

Installation Instructions

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MANUFACTURING FACILITY:

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PLEASE READ INSTRUCTIONS THOROUGHLY, PRIOR TO ASSEMBLY

Your InPlant Modular Building is manufactured from high quality materials with care taken in fabrication through packaging at the factory. **Carefully inspect all materials and take inventory of all items** confirming no damage nor loss has occurred in transit.

Care must be exercised in handling all materials. Many of the components made from aluminum or steel are strong and durable. However, they can be scratched, bent or marred.

Due to varying floor surfaces,
the Floor Track **fasteners**
are not supplied.

For concrete floors
we recommend:

1/4" x 1-3/8"

**Red Head
Wedge Anchor**

TYPICAL INPLANT MODULAR BUILDING CONFIGURATION

Roof Decking

Acoustical
Ceiling

Ceiling Cap

Wiring Stud
Cover Plate

Upper
Wall Panel

Fixed Window

Lower
Wall Panel

Corner Post

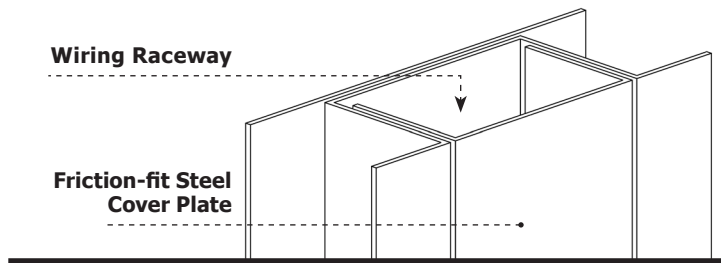
Floor Track

Vinyl Base

Wiring Studs

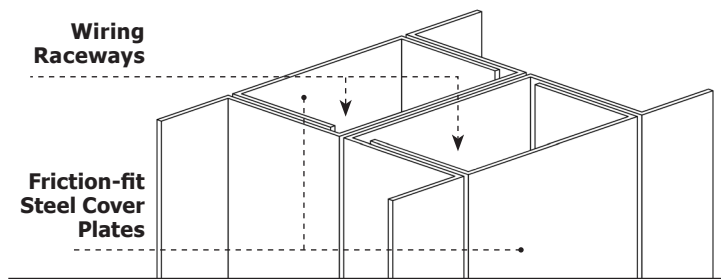
Solid Wall Panel

☐ **VERSATILE STEEL SYSTEM** [Load-Bearing]
1 3/4" 16 Gauge Steel Wiring Studs

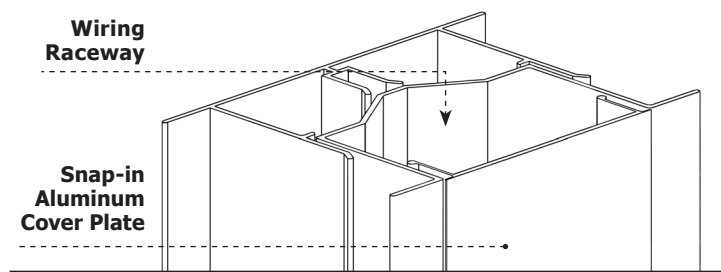


☐ **STANDARD STEEL SYSTEM**
3" 20 Gauge Steel Wiring Studs

☐ **HEAVY-DUTY STEEL SYSTEM** [Load-Bearing]
3" 16 Gauge Steel Wiring Studs



☐ **ALL-PURPOSE ALUMINUM SYSTEM** [Load-Bearing]
3" Anodized Aluminum Wiring Studs



☐ **SPECIALIZED WALL PANELS**

- ___ Painted Gypsum
- ___ Vinyl Faced Gypsum
- ___ Steel Faced
- ___ Fiberglass Reinforced Plastic (FRP) Faced
- ___ Hardboard
- ___ Cement Board
- ___ Soundstop
- ___ Custom:

**SUGGESTED TOOLS
 FOR ASSEMBLY:**

- ___ Hammer
 - ___ Rubber Mallet & Wood Block
 - ___ Drill, Bits & 5/16" Nut Driver
 - ___ Level
 - ___ Plumb Bob
 - ___ Chalk Line & Dry Line
 - ___ Tape Measure & Rule
 - ___ Phillips-Head Screwdrivers
 - ___ Standard Screwdrivers
 - ___ Metal Snips
 - ___ Power Saw or Hand Saw
 - ___ Hack Saw
 - ___ Pencil
 - ___ Putty Knife or Trowel
 - ___ Ladder
 - ___ Pop Riveter
 - ___ Power Metal Saw
 - ___ Carpenter's Square
 - ___ Fasteners for Floor Track
- (See Box Note on Page 2 & 5)



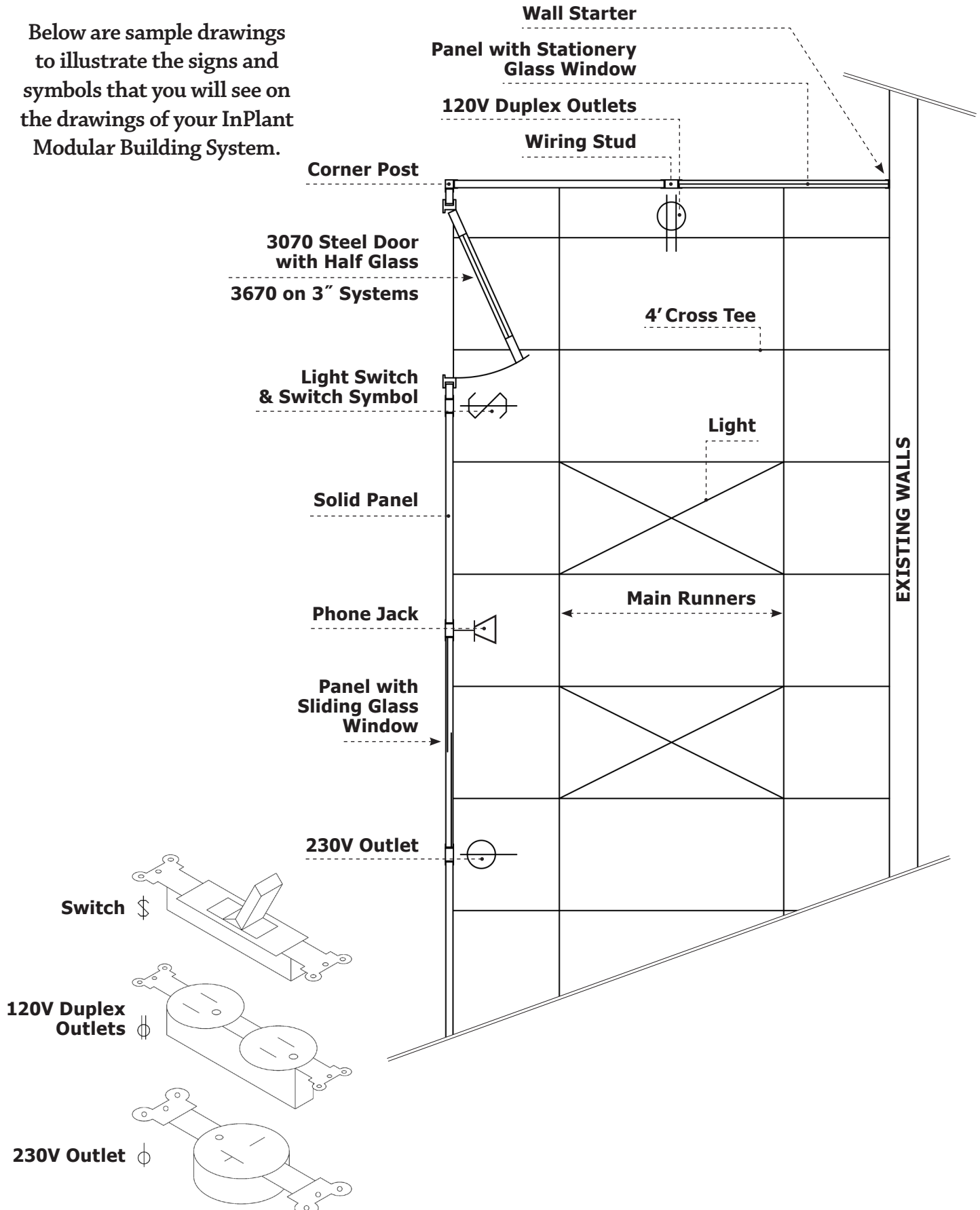
Prefabricated Modular Building Systems
 customized to fit your needs, since 1987.

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UNDERSTANDING THE DRAWING & SYMBOLS

Below are sample drawings to illustrate the signs and symbols that you will see on the drawings of your InPlant Modular Building System.



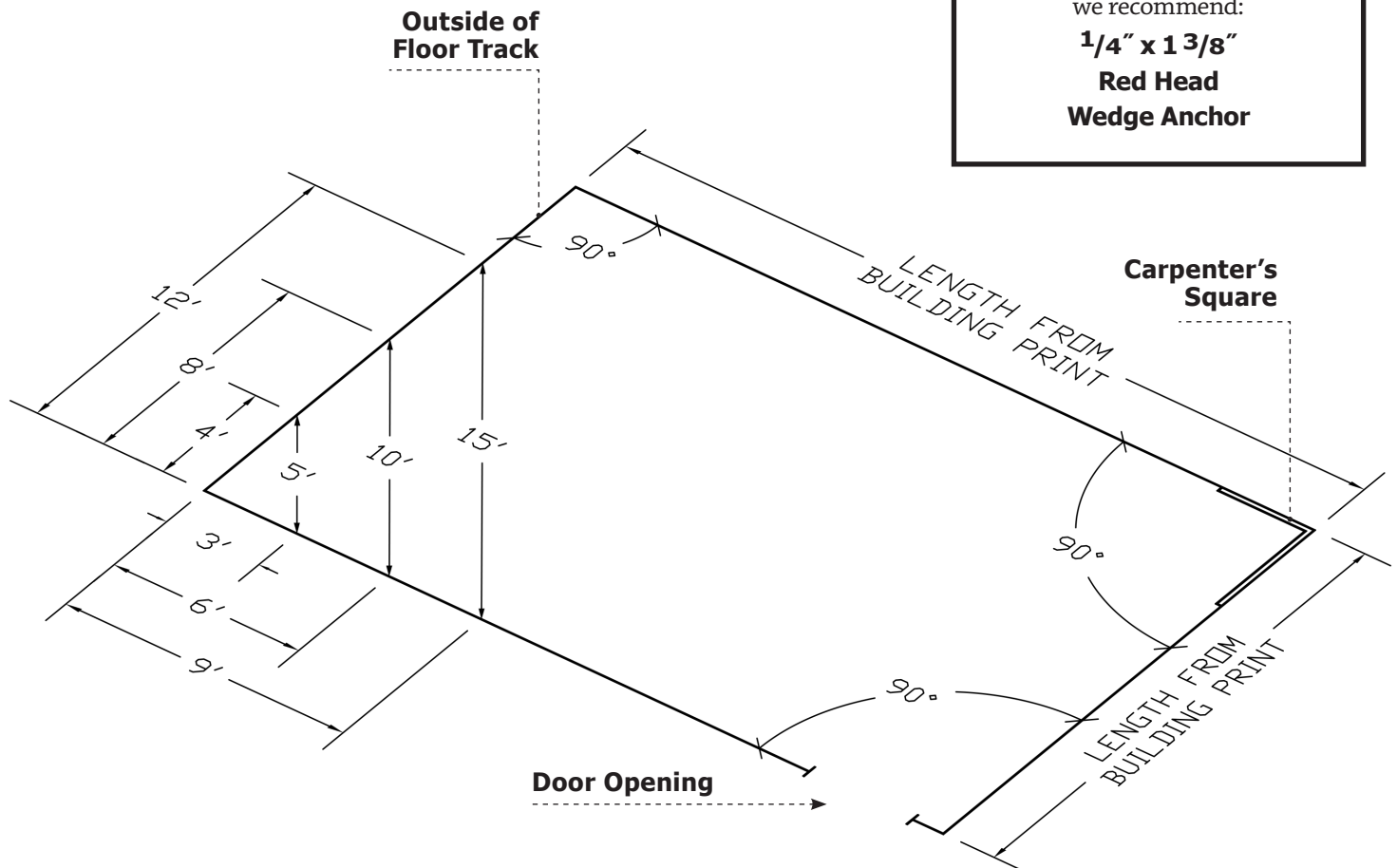
SETTING FLOOR TRACK

Due to varying floor surfaces,
the Floor Track **fasteners**
are not supplied.

