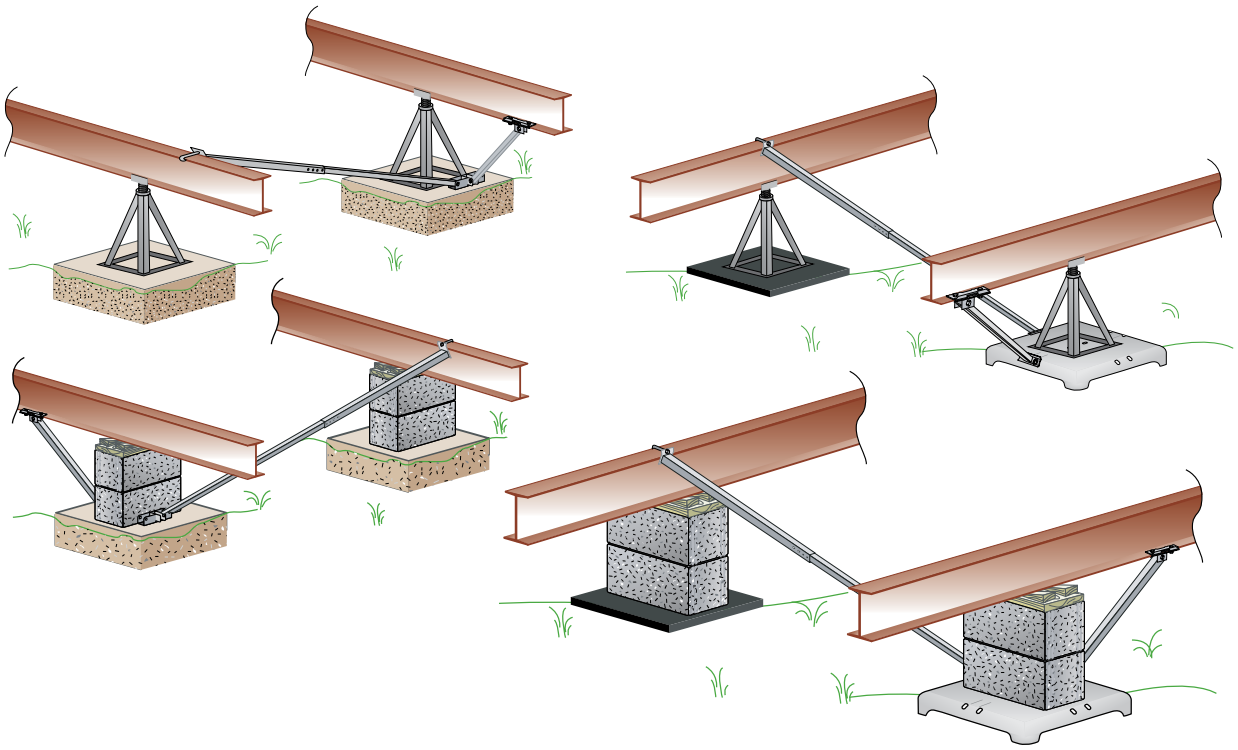
Xi2 Foundation System
Commercial/Modular Installation Instructions for Ground & Concrete Systems IBC/IRC 2009 90 mph Exposure C By Tie Down Engineering



REQUIREMENTS

- These plans and specifications meet the requirements of IBC 2009, 90 mph. Exposure C Wind Loads.
- Maximum wall height 14', unless design loads adjusted accordingly.
- Main rail spacing must be 75.5" - 99.5".
- Vertical anchor ties that are unique to design may be required by the manufacturer. These locations may include shear walls, marriage line ridge beam support posts, and rim plates. The longitudinal component of the Xi2 system replaces end frame ties. Check manufacturers set-up requirements.
- Maximum pier height is 48" pier.
- Steel piers must be fastened to the I-beam with clamps provided with steel pier.
- Systems must be placed as evenly as possible, no more than 10' from end of unit.
- Designed for roof slope of 14 degrees or less.

