

ENGINEERING EXPRESS® PRODUCT EVALUATION REPORT

April 16, 2021

Application Number: FL#13597.1-R5 EX Project Number: 21-38279

Product Manufacturer: American Products, Inc Manufacturer Address: 13909 Lynmar Blvd. Tampa, FL 33626

Product Name & Description: Series 1800 Aluminum Storefront System

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 standard ASCE 7-16 (ASD) and Florida Building Code Seventh Edition (2020) and is, for the purpose intended, at least equivalent to that required by the Standard and Code. Re-evaluation of this product shall be required following pertinent Florida Building Code or ASCE Standard modifications or revisions.

Substantiating Data:

• PRODUCT EVALUATION DOCUMENTS

EX Installation Drawing #21-38279 titled "Series 1800 Aluminum Storefront System", prepared by Engineering Express, Inc., signed & sealed by Frank Bennardo, P.E. is an integral part of this Evaluation Report, pages 1 through 3.

TEST REPORTS

Uniform static structural performance has been tested in accordance with AAMA 501-05, ASTM E330-02, and ASTM E331-00 test standards per test report(s) #93330.01-401-44 signed and sealed by Joseph A Reed P.E. for Architectural Testing, Inc

• 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
- 3. Glass Capacity per ASTM E1300-04
- 4. Anchor Capacity

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



American Products, Inc.: Series 1800 Aluminum Storefront System

Impact Resistance:

Large / Small Missile Impact Resistance has NOT been demonstrated as evidenced in previously listed test reports, and is not part of this certification.

Wind Load Resistance

This product has been designed to resist wind loads as indicated on its respective Product Evaluation Document (i.e. engineering document).

Installation

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

The product components shall be of the material specified in the Product Evaluation Document (i.e. engineering document).

Limitations & Conditions of Use:

Use of each product shall be in strict accordance with its respective Product Evaluation Document (i.e. engineering document) 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. Any alteration to the respective Product Evaluation Document will invalidate it. This product has been designed for use outside of the High Velocity Hurricane Zone (NON-HVHZ).

Respectfully,



Frank Bennardo, PE **ENGINEERING EXPRESS®** PE#0046549 | Cert. Auth. 9885



April 16, 2021

Product Approval Administrator DBPR Codes and Standards 2601 Blair Stone Road Tallahassee, FL 32399

Regarding: American Products, Inc

Series 1800 Aluminum Storefront System – FL#13597.1– EX# 21-38279

To Whom It May Concern:

This office has reviewed test reports showing structural performance of the above-noted product. These test reports pertain to testing performed in accordance with the referenced standards in the table shown below. These noted standards are not adopted in the Florida Building Code Seventh Edition (2020); however, for the purpose of determining the performance of the product, this standard is equivalent to the corresponding standards, which are adopted standards in the above referenced building code.

Code Title	Tests Performed	Current Equivalent
	according to:	Standard
Methods of Tests for Exterior Walls	AAMA 501- 05	AAMA 501-15
Test Method for Structural Performance of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference	ASTM E330 - 02	ASTM E330 -14
Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference	ASTM E331- 00	ASTM E330 - 09
Practice for Determining Load Resistance of Glass in Buildings	ASTM E1300 - 04	ASTM E1300 - 16

