



3911 W Newberry Road
Gainesville, Florida 32607

p: 352.363.6070
f: 352.363.6071

scorpioco.com

Submittal

JOB NAME: Lake County Fire Station Wind Mitigation **DATE:** 12/22/2025

OWNER/ARCHITECT JOB#: 25-923 **SCORPIO JOB #:** 25061

SPEC SECTION: Hollow Metal Doors and Frames **SPEC NUMBER:** 08 11 13 **REV:** 0

SUBCONTRACTOR/VENDOR: Taylor, Cotton & Ridley

SUPPLIER: See Submittal

CONTRACTOR COMMENTS:	CONTRACTOR'S STAMP:								
<p>Doors and Frames submittal including:</p> <ol style="list-style-type: none"> 1) Engineer letter regarding Ceco Door Products, and 2) Doors and frames product data sheets. 	<div style="border: 2px solid black; padding: 10px;"> <p>SHOP DRAWINGS / SUBMITTAL REVIEW</p> <p><small>SUBMITTAL WAS REVIEWED FOR DESIGN AND GENERAL CONFORMANCE TO CONTRACT DOCUMENTS ONLY. THE SUBMITTING CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING DIMENSIONS AT THE JOB SITE FOR TOLERANCES, CLEARANCES, QUANTITIES, FABRICATION PROCESS AND TECHNIQUE OF CONSTRUCTION, COORDINATION OF HIS WORK WITH OTHER TRADES AND FULL COMPLIANCE WITH CONTRACT DOCUMENTS.</small></p> <p>Scorpio. <small>3911 W. University Ave. Gainesville, FL 32607 f: 352.363.6070</small></p> <hr/> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center; width: 25%;">REVIEWED</td> <td style="text-align: center; width: 25%;">REVIEWED W/ CHANGES</td> <td style="text-align: center; width: 25%;">REVISE AND RESUBMIT</td> <td style="text-align: center; width: 25%;">REJECTED</td> </tr> </table> <hr/> <table style="width: 100%;"> <tr> <td style="width: 50%;">BY</td> <td style="width: 50%;">DATE</td> </tr> <tr> <td>SUBMITTAL#</td> <td>SPEC</td> </tr> </table> </div>	REVIEWED	REVIEWED W/ CHANGES	REVISE AND RESUBMIT	REJECTED	BY	DATE	SUBMITTAL#	SPEC
REVIEWED	REVIEWED W/ CHANGES	REVISE AND RESUBMIT	REJECTED						
BY	DATE								
SUBMITTAL#	SPEC								
ARCHITECT COMMENTS:	ARCHITECT'S STAMP:								
	<p> <input checked="" type="checkbox"/> Reviewed – No Comments <input type="checkbox"/> Reviewed – See Comments <input type="checkbox"/> Revise and Resubmit <input type="checkbox"/> Rejected – Re-Submittal Required </p> <p style="font-size: small; border: 1px solid red; padding: 5px;"> This review is only for general conformance with the design concept of the project and general compliance with the information give in the Contract Documents. Quantities and exact dimensions are the responsibility of the contractor and/or subcontractor. This review does not affect the requirements of any contract, nor imply any approval of construction methods and/or safety requirements. This review does not authorize a change in contract value. </p> <p> <small>Forefront Architecture & Engineering, LLC FL License No. AR102538 FL License No. CA30900 Signature: Date: 1/8/26 Project 25-10518 Fire Station Hazard Mitigation</small> </p>								
ENGINEER COMMENTS:	ENGINEER'S STAMP:								



April 30, 2024

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

Regarding: Ceco Door Products
Division of ASSA ABLOY Door Group, Inc.

Ceco Flush Pairs Of Doors – Large Missile Impact (LMI) - Level "D"-HVHZ
FL #16355.1 – EX 23-68038a

Ceco Flush Single Doors – Large Missile Impact (LMI) - Level "D"-HVHZ
FL #16355.2 – EX 23-68038b

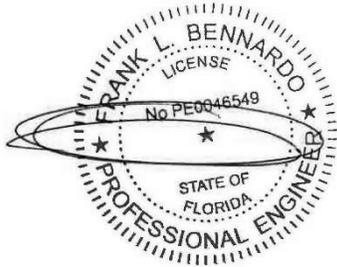
Ceco Glazed Pairs Of Doors – Large Missile Impact (LMI) - Level "D"-HVHZ
FL #16355.3 – EX 23-68038c

Ceco Glazed Single Doors – Large Missile Impact (LMI) - Level "D"-HVHZ
FL #16355.4 – EX 23-68038d

To Whom It May Concern:

Please be advised that the below-signed engineer does not have nor will acquire a financial interest in the company manufacturing or distributing the product(s) for which an evaluation report or validation certification has been prepared, as referenced above. This engineer is not owned, operated, nor controlled by the manufacturer or distributor noted above and does not have any financial interest in any other entity involved in the approval process of the above-noted product(s).

Respectfully,



04/30/24

Frank Bennardo, PE
ENGINEERING EXPRESS®
#PE0046549 | Cert. Auth. 9885

CECO DOOR PRODUCTS

DIVISION OF ASSA ABLOY DOOR GROUP, INC.

CECO FLUSH SINGLE DOORS LARGE MISSILE IMPACT (LMI) - LEVEL "D" HVHZ

NON-SITE-SPECIFIC STRUCTURAL PERFORMANCE EVALUATION. A DESIGN PROFESSIONAL SHALL BE RESPONSIBLE FOR CERTIFYING THE APPLICATION OF THIS INFORMATION TO ANY SITE-SPECIFIC LOCATION.

NOTE REGARDING USE OF THIS DOCUMENT & USE OUTSIDE FLORIDA:

NON-SITE-SPECIFIC STRUCTURAL PERFORMANCE EVALUATION. THIS PRODUCT EVALUATION IS VALID FOR USE IN **FLORIDA ONLY**. USE OF THIS EVALUATION REQUIRES A REVIEW & CERTIFICATION BY A LOCAL DESIGN PROFESSIONAL WHO SHALL BE RESPONSIBLE FOR THE PROPER ADAPTATION OF THIS GENERAL PERFORMANCE EVALUATION TO ANY SITE-SPECIFIC PROJECT. CONTACT THIS OFFICE AT ENGINEERINGEXPRESS.COM/QUOTE FOR ASSISTANCE WITH YOUR PROJECT-SPECIFIC NEEDS & FOR ADAPTATION & CERTIFICATION OF THIS DOCUMENT OUTSIDE OF FLORIDA.