Additional Requirements for Concrete Systems

- Poured concrete must be 2,500 PSI minimum at 28 days.
- Square concrete pads minimum is 18" wide by 12" deep. Round concrete pads minimum is 18" diameter by 14" deep. Strip footings minimum is 18" wide by 14' long by 6" deep.

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110215.4988

Installation of Xi2 Ground Systems

1. Identify the number of systems to be used on the unit using the chart provided (see page 4).
2. Identify the location where the systems will be installed.
3. Clear all organic matter and debris from the pad site.
4. Place U-bolts through holes in pan provided.
5. Place pad centered under beam with the lateral strut bracket towards the inside of the unit.
6. Press or drive pan into ground until level and flush with prepared surface.
7. Build pier according to State, Local or unit manufacturers guidelines (Figure 1).
8. Attach the end of the smaller tube to the inside of pan using U-bolt & nuts provided
9. Attach the flag end of the larger tube to the opposite I-beam using the “J” bolt over the top of the I-beam with the nut & washer provided (Figure 2).
10. Install a minimum of four (#12 x 1” tek screws) self-tapping screws into the holes provided in the lateral strut so that the two tubes should overlap a minimum of 6”. (Figure 1).

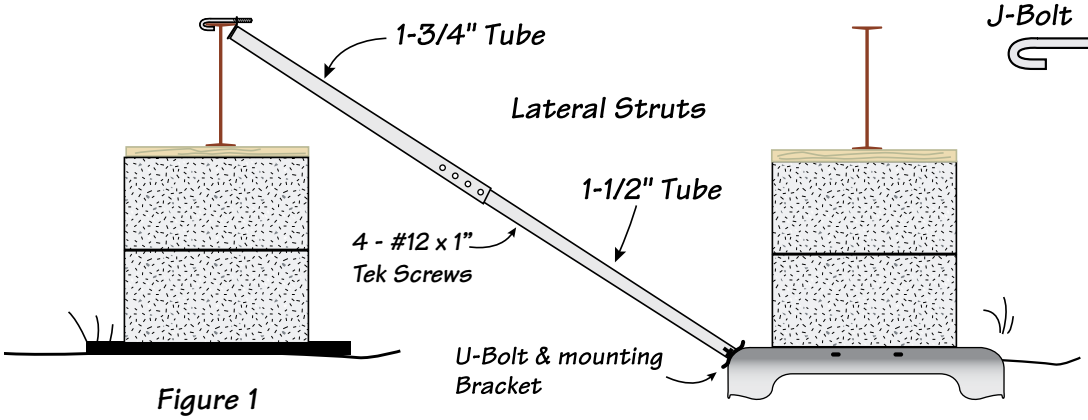


Figure 1

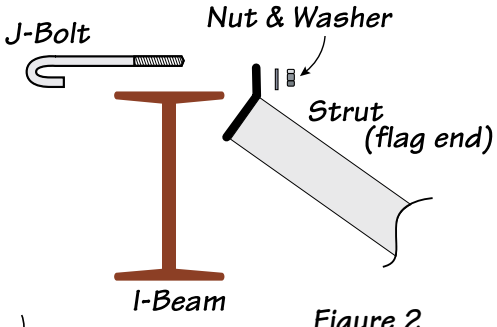
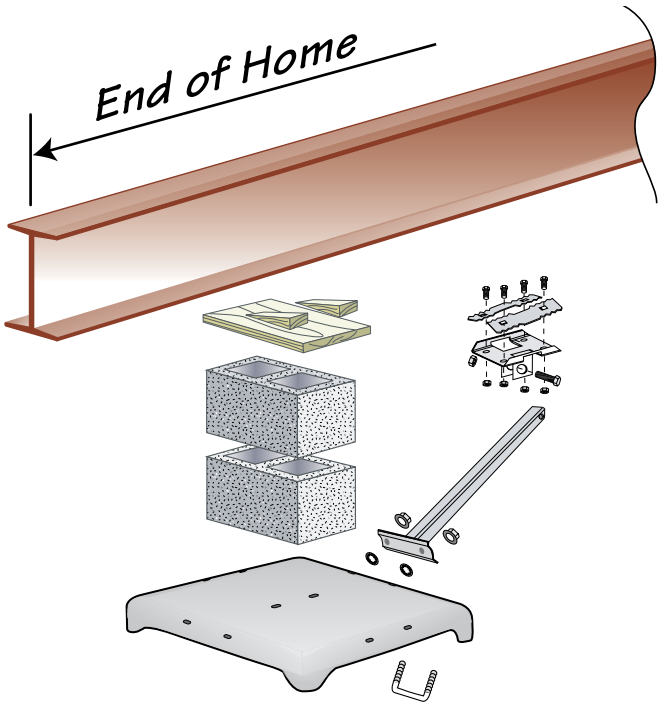


