PORTAFAB

Modular Building Systems

OmniFlex 300 Plus

Installation Instructions

IMPORTANT

PortaFab advises a thorough reading of these instructions before beginning installation.

INTRODUCTION

Instructions should be read thoroughly and cross-referenced with your job drawings prior to commencing installation.

PortaFab In-Plant Systems are manufactured from high quality materials with care taken in handling and packing at the factory. **Please inspect your materials and count them to make sure that damage or loss has not occurred in transit. Please notify us promptly if you experience any problems.** Review the accompanying Bill of Materials and parts drawings to familiarize yourself with the components of the system. Care must be exercised in handling these materials. The framing parts are made from painted steel and anodized aluminum. The material, while strong and durable, will scratch, bend and/or mar. Normal care in erection will result in a finished product of which we both will be proud.

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Tool Suggestions:

- Hammer
- Rubber mallet and wood block
- Electric drill
- #30 drill bits (3 or 4)
- Phillips screwdriver
- 12 Ga. extension cord
- Putty knife or trowel (4" blade)
- Level (30" or longer)
- Plumb bob
- Chalk line & dry line
- Tape measure or rule
- Tin snips
- Pliers
- Hacksaw
- Pencil
- Ladder
- Carpenters square
- 9/16" Socket w/ratchet
- 9/16" Wrench
- 5/16" Drive socket
- 3/8" Drive socket
- Fiberboard knife
- Broom

UNPACKING, INSPECTION, & INVENTORY

The PortaFab wall system is packaged in the factory in a manner to protect each part during normal shipping and handling. It is recommended by PortaFab that the original packaging remain intact as much a s possible until the individual parts are needed. All extrusion components are typically packaged in boxes. Panels are shipped with a foam interleaf between panels.

As the skids are received at the job-site, they should be placed in a location near the installation area, where they will not become an obstacle, or require to be moved at a later time. The skids should then be opened, however leaving the internal packaging unchanged. Pieces can be removed on an as needed basis and the packaging discarded then. At this time the components should be visually inspected for obvious damage and an inventory taken to confirm that all parts are received as expected. Notify PortaFab immediately of any discrepancies.

Fasteners Not Provided By PortaFab

The attachment hardware for the floor track to the flooring and wall starters to existing structures are not included by PortaFab due to installer preferences, local codes, and varying flooring and ceiling systems.

The following are recommendations:

Concrete floor: powder actuated fasteners: heavy duty dome head nail – type DS 1 ¼" long
Wood floor: ¼" x 1" lag bolt
Steel floor: #14 x 1" sheet metal screws
Drywall: ¼" toggle bolts, drywall or wood screws

If you have any questions regarding the installation of this product, please call our customer service department toll free at (800) 325-3781.

Installer Tip

To save time, mark the centerlines of all the studs on the floor in front of the floor track. This will assist you in maintaining the centerlines shown on the drawings.

FLOOR TRACK INSTALLATION

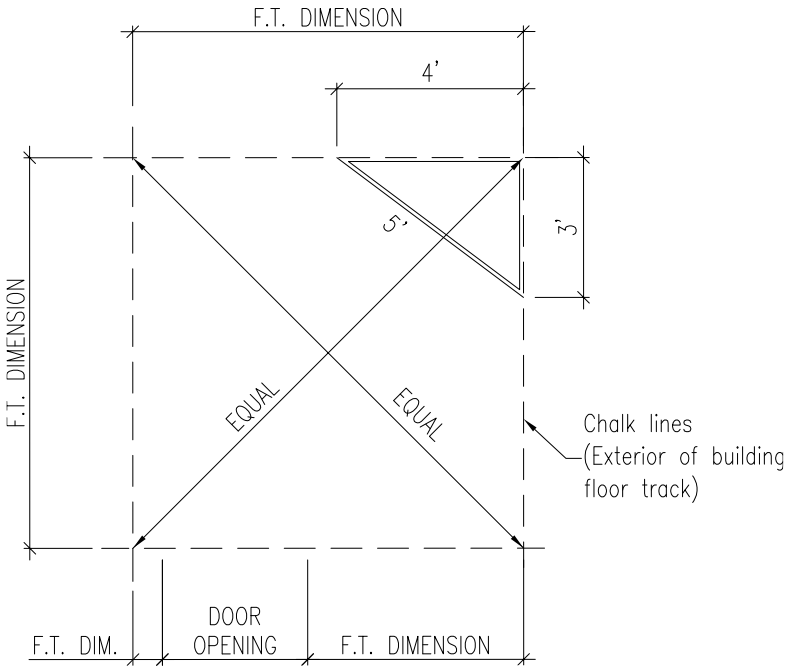
STEP 1
Locate the first wall and strike a chalk line on the floor. This line is the outside edge of your floor track.

STEP 2
Lay out the floor track per PortaFab floor plan drawings. Cut floor track length as noted by F.T. dimensions on the drawing. Use metal snips to cut the floor track lengths. Note: Use the 3 - 4 - 5 triangle method or a carpenter's square to confirm 90° corners.
(Detail A)

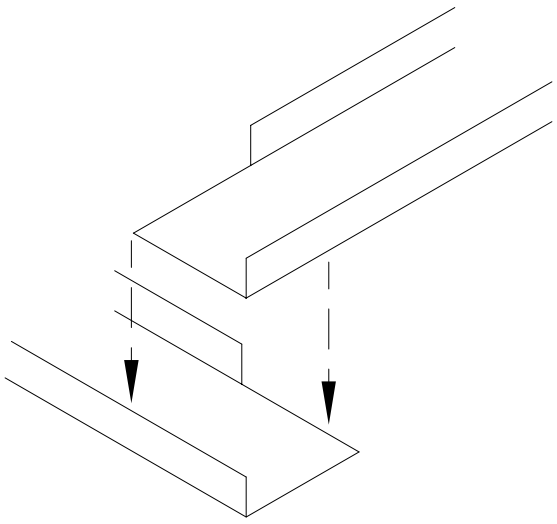
STEP 3
Mark wiring stud centerlines & door openings per plans. (Note: It is imperative that stud centerlines be maintained.)

STEP 4
Notch corner locations **(Detail B)** to allow ends to lap each other.

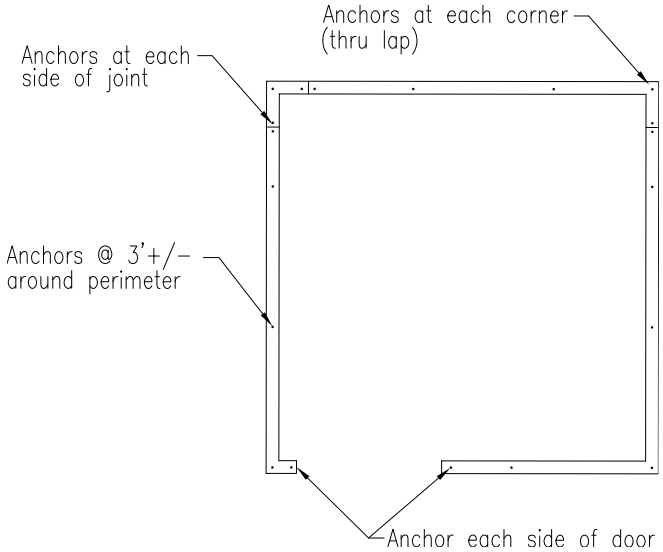
STEP 5
Refer to **Detail C** when securing floor track to surface with floor anchors.



Detail A - Floor Plan



Detail B - Corner Lap Detail



Detail C - Floor Track Layout

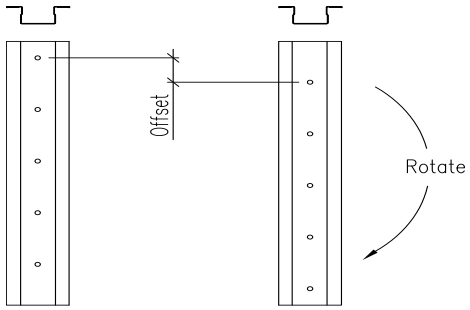
OmniFlex 300 Plus Installation Instructions

PRE-ASSEMBLE STUD POSTS

The holes of an OmniFlex stud hat have an offset pattern that allows two identical hats to be secured together by rotating one of the hat sections. This alignment will offset the holes, allowing the standard #10-16 x ¾" Tek 2 screw to use a pre-punched hole on one hat and to tap through the opposing hat. **(Detail D)**

Assemble stud posts. Leave out the cover strips until Step #8 of Electrical Section.

