



MIAMI-DADE COUNTY
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) 372-6339

NOTICE OF ACCEPTANCE (NOA)

www.maimidade.gov/buildingcode

EFCO Corporation
1000 County Road
Monett, MO 65708

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 Florida Building Code, including the High Velocity Hurricane Zone.

DESCRIPTION: Series 810-I Aluminum Fixed Window – L.M.I.

APPROVAL DOCUMENT: Drawing No. **1080**, titled "Series 810-1 Large Missile Impact Fixed Window", Sheets 1 through 4 of 4, dated 12/28/01 with the latest revision A2, dated 02/11/08, 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 Division.

MISSILE IMPACT RATING: Large and Small Missile Impact Resistant

LABELING: Each unit shall bear a permanent label with the manufacturer's name or logo, city, state and following statement: "Miami-Dade County Product Control Approved" or the Product Control Seal, 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 and renews** NOA # **02-0410.04** and consists of this page 1 and evidence pages E-1, E-2 and E-3, as well as approval document mentioned above.

The submitted documentation was reviewed by **Manuel Perez, P.E.**



NOA No. 07-0817.06
Expiration Date: November 07, 2012
Approval Date: March 20, 2008
Page 1

EFCO Corporation

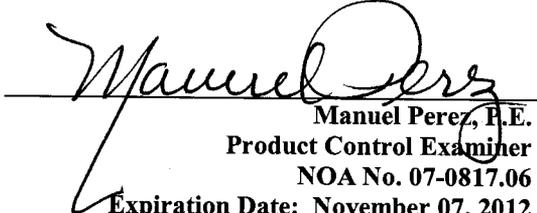
NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

A. DRAWINGS

1. Manufacturer's die drawings and sections.
2. Drawing No. **1080**, titled "Series 810-I Large Missile Impact Fixed Window", sheets 1 through 4 of 4, dated 12/28/01 with the latest revision A2, dated 02/11/08, prepared by W.W. Schaefer Engineering & Consulting, P.A., signed and sealed by Warren W. Schaefer, P.E.

B. TESTS

1. Test reports on: 1) Uniform Static Air Pressure Test, Loading per SFBCPA 202-94
2) Large Missile Impact Test per SFBC, PA 201-94
3) Cyclic Wind Pressure Loading per SFBC, PA 203-94
along with marked-up drawings and installation diagram of an aluminum fixed window (spec.#7), prepared by Hurricane Test Laboratory, Test Report No. **HTL-0046-1116-01**, dated 11/26/01, signed and sealed by Vinu J. Abraham, P.E.
(Submitted under NOA# 02-0410.04)
2. Test reports on: 1) Air Infiltration Test, per SFBC, PA 202-94
2) Uniform Static Air Pressure Test, Loading per SFBC, PA 202-94
3) Water Resistance Test, per SFBC, PA 202-94
4) Large Missile Impact Test per SFBC, PA 201-94
5) Cyclic Wind Pressure Loading per SFBC, PA 203-94
6) Forced Entry Test, per SFBC 3603.2 (b) and PA 202-94
along with marked-up drawings and installation diagram of an aluminum fixed window (spec. #1,2,3,4,5,7) prepared by Hurricane Test Laboratory, Test Report No. **HTL-0046-0101-02**, dated 12/26/01, signed and sealed by Vinu J. Abraham, P.E.
(Submitted under NOA# 02-0410.04)
3. Test reports on: 1) Test Method for Determining Ignition Temperature of Plastics, per ASTM D1929-96.
Along with marked-up drawings and installation diagram issued to EFCO Corporation's Insul-Bar Thermal Barrier plastic, prepared by Architectural Testing Inc, Test Report No. **ATI-01-42376.02**, dated October 01, 2002, signed by and sealed by Allen N. Reeves, P.E.
(Submitted under NOA# 02-0410.04)
4. Test reports on: 1) Test Method for the Density of Smoke from the Burning Decomposition of Plastic, per ASTM D 2843-99
Along with marked-up drawings and installation diagram issued to Architectural Testing Inc. for EFCO Corporation's Insul-Bar Thermal Barrier plastic, prepared by SGS U.S. Testing Company Inc., Test Report No. **SGS-170336**, dated August 21, 2002, signed by Piyush Shah.
(Submitted under NOA# 02-0410.04)


Manuel Perez, P.E.
Product Control Examiner
NOA No. 07-0817.06
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B. TESTS (Continued)

5. Test reports on: 1) Test Method for the Density of Smoke from the Burning Decomposition of Plastic, per ASTM D 2843-99
2) Test Method for Rate of Burning and/or Extent and Time of Burning of Plastics in a Horizontal Position, per ASTM D 635-98
Along with marked-up drawings and installation diagram issued to EFCO Corporation, for their Insul-Bar Thermal Barrier plastic, prepared by Architectural Testing, Inc., Test Report No. **ATI-01-42376.01**, dated August 29, 2002, signed and sealed by Allen N. Reeves, P.E.
(Submitted under NOA# 02-0410.04)

C. CALCULATIONS

1. Anchor verification calculations and structural analysis, complying with FBC-2004, prepared by W.W. Schaefer Engineering & Consulting, P.A., dated 02/19/08, signed and sealed by Warren W. Schaefer, P.E.
Complies with ASTM E1300-98/02