INSTRUCTIONS FOR USING THIS APPROVAL

STEP 1: USE THE DOOR ELEVATIONS PROVIDED ON PAGE 2 THROUGH 6 TO DETERMINE THE APPLICABLE ASSEMBLY NUMBER

STEP 2: MOVE TO THE CHART BELOW THE DOOR ELEVATIONS, ALSO ON PAGE 2 THROUGH 6, AND LOCATE YOUR ASSEMBLY NUMBER. BY SCANNING HORIZONTALLY THROUGH THE SAME ROW OF YOUR ASSEMBLY NUMBER, YOU WILL BE ABLE TO DETERMINE THE APPROVED **DOOR SERIES, MIN DOOR THICKNESS, MAX DESIGN PRESSURE, MAX DOOR OPENINGS, SWINGING OPTIONS, LATCHING HARDWARE FOR PANELS.**

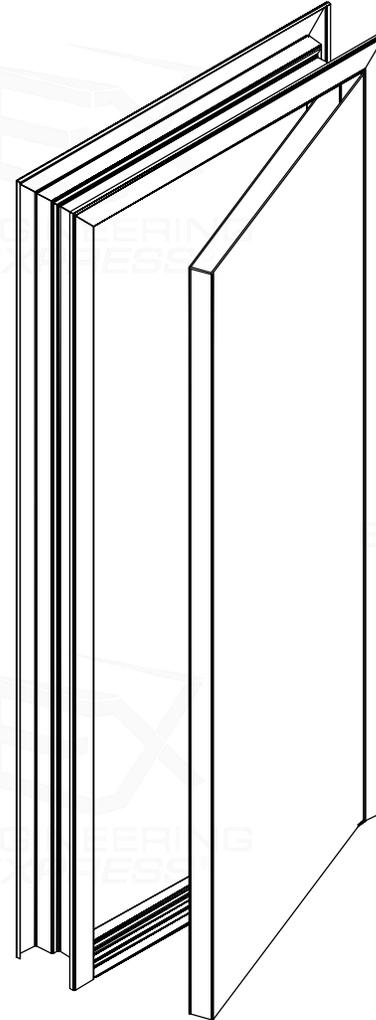
STEP 3: USE PAGE 8 TO DETERMINE YOUR FRAMING PROFILES AND FRAMING CONSTRUCTION OPTIONS

STEP 4: USE THE TABLES ON PAGE 9 AND 10 TO DETERMINE THE ANCHOR TYPE AND SPACING, BASED ON THE YOUR PRESSURE AND SUBSTRATE CRITERIA

STEP 5: USE THE DETAILS PROVIDED ON PAGE 11 AND 12 TO DETERMINE YOUR WEATHERSTRIPPING OPTIONS

SHEET INDEX

# SHEET	DESCRIPTION
1	COVER SHEET
2-6	ASSEMBLY OPTIONS
7	OPTIONAL ASSEMBLY OPTIONS
8	DOOR FRAME DETAILS
9-10	DOOR FRAME ANCHORING INFORMATION
11-12	DOOR FRAME WEATHER STRIPPING INFORMATION
13	MANUFACTURERS AND ENGINEERS NOTES
13	TOTAL



FRANK BENNARDO, PE
PE# 0046549 CA# 9885



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Frank Bennardo
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DIVISION OF ASSA ABLOY DOOR GROUP, INC.
9159 TELECOM DRIVE
MILAN, TN 38358



COMMERCIAL STEEL EXTERIOR DOORS
FLUSH SINGLE DOORS (LMI) - FBC (2023)
FLORIDA STATEWIDE APPROVAL (FSA FL #16355.2)

REMARKS	DATE	DRWN/CHKD
INIT ISSUE (FAC/UC/3-41)	06/28/13	FLB
FBC UPDATE	06/12/15	CSL
2017 FBC UPDATE	10/03/17	LEM
2020 FBC UPDATE	12/17/20	TAE
2023 FBC (PREV 20-34870)	10/18/23	AAZ
		RS

VISIT ECALC.IO/68038b

FOR SITE-SPECIFIC DEVIATIONS
& MORE INFORMATION ABOUT THIS DOCUMENT
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ASSA ABLOY, the global leader in door opening solutions.

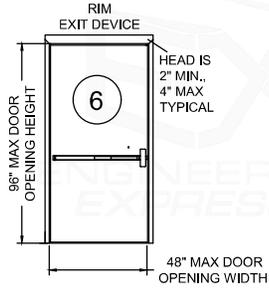
CECO DOOR FLUSH SINGLE DOORS

PRODUCTS ILLUSTRATED IN THIS DOCUMENT ARE QUALIFIED FOR LARGE AND SMALL MISSILE IMPACT. LARGE MISSILE IMPACT IS 9 LB 2 X 4 AT 50 FEET PER SECOND OR 350 FT-LBS. (MISSILE LEVEL D) PRODUCT MEETS REQUIREMENTS OF THE HIGH VELOCITY HURRICANE ZONE.

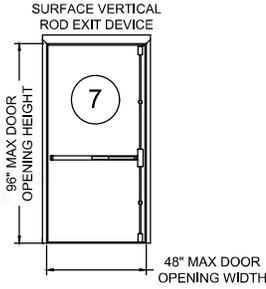
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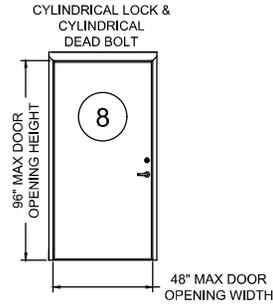
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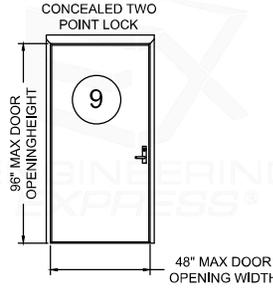
ASSEMBLY 6	
Design Pressure Where Water Infiltration Is NOT Required	Design Pressure Where Water Infiltration IS Required
+/-70 PSF	+/-50 PSF



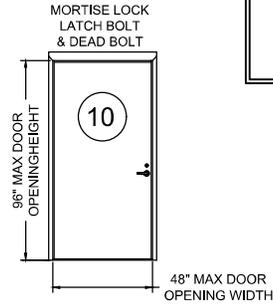
ASSEMBLY 7	
Design Pressure Where Water Infiltration Is NOT Required	Design Pressure Where Water Infiltration IS Required
+/-70 PSF	+/-50 PSF



ASSEMBLY 8	
Design Pressure Where Water Infiltration Is NOT Needed	Design Pressure Where Water Infiltration IS Required
+/-70 PSF	+/-60 PSF



ASSEMBLY 9	
Design Pressure Where Water Infiltration Is NOT Required	Design Pressure Where Water Infiltration IS Required
+/-70 PSF	+/-50 PSF



ASSEMBLY 10	
Design Pressure Where Water Infiltration Is NOT Required	Design Pressure Where Water Infiltration IS Required
+/-70 PSF	+/-50 PSF

Assembly	Door Series	Minimum Door Gauge	Maximum Design Pressure (psf)		Maximum Door Opening (inches)		Door Swing	Latching Hardware Description	Latching Hardware Description		
			Positive	Negative	Width	Height			Type	Brand	Model
6	Fuego, Medallion, Legion, Omega, Regent, Ultra, Trio, Trio-E	16 Trio, Trio-E - 18	70	70	48	96	Out Swing	Rim Exit Device	Corbin Russwin	ED5200S(A) x M107	
									Sargent	HC8800, 12-HC8800	
									ASSA ABLOY ACCENTRA	7150(F)WS/7250M(F)WS	
7	Fuego, Imperial, Medallion, Legion, Omega, Regent, Ultra, Versadoor, Trio, Trio-E	16 Trio, Trio-E - 18	70	70	48	96	Out Swing	Surface Vertical Rod	Corbin Russwin	ED5470(B) x M107	
									ASSA ABLOY ACCENTRA	7170(F)WS	
8	Trio, Trio-E	18	70	70	48	96	Out Swing or In Swing*	Cylindrical Lock & Cylindrical Dead Bolt	Corbin Russwin	CL3100 DL3200 Dead Bolt	
									Sargent	11 Line 480 Dead Bolt	
9	Fuego, Imperial, Medallion, Legion, Omega, Regent, Ultra, Versadoor, Trio, Trio-E	16 Trio, Trio-E - 18	70	70	48	96	Out Swing	Concealed Two Point Lock	Sargent	WS-12-7000, HC-12-7000	
									Corbin Russwin	MP9800 (A/B) x M107	
10	Fuego, Imperial, Medallion, Legion, Omega, Regent, Ultra, Versadoor, Trio, Trio-E	16 Trio, Trio-E - 18	70	70	48	96	Out Swing or In Swing*	Mortise Lock Latch Bolt & Dead Bolt	Corbin Russwin	ML2000	
									Sargent	7800, 8200, R8200	
									ASSA ABLOY ACCENTRA	8800	
Hinges**	Butt	McKinney 4-1/2" x 4-1/2" 0.134" thick minimum steel hinges or any FBC approved butt hinges may be used. Any SDI member hinge locations may be used.									
	Continuous	Markar FM100, FM200, FM300, FM3500, FM100, FM111, or HG305; Pemko CFMSLF-HD continuous hinges or any FBC approved continuous hinge may be used									
	Pivots	Rixson 195 Pivot set with M19 intermediate pivots may be used. Any FBC approved pivot may be used.									
Auxiliary Hardware	1" diameter and smaller preparations for door position switches, Door position switches that fit in a cutout measuring 1.25" x 4.875"; Securitron EPT, SEPT, and CEPT may be used. Maglocks may be used in addition to the hardware listed above. Viewers with 1" and smaller hole preparation may be used.										