Respectfully,

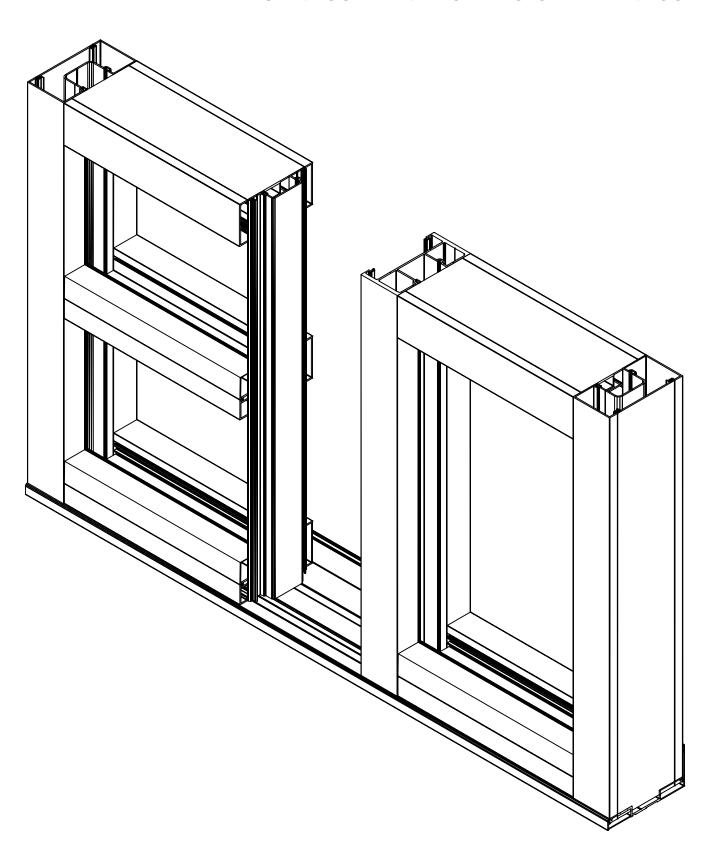


Frank L. Bennardo, P.E. **ENGINEERING EXPRESS®** PE#0046549 | Cert. Auth. 9885

/16/2021 - 11:26am

AMERICAN PRODUCTS SERIES 2500 HVHZ IMPACT FLUSH GLAZE STOREFRONT SYSTEM DRY GLAZE

LARGE MISSILE IMPACT RESISTANT - MISSILE LEVEL "D"



GENERAL NOTES

- 1. THE SYSTEM DESCRIBED HEREIN HAS BEEN DESIGNED AND TESTED IN ACCORDANCE WITH THE FLORIDA BUILDING CODE SEVENTH EDITION (2020), FOR USE WITHIN AND OUTSIDE THE HIGH VELOCITY HURRICANE ZONE,
 - TAS 201-94 PER REQUIREMENTS OF THE FLORIDA BUILDING CODE
 - TAS 202-94 PER REQUIREMENTS OF THE FLORIDA BUILDING CODE
 - TAS 203-94 PER REQUIREMENTS OF THE FLORIDA BUILDING CODE
- 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 16 AND THE FLORIDA BUILDING CODE SEVENTH EDITION (2020) 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.
 - . ANCHOR EMBEDMENT SPECIFIED IS INTO HOST STRUCTURE MINIMUM.
 - . ALL EXTRUSIONS SHALL BE 6063-T5 ALUMINUM ALLOY, UNLESS NOTED OTHERWISE.
- 8. EXTERIOR SEAM OF FRAME CORNERS, INSTALLATION SCREWS, AND GLAZING BEAD ENDS SHALL BE SEALED WITH SILICONE.
- 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 CODE.
- 11. GLAZING ILLUSTRATED HEREIN UTILIZES SENTRYGLAS INTERLAYER BY KURARAY AMERICA INC.
- 12. APPROVED FOR LARGE MISSILE IMPACT APPLICATIONS. SEE GLASS TYPES FOR ANY RESTRICTIONS
- 13. TEST REPORTS: ARCHITECTURAL TESTING REPORT # B8049.01-401-18, B8050.01-401-18 & E9343.01-401-18
- 14. GLAZING GASKETS TESTED PER ASTM C-864 & C-509 FOR DENSE EPDM
- 15. THIS SYSTEM MAY BE USED IN CONJUNCTION WITH AMERICAN PRODUCTS SERIES 2500 GLAZED ALUMINUM COMMERCIAL DOOR
- 16. CODE REQUIREMENTS FOR SAFEGUARDS MUST BE OBSERVED AND ARE NOT IN THIS CERTIFICATION.
- 17. WINDOW TO SUBSTRATE WATER PROOFING IS NOT INCLUDED IN THIS DOCUMENT AND MUST BE ADDRESSED ON A SITE SPECIFIC BASIS. NOT BY AMERICAN PRODUCTS. INC.
- 18. PRODUCT SHALL BE PERMANENTLY LABELED WITH A MINIMUM OF ONE LABEL PER SYSTEM CONTAINING THE FOLLOWING:

AMERICAN PRODUCTS, INC.
TAMPA, FLORIDA
TAS 201/ 202/ 203
APPROVED BY FLORIDA BUILDING COMMISSION

VISIT ECALC.IO/38295

FOR HELPFUL RESOURCES, SITE SPECIFIC JOB ORDERING & MORE INFORMATION ABOUT THIS PRODUCT & DELATED SERVICES SCAN HERE:

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BENALL
BE

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EAM@ENGINERINGEXPRESS.COM

1414 160 SYSTEM DEE

X: (813) 925-1414 STOREFRONT SYSTE

14MPA, FL 53028 125-0144 / FAX: (8 11SH GI AZED STOE

hn. (813) 925-0144 FES 2500 ELISH GLA

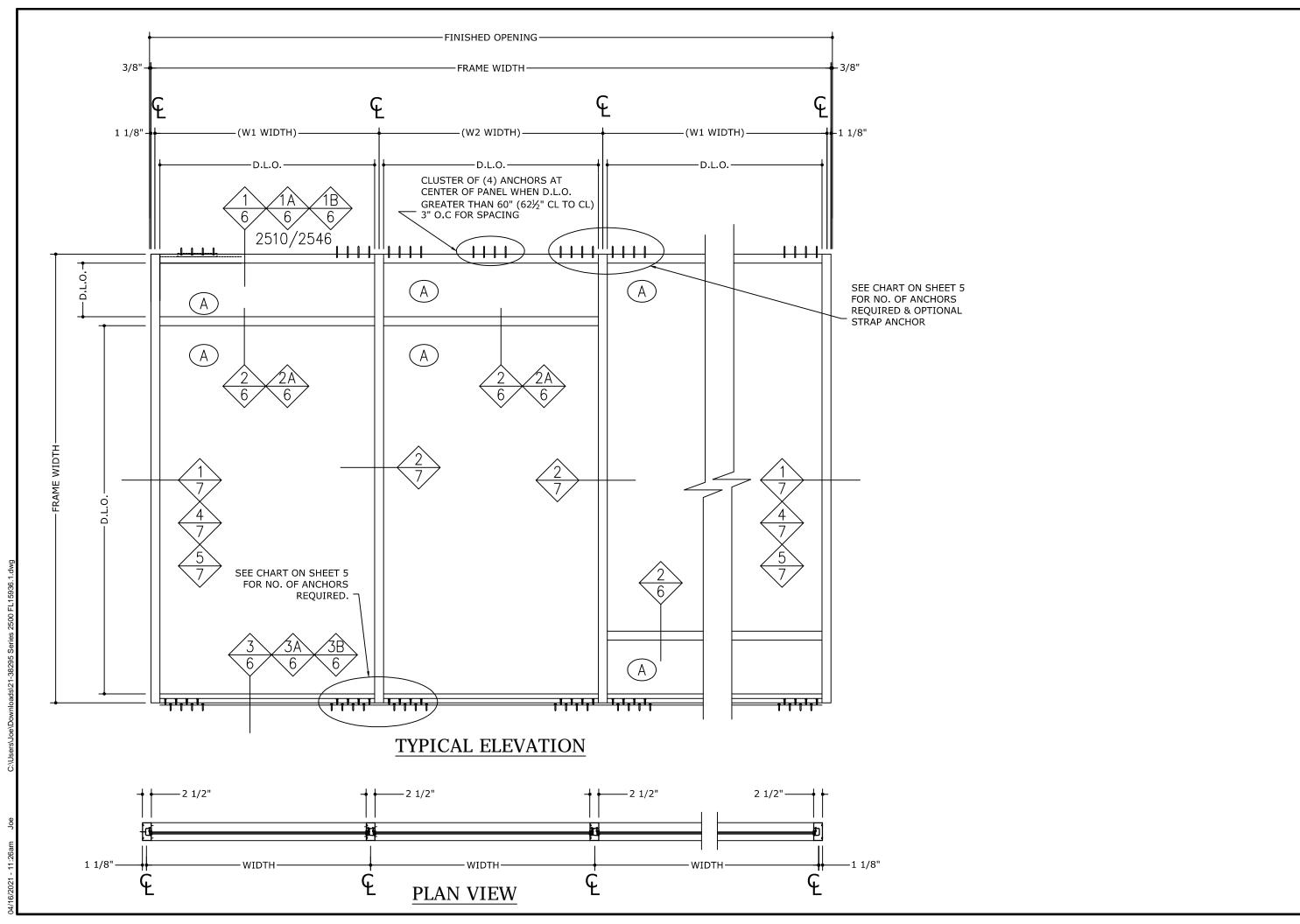
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Phn. (813) SERIES 2500 F

21-38295

SCALE: NTS UNLESS NOTE





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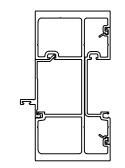
SCALE: NTS UNLESS NOTED

		LION LOAD	ING		•	H OR WITH
NOMINAL DIMS					AL DIMS	
WIDTH	FRAME	+/- P.S.F		WIDTH	FRAME	+/- P.S.F
(W)	HEIGHT	.,		(W)	HEIGHT	.,
30"		60		30"		60
36"		60 36" 60 42"	36"		60	
42"				60		
48"		60		48"		60
54"		60		54"	96"	60
62 ½"	60"	60		62 ½"		60
66"	00	57		66"	90	57
72"		54		72"		52
78"		51		78" *		48
84"		49		84" *		45
90"		47		90" **		42
96"		45		96" **		39
30"		60		30"	108"	60
36"		60		36"		60
42"		60		42"		60
48"		60		48"		60
54"		60		54"		60
62 ½"	70"	60		62 ½"		60
66"	72"	57		66"		57
72"		52		72"		52
78" *		48		78" *		48
84" *		45		84" *		45
90" **		43		90" **		42
96" **		42		96" **		39
30"		60		30"		60
36"		60		36"		60
42"		60		42"		60
48"		60		48"		60
54"		60		54"	120"	60
62 ½"		60		62 ½"		60
66"	84"	57		66"		57
72"		52		72"		52
78" *		48		78" *		48
84" *		45		84" *		45
90" **		42		90" **		42
96" **			40	96" **		39
			ו ו	O 48" MAX	<u>l</u>	

- * HORIZONTAL TO HORIZONTAL D.L.O. 48" MAX.
- ** HORIZONTAL TO HORIZONTAL D.L.O. 36" MAX.