D. QUALITY ASSURANCE

1. Miami Dade Building Code Compliance Office (BCCO).

E. MATERIAL CERTIFICATIONS

1. Notice of Acceptance No. **07-1116.04** issued to E.I. DuPont DeNemours & Co., Inc. for their "**DuPont SentryGlas ® Plus**" dated 01/03/08, expiring on 01/14/12.
2. Notice of Acceptance No. **06-0216.06** issued to Solutia Inc. for their "**Saflex III G Clear or colored Interlayer**" dated 05/04/06, expiring on 05/21/11.
3. Notice of Acceptance No. **03-0225.10** issued to Glasslam NGI Inc. for their "**Safety-Plus II - Laminated Glass**" dated 08/07/03, expiring on 08/07/08.
4. Notice of Acceptance No. **03-0421.01** issued to Solutia Inc. for their "**Saflex HP a polyvinyl butryal interlayer for lamination of glass**" dated 05/22/03, expiring on 04/14/08.
5. Notice of Acceptance No. **02-0916.04** issued to Viracon, Inc. for their "**Laminate with Polyvinyl Butryal Interlayer**", dated 05/22/03, expiring on 04/14/08.

E. STATEMENTS

1. Statement letter of conformance, dated 02/19/08, signed and sealed by Warren Schaefer, P.E.
2. Statement letter of no financial interest, dated 02/19/08, signed and sealed by Warren Schaefer, P.E.

Manuel Perez, P.E.
Product Control Examiner
NOA No. 07-0817.06
Expiration Date: November 07, 2012
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F. STATEMENTS (Continued)

3. Laboratory compliance letter for Test Report no. **HTL-01085** issued by Hurricane Test Laboratory, dated 03/15/02, signed and sealed by Vinu J. Abraham, P.E.
(Submitted under NOA# 02-0410.04)

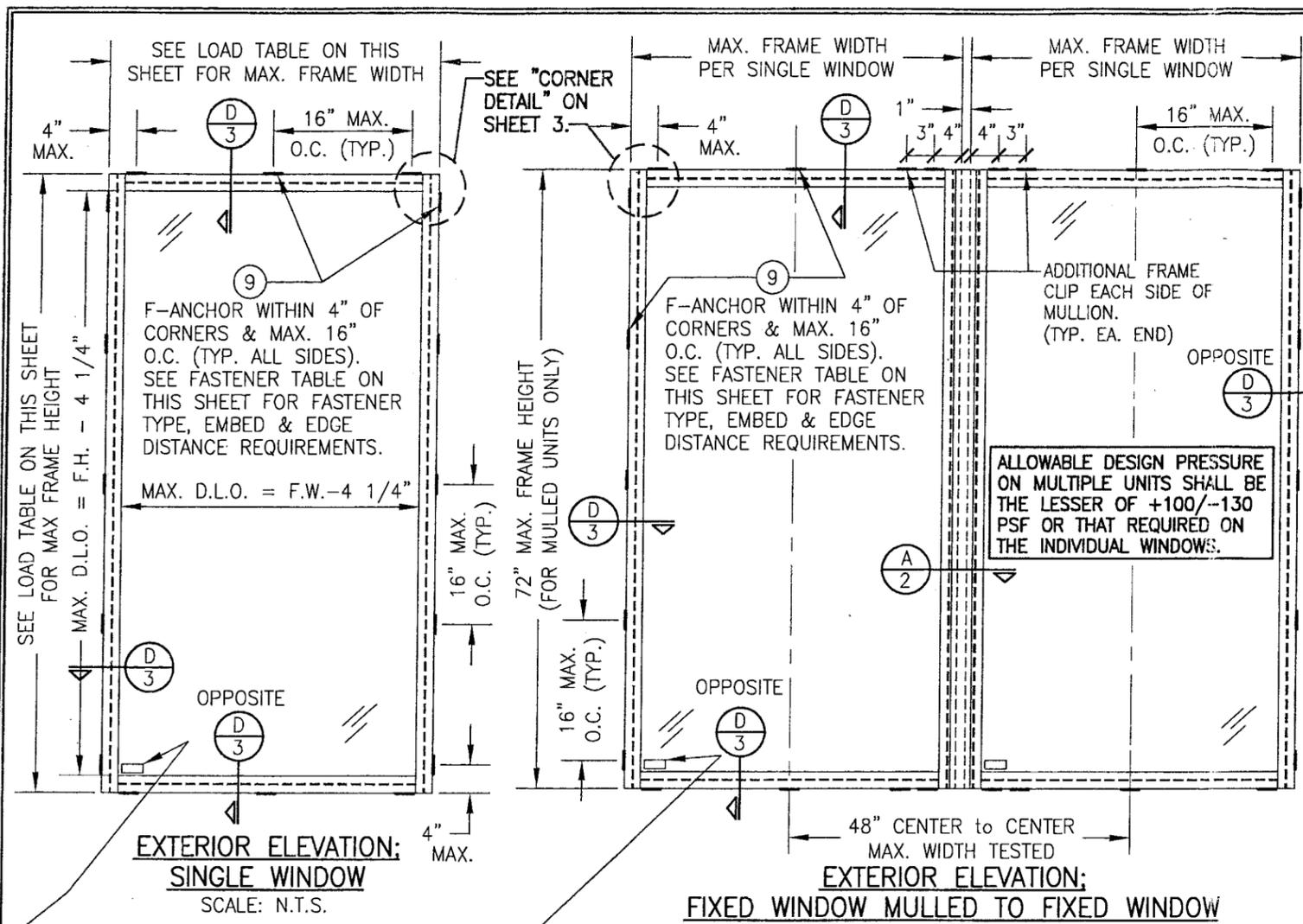
G. OTHER

1. Notice of Acceptance No. **02-0410.04**, issued to EFCO Corporation for their Series "810-I" Aluminum Fixed Window, approved on 11/07/02 and expiring on 11/07/07.



