CHERRY TEXTORN, PARSIPPANY, NEW JERSEY 07054 OR EQUAL.



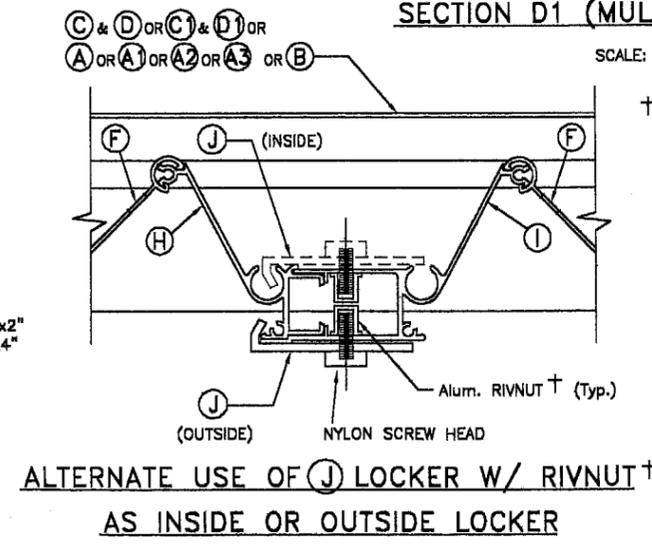
SECTION E1

SCALE: N.T.S.



ONE SIDED SHUTTER: END CONNECTION DETAIL

SCALE: N.T.S.



ALTERNATE USE OF (J) LOCKER W/ RIVNUT AS INSIDE OR OUTSIDE LOCKER

SCALE: N.T.S.

PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No. 04-0624.01
Expiration Date 10/17/2006
By *Helmut A. Miller*
Miami Dade Product Control Division

F.B.C.(H.V.H.Z.)/MIAMI-DADE COUNTY

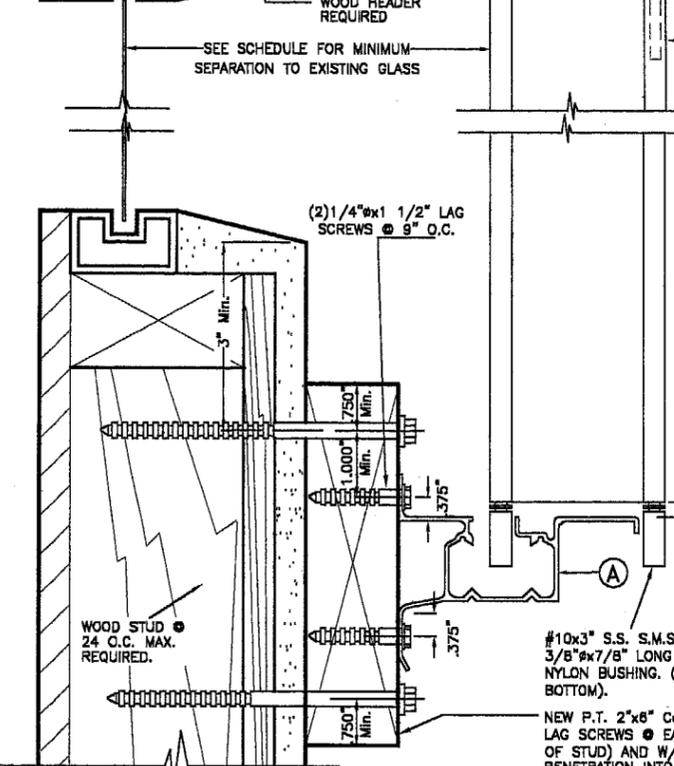
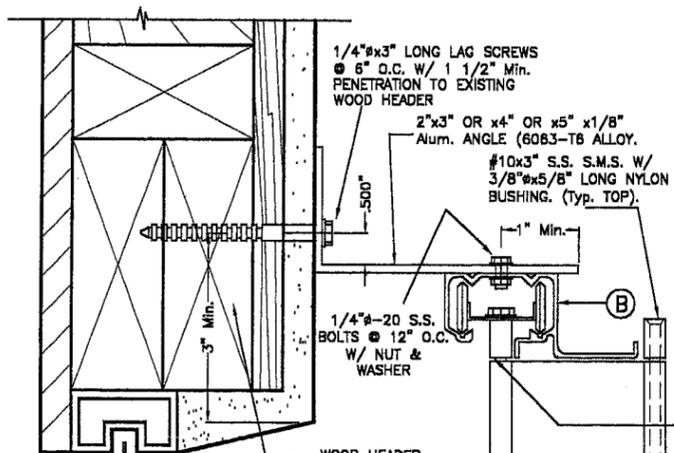
<p>TILLIT TESTING & ENGINEERING COMPANY 8896 N.W. 36th St., Ste. 217, VIRGINIA GARDENS, FLORIDA 33166 Phone: (305)871-1930 Fax: (305)871-1531 ED-0006719 WALTER A. TILLIT Jr., P. E. FLORIDA Lic. # 44167</p>		ASSA / ECONOMY ACCORDION SHUTTER		AS SHOWN SCALE	
		<p>SANSONE HURRICANE SHUTTERS, INC. (A.S.S.A. # 4) 505 N.E. 27th STREET POMPANO BEACH, FLORIDA 33064</p>		6/8/04 DATE	
				04-065 DRAWING No	
REV. NO	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	-	-	3	-	-
2	-	-	4	-	-

JUN 08 2004

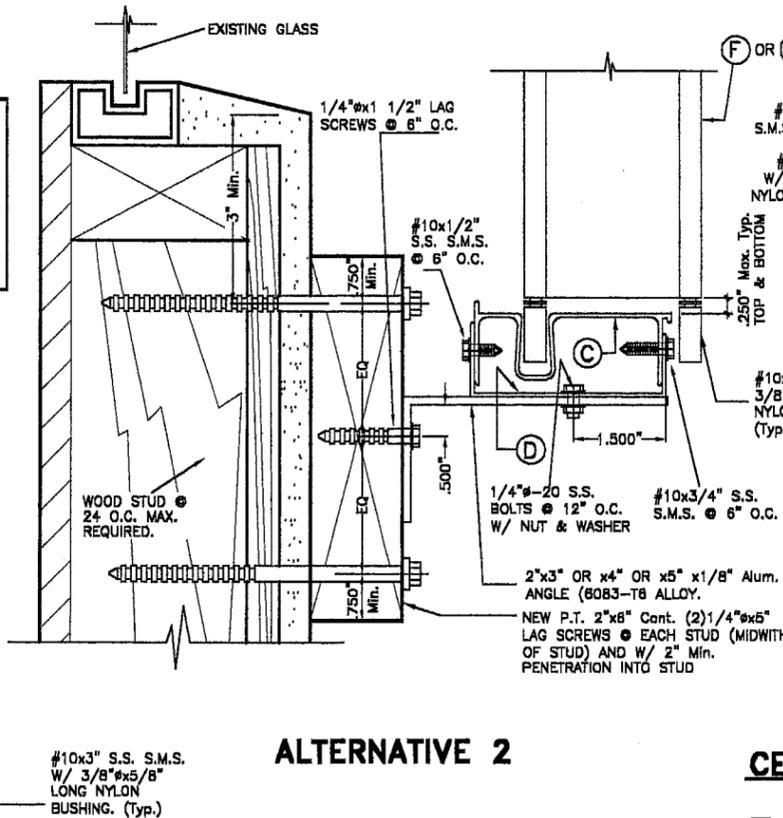
INSTALLATION DETAILS ON EXISTING WOOD BUILDINGS

NOTES:

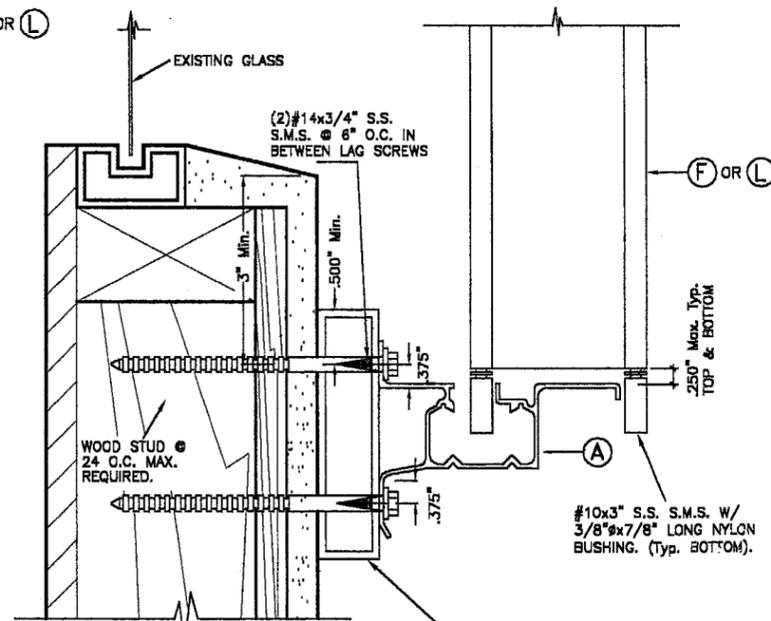
1. INSTALLATIONS ARE ONLY VALID FOR BUILDINGS WITH DESIGN LOAD UP TO 75.3 p.s.f. AND 9'-0" Max. SHUTTER SPAN.
2. NEW 2" x 6" P. T. TO BE SOUTHERN PINE No. 2, SURFACED DRY WITH 19 1/2% M. C. W/ SPECIFIC DENSITY OF 0.55.
3. FOR NEW WOOD FRAME CONSTRUCTION: WOOD MEMBERS TO BE SOUTHERN PINE No. 2, W/ SPECIFIC DENSITY OF 0.55 OR EQUAL.



