



RECOMMENDED INSTALLATION PROCEDURES

Successful use of the Icon system is dependent on placing the insulation and connectors efficiently during the concrete pour. Organization and pre-planning are key to efficient installation.

Pre-pour planning:

1. Use Icon Layout Book (shop drawings) to pre-cut insulation sheets and pre-install Icon connectors in panels
 - a. Label each sheet to match shop drawing marks
 - b. Recommend labeling near the top of the sheet, on face pointing up. This will avoid installing the sheets backwards or upside down.
 - c. If using insulation with printing on one face (most XPS products, some EPS), recommend using printed side FACE DOWN
 - i. This method creates consistency to improve QC/speed
 - ii. Non-printed face up leaves clean surface for marking embed layouts, etc. for top face pour.
2. Stack insulation grouped by panel # (i.e. 6x sheet A, 4x sheet B, etc.)
 - a. Bundle insulation with either:
 - i. Connectors pre-installed (more difficult to stack, but less to do day of pour), or
 - ii. Bundle flat pre-drilled insulation without connectors (stacks better, can be shrink wrapped, but Icons need to be installed prior to pour).

Day of pour planning:

1. Designate a team whose focus is installing the insulation. Assign one leader to carry the Icon Layout Book or shop drawing and direct placement of sheets according to drawings. This organized approach will avoid confusion during the pour.
2. Concrete delivery sequencing
 - a. Schedule concrete delivery the same as you would with any other insulated panel.
 - i. Spacing trucks out too far apart can cause concrete to start setting up too quickly in partially poured panels and can lead to visible joints.
3. Speed of concrete pour
 - a. Be cognizant of how far ahead you're working in front of the insulation crew. If concrete sets up too quickly, Icon installation becomes more difficult.
 - b. Recommend working not more than one full panel ahead of the insulation crew.

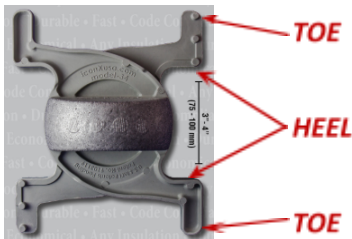


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Insulation Fabrication/Installation:

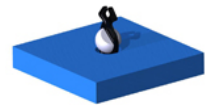
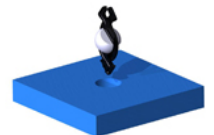
For additional installation pictures and videos, also visit: <http://iconxusa.com/fabrication-and-assembly>

1. Mark and drill insulation sheets using hole saw supplied with Icon connectors (3 1/2" hole for Model 23 connectors, 4 5/8" hole for Model 34).
 - a. For best performance, use a drill with an auxiliary handle and over 500 in-lbs torque
 - b. Stack multiple sheets and use top sheet as template. Drill hole saw as deep as possible. The last sheet touched will now be marked and continue drilling sheets below.
 - c. **TIP:** If holes are consistently fitting too loose (most commonly an issue with EPS insulation), use plastic shims to tighten. Sand down or lightly grind the outside of the teeth of the hole saw for a more permanent adjustment.
2. Install Icons.
 - a. Assemble with one Male and one Female part interlocked and, if using holes and not slots, two foam dams.
 - b. Put connector with toes together through the hole.



- c. Ensure connector is aligned with legs VERTICAL in relation to panel length, unless otherwise noted in detailing sheets (uncommon, but possible in some scenarios).
 - d. Spread feet of connector apart. Heels of connector should be locked tight against the insulation board.
 - e. **TIP:** Stand insulation sheet vertical on edge when installing connectors. This allows use of both hands to spread the connectors apart.
3. Place concrete on bottom face as typical. Use standard wall panel mix design, no special modifications necessary. Screed flat as normal.
 4. Set insulation sheets with Icon connectors installed. (it is nearly impossible to spread the connector feet apart after the insulation is on the concrete).

IT IS CRITICAL THAT THE CONNECTORS BE INSTALLED IN FRESHLY PLACED, PLASTIC CONCRETE. If concrete is starting to reach initial set, or stiff enough mechanical consolidation is not possible, do not attempt to place connectors; it is too late.





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5. Walk in the insulation sheet.
 - a. For fresh plastic concrete, the action of walking on the sheet is sufficient to consolidate around the connector feet. No additional mechanical vibration necessary.
 - a. For stiffer concrete mixes or concrete that is beginning to set, light vibration on the connector using a stinger or pencil vibrator may be required for adequate consolidation.
6. Adjustment may be needed where conflicts occur (embeds, inserts, etc.).
 - a. If the Icon must be moved, drill a new hole 6" (horizontally) away from the original location, and replace the old hole with a foam plug from the new hole.
 - b. For a typical panel with 4" minimum face (rebar in center of face, 1 3/4" chair height), Icon should have minimal, if any, interference with reinforcing. For 3" faces, some interference may occur.
7. Trim insulation sheets at edges of panel as required using a drywall jab saw or Sawzall. Joints may "grow" as sheets are walked in, pushing excess toward the end of the panel.

Post-installation QC:

Recommend assigning one individual to walk over each panel after all insulation is placed as a final QC.

TIP: Walk directly on joints with feet touching both sheets. This will minimize relative movement between sheets.

Verify the following:

1. All Icons are oriented in direction of span, or as indicated in Icon Layout Book, within +/- 5°
2. All Icons are locked in, with heels firmly against insulation. If the heels are not touching simply step on the Icon and this will lock it in the correct position.
3. All Icons are vertical in projection out of panel (i.e. not tilted), within +/- 5°
4. Insulation sheets are laying flat relative to one another. Some minor floating may occur at joints, but hold within +/- 1/4".
5. Verify all insulation cutbacks around doors and windows and blockouts are correct. Trimming and removing insulation is easier before the concrete is set.
6. **Get off the insulation.** Do not continue to walk on the insulation after the QC is complete. (e.g. do not walk across the first poured panel to get to the second and third panel) The concrete should remain undisturbed until initial set of the concrete. Usually 12 hours.