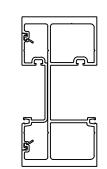
NOTE: FOR D.L.O.'S GREATER THAN 60" HORIZONTAL MULLION REINFORCEMENT IS REQUIRED. SEE DETAIL 2A/6

OUT HORIZONTALS					
	NOMINA	AL DIMS			
	WIDTH (W)	FRAME HEIGHT	+/- P.S.F		
	30"		60		
	36"		60		
	42"		60		
	48"		60		
	NOMINA WIDTH (W) 30" 36" 42"		60		
		126"	60		
	66"	120	56		
	72"		52		
	42" 48" 54" 62 ½" 66" 72" 78" * 84" *		48		
	84" *		44		
	84" * 90" **		41		
	96" **		39		

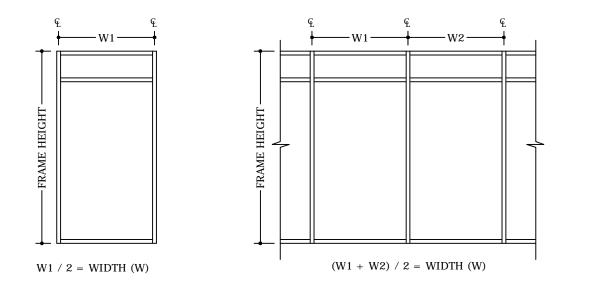


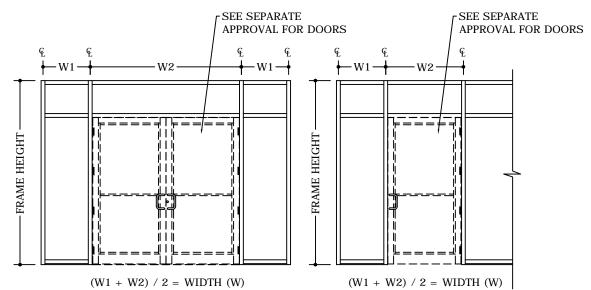
- OR OR API-2564 HEAVY VERTICAL
 - API-2582 SNAP IN DOOR STOP
 - API-2511 SHALLOW POCKET

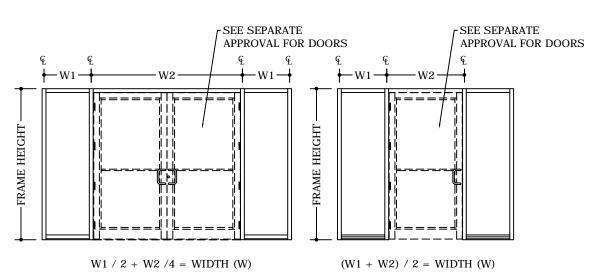
STOREFRONT VERTICAL



- API-2564 HEAVY VERTICAL
 - API-2511 SHALLOW POCKET









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SCALE: NTS UNLESS NOTEI

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					GLASS LOADING CAPACITY (PSF)				
NOMINA	AL DIMS	GLASS	STYPE	NOMINAL DIMS		GLASS TYPE			
DLO WIDTH	DLO HEIGHT	TYPE A +/- P.S.F	TYPE B +/- P.S.F		DLO WIDTH	DLO HEIGHT	TYPE A +/- P.S.F	TYPE B +/- P.S.F	
30"		60	50		30"		60	50	
36"	-	60	50		36"		60	50	
42"	-	60	50		42"		60	50	
48"	1	60	50		48"		60	50	
54"		60	50		54"	0.01	60	50	
62 ½"	00"	60	50		62 ½"		60	50	
66"	60"	60	50		66"	96"	60	50	
72"		60	50		72"		Х	Х	
78"		60	50		78" *		Х	Х	
84"		60	50		84" *		Х	Х	
90"	-	60	50		90" **		Х	Х	
96"		60	50		96" **		Х	Х	
30"		60	50		30"		60	50	
36"		60	50		36"	108"	60	50	
42"		60	50		42"		60	50	
48"		60	50		48"		60	50	
54"	- - 72" -	60	50		54"		60	50	
62 ½"		60	50		62 ½"		60	50	
66"		60	50		66"		Х	Х	
72"		60	50		72"		Х	Х	
78" *		60	50		78" *		Х	Х	
84" *		60	50		84" *		Х	Χ	
90" **		60	50		90" **		Х	Х	
96" **		Χ	Χ		96" **		Χ	Х	
30"		60	50		30"		60	50	
36"		60	50		36"		60	50	
42"		60	50		42"		60	50	
48"		60	50		48"		60	50	
54"	84"	60	50		54"	120"	60	50	
62 ½"		60	50		62 ½"		Χ	Χ	
66"		60	50		66"	120	Х	X	
72"		60	50		72"		Х	Х	
78" *		60	50		78" *		Х	Χ	
84" *		X	Х		84" *		X	Х	
90" **		Χ	Χ		90" **		Χ	X	