*In-Swing Configurations not approved for water infiltration. See Hardware notes for additional Hardware options.

** SUBSTITUTIONS, WITH FBC COMPONENT APPROVALS, MAY BE USED AS LONG AS THE SUBSTITUTIONS ARE WITHIN THE LIMITING DESIGN PARAMETERS OF THIS APPROVAL AND THE COMPONENT APPROVAL.

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MILAN, TN 38358
COMMERCIAL STEEL EXTERIOR DOORS
FLUSH SINGLE DOORS (LMI) - FBC (2023)
FLORIDA STATEWIDE APPROVAL (FSA FL#16355.2)

REMARKS	DATE
INITIALS (P-C-I-A-S-41)	05/08/2024
FBC UPDATE	06/12/25
2017 FBC UPDATE	10/03/17
2020 FBC UPDATE	12/17/20
2023 FBC (PREV/2024870)	10/18/23

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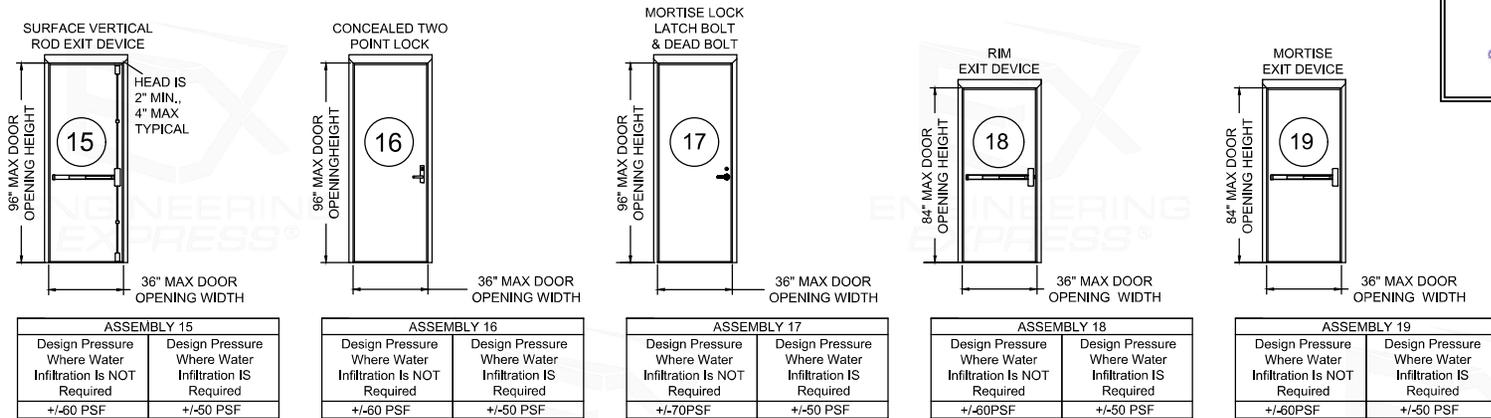
CECO DOOR FLUSH SINGLE DOORS

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PE# 0046549 CA# 9885



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Assembly	Door Series	Minimum Door Gauge	Maximum Design Pressure (psf)		Maximum Door Opening (inches)		Door Swing	Latching Hardware Description			
			Positive	Negative	Width	Height		Type	Brand	Model	
15	Imperial, Medallion, Legion, Omega, Regent, Ultra, Versadoor	16	60	60	36	96	Out Swing	Surface Vertical Rod	Corbin Russwin	ED5470(B) x M107	
									Sargent	HC8700, 12-HC8700	
									ASSA ABLOY ACCENTRA	7170(F)WS	
16	Fuego, Imperial, Medallion, Legion, Omega, Regent, Ultra, Versadoor	16	60	60	36	96	Out Swing	Concealed Two Point Lock	Sargent	WS-12-7000, HC-12-7000	
									Corbin Russwin	MP9800 (AB) x M107	
17	Fuego, Imperial, Medallion, Legion, Omega, Regent, Ultra, Versadoor	16	60	60	36	96	Out Swing or In Swing*	Mortise Lock Latch Bolt & Dead Bolt	Corbin Russwin	ML2000	
									Sargent	7800, 8200, R8200	
									ASSA ABLOY ACCENTRA	8800	
18	Fuego, Imperial, Medallion, Legion, Omega, Regent, Ultra, Versadoor	18	60	60	36	84	Out Swing	Rim Exit Device	Corbin Russwin	ED5200S(A) x M107	
									Sargent	HC8800, 12-HC8800	
									Ving Card Elsafe S/S	VC3000	
									ASSA ABLOY ACCENTRA	7150(F)WS/7250M(F)WS	
19	Fuego, Imperial, Medallion, Legion, Omega, Regent, Ultra, Versadoor	18	60	60	36	84	Out Swing	Mortise Exit	Sargent	WS-8900 12-WS-8900	
Hinges**	Butt	McKinney 4-1/2" x 4-1/2" 0.134" thick minimum steel hinges or any FBC approved butt hinges may be used. Any SDI member hinge locations may be used.									
	Continuous	Markar FM100, FM200, FM300, FM3500, FM100, FM111, or HG305; Pemko CFMSLF-HD continuous hinges or any FBC approved continuous hinge may be used.									
	Pivots	Rixson 195 Pivot set with M19 intermediate pivots may be used. Any FBC approved pivot may be used.									
Auxiliary Hardware		1" diameter and smaller preparations for door position switches, Door position switches that fit in a cutout measuring 1.25" x 4.875"; Securitron EPT, SEPT, and CEPT may be used. Maglocks may be used in addition to the hardware listed above. Viewers with 1" and smaller hole preparation may be used.									

*In-Swing Configurations not approved for water infiltration. See Hardware notes for additional Hardware options.

** SUBSTITUTIONS, WITH FBC COMPONENT APPROVALS, MAY BE USED AS LONG AS THE SUBSTITUTIONS ARE WITHIN THE LIMITING DESIGN PARAMETERS OF THIS APPROVAL AND THE COMPONENT APPROVAL.