Screw the stud sections together leaving the sections loose enough to install the panel.



(Detail D)

WALL ERECTION

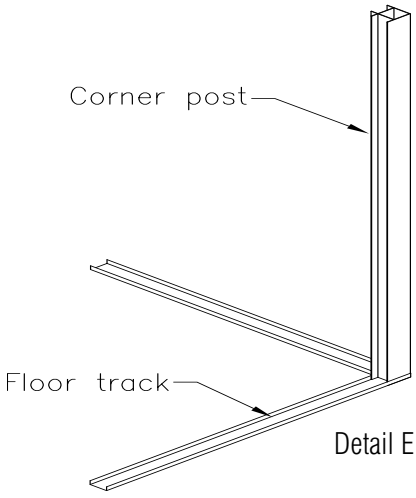
Wall panels are fabricated and ready to install. Standard wall panels are 44 7/8" wide and are interchangeable with other full panels, windows and door panels. Special width filler panels (F.P.) are labeled on floor plan.

STEP 6

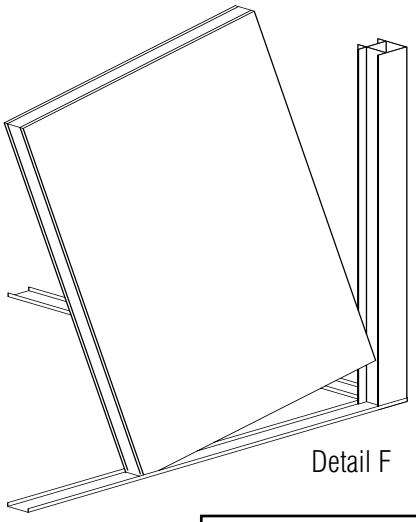
Check the floor for level. In extreme cases (out of level by ½" or more) select the high corner as your starting point. If possible, leave the door panel to be installed last. Shimming may be necessary if floor surface is not very level.

STEP 7

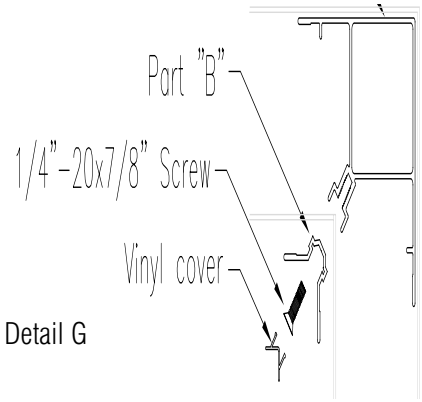
Begin wall installation by inserting a corner post into the floor track **(Detail E)**. Note: the corner post is inside both the vertical legs of the floor track. The corner post should be loosely assembled using Phillip's flat head ¼"-14 x ¾" screws to allow install of panel.



Detail E



Detail F



Detail G

STEP 8

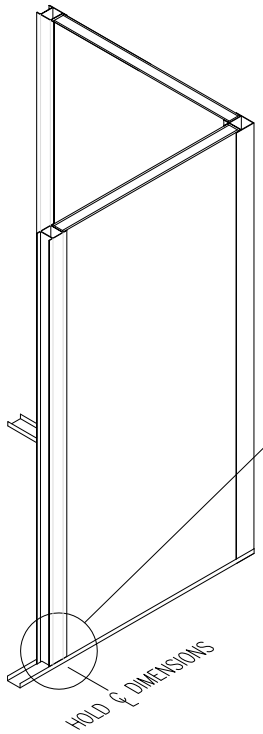
Install the two adjacent corner wall panels into the floor track and slide gently into corner post **(Detail E)**. Tighten the corner post screws and install vinyl corner inserts **(Detail G).**

Installer Tip

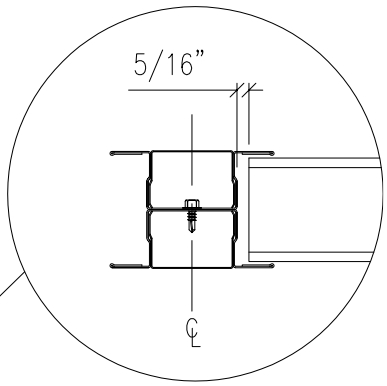
When installing the panels into the stud, pull the panel back on one corner and slide the other corner into the stud or corner.

STEP 9

Install pre-assembled studs next to each panel. Check centerline dimension of stud to corner post from your floor plan. Tighten screws after panel is in place **(Detail H)**. Refer to the fastener guide for screws required. Do not over tighten screws.



Do NOT push panel all the way into the stud. Hold centerline dimension.



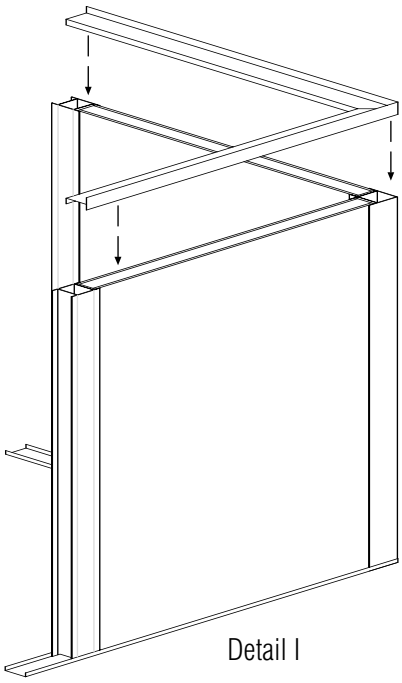
Detail H

LOAD-BEARING OFFICES

Install a 10 gauge bearing plate inside the floor track below each stud and corner. Use 3 3/16" x 5" plate for studs and 4 ½" x 4 ½" notched plate for corners.

STEP 10

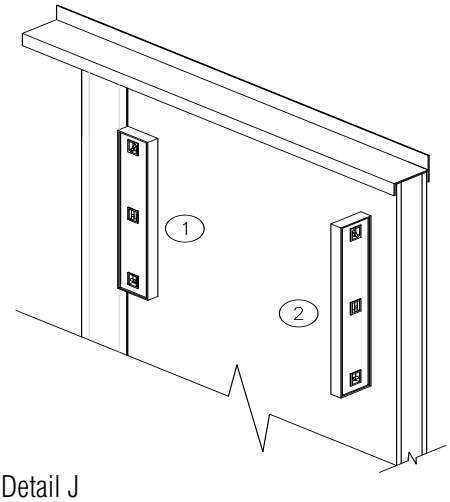
Assemble mitered cornice mold corner assembly **(Detail I)**. Each standard corner includes two short pieces of cornice mold with one end mitered. These special pieces will be used to make your cornice mold corners. If corner to stud dimensions is less than 50 ¼", field cut the cornice mold so that the end not mitered falls on the centerline of the stud. Secure cornice mold corners to the interior side of the corner post w/ #10-16 x ¾" tek 3 screws.



Detail I

STEP 11

Insert next panel into floor track; slide into stud and tighten screw. (Note: Do not over tighten screws). Continue toward next corner. Check each panel for plumb **(Detail J)**.

