

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)

YKK AP America, Inc. 332 Firetower Road Dublin, GA 31021

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 the BCCO and accepted by the Building Code and Product Review Committee (BCPRC) 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 BCCO (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. BCPRC reserves the right to revoke this acceptance, if it is determined by BCCO 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 YOW 225TUH Aluminum Mullion Clipped

APPROVAL DOCUMENT: Drawing No. M01-01, titled "YOW-225 Alum. Mullions Clipped," sheets 1 through 5 of 5, prepared by AL-Farooq Corporation, dated 07/23/01 revision "E" dated 05/15/09; signed and sealed by Arshad Viqar, 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 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 and renews NOA# 04-0603.04, and consists of this page 1 and evidence pages E-1, and E-2, as well as approval document mentioned above.

The submitted documentation was reviewed by Fitz A. Harris, P.E.,

MIAMI-DADE COUNTY
APPROVED

Fitz a. Hamis 6/4/09

NOA No 09-0121.04 Expiration Date: February 21, 2014 Approval Date: July,1, 2009

Page 1

YKK AP America, Inc.

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

A. DRAWINGS

- 1. Manufacturer's die drawings and sections.
- 2. Drawing No. M01-01, titled "YOW-225H Alum. Mullion Clipped," Sheets 1 through 5 of 5, prepared by AL-Farooq Corporation, dated 07/23/01 revision "E" dated 05/15/09, signed and sealed by Arshad Vigar, P.E.

B. TESTS

- 1. Test reports on 1) Air Infiltration Test, per FBC, TAS 202-94
 - 2) Uniform Static Air Pressure Test, Loading per FBC, TAS 202-94
 - 3) Water Resistance Test, per FBC, TAS 202-94
 - 4) Small Missile Impact Test per FBC, TAS 201-94
 - 5) Cyclic Wind Pressure Loading per FBC, TAS 203-94
 - 6) Forced Entry Test, per FBC 2411.3.2.1 and TAS 202-94

along with installation diagram of a aluminum window wall system prepared by Hurricane Test Laboratory, (specimen 2,4,5,6), Test Report No.**HTL-0231-0521-00**, dated 05/17/00, signed and sealed by Vinu J. Abraham, P.E.

"Submitted under NOA # 01-1119.07"

- 2. Test reports on 1) Air Infiltration Test, per FBC, TAS 202-94
 - 2) Uniform Static Air Pressure Test, Loading per FBC, TAS 202-94
 - 3) Water Resistance Test, per FBC, TAS 202-94
 - 4) Small Missile Impact Test per FBC, TAS 201-94
 - 5) Cyclic Wind Pressure Loading per FBC, TAS 203-94
 - 6) Forced Entry Test, per FBC 2411.3.2.1 and TAS 202-94

along with installation diagram of a aluminum window wall system prepared by Hurricane Test Laboratory, Test Report No.HTL-0105-1212-00, dated 12/18-21/00, signed and sealed by Vinu J. Abraham, P.E.

"Submitted under NOA # 01-1119.07"

- 3. Test reports on 1) Large Missile Impact Test per FBC, TAS 201-94
 - 2) Cyclic Loading Test, per FBC, TAS 203-94 along with installation diagram of a aluminum window wall system (specimen 1,2), prepared by Hurricane Test Laboratory, Test Report No.**HTL-0231-0810-02**, dated 08/12-14/02, signed and sealed by Vinu J. Abraham, P.E.
- 4. Test reports on 1) Air Infiltration Test, per FBC, TAS 202-94
 - 2) Uniform Static Air Pressure Test, Loading per FBC, TAS 202-94
 - 3) Water Resistance Test, per FBC, TAS 202-94
 - 4) Forced Entry Test, per FBC 2411.3.2.1 and TAS 202-94

along with installation diagram of a window wall system prepared by Hurricane Test Laboratory, Test Report No.HTL-0231-1210-02, dated 12/09-02/10/03, signed and sealed by Vinu J. Abraham, P.E.

Fitz A. Harris, P.E.

Product Control Examiner NOA No 09- 0121.04

Expiration Date: February 21, 2014 Approval Date: July 1, 2009

YKK AP America, Inc.