Figure 2



11. Install frame bracket clamps to I-beam on in side of block/pier. Do not tighten nuts at this time.
12. Attach longitudinal strut to U-bolt in pan using nuts provided.
13. Insert strut in the frame bracket clamp, attach with nut and bolt. Do not tighten at this time.
14. Pull the frame bracket clamp with the fastened strut outward to remove any slack.
15. Tighten all nuts and bolts on the struts and beam clamps.

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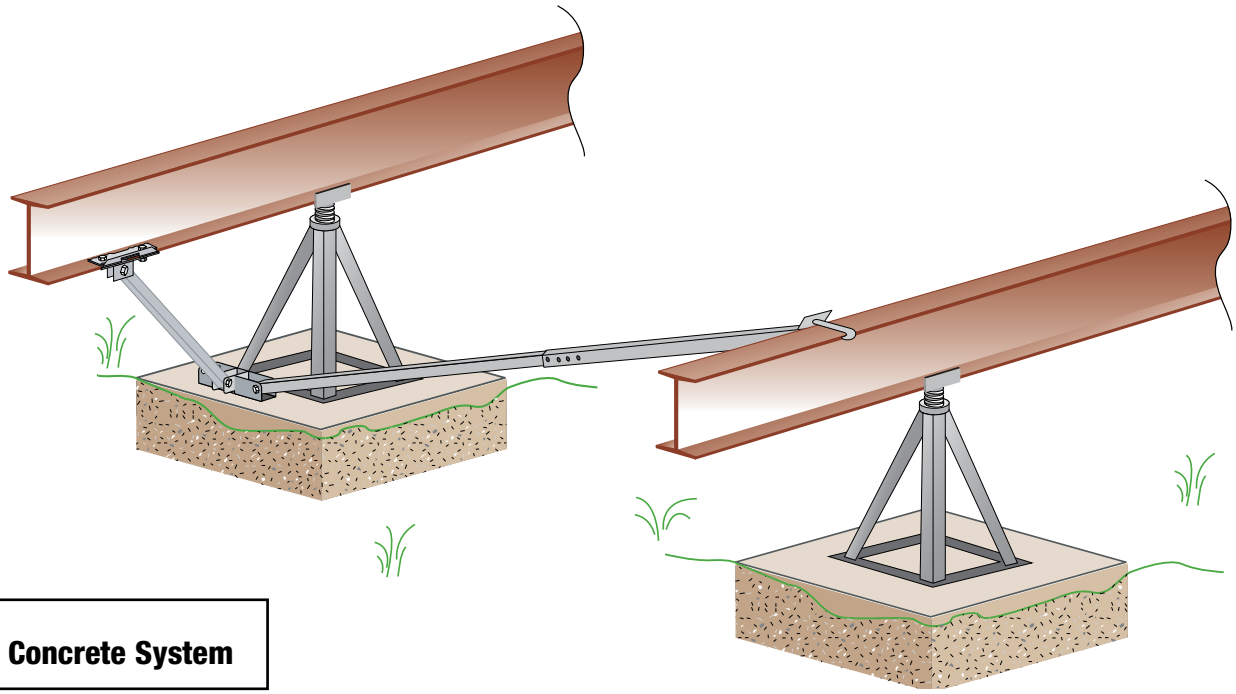
Installation of Xi2 Concrete Systems