Manuel Perez, P.E.
Product Control Examiner
NOA No. 07-0817.06

Expiration Date: November 07, 2012
Approval Date: March 20, 2008



GENERAL NOTES

1. THESE WINDOW SYSTEMS HAVE BEEN TESTED, ANALYZED AND APPROVED FOR DESIGN PRESSURES NOT TO EXCEED THOSE SHOWN IN THE "ALLOWABLE DESIGN LOADS" TABLE(S).
 2. BUCKING, OPENINGS & BUCKING FASTENERS MUST BE PROPERLY DESIGNED & INSTALLED TO TRANSFER WIND LOADS TO THE STRUCTURE.
 3. ALL HARDWARE & FASTENERS SHALL BE IN ACCORDANCE WITH THESE DRAWINGS & SHALL NOT VARY UNLESS SPECIFICALLY MENTIONED ON THE DRAWINGS.
 4. THE DETAILS & SPECIFICATIONS SHOWN HEREIN REPRESENT THE PRODUCTS TESTED & PROPOSED FOR WATER, AIR, IMPACT, CYCLIC & UNIFORM STATIC AIR PRESSURE TESTING IN CONFORMANCE WITH THE 2004 & 2007 FLORIDA BUILDING CODE PROTOCOLS TAS-201, 202 & 203 FOR LARGE MISSILE IMPACT WINDOWS.
 5. THESE WINDOW SYSTEMS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE 2004 & 2007 FLORIDA BUILDING CODE (FBC) INCLUDING HIGH VELOCITY HURRICANE ZONES (HVHZ).
 6. IMPACT SHUTTERS ARE NOT REQUIRED WITH THESE WINDOWS.
 7. ALL ANCHORS SHALL BE INSTALLED AS SPECIFIED ON THESE DRAWINGS. SPECIFIED EMBEDMENT TO BASE MATERIAL SHALL BE BEYOND WALL FINISH OR STUCCO.
 8. ALL FRAME ANCHORS SECURING WINDOW/DOOR FRAME TO PRESSURE TREATED BUCKS OR WOOD FRAMING SHALL BE CAPABLE OF RESISTING CORROSION CAUSED BY THE PRESSURE TREATING CHEMICALS IN THE WOOD.
 9. MATERIALS, INCLUDING BUT NOT LIMITED TO STEEL SCREWS, THAT COME INTO CONTACT WITH OTHER DISSIMILAR MATERIALS SHALL MEET THE REQUIREMENTS OF 2004 & 2007 FLORIDA BUILDING CODE SECTION 2003.8.4.
 10. DETERMINE THE POSITIVE & NEGATIVE DESIGN LOADS TO USE WHEN REFERENCING THESE DOCUMENTS IN ACCORDANCE WITH THE GOVERNING CODE & GOVERNING WIND VELOCITY. FOR WIND LOAD CALCULATIONS IN ACCORDANCE WITH THE 2004 FLORIDA BUILDING CODE, A DIRECTIONALITY FACTOR OF $K_d = 0.85$ SHALL BE USED.
 11. NO INCREASE IN ALLOWABLE STRESS HAS BEEN USED IN THE DESIGN OF THIS PRODUCT. WIND LOAD DURATION FACTOR $C_d = 1.6$ WAS USED FOR WOOD SCREW DESIGN.
12. ALL SUBSTRATE SHALL HAVE THE FOLLOWING MINIMUM REQUIREMENTS.
- a) ALL CONCRETE SUBSTRATE SHALL BE MIN. 3000 PSI.
 - b) ALL WOOD SUBSTRATE SHALL BE MIN. $G = 0.55$ DENSITY.
 - c) ALL METAL STUD SUBSTRATE SHALL BE MIN. 18 GA. $F_y = 33$ ksi.
 - d) ALL STRUCTURAL STEEL SUBSTRATE SHALL BE MIN. 12 GA. $F_y = 36$ ksi.

ALLOWABLE DESIGN PRESSURE ON MULTIPLE UNITS SHALL BE THE LESSER OF +100/-130 PSF OR THAT REQUIRED ON THE INDIVIDUAL WINDOW(S).

OPENING TYPE (SUBSTRATE)	CLIP TO OPENING FASTENER TYPE	NO. FASTENERS PER CLIP INTO SUBSTRATE	MINIMUM EMBEDMENT	MINIMUM EDGE DIST.
WOOD	NO. 12 SMS SCREW	2	1 1/4"	1"
MIN. 18 GA. STUD	NO. 12 TEK SCREW	2	FULL	1/2"
MIN. 12 GA. STRUCTURAL STEEL	NO. 12 TEK SCREW	2	FULL	1/2"
CMU/CONCRETE	(1) 1/4" CONCRETE SCREW	2	1 1/4"	2"

(1) CONCRETE SCREWS SHALL BE ELCO OR ITW RAMSET/RED HEAD TAPCONS, HILTI KWIK-CON II OR POWERS RAWL TAPPER (HARDENED STEEL OR S.S.).

