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FL# FL19605-R1 Application Type Revision Code Version 2017 **Application Status** Approved

Comments

Archived

Product Manufacturer La Finestra, LC Address/Phone/Email 2790 NW 104th Court Miami, FL 33172 (305) 599-8093

brunosalvoni@lafinestra.us

Authorized Signature Bruno Salvoni

brunosalvoni@lafinestra.us

Technical Representative Address/Phone/Email

Quality Assurance Representative

Address/Phone/Email

Category Windows Subcategory Casement

Compliance Method Evaluation Report from a Florida Registered Architect or a Licensed

Florida Professional Engineer

☐ Evaluation Report - Hardcopy Received

Florida Engineer or Architect Name who developed

the Evaluation Report

Florida License

Quality Assurance Entity

Quality Assurance Contract Expiration Date

Validated By

Frank L. Bennardo, P.E.

PE-0046549

National Accreditation and Management Institute

04/30/2018 Troy Bishop, P.E.

☑ Validation Checklist - Hardcopy Received

FL19605 R1 COI Indep.pdf Certificate of Independence

Referenced Standard and Year (of Standard) **Standard** <u>Year</u>

TAS 201 1994 TAS 202 1994 **TAS 203** 1994

Equivalence of Product Standards

Certified By

Sections from the Code

Product Approval Method Method 1 Option D

Date Submitted 10/19/2017 10/20/2017 Date Validated 10/24/2017 Date Pending FBC Approval Date Approved 12/12/2017

Summary of Products

FL#	Model, Number or Name	Description
19605.1	Futura Series Casement/Fixed Window	"Slim Profile" Large Missile Impact Resistant - Level "D"
Limits of Use Approved for use in H Approved for use out Impact Resistant: Yes Design Pressure: +75 Other:	side HVHZ: Yes	Installation Instructions FL19605 R1 II Dwg.pdf Verified By: Frank L. Bennardo, P.E. PE-0046549 Created by Independent Third Party: Yes Evaluation Reports FL19605 R1 AE Eval.pdf Created by Independent Third Party: Yes



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Product Approval Accepts:













ENGINEERING EXPRESS® EXPERT PRODUCT EVALUATION REPORT

October 17, 2017

Application Number:

FL#19605.1-R1

EX Project Number: 15-3050

Product Manufacturer: Manufacturer Address: La Finestra, LC

2790 NW 104th Court

Doral, FL 33172

Product Name & Description:

Futura Series Casement/Fixed Window

"Slim Profile" Large Missile Impact Resistant – Level "D"

Scope of Evaluation:

This Product Evaluation Report is being issued in accordance with the requirements of the Florida Department of Business and Professional Regulation (Florida Building Commission) Rule Chapter 61G20-3.005, F.A.C., for statewide acceptance per Method 1(d). The product noted above has been tested and/or evaluated as summarized herein to show compliance with the Florida Building Code Sixth Edition (2017) and is, for the purpose intended, at least equivalent to that required by the Code. Re-evaluation of this product shall be required following pertinent Florida Building Code modifications or revisions.

Substantiating Data:

• PRODUCT EVALUATION DOCUMENTS

EX drawing #15-3050 titled "Futura Series Casement/Fixed Window", sheets 1-6, prepared by Engineering Express, signed & sealed by Frank L. Bennardo, P.E. is an integral part of this Evaluation Report.

• TEST REPORTS

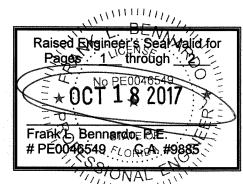
Uniform static structural performance has been tested in accordance with TAS 202 test standards per test report(s) #HETI-15-5110 signed and sealed by Rafael E. Droz-Seda, P.E for Hurricane Engineering and Testing, Inc. (HETI).

Large missile impact resistance and cyclic loading performance have been tested in accordance with TAS 201 & 203 test standards per test report(s) # HETI-15-5111 signed and sealed by Rafael E. Droz-Seda, P.E for Hurricane Engineering and Testing, Inc. (HETI).