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DIVISION OF ASSA-ABLOY DOOR GROUP, INC.
9159 TELECOM DRIVE
MILAN, TN 38358

ASSA ABLOY
CecoDoor

REMARKS	DATE
INITIALS (FC/UC/3-41)	05/08/2024
FBC UPDATE	06/12/15
2017 FBC UPDATE	10/03/17
2020 FBC UPDATE	12/17/20
2023 FBC (PREV/2024R70)	10/18/23

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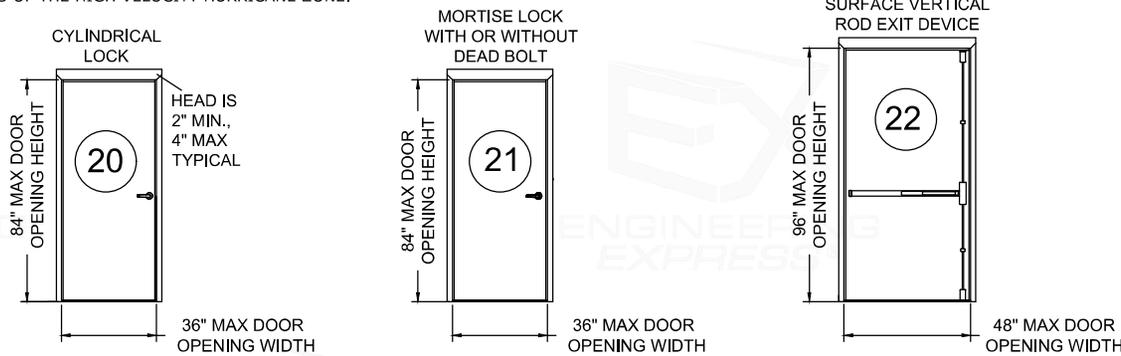
CECO DOOR FLUSH SINGLE DOORS

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FRANK BENNARDO, PE
PE# 0046549 CA# 9885



MAY 8, 2024



ASSEMBLY 20	
Design Pressure Where Water Infiltration Is NOT Required	Design Pressure Where Water Infiltration IS Required
+/-60 PSF	+/-50 PSF

ASSEMBLY 21	
Design Pressure Where Water Infiltration Is NOT Required	Design Pressure Where Water Infiltration IS Required
+/-60 PSF	+/-50 PSF

ASSEMBLY 7	
Design Pressure Where Water Infiltration Is NOT Required	Design Pressure Where Water Infiltration IS Required
+/-150 PSF	+/-50 PSF

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REV	DATE	DESCRIPTION
1	06/28/23	INITIAL ISSUE (23-68038-01)
2	06/12/23	REVISED (23-68038-02)
3	10/03/23	REVISED (23-68038-03)
4	12/17/20	REVISED (23-68038-04)
5	10/18/23	REVISED (23-68038-05)

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Assembly	Door Series	Minimum Door Gauge	Maximum Design Pressure (psf)		Maximum Door Opening (inches)		Door Swing	Latching Hardware Description		
			Positive	Negative	Width	Height		Type	Brand	Model
20	Fuego, Imperial, Medallion, Legion, Omega, Regent, Ultra, Versadoor, Trio, Trio-E	18	60	60	36	84	Out Swing or In Swing*	Cylindrical Lock	Corbin Russwin	CL3100, CLX3300 CL3800
									Sargent	6500, 7, 10X, 10XG77
									ASSA ABLOY ACCENTRA	5300LN, 5400CK, 5400LN,
									Corbin Russwin	ML2000
									Sargent	7800, 8200, R8200
									VingCard Elsafe A/S	ANSI, Classic, Signature
									ASSA ABLOY ACCENTRA	8800
21	Fuego, Imperial, Medallion, Legion, Omega, Regent, Ultra, Versadoor, Trio, Trio-E	18	60	60	36	84	Out Swing or In Swing*	Mortise Lock Latch Bolt with or without Dead Bolt		
22	Regent, Imperial, Medallion, Legion	14	150	150	48	96	Out Swing	Surface Vertical Rod	Sargent	HC4-8700, 12-HC4-8700
Hinges**	Continuous	McKinney 4-1/2" x 4-1/2" 0.134" thick minimum steel hinges or any FBC approved butt hinges may be used. Any SDI member hinge locations may be used.								
	Pivots	Rixson 195 Pivot set with M19 intermediate pivots may be used. Any FBC approved pivot may be used.								
Auxiliary Hardware		1" diameter and smaller preparations for door position switches, Door position switches that fit in a cutout measuring 1.25" x 4.875"; Securiton EPT, SEPT, and CEPT may be used.								
		Maglocks may be used in addition to the hardware listed above. Viewers with 1" and smaller hole preparation may be used.								

*In-Swing Configurations not approved for water infiltration. See Hardware notes for additional Hardware options.

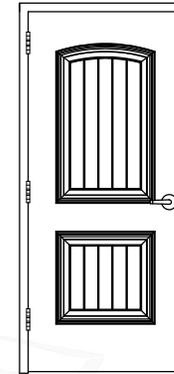
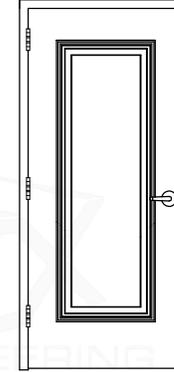
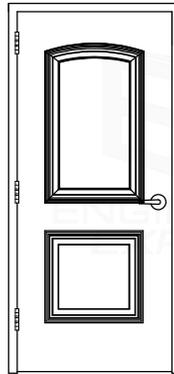
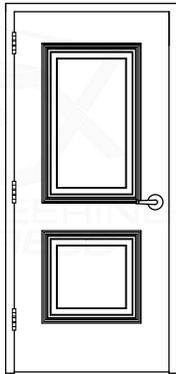
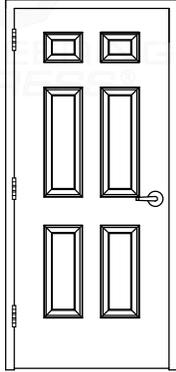
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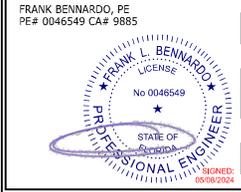
CECO DOOR FLUSH SINGLE DOORS

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OPTIONAL ELEVATIONS



EMBOSSED PANEL DOORS LIMITED TO 18 GA STEEL AND POLYURETHANE CORE



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 9159 TELECOM DRIVE
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 COMMERCIAL STEEL EXTERIOR DOORS
 FLUSH SINGLE DOORS (LMI) - FBC (2023)
 FLORIDA STATEWIDE APPROVAL (FSA FL#16355.2)

REMARKS	DRWN	CHKD	DATE
MIF ISSUE (P-C-1103-41)	KL	FLB	06/28/19
FBC UPDATE	RWN	CSL	06/12/15
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2020 FBC UPDATE	TAE	FLB	12/17/20
2023 FBC (PREV/20-34870)	ANZ	RS	10/18/23

23-68038b

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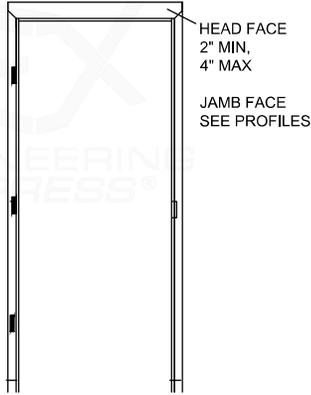
CECO DOOR FLUSH SINGLE DOORS

