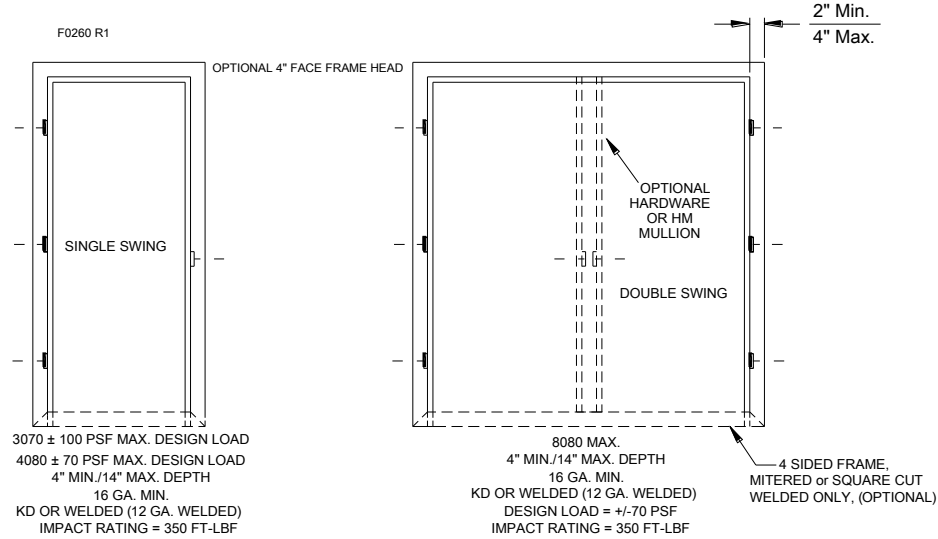


Windstorm Frame Installation Instructions For Use With FL 4553



ANCHORS & METHOD OF ATTACHMENT		Trio & Trio-E Opening **Sizes Over 6070 Pairs	
ANCHOR TYPE	*LOCATION	LOCATION	
EO - PIPE & SLEEVE OR EWA (BUTTERFLY UP TO 3070 MAX.) WOOD BUCK 3/8" X 6" LAG SCREW	12" MAX. FROM EACH END & 19" O.C.	@ Jamb: 12" Max. From Each End & 19" O.C. @ Head / Sill: (4) Total Req'd, 9" Max. From Centerline of Head / Sill, 9" Max. from Each Hinge Jamb	
EO - PIPE & SLEEVE OR EWA (BUTTERFLY UP TO 3070 MAX.) MASONRY OR STEEL BUCK 3/8" X 6" EXPANSION SHELL - MASONRY 3/8" GRADE 2 MIN. TAP-IN BOLT-STEEL	12" MAX. FROM EACH END & 19" O.C.	@ Jamb: 12" Max. From Each End & 19" O.C. @ Head / Sill: (4) Total Req'd, 9" Max. From Centerline of Head / Sill, 9" Max. from Each Hinge Jamb	
MASONRY "T" - GROUTED (Head: 3/8" x 6" Expansion Shell)	16" - 24" O.C. @ GROUT JOINTS	@ Jamb: 16"-24" O.C. @ Grout Joints @ Head / Sill: (4) Total Req'd., 9" Max. from Centerline of Head / Sill, 9" Max. From Each Hinge Jamb.	
WIRE MASONRY - GROUTED (Head: 3/8" x 6" Expansion Shell)	16" - 24" O.C. @ GROUT JOINTS	@ Jamb: 16"-24" O.C. @ Grout Joints @ Head / Sill: (4) Total Req'd., 9" Max. from Centerline of Head / Sill, 9" Max. From Each Hinge Jamb.	
WOOD STUD METAL STUD (NO FLOOR ANCHORS)	6", 6" & EQUAL - 21" MAX. FOR INTERMEDIATE SPACES	@ Jamb: 6", 6" & Equal-21" Max for Intermediate Spaces. @ Head: (4) Total Req'd. 6" Max. From Centerline of Head, 6" Max from Each Hinge Jamb	
POURED IN PLACE WALL	NA	NA	
***WELDED TO STEEL BUCK, JAMBS	4 ANCHORS @ 24" MAX. SPACING	4 ANCHORS @ 24" MAX. SPACING	
***WELDED TO STEEL BUCK, HEAD & SILL	2 ANCHORS, 1 @ 9" EACH SIDE OF C OF HEAD & OPTIONAL SILL	2 ANCHORS, 1 @ 9" EACH SIDE OF C OF HEAD & OPTIONAL SILL	

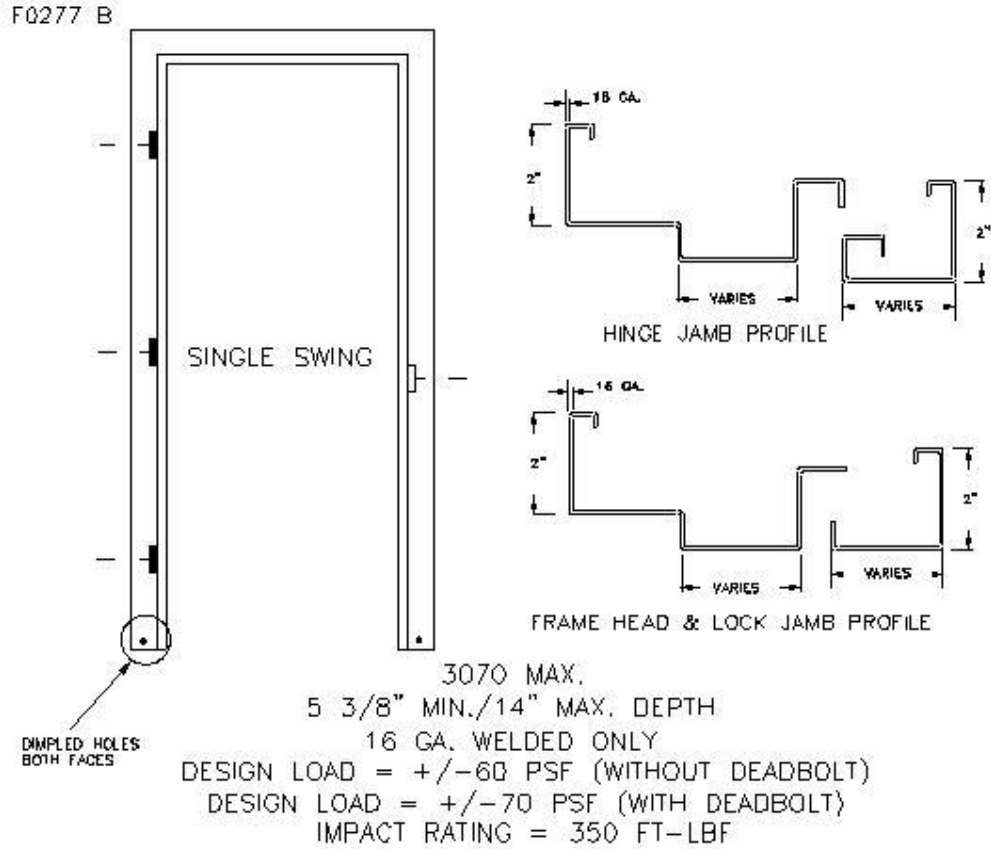
*FOR DOUBLE SWING FRAMES WITH 4" FACE FRAME HEADS, (2) EO ANCHORS REQUIRED WHEN INSTALLED IN MASONRY WALL OR (2) STUD ANCHORS REQUIRED WHEN INSTALLED IN STUD WALL. LOCATION OF ANCHORS TO BE 16" FROM CENTERLINE OF FRAME HEAD, OR CAN BE GROUTED FULL WITH 2000 PSI MIN. CONCRETE.