For concrete floors
we recommend:

1/4" x 1 3/8"

**Red Head
Wedge Anchor**

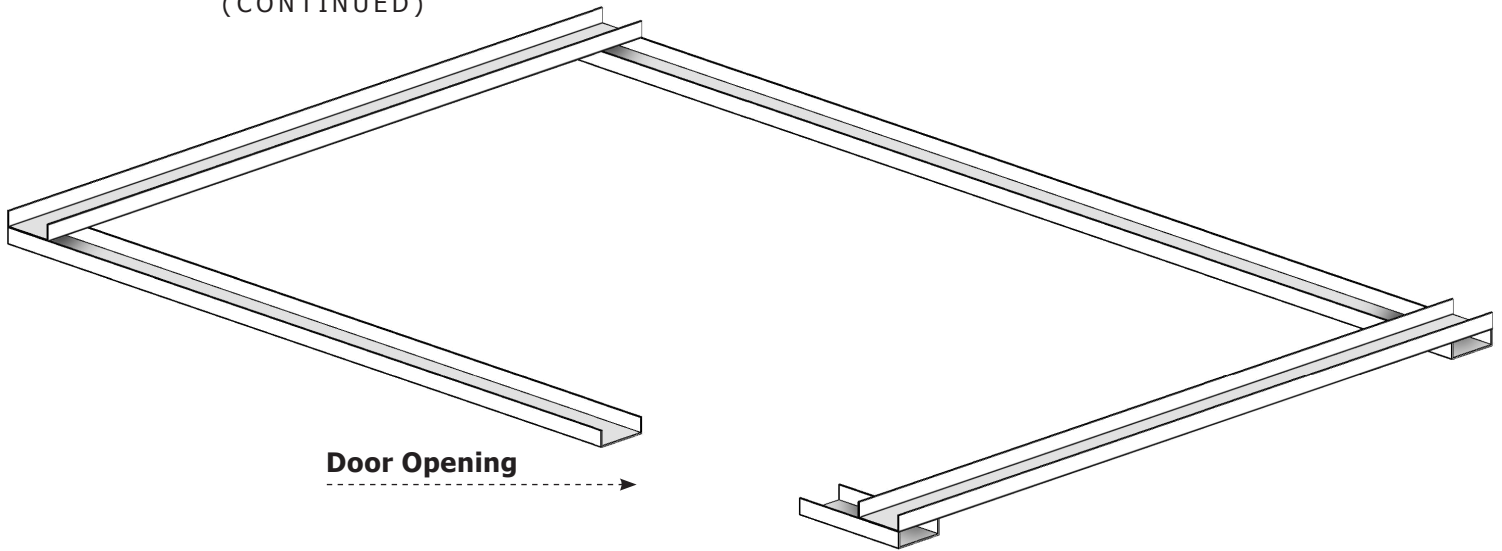


4-WALLS FLOOR TRACK & STARTERS

1. Locate the first wall. Strike a chalk line on the floor.
This line is the **outside** edge of your Floor Track.
2. Determine location of your cross wall on chalk line.
Through this point, construct a 90 degree corner using the 3-4-5 triangular method as indicated on the sketch above.
Strike a chalk line through these points to mark the **outside** of the cross wall. All corners must be at 90 degrees.
3. Complete the building outline in like manner using the building dimensions listed on the drawings for your InPlant Modular Office Building.
4. Locate door openings and mark the floor accordingly.

SETTING FLOOR TRACK

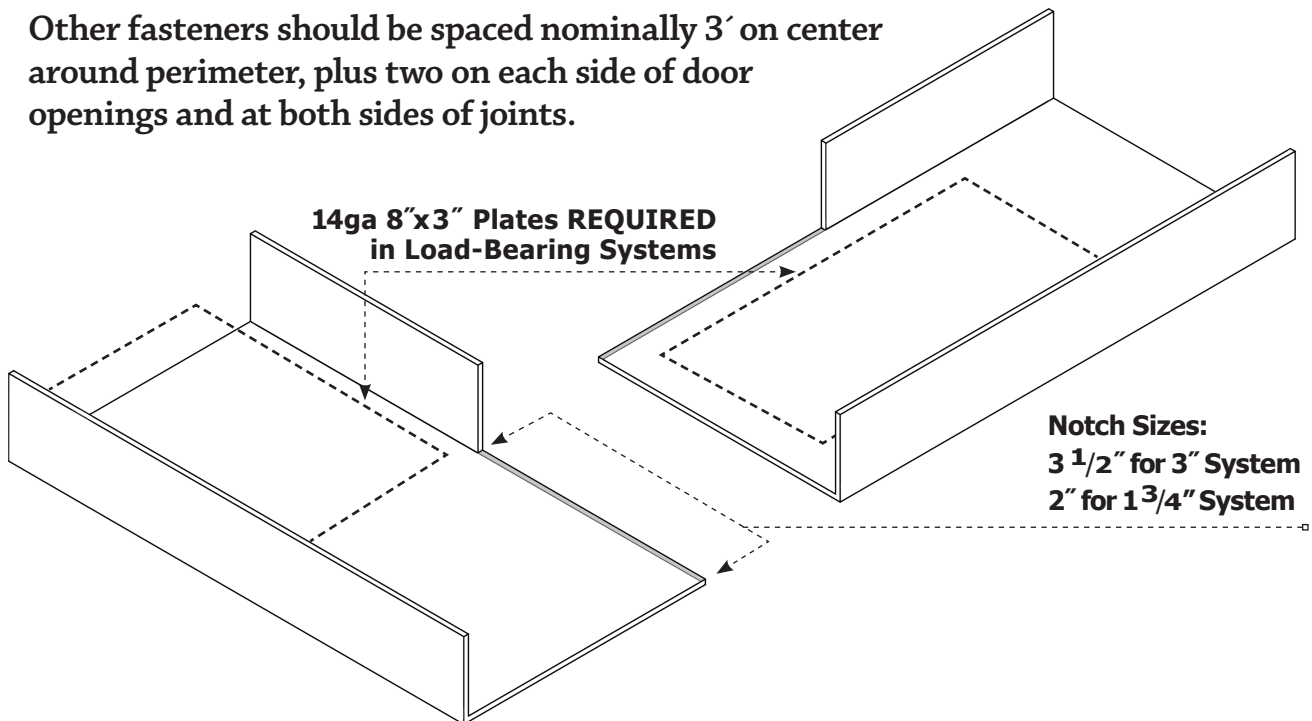
(CONTINUED)



5. Cut Floor Track to fit between chalk lines from one adjacent corner to the other. Note: the corners will overlap.
 6. Terminate the Floor Track at both sides of door openings.
 7. Now cut and notch the Floor Track at corner locations as illustrated below.
 8. Anchor Floor Track using fasteners (not furnished) appropriate for field conditions and floor compositions.
- One fastener should be placed in each corner through the lap joint.

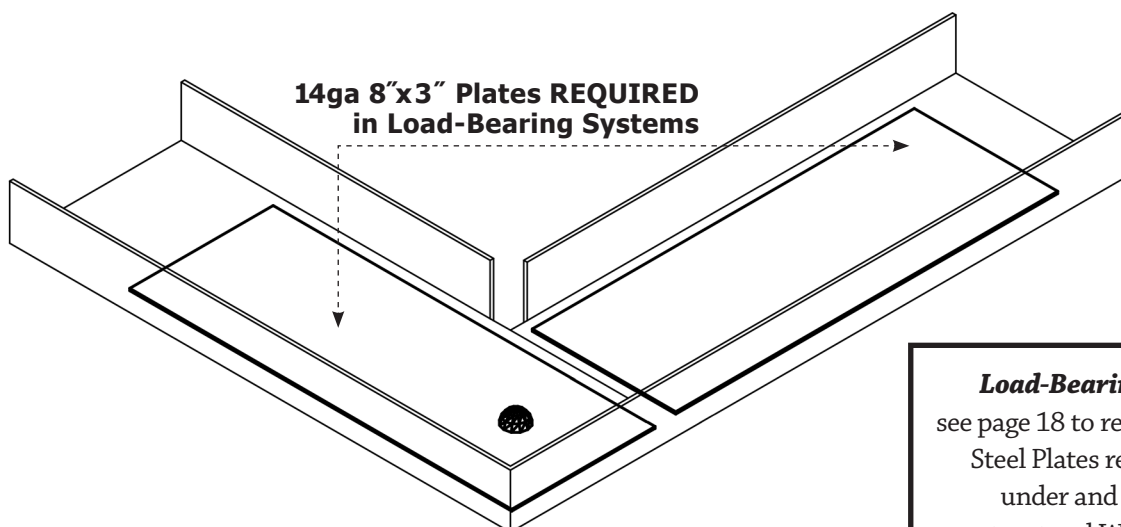
Load-Bearing Systems
see page 18 to review additional
Steel Plates required to go
under and above the
structural Wiring Studs.

Other fasteners should be spaced nominally 3' on center around perimeter, plus two on each side of door openings and at both sides of joints.



1, 2 & 3-WALLS FLOOR TRACK & STARTERS

1. Strike a chalk line at a 90 degree angle to the existing wall at the point where the system is to intersect. This line will notate the outer edge of the Floor Track.
2. Locate the point on this line where the intersecting wall will connect. Refer to your drawings for exact dimensions. At this point, construct a 90 degree intersecting line.
3. Complete the outline of the building in similar fashion.
4. Starting at the point located in step 1, install Floor Track as specified in standard instructions.
5. Cut and install Wall Starter vertically into Floor Track. Use anchors (not furnished) appropriate for field conditions and wall composition. If no shimming of Wall Panels is required, the length of the Wall Starter will be the same as the Wiring Stud.
6. Install Wall Panels starting at the existing wall and the Wall Starter. Remember to hold the dimensions and centerlines as noted on your drawings.
7. For easy installation, install Wall Panels by working from each existing wall with the door being the last portion of the wall to be installed.
8. Structural Steel Angle is provided to support the Roof Decking along existing walls. I-Beams, if required are installed per the standard instructions. (pages 17-18)



Load-Bearing Systems

see page 18 to review additional Steel Plates required to go under and above the structural Wiring Studs.

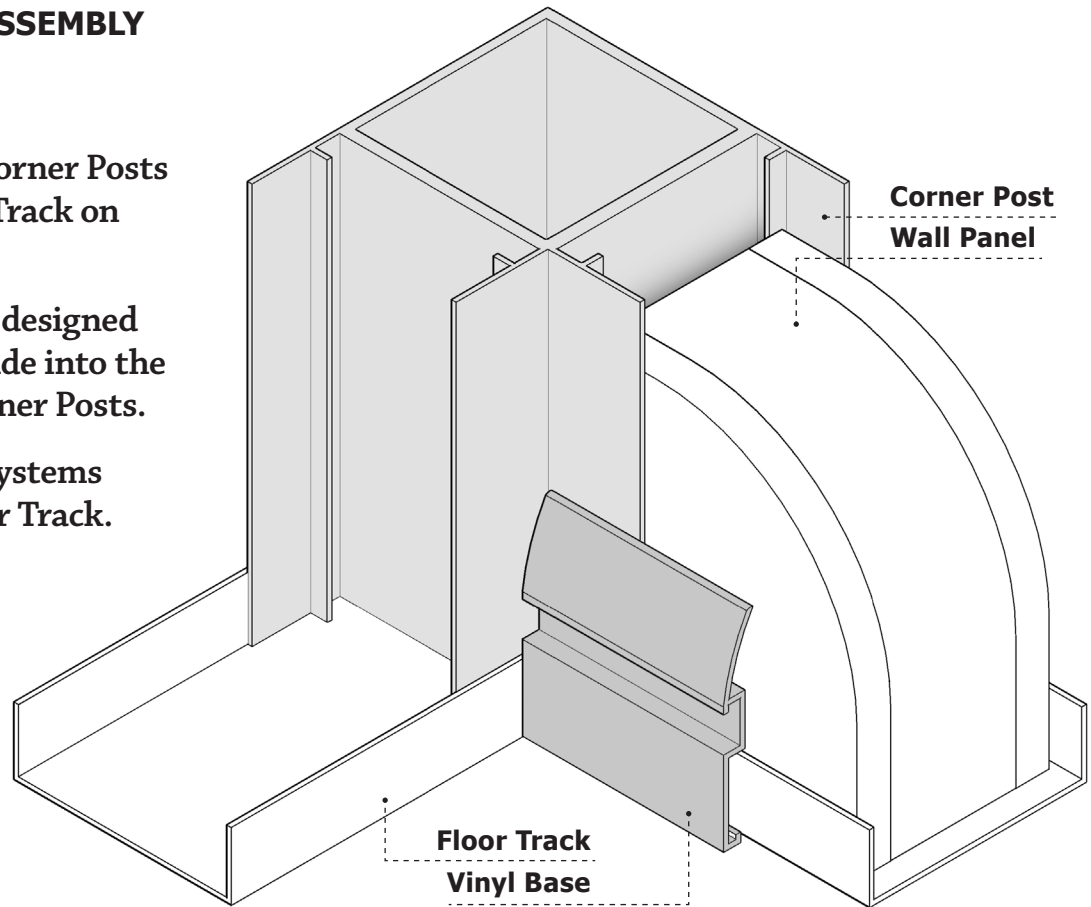
WALL ASSEMBLY

Example A

Wiring Studs and Corner Posts fit inside the Floor Track on all systems.

The Wall Panels are designed and fabricated to slide into the Wiring Studs & Corner Posts.

