



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

CONTRACTOR LICENSING SECTION
(305) 375-2527 FAX (305) 375-2558

CONTRACTOR ENFORCEMENT DIVISION
(305) 375-2966 FAX (305) 375-2908

PRODUCT CONTROL DIVISION
(305) 375-2902 FAX (305) 372-6339

PRODUCT CONTROL NOTICE OF ACCEPTANCE

Efco Corporation
1000 County Road
Monett, MO 65708

Your application for Notice of Acceptance (NOA) of:

Series S-660 Aluminum Single Hung Window - Impact Resistant

under Chapter 8 of the Code of Miami-Dade County governing the use of Alternate Materials and Types of Construction, and completely described herein, has been recommended for acceptance by the Miami-Dade County Building Code Compliance Office (BCCO) under the conditions specified herein.

This NOA shall not be valid after the expiration date stated below. BCCO reserves the right to secure this product or material at any time from a jobsite or manufacturer's plant for quality control testing. If this product or material fails to perform in the approved manner, BCCO may revoke, modify, or suspend the use of such product or material immediately. BCCO reserves the right to revoke this approval, if it is determined by BCCO that this product or material fails to meet the requirements of the South Florida Building Code.

The expense of such testing will be incurred by the manufacturer.

ACCEPTANCE NO.: 00-0207.14
EXPIRES: 09/27/2006

Raul Rodriguez
Chief Product Control Division

**THIS IS THE COVERSHEET, SEE ADDITIONAL PAGES FOR SPECIFIC AND GENERAL
CONDITIONS
BUILDING CODE & PRODUCT REVIEW COMMITTEE**

This application for Product Approval has been reviewed by the BCCO and approved by the Building Code and Product Review Committee to be used in Miami-Dade County, Florida under the conditions set forth above.

Francisco J. Quintana, R.A.
Director
Miami-Dade County
Building Code Compliance Office

APPROVED: 09/27/2001

EFCO Corporation

ACCEPTANCE No.: 00-0207.14

APPROVED : SEP 27 2001

EXPIRES : SEP 27 2006

NOTICE OF ACCEPTANCE: SPECIFIC CONDITIONS

1. SCOPE

1.1 This approves an aluminum single hung window, as described in Section 2 of this Notice of Acceptance, designed to comply with the South Florida Building Code (SFBC), 1994 Edition for Miami-Dade County, for the locations where the pressure requirements, as determined by SFBC Chapter 23, do not exceed the Design Pressure Rating values indicated in the approved drawings.

2. PRODUCT DESCRIPTION

2.1 The Series S-660 Aluminum Single Hung Window – Large Missile & Small Missile Impact Resistant and its components shall be constructed in strict compliance with the following documents: Drawing: No **1024**, Sheets 1 thru 5 of 5, titled “S-660 Small & Large Missile Impact Single Hung Window” dated 11/01/00, 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 approval stamp with the Notice of Acceptance number and approval date by the Miami-Dade County Product Control Division. These documents shall hereinafter be referred to as the approved drawings.

3. LIMITATIONS

3.1 This approval applies to single unit applications and side-by-side installations, as shown in approved drawings.

4. INSTALLATION

4.1 The aluminum single hung window and its components shall be installed in strict compliance with the approved drawings.

4.2 Hurricane protection system (shutters):

4.2.1 For Large Missile Impact Glass: the installation of this unit **will not require** a hurricane protection system.

4.2.2 For Small Missile Impact Glass: the installation of this unit up to 30 feet above grade, **will require** a hurricane protection system, but for installations above 30 feet above grade **will not require** a hurricane protection system.

4.2.3 To determine if the glass is large missile or small missile impact resistant, see glazing detail on Sheet 3 of approved drawings.

5. LABELING

5.1 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".

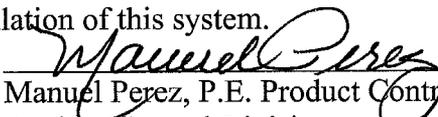
6. BUILDING PERMIT REQUIREMENTS

6.1 Application for building permit shall be accompanied by copies of the following:

6.1.1 This Notice of Acceptance

6.1.2 Duplicate copies of the approved drawings, as identified in Section 2 of this Notice of Acceptance, clearly marked to show the components selected for the proposed installation.

6.1.3 Any other documents required by the Building Official or the South Florida Building Code (SFBC) in order to properly evaluate the installation of this system.