ALTERNATIVE 1



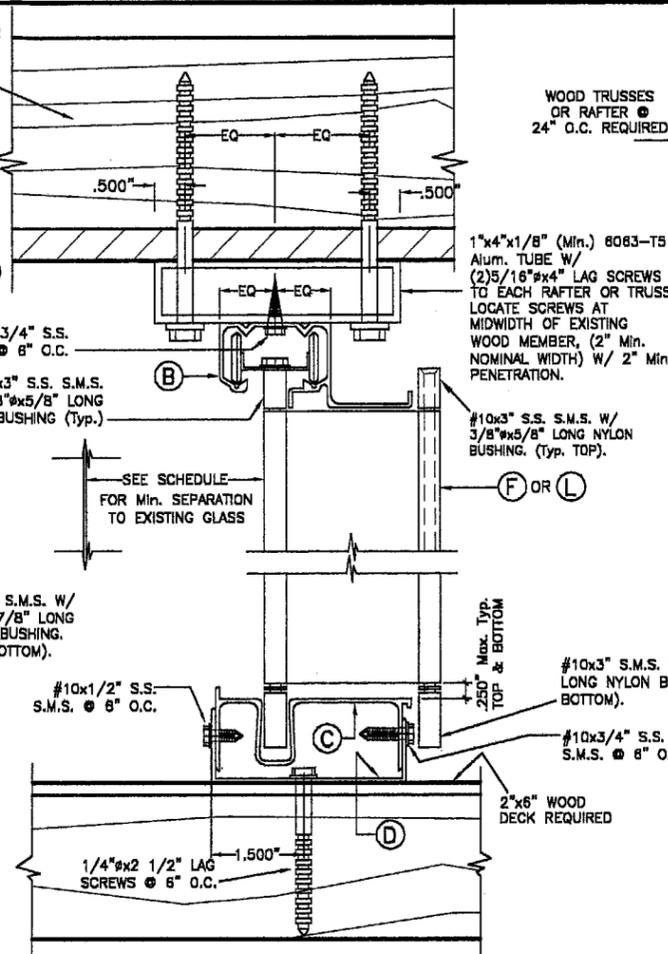
ALTERNATIVE 2



ALTERNATIVE 3

WALL MOUNTING INSTALLATION (OFFSET) - SECTION A

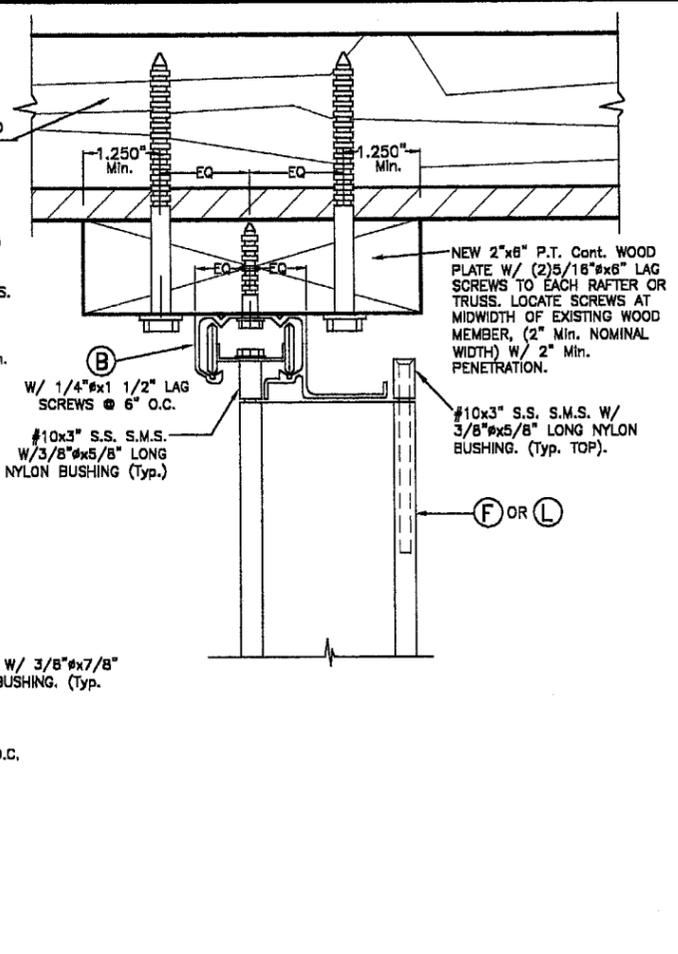
SCALE: N.T.S.



CEILING & FLOOR MOUNTING INSTALLATION

- SECTION B

SCALE: N.T.S.

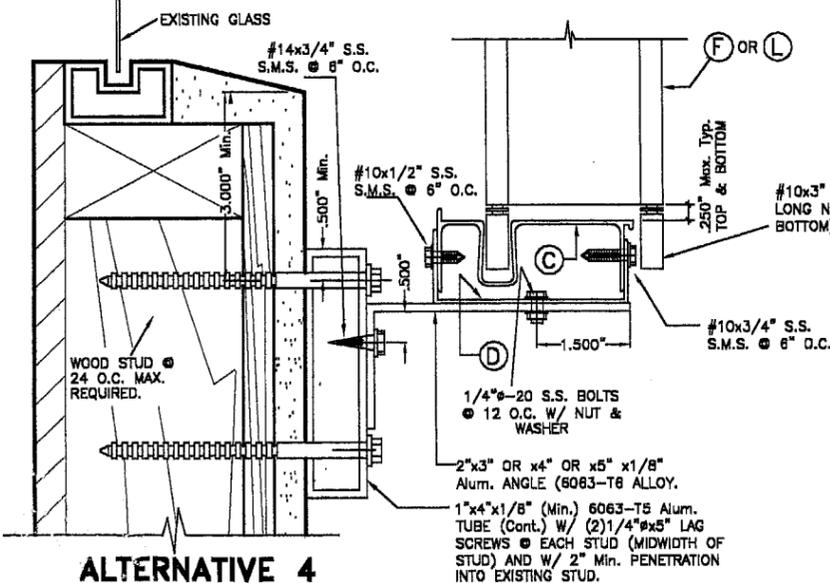


CEILING MOUNTING INSTALLATION

- SECTION B1

SCALE: N.T.S.

NOTE: SECTIONS B & B1 CAN BE COMBINED AS APPLICABLE.



ALTERNATIVE 4

PRODUCT REVISED as complying with the Florida Building Code Acceptance No 04-0624.01 Expiration Date 10/17/2006

By *Helmut A. Miller*
Miami Dade Product Control Division

F.B.C.(H.V.H.Z.)/MIAMI-DADE COUNTY

TILECO inc.