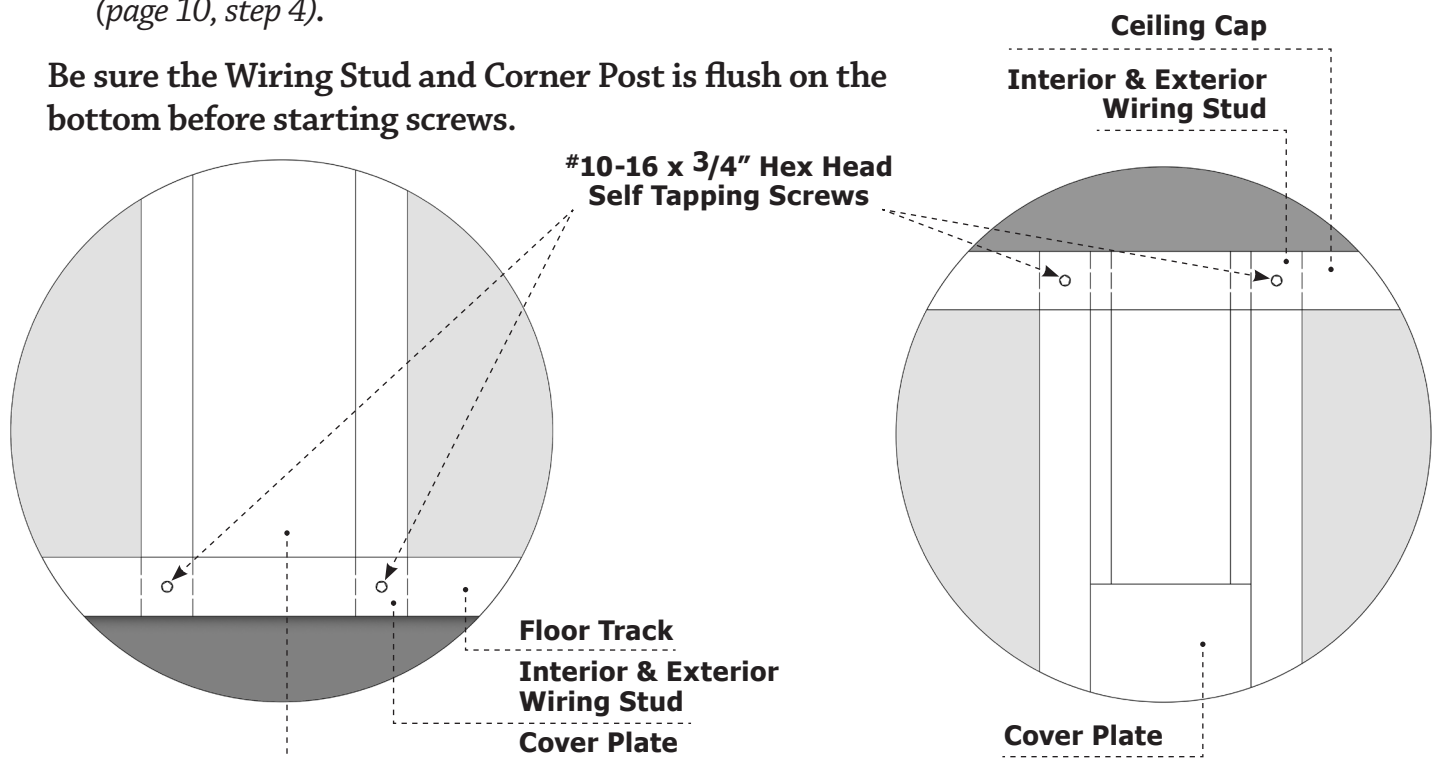
Corner Post on all systems must sit inside Floor Track.



Example B

All Wiring Studs and Corner Posts should be fastened **loosely** together with tek-screws on 24" centers — at first, then tighten after next Wall Panel is placed (page 10, step 4).

Be sure the Wiring Stud and Corner Post is flush on the bottom before starting screws.



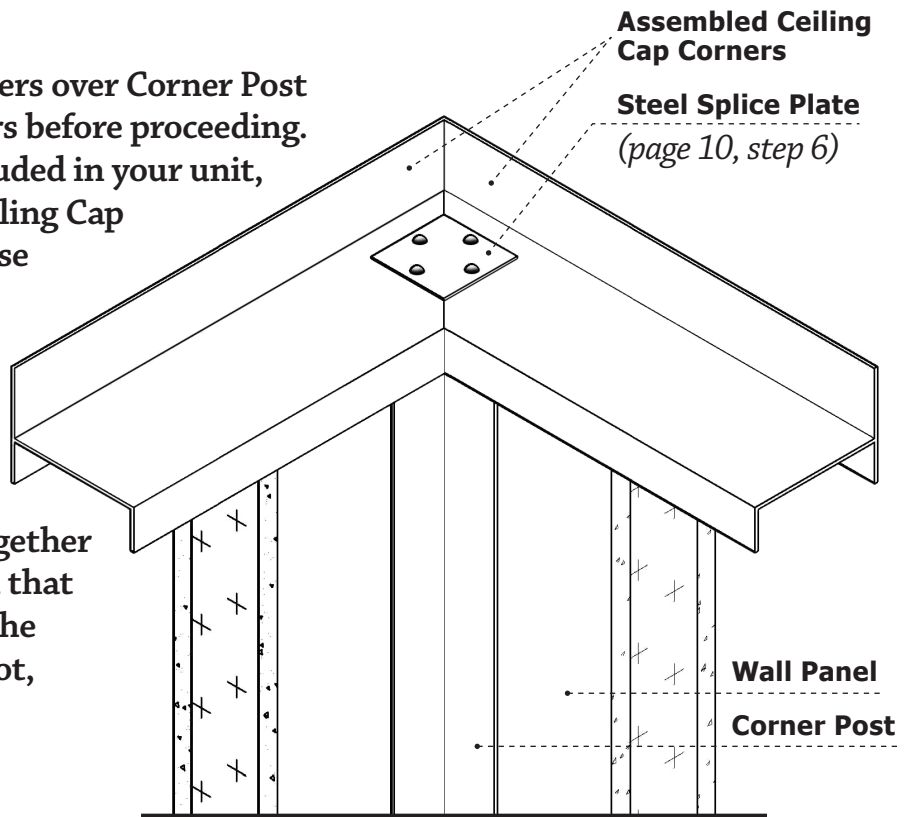
WALL ASSEMBLY (CONTINUED)

1. Install the two adjacent Wall Panels into the Floor Track and slide into the Corner Post. Plumb the Corner Post.

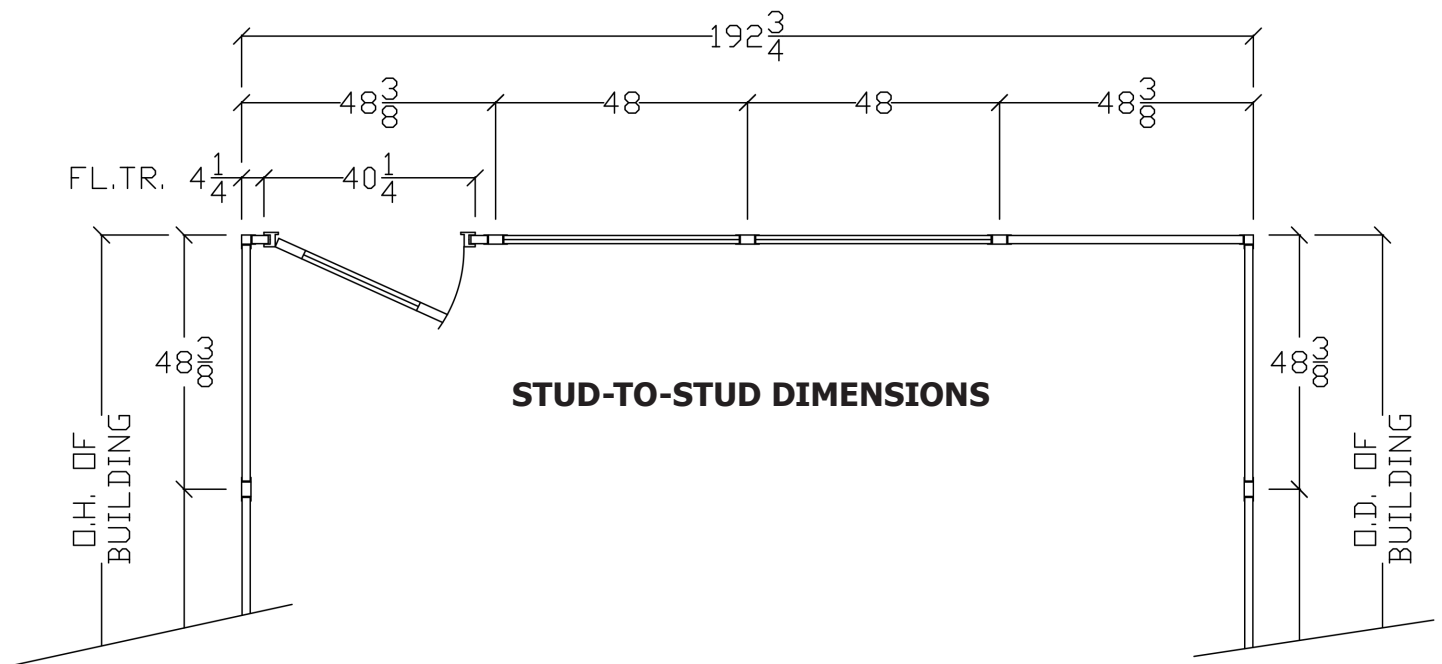
Example C

Install mitered Ceiling Cap Corners over Corner Post and Wall Panels to stiffen corners before proceeding. With each perimeter corner included in your unit, you will receive two pieces of Ceiling Cap mitered at 45 degree angles. These special pieces will be used to make your Ceiling Cap Corners.

Attach the corner connection together with a Steel Splice Plate. The end that is not mitered should end up at the center line of a Wiring Stud. If not, then field cut.



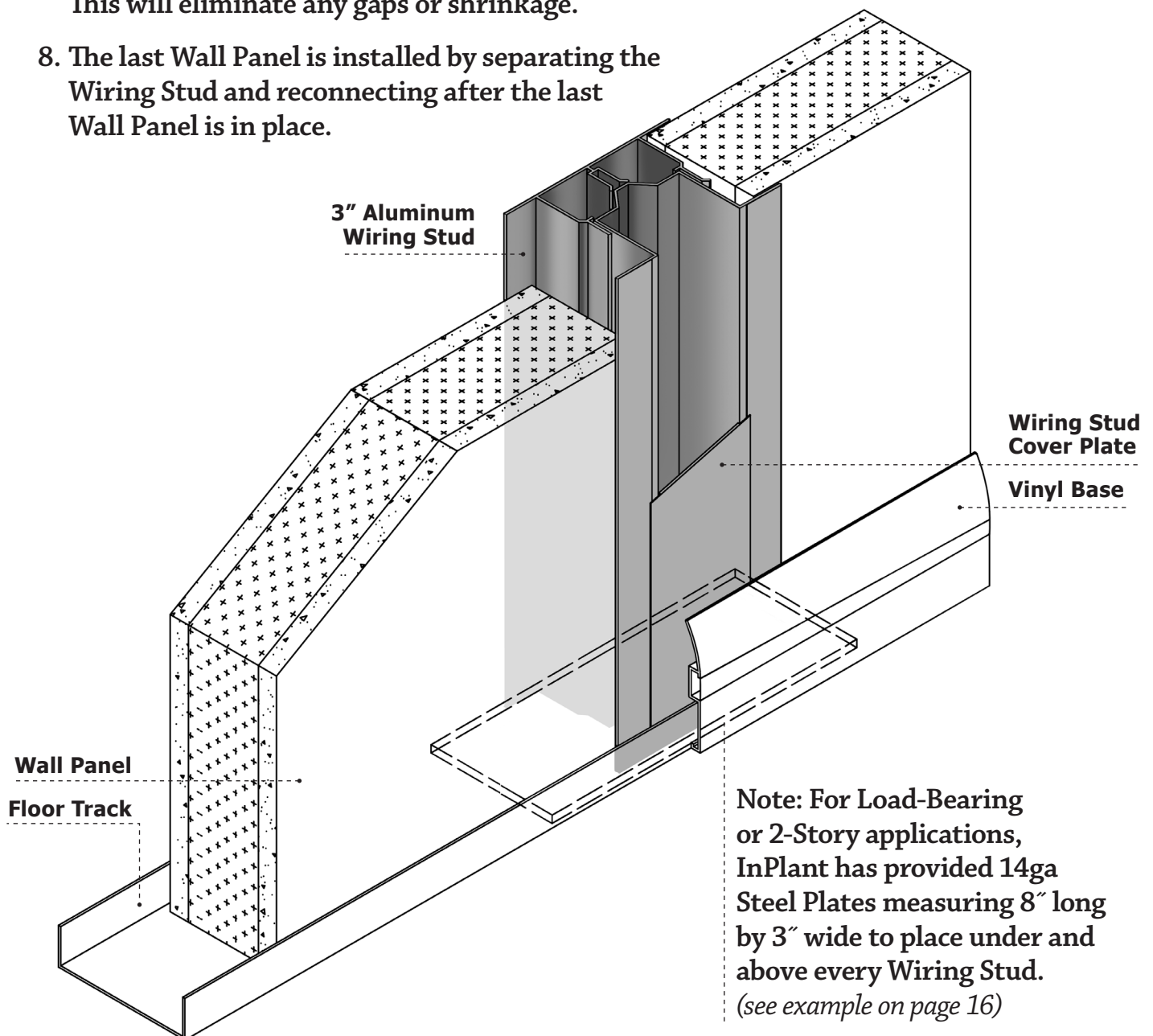
2. Continue along either wall by first locating center lines of Wiring Studs (Stud-to-Stud dimensions). These dimensions will be shown on the drawings provided for your system.