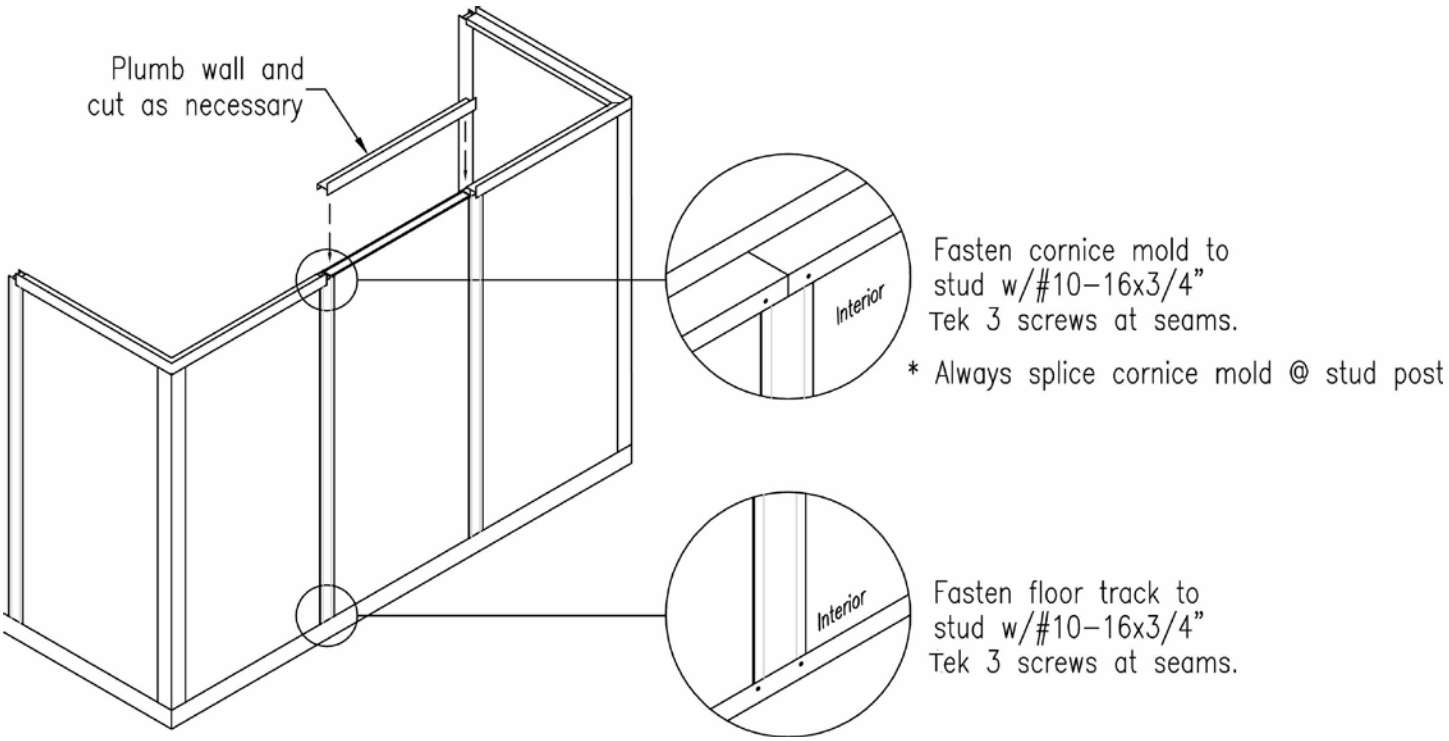


Detail J
1. Check stud for plumb
2. Check wall for plumb

STEP 12
Check the centerline dimension of each stud with the dimensions on your floor plan. This will eliminate any growth or shrinkage of the overall dimension.

STEP 13
Set cornice mold in place. If necessary, cut the cornice mold so that it fits between the two cornice mold corners you have assembled.

STEP 14
Recheck the wall and corners for plumb. Secure the stud through the cornice mold and floor track on the interior side of wall at each stud location with #10-16 x ¾" Tek 3 screws **(Detail K)**.



Detail K

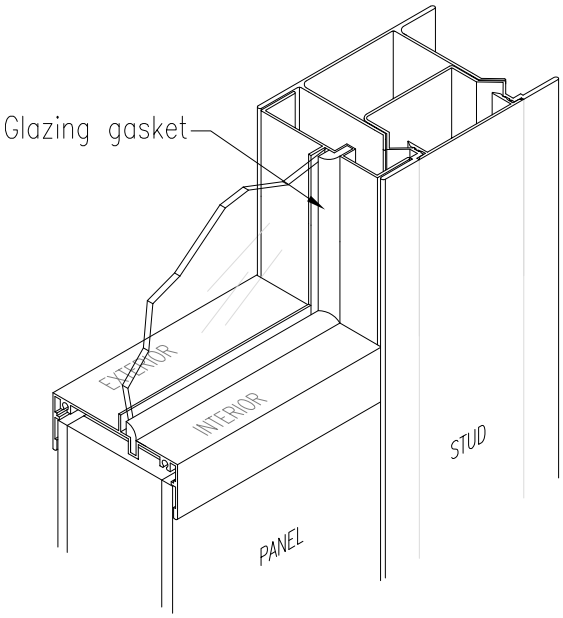
STEP 15
Install the remaining walls in the same manner.

WINDOW PANELS

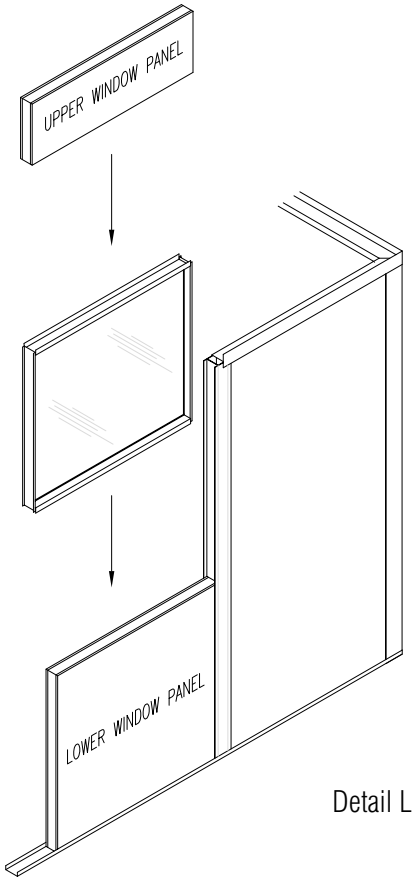
Window panels install into the stud in the same manner as the wall panels.

STEP 16
Insert the lower window panel in the adjacent stud. **(Detail L)**

STEP 17
Install the window onto the lower window panel with the gasket to the inside of the room. **(Detail M)** Handle with care.



Detail M



Detail L

STEP 18
Insert the upper window panel. **(Detail L)**

STEP 19
Slide on the adjacent stud and proceed with the next panel.