TILLIT TESTING & ENGINEERING COMPANY

6899 N.W. 38th St., Ste. 217, VIRGINIA GARDENS, FLORIDA 33166

Phone: (305)871-1830 Fax: (305)871-1831

EB-0006719

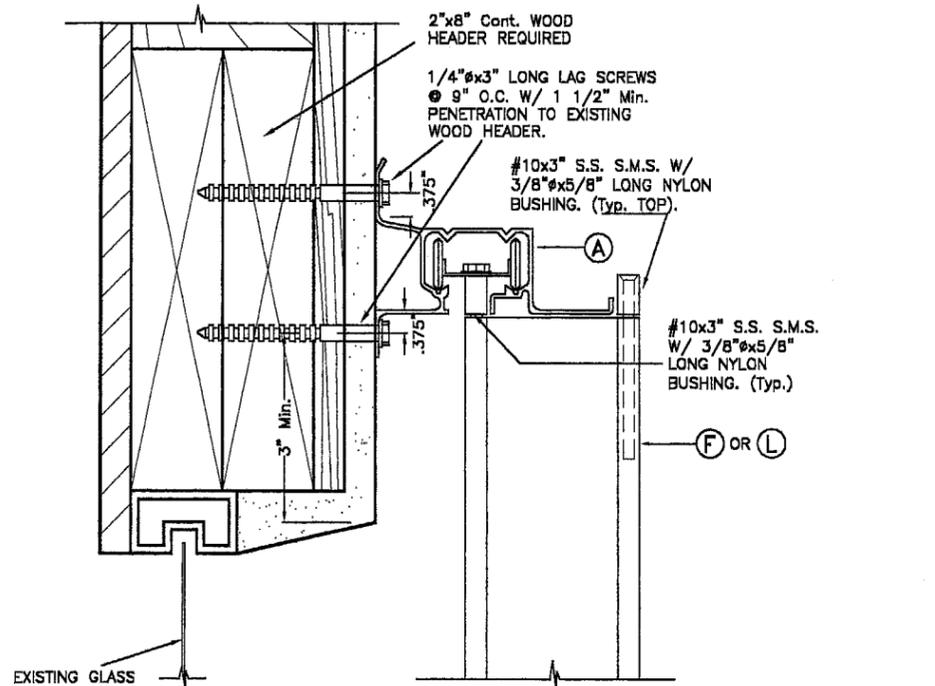
WALTER A. TILLIT Jr., P. E. FLORIDA Lic. # 44167

ASSA / ECONOMY ACCORDION SHUTTER					AS SHOWN SCALE
SANSONE HURRICANE SHUTTERS, INC.					6/8/04 DATE
(A.S.S.A. # 4) 505 N.E. 27th STREET POMPANO BEACH, FLORIDA 33064					04-065 DRAWING No
REV. NO	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	-	-	3	-	-
2	-	-	4	-	-

SHEET 5 OF 9

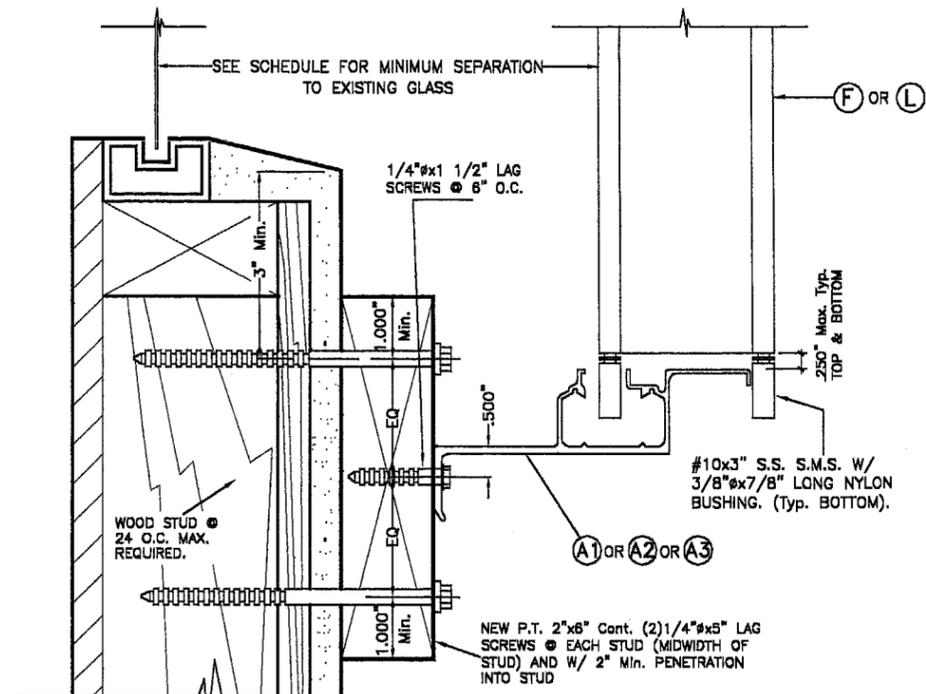
JUN 08 2004

INSTALLATION DETAILS ON EXISTING WOOD BUILDINGS

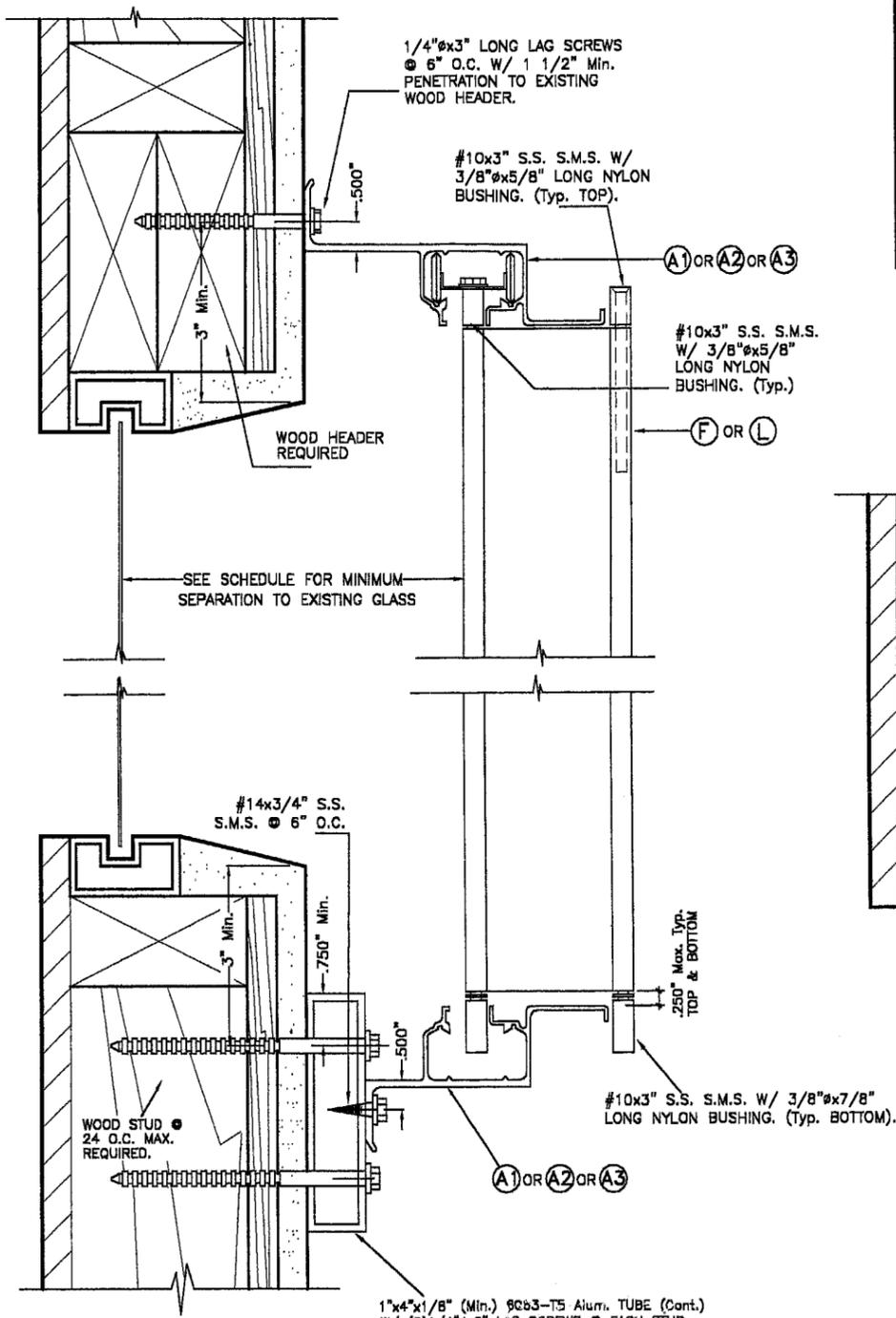


WALL MOUNTING INSTALLATION - SECTION A1

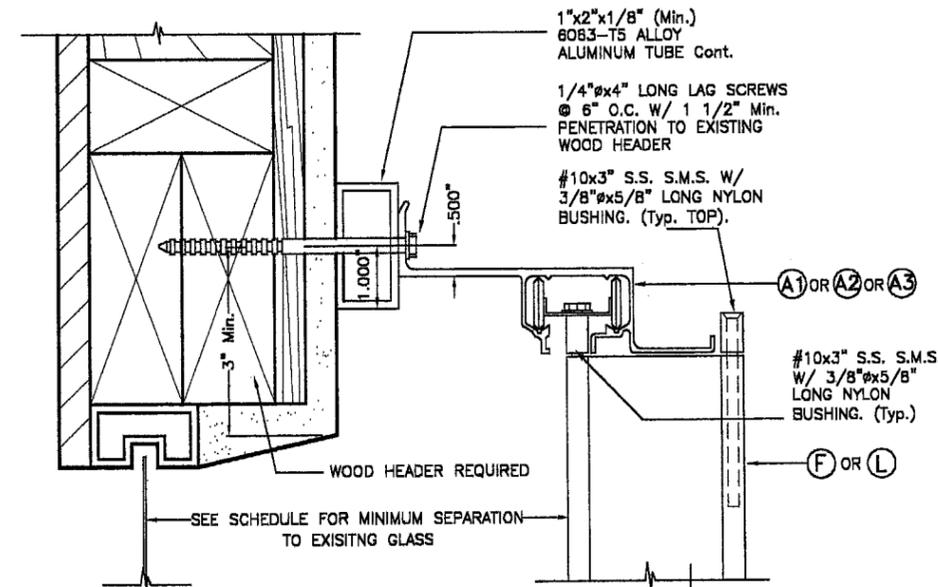
SCALE: N.T.S.