WALL ASSEMBLY

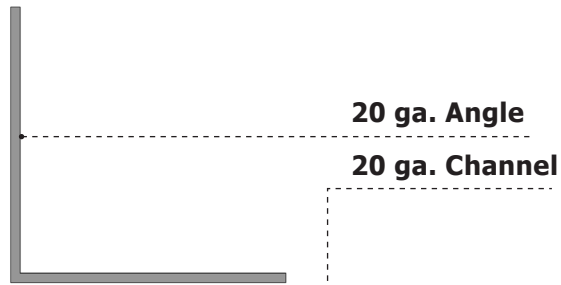
(CONTINUED)

3. Insert the next Wall Panel into the Floor Track and slide into the Wiring Stud.
4. Next, tighten the post & stud screws. (*see example B, page 8*)
5. Proceed around the perimeter in the same manner.
6. Install Ceiling Cap Corners after each corner is in place and tightened. (*see example C, page 9*)
7. Check the centerline dimension of each Wiring Stud with dimension on your drawings (Stud-to-Stud dimension). This will eliminate any gaps or shrinkage.
8. The last Wall Panel is installed by separating the Wiring Stud and reconnecting after the last Wall Panel is in place.



WALL ASSEMBLY

(CONTINUED)



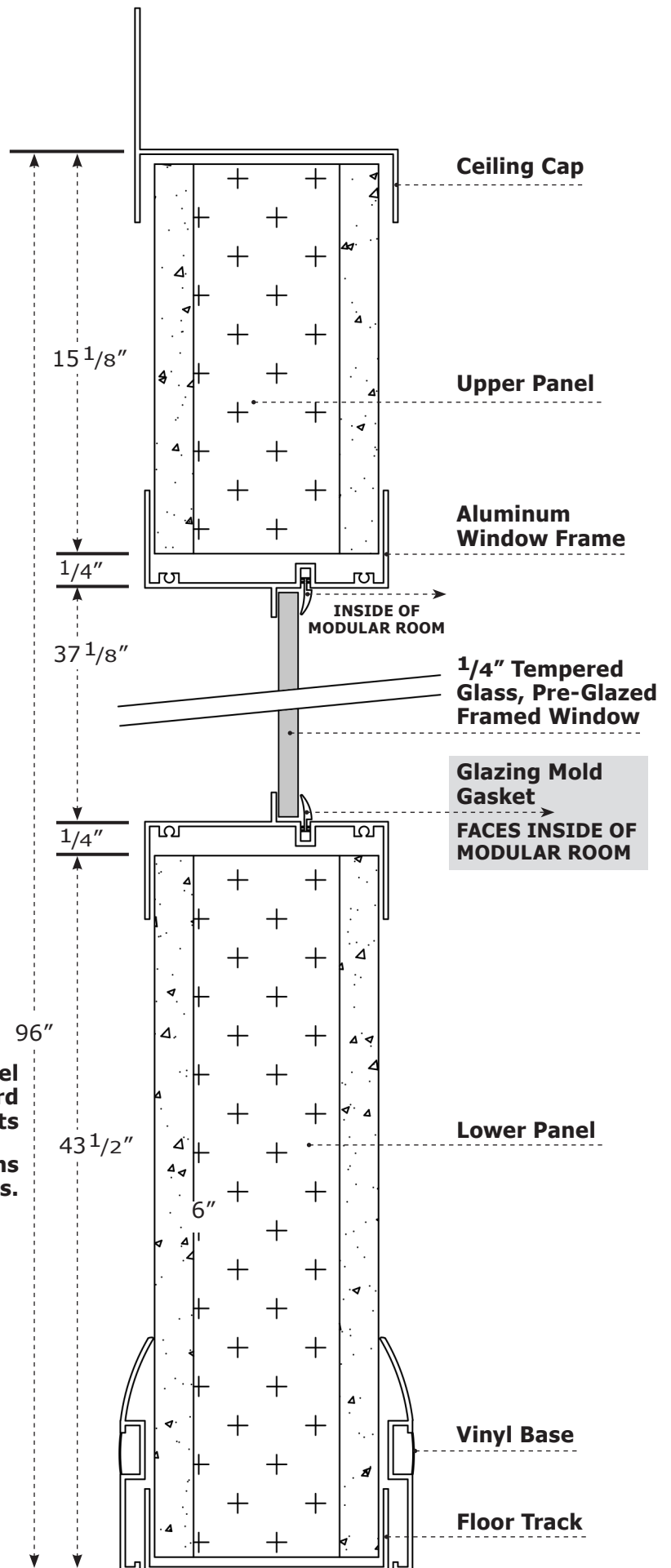
Ceiling Cap for 1 $\frac{3}{4}$ " and 3" **Steel Building Systems** is a 2 piece component fastened together in the field.

9. Make sure all corners are plumb.
10. Cut Ceiling Cap to fit between Ceiling Cap Corners.
It is very important that sections of Ceiling Cap intersect over Wiring Studs.

Some field modification may be necessary.

Wall Panel Standard Measurements
Follow provided plans for all Systems.

Recommended: pop-rivet or screw the Ceiling Cap & Floor Track in 4 locations each, 8 locations total in a Wiring Stud and a Corner Post — 2 top & 2 lower on the interior, and 2 top & 2 lower on the exterior.



WINDOW INSTALLATION

Window units consist of THREE parts:

- 1) Lower Window Wall Panel
- 2) Pre-Glazed Framed Window
- 3) Upper Window Panel

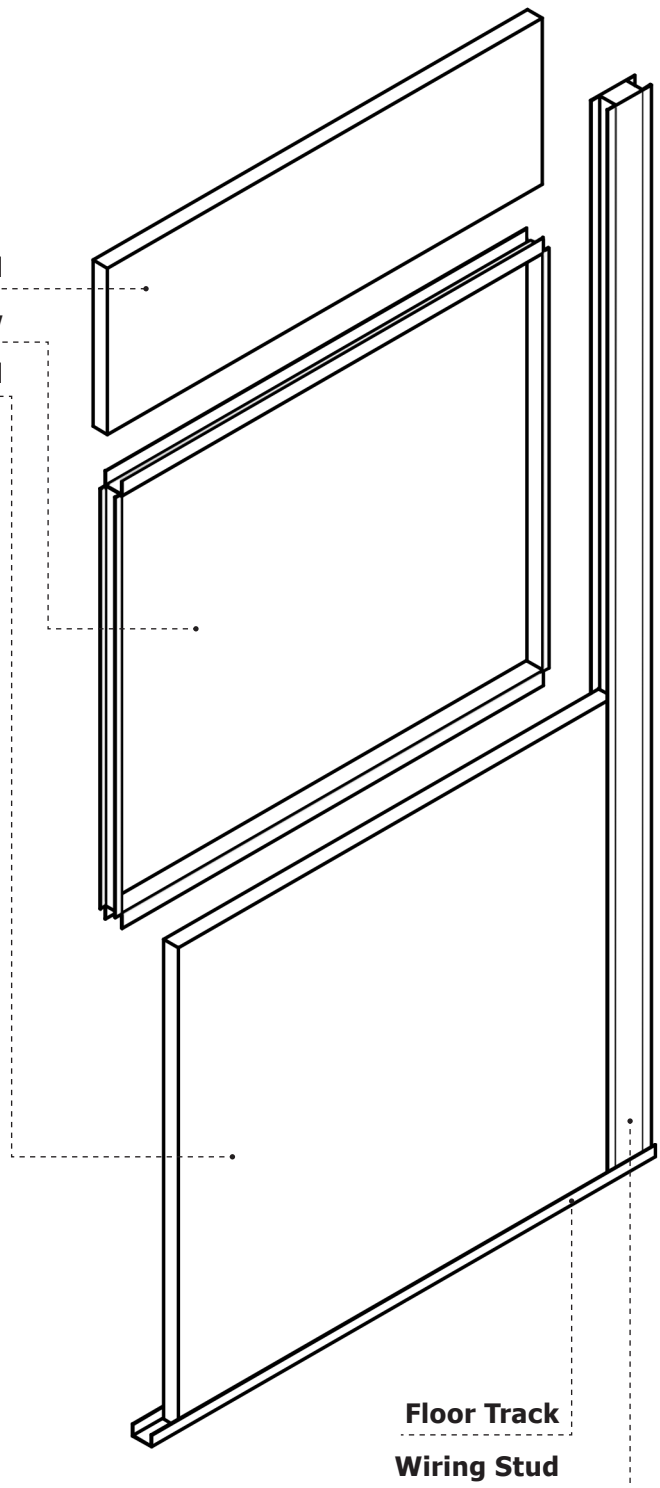
Windows slide flush into the Wiring Stud in the same manner as the full Wall Panels.

1. Insert the Lower Window Wall Panel in the adjacent Wiring Stud.
2. Install Framed Window component.

Remember this unit is glass and is fragile, and could break!

3. Insert the Upper Window Wall Panel.
4. Slip on adjacent Wiring Stud, secure with screws, and proceed to next Wall Panel.

For proper installation, make certain that the Window Frames are inserted all the way into the Wiring Studs and sill heights align. If you have a wall consisting of all window units, it is imperative that the windows be pushed all the way into the Wiring Studs. Otherwise, the wall will grow in length and the last Wall Panel Unit will not fit in that run. Refer back to Stud-to-Stud dimensions on your shop drawings (*drawing example on page 9, step 2*).



SINGLE DOOR & FRAME

3" System Door Standard: 3670

Door slides directly into supporting structural system (Wiring Stud).

Window styles optional.

4 Screws each side
#10-16 x $\frac{3}{4}$ " Hex-Head
Self-Tapping Screws

10 x $\frac{5}{8}$ " Phillips
Pan Head Self-tapping Screw

Splice Plate

10 x $1\frac{1}{4}$ " Phillips
Pan Head Tek 3 Screw

Door Header
Wall Panel

Ceiling Cap

Door Stick
Wall Panels

Door Frame

Wiring Stud
with Cover Plate

$1\frac{3}{4}$ " System Door Standard: 3070

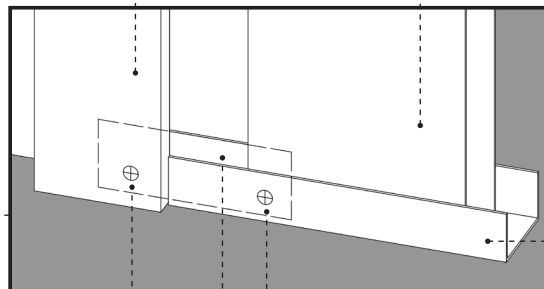
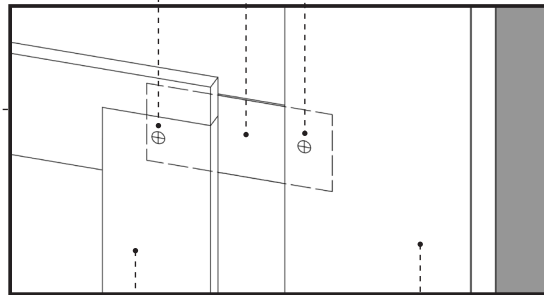
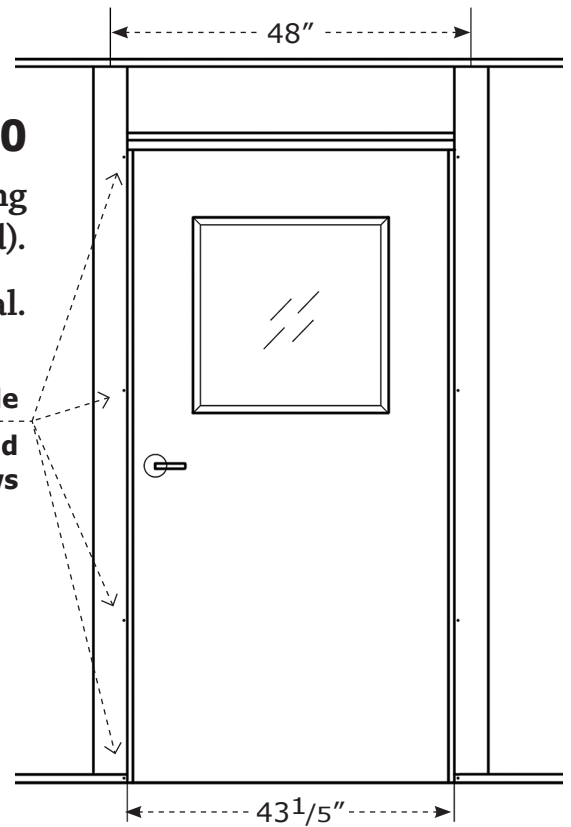
Includes Splice Plates &
Door Stick Wall Panels.
Splice Plates secure
the door to the
structural system.