(1) SHORT DIMENSION	DESIGN LOAD CAPACITY (POSITIVE & NEGATIVE PSF)															
	POS.	NEG.	POS.	NEG.	POS.	NEG.	POS.	NEG.	POS.	NEG.	POS.	NEG.	POS.	NEG.	POS.	NEG.
30"	100.0	130.0	100.0	130.0	100.0	130.0	100.0	130.0	100.0	130.0	100.0	130.0	100.0	130.0	100.0	130.0
36"	100.0	130.0	100.0	130.0	100.0	130.0	100.0	130.0	100.0	130.0	100.0	130.0	100.0	130.0	100.0	130.0
42"	100.0	130.0	100.0	130.0	100.0	130.0	100.0	130.0	100.0	130.0	100.0	130.0	100.0	130.0	100.0	130.0
48"	100.0	130.0	100.0	130.0	100.0	130.0	100.0	130.0	100.0	130.0	100.0	130.0	100.0	130.0	100.0	130.0
54"	88.9	115.6														
57"	84.2	109.5														
(1) LONG DIMENSION	60"	66"	72"	78"	84"	90"	96"	108"	114"							

THE FOLLOWING LABEL SHALL BE PLACED AT THE INNER BOTTOM RIGHT CORNER OF THE WINDOW:

EFCO CORPORATION, MONETT MISSOURI
MIAMI-DADE COUNTY PRODUCT CONTROL APPROVED
LARGE MISSILE IMPACT UNIT

LOAD TABLE NOTES:

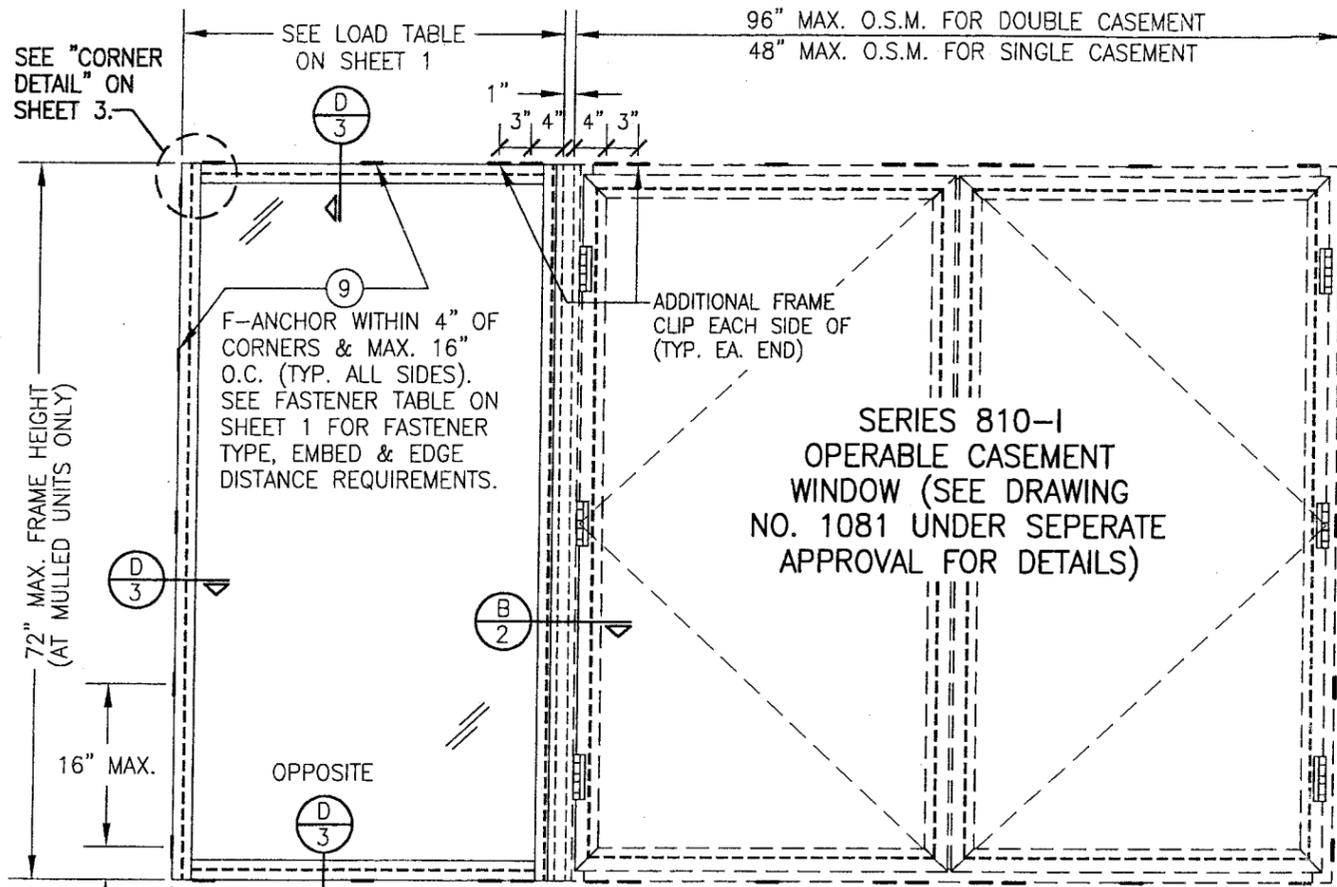
- (1) ALL WINDOW DIMENSION VALUES SHOWN ARE +/- 1/2" & ARE FRAME DIMENSIONS
- (2) THOSE SIZES WITH LOADS LISTED ARE MAXIMUM ALLOWABLE AT THAT LOAD. IF NO LOAD IS LISTED FOR A GIVEN SIZE, THAT SIZE EXCEEDS ALLOWABLE AND IS NOT ACCEPTABLE.