Manuel Perez, P.E. Product Control Examiner
Product Control Division

EFCO Corporation

ACCEPTANCE No.: 00-0207.14

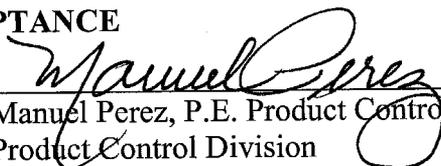
APPROVED : SEP 27 2001

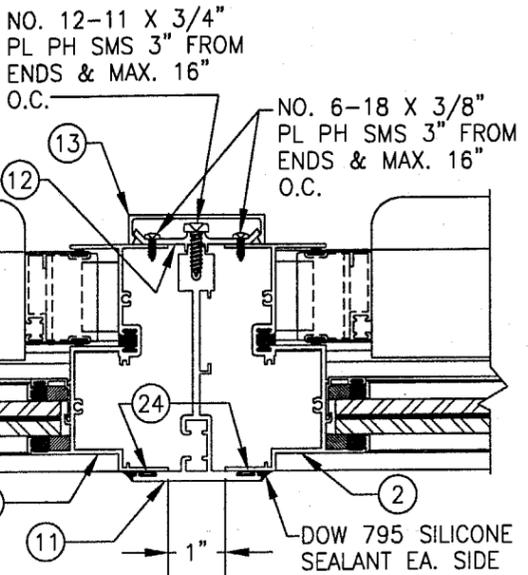
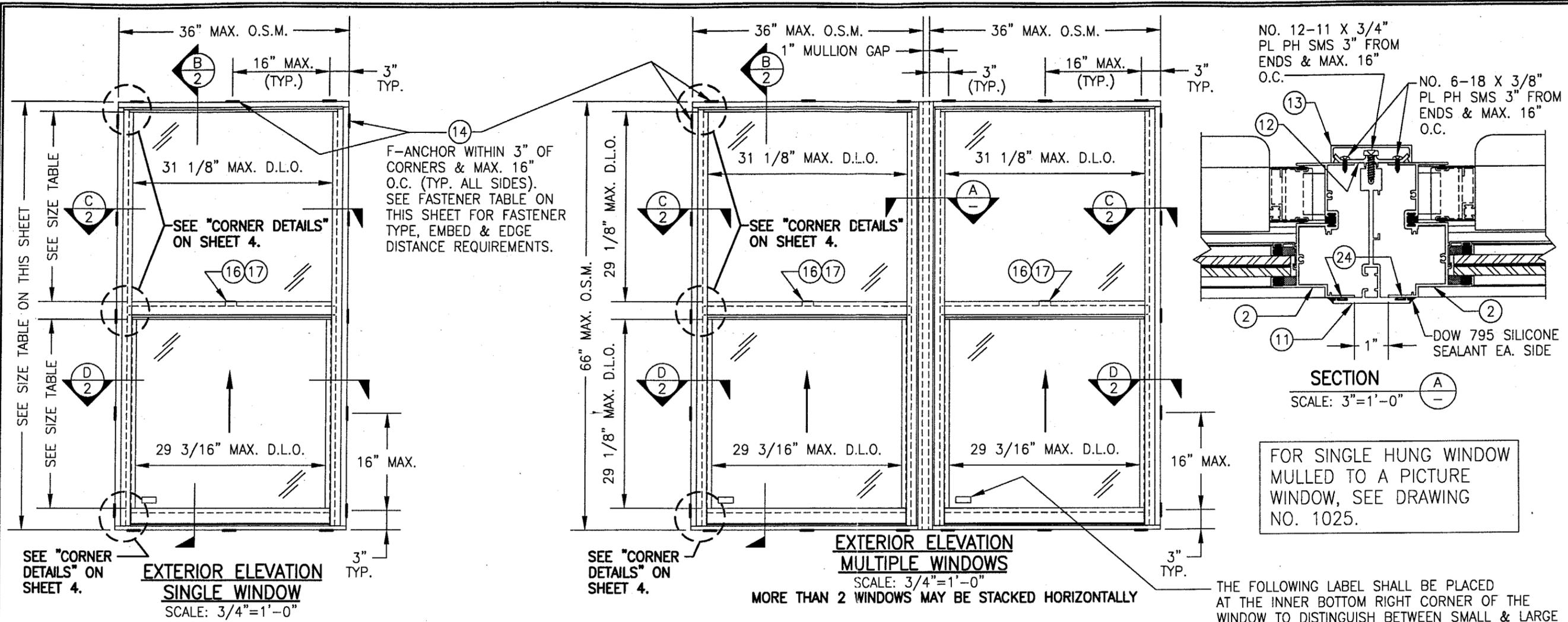
EXPIRES : SEP 27 2006

NOTICE OF ACCEPTANCE: STANDARD CONDITIONS

1. Renewal of this Acceptance (approval) shall be considered after a renewal application has been filed and the original submitted documentation, including test supporting data, engineering documents, are no older than eight (8) years.
2. Any and all approved products shall be permanently labeled with the manufacturer's name, city, state, and the following statement: "Miami-Dade County Product Control Approved", or as specifically stated in the specific conditions of this Acceptance.
3. Renewals of Acceptance will not be considered if:
 - a) There has been a change in the South Florida Building Code affecting the evaluation of this product and the product is not in compliance with the code changes;
 - b) The product is no longer the same product (identical) as the one originally approved;
 - c) If the Acceptance holder has not complied with all the requirements of this acceptance, including the correct installation of the product;
 - d) The engineer who originally prepared, signed and sealed the required documentation initially submitted is no longer practicing the engineering profession.
4. Any revision or change in the materials, use, and/or manufacture of the product or process shall automatically be cause for termination of this Acceptance, unless prior written approval has been requested (through the filing of a revision application with appropriate fee) and granted by this office.
5. Any of the following shall also be grounds for removal of this Acceptance:
 - a) Unsatisfactory performance of this product or process.
 - b) Misuse of this Acceptance as an endorsement of any product, for sales, advertising or any other purpose.
6. The Notice of Acceptance 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 Notice of Acceptance is displayed, then it shall be done in its entirety.
7. A copy of this Acceptance as well as approved drawings and other documents, where it applies, shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at all time. The engineer need not reseal the copies.
8. Failure to comply with any section of this Acceptance shall be cause for termination and removal of Acceptance.
9. This Notice of Acceptance consists of pages 1, 2 and this last page 3.

END OF THIS ACCEPTANCE


Manuel Perez, P.E. Product Control Examiner
Product Control Division



SECTION A-A
SCALE: 3"=1'-0"

FOR SINGLE HUNG WINDOW MULLED TO A PICTURE WINDOW, SEE DRAWING NO. 1025.