Floor Track

10 x $\frac{5}{8}$ " Phillips
Pan Head Self-tapping

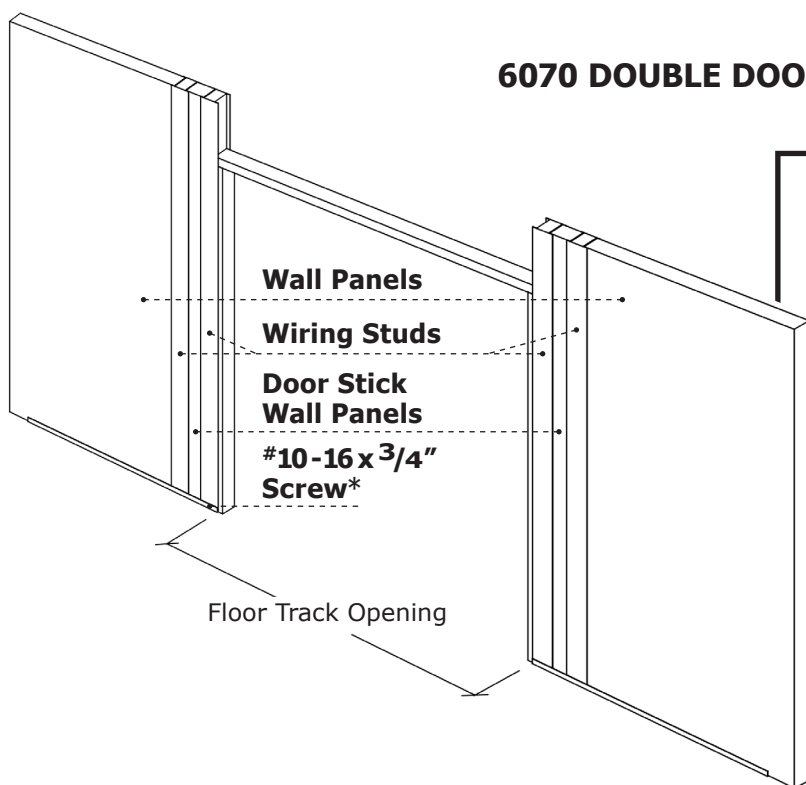
Splice Plate

10 x $1\frac{1}{4}$ " Phillips
Pan Head Tek 3



DOUBLE DOORS >>

6070 DOUBLE DOORS & FRAME



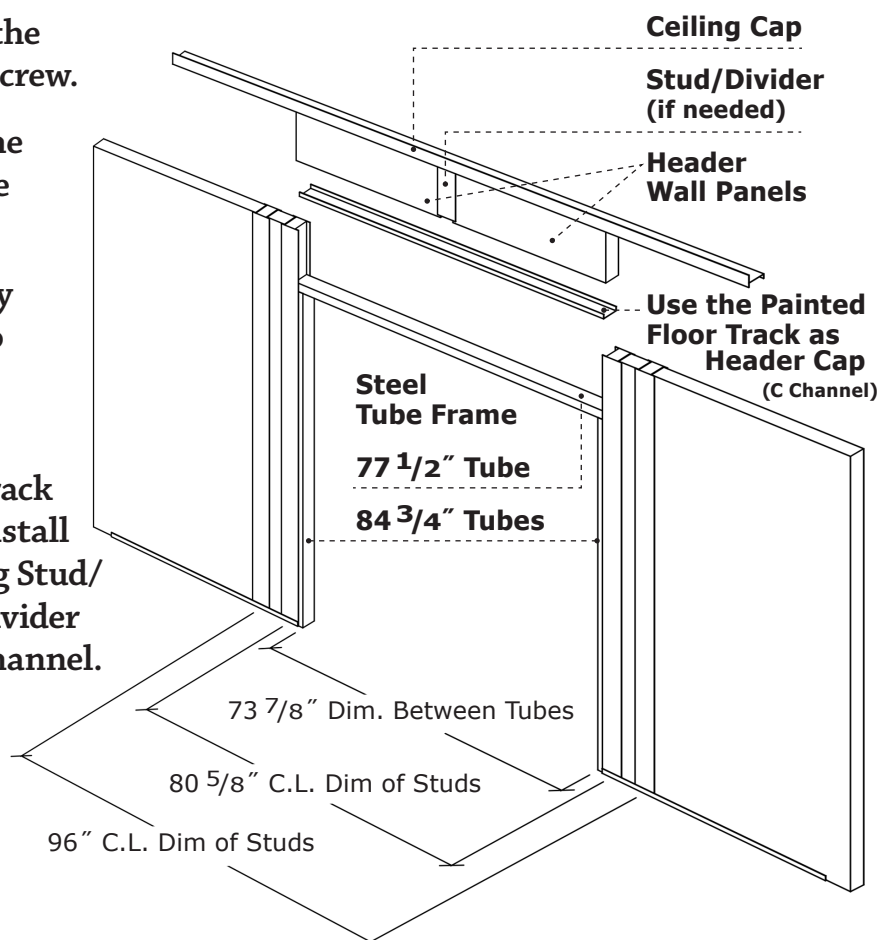
Read Notes BEFORE Installing Double Doors

Read all door assembly instructions prior to setting the door — pages 13-15.

Assembly of Wiring Studs and Steel Tubes must be completed at the time the door is being assembled in the wall.

If floor is not level, work from the high side and shim vertical Tubes so that the horizontal Tube is level.

1. Locate and plumb Wiring Stud at the required 80 5/8" apart (centerline dimensions). *Secure one Stud to the Floor Track with a #10 - 16 x 3/4" screw.
2. Insert vertical 84 3/4" Tube into the side of Stud as shown; 3" side to be inserted into Studs.
3. Place the 77 1/2" Tube horizontally on top of the two vertical Tubes to create a 3-sided Steel Tube Frame.
4. Install Door Header Wall Panel(s) by first attaching painted Floor Track on top of horizontal Tube. Then install Wall Panel(s) and the short Wiring Stud/Divider. The short Wiring Stud/Divider will rest in the painted Track/C Channel.
5. Install Ceiling Cap over the Wall Panel assembly.
6. Finish installing remaining Wall Panels, Roof Deck and Ceiling before going to step 7 on next page.



Outside Dim. (O.D.) of Door Frame: 76"
Inside Dim. (I.D.) of Door Frame: 72"

6070 DOUBLE DOORS & FRAME

(CONTINUED)

7. The Door Frame is a 3-piece knockdown frame.
Slide Door Jam and Header over previously assembled Tube Frame.

8. Attach doors to the door frame.

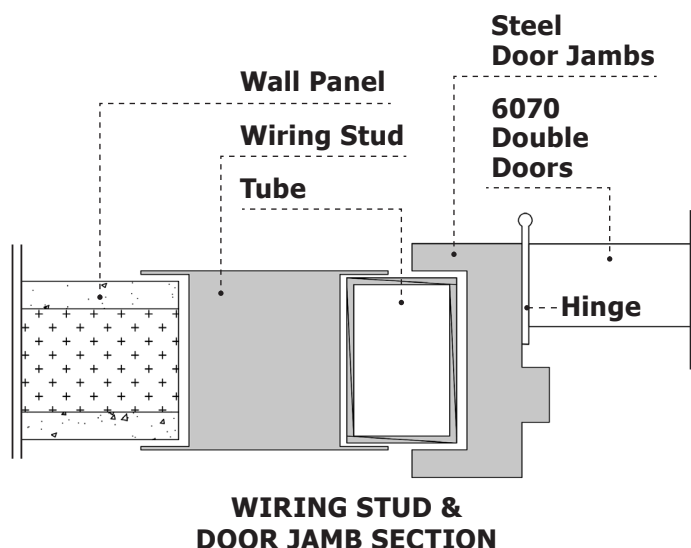
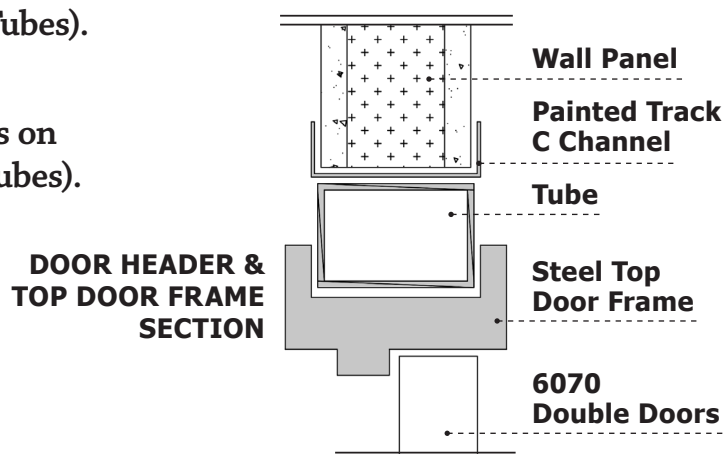
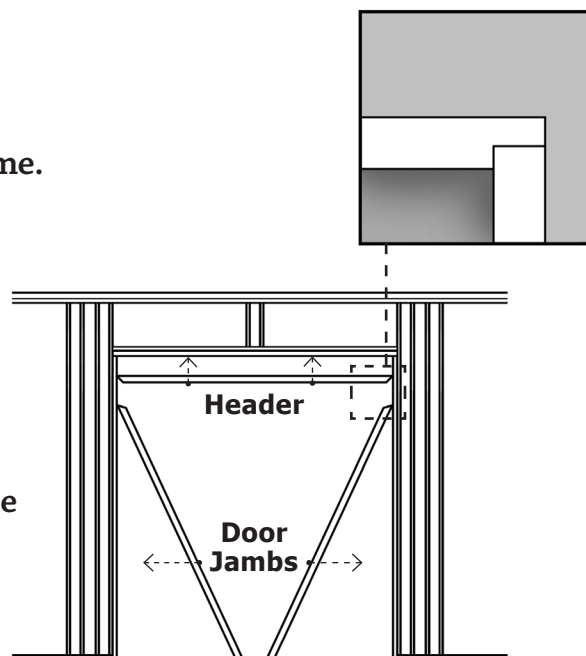
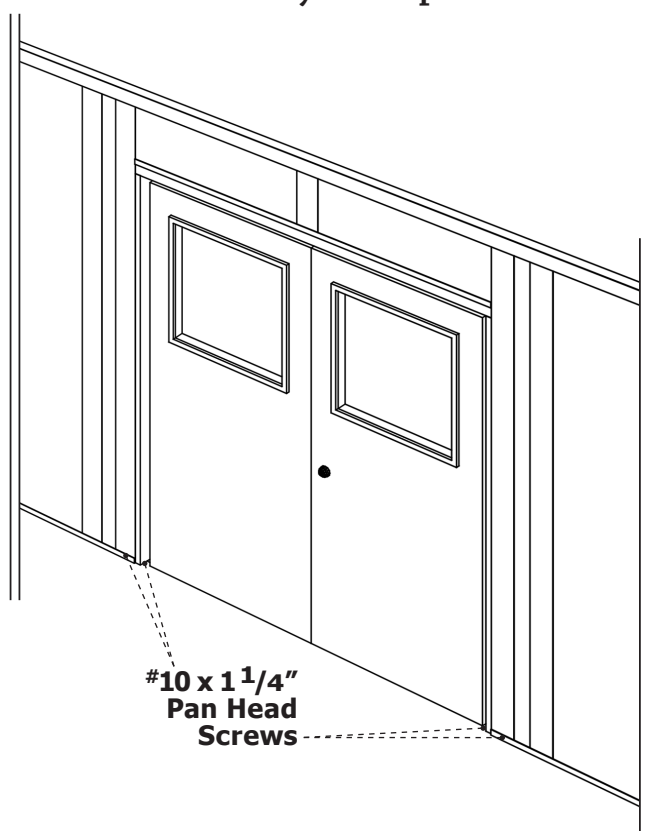
9. Plumb the door as follows:

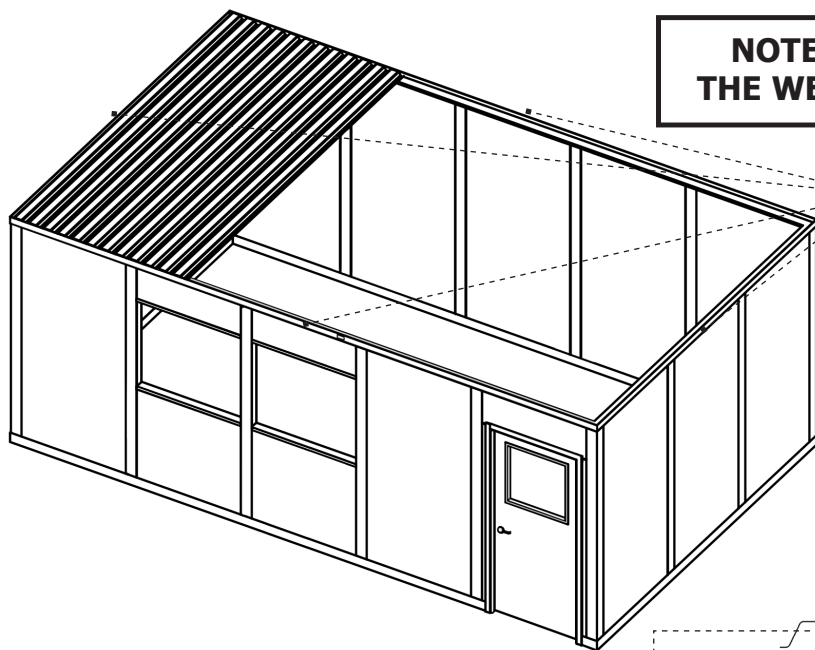
- A. Re-plumb the Wiring Studs and Tubes
- B. Plumb one side Jamb under the Top Frame and fasten at the Header
- C. Verify the Top Frame is level, plumb the other Jamb and fasten to Header

10. Once door is plumb, secure Floor Track, Wiring Stud and Tube together with #10 x 1¹/₄" Pan Head Screws on each side of Wiring Studs (pre-drill Tubes).