96" **

96" **

Χ

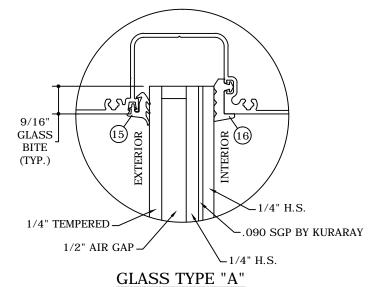
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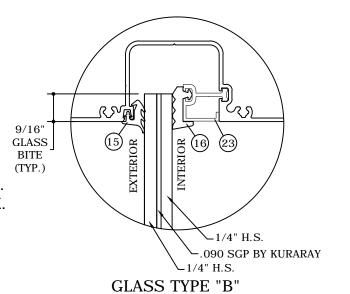
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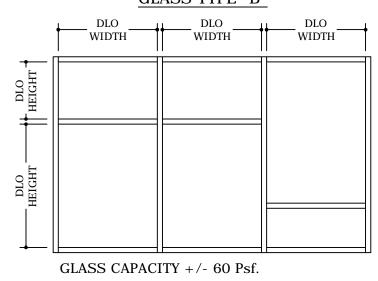
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NOMINA	AL DIMS	GLASS TYPE				
DLO WIDTH	DLO HEIGHT	TYPE A +/- P.S.F	TYPE B +/- P.S.F			
30"		60	50			
36"		60	50			
42"		60	50			
48"	126"	60	50			
54"		60	50			
62 ½"		Χ	Χ			
66"		Χ	Χ			
72"		Χ	Χ			
78" *		Χ	Χ			
84" *		Χ	Χ			
90" **		Χ	Χ			
96" **		Χ	Χ			

* HORIZONTAL TO HORIZONTAL D.L.O. 48" MAX. ** HORIZONTAL TO HORIZONTAL D.L.O. 36" MAX. NOTE: FOR D.L.O.'S GREATER THAN 60" HORIZONTAL MULLION REINFORCEMENT IS REQUIRED. SEE DETAIL 2A/6







GLASS CAPACITY ON THIS SHEET IS BASED ON ASTM E1300-09 (3 SEC GUST)

THE PERIMETER SEAL SYSTEM FOR THE INSULATED GLASS WAS COMPRISED OF ALUMINUM REINFORCED BUTYL AIR SPACER.

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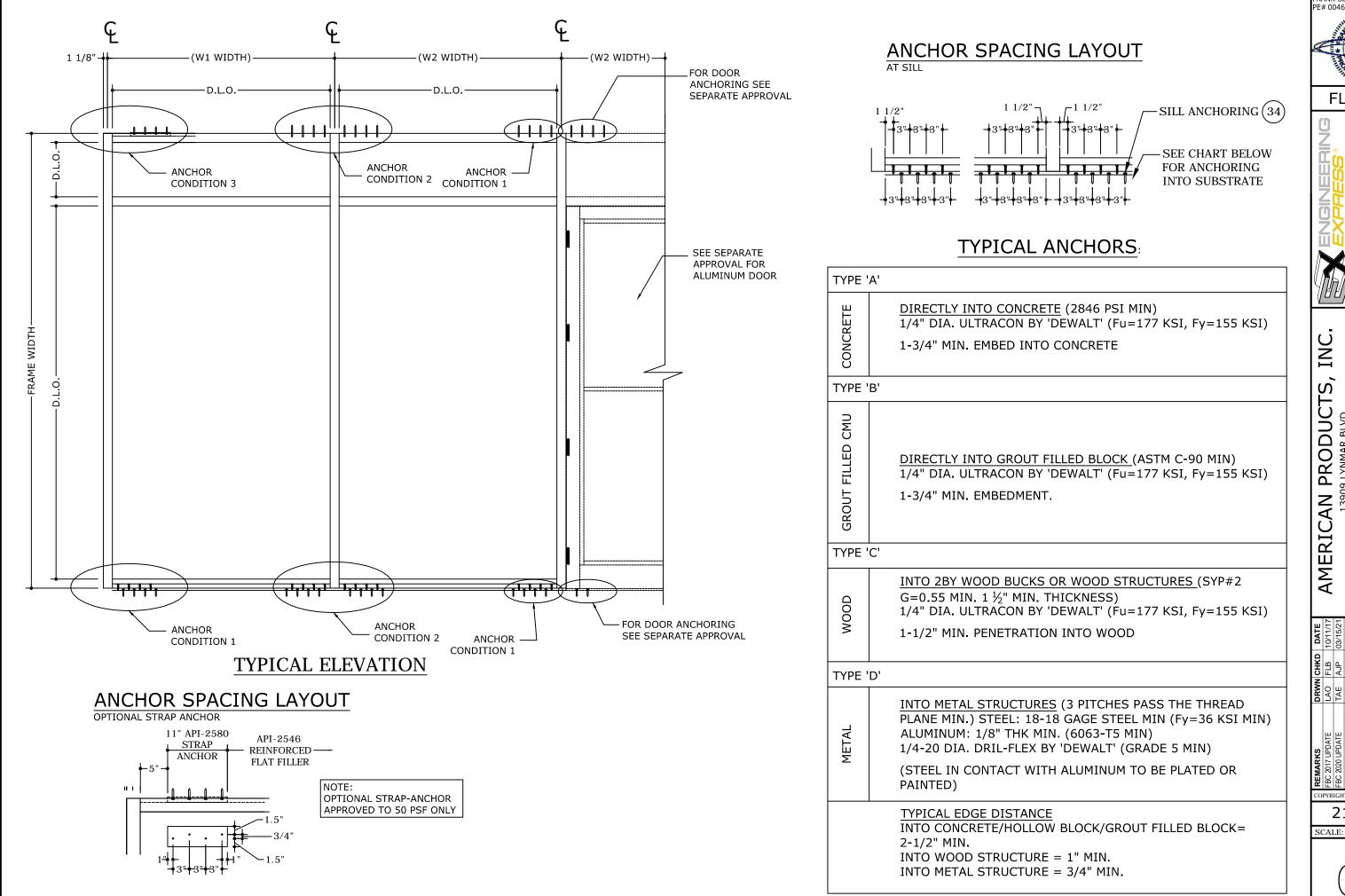
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AMERICAN PRODUCTS, INC.