ALTERNATIVE 1

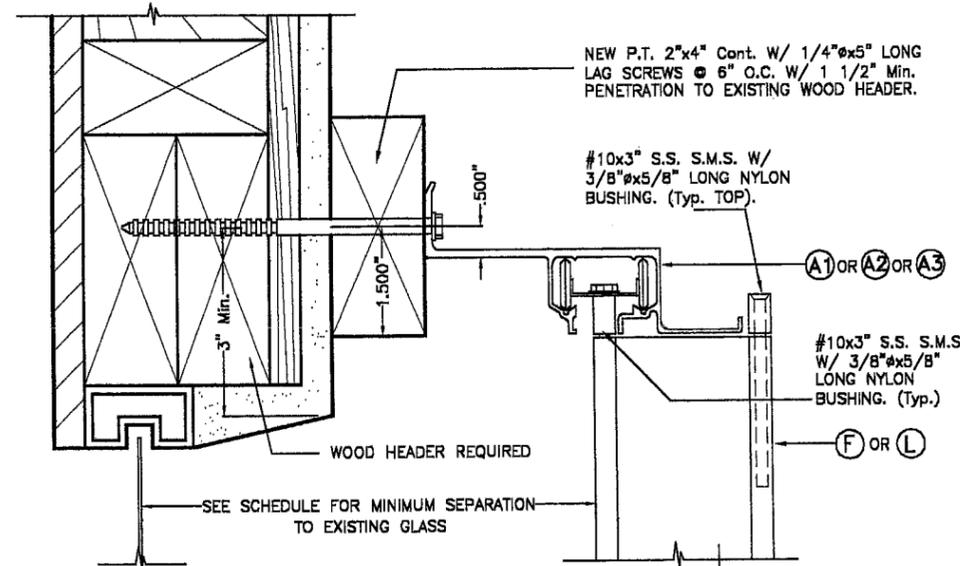


ALTERNATIVE 2



ALTERNATIVE 3

Cont. EQUAL TO ALTERNATIVE 2



ALTERNATIVE 4

Cont. EQUAL TO ALTERNATIVE 1

PRODUCT REVISED as complying with the Florida Building Code Acceptance No. 04-0624.01 Expiration Date 10/17/2006 By *Helmut Miller* Miami Dade Product Control Division

F.B.C.(H.V.H.Z.)/MIAMI-DADE COUNTY

WALL MOUNTING INSTALLATION (OFFSET) - SECTION A2

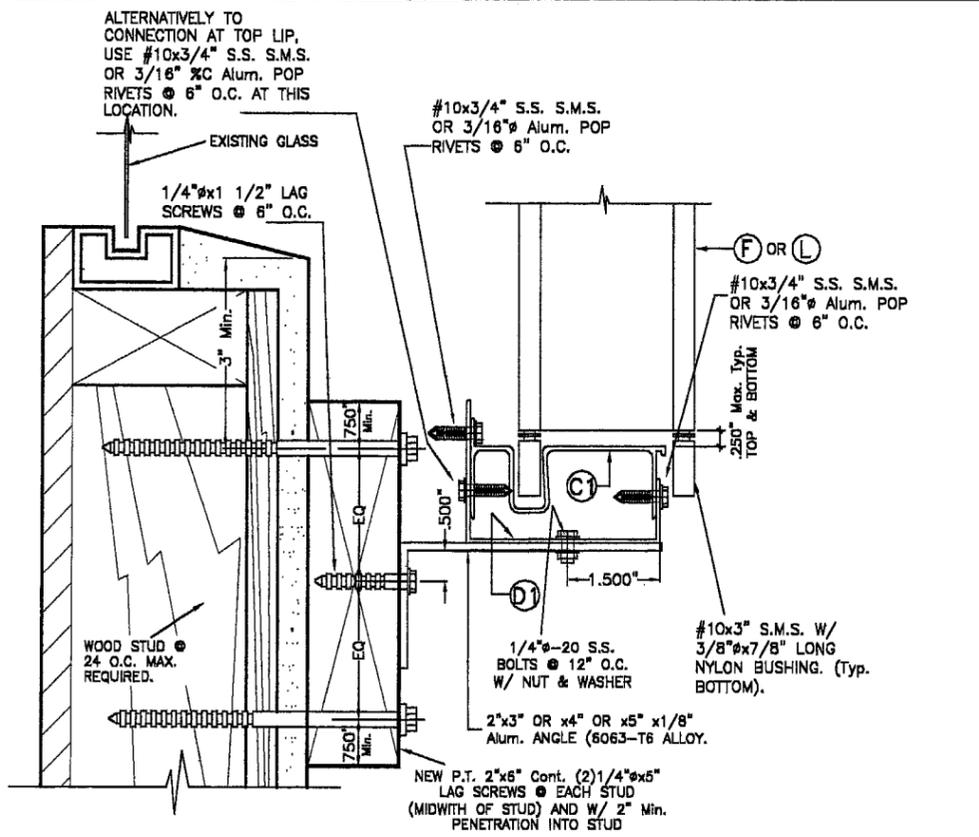
SCALE: N.T.S.

NOTES:

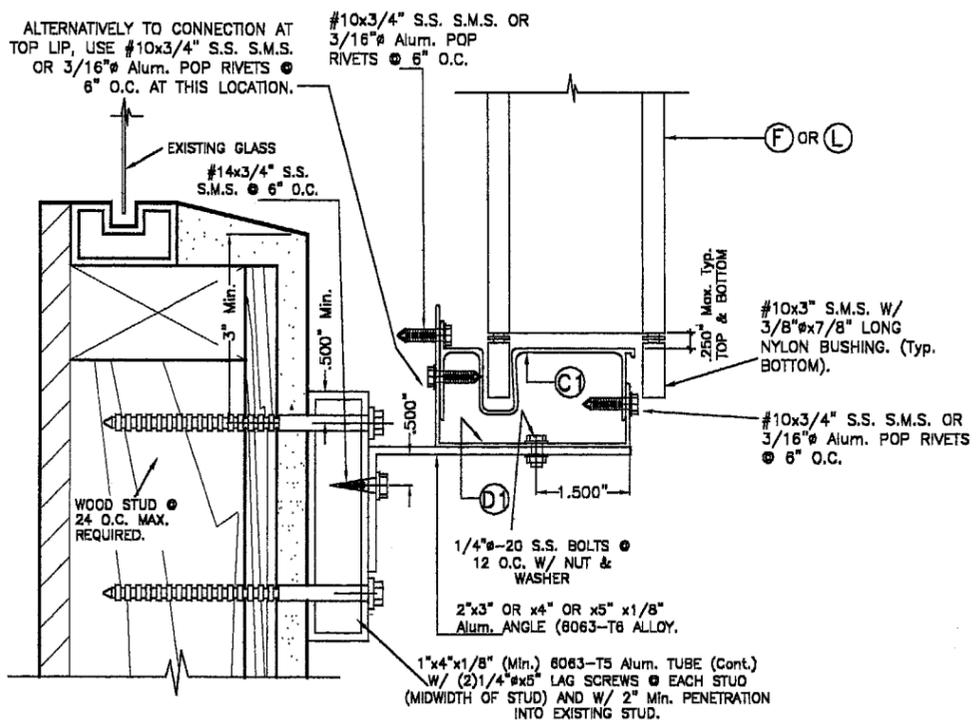
- INSTALLATIONS ARE ONLY VALID FOR BUILDINGS WITH DESIGN LOAD UP TO 75.3 p.s.f. AND 9'-0" Max. SHUTTER SPAN.
- NEW 2" x 6" P. T. TO BE SOUTHERN PINE No. 2, SURFACED DRY WITH 19% M. C. W/ SPECIFIC DENSITY OF 0.55.
- FOR NEW WOOD FRAME CONSTRUCTION: WOOD MEMBERS TO BE SOUTHERN PINE No. 2, W/ SPECIFIC DENSITY OF 0.55 OR EQUAL.