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

C. CALCULATIONS:

1. Anchor Calculations, ASTM-E1300, structural analysis, prepared, signed and sealed by Humayoun Farooq, P.E dated 12/23/08

D. QUALITY ASSURANCE

1. Miami Dade Building Code Compliance Office (BCCO

E. MATERIAL CERTIFICATIONS

1. None

F. STATEMENTS

- 1. Statement letter of no financial interest, dated 1/08/09, signed and sealed by Humayoun Farooq, P.E.
- 2. Statement letter of conformance, dated 12/23/08, signed and sealed by Humayoun Farooq, P.E.
- 3. Statement letter of compliance and no financial interest dated 5/19/09, signed and sealed by Arshad Viqar, P.E

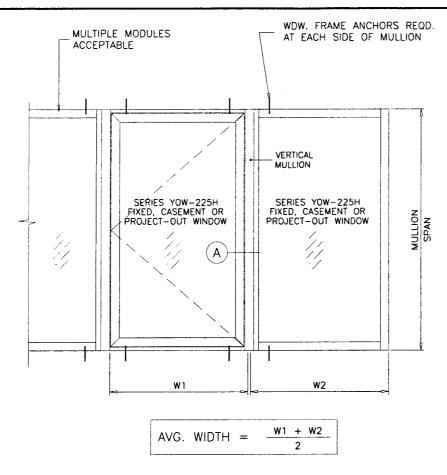
G. OTHER

- 1. Notice of Acceptance No. **04-0603.04**, issued to YKK AP America for their Series "YOW-200H/225TUH" Aluminum Mullion Clipped, approved on 09/09/04 and expiring on 02/21/09.
- 2. Letter from the consultant stating that the product is in compliance with the Florida Building Code (FBC)

Fitz A. Harris, P.E. Product Control Examiner

NOA No 09- 0121.04

Expiration Date: February 21, 2014 Approval Date: July 1, 2009



TYPICAL MULLION ARRANGEMENTS

VERTICAL ALUMINUM MULLION WINDOW FRAME MEMBERS INCLUDED IN PROPERTIES

USE WITH: SERIES 225H FIXED WINDOW SERIES 225TUH FIXED WINDOW SERIES 225H CASEMENT WINDOW SERIES 225TUH CASEMENT WINDOW SERIES 225H PROJECT OUT WINDOW SERIES 225TUH PROJECT OUT WINDOW AND ANY COMBINATION OF ABOVE.

FOR WINDOWS IMPACT AND LOAD RATINGS SEE SEPARATE NOA'S. LOWER DESIGN PRESSURE FROM WINDOW APPROVALS OR

MULLION CHARTS WILL APPLY TO ENTIRE SYSTEM.

THIS PRODUCT HAS BEEN DESIGNED AND TESTED TO COMPLY WITH THE REQUIREMENTS OF THE FLORIDA BUILDING CODE 2004/2007 EDITION INCLUDING HIGH VELOCITY HURRICANE ZONE (HVHZ).

ALL GLAZING PRODUCTS USED WITH THESE MULLIONS MUST MEET THE APPLICABLE BUILDING CODE REQUIREMENTS I.E: WIND LOAD, WATER INFILTRATION, FORCED ENTRY RESISTANCE, SAFEGUARDS ETC.

WOOD BUCKS BY OTHERS, MUST BE ANCHORED PROPERLY TO TRANSFER LOADS TO THE STRUCTURE.

ANCHORS SHALL BE AS LISTED, SPACED AS SHOWN ON DETAILS, EMBEDMENT TO BASE MATERIAL SHALL BE BEYOND WALL COVERING (STUCCO, TILE ETC.).

ANCHORING CONDITIONS OTHER THAN THOSE SHOWN IN THESE DETAILS ARE NOT PART OF THIS APPROVAL.

A LOAD DURATION INCREASE IS USED IN DESIGN OF ANCHORS INTO WOOD ONLY. MATERIALS INCLUDING BUT NOT LIMITED TO STEEL/METAL SCREWS, THAT COME INTO CONTACT WITH OTHER DISSIMILAR MATERIALS SHALL MEET THE REQUIREMENTS OF 2004/2007 FLORIDA BLDG. CODE SECTION 2003.8.4.