• STRUCTURAL ENGINEERING CALCULATIONS

Structural engineering calculations have been prepared which evaluate the product based on comparative and/or rational analysis to qualify the following design criteria:

- 1. Anchor Spacing
- 2. Maximum Allowable Size/Pressure Combinations
- 3. Glass Capacity



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E.X.P.E.R.T. PRODUCT EVALUATION REPORT (CONTINUED)

Page 2 of 2

La Finestra, LC – Futura Series Casement/Fixed Window

4. Anchor Capacity

No 33% increase in allowable stress has been used in the design of each product.

The following are approved for use within and outside the HVHZ as specified in their corresponding NOAs:

 Ultraclear, Clear and Color PVB Glass Interlayer by Kuraray America, Inc. (NOA# 16-1117.01)

Impact Resistance:

Large Missile Impact Resistance has been demonstrated as evidenced in previously listed test reports, and is accounted for in the engineering design of this product.

Wind Load Resistance

This product has been designed to resist wind loads as indicated in the design schedule(s) on its respective Product Evaluation Document (i.e. engineering drawing).

Installation

The product listed above shall be installed in strict compliance with its respective Product Evaluation Document (i.e. engineering drawing), along with all components noted therein.

The product component shall be of the material specified in that product's respective Product Evaluation Document (i.e. engineering drawing).

Limitations & Conditions of Use:

Use of this product shall be in strict accordance with its respective Product Evaluation Document (i.e. engineering drawing) as noted herein.

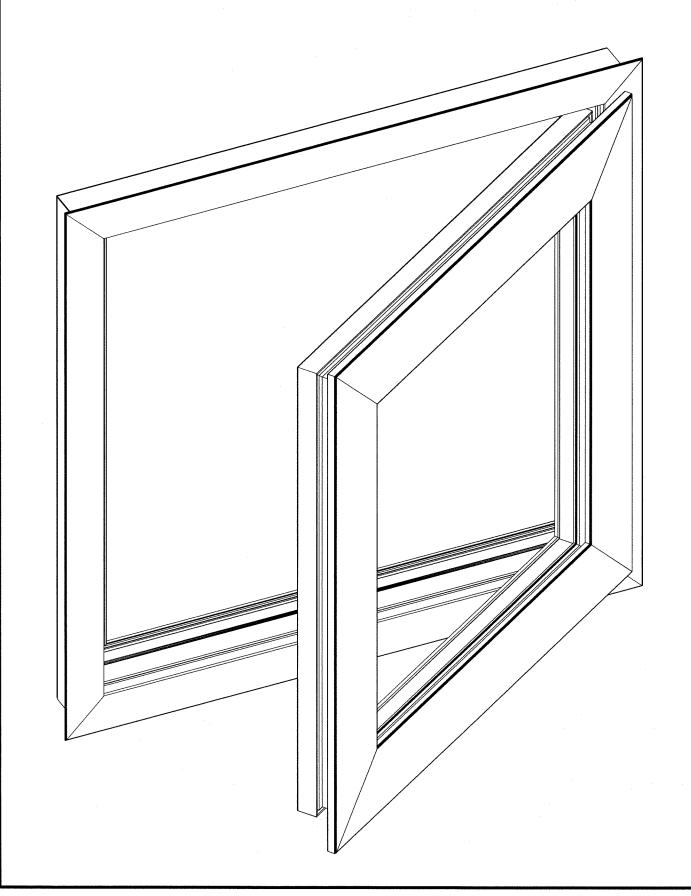
All supporting host structures shall be designed to resist all superimposed loads and shall be of a material listed in each product's respective anchor schedule. Host structure conditions which are not accounted for in each product's respective anchor schedule shall be designed for on a site-specific basis by a registered professional engineer.

All components which are permanently installed shall be protected against corrosion, contamination, and other such damage at all times.

This product has been designed for use within & outside of the High Velocity Hurricane Zone (HVHZ).