**FOR SIZES 6070 OR LESS REFER TO TABLE ABOVE.

Three-Sided Frames

Windstorm Frame Installation Instructions

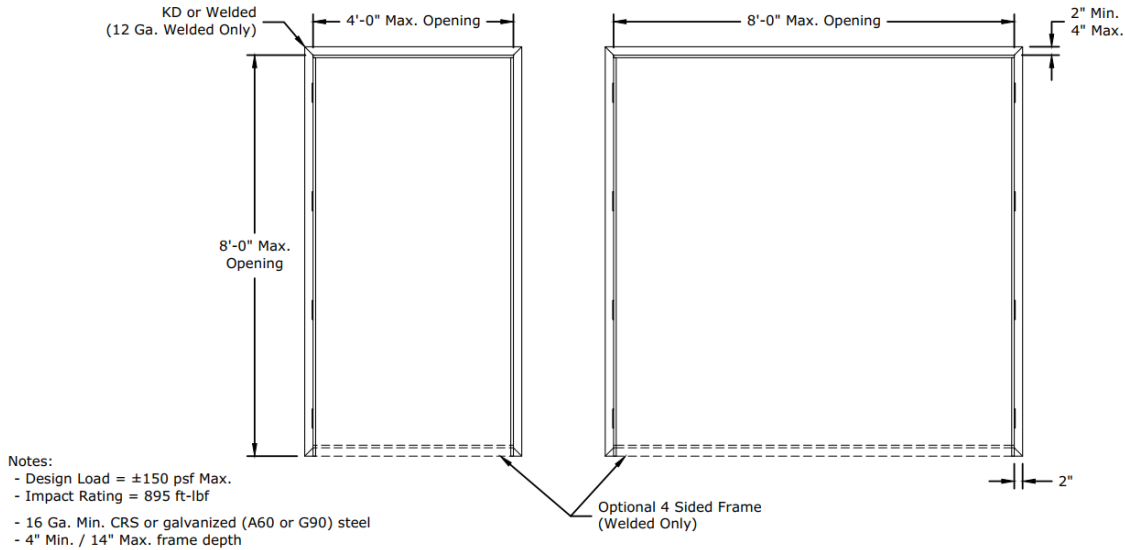
For Use With FL 4553



ANCHORS & METHOD OF ATTACHMENT	
ANCHOR TYPE	LOCATION
PLUMB ANCHOR & WOOD STUD SCREW OR METAL STUD SCREW	TOP PLUMB ANCHOR @ STD LOCATION & BTM PLUMB ANCHOR @ 18" MAX. FROM BTM OF FRAME

Two-Piece Three-Sided Frames

Windstorm Frame Installation Instructions For Use With FL 4553

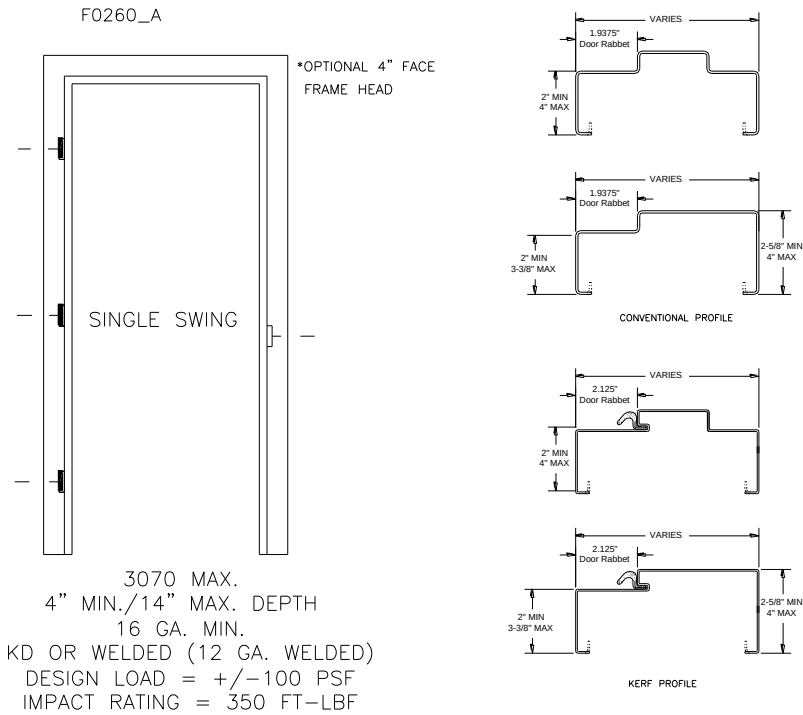


Head and/or Sill Anchor Locations			
Opening Size		Anchor Type	Anchor Spacing
Pairs	Up to and including 8'0" x 8'0"	Wood or Metal Stud Anchors	Minimum 8 anchors. Centered on door meeting edge centerline. 3" Max. O.C.
	Up to and including 8'0" x 8'0"	Existing Wall Anchors: Powers $\frac{3}{8}$ " Lok-Bolt AS Sleeve Anchor or $\frac{3}{8}$ " SMS/Self Drilling Screw/UNC Bolt/Lag Bolt	Minimum 4 anchors. Centered on door meeting edge centerline. 6" Min. 18" Max. O.C.
	Up to and including 8'0" x 8'0"	Welded to Building Structure	Must weld on both faces of the frame at each location. Minimum 2 anchors. Centered on door meeting edge centerline. 6" Min. 18" Max. O.C.
Singles	Up to and including 4'0" x 8'0"	N/A	None required.