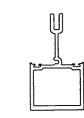
DESIG	N LOAD CAPACI	TY - PSF	DESIGN LOAD CAPACITY - P				
AVG. WIDTH	MULLION SPAN	STD. MULLION	AVG. WIDTH	MULLION SPAN	HEAVY MULLION		
INCHES	INCHES	EXT.(+)/INT.(-)	INCHES	INCHES	EXT.(+)/INT.(-)		
24"		80.0	24"		65.0		
30"	42"	80.0	30"		65.0		
36"		80.0	36"		65.0		
38"		80.0	42"	0.0"	65.0		
42"		80.0	48"	66"	65.0		
48"		76.0	54"		65.0		
54"		67.6	60"		65.0		
24"		80.0	62-3/8"		65.0		
30"	48"	80.0	24"		65.0		
36"		80.0	30"		65.0		
38"		80.0	36"	72"	65.0		
42"		76.0	42"		65.0		
48"		66.5	48"		65.0		
24"		80.0	54"		65.0		
30"		80.0	60"		61.9		
36"	54"	78.8	62-3/8"		59.5		
38"		74.7	24"		65.0		
42"		67.6	30"		65.0		
24"		80.0	36"		65.0		
30"	eo."	80.0	42"	78"	65.0		
36"	60"	70.9	48"	/0	65.0		
38"		67.2	54"		58.6		
24"		80.0	60"		52.7		
30"	62"	80.0	62-3/8"		50.7		
36"		68.6	24"		65.0		
38"		65.0	30"		65.0		
			36"		65.0		
nn			42"	84"	65.0		



STD. MULLION

PRODUCT REVISED as complying with the Florida Bailding Code Acceptance No 09-0121-04 Expiration Date 2-21-2014

Dita Harris Miami Dade Product Control Division



84

HEAVY MULLION

MULLION SYSTEM IS RATED FOR LARGE MISSILE IMPACT. AND CAN BE USED WITH ALL MIAMI-DADE COUNTY APPROVED LARGE/SMALL MISSILE IMPACT AND NON-IMPACT RESISTANT PRODUCTS.

48"

54"

60"

62-3/8"

Engr: ARSHAD VIQAR CIVIL FLA. PE # 38863 C.A.N. 3538 MAY 1 9 200

INSTRUCTIONS:

USE CHARTS AND GRAPHS AS FOLLOWS.

STEP 1 DETERMINE DESIGN LOAD REQUIRED PER ASCE 7 FOR PARTICULAR OPENING.

USE MIAMI-DADE COUNTY APPROVED GLAZING PRODUCTS MEETING ABOVE LOAD REQUIREMENTS.

STEP 3 USE CONNECTION TO MULLION AS PER PRODUCT APPROVAL.

USING MULLION LOAD CHART DETERMINE MULLION CAPACITY WHICH MUST EXCEED THE DESIGN LOAD SPECIFIED IN STEP 1 ABOVE.

LOWER VALUE FROM WINDOW OR MULLION APPROVAL WILL APPLY TO ENTIRE SYSTEM.

56.9

50.5

45.5 43.7

RPORATIC DEVELOPMENT

CO A PROI EERS & I S.W. 87 / FLORID

CLIPPED S S K AP AMERICA INC FIRETOWER ROAD ILIN, GEORGIA 31021 178) 277–1955 FAX(478) 277-MULLION ALUM

YKK AP 332 FIRE DUBLIN, (TEL.(478) 277 225H YOW

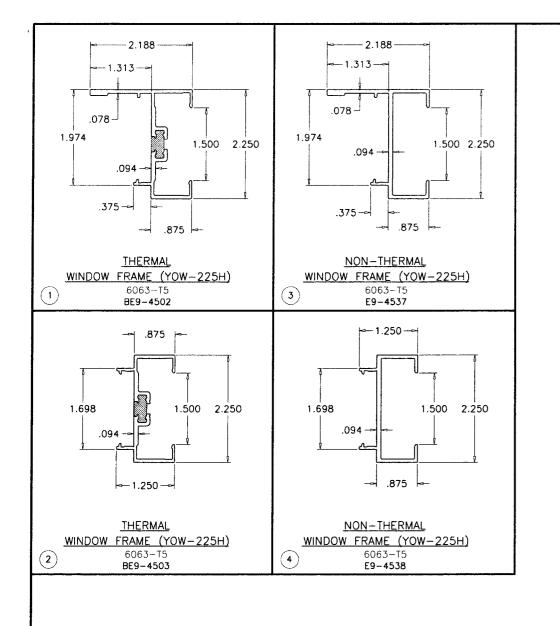
description
LARGE MISSILE IMPACT A
225H FRAME ADDEO
REV. PER BCCO COMMEI
UPDATED FOR 2007 FBG
NO CHANGE THIS SHEET revisions:
no date
A 12.12.02
B 01.28.04
C 08.04.04
D 12.24.08
E 05.15.09