JUN 08 2004

<p>TILLIT TESTING & ENGINEERING COMPANY 8595 N.W. 38th St., Ste. 217, VIRGINIA GARDENS, FLORIDA 33168 Phone: (305)871-1830 Fax: (305)871-1531 EB-0008719 WALTER A. TILLIT Jr., P. E. FLORIDA Lic. # 44167</p>		<p>ASSA / ECONOMY ACCORDION SHUTTER</p> <p>SANSONE HURRICANE SHUTTERS, INC. (A.S.S.A. # 4) 505 N.E. 27th STREET POMPANO BEACH, FLORIDA 33064</p>	<p>AS SHOWN SCALE</p> <p>B/B/04 DATE</p> <p>04-065 DRAWING No</p> <p>SHEET 6 OF 9</p>		
REV. NO	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	-	-	3	-	-
2	-	-	4	-	-



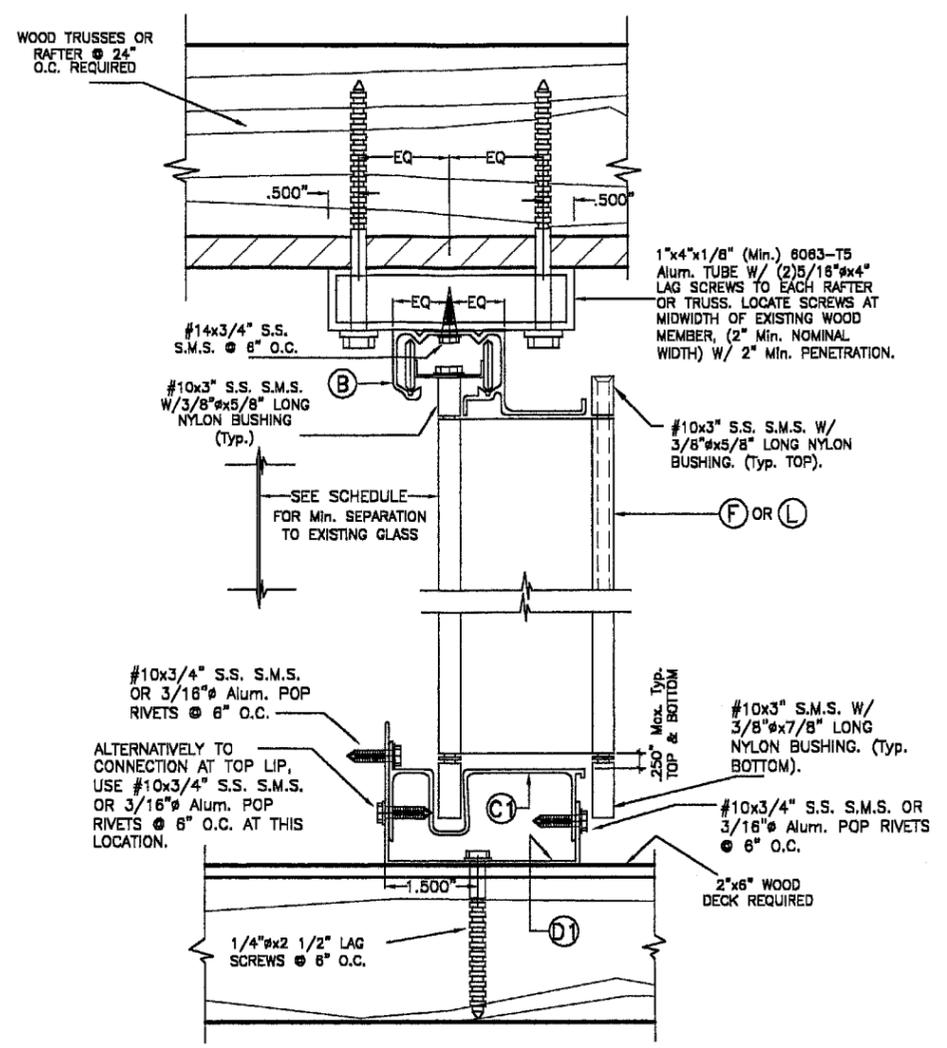
ALTERNATIVE 1



ALTERNATIVE 2

WALL MOUNTING INSTALLATION (OFFSET) - SECTION A'

SCALE: N.T.S.



CEILING & FLOOR MOUNTING INSTALLATION

- SECTION B'

SCALE: N.T.S.

INSTALLATION DETAILS ON EXISTING WOOD BUILDINGS

- NOTES:**
1. INSTALLATIONS ARE ONLY VALID FOR BUILDINGS WITH DESIGN LOAD UP TO 76.3 p.s.f. AND 9'-0" Max. SHUTTER SPAN.
 2. NEW 2" x 6" P. T. TO BE SOUTHERN PINE No. 2, SURFACED DRY WITH 19 1/2 M. M. C. W/ SPECIFIC DENSITY OF 0.55.
 3. FOR NEW WOOD FRAME CONSTRUCTION: WOOD MEMBERS TO BE SOUTHERN PINE No. 2, W/ SPECIFIC DENSITY OF 0.55 OR EQUAL.

PRODUCT REVISED
 as complying with the Florida
 Building Code
 Acceptance No 04-0624.01
 Expiration Date 10/17/2006
 By *Helmut H. Weber*
 Miami Dade Product Control
 Division

F.B.C.(H.V.H.Z.)/MIAMI-DADE COUNTY

TILTECO INC.
 TILLIT TESTING & ENGINEERING COMPANY
 8885 N.W. 36th St., Ste. 217, VIRGINIA GARDENS, FLORIDA 33166
 Phone : (305)871-1830 . Fax : (305)871-1831
 EB-0006719
 WALTER A. TILLIT Jr., P. E.
 FLORIDA Lic. # 44187

ASSA / ECONOMY ACCORDION SHUTTER		AS SHOWN SCALE	
SANSONE HURRICANE SHUTTERS, INC.		6/8/04 DATE	
(A.S.S.A. # 4) 505 N.E. 27th STREET POMPANO BEACH, FLORIDA 33064		04-065 DRAWING No	
REV. NO	DESCRIPTION	DATE	REV. No
1	-	-	3
2	-	-	4

DATE	DESCRIPTION
DATE	DESCRIPTION

JUN 08 2004

MAXIMUM DESIGN PRESSURE RATING "W" (p.s.f.) AND CORRESPONDING MAXIMUM SPAN SCHEDULE.

(VALID FOR SECTIONS A, A1, B, B1, B2, C & C1 ON SHEET 2 OF 9).

NOTE: DESIGN PRESSURE RATING CORRESPONDS ONLY TO NEGATIVE PRESSURE (SUCTION) LOADS, IN ACCORDANCE WITH ASCE 7-98 CRITERIA FOR A GIVEN OPENING. IF NEGATIVE PRESSURE VALUES COMPLY WITH THE REQUIRED PRESSURE FOR THE OPENING, THE POSITIVE PRESSURE WILL AUTOMATICALLY QUALIFY AND NEED NOT TO BE CHECKED.

MAXIMUM DESIGN LOAD "W" (p.s.f.)	MAXIMUM PANEL SPAN (ft.)		MINIMUM SEPARATION TO GLASS (in.)	
	*	**	*	**
45.1	12'-0"	13'-0"	4"	2 1/2"
47.8	12'-0"	12'-8"	4"	2 1/2"
49.0	12'-0"	12'-8"	4"	2 1/2"
50.5	12'-0"	12'-4"	4"	2 1/2"
52.0	12'-0"	12'-2"	4"	2 1/2"
52.4	12'-0"	12'-1"	4"	2 1/2"
55.0	11'-10"	11'-10"	4"	2 1/4"
55.2	11'-10"	11'-10"	4"	2 1/4"
55.6	11'-4"	11'-9"	4"	2 1/4"
57.2	11'-4"	11'-7"	4"	2 1/4"
58.6	11'-4"	11'-5"	4"	2 1/4"
58.8	11'-4"	11'-5"	4"	2 1/4"
59.5	11'-4"	11'-4"	4"	2 1/4"
59.7	11'-4"	11'-4"	4"	2 1/8"
61.5	11'-2"	11'-2"	4"	2 1/8"
61.8	11'-1"	11'-1"	4"	2 1/8"
61.9	11'-1"	11'-1"	4"	2 1/8"
63.4	11'-0"	11'-0"	4"	2 1/8"
63.6	11'-0"	11'-0"	4"	2 1/8"
63.7	11'-0"	11'-0"	4"	2 1/8"
66.9	10'-8"	10'-8"	4"	2"
67.0	10'-8"	10'-8"	4"	2"