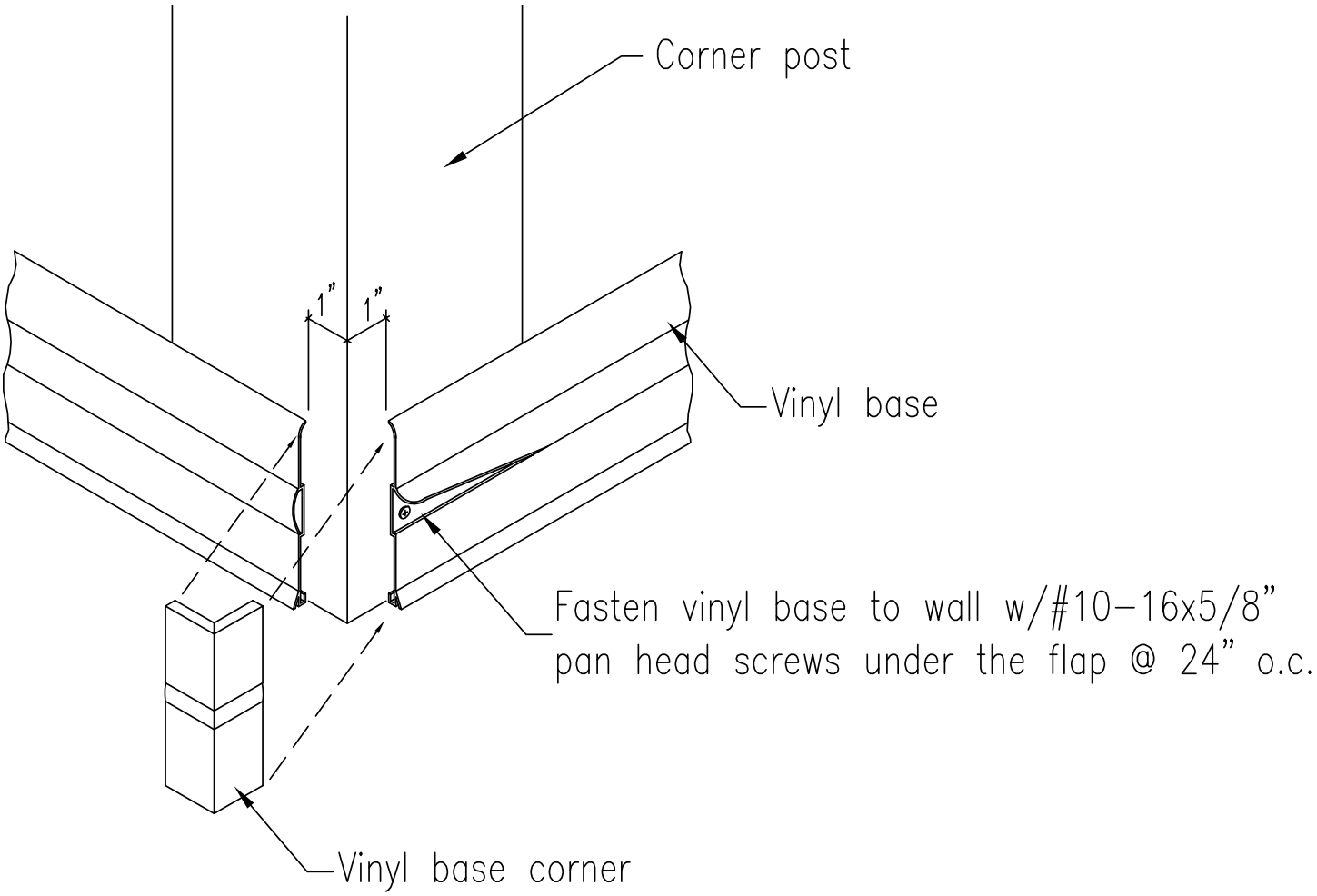
NOTE:
To prevent breakage, PortaFab recommends the window be moved only in an upright position with the bottom supported.

For a neat job, make certain that the window frames are inserted completely into the studs and the sill heights align. If the wall consists of many window units it is imperative the windows be inserted all the way into the studs and you check your centerline dimension of your studs to make sure they match the drawing; otherwise the wall will grow in length and the last unit will not fit into the corner.

VINYL BASE

STEP 20

The screw on vinyl base should be cut to fit for the interior and exterior of the room. Lift cover flap and secure to wall with #10-16 x 5/8" pan head screws at 24" centers. Push the cover strip in, to lock in place, and cover screw heads. Pre-formed exterior corners are supplied for the outside corners only. **(Detail N)**

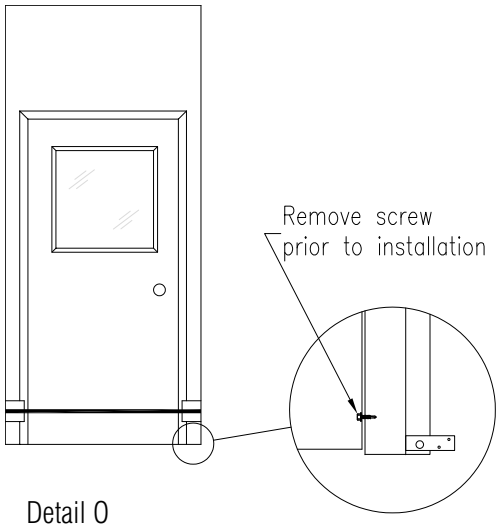


Detail N

SINGLE DOOR INSTALLATION

The 3070 door and frame come pre-installed in a full size wall panel. Handle door assembly panel with care and lift the panel from the sides, not the ends.

Step 1
For handling purposes, the bottom of the door is fastened to the door frame. This must be removed before installing the door assembly panel. Also verify at this point that the floor track opening is 37 3/8". **(Detail O)**

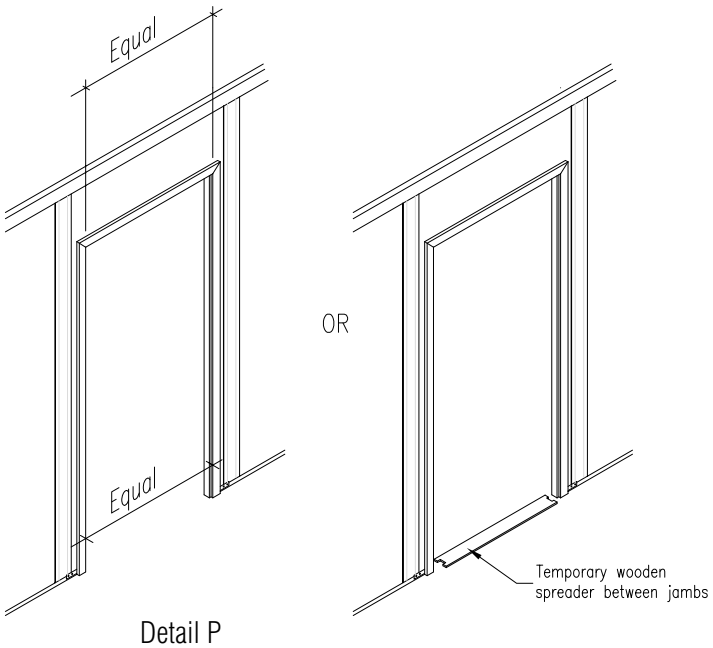


Detail O

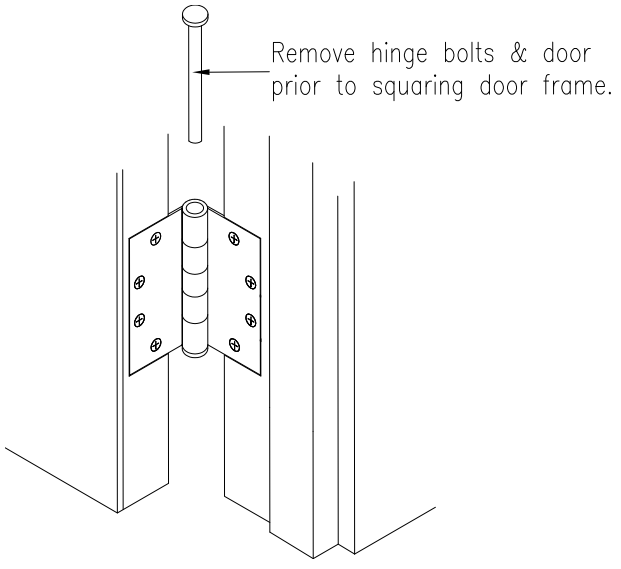
Install the door assembly panel into the floor track. The floor track will fit between the door frame and the panel. Be sure the wall with the door is installed with cornice mold attached to studs before adjusting door.

Step 2
Remove hinge bolts and door prior to squaring/leveling door frame. **(Detail Q)**

Step 3
Verify there is equal spacing between both jambs by measuring or by using a temporary wooden spreader. **(Detail P)**



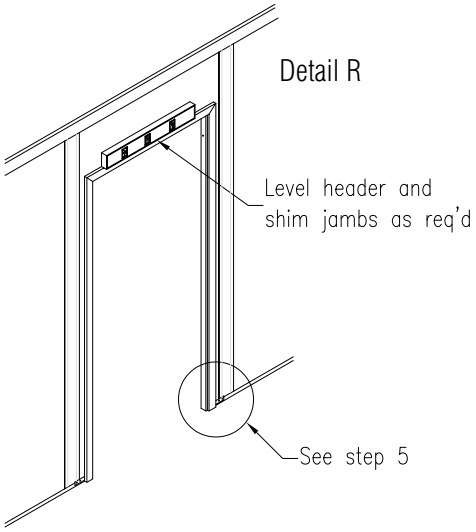
Detail P



Detail Q

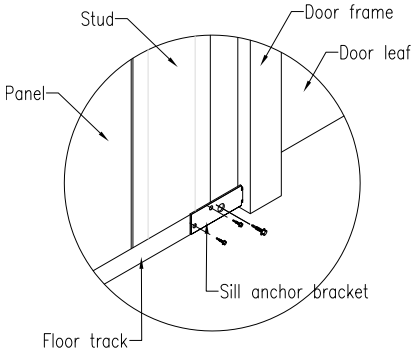
Step 4
Level door header and shim jambs as required. **(Detail R)**