(1) SHORT DIMENSION	DESIGN LOAD CAPACITY (POSITIVE & NEGATIVE PSF)															
	POS.	NEG.	POS.	NEG.	POS.	NEG.	POS.	NEG.	POS.	NEG.	POS.	NEG.	POS.	NEG.	POS.	NEG.
30"	100.0	130.0	100.0	130.0	100.0	130.0	100.0	130.0	100.0	130.0	100.0	130.0	100.0	130.0	100.0	130.0
36"	100.0	130.0	100.0	130.0	100.0	130.0	100.0	130.0	100.0	130.0	100.0	127.0	100.0	121.0	100.0	116.0
42"	100.0	130.0	100.0	130.0	100.0	130.0	100.0	121.0	100.0	112.0						
48"	100.0	130.0	100.0	126.0	100.0	115.0	91.5	105.0								
54"	88.9	115.6	88.9	113.0												
57"			84.2	107.0												
(1) LONG DIMENSION	54"	60"	66"	72"	78"	84"	90"	96"	108"	114"						

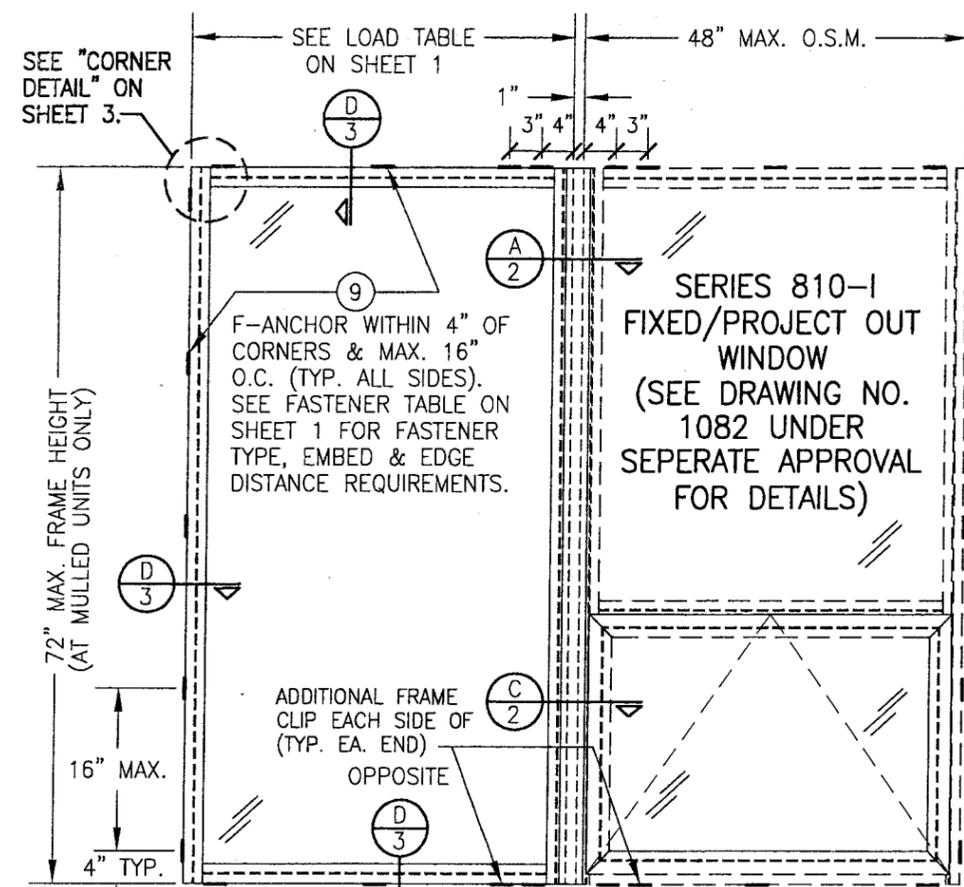
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PLOT: 1=16	DATE: 12/28/01
DATE: 02/11/08	DATE: 02/11/08
BY: WRN	WRN
REVISION DESCRIPTION	
A1 REMOVE SMALL MISSILE CONDITIONS	
A2 UPDATE TO 2004 CODE COMPLIANT	
NO.	
DRAWING TITLE SERIES 810-I LARGE MISSILE IMPACT FIXED WINDOW	
CONSULTANTS W. W. SCHAEFER ENGINEERING & CONSULTING, P.A. 8895 N. MILITARY TRAIL, SUITE C-204 PALM BEACH GARDENS, FL 33410 PHONE: 561-775-4902 FAX: 561-775-4903	
MANUFACTURER EFCO CORPORATION 1000 COUNTY ROAD, P.O. BOX 609 MONETT, MO 65708-0609 800-221-4169	
CERTIFICATION FEB 20 2008	WARREN W. SCHAEFER, P.E. P.E. NO. 44135
DRAWING NO. 1080	REV. A
SHEET NO. 1	OF 4

PRODUCT REVISED as complying with the Florida Building Code
Acceptance No 07-0817.06
Expiration Date 1/10/2012