REMARKS FBC 2017 UPDATE FBC 2020 UPDATE

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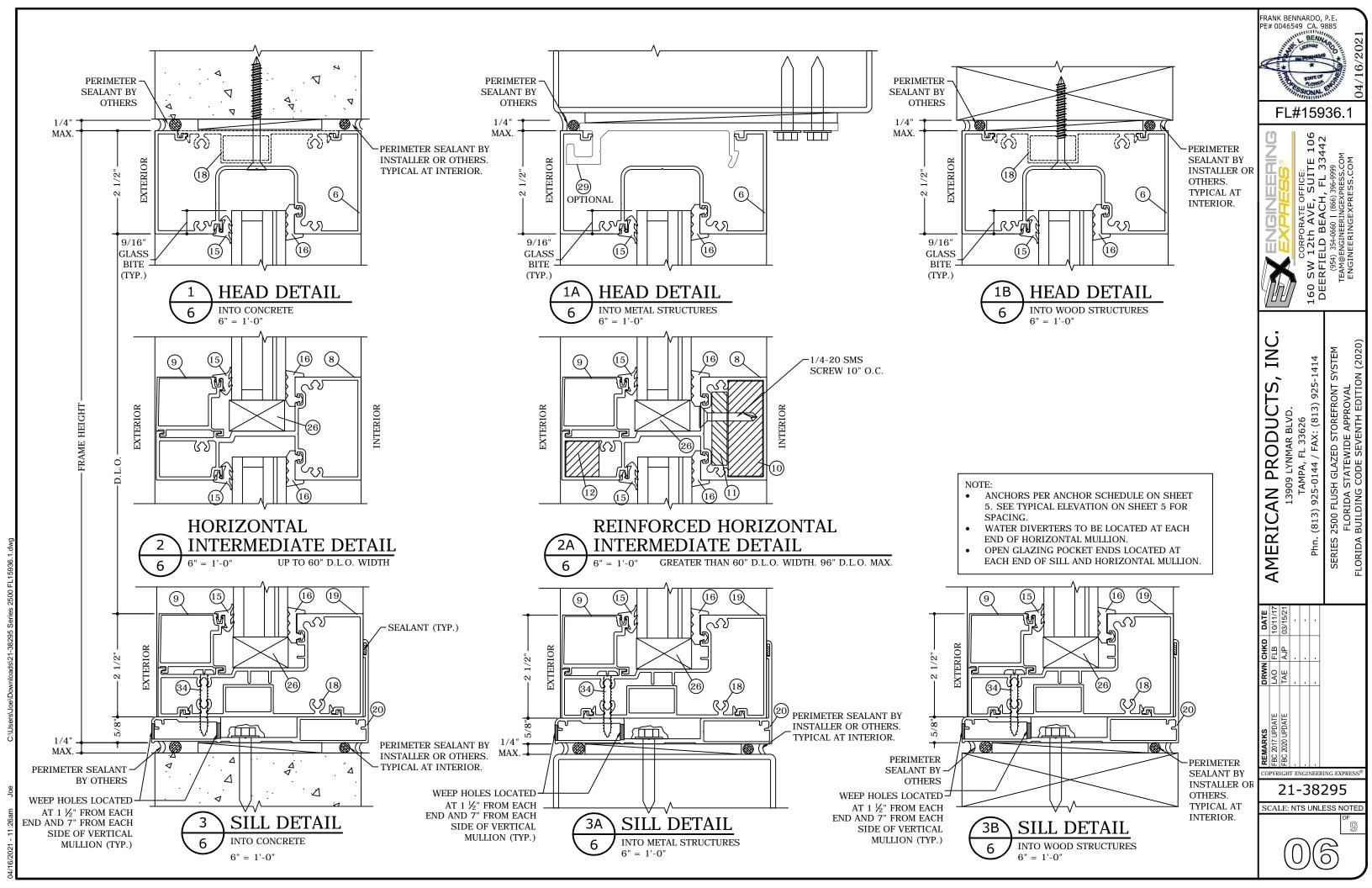
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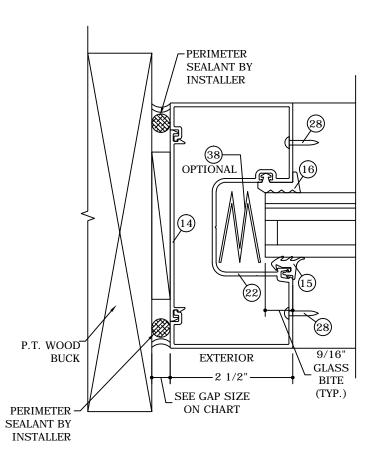
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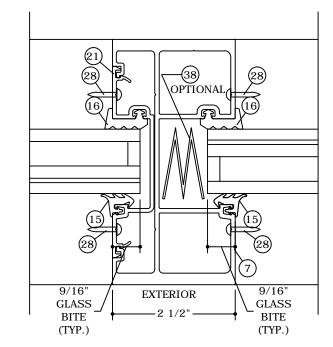
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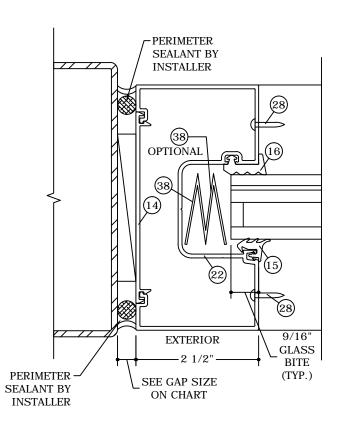