MAXIMUM DESIGN LOAD "W" (p.s.f.)	MAXIMUM PANEL SPAN (ft.)		MINIMUM SEPARATION TO GLASS (in.)	
	*	**	*	**
67.5	10'-8"	10'-8"	4"	2"
70.1	10'-6"	10'-6"	4"	2"
71.1	10'-5"	10'-5"	4"	2"
71.4	10'-4"	10'-4"	4"	2"
71.5	10'-4"	10'-4"	4"	2"
72.9	10'-3"	10'-3"	4"	2"
75.1	10'-1"	10'-1"	4"	2"
75.2	10'-1"	10'-1"	4"	2"
75.3	10'-1"	10'-1"	4"	2"
77.0	10'-0"	10'-0"	3 1/2"	2"
77.5	9'-11"	9'-11"	3 1/2"	2"
78.8	9'-10"	9'-10"	3 1/2"	2"
80.7	9'-8"	9'-8"	3 1/2"	2"
81.5	9'-8"	9'-8"	3 1/2"	2"
82.5	9'-8"	9'-8"	3 1/2"	2"
83.4	9'-7"	9'-7"	3 1/2"	2"
86.2	9'-5"	9'-5"	3 1/2"	2"
86.7	9'-5"	9'-5"	3 1/2"	2"
86.8	9'-5"	9'-5"	3 1/2"	2"
88.5	9'-4"	9'-4"	3 1/2"	2"
80.3	9'-3"	9'-3"	3 1/2"	2"
90.8	9'-2"	9'-2"	3 1/2"	2"

MAXIMUM DESIGN LOAD "W" (p.s.f.)	MAXIMUM PANEL SPAN (ft.)		MINIMUM SEPARATION TO GLASS (in.)	
	*	**	*	**
91.4	9'-2"	9'-2"	3 1/2"	2"
92.7	9'-1"	9'-1"	3 1/2"	2"
93.8	9'-0"	9'-0"	2 7/8"	2"
94.8	9'-0"	9'-0"	2 7/8"	2"
96.6	8'-11"	8'-11"	2 7/8"	2"
96.8	8'-11"	8'-11"	2 7/8"	2"
97.7	8'-10"	8'-10"	2 7/8"	2"
100.5	8'-9"	8'-9"	2 7/8"	2"
101.5	8'-8"	8'-8"	2 7/8"	2"
103.7	8'-7"	8'-7"	2 7/8"	2"
106.5	8'-6"	8'-6"	2 7/8"	2"
108.8	8'-5"	8'-5"	2 7/8"	2"
110.6	8'-4"	8'-4"	2 7/8"	2"
111.0	8'-4"	8'-4"	2 7/8"	2"
114.1	8'-2"	8'-2"	2 7/8"	2"
116.5	8'-2"	8'-2"	2 7/8"	2"
118.9	8'-1"	8'-1"	2 7/8"	2"
117.8	8'-1"	8'-1"	2 7/8"	2"
119.7	8'-0"	8'-0"	2 7/8"	2"
120.0	8'-0"	8'-0"	2 7/8"	2"
121.2	7'-10"	7'-10"	2 7/8"	2"
122.5	7'-9"	7'-9"	2 7/8"	2"

MAXIMUM DESIGN LOAD "W" (p.s.f.)	MAXIMUM PANEL SPAN (ft.)		MINIMUM SEPARATION TO GLASS (in.)	
	*	**	*	**
125.3	7'-7"	7'-7"	2 7/8"	2"
125.8	7'-6"	7'-6"	2 7/8"	2"
126.7	7'-6"	7'-6"	2 7/8"	2"
129.6	7'-4"	7'-4"	2 7/8"	2"
130.9	7'-3"	7'-3"	2 7/8"	2"
131.6	7'-2"	7'-2"	2 7/8"	2"
134.3	7'-1"	7'-1"	2 7/8"	2"
136.2	6'-11"	6'-11"	2 7/8"	2"
137.9	6'-10"	6'-10"	2 7/8"	2"
140.7	6'-9"	6'-9"	2 7/8"	2"
142.8	6'-7"	6'-7"	2 7/8"	2"
143.5	6'-7"	6'-7"	2 7/8"	2"
147.0	6'-5"	6'-5"	2 7/8"	2"
148.4	6'-4"	6'-4"	2 7/8"	2"
152.8	6'-2"	6'-2"	2 7/8"	2"
153.1	6'-2"	6'-2"	2 7/8"	2"
156.8	6'-0"	6'-0"	2 7/8"	2"
157.5	6'-0"	6'-0"	2 7/8"	2"
157.8	6'-0"	6'-0"	2 7/8"	2"
160.8	5'-11"	5'-11"	2 7/8"	2"
181.7	5'-10"	5'-10"	2 7/8"	2"
164.4	5'-9"	5'-9"	2 7/8"	2"

MAXIMUM DESIGN LOAD "W" (p.s.f.)	MAXIMUM PANEL SPAN (ft.)		MINIMUM SEPARATION TO GLASS (in.)	
	*	**	*	**
165.2	5'-9"	5'-9"	2 7/8"	2"
168.1	5'-8"	5'-8"	2 7/8"	2"
168.7	5'-7"	5'-7"	2 7/8"	2"
170.0	5'-7"	5'-7"	2 7/8"	2"
175.8	5'-5"	5'-5"	2 7/8"	2"
176.6	5'-4"	5'-4"	2 7/8"	2"
180.3	5'-3"	5'-3"	2 7/8"	2"
188.0	5'-0"	5'-0"	2 7/8"	2"
185.2	4'-10"	4'-10"	2 7/8"	2"
197.2	4'-10"	4'-10"	2 7/8"	2"
199.1	4'-9"	4'-9"	2 7/8"	2"
204.7	4'-7"	4'-7"	2 7/8"	2"
211.3	4'-6"	4'-6"	2 7/8"	2"
216.9	4'-4"	4'-4"	2 7/8"	2"
221.6	4'-3"	4'-3"	2 7/8"	2"
226.3	4'-2"	4'-2"	2 7/8"	2"

MAXIMUM DESIGN PRESSURE RATING "W" (p.s.f.) AND CORRESPONDING MAXIMUM ANCHOR SPACING (in.) SCHEDULE. †

(VALID FOR SECTIONS A, A1, B, B1, B2, C & C1 ON SHEET 2 OF 9).

MAXIMUM DESIGN LOAD "W" (p.s.f.)	WALL MOUNTING INSTALLATION AT TOP OR BOTTOM (TO CONCRETE)			WALL MOUNTING INSTALLATION AT TOP OR BOTTOM (TO MASONRY)			FLOOR/CEILING MOUNTING INSTALLATION TOP OR BOTTOM (TO CONCRETE)		
	NOTE 1	NOTE 2	NOTE 3	NOTE 1	NOTE 2	NOTE 3	NOTE 1	NOTE 2	NOTE 3
FROM 45.1 TO 61.8	9"	9"	9"	9"	9"	4 1/2"	9"	9"	8"
FROM 61.9 TO 75.3	9"	9"	8 1/2"	9"	8"	2 1/2"	9"	9"	7"
FROM 75.4 TO 91.4	9"	9"	4 1/2"	9"	7"	3"	9"	5 1/2"	4 1/2"
FROM 91.5 TO 120.0	9"	4 1/2"	4 1/2"	8"	-	-	9"	5 1/2"	5 1/2"
FROM 120.1 TO 168.1	7 1/2"	4 1/2"	-	2 1/2"	-	-	7"	5 1/2"	-
FROM 168.2 TO 226.3	4 1/2"	4 1/2"	-	2"	*	-	5 1/2"	5 1/2"	-

* VALID FOR UP TO 3'-0" MAXIMUM SPAN.

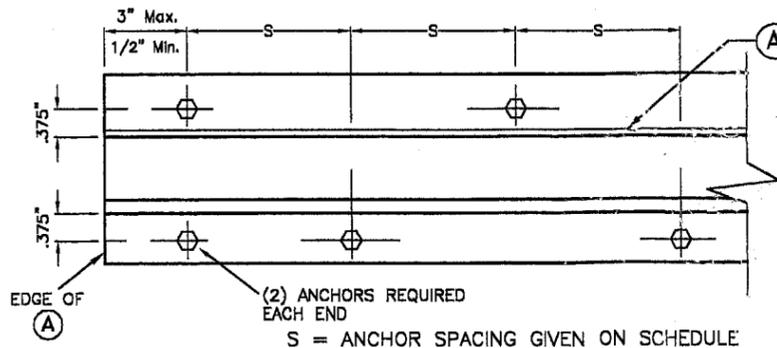
ANCHOR SPACING LEGEND

- (1) Max. ANCHOR SPCG. VALID FOR SPANS OF 5'-0" OR LESS.
- (2) Max. ANCHOR SPCG. VALID FOR SPANS GREATER THAN 5'-0" TO 8'-6".
- (3) Max. ANCHOR SPCG. VALID FOR SPANS GREATER THAN 8'-6" TO Max. ALLOWED.