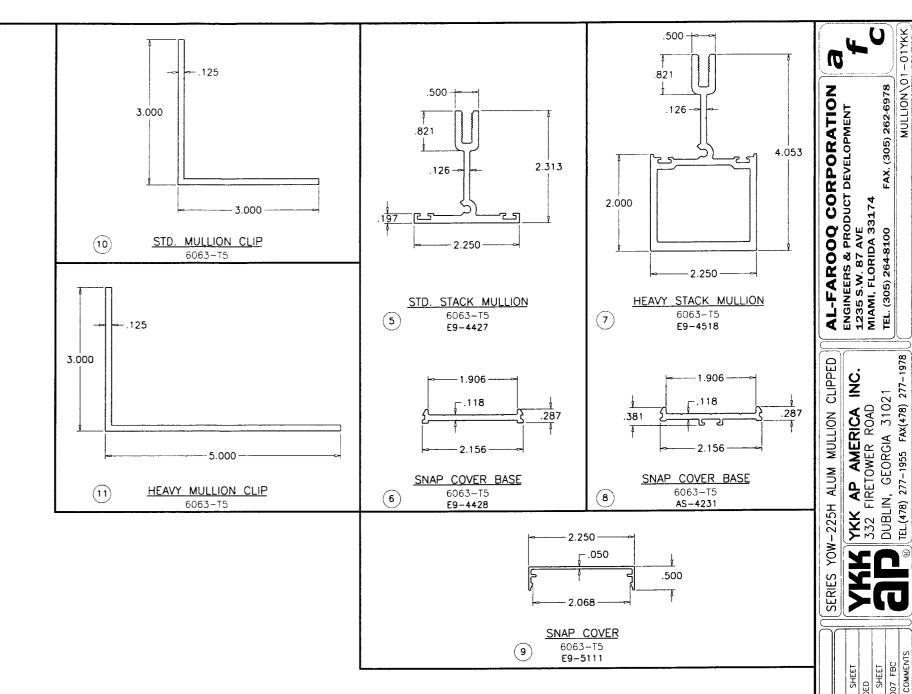
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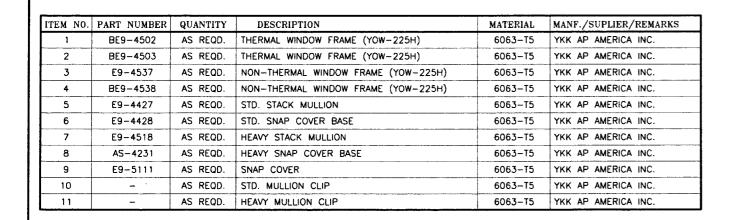
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drawing M01 - 01

sheet 1 of 5







PRODUCT REVISED as complying with the Florida Building Code Acceptance No 09-0/21-04-Expiration Date 2-21-20/4