11. Secure Door Frame to Tubes with #10 x 1¹/₄" Pan Head Screws in locations on each side of the Door Frame (pre-drill Tubes).

Door assembly is complete.





NOTE: ROOF DECK IS NOT DESIGNED FOR THE WEIGHT OF A PERSON OR FOR STORAGE.

Place appropriate
CAUTION STICKERS
on trim angle on each
side of building.

- Non-Load Bearing
- Maintenance Load Only
- Load Bearing
(with lbs per square foot)

CAUTION
Non-Load Bearing Deck

Maintenance Load Only
CAPACITY: _____ **LBS.**
PER SQ. FT.

Load Bearing Deck:
#PSF
POUNDS PER SQUARE FOOT

Roof Decking Valley

SIDE "A"

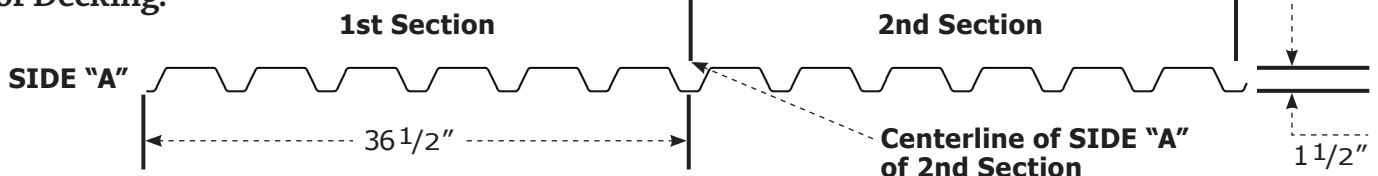
SIDE "B"

The modified "V" Roll-formed design Roof Decking is furnished with your new InPlant Building. Keep in mind it will grow or shrink in width during assembly. Special care needed to control the dimensions while assembling. Make sure that all Wall Panels, Corner Posts and Wiring Studs are plumb as you begin fastening the Roof Decking to the Ceiling Cap.

ROOF DECKING / NON LOAD-BEARING

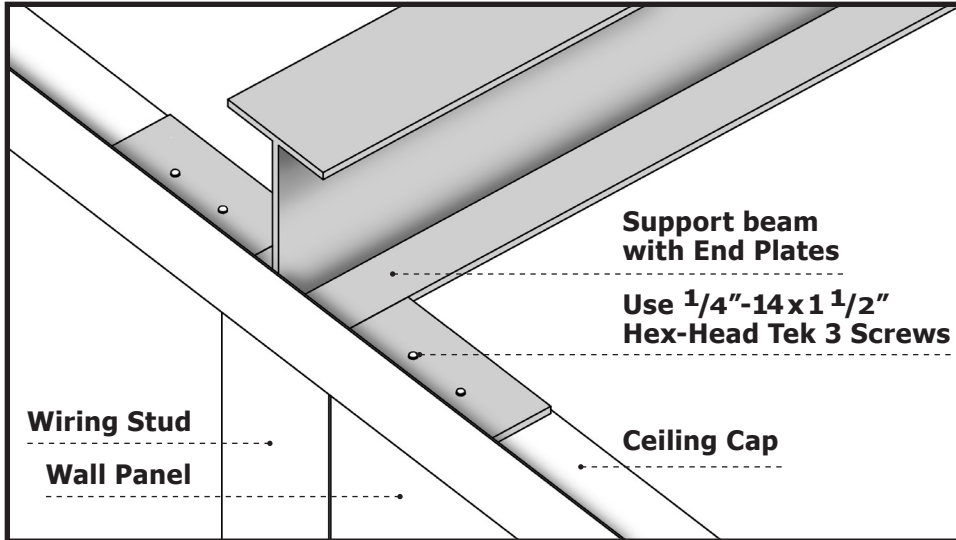
In buildings with outside dimensions of 12'-4 1/2" or less in the short dimension, supplementary support members are not required. For these buildings, the Roof Decking will span from wall to wall.

1. Locate the first piece of Roof Decking. Start at one end of the building.
2. Make certain that this first piece starts square with the building. Drill the Roof Decking and Ceiling Cap on the long side and screw together. Screws should be at each end and approximately on 18" centers in between.
3. Install the second section of Roof Decking in place by setting the valley on side "A" into the valley of side "B" on the previous piece of Decking.
4. Screw the ends of the first piece of Decking in the center of each valley into the Ceiling Cap. Also, screw the lap joint every 18" along the length of the Decking.
5. Repeat these steps to complete Roof Deck installation.
6. Upon completion, all edges of the Roof Decking will be screwed into the Ceiling Cap in every valley, and screw all lap joints on 18" centers (where two pieces of Decking overlap).



I-BEAMS / NON LOAD-BEARING

In buildings with the short distance greater than 12' 4 1/2", one or more support I-Beams will be used. The metal Roof Decking will be fastened to supporting I-Beams as outlined in the below steps.

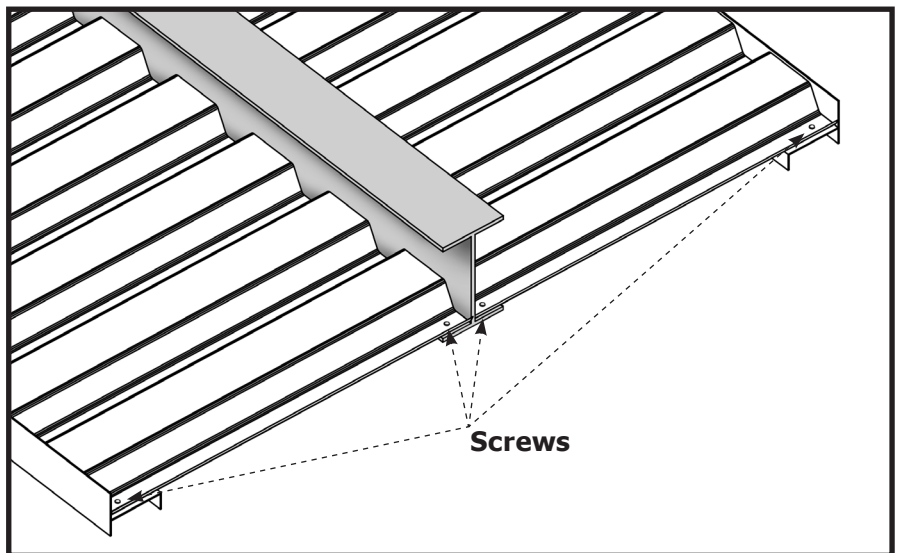


These support I-Beams will rest on top of the Ceiling Cap, and centered directly over the Wiring Stud shown on the provided drawing. Drill 3/16" diameter holes, two on each side of the I-Beam and attach to the Ceiling Cap with 1/4" - 14 x 1 1/2" Hex Washer Head Self-Tapping Screws which are provided.

CAUTION: FOR SAFE INSTALLATION, ANCHOR DECK AS YOU GO.

Work Roof Decking on both sides of the support I-Beam for even loading. For your safety, you must follow the above instructions.

Consult the drawings of your InPlant Modular Building for I-Beam locations and install Decking as you go.

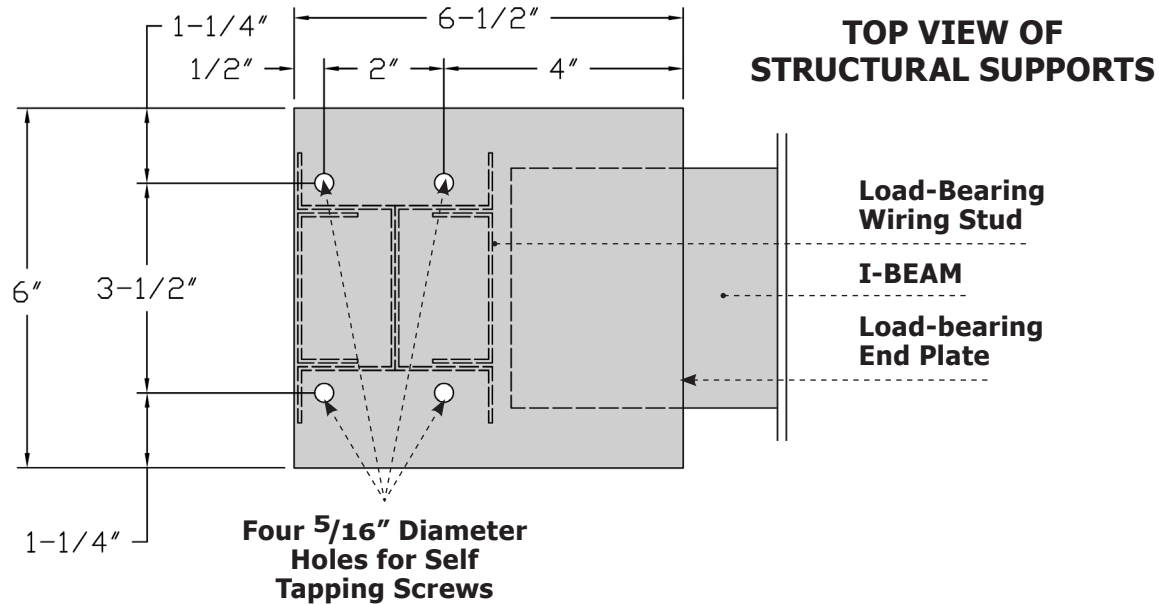


IMPORTANT: Place appropriate Caution Stickers on each side of building on trim angle as shown on page 16.

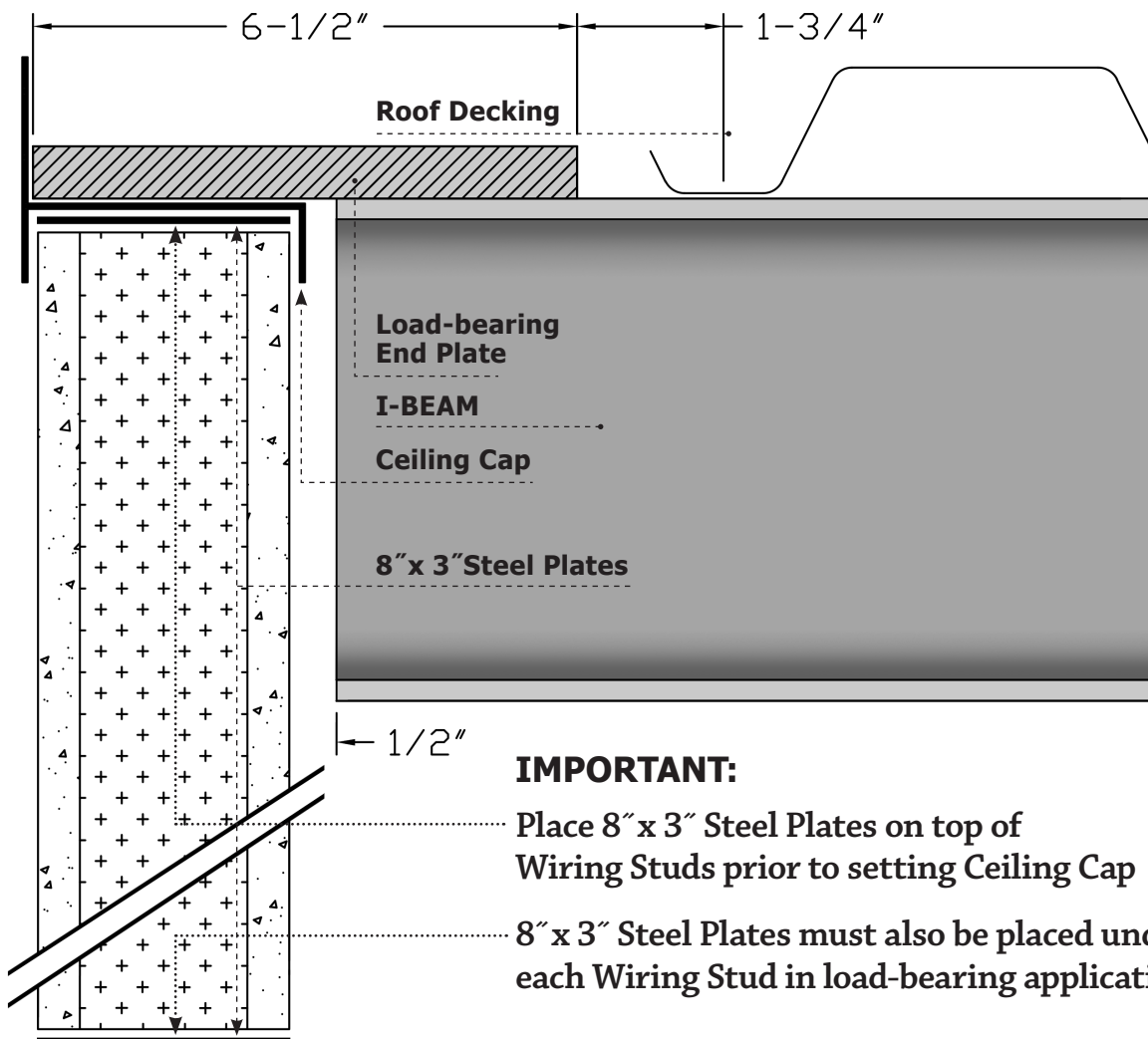
NOTE: ROOF DECK ALONE IS NOT DESIGNED FOR THE WEIGHT OF A PERSON OR FOR STORAGE.