LA FINESTRA, LC FUTURA SERIES CASEMENT/FIXED WINDOW

"SLIM PROFILE" LARGE MISSILE IMPACT RESISTANT - LEVEL "D"



GENERAL NOTES

- 1. THE SYSTEM DESCRIBED HEREIN HAS BEEN DESIGNED AND TESTED IN ACCORDANCE WITH THE FLORIDA BUILDING CODE SIXTH EDITION (2017), FOR USE WITHIN AND OUTSIDE THE HIGH VELOCITY HURRICANE ZONE, PER TAS 201 / 202 / 203 & ASTM E1300-09 STANDARDS, PER TEST REPORTS, HURRICANE ENGINEERING & TESTING INC LAB REPORT NUMBER HEITI-15-5110 & HEITI-15-5111.
- 2. NO 33-1/3% INCREASE IN ALLOWABLE STRESS HAS BEEN USED IN THE DESIGN OF THIS SYSTEM. WIND LOAD DURATION FACTOR Cd=1.6 HAS BEEN USED FOR WOOD ANCHOR DESIGN.
- 3. POSITIVE AND NEGATIVE DESIGN PRESSURES CALCULATED FOR USE WITH THIS SYSTEM SHALL BE DETERMINED BY OTHERS ON A JOB-SPECIFIC BASIS IN ACCORDANCE WITH THE GOVERNING CODE. SITE SPECIFIC LOAD WIND LOAD REQUIREMENTS SHALL BE DETERMINED IN ACCORDANCE WITH ASCE 7 AND THE FLORIDA BUILDING CODE BY SEPARATE ENGINEERING CERTIFICATION AND SHALL BE LESS THAN OR EQUAL TO THE POSITIVE OR NEGATIVE DESIGN PRESSURE CAPACITY VALUE LISTED HEREIN FOR ANY ASSEMBLY WITHIN THE LIMITATIONS STATED HEREIN.
- 4. THE SYSTEM DETAILED HEREIN IS GENERIC AND DOES NOT PROVIDE INFORMATION FOR A SPECIFIC SITE. FOR SITE CONDITIONS DIFFERENT FROM THE CONDITIONS DETAILED HEREIN, A LICENSED ENGINEER OR REGISTERED ARCHITECT SHALL PREPARE SITE SPECIFIC DOCUMENTS FOR USE IN CONJUNCTION WITH THIS DOCUMENT.
- 5. PERMIT HOLDER SHALL VERIFY THE ADEQUACY OF THE EXISTING STRUCTURE TO WITHSTAND SUPERIMPOSED LOADS. WOOD BUCKS (BY OTHERS) SHALL BE ANCHORED PROPERLY TO TRANSFER LOADS TO THE EXISTING STRUCTURE.
- 6. MULTIPLE UNITS MUST BE INSTALLED USING STRUCTURAL MULLIONS APPROVED BY OTHERS OR UNDER SEPARATE CERTIFICATION.
- 7. ALL EXTRUSIONS SHALL BE 6063-T6 ALUMINUM ALLOY, UNLESS NOTED OTHERWISE.
- 8. EXTERIOR SEAM OF FRAME CORNERS, INSTALLATION SCREWS, AND GLAZING BEAD ENDS SHALL BE SEALED
- 9. ALL BOLTS & WASHERS SHALL BE ZINC COATED STEEL, GALVANIZED STEEL, OR STAINLESS STEEL WITH A MINIMUM TENSILE YIELD STRENGTH OF 60 KSI.
- 10. ALL DISSIMILAR MATERIALS SHALL BE PAINTED OR PLATED AS PRESCRIBED IN THE FLORIDA BUILDING
- 11. GLAZING ILLUSTRATED HEREIN UTILIZES KURARAY BUTACITE PVB INTERLAYER BY KURARAY AMERICA, INC. (NOA# 16-1117.01)
- 12. APPROVED FOR SMALL AND LARGE MISSILE IMPACT APPLICATIONS. SEE GLASS TYPES FOR ANY RESTRICTIONS
- 13. ENGINEER SEAL AFFIXED HERE TO VALIDATES STRUCTURAL DESIGN AS SHOWN ONLY. USE OF THIS SPECIFICATION BY CONTRACTOR, et. al. INDEMNIFIES & SAVES HARMLESS THIS ENGINEER FOR ALL COST & DAMAGES INCLUDING LEGAL FEES & APPELLATE FEES RESULTING FROM MATERIAL FABRICATION, SYSTEM ERECTION, & CONSTRUCTION PRACTICES BEYOND THAT WHICH IS CALLED FOR BY LOCAL, STATE, & FEDERAL CODES & FROM DEVIATIONS OF THIS PLAN.
- 14. EXCEPT AS EXPRESSLY PROVIDED HEREIN, NO ADDITIONAL CERTIFICATIONS OR AFFIRMATIONS ARE
- 15. ALTERATIONS, ADDITIONS, OR OTHER MARKINGS TO THIS DOCUMENT ARE NOT PERMITTED AND INVALIDATE THIS CERTIFICATION.
- ANY SAFEGUARDS OR MEANS OF EGRESS SHALL BE OBSERVED AND ARE NOT IN THIS CERTIFICATION.
- THIS DOCUMENT DOES NOT ADDRESS ANY ENERGY EFFICIENCY RATING OF THE PRODUCTS.
- PRODUCT SHALL BE PERMANENTLY LABELED WITH A MINIMUM OF ONE LABEL PER SYSTEM CONTAINING THE FOLLOWING:

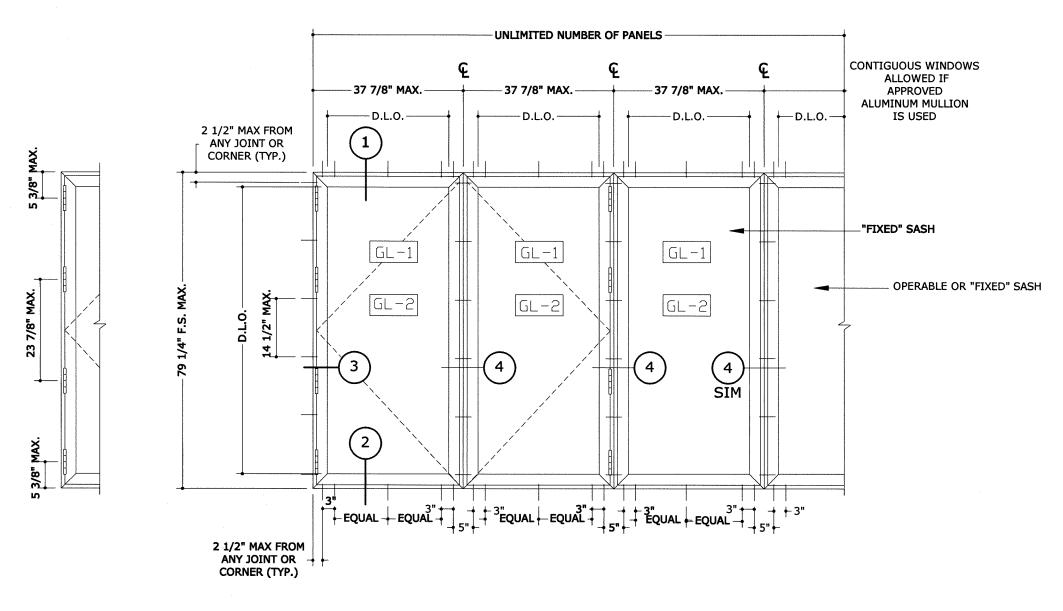
LA FINESTRA, LC. DORAL, FLORIDA TAS 201 / 202 / 203 FLORIDA PRODUCT APPROVAL NUMBER

FL 19605.1

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SCALE: SEE DETAILS 01 AGE DESCRIPTION



HINGE LAYOUT

TYPICAL ELEVATION

D.L.O. WIDTH = WINDOW WIDTH -7 $\frac{3}{8}$ " D.L.O. LENGTH = WINDOW LENGTH -7 $\frac{1}{2}$ "

MAX. DESIGN PRESSURES

+75, -80 PSF

GLASS TYPE		
GL-1	7/16" LAMINATED: 3/16" HEAT STRENGTHENED GLASS .090" KURARAY BUTACITE P.V.B. INTERLAYER 3/16" HEAT STRENGTHENED GLASS	
GL-2	1 5/16" INSULATED LAMINATED: 3/16" HEAT STRENGTHENED GLASS .090" KURARAY BUTACITE P.V.B. INTERLAYER 3/16" HEAT STRENGTHENED GLASS 1/2" AIR SPACE 1/4" CLEAR TEMPERED GLASS	