MAX. FRAME	GAP		
HEIGHT	MIN.	MAX.	
60"	1/4"	3/4"	
72"	3/8"	3/4"	
84"	7/ ₁₆ "	3/4"	
96"	1/2"	3/4"	
108"	%16"	3/4"	
120"	5/8"	3/4"	
126"	3/4"	3/4"	











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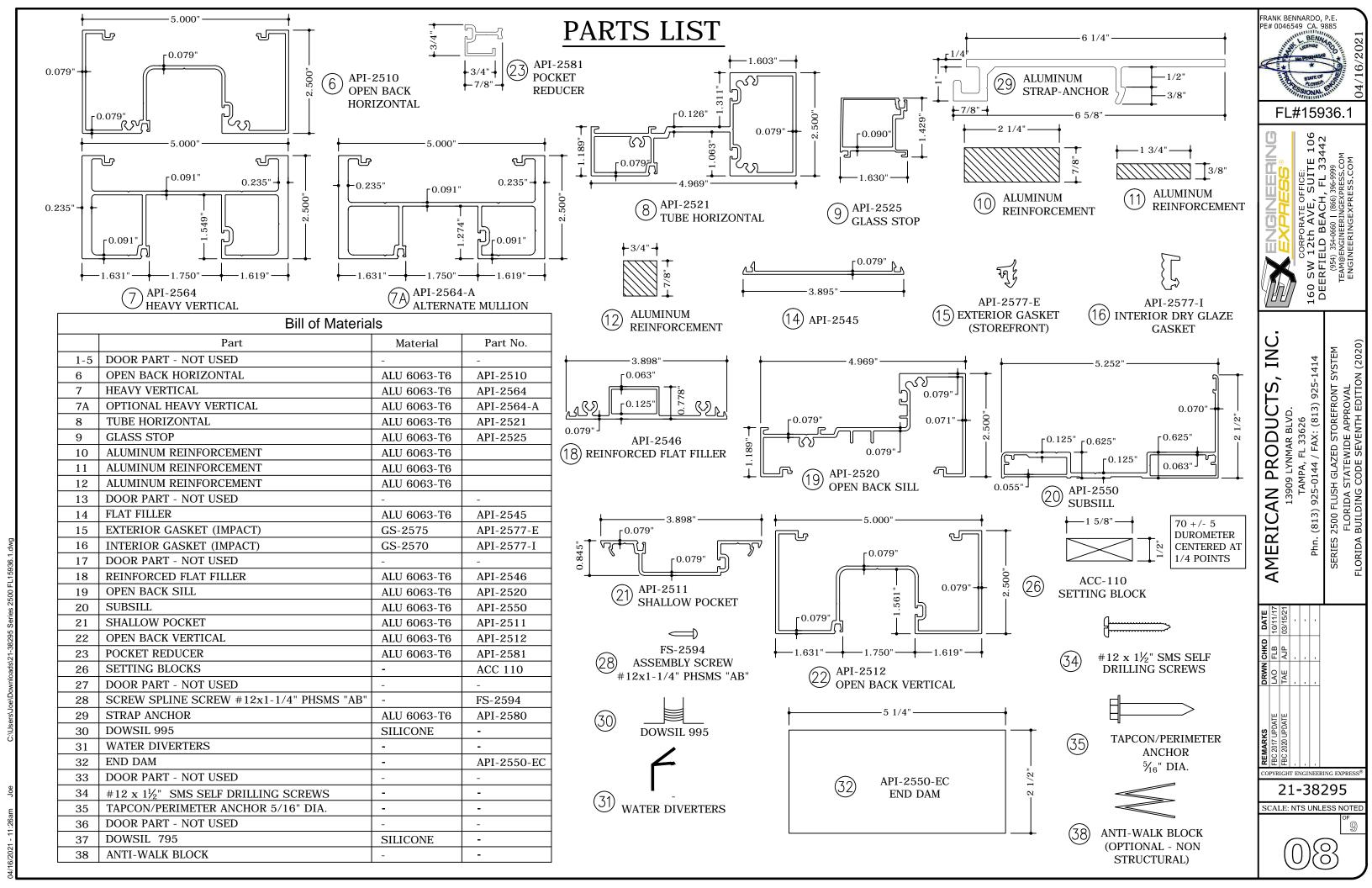
SERIES 2500 FLUSH GLAZED STOREFRONT SYSTEM FLORIDA STATEWIDE APPROVAL FLORIDA BUILDING CODE SEVENTH EDITION (2020)