Jamb Anchor Locations			
Opening Size		Anchor Type	Anchor Spacing
Pairs	Up to and including 8'0" x 8'0"	Wood or Metal Stud Anchors	12" max. from sill, 10" max. from head rabbet, and 12" max. on center.
	Up to and including 6'0" x 7'0"	Existing Wall Anchors: Powers $\frac{3}{8}$ " Lok-Bolt AS Sleeve Anchor or $\frac{3}{8}$ " SMS/Self Drilling Screw/UNC Bolt/Lag Bolt	8" max. from sill, 4" max. from head rabbet, and 24" max. on center.
	Greater than 6'0" x 7'0" and up to and including 7'0" x 7'0"	Existing Wall Anchors: Powers $\frac{3}{8}$ " Lok-Bolt AS Sleeve Anchor or $\frac{3}{8}$ " SMS/Self Drilling Screw/UNC Bolt/Lag Bolt	8" max. from sill, 4" max. from head rabbet, and 21" max. on center.
	Greater than 7'0" x 7'0" and up to and including 8'0" x 8'0"	Existing Wall Anchors: Powers $\frac{3}{8}$ " Lok-Bolt AS Sleeve Anchor or $\frac{3}{8}$ " SMS/Self Drilling Screw/UNC Bolt/Lag Bolt	8" max. from sill, 4" max. from head rabbet, and 18" max. on center.
	Up to and including 8'0" x 8'0"	Welded to Building Structure	Must weld on both faces of the frame at each location. 12" max. from sill, 10" max. from head rabbet, and 24" max. on center.
	Up to and including 8'0" x 8'0"	Welded 12 Ga. Masonry "T" Anchor	12" max. from sill, 10" max. from head rabbet, and 24" max. on center.
	Up to and including 8'0" x 8'0"	Wire Masonry Anchor	12" max. from sill, 10" max. from head rabbet, and 24" max. on center.
Singles	Up to and including 4'0" x 8'0"	Wood or Metal Stud Anchors	6" max. from sill, 4" max. from head rabbet, and 19" max. on center.
	Up to and including 3'0" x 7'0"	Existing Wall Anchors: Powers $\frac{3}{8}$ " Lok-Bolt AS Sleeve Anchor or $\frac{3}{8}$ " SMS/Self Drilling Screw/UNC Bolt/Lag Bolt	8" max. from sill, 4" max. from head rabbet, and 21" max. on center.
	Greater than 3'0" x 7'0" and up to and including 4'0" x 8'0"	Existing Wall Anchors: Powers $\frac{3}{8}$ " Lok-Bolt AS Sleeve Anchor or $\frac{3}{8}$ " SMS/Self Drilling Screw/UNC Bolt/Lag Bolt	8" max. from sill, 4" max. from head rabbet, and 18" max. on center.
	Up to and including 4'0" x 8'0"	Welded to Building Structure	Must weld on both faces of the frame at each location. 12" max. from sill, 10" max. from head rabbet, and 24" max. on center.
	Up to and including 4'0" x 8'0"	Welded 12 Ga. Masonry "T" Anchor	12" max. from sill, 10" max. from head rabbet, and 24" max. on center.
	Up to and including 4'0" x 8'0"	Wire Masonry Anchor	12" max. from sill, 10" max. from head rabbet, and 24" max. on center.

Three-Sided Frame (150 PSF Max, Missile Level E)

Windstorm Frame Installation Instructions For Use With FL 4553

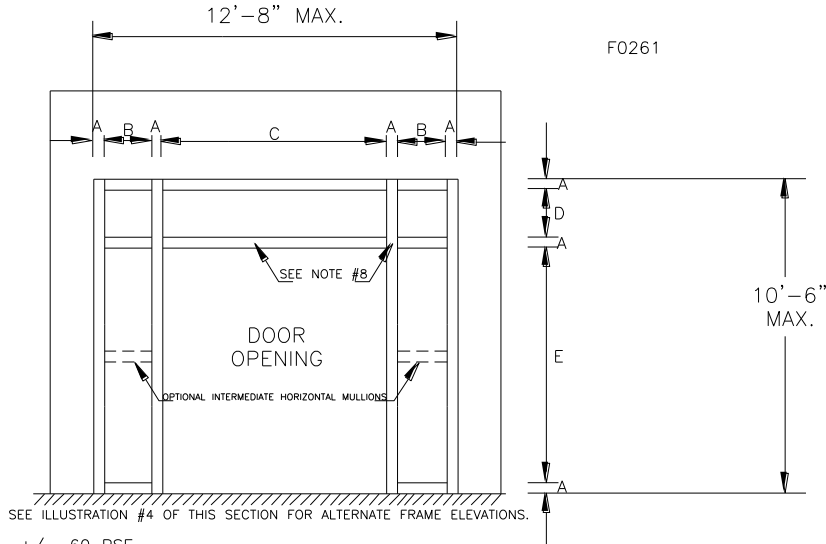


*ANCHORS & METHOD OF ATTACHMENT	
ANCHOR TYPE	*LOCATION
EO - PIPE & SLEEVE (BUTTERFLY UP TO 3070 MAX.) WOOD BUCK 3/8" X 6" LAG SCREW	12" MAX. FROM EACH END & 19" O.C.
EO - PIPE & SLEEVE (BUTTERFLY UP TO 3070 MAX.) MASONRY BUCK 3/8" X 6" EXPANSION SHELL	12" MAX. FROM EACH END & 19" O.C.
MASONRY "T" - GROUTED	16" - 24" O.C. @ GROUT JOINTS
WIRE MASONRY - GROUTED	16" - 24" O.C. @ GROUT JOINTS
WOOD STUD METAL STUD (NO FLOOR ANCHORS)	6", 6" & EQUAL - 21" MAX. FOR INTERMEDIATE SPACES
Poured In Place Wall	NA

Three-Sided Frames

Windstorm Frame Installation Instructions

For Use With FL 4553



- DESIGN PRESSURE = +/- 60 PSF
IMPACT RATING = 350 FT-LBF
- ALL FRAME PERIMETERS & HEADS OF FASTENERS SEALED WITH SILICONE.
- CORNER CONSTRUCTION = WELDED ONLY
- ANCHORS = SEE CHART BELOW
- FRAME DEPTH = 4" MIN. / 14" MAX.
16 GA. MIN.
- DOOR OPENING = 3'-0" X 8'-0" SINGLE MAX.
6'-0" X 8'-0" PAIRS MAX.
- STOP HEIGHT = 5/8" MIN.
- FULL HEIGHT VERTICAL & 6' HORIZONTAL MULLIONS MUST BE REINFORCED WITH (2) 10-GAUGE X 3/4" X FRAME DEPTH "C" CHANNELS INSTALLED BACK TO BACK TO FORM SIMULATED "I" BEAM.
SEE DETAIL "A-A".

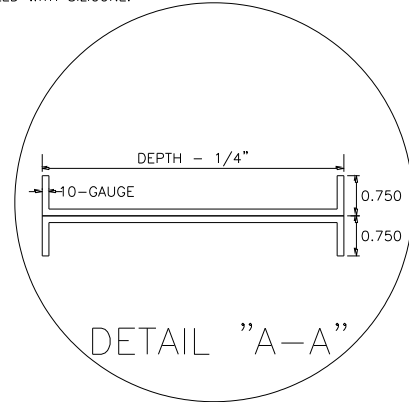
GLAZING MATERIAL	DIM. "B" MAX.	DIM. "C" MAX.	DIM. "D" MAX.	DIM. "E" MAX.	FRAME FACES	
					DIM. "A" MIN.	DIM. "A" MAX.
*GLASSLAM SAFETY PLUS 2 LAMINATED GLASS	36"	72"	36"	94"	2"	4"

*BEDDING IS CLOSED CELL FOAM TAPE 1/8" X 1/2" AND DOW CORNING 995 STRUCTURAL SILICONE. 1 3/4" STEEL STIFFENED, HONEYCOMB, POLYURETHANE, MINERAL CORE OR POLYSTYRENE CORE PANELS (18 Ga Min - 14 Ga Max) MAY BE USED IN LIEU OF GLASSLAM. PANELS ARE WELDED TO FRAME WITH WELDS LOCATED ON THE SIDES 3" MAX. FROM EACH END & 3" MAX. O.C. & ON THE TOP & BOTTOM 3" MAX. FROM EACH END & AT 12" MAX. O.C. THE WELDS ARE MIN. 1/4" WELDS X 1/2" LONG. PANELS TO BE INSTALLED IN EXTERIOR (OUTSIDE) RABBIT. WELDS ARE LOCATED WHERE PANEL ABUTS FRAME SOFFIT. PANELS ARE SEALED WITH SILICONE.