Detail R



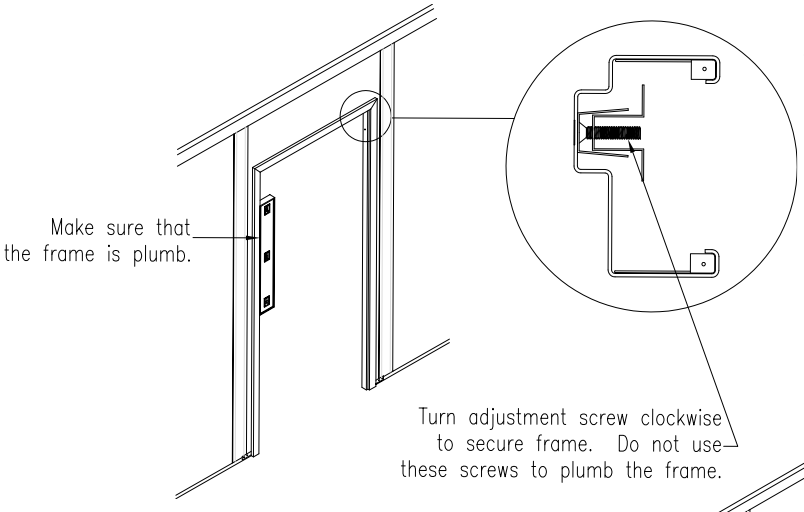
Step 5
Use the sill anchor brackets to anchor jambs to the floor track. **(Detail S)**

Detail S



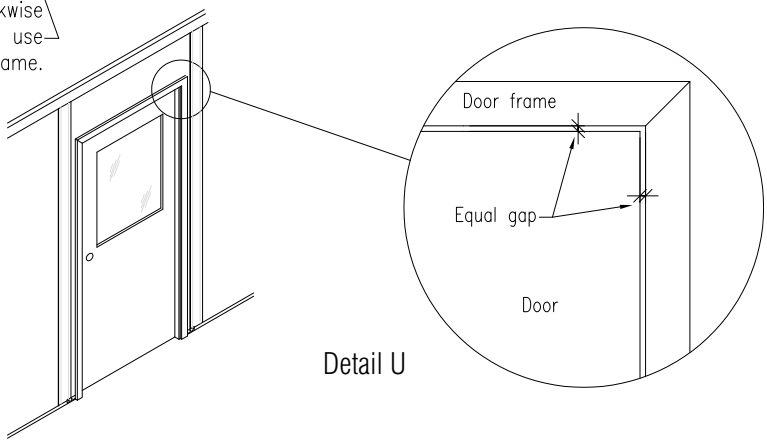
Make sure that the frame is plumb

Detail T



Step 6
Turn adjustment screw clockwise to secure frame. Do not use these screws to plumb the frame. **(Detail T)**

Step 7
If the frame is installed properly, there will be an equal gap between the door and the frame. **(Detail U)**



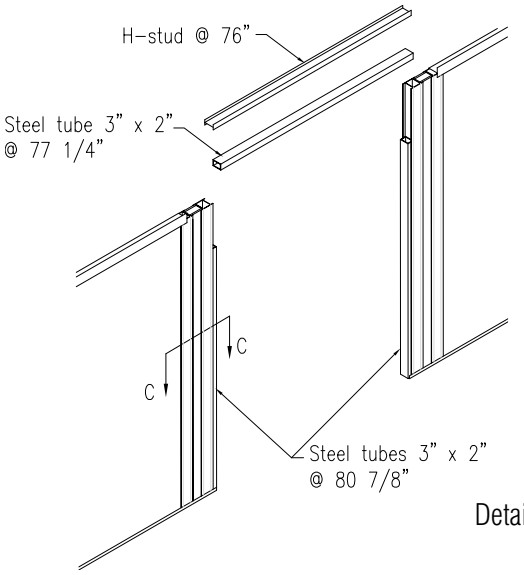
Detail U

DOUBLE DOOR INSTALLATION

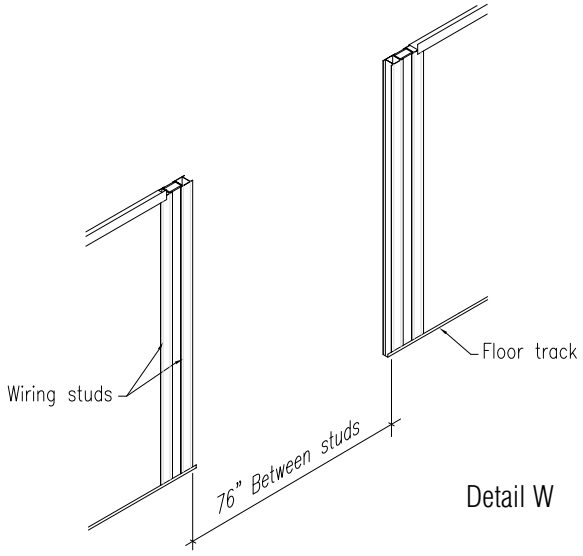
Walls should be secure at this point. Check on this before installing door.
The double door assembly is shipped knocked down and is not pre-hung in a panel. Framing for the door opening includes steel tubes for 3" walls and steel channels for 1 9/16", 4 5/8" and 6" walls. The door should be installed during the wall installation. The steel assembly framing should be in place with the remainder of the wall. All studs should be secured to the cornice mold before adjusting the frame. Note: The material sizes indicated in the following steps are for a 6'-0" x 7'-0" double door in an 8'-0" wall system. Sizes will vary for other door sizes and wall heights. Refer to drawings.

Assure that studs on each side of the door are plumb and located properly according to the layout. The distance between studs should be 76". **(Detail V)**

Install 80 7/8" vertical tubes or channels into each stud. **(Detail X)** Note: Channels are installed with the open side towards the stud.



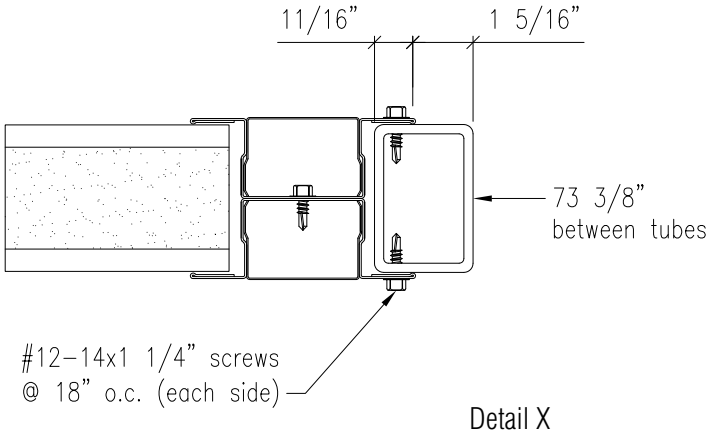
Detail V



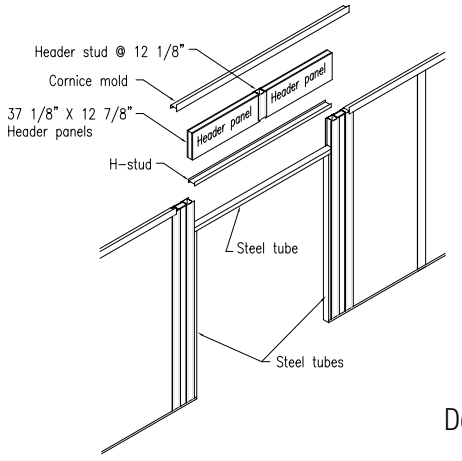
Detail W

Set 77 ¼" tube or channel across opening to rest on vertical supports. **(Detail W)** Place 76" H-stud on horizontal tube or channel.