REMARKS
FBC 2017 UPDATE
FBC 2020 UPDATE OPYRIGHT ENGINEERING EXPRESS

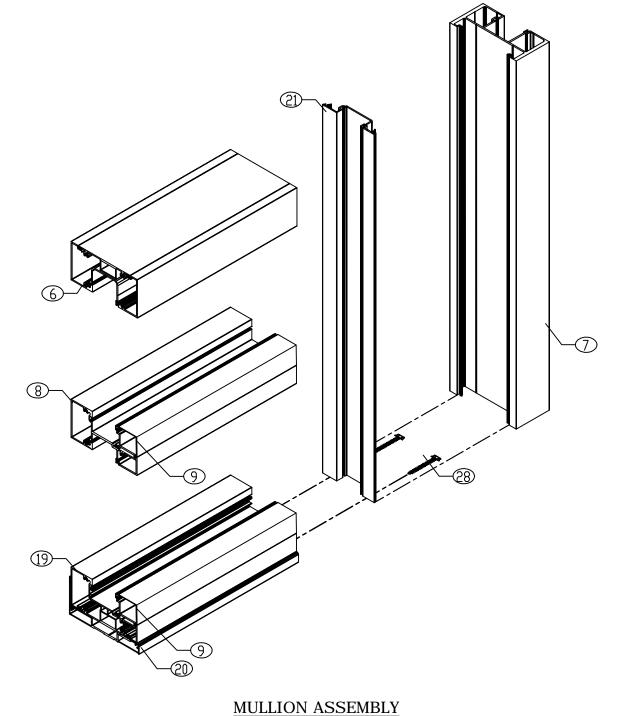
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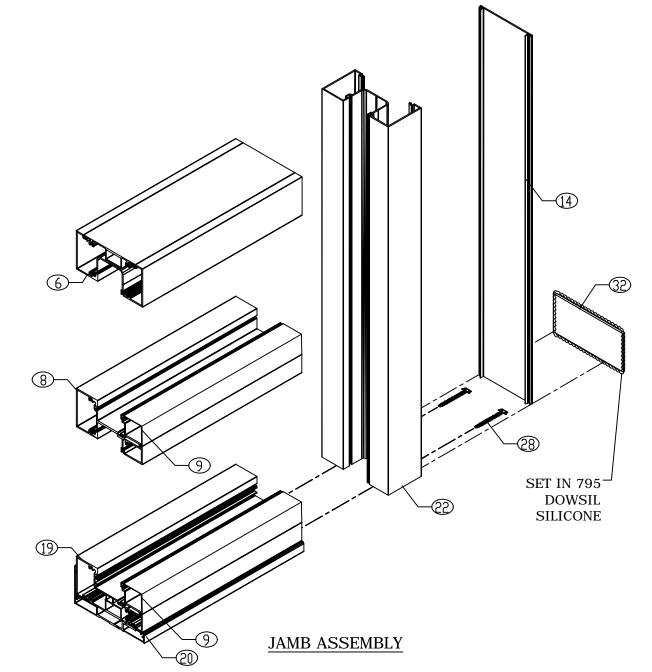
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FL#15936.1

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SCALE: NTS UNLESS NOTED

NOTE: SEAL ALL CORNERS WITH DOWSIL 795 SILICONE