THE FOLLOWING LABEL SHALL BE PLACED AT THE INNER BOTTOM RIGHT CORNER OF THE WINDOW TO DISTINGUISH BETWEEN SMALL & LARGE MISSILE GLASS:
EFCO CORPORATION, MONETT MISSOURI
MIAMI-DADE COUNTY PRODUCT CONTROL APPROVED
SMALL (OR LARGE) MISSILE IMPACT UNIT

O.S.M. = OUTSIDE FRAME MEASUREMENT

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.
2. BUCKING, OPENINGS & BUCKING FASTENERS MUST BE DESIGNED & INSTALLED TO WITHSTAND WIND LOADS AS DETERMINED FOR EA. APPLICATION
3. ALL HARDWARE & FASTENERS SHALL BE IN ACCORDANCE WITH THESE DRAWINGS & MAY 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 DADE COUNTY PROTOCOLS PA 201, 202 & 203 FOR BOTH LARGE MISSILE IMPACT & SMALL MISSILE IMPACT WINDOWS.
5. THESE WINDOW SYSTEMS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE SOUTH FLORIDA BUILDING CODE, 1994 EDITION.

OPENING TYPE (SUBSTRATE)	CLIP TO OPENING FASTENER TYPE	NO. FASTENERS PER CLIP INTO SUBSTRATE	MINIMUM EMBEDMENT	MINIMUM EDGE DIST.
WOOD	NO. 12 SMS SCREW	3	1 1/8"	1"
MIN. 18 GA. STUD	NO. 12 TEK SCREW	3	FULL	1/2"
STRUCT. STEEL	NO. 12 TEK SCREW	3	FULL	1/2"
CMU/CONCRETE	1/4" TAPCON	2	1 1/4"	2"

WINDOW MAXIMUM SIZE TABLE (SINGLE WINDOWS ONLY)

FRAME WIDTH	FRAME HEIGHT	TOP WINDOW D.L.O.		BOTTOM WINDOW D.L.O.	
		HORIZONTAL	VERTICAL	HORIZONTAL	VERTICAL
24"	99"	19 1/8"	45 5/8"	17 3/16"	45 5/8"
27"	88"	22 1/8"	40 1/8"	20 3/16"	40 1/8"
30"	79"	25 1/8"	35 5/8"	23 3/16"	35 5/8"
33"	72"	28 1/8"	32 1/8"	26 3/16"	32 1/8"
36"	66"	31 1/8"	29 1/8"	29 3/16"	29 1/8"

NOTES: 1) ALL MULLED UNITS ARE LIMITED TO 66" TALL AS TESTED.
2) ALL WINDOWS ARE LIMITED TO 36" MAXIMUM WIDTH.

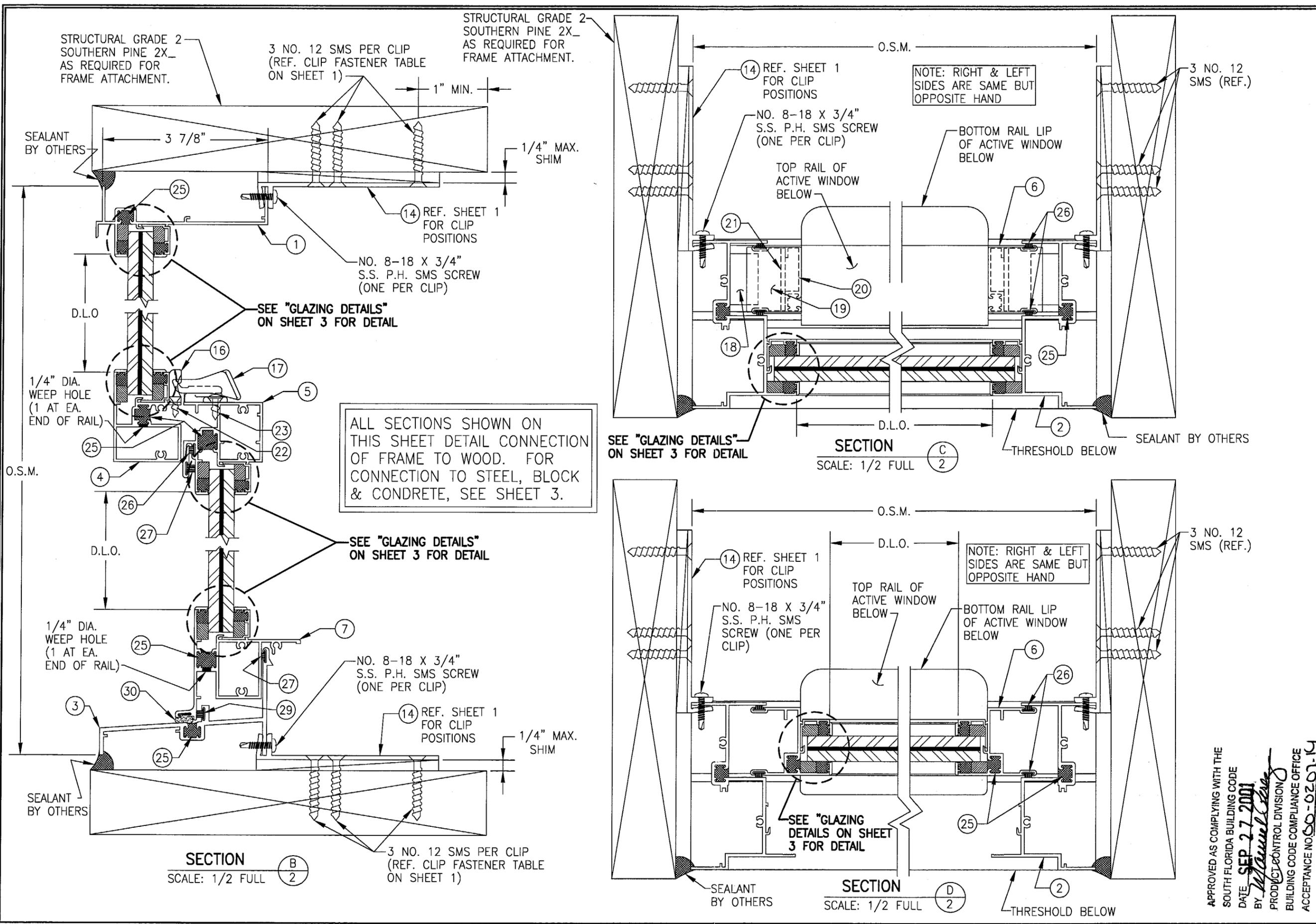
ALLOWABLE DESIGN LOADS & IMPACT RATING (FOR SINGLE & MULLED UNITS)