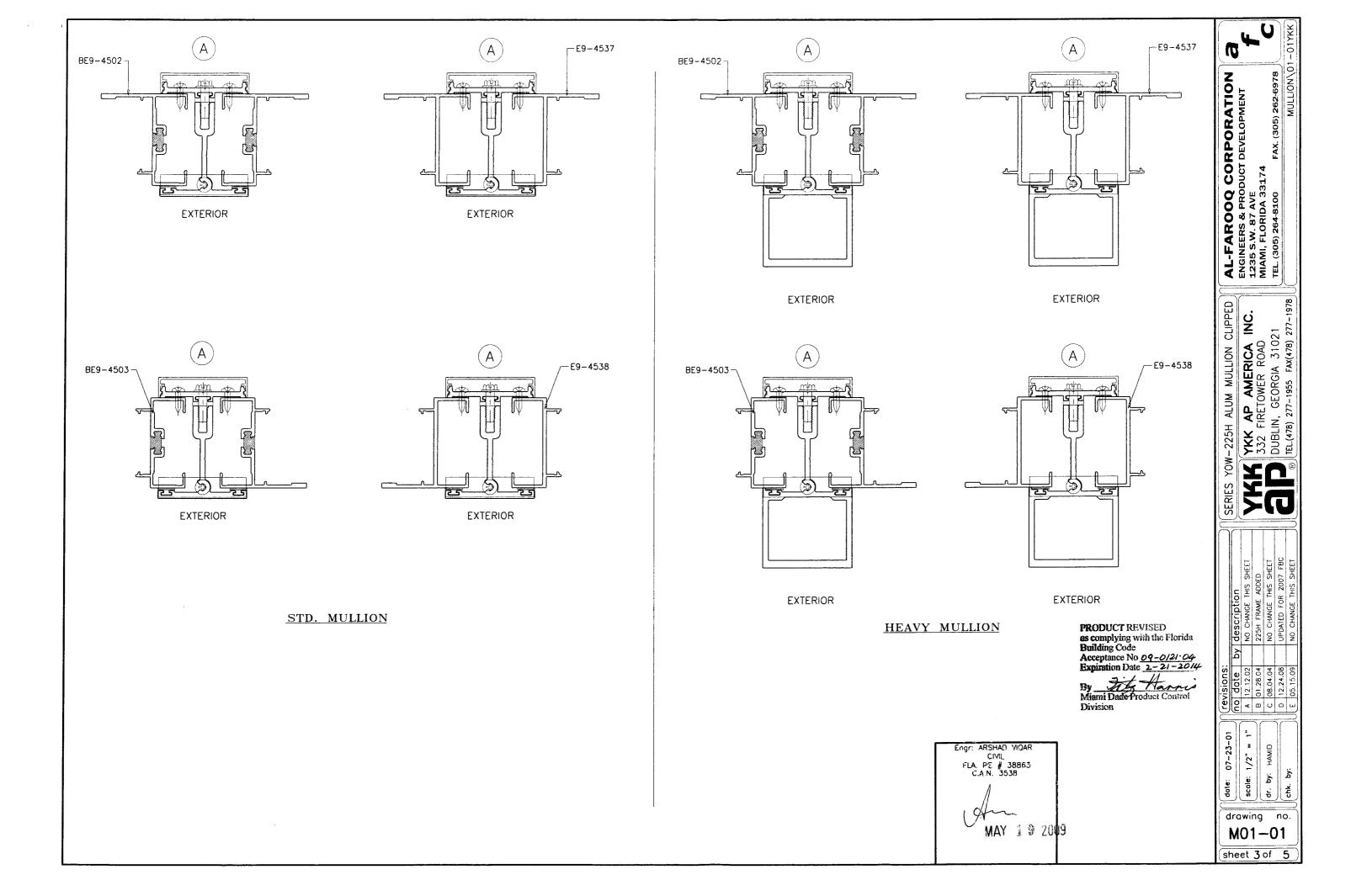
By Sity Harnis Mismi Dade Product Control Division

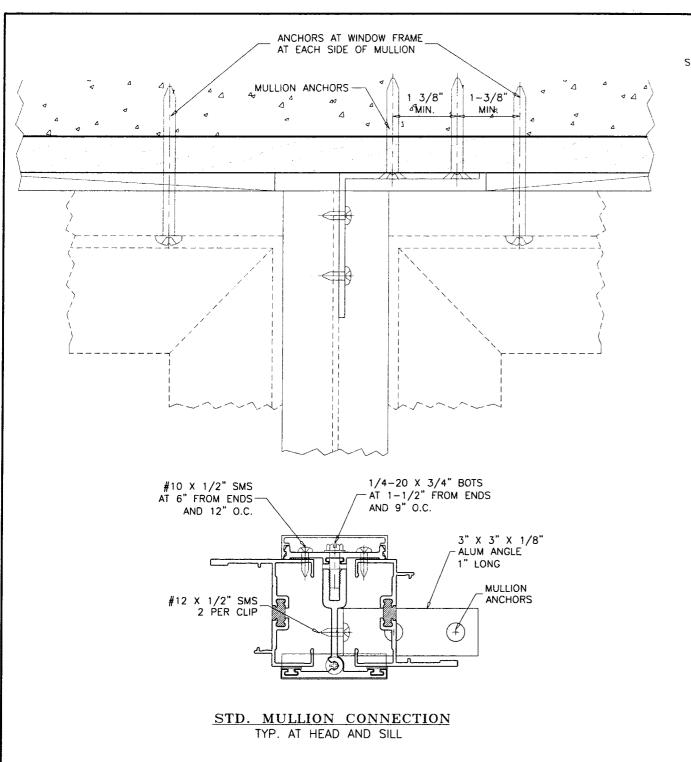
Engr: ARSHAD VIQAR CIVIL FLA. PE # 38863 C.A.N. 3538 MAY 1 9 2009