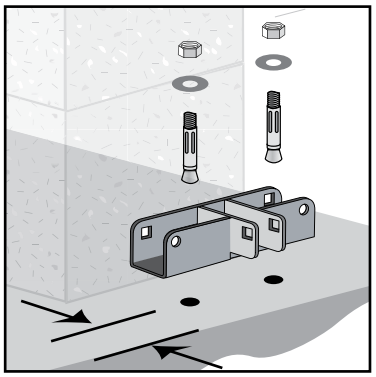
Xi2 Concrete System

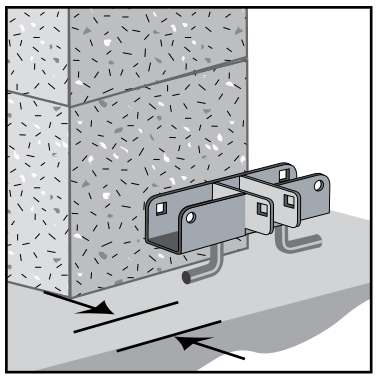
1. Identify the number of systems to be used on the home using the chart provided.
2. Identify the location where the systems will be installed.
3. Build pier according to State, Local or unit manufacturers guidelines.

4A. Drill two 3/8"x 3" deep holes in the concrete using holes in galvanized bracket as a guide. Attach bracket to concrete pad using 3/8"x 3-1/2" wedge anchors provided. Place nut & washer on anchor, leave enough room for 1 to 2 threads showing on top of bolt. Using a hammer, tap the wedge bolts into hole through bracket, leaving nut & washer flush with bracket. Using a 9/16" socket wrench, tighten wedge/anchor bolt, securing bracket to the concrete.

4B. For wet set: align bracket and submerge legs completely in concrete. Bottom of the bracket should rest on the surface.

5. Attach the end of the smaller tube to the bracket mounted on the pad, using the grade 5, 1/2" x 2-1/2" bolt/nut provided.
6. Attach the flag end of the larger tube to the opposite I-beam using the "J" bolt over the top of the I-beam with the nut & washer provided. *(Figure 1 next page)*
7. Install a minimum of four (#12 x 1" tek screws) self-tapping screws into the holes provided in the lateral strut so that the two tubes are connected together
8. Install frame bracket clamps on I-beam on the inside of block/pier.
9. Insert strut in frame bracket clamp and attach with nut & bolt. Attach opposite end to concrete bracket.
10. Pull the frame bracket clamp with fastened strut outward to remove any slack.
11. Tighten all nuts and bolts on system.





Minimum Distance from edge: 1-1/2"

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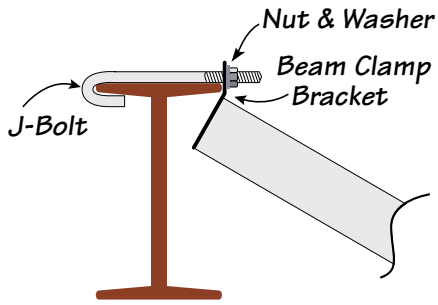
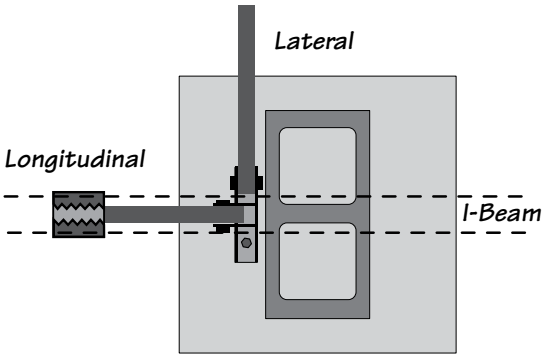
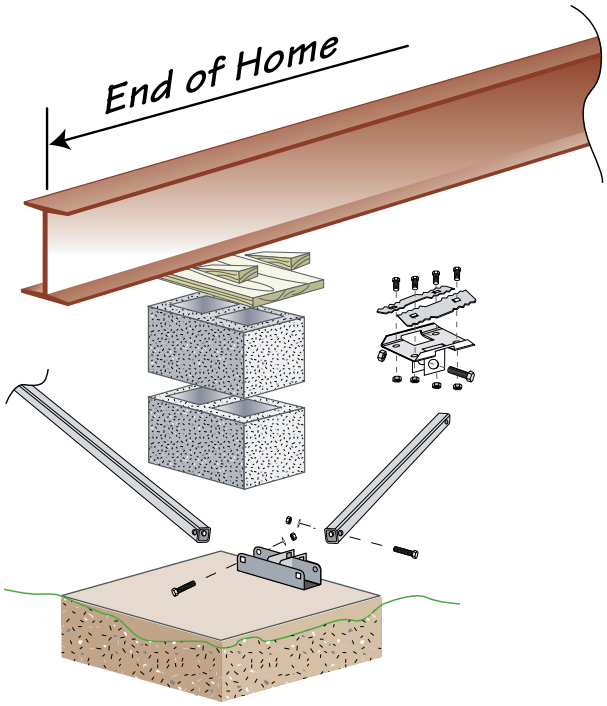
Figure 1