GLAZING DESCRIPTION	IMPACT RATING	ALLOWABLE PRESSURE	
		POSITIVE	NEGATIVE
1/4" HT. STR./0.09" SAFLEX PVB/1/4" HT. STR.	LARGE MISSILE	80 PSF	90 PSF
1/4" HT. STR./0.06" SAFLEX PVB/1/4" HT. STR.	SMALL MISSILE	73.3 PSF	120 PSF

LOAD TABLE NOTE:
1. ALL MULLED UNITS ARE LIMITED TO MAXIMUM HEIGHT OF 66".
2. SMALL MISSILE IMPACT WINDOWS MAY NOT BE INSTALLED AT A SILL ELEVATION LESS THAN 30 FT. ABOVE GRADE.

APPROVED AS COMPLYING WITH THE SOUTH FLORIDA BUILDING CODE
DATE **SEP 27 2001**
BY *Warren W. Schaefer*
PRODUCT CONTROL DIVISION
BUILDING CODE COMPLIANCE OFFICE
ACCEPTANCE NO. **00-0207-14**

DRAWN BY: W.W.S.	CHECKED BY: W.W.S.
PLOT: 1-16	DATE: 11/01/00
DATE	BY
REVISION DESCRIPTION	NO.
DRAWING TITLE S-660 SMALL & LARGE MISSILE IMPACT SINGLE HUNG WINDOW	
MANUFACTURER EFCO CORPORATION	
1000 COUNTY ROAD, P.O. BOX 609 MONETT, MO 65708-0609 800-221-4169	
CONSULTANTS W. W. SCHAEFER ENGINEERING & CONSULTING, P.A.	
600 SANDTREE DRIVE, SUITE 203B PALM BEACH GARDENS, FL 33403 PHONE: 561-775-4902 FAX: 561-775-4903	
CERTIFICATION JUN 25 2001	WARREN W. SCHAEFER, P.E. P.E. NO. 44135
DRAWING NO. 1024	REV.
SHEET NO. 1	OF 5



ALL SECTIONS SHOWN ON THIS SHEET DETAIL CONNECTION OF FRAME TO WOOD. FOR CONNECTION TO STEEL, BLOCK & CONCRETE, SEE SHEET 3.

APPROVED AS COMPLYING WITH THE SOUTH FLORIDA BUILDING CODE
 DATE **SEP 27 2001**
 BY *Warren W. Schaefer*
 PRODUCT CONTROL DIVISION
 BUILDING CODE COMPLIANCE OFFICE
 ACCEPTANCE NO. **00-0207-14**

DRAWN BY:	W.W.S.	CHECKED BY:	W.W.S.
PLOT:	1=2	DATE:	11/01/00
NO.		DATE	
BY			
REVISION DESCRIPTION			

DRAWING TITLE
S-660 SMALL & LARGE MISSILE IMPACT SINGLE HUNG WINDOW

CONSULTANTS
W. W. SCHAEFER ENGINEERING & CONSULTING, P.A.
 600 SANDTREE DRIVE, SUITE 203B
 PALM BEACH GARDENS, FL 33403
 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