† USE TAPCON ANCHORS, ZAMAC NAILIN & CALK-INS FOR INSTALLATIONS W/ DESIGN LOADS UP TO 75.3 p.s.f. USE ONLY TAPCON ANCHORS & CALK-INS FOR INSTALLATIONS W/ DESIGN LOADS GREATER THAN 75.3 p.s.f. MAXIMUM ANCHOR SPACINGS ARE VALID FOR 3" EDGE DISTANCE. FOR E. D. LESS THAN 3", REDUCE ANCHOR SPACING BY MULTIPLYING SPACINGS SHOWN ON SCHEDULE BY THE FOLLOWING FACTORS. (NOTE : Min. E. D. FOR CALK-IN ANCHORS IS 2 1/2"). THIS OPERATION SHALL ONLY BE PERFORMED WHEN REQUIRED SPACING RESULTS INTO A MINIMUM OF 3" O.C.

ACTUAL E. D. = EDGE DISTANCE	FACTOR	TAPCON OR CALK-IN	TAPCON OR CALK-IN
2 1/2"	.75	ZAMAC NAILIN	UP TO 75.3 p.s.f.
2"	.50		> 75.3 p.s.f. TO 226.3 p.s.f.

ANCHOR LEGENDS



ANCHORS USED W/TRACK "A" (TOP & BOTTOM) SHALL BE INSTALLED STAGGERED AT Max. SPACINGS INDICATED ON SCHEDULES.

TABLE 1:

MINIMUM SEPARATION BETWEEN GLASS AND SHUTTER FOR A GIVEN SHUTTER SPAN, FOR SHUTTERS INSTALLED WITHIN THE FIRST 30'-0" ABOVE GRADE OF A GIVEN BUILDING. 30'-0" ELEVATION SHALL BE MEASURED AT BOTTOM OF SHUTTER. SEPARATION TO BE MEASURED AS INDICATED ON SECTION D, SHEET 4 OF 9.

SHUTTER SPAN (ft.)	MINIMUM SEPARATION (in.)
LESS OR EQUAL THAN 9'-0"	2 7/8"
> 9'-0" TO 10'-0"	3 1/2"
> 10'-0" TO 12'-0"	4"

- * FOR SHUTTERS INSTALLED WITHIN THE FIRST 30'-0" ELEVATION OF BUILDING. SEE TABLE 1 FOR MINIMUM SEPARATION TO GLASS FOR SPANS SHORTER THAN THE MAXIMUM ALLOWED SHOWN ON SCHEDULE.
- ** FOR SHUTTERS INSTALLED ABOVE 30'-0" ELEVATION OF BUILDING, MEASURED AT BOTTOM OF SHUTTER.

PRODUCT REVISED as complying with the Florida Building Code Acceptance No 04-0624-01 Expiration Date 10/17/2006 By *Walter A. Tillit Jr.* Miami Dade Product Control Division

F.B.C.(H.V.H.Z.)/MIAMI-DADE COUNTY

TILECO Inc.
TILLIT TESTING & ENGINEERING COMPANY
8595 N.W. 36th St., Ste. 217, VIRGINIA GARDENS, FLORIDA 33166
Phone : (305)971-1830 Fax : (305)971-1531
EB-0006719
WALTER A. TILLIT JR., P. E.
FLORIDA Lic. # 44167

ASSA / ECONOMY ACCORDION SHUTTER
SANSONE HURRICANE SHUTTERS, INC.
(A.S.S.A. # 4)
505 N.E. 27th STREET
POMPANO BEACH, FLORIDA 33064

REV. NO	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	-	-	3	-	-
2	-	-	4	-	-

AS SHOWN SCALE
6/8/04 DATE
04-065 DRAWING No
SHEET 8 OF 9

JUN 08 2004

MAXIMUM DESIGN PRESSURE RATING "W" (p.s.f.) AND CORRESPONDING MAXIMUM SPAN SCHEDULE.

(VALID FOR SECTIONS B', B1', B2' & C1' ON SHEET 3 OF 9).

NOTE: DESIGN PRESSURE RATING CORRESPONDS ONLY TO NEGATIVE PRESSURE (SUCTION) LOADS, IN ACCORDANCE WITH ASCE 7-98 CRITERIA FOR A GIVEN OPENING. IF NEGATIVE PRESSURE VALUES COMPLY WITH THE REQUIRED PRESSURE FOR THE OPENING, THE POSITIVE PRESSURE WILL AUTOMATICALLY QUALIFY AND NEED NOT TO BE CHECKED.

MAXIMUM DESIGN LOAD "W" (p.s.f.)	MAXIMUM PANEL SPAN (ft.)		MINIMUM SEPARATION TO GLASS (in.)	
	*	**	*	**
45.1	12'-0"	13'-3"	4"	3"
47.8	12'-0"	13'-1"	4"	3"
49.0	12'-0"	13'-0"	4"	3"
50.5	12'-0"	12'-11"	4"	3"
52.0	12'-0"	12'-10"	4"	3"
52.4	12'-0"	12'-10"	4"	3"
55.0	12'-0"	12'-7"	4"	3"
55.2	12'-0"	12'-7"	4"	3"
55.6	12'-0"	12'-6"	4"	3"
57.2	12'-0"	12'-4"	4"	2 7/8"
58.6	12'-0"	12'-2"	4"	2 7/8"
58.8	12'-0"	12'-2"	4"	2 7/8"
59.5	12'-0"	12'-1"	4"	2 7/8"
59.7	12'-0"	12'-1"	4"	2 7/8"
61.5	11'-11"	11'-11"	4"	2 3/4"
61.8	11'-10"	11'-10"	4"	2 3/4"
61.9	11'-10"	11'-10"	4"	2 3/4"
63.4	11'-9"	11'-9"	4"	2 3/4"
63.6	11'-8"	11'-8"	4"	2 3/4"
63.7	11'-8"	11'-8"	4"	2 3/4"
66.9	11'-5"	11'-5"	4"	2 3/4"
67.0	11'-5"	11'-5"	4"	2 3/4"

MAXIMUM DESIGN LOAD "W" (p.s.f.)	MAXIMUM PANEL SPAN (ft.)		MINIMUM SEPARATION TO GLASS (in.)	
	*	**	*	**
67.5	11'-4"	11'-4"	4"	2 1/2"
70.1	11'-2"	11'-2"	4"	2 1/2"
71.1	11'-1"	11'-1"	4"	2 1/2"
71.4	11'-0"	11'-0"	4"	2 1/2"
71.5	11'-0"	11'-0"	4"	2 1/2"
72.9	10'-11"	10'-11"	4"	2 1/2"
75.1	10'-9"	10'-9"	4"	2 1/2"
75.2	10'-9"	10'-9"	4"	2 1/2"
75.3	10'-9"	10'-9"	4"	2 1/2"
77.0	10'-6"	10'-8"	4"	2 1/2"
77.5	10'-7"	10'-7"	4"	2 3/8"
78.8	10'-8"	10'-6"	4"	2 3/8"
80.7	10'-5"	10'-5"	4"	2 3/8"
81.5	10'-4"	10'-4"	4"	2 3/8"
82.5	10'-3"	10'-3"	4"	2 3/8"
83.4	10'-3"	10'-3"	4"	2 3/8"
86.2	10'-0"	10'-0"	3 1/2"	2 3/8"
86.7	10'-0"	10'-0"	3 1/2"	2 3/8"
86.8	10'-0"	10'-0"	3 1/2"	2 3/8"
88.5	9'-11"	9'-11"	3 1/2"	2 1/4"
90.3	9'-10"	9'-10"	3 1/2"	2 1/4"
90.8	9'-10"	9'-10"	3 1/2"	2 1/4"

MAXIMUM DESIGN LOAD "W" (p.s.f.)	MAXIMUM PANEL SPAN (ft.)		MINIMUM SEPARATION TO GLASS (in.)	
	*	**	*	**
91.4	9'-9"	9'-9"	3 1/2"	2 1/4"
92.7	9'-8"	9'-8"	3 1/2"	2 1/4"
93.8	9'-8"	9'-8"	3 1/2"	2 1/4"
94.8	9'-7"	9'-7"	3 1/2"	2 1/4"
96.6	9'-6"	9'-6"	3 1/2"	2 1/4"
96.8	9'-6"	9'-6"	3 1/2"	2 1/8"
97.7	9'-5"	9'-5"	3 1/2"	2 1/8"
100.5	9'-4"	9'-4"	3 1/2"	2 1/8"
101.5	9'-3"	9'-3"	3 1/2"	2 1/8"
103.7	9'-2"	9'-2"	3 1/2"	2 1/8"
106.5	9'-0"	9'-0"	2 1/2"	2 1/8"
108.8	8'-11"	8'-11"	2 1/2"	2 1/8"
110.6	8'-11"	8'-11"	2 1/2"	2 1/8"
111.0	8'-10"	8'-10"	2 1/2"	2"
114.1	8'-9"	8'-9"	2 1/2"	2"
116.5	8'-7"	8'-7"	2 1/2"	2"
116.9	8'-6"	8'-6"	2 1/2"	2"
117.8	8'-6"	8'-6"	2 1/2"	2"
119.7	8'-4"	8'-4"	2 1/2"	2"
120.0	8'-4"	8'-4"	2 1/2"	2"
121.2	8'-3"	8'-3"	2 1/2"	2"
122.5	8'-2"	8'-2"	2 1/2"	2"