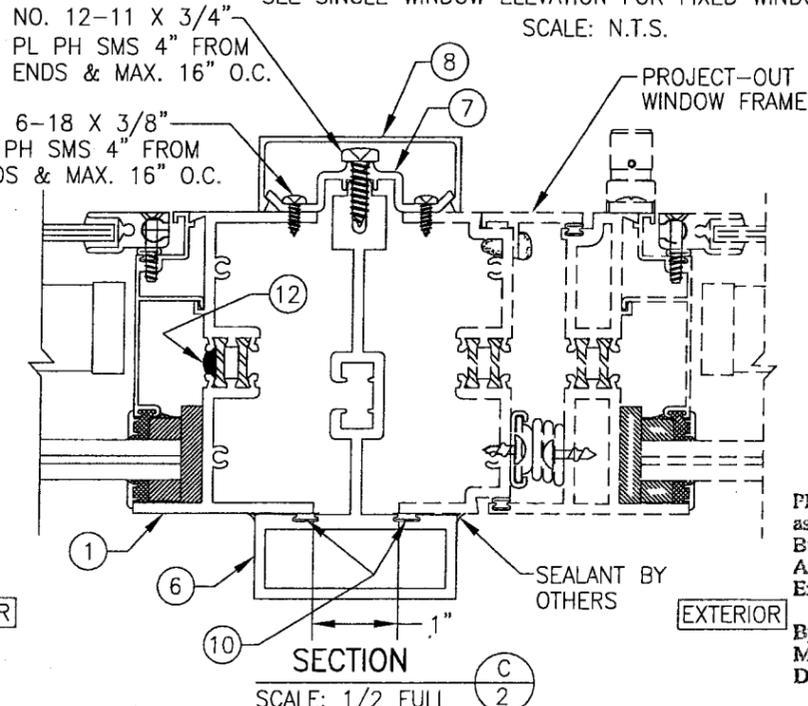
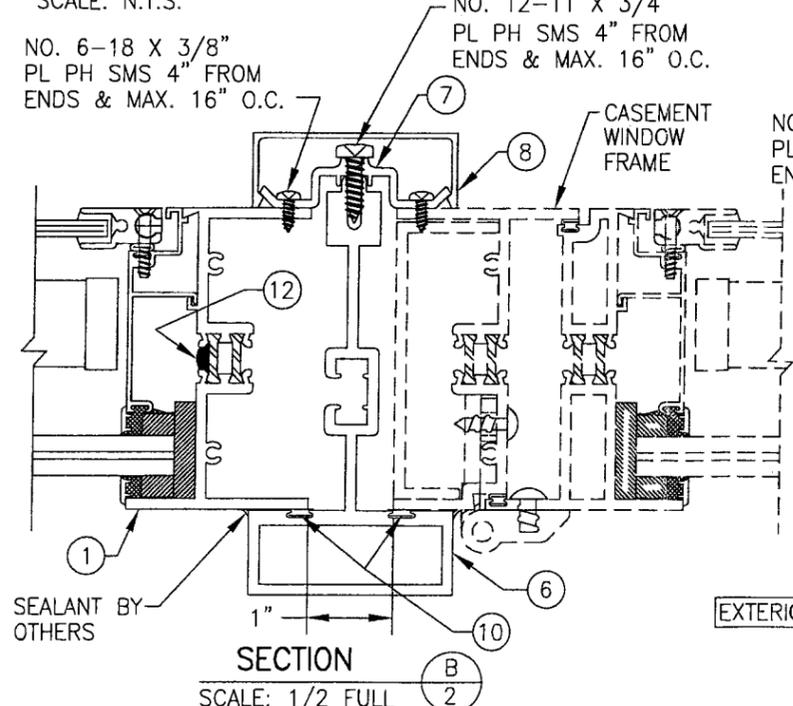
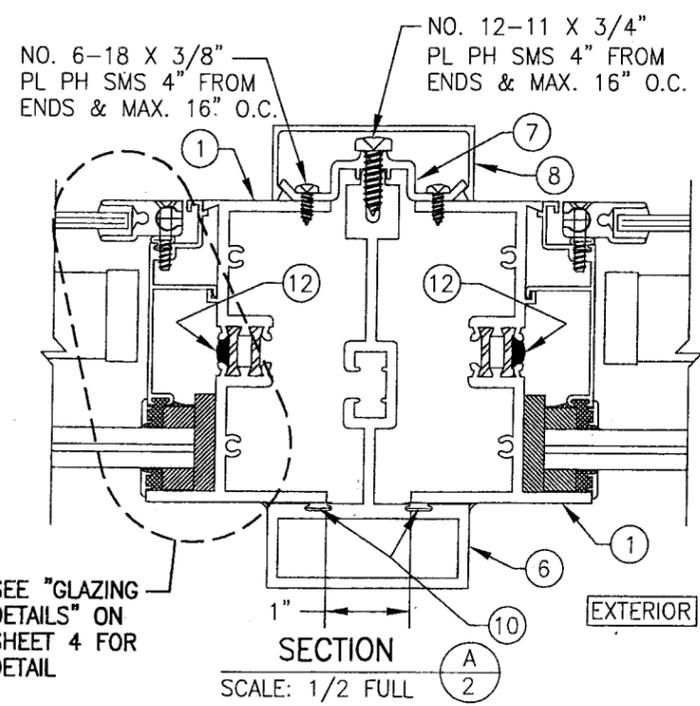
By *[Signature]*
Miami Dade Product Control Division



EXTERIOR ELEVATION
FIXED WINDOW MULLED TO OPERABLE CASEMENT
 (TYP. WITH SINGLE & DOUBLE CASEMENT WINDOWS)
 (MORE THAN 2 WINDOWS MAY BE STACKED HORIZONTALLY)
 SEE SINGLE WINDOW ELEVATION FOR FIXED WINDOW DETAILS