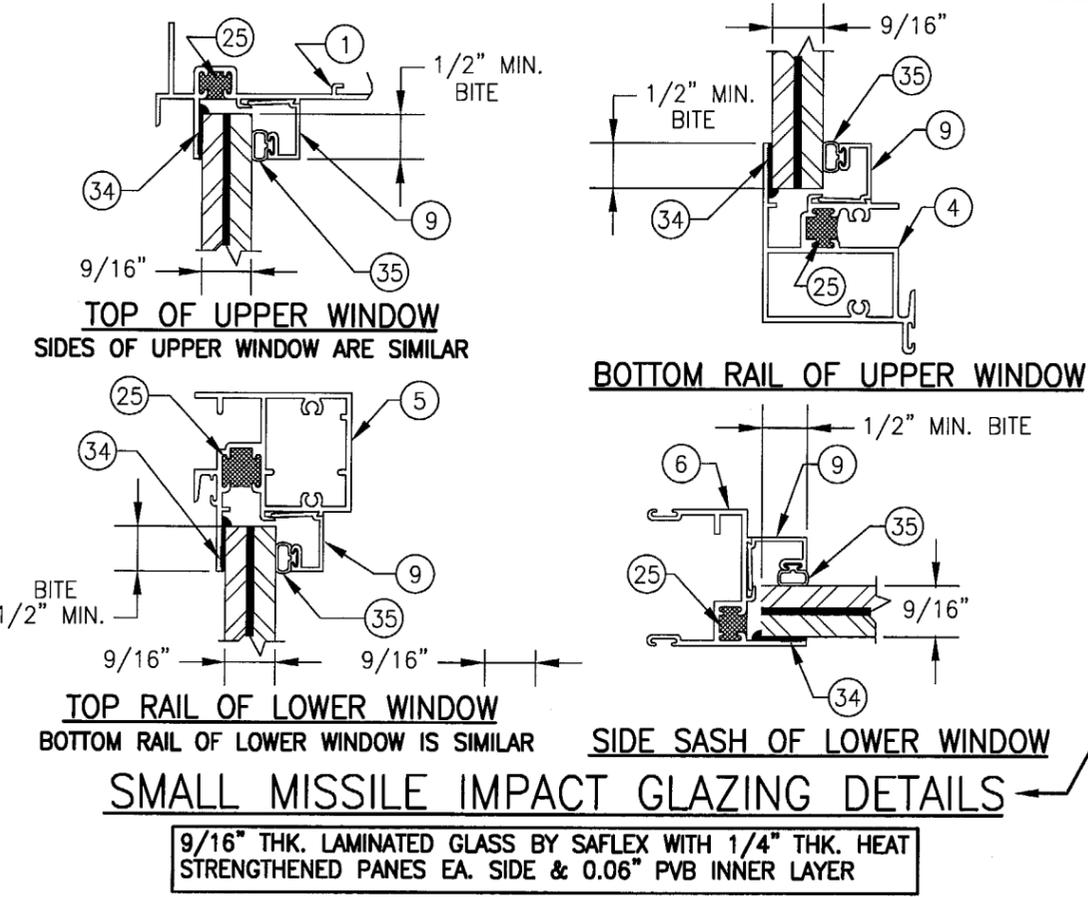
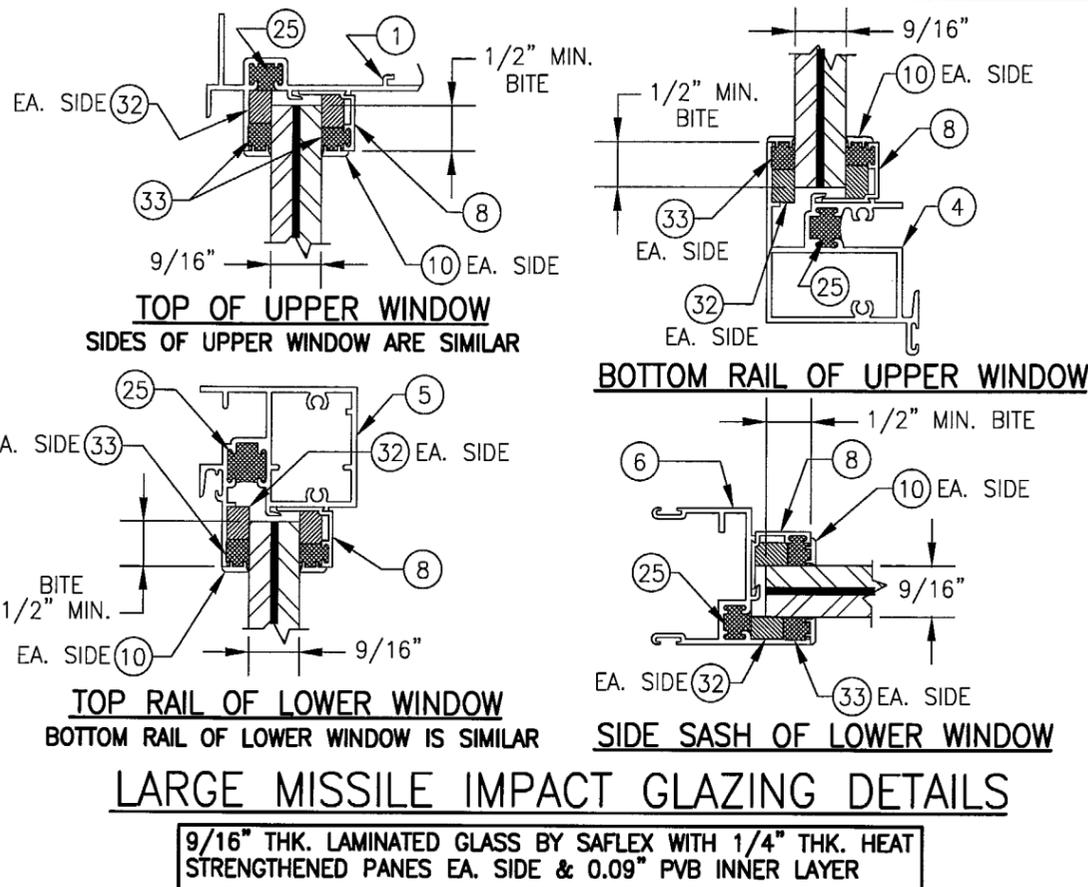
CERTIFICATION
JUN 25 2001