Install 37 1/8" x 12 7/8" header panels along with the 12 1/8" header stud. Note that header stud will rest on h-stud. **(Detail Y)**



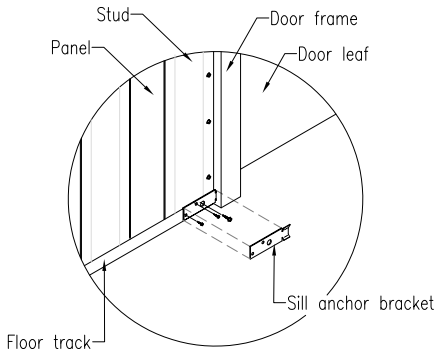
Detail X



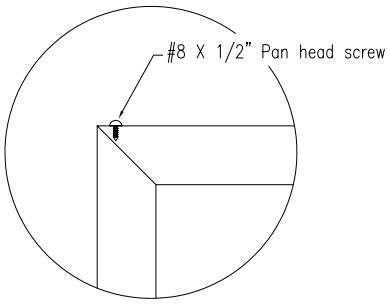
Detail Y

OmniFlex 300 Plus Installation Instructions

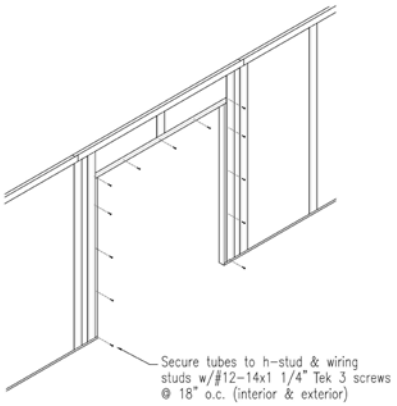
1) Install cornice mold on top of wall, plumb studs and secure studs to cornice mold.
2) Locate all frame parts before installing frame. Included with the (3) framing parts will be the following: (4) sill anchor brackets to be installed at the bottom of the hinge jamb to secure the frame. (6) 4 ½" x 4 ½" hinges, (6) hinge back-up plates to place between the hinge and door and (4) #8x1/2" pan head screws to secure frame header to jambs.
3) Install sill anchor brackets into the bottom of the hinge jambs.
4) Install (3) door frame parts into opening making sure that the mitered joint connects properly. **(Detail 4 & 5)** Plumb each jamb and level header. Secure jambs at floor using sill anchor brackets. **(Detail 1)** Tighten adjustment screw to hold door frame plumb. Install door frame header screws in top of frame using #8x1/2" pan head screws. **(Detail 2)**
5) Secure studs to tubes by fastening through the leg of the studs and h-stud with #12-14x1 ¼" tek 3 screws. This must be done at the corners of the frame and at 18" o.c. on both sides of the door. **(Detail 3)**
6) Install hinge butts: one-half mounts to frame and the other half to the door. Make sure the hinge back-up plates are installed between the hinges and the door.
7) Once the wall is rigid, hang the door onto the frame by meeting hinge butts together and replacing hinge pins.
8) Operate door to check fit. Doors should swing easily.
9) Install head & foot bolts on inactive door.



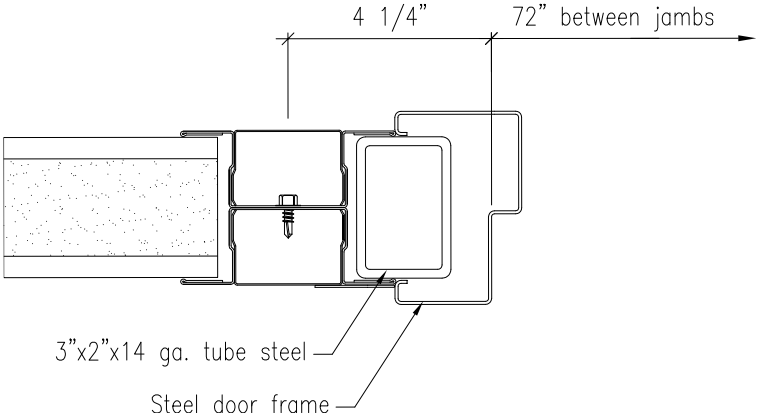
Detail 1



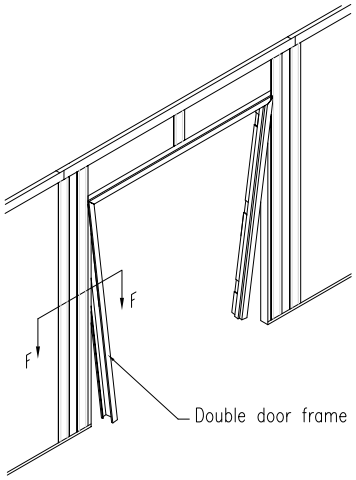
Detail 2



Detail 3



Detail 4



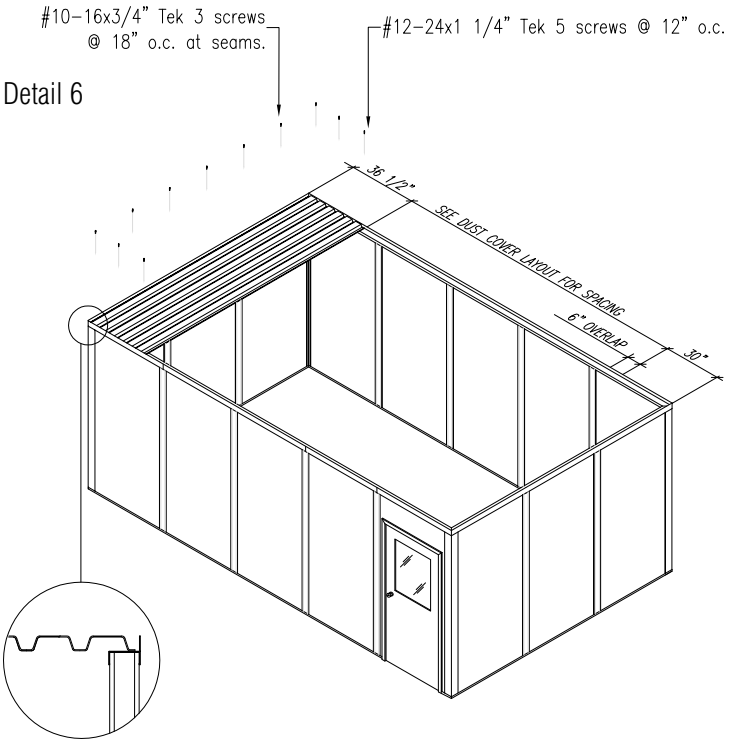
Detail 5

DUST COVER INSTALLATION

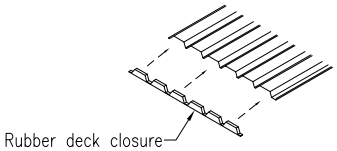
The dust cover consists of metal decking and support beams, as required. The standard decking is 22 gauge, 1 ½" type "B" deck, and is required to make the office walls free-standing. The decking has a modified "V" roll form design. As such, it will grow or shrink in width during installation. Care should be exercised to control the dimensions while installing. All Fire & Sound buildings come with a rubber deck closure to fill the corrugation openings between deck and building.

Note: Unless the office has been specifically designed to have a storage roof, it is not intended to hold the weight of a person or storage.

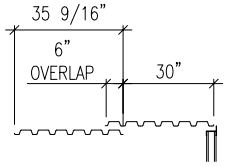
1) Install the dust cover by placing the first piece of deck at one end of the office, resting on the cornice mold. Follow dust cover layout on building plans. The edge without a return lip should be next to the outside of the building. **(Detail 6)**
2) Prior to screwing the dust cover down, insert the rubber deck closure by tacking it between the dust cover and the top of the cornice mold. **(Detail 7)**
3) Secure decking to the cornice mold with #10-16x3/4" Tek 3 screws at 18" o.c. along the seams and with #12-24x1 ¼" Tek 5 screws in every other valley. **(Detail 6)**
4) Make a mark on the cornice mold to locate the placement of the next section of the decking. This dimension will vary between 35 3/8" and 36 ¼".
5) Place the second piece of decking next to the first piece with the edge overlapping the return lip of the first piece. Note: Be sure to secure each piece of deck as you go.
6) Continue installing decking across the room as instructed above to complete. **(Detail 8)** Overlapping dust cover sections may be necessary. **(Detail 9)** Please refer to job drawings sent with project.