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FRANK BENNARDO, PE
PE# 0046549 CA# 9885

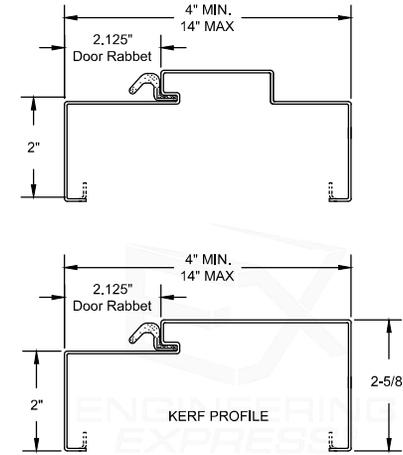
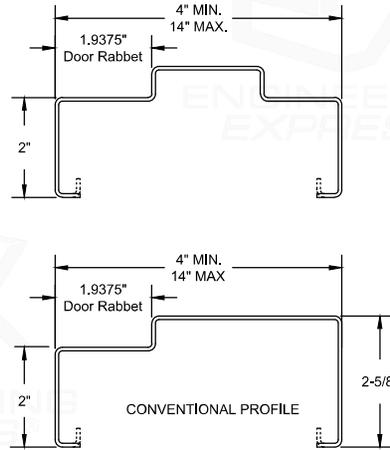


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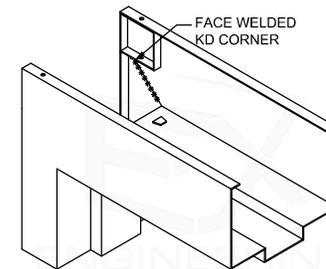
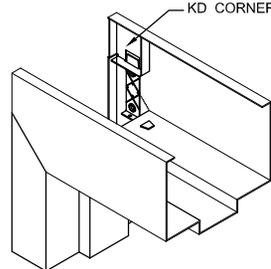
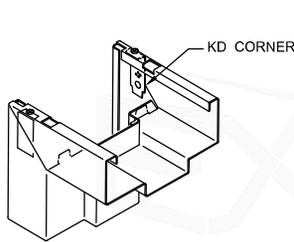
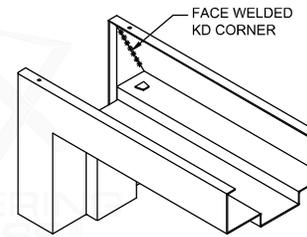
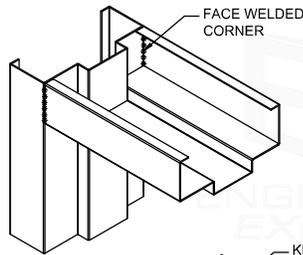
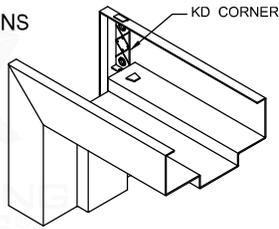


3070 ± 100 PSF MAX. DESIGN PRESSURE
4080 ± 150 PSF MAX. DESIGN PRESSURE
4" MIN./14" MAX. DEPTH
KD 16 GA. MIN.
WELDED 16 GA. MIN., 12 GA. MAX.
FOUR SIDED DOOR FRAME WITH WELDED CORNERS ALSO PERMITTED

FRAME PROFILES



FRAME CONSTRUCTION OPTIONS



FL# 16355.2

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9159 TELECOM DRIVE
MILAN, TN 38358

ASSA ABLOY
Ceco Door

COMMERCIAL STEEL EXTERIOR DOORS
FLUSH SINGLE DOORS (LMI) - FBC (2023)
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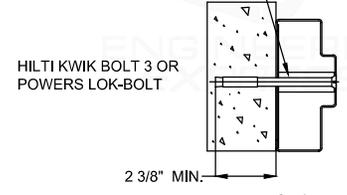
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 PE# 0046549 CA# 9885



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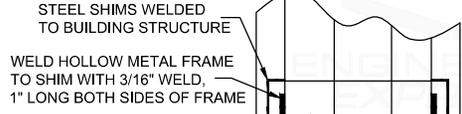
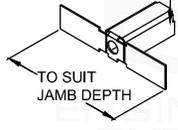
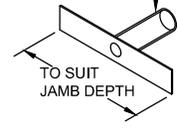
EXISTING MASONRY OR POURED CONCRETE, 3000 PSI MIN.
 WELDED PIPE SPACER OR EWA ANCHOR WITH 3/8" EXPANSION ANCHOR BOLTS USING 3/8" GRADE 5 BOLT
 MINIMUM EDGE DISTANCE = 4.0"
 MAXIMUM SHIM THICKNESS = 0.25"

1/4" MAX. THICK A-36 STEEL SHIMS WELDED TO STRUCTURAL BUILDING MEMBER WITH FILLET WELDS MEASURING 2" LONG USING E6018 ELECTRODES. FILLET WELD SIZE SAME AS SHIM THICKNESS FOR 0.053" TO 0.125" SHIM THICKNESS. WELD SIZE 1/8" FOR > 0.125" TO 1/4" SHIM THICKNESS.



16 GA (0.053" MIN) PIPE SPACER ANCHOR

16 GA (0.053" MIN) EWA ANCHOR

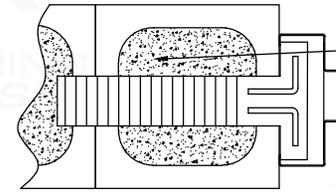


WELD HOLLOW METAL FRAME TO SHIM WITH 3/16" WELD, 1" LONG BOTH SIDES OF FRAME

2" X 7" STEEL SHIM PLATE(S), OR TO SUIT FRAME JAMB DEPTH

1.25" GREATER THAN JAMB DEPTH

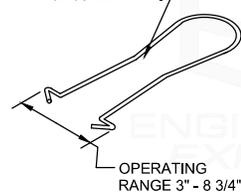
MAXIMUM SHIM SPACE 1/4"



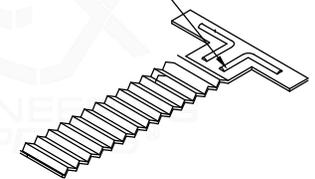
MAXIMUM SHIM THICKNESS 0.25 CMU BLOCK AND THROAT OF FRAME FILLED WITH 3000 PSI MORTAR

MASONRY WIRE ANCHOR 0.165" DIA. MIN.