WARREN W. SCHAEFER, P.E.
 P.E. NO. 44135

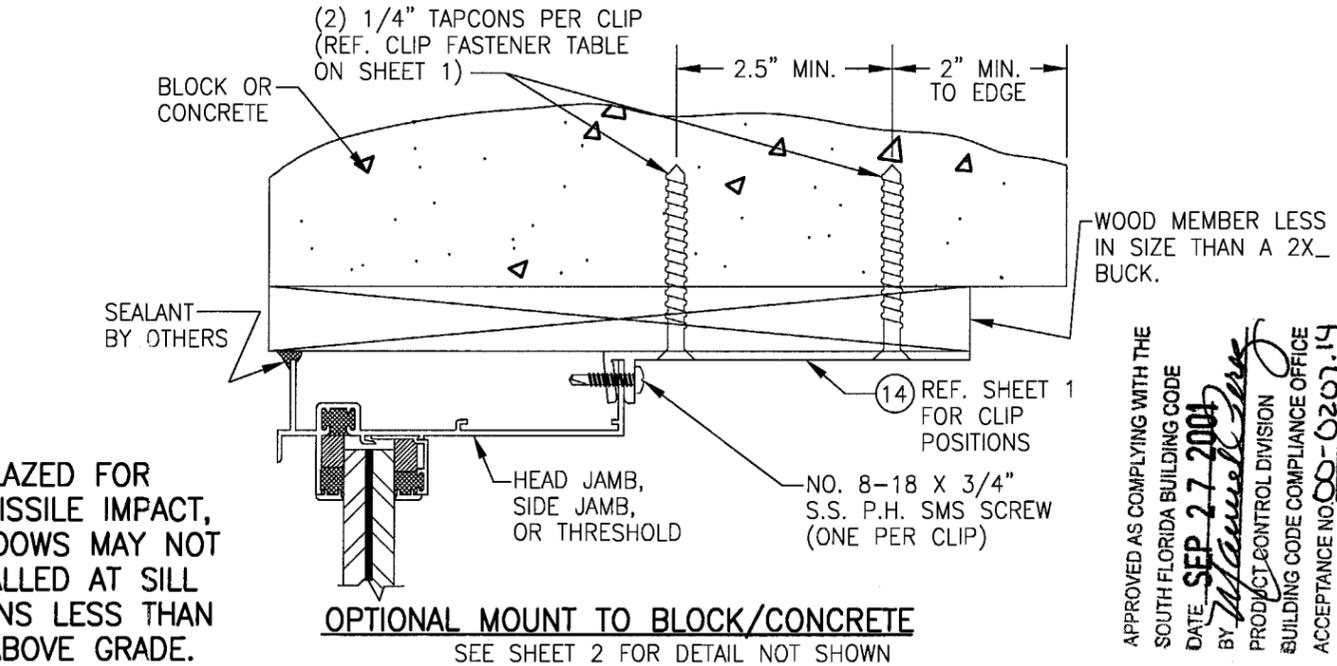
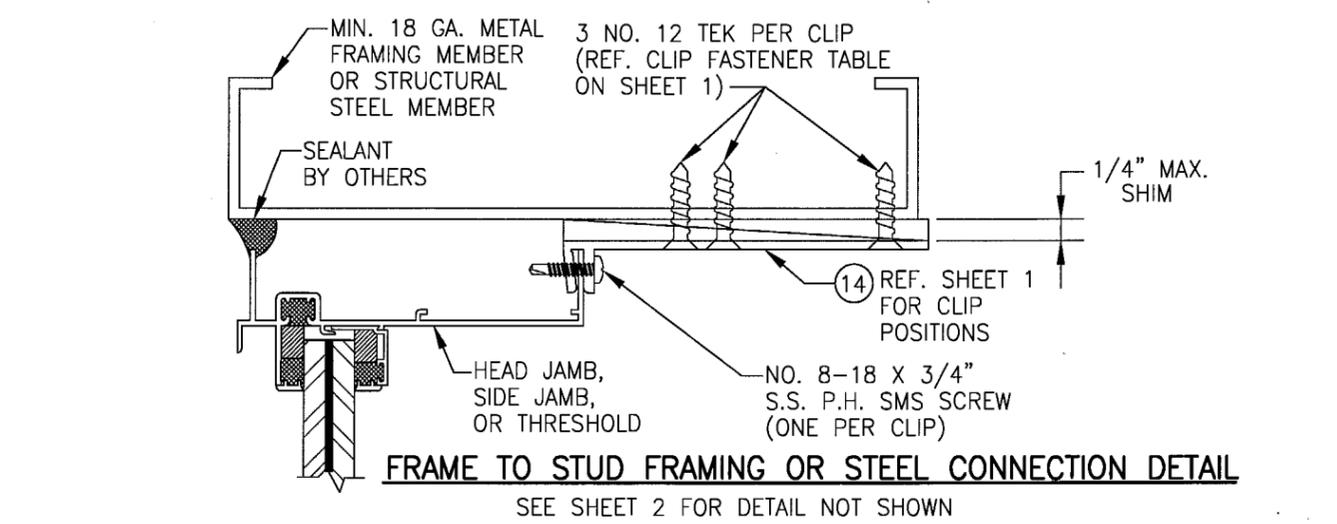
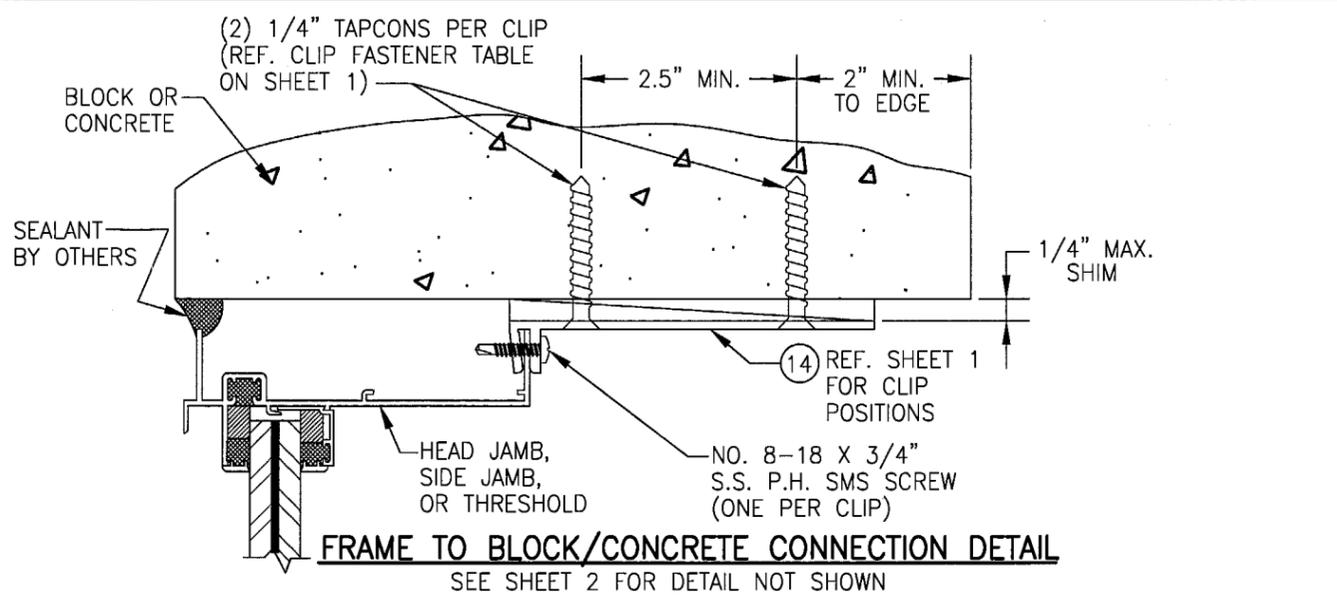
DRAWING NO.
1024

REV.