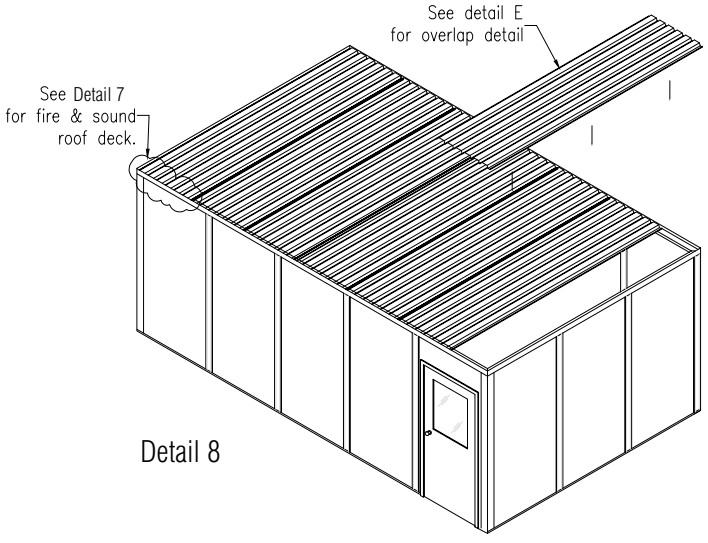
Detail 6



Detail 7



Detail 9



Detail 8

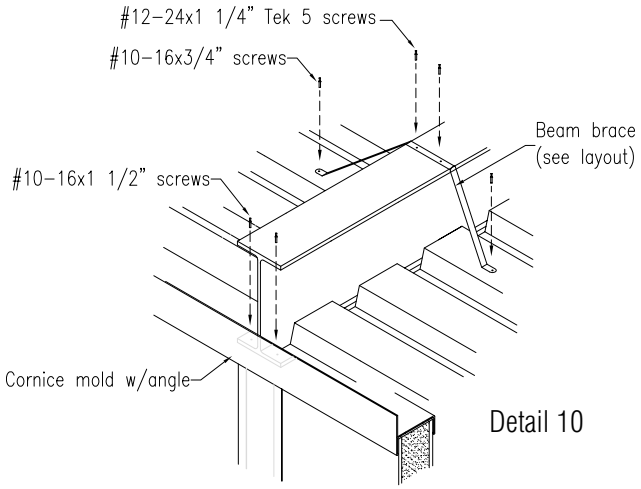
NON-LOAD BEARING BEAMS

Place support beams above the walls. Beams must be supported by wall studs or steel columns at ends. Follow layout drawing for proper beam placement.

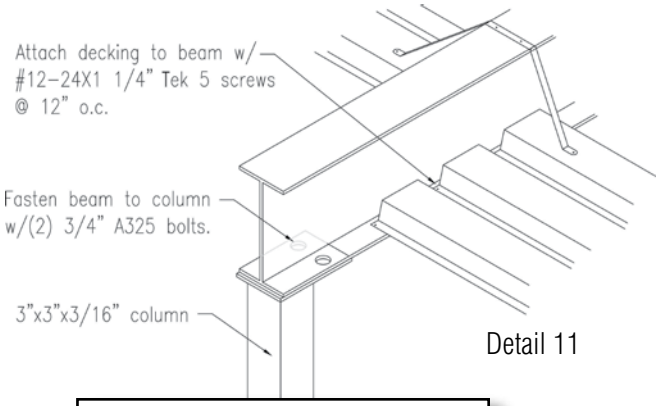
STEP 1
Secure ends of beam with #10-16x1 ½" Tek 3 screws into cornice mold at wall. **(Detail 10)**

STEP 2
Fasten roof deck to the beam with #12-14x1 ¼" Tek 5 screws at 12" o.c. To complete the deck installation, refer to dust cover installation on previous page.

STEP 3
Attach conduit beam braces to the beam top flange and dust cover.



Detail 10



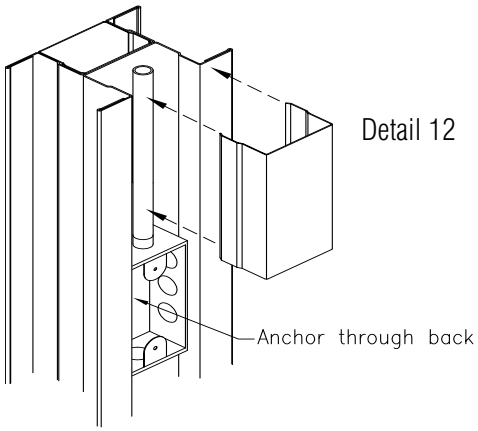
Detail 11

Electrical wiring should be done by a qualified electrician.

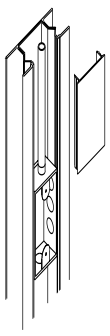
ELECTRICAL

1) Install handy boxes into studs at desired locations with a #10-16x3/4" Tek 3 screw.
   - 3" walls: Fasten through the back of the box **(Detail 12)**
   - 1 9/16" walls: Fasten through the side of the box **(Detail 13)**

   Typical locations are 12"-18" above the floor for duplex outlets and 48" to 54" AFF for switches and single outlets.
2) Cut conduit as needed. Conduit should terminate just above ceiling level.
3) Install stud cover plates by cutting to size above and below each handy box location. Cover plates should also terminate just above the ceiling to allow for wiring across the ceiling.
4) If installing a bean onto a column, follow steps 1-3 when securing top plate of columns. **(Detail 11)**



Detail 12



Detail 13

ACCOUSTICAL CEILING INSTALLATION

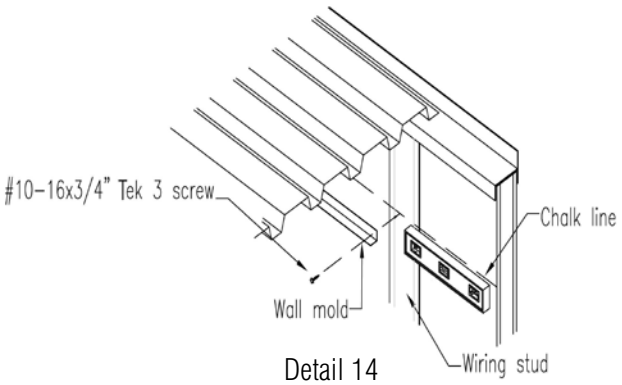
Determine the required finished ceiling height for the room. For ease of installation and proper light fixture clearance, the ceiling should be a minimum of 6" below the underside of the deck (6 ½" if an exhaust fan will be installed). Most building codes require a minimum clearance of 7'-6" from the floor to ceiling.

1) Snap a chalk line 1" above the required ceiling height around the perimeter of the room. This line should be checked for level before snapping the string. **(Detail 14).**

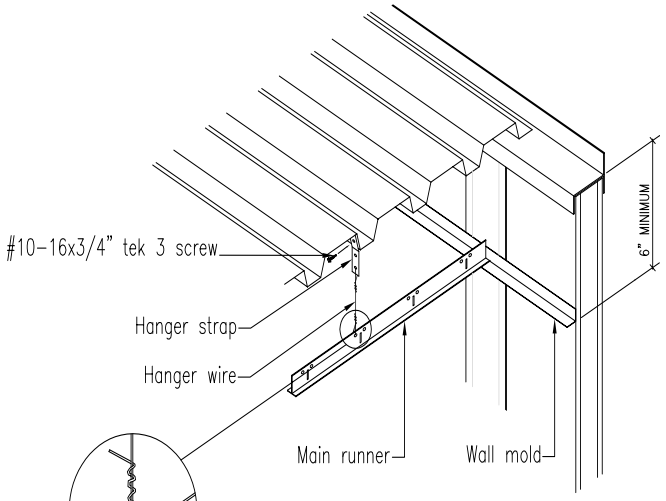
2) Cut wall mold as required and position so that top of angle is even with the chalk line. Secure the wall angle to studs and corners with #10-16x3/4" tek 3 screws. Proceed around the room. Wall mold may be overlapped or miter cut at corner joints.