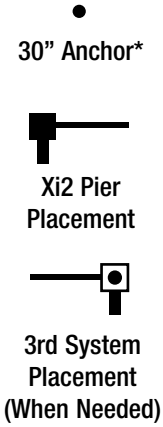


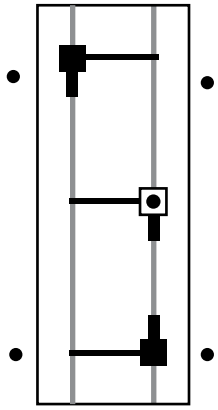


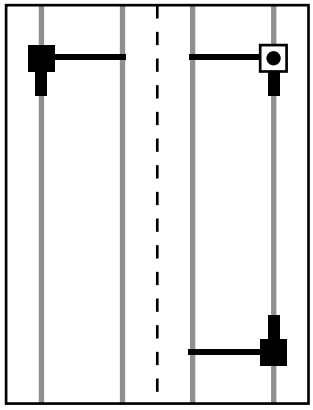
Xi2 Installation Placement

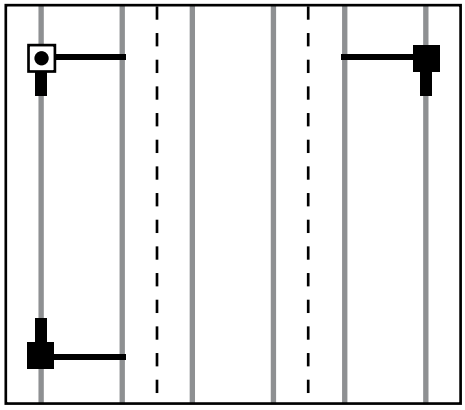


Xi2 Stabilization Pier Placement for Ground or Concrete









Number of Xi2 Systems Required

Up to 12' Wall Height	Single Section* - WZ I		Double Section - WZ I		Triple Section - WZ I	
	0 -80' Box	2 Xi2 Systems	0 - 80' Box	2 Xi2 Systems	0 - 80' Box	2 Xi2 Systems
14' Wall Height	0 - 72' Box 76' - 80' Box	2 Xi2 Systems 3 Xi2 Systems	0 - 72' Box 76' - 80' Box	2 Xi2 Systems 3 Xi2 Systems	0 - 72' Box 76' - 80' Box	2 Xi2 Systems 3 Xi2 Systems

* - 30" anchor with vertical strap or frame tie with stabilizer plate, within 10' of end of unit on single sections.

NOTE: Wall heights are the eave height for a building without solid skirting. If solid skirting is installed, add the skirting height and use that sum as the wall height. Tear away skirting such as vinyl is not considered solid skirting. Diagram represents single section up to 16' width, double section up to 32' width, and triple section up to 48'. **For multiple section of units, determine the number of systems based on each group of 3 modules, with the remainder based on a double or single section (without anchors).**