ANCHORS & METHOD OF ATTACHMENT			
ANCHOR TYPE		LOCATION	
EO - PIPE & SLEEVE OR BUTTERFLY WOOD BUCK 3/8" X 6" LAG SCREW	@ JAMB	12" MAX. FROM SILL, 8" FROM HEAD & 20" O.C.	
	@ HEAD	**2" FROM EACH VERTICAL MEMBER & 14" O.C.	
	@ SILL	2" FROM EACH VERTICAL MEMBER & @ MIDSPAN	
EO - PIPE & SLEEVE OR BUTTERFLY MASONRY BUCK 3/8" X 6" EXPANSION SHELLS	@ JAMB	12" MAX. FROM SILL, 8" FROM HEAD & 20" O.C.	
	@ HEAD	**2" FROM EACH VERTICAL MEMBER & 14" O.C.	
	@ SILL	2" FROM EACH VERTICAL MEMBER & @ MIDSPAN	
WIRE MASONRY OR MASONRY "T" - GROUTED, WELDED TO STEEL HEADER, EO P&S OR BUTTERFLY - 3/8" X 6" BOLTS	@ JAMB	8" MAX. FROM EACH END & 16" O.C.	
	@ HEAD	***WELDED TO STEEL CHANNEL HEADER	
	@ SILL	2" FROM EACH VERTICAL MEMBER & @ MIDSPAN	
WELDED TO STEEL BUCK	@ JAMB	***5" MAX. FROM SILL & 27.5" MAX. O.C.	
	@ HEAD	***WELDED TO STEEL CHANNEL HEADER	
	@ SILL	2" FROM EACH VERTICAL MEMBER & @ MIDSPAN	
WOOD STUD METAL STUD (NO FLOOR ANCHORS)	@ JAMB	5" MAX. FROM SILL & 27.5" MAX. O.C.	
	@ HEAD	**2" MAX. FROM EACH VERTICAL MEMBER & 14" O.C.	
	@ SILL	2" FROM EACH VERTICAL MEMBER & @ MIDSPAN	

**FOR 6' & UP HEAD MEMBERS. FOR HEADS LESS THAN 6', LOCATE ANCHORS 2" MAX. FROM EACH VERTICAL MEMBER & @ MIDPOINT OF SPAN.

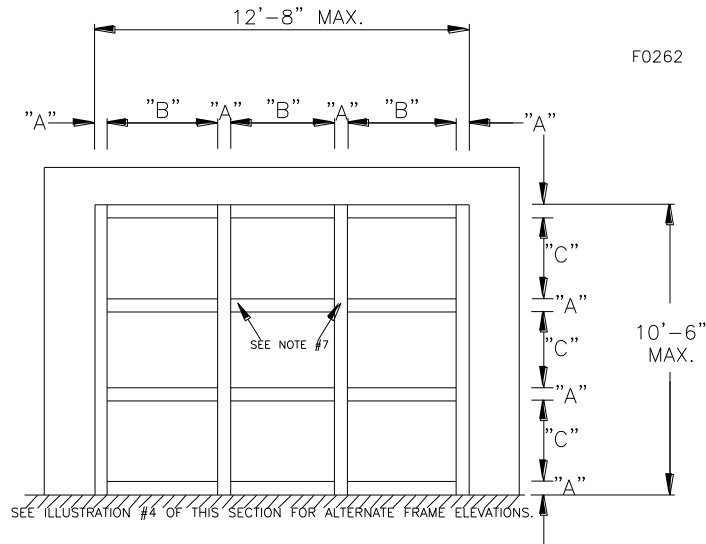
***1/4" THICK MAX. SHIM PLATES (2" WIDE X 7" LONG OR TO SUIT JAMB DEPTH) WELDED TO STEEL CHANNEL & FRAMES WELDED TO SHIM PLATES. SHIM PLATES TO BE 1-1/4" GREATER THAN JAMB DEPTH. HEADER WELDS LOCATED 3" FROM EACH JAMB & 3" FROM EACH SIDE OF VERTICAL MULLIONS & @ MIDPOINT OF SPAN OF HEAD ABOVE DOORS. WELDS ARE MIN. 3/16" X 1" LONG. SHIM PLATES ARE PROVIDED BY OTHERS. AFTER WELDING FRAME TO SHIMS, CAULK GAPS BETWEEN FRAME AND STRUCTURAL STEEL CHANNEL WHERE SHIM PLATES ARE VOID.



Side Lite and Transom Frames

Windstorm Frame Installation Instructions

For Use With FL 4553



- DESIGN PRESSURE = ± 60 PSF
IMPACT RATING = 350 FT-LBF
- ALL FRAME PERIMETERS & HEADS OF FASTENERS SEALED WITH SILICONE.
- CORNER CONSTRUCTION = WELDED ONLY
- ANCHORS = SEE CHART BELOW
- FRAME DEPTH = 4" MIN. / 14" MAX.
16 GA. MIN.
- STOP HEIGHT = 5/8" MIN.
- FULL HEIGHT VERTICAL & 6' HORIZONTAL MULLIONS MUST BE REINFORCED WITH (2) 10-GAUGE X 3/4" X FRAME DEPTH "C" CHANNELS INSTALLED BACK TO BACK TO FORM SIMULATED "I" BEAM. SEE DETAIL "A-A".

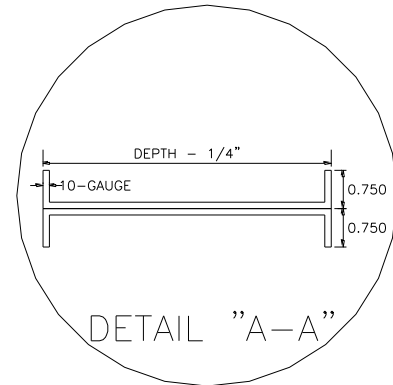
GLAZING MATERIAL	FRAME FACES		DIM. "B" MAX.	DIM. "C" MAX.	MAX. EXPOSED GLAZED AREA (in. ²)
	DIM. "A" MIN.	DIM. "A" MAX.			
*GLASSLAM SAFETY PLUS 2 LAMINATED GLASS	2"	4"	72"	94"	3384

*BEDDING IS CLOSED CELL FOAM TAPE 1/8" X 1/2" AND DOW CORNING 995 STRUCTURAL SILICONE. 1 3/4" STEEL STIFFENED, HONEYCOMB, POLYURETHANE, MINERAL CORE OR POLYSTYRENE CORE PANELS (18 Ga Min - 14 Ga Max) MAY BE USED IN LIEU OF GLASSLAM. PANELS ARE WELDED TO FRAME WITH WELDS LOCATED ON THE SIDES 3" MAX. FROM EACH END & 3" MAX. O.C. & ON THE TOP & BOTTOM 3" MAX. FROM EACH END & AT 12" MAX. O.C. THE WELDS ARE MIN. 1/4" WELDS X 1/2" LONG. PANELS ARE SEALED WITH SILICONE.