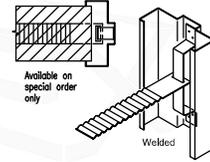
16 GA (0.053" MIN) MASONRY T ANCHOR



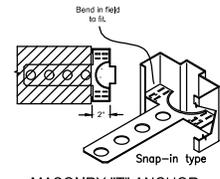
OPERATING RANGE 3" - 8 3/4"



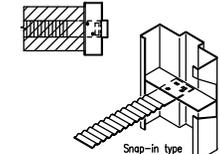
Expansion Shell Anchor Requirements for Jamb						
Opening Height (inches)	Up to an including 100 psf			150 psf		
	Max. Distance From End of Jamb	Min. Anchor Quantity	Maximum Spacing (inches)	Max. Distance From End of Jamb	Min. Anchor Quantity	Maximum Spacing (inches)
Up to 84"	12	5	19	12	5	19
90	12	5	19	12	5	19
96	12	6	19	12	6	19



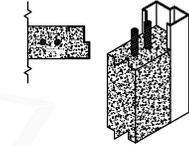
YOKE AND STRAP MASONRY ANCHOR



MASONRY "T" ANCHOR (ADJUSTABLE)



MASONRY "T" ANCHOR



POURED IN PLACE WALL

Masonry T, Masonry Wire, Masonry Strap, and Welded to the Building Structure Anchor Requirements for Jamb						
Opening Height (inches)	Up to an including 100 psf			150 psf		
	Max. Distance From End of Jamb	Min. Anchor Quantity	Maximum Spacing (inches)	Max. Distance From End of Jamb	Min. Anchor Quantity	Maximum Spacing (inches)
Up to 84"	12	4	24	12	5	24
90	12	4	24	12	5	24
96	12	4	24	12	5	24

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 COMMERCIAL STEEL EXTERIOR DOORS
 FLUSH SINGLE DOORS (LMI) - FBC (2023)
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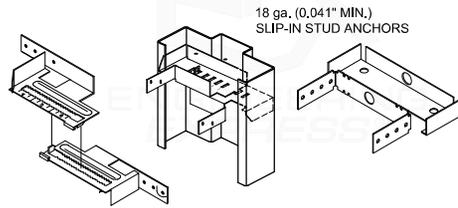
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PE# 0046549 CA# 9885

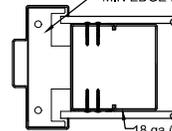


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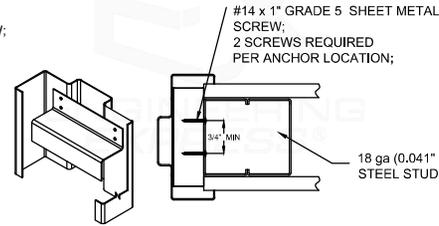


18 ga. (0.041" MIN.)
SLIP-IN STUD ANCHORS

SLIP-IN STUD ANCHOR WELDED TO FRAME CONNECT TO STEEL WITH #8 X 1" GRADE 5 SHEET METAL SCREW; 4 SCREWS REQUIRED PER ANCHOR; MIN EDGE DISTANCE = 0.328"

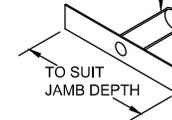


18 ga (0.041" min.)
STEEL STUDS

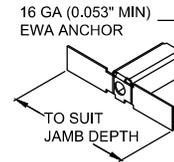


#14 x 1" GRADE 5 SHEET METAL SCREW;
2 SCREWS REQUIRED PER ANCHOR LOCATION;

16 GA (0.053" MIN)
PIPE SPACER ANCHOR



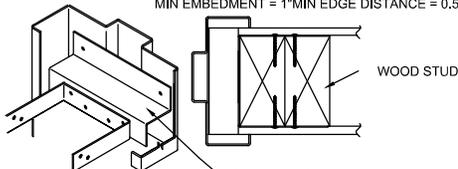
TO SUIT
JAMB DEPTH



16 GA (0.053" MIN)
EWA ANCHOR

TO SUIT
JAMB DEPTH

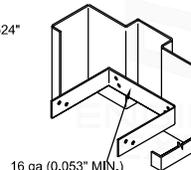
WELDED WOOD STUD ANCHOR WITH #8 X 1" GRADE 5 SHEET METAL SCREW; 4 SCREWS REQUIRED PER ANCHOR; MIN EMBEDMENT = 1" MIN EDGE DISTANCE = 0.524"



16 ga (0.053" MIN.)
WOOD STUD ANCHOR

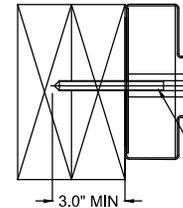
WOOD STUD

WELDED WOOD STUD ANCHOR WITH #8 X 1" GRADE 5 SHEET METAL SCREW; 4 SCREWS REQUIRED PER ANCHOR; MIN EMBEDMENT = 1" MIN EDGE DISTANCE = 0.524"



16 ga (0.053" MIN.)
WOOD STUD ANCHOR

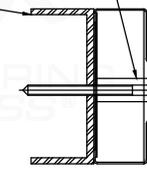
WOOD STUD



WELDED PIPE SPACER OR EWA ANCHOR WITH 3/8" WOOD SCREW OR LAG BOLT MINIMUM EDGE DISTANCE = 1.75" MAXIMUM SHIM THICKNESS = 0.25"

WELDED PIPE SPACER OR EWA ANCHOR WITH 3/8" (GRADE 2 MIN.) TAP-IN BOLT WITH 3 PINCHES PASSED THE THREAD PLANE. MINIMUM EDGE DISTANCE = 1.75" MAXIMUM SHIM THICKNESS = 0.25"

1/4" THK. MIN. A36 MIN. STEEL SUBSTRATE



Stud Anchor Requirements for Jamb of Single Frames

Opening Height (inches)	Up to an including 100 psf			150 psf		
	Max. Distance From End of Jamb	Min. Anchor Quantity	Maximum Spacing (inches)	Max. Distance From End of Jamb	Min. Anchor Quantity	Maximum Spacing (inches)
Up to 84"	6	4	28	6	5	19
90	6	4	28	6	5	19
96	6	4	28	6	6	19

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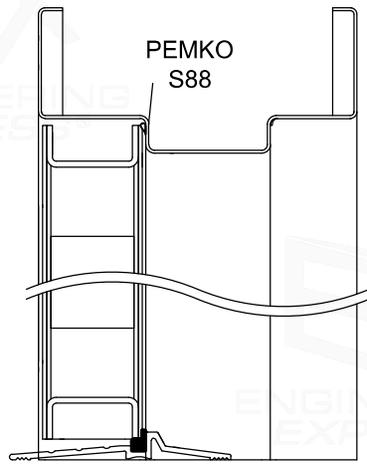
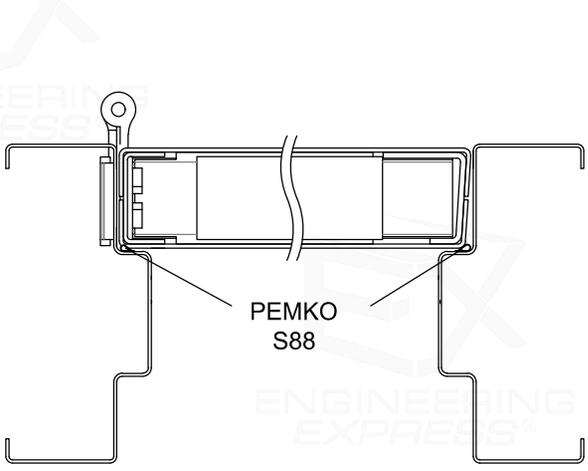
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PEMKO WEATHERSTRIP USED ON CECO DOORS AND FRAMES WHERE WATER INFILTRATION IS NOT REQUIRED.