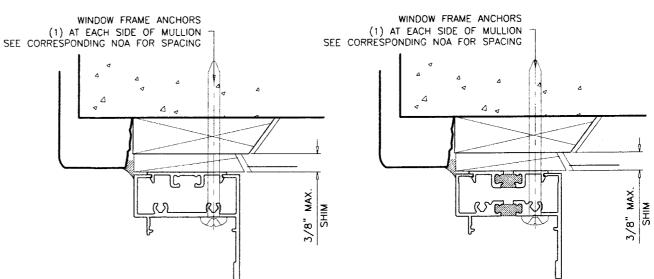
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drawing no. MO1-O1							

sheet 2 of 5

MULLION\01







WOOD BUCKS AND METAL STRUCTURE NOT BY YKK AMERICA INC. MUST SUSTAIN LOADS IMPOSED BY GLAZING SYSTEM AND TRANSFER THEM TO THE BUILDING STRUCTURE.

MULLION ANCHORS:

1/4" DIA. ULTRACON BY 'ELCO' (Fu=177 KSI, Fy=155 KSI)

INTO 2BY WOOD BUCKS OR WOOD STRUCTURES 1-1/2" MIN. PENETRATION INTO WOOD

THRU 1BY BUCKS INTO CONCRETE 1-1/4" MIN. EMBED INTO CONCRETE

DIRECTLY INTO CONCRETE 1-1/4" MIN. EMBED INTO CONCRETE

1/4" DIA. TEKS/DRIL-FLEX SELF DRILLING SCREWS (GRADE 2 CRS)

INTO METAL STRUCTURES

STEEL: 12 GA. MIN. (Fy = 36 KSI MIN.)ALUMINUM: 1/8" THK. MIN. (6063-T5 MIN.)

(STEEL IN CONTACT WITH ALUMINUM TO BE PLATED OR PAINTED)

#14 SMS

INTO METAL STRUCTURES (NO SHIM SPACE)

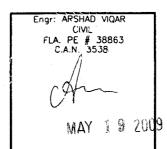
STEEL: 12 GA. MIN. (Fy = 36 KSI MIN.) ALUMINUM: 1/8" THK. MIN. (6063-T5 MIN.)

(STEEL IN CONTACT WITH ALUMINUM TO BE PLATED OR PAINTED)

TYPICAL EDGE DISTANCE

INTO CONCRETE AND MASONRY = 2" MIN. INTO WOOD STRUCTURE = 1" MIN. INTO METAL STRUCTURE = 3/4" MIN.

CONCRETE f'c = 3000 PSI MIN.



PRODUCT REVISED as complying with the Florida **Building Code**

Dita Hannis Miami Dade Product Control

Division

Acceptance No <u>09-0/21-04</u>
Expiration Date <u>2-21-2014</u> date 2.12.02 1.28.04 8.04.04 2.24.08 5.15.09

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drawing no).

AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
1235 S.W. 87 AVE
MIAMI, FLORIDA 33174
TEL. (305) 264-8100 FAX. (305) 262-6978