ANCHORS & METHOD OF ATTACHMENT		
ANCHOR TYPE		LOCATION
EO - PIPE & SLEEVE OR BUTTERFLY WOOD BUCK 3/8" X 6" LAG SCREW	⊗ JAMB	12" MAX. FROM SILL, 8" FROM HEAD & 20" O.C.
	⊗ HEAD	**2" FROM EACH VERTICAL MEMBER & 14" O.C.
	⊗ SILL	2" FROM EACH VERTICAL MEMBER & ⊗ MIDSPAN
EO - PIPE & SLEEVE OR BUTTERFLY MASONRY BUCK 3/8" X 6" EXPANSION SHELLS	⊗ JAMB	12" MAX. FROM SILL, 8" FROM HEAD & 20" O.C.
	⊗ HEAD	**2" FROM EACH VERTICAL MEMBER & 14" O.C.
	⊗ SILL	2" FROM EACH VERTICAL MEMBER & ⊗ MIDSPAN
WIRE MASONRY OR MASONRY "T" - GROUTED, WELDED TO STEEL HEADER, EO P&S OR BUTTERFLY - 3/8" X 6" BOLTS	⊗ JAMB	8" MAX. FROM EACH END & 16" O.C.
	⊗ HEAD	***WELDED TO STEEL CHANNEL HEADER
	⊗ SILL	2" FROM EACH VERTICAL MEMBER & ⊗ MIDSPAN
WELDED TO STEEL BUCK	⊗ JAMB	***5" MAX. FROM SILL & 27.5" MAX. O.C.
	⊗ HEAD	***WELDED TO STEEL CHANNEL HEADER
	⊗ SILL	2" FROM EACH VERTICAL MEMBER & ⊗ MIDSPAN
WOOD STUD METAL STUD (NO FLOOR ANCHORS)	⊗ JAMB	5" MAX. FROM SILL & 27.5" MAX. O.C.
	⊗ HEAD	**2" MAX. FROM EACH VERTICAL MEMBER & 14" O.C.
	⊗ SILL	2" FROM EACH VERTICAL MEMBER & ⊗ MIDSPAN

**FOR 6' & UP HEAD MEMBERS. FOR HEADS LESS THAN 6', LOCATE ANCHORS 2" MAX. FROM EACH VERTICAL MEMBER & ⊗ MIDPOINT OF SPAN.

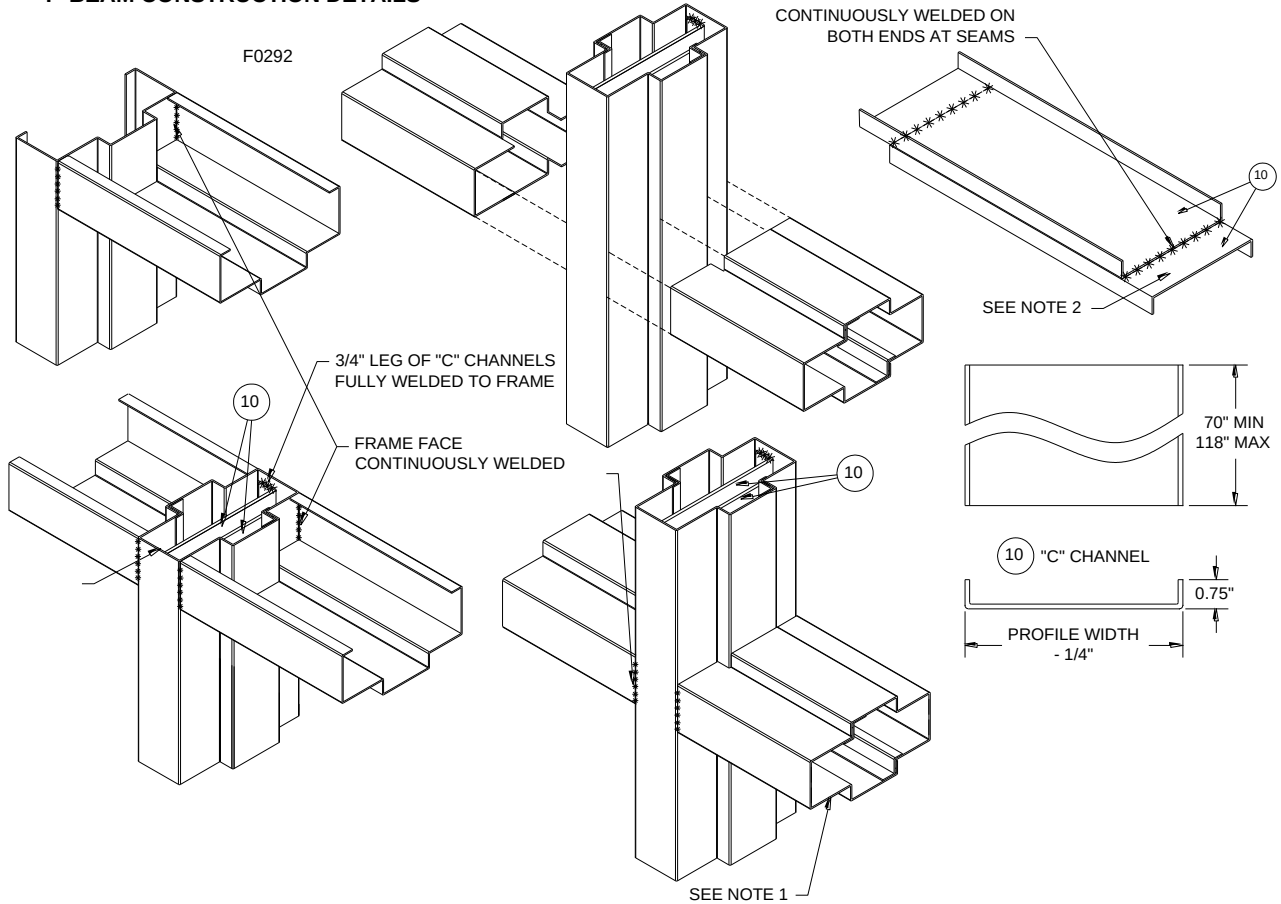
***1/4" THICK MAX. SHIM PLATES (2" WIDE X 7" LONG OR TO SUIT JAMB DEPTH) WELDED TO STEEL CHANNEL & FRAMES WELDED TO SHIM PLATES. SHIM PLATES TO BE 1-1/4" GREATER THAN JAMB DEPTH. HEADER WELDS LOCATED 3" FROM EACH JAMB & 3" FROM EACH SIDE OF VERTICAL MULLIONS & ⊗ MIDPOINT OF SPAN OF HEAD ABOVE DOORS. WELDS ARE MIN. 3/16" X 1" LONG. SHIM PLATES ARE PROVIDED BY OTHERS. AFTER WELDING FRAME TO SHIMS, CAULK GAPS BETWEEN FRAME AND STRUCTURAL STEEL CHANNEL WHERE SHIM PLATES ARE VOID.