FRANK BENNARDO, PE
PE# 0046549 CA# 9885



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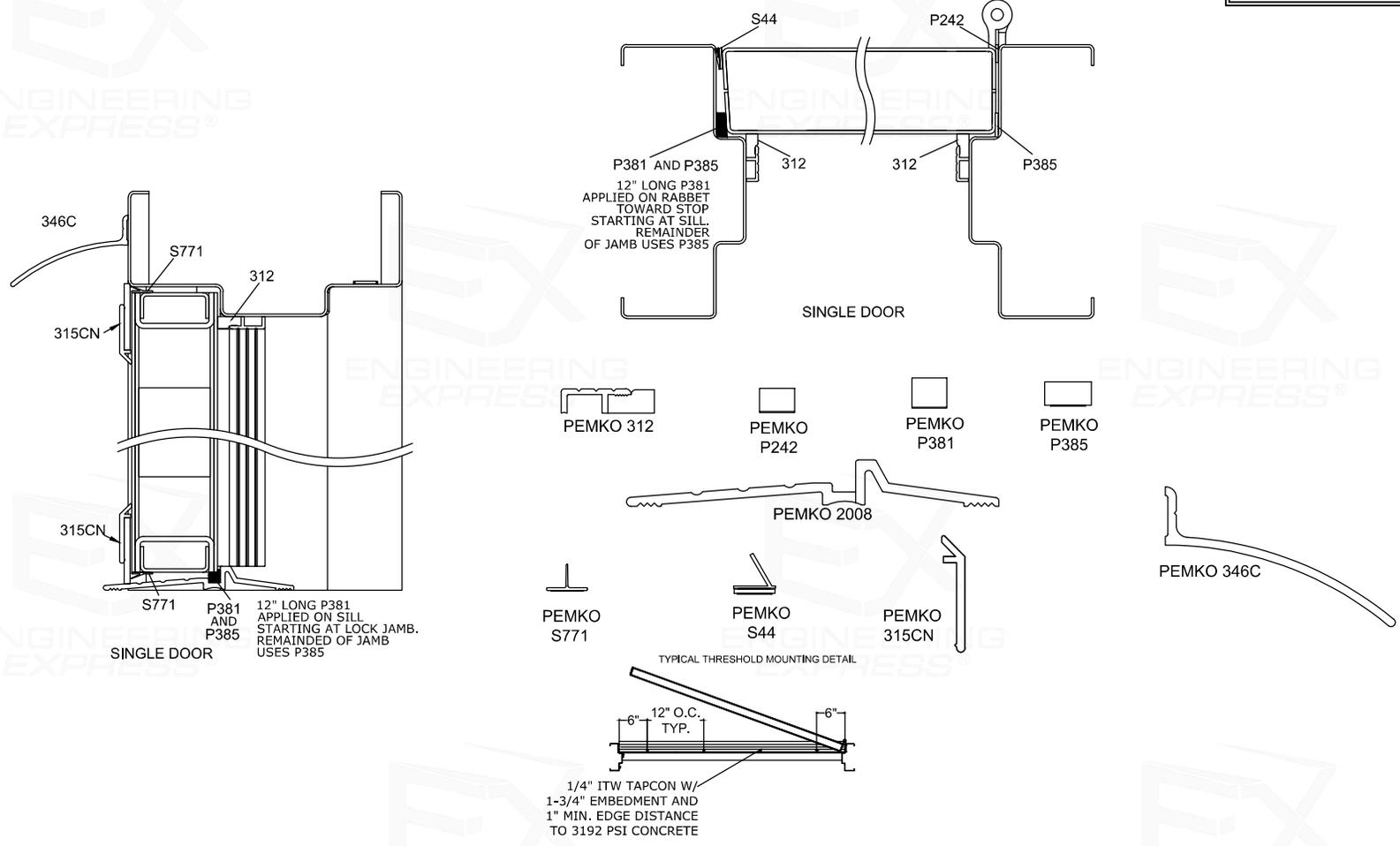
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HARDWARE NOTES

CORBIN RUSSWIN

THE ED5200(S)A RIM EXIT AND THE ED5470(B) X M107 SURFACE VERTICAL ROD MAYBE SUFFIXED BY MER. MAY USE M94 WITH ANY COMBINATION OF THE M61, M92, M93, OR M1 SUFFIXES.

THE ED5200(S)A X M107 RIM EXIT AND THE ED5470(B) X M107 SURFACE VERTICAL ROD MAY INCLUDE 900 SERIES TRIMS 9600, 9700, 9800 SERIES ACCESS CONTROL TRIMS OR THE 9900 SERIES ELECTRIFIED TRIMS.

THE MP9800 (A/B) X M107 SERIES CONCEALED MULTI-POINT LOCK MAY INCLUDE THE OPTIONS: M91, M92, M93, 903, 904, IN, INB, SE.

USE CRFE772A, CRFE708A OR CRWS700AKM HARDWARE MULLION WITH THE ED5200(S)A / ED4200(S)A X M107 RIM EXIT

ON PAIRS OF DOORS, ONE LEAF OF THE PAIR UTILIZING WITH THE ED5470(B) X M107 SURFACE VERTICAL ROD OR MP9800 (A/B) X M107 SERIES CONCEALED MULTI-POINT LOCK MAY BE REPLACED WITH TWO 988CR SURFACE BOLTS. THE LOCAL BUILDING OFFICIAL MUST APPROVE THIS CONFIGURATION OF HARDWARE FOR USE IN A MEANS OF EGRESS.

THE ML2000 SERIES MORTISE LOCKS, SERIES CLX3300 SERIES CYLINDRICAL LOCKS, ED5200(S)A X M107 RIM EXIT, AND ED5470(B) X M107 SURFACE VERTICAL ROD MAY BE PREFIXED IN-IP, IN-IPS, IN-CP, IN-IP-MB, IN-IP-MW, IN-IPS-MB, IN-IPS-MW, IN-CP-MP, AND IN-CP-MW.

THE ML2000 SERIES MORTISE LOCKS, SERIES CLX3300 SERIES CYLINDRICAL LOCKS, ED5200(S)A X M107 RIM EXIT MAY BE PREFIXED PIP1-IPSKM, PWI1-IPSKM, PIP1-CPKM, PWI1-CPKM, PIP1-IPSM, PWI1-IPSM, PIP1-CPM, AND PWI1-CPM.

MAY ALSO USE THE ML20100 AND ML20200 MORTISE LOCKS.

THE IN 120 ACCESS CONTROL MAY BE USED WITH CLX3300 CYLINDRICAL LOCK OR ML2000 MORTISE LOCK.

HES

THE 1006 SERIES ELECTRIC STRIKE MAYBE USED ON 4'0" X 8'0" AND SMALLER SINGLE OR 8'0" X 8'0" AND SMALLER PAIRS OUT SWINGING DOORS OF 70 PSF OR LESS.

THE 9600 SERIES ELECTRIC STRIKE MAY BE USED WITH THE SARGENT HC8800 SERIES RIM EXIT AT DESIGN PRESSURES OF 70 PSF OR LESS.

THE 9700 SERIES ELECTRIC STRIKE MAY BE USED WITH THE CORBIN RUSSWIN ED5200(S)A AND THE YALE 7150(F)WS / 7250M(F)WS RIM EXITS AT DESIGN PRESSURES OF 70 PSF OR LESS.

SECURITRON 1500 / 1500E STRIKE MAY BE USED ON 3'0" X 7'0" AND SMALLER SINGLE OUT SWINGING ASSEMBLIES WITH MORTISE LOCKS AND LATCH BOLT ONLY AT DESIGN PRESSURES OF 60 PSF OR LESS.

SECURITRON 1600 / 1600E STRIKE MAY BE USED ON 4'0" X 8'0" AND SMALLER SINGLE OUT SWINGING ASSEMBLIES WITH MORTISE LOCKS WITH LATCH BOLT AND DEAD BOLT OF 70 PSF AND LESS.