SHEET NO.
2 OF 5



WHEN GLAZED FOR SMALL MISSILE IMPACT, THE WINDOWS MAY NOT BE INSTALLED AT SILL ELEVATIONS LESS THAN 30 FT. ABOVE GRADE.



APPROVED AS COMPLYING WITH THE SOUTH FLORIDA BUILDING CODE
DATE SEP 27 2004
BY Warren W. Schaefer
PRODUCT CONTROL DIVISION
BUILDING CODE COMPLIANCE OFFICE
ACCEPTANCE NO. 00-0207-14

DRAWN BY:	W.W.S.	CHECKED BY:	W.W.S.
PLOT:	1=2	DATE:	11/01/00
NO.		REVISION DESCRIPTION	
BY		DATE	

DRAWING TITLE: **S-660 SMALL & LARGE MISSILE IMPACT SINGLE HUNG WINDOW**

MANUFACTURER: **EFCO CORPORATION**

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

CONSULTANTS: **W. W. SCHAEFER ENGINEERING & CONSULTING, P.A.**

600 SANDTREE DRIVE, SUITE 203B
PALM BEACH GARDENS, FL 33403
PHONE: 561-775-4902 FAX: 561-775-4903

CERTIFICATION

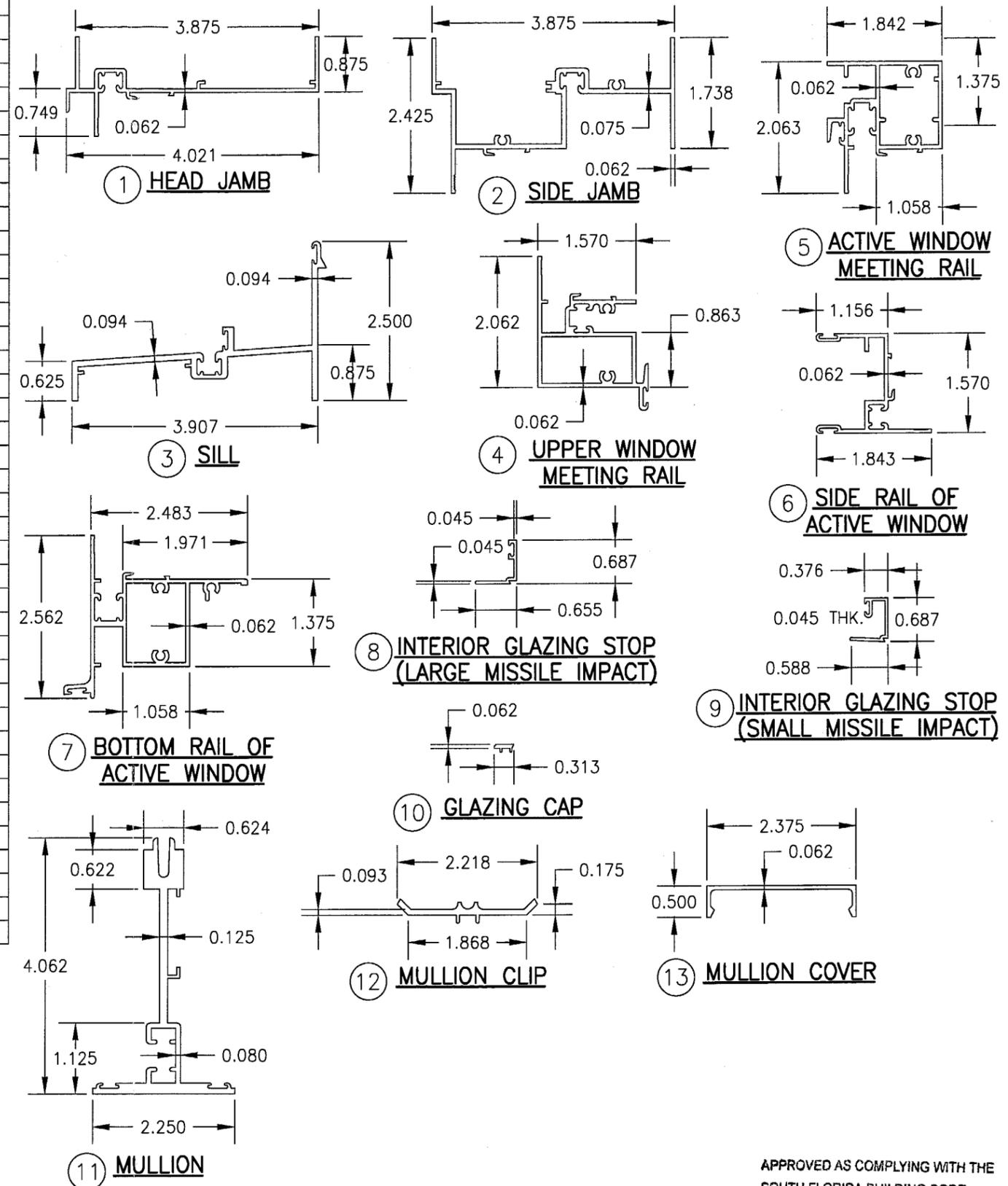
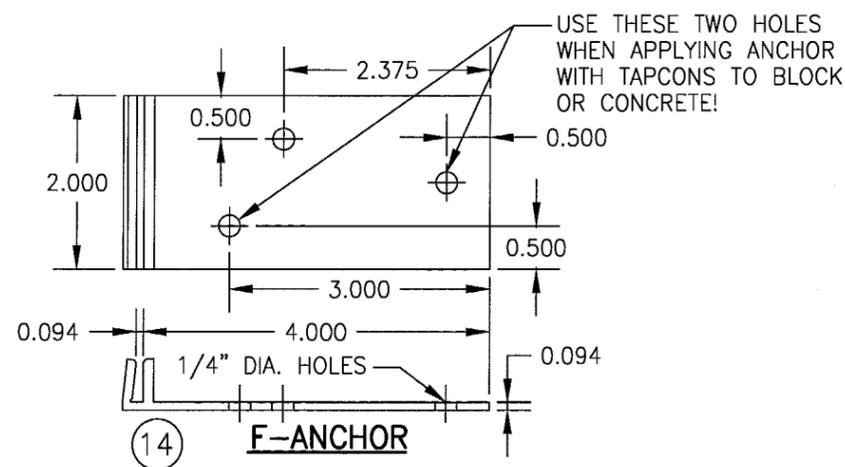
JUN 25 2004