Borrowed Lite Frames

Windstorm Frame Installation Instructions For Use With FL 4553

"I" BEAM CONSTRUCTION DETAILS



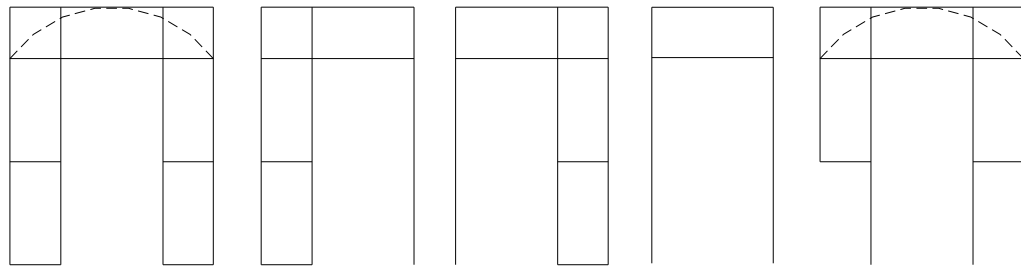
NOTE:

1. MULLIONS MUST RUN THROUGH HEADS, SILLS, OR JAMBS AND BE REINFORCED WITH 10 GAUGE "C" CHANNELS (ITEM 10) IF EQUAL TO OR GREATER THAN 6' IN LENGTH.
2. 10 GA. "C" CHANNELS MUST BE INSTALLED BEFORE WELDING TOGETHER. OFFSET 3/4" ON EACH END.
3. EQUALLY SPACED AT EACH END OF MULLION.