3) Mark the location of main runners by putting marks above the wall mold. Tie a string around the wall mold and stretch it across the room near the position of the main runner. This will provide a reference line to install hanger straps and wires.

4) Attach wire hanger straps to the bottom of the dust cover at 4' o.c. along each main runner. **(Detail 15)** Make certain that a hanger wire is located at each corner where a lay-in light fixture will be. Cut hanger wire as needed, usually allowing an additional 6" at each end to twist in place. Install wire thru the hanger strap; bending wire back down and wrapping tightly 3-4 twists. **(Detail 16 sim.)**



Detail 14



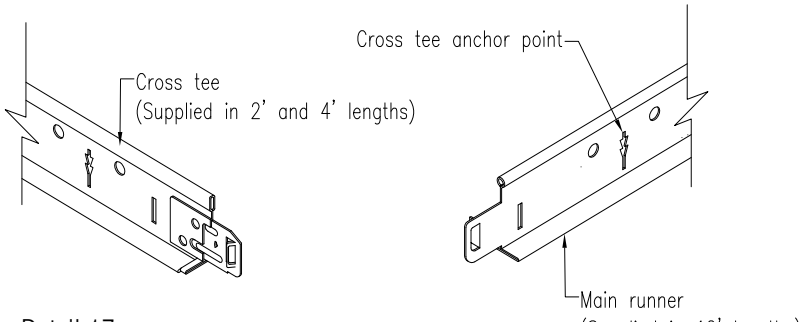
Detail 15

Detail 16

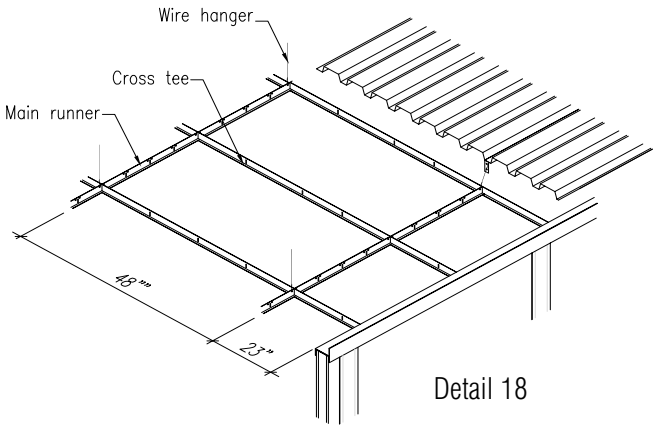
OmniFlex 300 Plus Installation Instructions

The ceiling grid consists of two major components, 12' main runners and 4' cross tees. **(Detail 17)** The main runners typically run the longer length of the room. Closely follow the layout drawing provided to assure easy installation and proper material quantities.

5) Install 12' main runners at locations shown on drawing using hanger wire provided. Be certain that 4' cross tee anchor points correspond to the ceiling plan. Allow the main runner to fully rest on the wall mold.
6) The ceiling wire may then be attached to the main runner. Be sure to wrap the wire around itself at least 3 times. **(Detail 16, p.16)** Care should be taken to install the main runner straight and level. Continue until all main runners are installed.
7) Install cross tees at points indicated on the drawings by inserting tabs into anchor points. Trim pieces at wall, as required, for tee to rest fully on wall mold. To strengthen the grid the tees may be secured to the wall mold with pop-rivets (not supplied). Intersections of cross tees and main runner must form a 90-degree corner. **(Detail 18)**
8) Place light fixtures into grid at locations indicated on drawing. Make certain that a hanger wire is located at each corner where a lay-in light fixture will be.
9) Cutting ceiling panels may be accomplished with the panels facing up using a saw or a very sharp fiberboard knife. Measure and cut each of the border panels individually.
10) Lay-in panels are installed by carefully tilting the panel to fit thru grid opening then resting the panel on cross tee and main runner flanges. Exercise care when handling ceiling panels to avoid marring the surface. Handle edges of panels, keeping fingers off the finished side of the panel as much as possible. Clean hands are necessary for a clean job. It may be necessary to use the left over portion of the tile for other cut pieces.

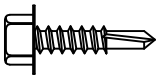
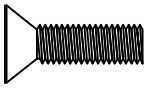
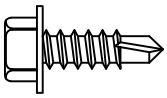
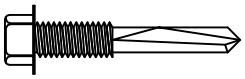
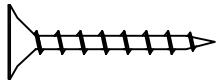
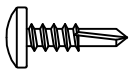


Detail 17

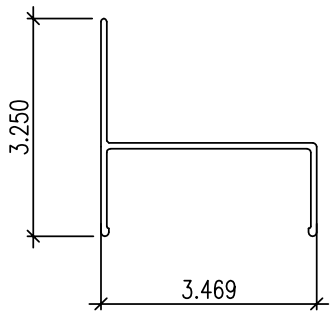


Detail 18

IN-PLANT OFFICE FASTENER GUIDE

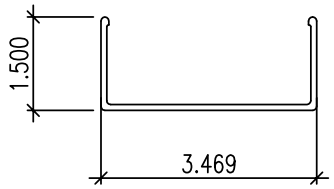
PART #	SAMPLE	SIZE	DESCRIPTION & USES
87630		#10–16x3/4"	Hex Washer Head Tek 3 * assemble PortaPanel II and Series 300 studs * fasten cornice mold splice * secure stud and wall starter to floor track and cornice mold * fasten roof deck at seams * fasten beam braces to deck * fasten ceiling hanger straps to deck
35790		1/4"–20x7/8"	Phillips Flat Head * assemble 3" corner
10–16CRIMP		#10–16x3/4"	Hex Head Type 1 Crimptite Tek 2 * assemble SteelSeries and OmniFlex 300 studs
87780		#10–16x1 1/2"	Hex Washer Head Tek 3 * fasten beams to cornice mold
87845		#12–24x1 1/4"	Hex Washer Head Tek 5 * fasten roof deck to beams * fasten beam braces to beams * fasten roof deck to cornice mold
87849		#12–24x2 1/2"	Phillips Flat Head Tek 3 * fasten wood support boards to cornice mold
87840		#12–14x1 1/4"	Hex Washer Head Tek 3 * fasten shear panels * fasten studs to double door tubes * available colored heads to match wall system
DWS08108		#8 x 1 1/2"	Phillips Bugle Head Drywall Screw * fasten 3/4" plywood/OSB to roof deck
87580		#10–16x5/8"	Phillips Pan Head Tek 3 * fasten vinyl base to wall
55680		48D	Blind Rivet * assemble special corners (45°) * fasten special framing channel
166310		Screw Pkg.	HVAC Screw Packet * 1 Pkg/per Unit
91475		1/4–20 x 2"	Phillips Flat Head Type F * fasten plywood to forklift base

OmniFlex 300 Plus Installation Instructions



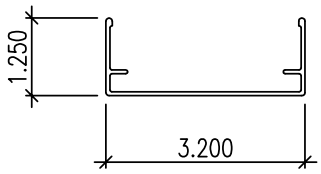
CORNICE MOLD W/ANGLE

* ALUMINUM EXTRUSION



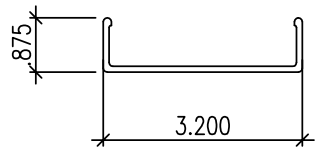
CORNICE MOLD W/O ANGLE

* ALUMINUM EXTRUSION



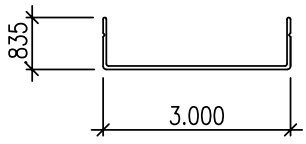
WALL STARTER

* ALUMINUM EXTRUSION



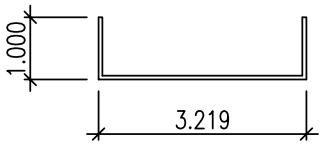
WALL CHANNEL

* ALUMINUM EXTRUSION



STUD INSERT

* ALUMINUM EXTRUSION



FLOOR TRACK

* STEEL CHANNEL

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