SARGENT

THE HC8800 SERIES RIM EXIT, WS 8800 SERIES RIM EXIT, AND WS-8900 SERIES MORTISE EXIT MAYBE PREFIXED 53, 55, 55-56, 56, 57, 58, AWE, B, BT, ET, KP, LK, LU, M1, N1, N2, PA, PK, P1, P2, IPSKM, CPKM, IPSM, CPM, IM, IKM, PRX, S1, S2, S3, IA, IK, IN, TK, TL, TP AND TU.

USE HC980, 12-HC980, HCL980, 12-HCL980 HARDWARE MULLION WITH THE HC8800 SERIES RIM EXIT.

SERIES HT-56- CAN BE USED SAME AS THE 53-56- ON THE 80 SERIES DEVICES. EXCEPTIONS INCLUDE THE FOLLOWING PREFIXES EITHER USED ALONE OR IN COMBINATION: 53-, 55-, 57-, 58-, 59- AND AL. ALL 80 SERIES EMPLOYING HIO TECHNOLOGY AND THE 55 OPTION ARE DESIGNATED HT-55-.

THE MD8600 SERIES CONCEALED VERTICAL ROD EXIT AND 7000 SERIES CONCEALED MULTI-POINT LOCK MAY BE PREFIXED 53, 55, 56, 58, 59, BT & ET.

ON PAIRS OF DOORS, ONE LEAF OF THE PAIR UTILIZING WITH THE MD8600 SERIES CONCEALED VERTICAL ROD EXIT, 7000 CONCEALED MULTI-POINT LOCK OR HC4-8700 / HC-8700 SURFACE VERTICAL ROD MAY BE REPLACED WITH TWO 988CR SURFACE BOLTS. THE LOCAL BUILDING OFFICIAL MUST APPROVE THIS CONFIGURATION OF HARDWARE FOR USE IN A MEANS OF EGRESS.

THE IN 10 ACCESS CONTROL MAY BE USED WITH THE 10X CYLINDRICAL LOCK AND THE 8200 AND THE R8200 MORTISE LOCKS.

BUTT HINGES

- 2 HINGES ARE REQUIRED FOR DOORS UP TO AND INCLUDING 60 INCHES IN HEIGHT
- 3 HINGES ARE REQUIRED FOR DOORS OVER 60 INCHES IN HEIGHT AND UP TO AND INCLUDING 90" IN HEIGHT
- 4 HINGES ARE REQUIRED FOR DOORS OVER 90 INCHES IN HEIGHT AND UP TO AND INCLUDING 96" IN HEIGHT

ADDITIONAL HINGES BEYOND THOSE REQUIRED MAY BE REQUIRED.

ASSA ABLOY ACCENTRA

7150(F)WS / 7250M(F)WS RIM EXIT AND 7170(F)WS SURFACE VERTICAL ROD MAY BE SUFFIXED WITH ANY COMBINATION OF A, B, O, OR S. THESE DEVICES MAY BE PREFIXED BY SYM AND CAN INCLUDE 500F OR 600F SERIES TRIMS.

USE M200FWS OR KRM200FWS MULLION WITH THE 7150(F)WS / 7250M(F)WS RIM EXIT.

ON PAIRS OF DOORS, ONE LEAF OF THE PAIR UTILIZING WITH THE 7170(F)WS SURFACE VERTICAL ROD MAY BE REPLACED WITH TWO 988CR SURFACE BOLTS. THE LOCAL BUILDING OFFICIAL MUST APPROVE THIS CONFIGURATION OF HARDWARE FOR USE IN A MEANS OF EGRESS

NEXTOUCH ACCESS CONTROL MAY BE USED ON SINGLE 3'0" X 7'0" ASSEMBLIES WITH 4700LN CYLINDRICAL LOCK AT DESIGN PRESSURES OF 60 PSF OR LESS .

SECURITRON

THE MUNL MAY BE USED ON 60 PSF RATED SINGLE 3'0" X 7'0" ASSEMBLIES WITH A MORTISE CORBIN RUSSWIN ML2000, SARGENT 7800/8200/R8200, OR ASSA ABLOY ACCENTRA 8800 MORTISE LOCK. THE UNL MAY BE USED ON 60 PSF RATED SINGLE 3'0" X 7'0" ASSEMBLIES WITH A CORBIN RUSSWIN CL3100 / CLX3300 / CL3500 / CL3800, SARGENT 6500 / 7 / 10X, OR ASSA ABLOY ACENTRA / 5300LN / 5400CK / 5400LN CYLINDRICAL LOCKS.

THE HARDWARE MODELS BELOW MAY BE USED FOR THE SIZES AND DESIGN PRESSURES INDICATED. CONCEALED VERTICAL RODS AND SURFACE VERTICAL RODS MAY BE USED IN A PAIRED CONFIGURATION. RIM EXITS MAY BE USED IN PAIRED CONFIGURATION WITH A HURRICANE RATED MULLION						
DESIGN PRESSURE	SIZE	HARDWARE TYPE	MIN, GAUGE	CORBIN RUSSWIN	SARGENT	
60	3'-0" x 7'-0"	MORTISE EXIT	18	PED5600 M107 PED5600 A M107*	WS-PE8900 WS-12-PE8900*	
60	3'-0" x 7'-0"	RIM EXIT	18	PED5200 HC PED5200 A M107* PED5200 M107 PED5200 A M107*	HC-PE8800 12-HC-PE8800* WS-PE8800 WS-12-PE8800*	
60	3'-0" x 8'-0" SINGLE 6'-0" x 8'-0" PAIR	CONCEALED VERTICAL ROD	16	PED5800 MD 107 PED5800 MD HC	HC-MD-PE8600 WS-MD-PE8600	
60	3'-0" x 8'-0" SINGLE 6'-0" x 8'-0" PAIR	RIM EXIT	16	PED5200 HC PED5200 A HC*	HC-PE8800 12-HC-PE8800*	
60	3'-0" x 8'-0" SINGLE 6'-0" x 8'-0" PAIR	SURFACE VERTICAL ROD	16	PED5400 HC	HC-PE8700	
70	4'-0" x 8'-0" SINGLE 8'-0" x 8'-0" PAIR	CONCEALED VERTICAL ROD	16	PED5800 MD 107 PED5800 MD HC	HC-MD-PE8600 WS-ME-PE8600	
70	4'-0" x 8'-0" SINGLE 8'-0" x 8'-0" PAIR	RIM EXIT	16	PED5200 HC PED5200A HC*	HC-PE8800	
70	4'-0" x 8'-0" SINGLE 8'-0" x 8'-0" PAIR	SURFACE VERTICAL ROD	16	PED5400 HC	HC-PE8700	
150	4'-0" x 8'-0" SINGLE 8'-0" x 8'-0" PAIR	SURFACE VERTICAL ROD	14	PED5400 HC4 PED5400 A HC4*	HC4-8700 12-HC4-PE8700*	

*INDICATED A FIRE RATED EXIT HARDWARE MAY BE USED ON A SINGLE DOOR

FRANK BENNARDO, PE
PE# 0046549 CA# 9885



MAY 8, 2024

FL# 16355.2

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ASSA ABLOY

REMARKS	DATE	DRWN	CHKD
INIT ISSUE (2-21-23)	06/28/23	FLB	
REV (2-21-23)	06/28/23	CSL	
2017 FBC UPDATE	10/03/17	FLB	
2020 FBC UPDATE	12/17/20	FLB	
2023 FBC (PREV 20-24R70)	10/18/23	ANZ	RS

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SCALE: NTS UNLESS NOTED

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