I-BEAMS / LOAD-BEARING

For load-bearing and 2-Story applications, the I-Beams are heavier and mounted as shown below.



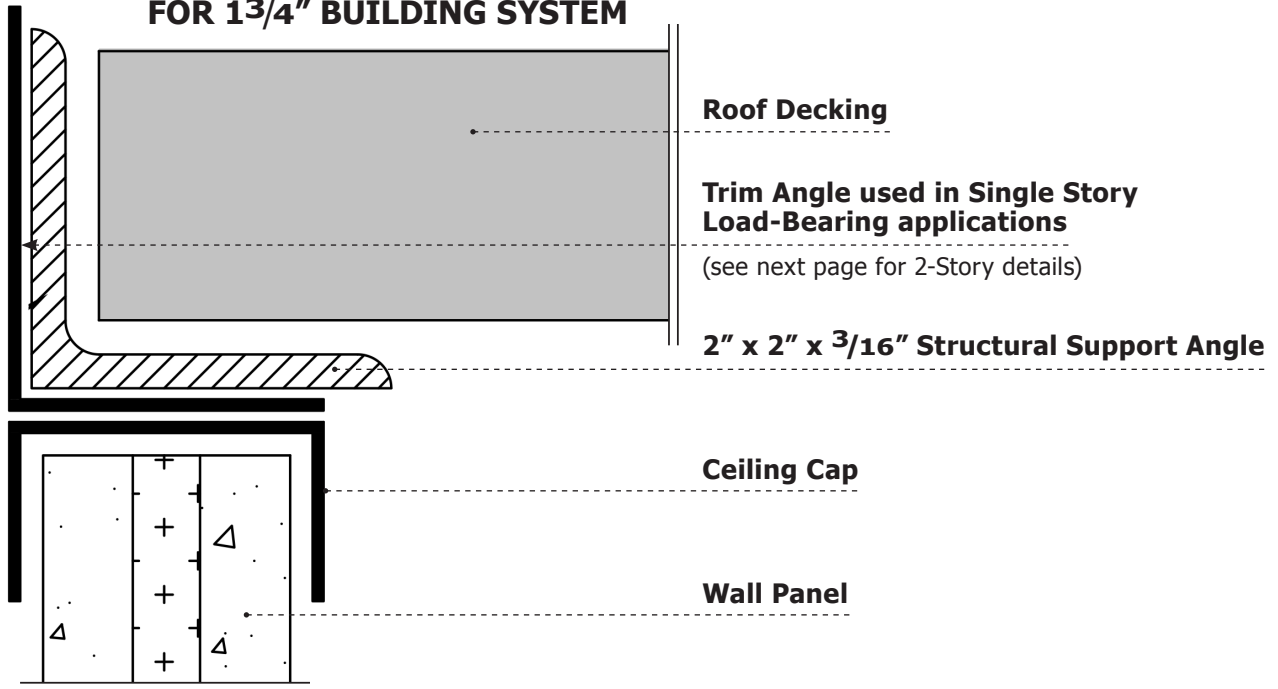
SECTION VIEW OF STRUCTURAL SUPPORTS



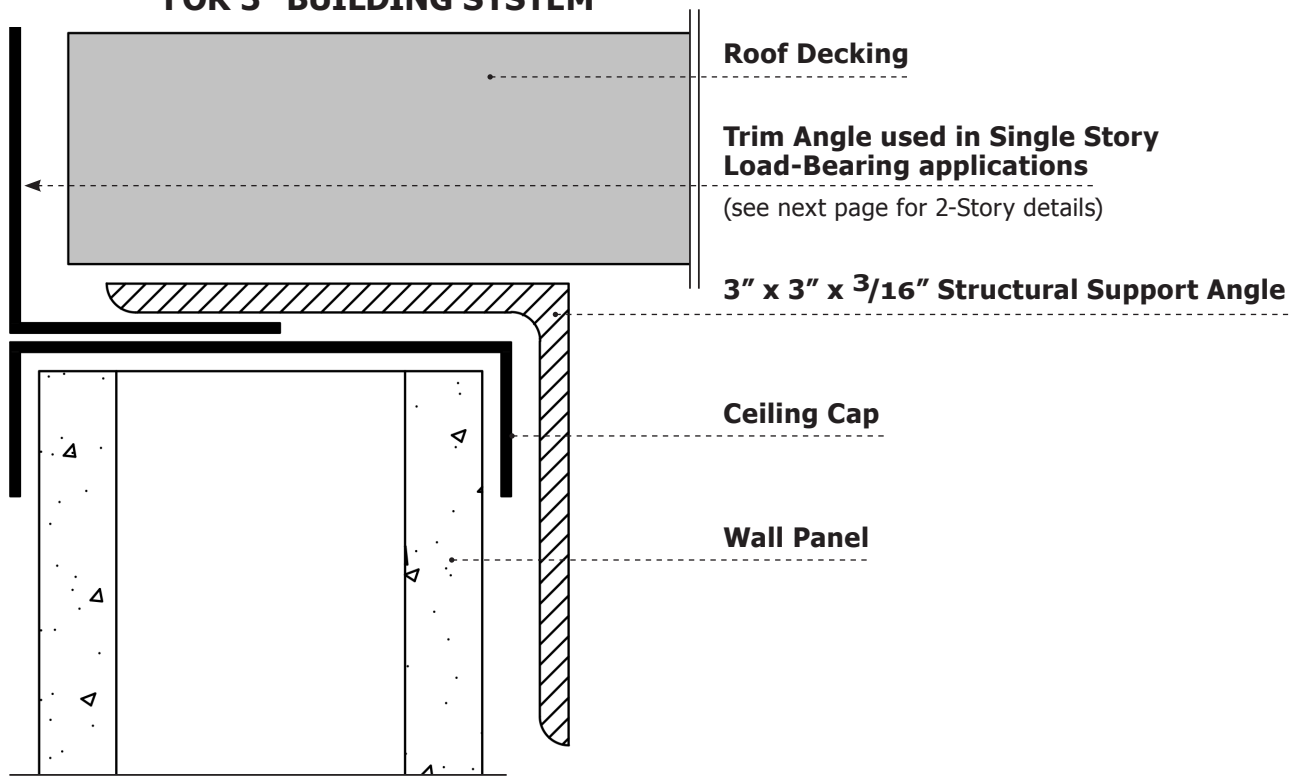
ROOF DECKING / LOAD-BEARING

Structural Angle is used on perimeter walls running parallel to I-Beams.

SECTION VIEW OF STRUCTURAL SUPPORT ANGLE FOR 1³/₄" BUILDING SYSTEM



SECTION VIEW OF STRUCTURAL SUPPORT ANGLE FOR 3" BUILDING SYSTEM



2-STORY STRUCTURAL SYSTEM

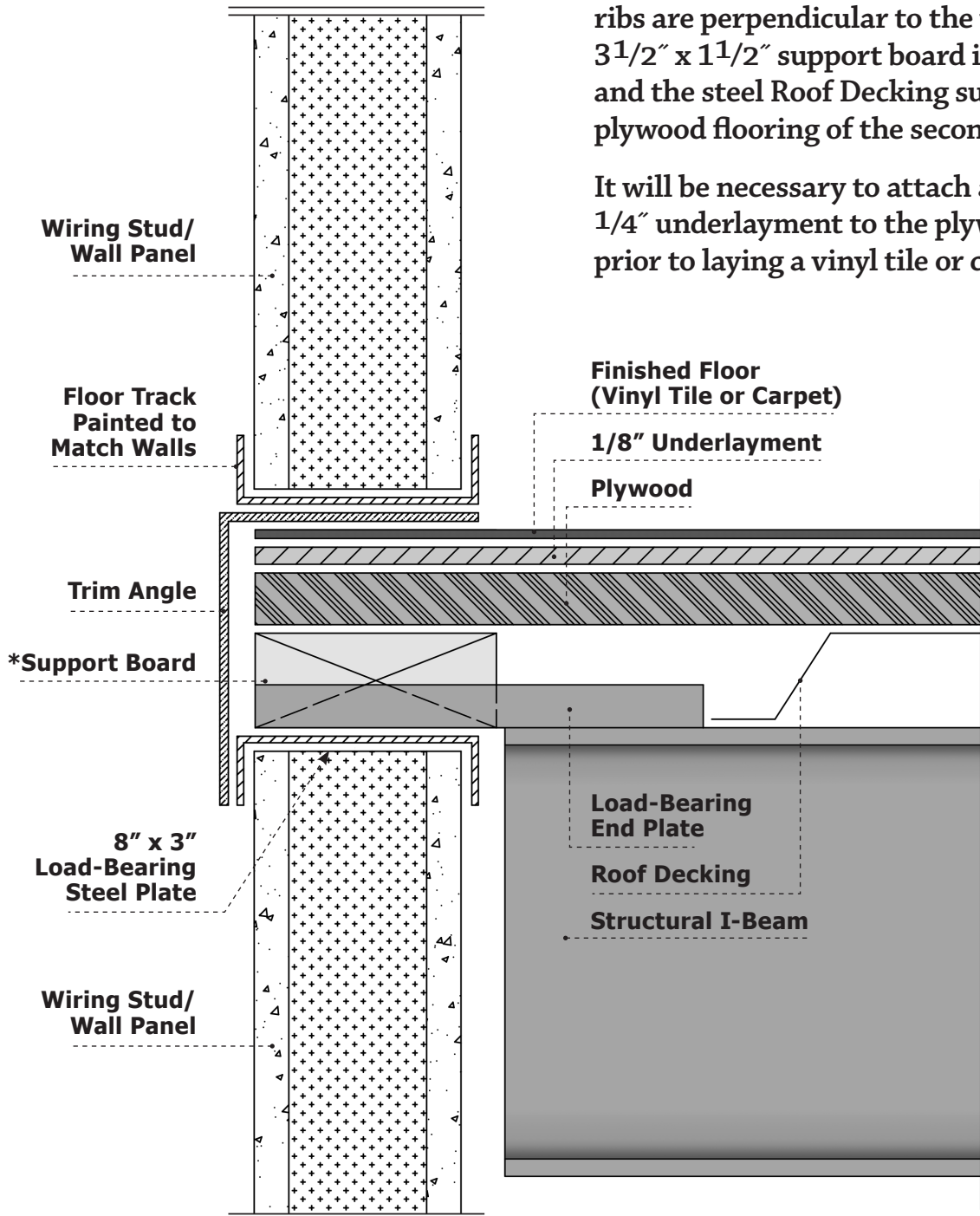
The heavier I-Beams are supported by plates welded to the top of the I-Beams.