WARREN W. SCHAEFER, P.E.
P.E. NO. 44135

DRAWING NO. **1024** REV.

SHEET NO. **3** OF **5**

ITEM #	PART	ITEM DESCRIPTION	MANUFACTURER/NOTES
PARTS			
1	ES97	HEAD JAMB	EFCO; 6063-T6 ALUMINUM
2	ES98	SIDE JAMB	EFCO; 6063-T6 ALUMINUM
3	6020	SILL	EFCO; 6063-T6 ALUMINUM
4	EN68	UPPER WINDOW MEETING RAIL	EFCO; 6063-T6 ALUMINUM
5	E637	ACTIVE WINDOW MEETING RAIL	EFCO; 6063-T6 ALUMINUM
6	E639	ACTIVE WINDOW SIDE RAIL	EFCO; 6063-T6 ALUMINUM
7	6543	ACTIVE WINDOW BOTTOM RAIL	EFCO; 6063-T6 ALUMINUM
8	E349	INT. GLAZING STOP (LG. MISSILE IMPACT)	EFCO; 6063-T6 ALUMINUM
9	E392	INT. GLAZING STOP (SM. MISSILE IMPACT)	EFCO; 6063-T6 ALUMINUM
10	LB00	GLAZING CAP	FIBER REINFORCED NYLON
11	EG16	MULLION	EFCO; 6063-T6 ALUMINUM
12	ED25	MULLION CLIP	EFCO; 6063-T6 ALUMINUM
13	ED24	MULLION COVER	EFCO; 6063-T6 ALUMINUM
14	KA23/1880	F-ANCHOR	EFCO; 6063-T6 ALUMINUM
15	-	OPEN	-
HARDWARE			
16	HK87	KEEPER	BRONZE CRAFT
17	HL86	LATCH	BRONZE CRAFT
18	-	SASH BALANCE	BALANCE SYSTEMS
19	HGB9	BALANCE RETAINER	EASLY PLASTICS
20	FVG5	BALANCE RETAINER SHIM	CENTRAL PLASTICS
21	HMW7	BALANCE SPACER	EASLY PLASTICS
FASTENERS			
22	-	NO. 6 X 3/8 FH SMS	FASTENS KEEPER TO RAIL (2 PER KEEPER)
23	-	NO. 8 X 3/8 PH SMS	FASTENS LATCH TO RAIL (2 PER LATCH)
SEALS & SEALANTS			
24	WVB4	CONT. VINYL BULB SEAL	CENTRAL PLASTICS
25	-	POLYURETHANE SEALANT	P.R.C.
26	WF01	PB-7515-270 WEATHER STRIPPING	SCHLEGEL
27	WW78	PB-8515-270 WEATHER STRIPPING	SCHLEGEL
28	-	OPEN	-
29	-	PB-7522-270 WEATHER STRIPPING	SCHLEGEL
30	WQ06	Q-LON WEATHER STRIP	SCHLEGEL
31	-	OPEN	-
32	-	3/16 FOAM TAPE	NORTON
33	-	DOW 995 SILICONE	DOW CORNING
34	-	DOW 795 SILICONE	DOW CORNING
35	WVB2	CONT. VINYL BULB SEAL	CENTRAL PLASTICS



APPROVED AS COMPLYING WITH THE SOUTH FLORIDA BUILDING CODE
 DATE **SEP 27 2001**
 BY *Warren W. Schaefer*
 PRODUCT CONTROL DIVISION
 BUILDING CODE COMPLIANCE OFFICE
 ACCEPTANCE NO. **00-0201-14**

DRAWN BY: W.W.S.	CHECKED BY: W.W.S.
PLOT: 1=1	DATE: 11/01/00
DATE	BY
REVISION DESCRIPTION	NO.
DRAWING TITLE S-660 SMALL & LARGE MISSILE IMPACT SINGLE HUNG WINDOW	
MANUFACTURER EFCO CORPORATION	
CONSULTANTS W. W. SCHAEFER ENGINEERING & CONSULTING, P.A.	
1000 COUNTY ROAD, P.O. BOX 609 MONETT, MO 65708-0609 800-221-4169	
600 SANDTREE DRIVE, SUITE 203B PALM BEACH GARDENS, FL 33403 PHONE: 561-775-4902 FAX: 561-775-4903	
CERTIFICATION JUN 25 2001	WARREN W. SCHAEFER, P.E. P.E. NO. 44135
DRAWING NO. 1024	REV.
SHEET NO. 5	OF 5