MAXIMUM DESIGN LOAD "W" (p.s.f.)	MAXIMUM PANEL SPAN (ft.)		MINIMUM SEPARATION TO GLASS (in.)	
	*	**	*	**
125.3	8'-0"	8'-0"	2 1/2"	2"
125.8	7'-11"	7'-11"	2 1/2"	2"
126.7	7'-11"	7'-11"	2 1/2"	2"
129.6	7'-8"	7'-8"	2 1/2"	2"
130.9	7'-8"	7'-8"	2 1/2"	2"
131.6	7'-7"	7'-7"	2 1/2"	2"
134.3	7'-5"	7'-5"	2 1/2"	2"
136.2	7'-4"	7'-4"	2 1/2"	2"
137.9	7'-3"	7'-3"	2 1/2"	2"
140.7	7'-1"	7'-1"	2 1/2"	2"
142.8	7'-0"	7'-0"	2 1/2"	2"
143.5	6'-11"	6'-11"	2 1/2"	2"
147.0	6'-10"	6'-10"	2 1/2"	2"
148.4	6'-9"	6'-9"	2 1/2"	2"
152.6	6'-6"	6'-6"	2 1/2"	2"
153.1	6'-6"	6'-6"	2 1/2"	2"
158.8	6'-4"	6'-4"	2 1/2"	2"
157.5	6'-4"	6'-4"	2 1/2"	2"
157.8	6'-4"	6'-4"	2 1/2"	2"
160.6	6'-2"	6'-2"	2 1/2"	2"
181.7	6'-2"	6'-2"	2 1/2"	2"
164.4	6'-1"	6'-1"	2 1/2"	2"

MAXIMUM DESIGN LOAD "W" (p.s.f.)	MAXIMUM PANEL SPAN (ft.)		MINIMUM SEPARATION TO GLASS (in.)	
	*	**	*	**
165.2	6'-0"	6'-0"	2 1/2"	2"
168.1	5'-11"	5'-11"	2 1/2"	2"
168.7	5'-11"	5'-11"	2 1/2"	2"
170.0	5'-10"	5'-10"	2 1/2"	2"
175.6	5'-8"	5'-8"	2 1/2"	2"
176.6	5'-8"	5'-8"	2 1/2"	2"
180.3	5'-6"	5'-6"	2 1/2"	2"
188.0	5'-4"	5'-4"	2 1/2"	2"
195.2	5'-1"	5'-1"	2 1/2"	2"
197.2	5'-1"	5'-1"	2 1/2"	2"
199.1	5'-0"	5'-0"	2 1/2"	2"
204.7	4'-11"	4'-11"	2 1/2"	2"
211.3	4'-9"	4'-9"	2 1/2"	2"
216.9	4'-7"	4'-7"	2 1/2"	2"
221.6	4'-6"	4'-6"	2 1/2"	2"
226.3	4'-5"	4'-5"	2 1/2"	2"

MAXIMUM DESIGN PRESSURE RATING "W" (p.s.f.) AND CORRESPONDING MAXIMUM ANCHOR SPACING (in.) SCHEDULE. +

(VALID FOR SECTIONS B', B1', B2' & C1' ON SHEET 3 OF 9).

MAXIMUM DESIGN LOAD "W" (p.s.f.)	WALL MOUNTING INSTALLATION AT TOP OR BOTTOM (TO CONCRETE)			WALL MOUNTING INSTALLATION AT TOP OR BOTTOM (TO MASONRY)			FLOOR/CEILING MOUNTING INSTALLATION TOP OR BOTTOM (TO CONCRETE)		
	NOTE 1	NOTE 2	NOTE 3	NOTE 1	NOTE 2	NOTE 3	NOTE 1	NOTE 2	NOTE 3
FROM 45.1 TO 61.8	9"	9"	9"	9"	9"	4 1/2"	9"	9"	8"
FROM 61.9 TO 75.3	9"	9"	8 1/2"	9"	8"	2 1/2"	9"	9"	7"
FROM 75.4 TO 91.4	9"	9"	4 1/2"	9"	7"	3"	9"	5 1/2"	4 1/2"
FROM 91.5 TO 120.0	9"	4 1/2"	4 1/2"	8"	-	-	9"	5 1/2"	5 1/2"
FROM 120.1 TO 168.1	7 1/2"	4 1/2"	-	2 1/2"	-	-	7"	5 1/2"	-
FROM 168.2 TO 226.3	4 1/2"	4 1/2"	-	2"	*	-	5 1/2"	5 1/2"	-

* VALID FOR UP TO 3'-0" MAXIMUM SPAN.
ANCHOR SPACING LEGEND

- (1) Max. ANCHOR SPCG. VALID FOR SPANS OF 5'-0" OR LESS.
- (2) Max. ANCHOR SPCG. VALID FOR SPANS GREATER THAN 5'-0" TO 8'-6".
- (3) Max. ANCHOR SPCG. VALID FOR SPANS GREATER THAN 8'-6" TO Max. ALLOWED.

+ USE TAPCON ANCHORS, ZAMAC NAILIN & CALK-INS FOR INSTALLATIONS W/ DESIGN LOADS UP TO 75.3 p.s.f.
USE ONLY TAPCON ANCHORS & CALK-INS FOR INSTALLATIONS W/ DESIGN LOADS GREATER THAN 75.3 p.s.f.
MAXIMUM ANCHOR SPACINGS ARE VALID FOR 3" EDGE DISTANCE. FOR E. D. LESS THAN 3", REDUCE ANCHOR SPACING BY MULTIPLYING SPACINGS SHOWN ON SCHEDULE BY THE FOLLOWING FACTORS. (NOTE : Min. E. D. FOR CALK-IN ANCHORS IS 2 1/2"). THIS OPERATION SHALL ONLY BE PERFORMED WHEN REQUIRED SPACING RESULTS INTO A MINIMUM OF 3" O.C.

ACTUAL E. D.= EDGE DISTANCE	FACTOR	TAPCON OR CALK-IN	TAPCON OR CALK-IN
2 1/2"	.75	ZAMAC NAILIN	TAPCON OR CALK-IN
2"	.50	UP TO 75.3 p.s.f.	> 75.3 p.s.f. TO 226.3 p.s.f.

ANCHOR LEGENDS

TABLE 1:

MINIMUM SEPARATION BETWEEN GLASS AND SHUTTER FOR A GIVEN SHUTTER SPAN, FOR SHUTTERS INSTALLED WITHIN THE FIRST 30'-0" ABOVE GRADE OF A GIVEN BUILDING. 30'-0" ELEVATION SHALL BE MEASURED AT BOTTOM OF SHUTTER. SEPARATION TO BE MEASURED AS INDICATED ON SECTION D, SHEET 4 OF 9.

SHUTTER SPAN (ft.)	MINIMUM SEPARATION (in.)
LESS OR EQUAL THAN 9'-0"	2 1/2"
> 9'-0" TO 10'-0"	3 1/2"
> 10'-0" TO 12'-0"	4"

- * FOR SHUTTERS INSTALLED WITHIN THE FIRST 30'-0" ELEVATION OF BUILDING. SEE TABLE 1 FOR MINIMUM SEPARATION TO GLASS FOR SPANS SHORTER THAN THE MAXIMUM ALLOWED SHOWN ON SCHEDULE.
- ** FOR SHUTTERS INSTALLED ABOVE 30'-0" ELEVATION OF BUILDING, MEASURED AT BOTTOM OF SHUTTER.

PRODUCT REVISED as complying with the Florida Building Code Acceptance No 04-0624-01 Expiration Date 10/17/2006
By *Walter A. Tillit Jr.*
Miami Dade Product Control Division

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TILECO Inc.
TILLIT TESTING & ENGINEERING COMPANY
8595 N.W. 36th St., Ste. 217, VIRGINIA GARDENS, FLORIDA 33166
Phone : (305)871-1330 Fax : (305)871-1831
EB-0008719
WALTER A. TILLIT Jr., P. E.
FLORIDA Lic. # 44167

ASSA / ECONOMY ACCORDION SHUTTER AS SHOWN SCALE
SANSONE HURRICANE SHUTTERS, INC.
(A.S.S.A. # 4)
505 N.E. 27th STREET
POMPANO BEACH, FLORIDA 33064
6/8/04 DATE
04-065 DRAWING No
REV. NO DESCRIPTION DATE REV. No DESCRIPTION DATE
1 - - - 2 - - -
2 - - - 4 - - -
SHEET 9 OF 9

JUN 08 2004