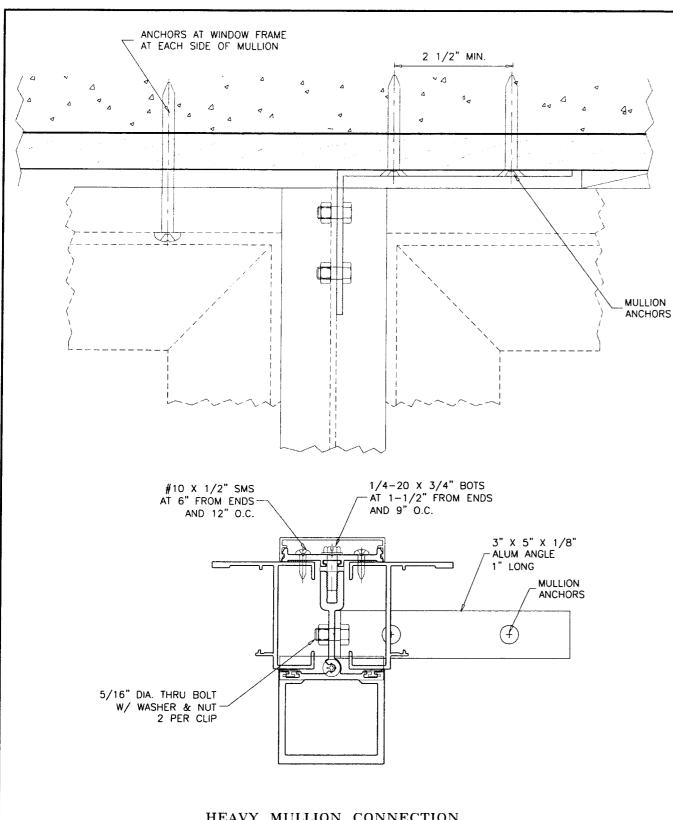
ALUM MULLION CLIPPED

SERIES

YKK AP AMERICA INC.
332 FIRETOWER ROAD
DUBLIN, GEORGIA 31021
TEL.(478) 277-1955 FAX(478) 277-197

M01 - 01

sheet 4 of 5



HEAVY MULLION CONNECTION TYP. AT HEAD AND SILL

WOOD BUCKS AND METAL STRUCTURE NOT BY YKK AMERICA INC. MUST SUSTAIN LOADS IMPOSED BY GLAZING SYSTEM AND TRANSFER THEM TO THE BUILDING STRUCTURE.

MULLION ANCHORS:

1/4" DIA. ULTRACON BY 'ELCO' (Fu=177 KSI, Fy=155 KSI)

INTO 2BY WOOD BUCKS OR WOOD STRUCTURES 1-1/2" MIN. PENETRATION INTO WOOD

THRU 1BY BUCKS INTO CONCRETE 1-1/4" MIN. EMBED INTO CONCRETE

DIRECTLY INTO CONCRETE 1-1/4" MIN. EMBED INTO CONCRETE

1/4" DIA. TEKS/DRIL-FLEX SELF DRILLING SCREWS (GRADE 2 CRS)

INTO METAL STRUCTURES

STEEL: 12 GA. MIN. (Fy = 36 KSI MIN.)ALUMINUM: 1/8" THK. MIN. (6063-T5 MIN.) (STEEL IN CONTACT WITH ALUMINUM TO BE PLATED OR PAINTED)

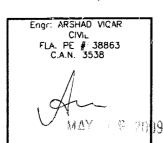
#14 SMS

INTO METAL STRUCTURES (NO SHIM SPACE) STEEL: 12 GA. MIN. (Fy = 36 KSI MIN.) ALUMINUM: 1/8" THK. MIN. (6063-T5 MIN.) (STEEL IN CONTACT WITH ALUMINUM TO BE PLATED OR PAINTED)

TYPICAL EDGE DISTANCE

INTO CONCRETE AND MASONRY = 2" MIN. INTO WOOD STRUCTURE = 1" MIN. INTO METAL STRUCTURE = 3/4" MIN.

CONCRETE f'c = 3000 PSI MIN.



PRODUCT REVISED as complying with the Florida Building Code Acceptance No 09-0121-04 Expiration Date 2-21-2014 Dity Harris Miami Dade Product Control

Division

225H ALUM MULLION CLIPPED YKK AP AMERICA INC. 332 FIRETOWER ROAD DUBLIN, GEORGIA 31021 TEL.(478) 277-1935 FAX(478) 277-1938 SERIES description
ANCHORS REV.
22SH FRAME ADDED
NO CHANGE THIS SHEET
UPDATED FOR 2007 FBC 07-23-01 11 1/2" څ scole: date: ी श्री क्र drawing no. M01 - 01sheet 5 of 5

O CORPORATION
RODUCT DEVELOPMENT

AL-FAROOQ COF ENGINEERS & PRODUCT I 1235 S.W. 87 AVE MIAMI, FLORIDA 33174 TEL. (305) 264-8100