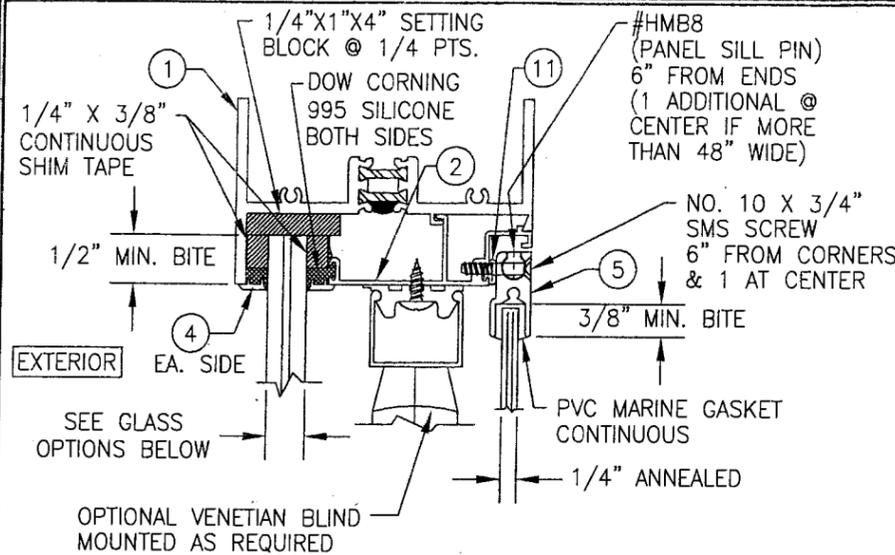


EXTERIOR ELEVATION
FIXED WINDOW MULLED TO FIXED/PROJECT OUT WINDOW
 (MORE THAN 2 WINDOWS MAY BE STACKED HORIZONTALLY)
 SEE SINGLE WINDOW ELEVATION FOR FIXED WINDOW DETAILS



PRODUCT REVISED
 as complying with the Florida
 Building Code
 Acceptance No 07-0817.06
 Expiration Date 11/07/2012
 By *Manufacturer*
 Miami Dade Product Control
 Division

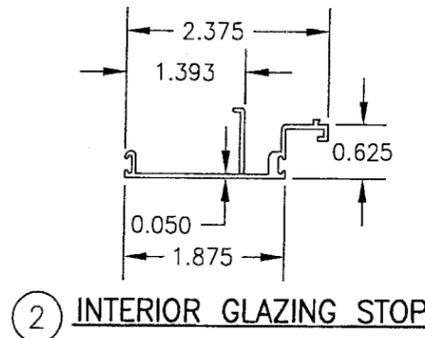
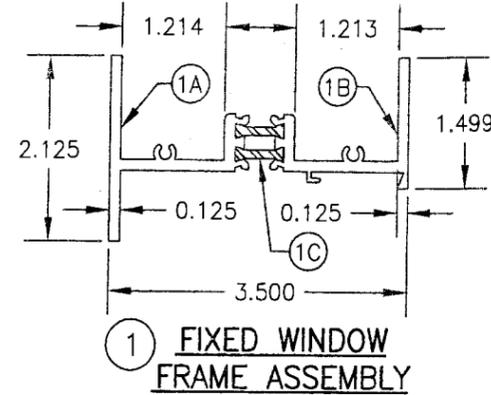
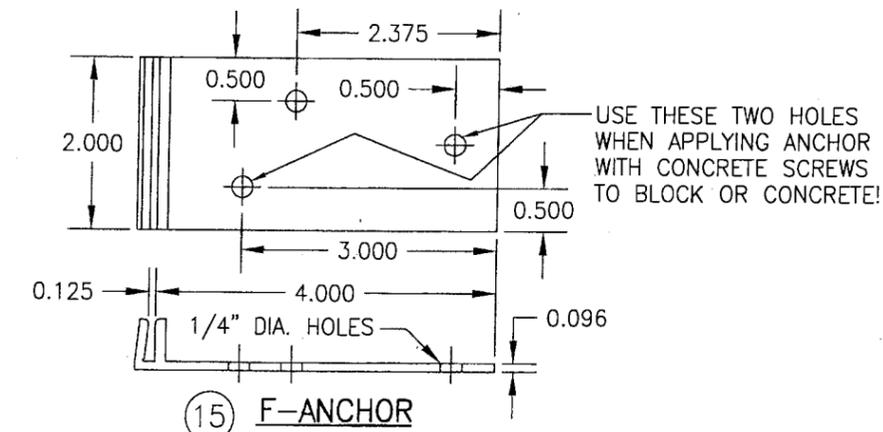
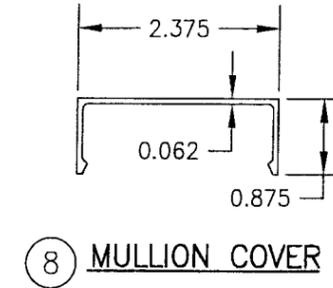
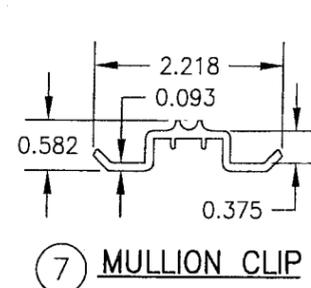
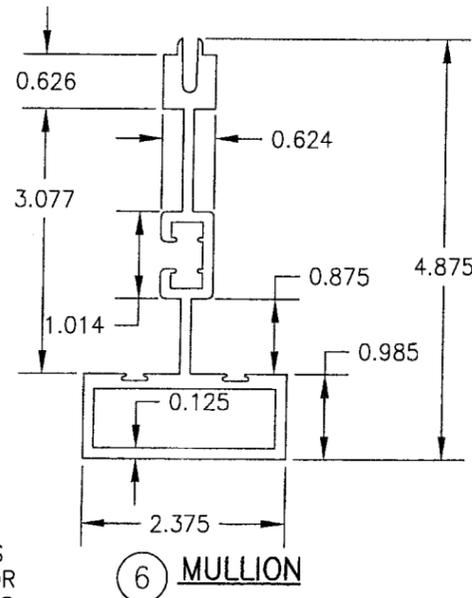
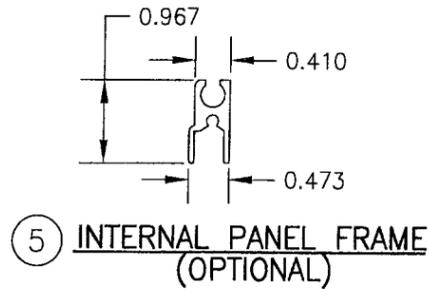
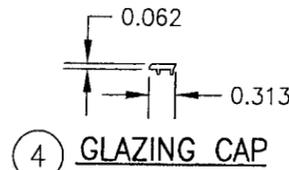
DRAWN BY: J.C.F.		CHECKED BY: W.W.S.	
PLOT: 1=16		DATE: 02/20/02	
NO.	REVISION DESCRIPTION	BY	DATE
DRAWING TITLE SERIES 810-1 LARGE MISSILE IMPACT FIXED WINDOW			
CONSULTANTS W. W. SCHAEFER ENGINEERING & CONSULTING, P.A. 8895 N. MILITARY TRAIL, SUITE C-204 PALM BEACH GARDENS, FL 33410 PHONE: 561-775-4902 FAX: 561-775-4903		MANUFACTURER EFCO CORPORATION 1000 COUNTY ROAD, P.O. BOX 609 MONETT, MO 65708-0609 800-221-4169	
CERTIFICATION FEB 20 2008 WARREN W. SCHAEFER, P.E. P.E. NO. 44135			
DRAWING NO. 1080		REV. A	
SHEET NO. 2 OF 4			