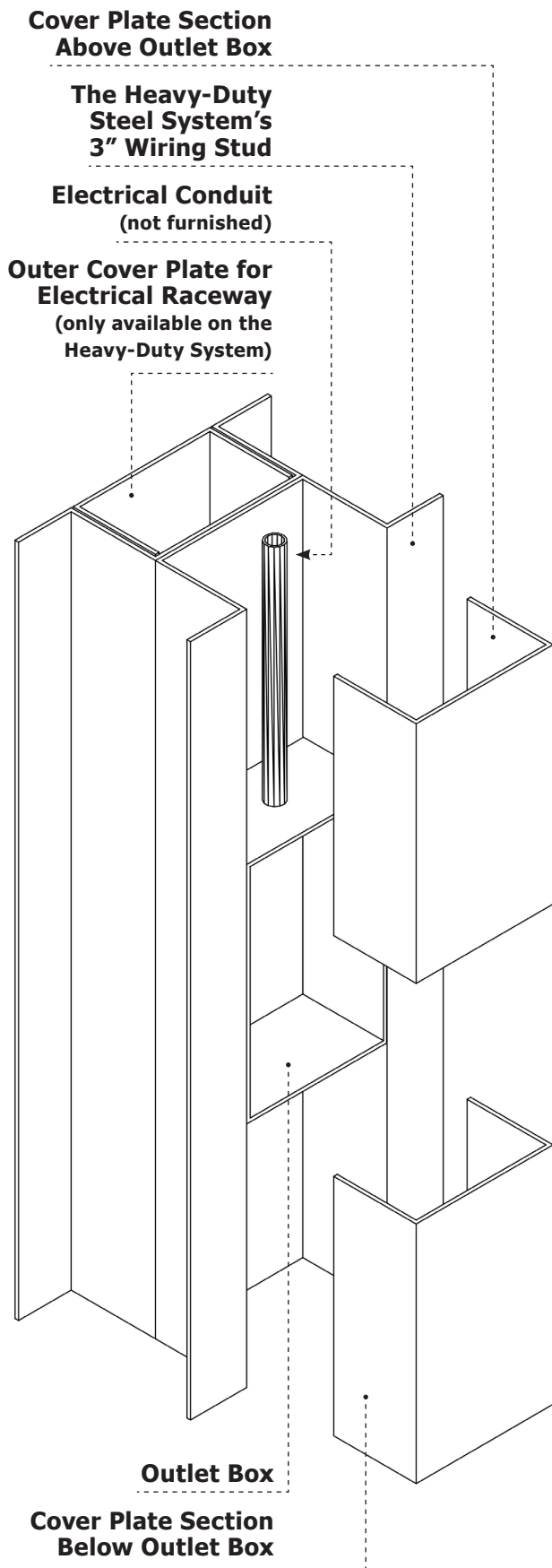
Plates rest on the Ceiling Cap with I-Beam centered upon Wiring Stud and are attached with Self-Tapping Screws.

The Roof Decking must be attached to the support I-Beams on 6" centers.

On the End Walls where Roof Decking ribs are perpendicular to the walls, the 3 1/2" x 1 1/2" support board is omitted* and the steel Roof Decking supports the plywood flooring of the second floor.

It will be necessary to attach a 1/4" underlayment to the plywood floor prior to laying a vinyl tile or carpet.





ELECTRICAL NOTES

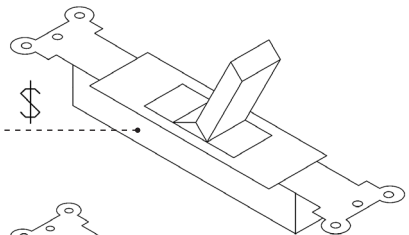
Lights, Outlets, Switches, Handy Boxes, Electrical Cover Plates, and Load Centers are included in a Standard Electrical Package. Conduit and wiring NOT furnished by InPlant.

Wiring Studs are designed to route data cables and electrical conduit and to receive Handy Boxes.

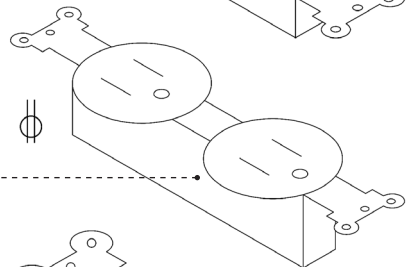
When your building shell is complete, mount your Electrical Boxes and conduit in Wiring Studs' recesses. Terminate the conduit just above the Grid Ceiling.

Pull wire (not furnished) and complete electrical hookups. Now measure and cut Wiring Stud Cover Plate to run from top of Electrical Boxes to $\frac{1}{2}$ " above the Wall Mold for the Grid Ceiling and from the bottom of the Box to the floor. Slide Stud Cover Plate behind Wall Mold and Floor Track and snap into Wiring Stud.

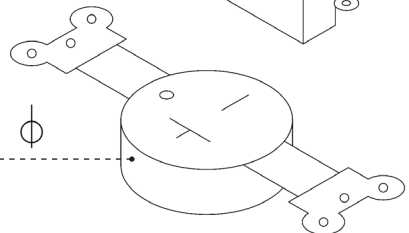
Light Switch & Switch Symbol



120V Duplex Outlet & 120V Outlet Symbol



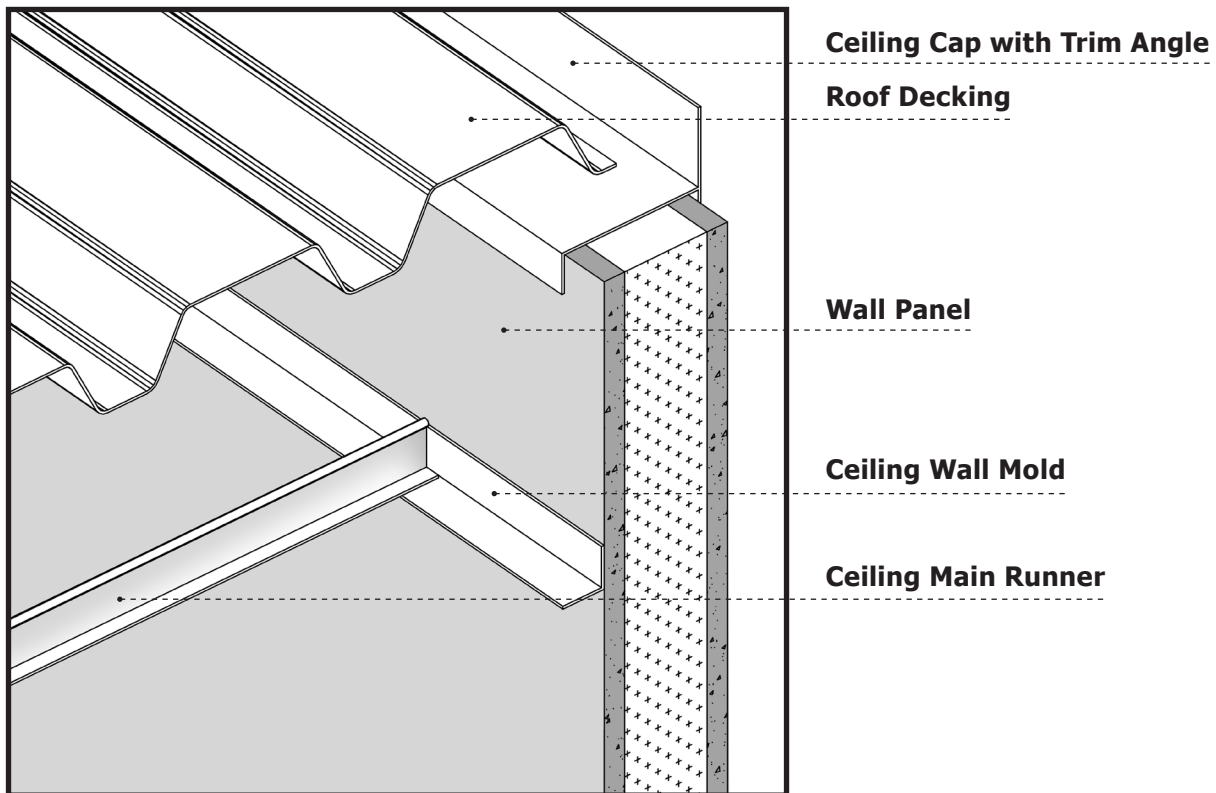
220V Outlet & 220V Outlet Symbol



GRID CEILING

The standard ceiling furnished is the 2'x4' Lay-In Suspended Grid type.

1. Determine ceiling height. The ceiling may be set at any height to suit field conditions. Factory recommendations: height should be no less than 6" from the top of the walls to provide adequate space for lights and insulation under the Roof Deck. After the ceiling height has been established, mark and snap a level chalk line on the walls marking the location for the top of the Wall Molding.
2. Install Wall Molding. Make certain the top of Molding is in line with the level chalk mark. For inside corners, lap one piece of Molding over the other. Wall Molding should be anchored with either sheet metal screws or pop rivets.

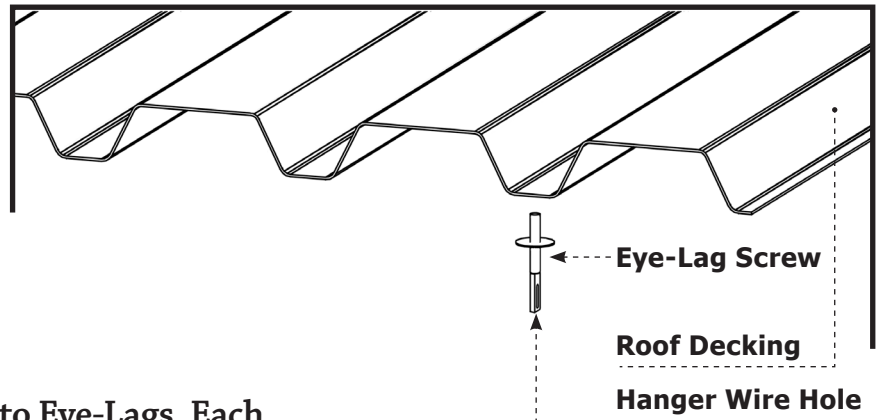


GRID CEILING

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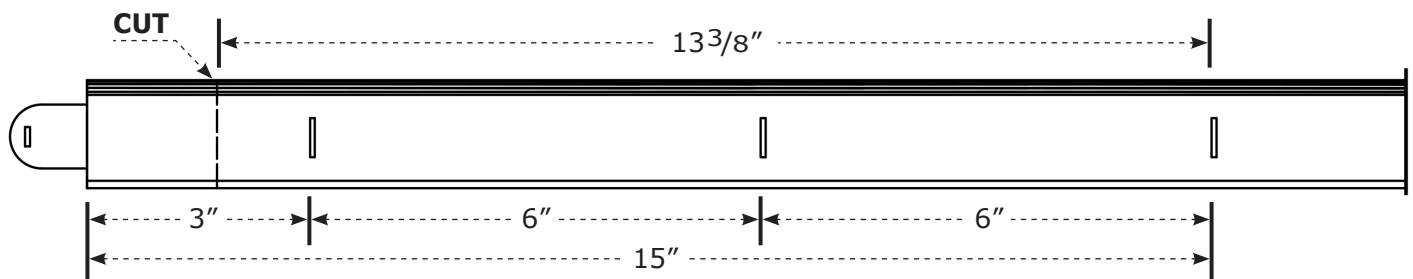
3. Install Main Runners at locations shown on your drawing using the furnished Hanger Wire.

Be certain that the first Cross Tee anchor points correspond to the building drawing. Install Eye-Lags on the underside of the Roof Decking as required to suspend ceiling.



4. Attach ceiling Hanger Wire to Eye-Lags. Each full length Main Runner should be supported in at least 3 places by Hanger Wire. Make certain that a Hanger Wire is attached to each corner where Lighting Fixtures will be located.
5. Install the Main Runner. Make sure it is straight and level. A chalk line stretched adjacent to the Runner will facilitate this. It is necessary that Cross Tee anchor points align on all Main Runners. Standard Main Runners have 24 Cross Tee Slots — 6" on center starting, 3" from the end. When joining Main Runners together, the 3" on each end maintains the 6" spacing.
6. If the ceiling has an odd sized border, the Main Runner must be cut.

Measure from the inside Slot nearest that measurement out.



For example (see below), if the border is $13\frac{3}{8}"$, measure back from the Slot just over $13\frac{3}{8}"$, which is 15" in this case. Trim the Main Runner. After cutting to length, the Tee Slots will be correctly spaced.

GRID CEILING

(CONTINUED)

The Main Runners may be spliced together when spanning over 12' is required. Join Main Runners by snapping together making sure that the painted side of each Runner corresponds.

7. Start the next row using the remaining piece of Main Runner by trimming the cut end so that Cross Tee anchor points align on all Main Runners.
8. Install Cross Tee's at points indicated your drawings. Intersections of Cross Tee's and Main Runners must form 90 degree corners.
9. Cutting Ceiling Panels may be accomplished with Panel face up using a saw or sharp fiberboard knife. Measure and cut each border Panel individually.
10. Install the Ceiling Panels. Lay-In Panels are installed by resting these units on Cross Tee and Main Runner flanges. Exercise care when handling Ceiling Panels to avoid damaging the surface. Handle edges of the Panels keeping fingers, and particularly the thumbs, off of the finished side of the board as much as possible. Clean handled area necessary for a clean job. Lay in the Light Fixtures in the same manner as the Ceiling Panels.

The ceiling installation is complete.

BLACK COVE BASE MOLDING

Base Mold is furnished for the exterior and interior of your InPlant Modular Building System. The screw on Base should be installed with the screws provided. Screws should be located a minimum of 24" on center, under the flap in the center groove.



Prefabricated Modular Building Systems
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