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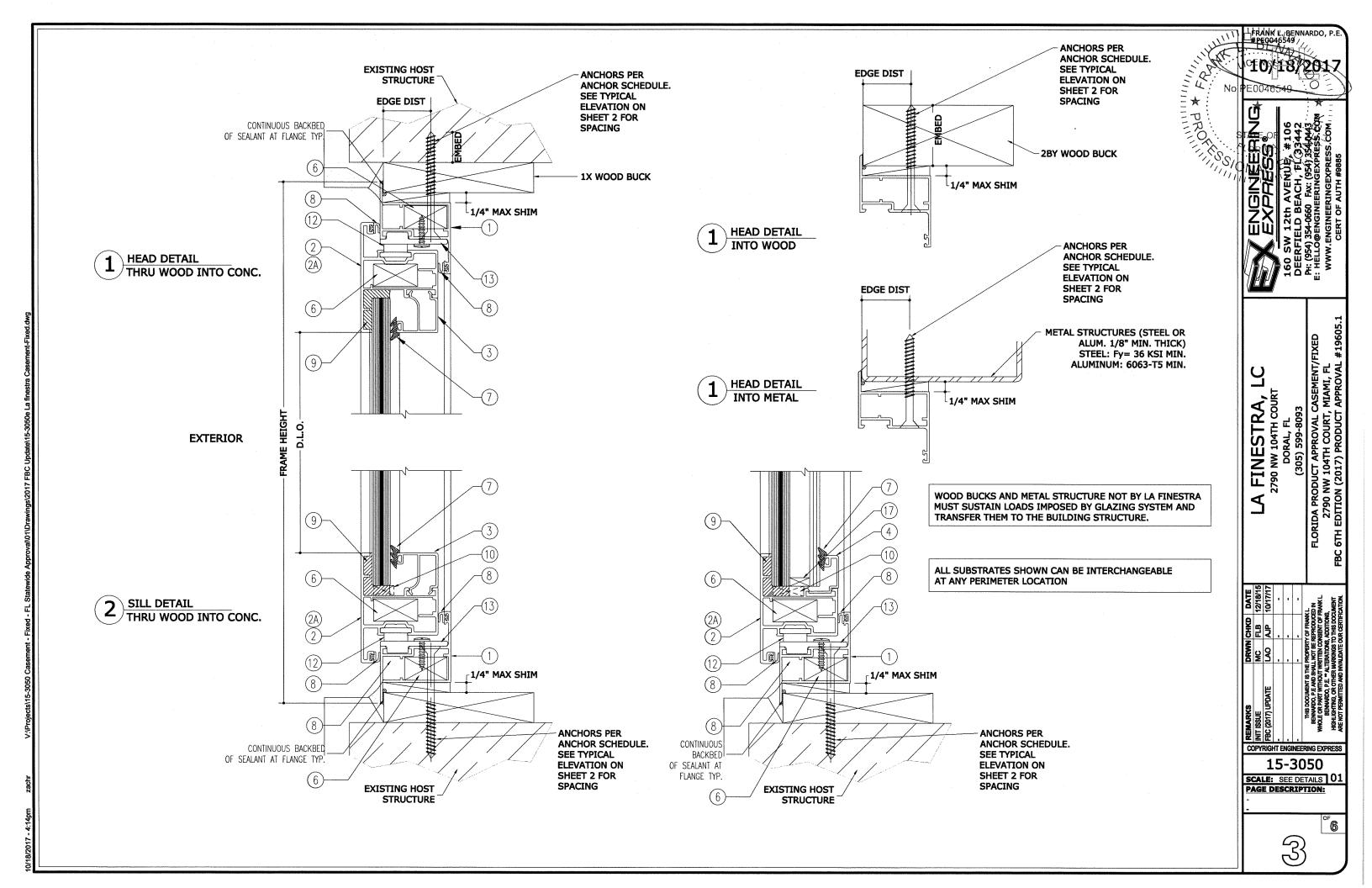
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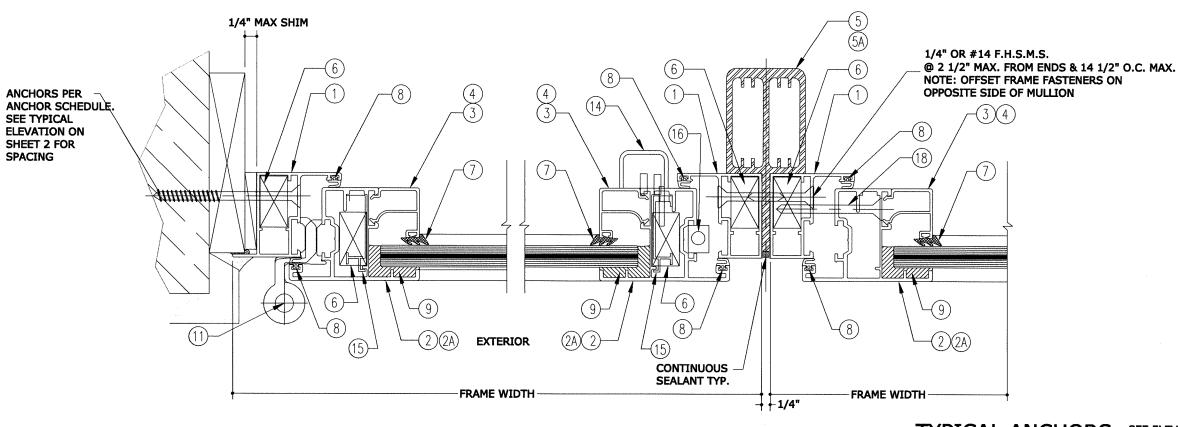
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JAMB DETAIL