GLAZING DETAIL

GLASS OPTIONS

GLASS OPTION 1: 5/8" VIRACON STORM GUARD:
(1/4" AN./0.10" SOLUTIA SAFLEX HP/ 1/4" AN.)
GLASS OPTION 2: 5/8" NEBULA GLASSLAM SAFETY-PLUS:
(1/4" AN./0.060" RESIN/0.010" PET/0.060" RESIN/ 1/4" AN.)
GLASS OPTION 3: 9/16" DUPONT SENTRY GLASS PLUS:
(1/4" HT. ST./0.090" DUPONT SGP/ 1/4" HT. ST.)
GLASS OPTION 4: 9/16" SECURITY IMPACT GLASS
SAF-GLAS: (1/4" HT. ST./0.015" SIG ADHESIVE/0.070"
POLYCARB./0.015" SIG ADHESIVE/ 1/4" HT. ST.)



ITEM #	PART	ITEM DESCRIPTION	MANUFACTURER/NOTES
PARTS			
1A	8019	FRAME EXTERIOR MEMBER	EFCO; 6063-T6 ALUMINUM
1B	8018	FRAME INTERIOR MEMBER	EFCO; 6063-T6 ALUMINUM
1C	LAA3	INSULBAR STRUT	ENSINGER PLASTICS
2	EJ51	INT. GLAZING STOP	EFCO; 6063-T6 ALUMINUM
4	LB00	GLAZING CAP	FIBER REINFORCED NYLON
5	ER65	INTERNAL PANEL FRAME (OPTIONAL)	EFCO; 6063-T6 ALUMINUM
6	1303	MULLION	EFCO; 6063-T6 ALUMINUM
7	EG78	MULLION CLIP	EFCO; 6063-T6 ALUMINUM
8	EG79	MULLION COVER	EFCO; 6063-T6 ALUMINUM
9	1880	F-ANCHOR	EFCO; 6063-T6 ALUMINUM
SEALS & SEALANTS			
10	WVB4	BULB GASKET	VINYL
11	WA04	BULB GASKET	VINYL
12	-	INSULBAR SEALANT (CONTINUOUS)	COLORED DOW 795

DRAWN BY: J.C.F.	CHECKED BY: W.W.S.
PLOT: 1=2	DATE: 02/20/02
NO.	REVISION DESCRIPTION

DRAWING TITLE
SERIES 810-1 LARGE MISSILE IMPACT FIXED WINDOW

CONSULTANTS
W. W. SCHAEFER ENGINEERING & CONSULTING, P.A.
8895 N. MILITARY TRAIL, SUITE C-204
PALM BEACH GARDENS, FL 33410
PHONE: 561-775-4902 FAX: 561-775-4903

MANUFACTURER
EFCO CORPORATION
1000 COUNTY ROAD, P.O. BOX 609
MONETT, MO 65708-0609
800-221-4169

CERTIFICATION
FEB 20 2008

By *Manuel Peres*
Miami Dade Product Control
Division

DRAWING NO. 1080
SHEET NO. 4 OF 4

PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No. **07-0817.06**
Expiration Date **11/07/2012**