Frame Construction and Mullion Detail

Windstorm Frame Installation Instructions For Use With FL 4553

F0263



TF2SL

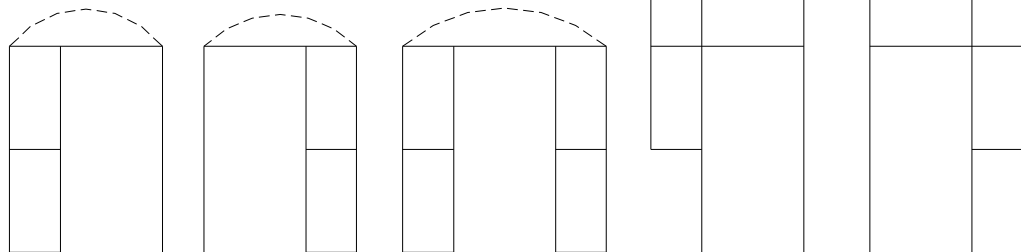
TFLSL

TFRSL

TF

TF2PSL

* OPTION: ARCHED UNITS



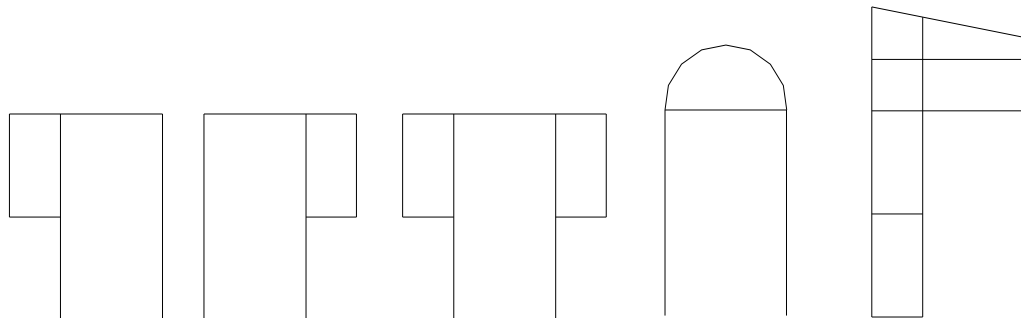
LSL

RSL

2SL

TFLPSL

TFRPSL



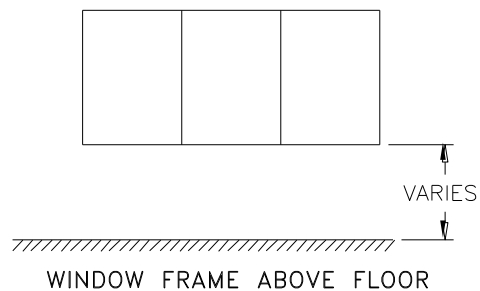
LPSL

RPSL

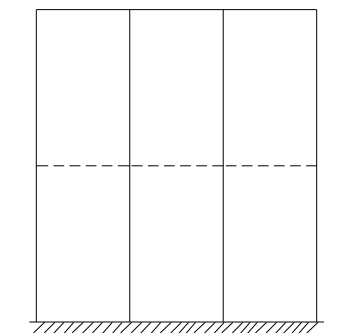
P2SL

ARCHED FRAMES

SLOPED FRAMES



WINDOW FRAME ABOVE FLOOR



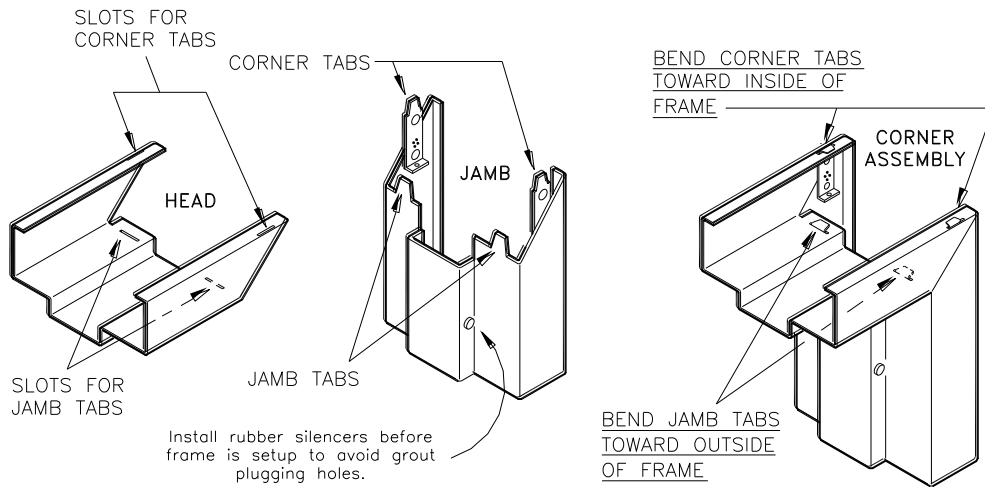
WINDOW FRAME ON FLOOR

Alternate Frame Design

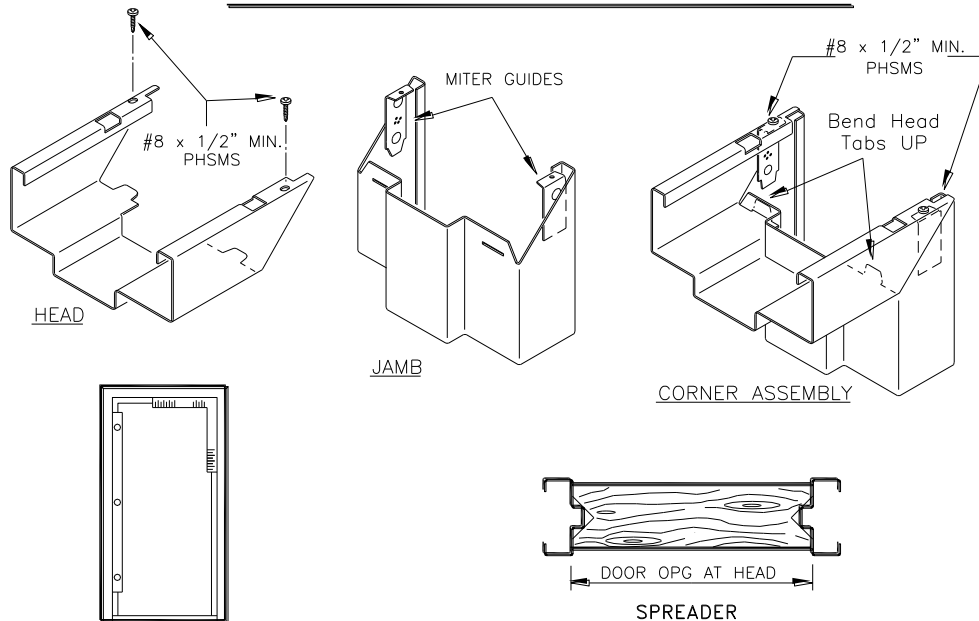
Windstorm Frame Installation Instructions For Use With FL 4553

F0282

CONVENTIONAL FRAME CORNER ASSEMBLY



DRYWALL FRAME CORNER ASSEMBLY



SQUARING THE FRAME

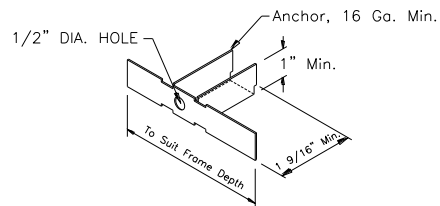
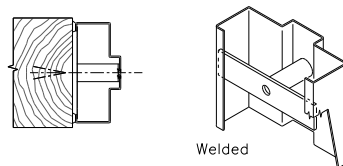
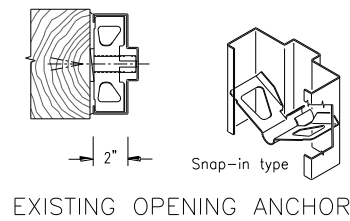
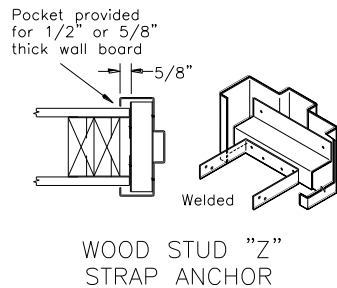
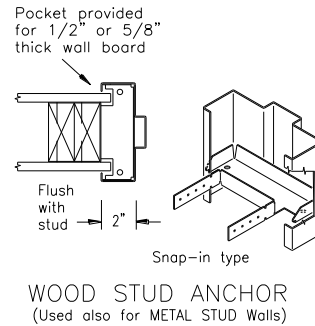
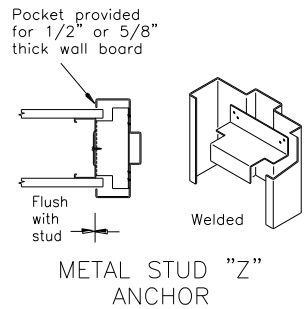
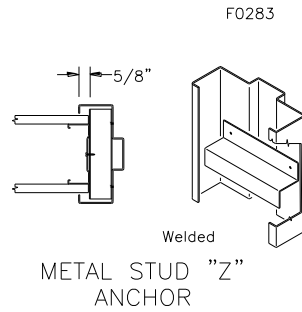
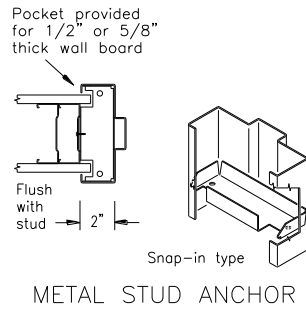
The installer should use wood spreaders, a carpenters level and a carpenters square. Set the frame in the desired location. Level head and plumb jambs. Shim under jambs if necessary.

Typical wood spreader must be square and made from lumber at least 1" thick. Length of spreader equals door opening width at the head. Cut clearance notches for frame stops as shown. Spreader must be nearly as wide as frame depth for proper installation.

KD Frame Corners

Windstorm Frame Installation Instructions

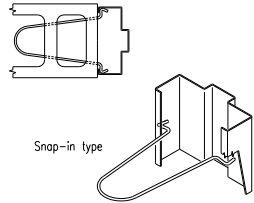
For Use With FL 4553



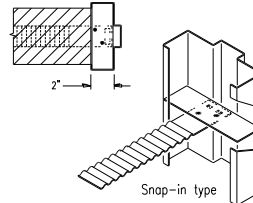
Stud Wall Frame Anchors

Windstorm Frame Installation Instructions

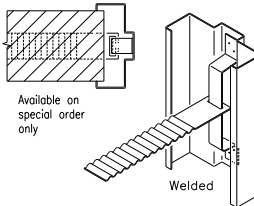
For Use With FL 4553



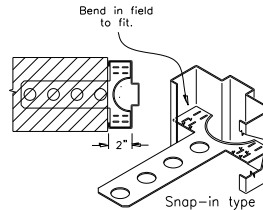
WIRE MASONRY ANCHOR



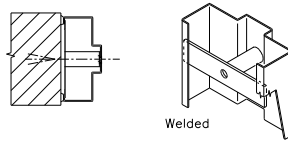
MASONRY "T" ANCHOR



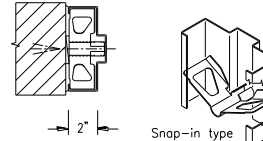
YOKE AND STRAP
MASONRY ANCHOR



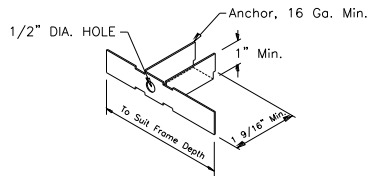
MASONRY "T" ANCHOR
(ADJUSTABLE)



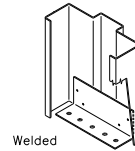
EXISTING OPENING ANCHOR



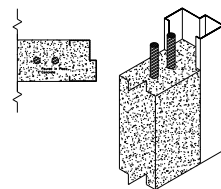
EXISTING OPENING ANCHOR



OPTIONAL EXISTING OPENING ANCHOR

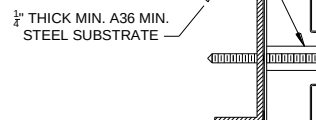


STANDARD
FLOOR ANCHOR



POURED IN PLACE WALL

WELDED PIPE SPACER OR EWA ANCHOR
WITH 3/8" (GRADE 2 MIN.) TAP-IN BOLT WITH
3 PINCHES PASSED THE THREAD PLANE
MAXIMUM SHIM THICKNESS = .025"