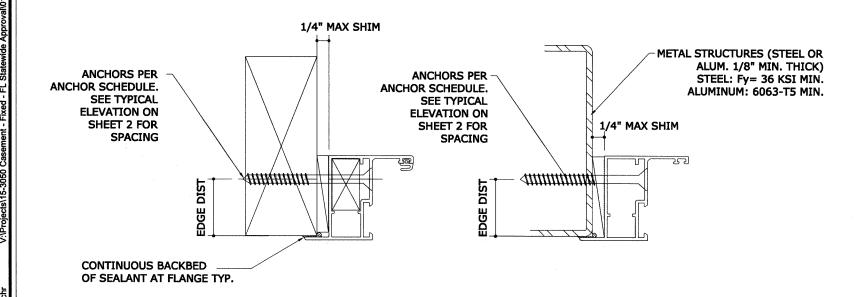
INTO METAL

JAMB DETAIL THRU WOOD INTO CONC.

JAMB DETAIL

INTO WOOD

VERTICAL MULLION



TYPICAL ANCHORS:

SEE ELEV. ON PAGE 2 FOR SPACING & QUANTITY

TYPE 'A' - 1/4" DIA. ULTRACON BY 'ELCO' (Fu=177 KSI,

Fy=155 KSI)

THRU 1BY INTO CONCRETE (2846 PSI MIN) OR GROUT FILLED BLOCK (ASTM C90) 1-3/4" MIN. EMBED INTO CONCRETE OR GROUT FILLED

TYPE 'B' - 1/4" DIA. ULTRACON BY 'ELCO' (Fu=177 KSI,

Fy=155 KSI)

INTO 2BY WOOD BUCKS OR WOOD STRUCTURES (SYP#2 G=0.55 MIN) 1-1/2" MIN. PENETRATION INTO WOOD

TYPE 'C' - 1/4-20 DIA. SHEET METAL SCREW (GRADE 5

MIN) (Fu=120 KSI, Fy=90 KSI)

INTO METAL STRUCTURES (5 PINCHES PASS THE THREAD PLANE MIN.) STEEL: 1/8" THK. MIN. (Fy=36 KSI MIN) ALUMINUM: 1/8" THK. MIN. (6063-T5 MIN) (STEEL IN CONTACT WITH ALUMINUM TO BE PLATED OR PAINTED)

TYPE 'D' - 5/16" DIA. ULTRACON BY 'ELCO' (Fu=177 KSI,

Fy=155 KSI)

INTO 2BY WOOD BUCKS OR WOOD STRUCTURES (SYP#2 G=0.55 MIN) 1-1/2" MIN. PENETRATION INTO WOOD

TYPICAL EDGE DISTANCE

INTO CONCRETE/GROUT FILLED BLOCK= 2-1/2" MIN. INTO WOOD STRUCTURE = 1" MIN. (FOR TYPE "B") INTO WOOD STRUCTURE = $1\frac{1}{2}$ " MIN. (FOR TYPE "D") INTO METAL STRUCTURE = 3/4" MIN.

FRAMK L. BENNARDO, P.E #PE0046549

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