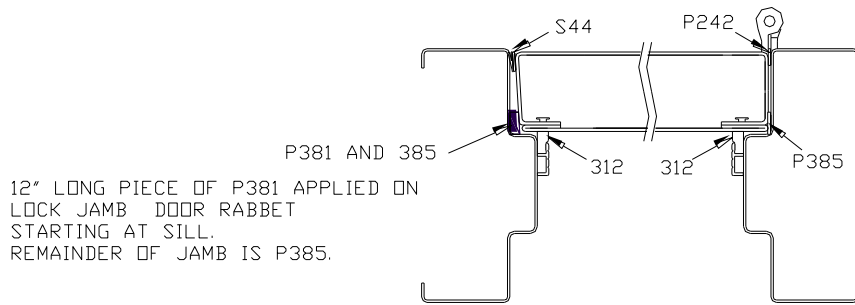


Steel Wall

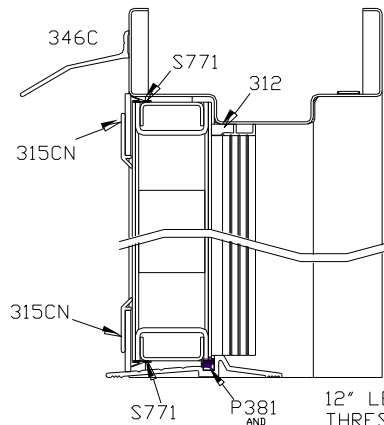
F0284 A

Masonry & Steel Wall Frame Anchors

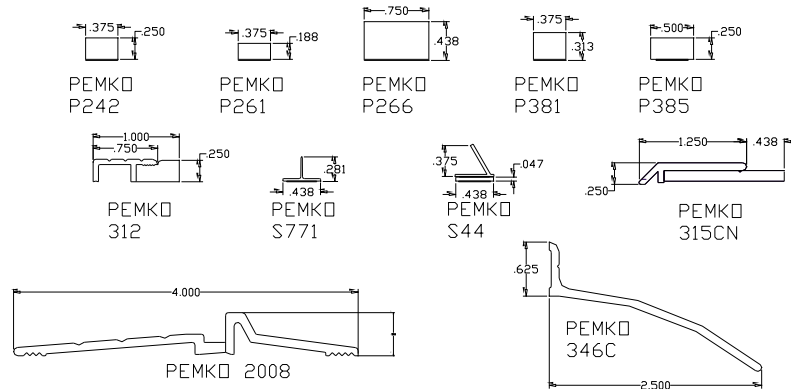
Windstorm Frame Installation Instructions For Use With FL 4553



12" LONG PIECE OF P381 APPLIED ON LOCK JAMB DOOR RABBET STARTING AT SILL. REMAINDER OF JAMB IS P385.



12" LENGTH OF P381 APPLIED ON THRESHOLD STARTING AT THE LOCK JAMB. REMAINDER OF THRESHOLD WEATHERSTRIP IS P385.

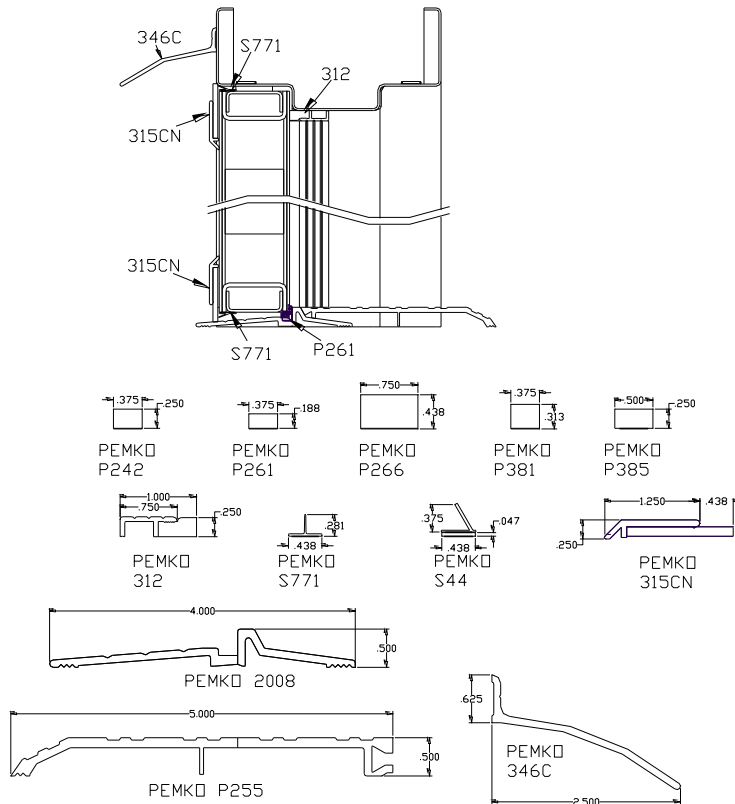
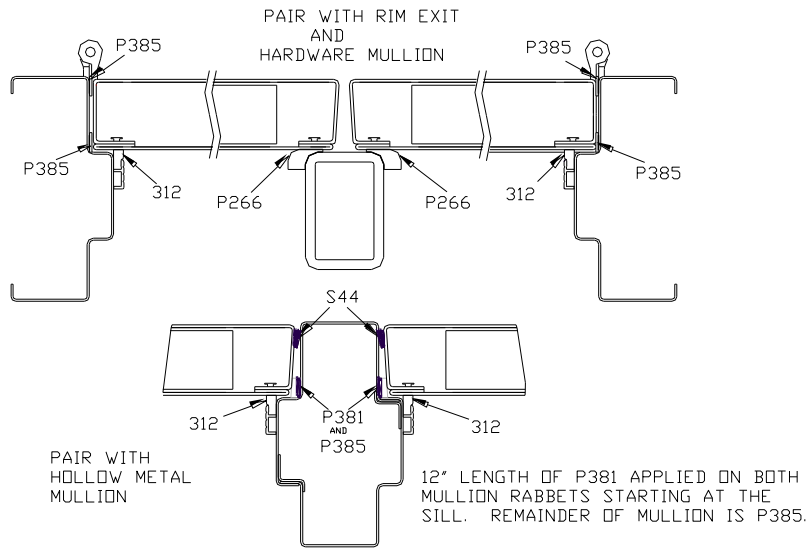


WEATHER STRIP FOR WATER INFILTRATION SINGLE DOORS PER
TAS DESIGN PRESSURE 50 PSF

F0305

Water Infiltration Preparations - Single Swing

Windstorm Frame Installation Instructions For Use With FL 4553



**WEATHER STRIP FOR WATER INFILTRATION
PAIRS OF DOORS PER TAS 202 DESIGN PRESSURE 60 PSF**

F0306

Water Infiltration Preparations - Standard Swing Pair