

LOGIX™
Integrated Ceiling Systems

INSTALLATION GUIDE

INSTALLATION GUIDE

Logix™ Brand Integrated Ceiling Systems integrated ceiling systems from USG can help you design code-compliant ceilings that go far beyond the limits of traditional acoustical panels. Logix transforms visual distractions, such as lighting and air vents, into dramatic design elements by concentrating utilities into narrow channels. This unique system allows you to create a clean, custom look using standard components.

This guide includes details, instructions, and tips for installing Logix integrated ceiling systems.

Notes

Follow proper safety and industrial hygiene practices while handling and installing all products and systems. Take necessary precautions and wear appropriate personal protective equipment as needed. When removing ceiling panels from grids, we recommend wearing a dust mask, cut-resistant gloves, and eye protection. Provide drop cloths to cover and protect furnishings below. When using a ladder or lift, follow the equipment manufacturer's precautions, instructions, and safety guidelines.

All ceiling products and systems must be installed and maintained in accordance with current USG written instructions and in compliance with ASTM C636, ASTM E580, Cisca, and standard industry practices.

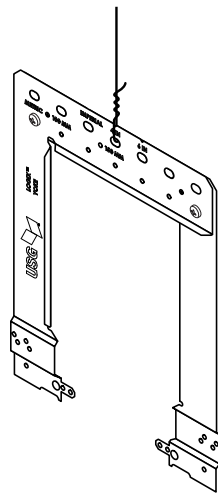
Care must be taken to safeguard products from damage during delivery and while they are stored at the jobsite. The products must always be protected from vibration, chemical fumes, and direct contact with water including condensation both before and after installation.

LOGIX INTEGRATED CEILING SYSTEMS

Logix Yoke

The USG Logix Yoke is an optional suspension system installation accessory that facilitates the spacing and suspension of parallel main tees with one hanger wire. The Logix yoke is compatible with both metric and imperial utility channel sizes. The yoke also keeps hanger wire wraps away from linear luminaires and can reduce the number of hanger wires required. In addition, the yoke helps to brace the utility channel and allows the entire suspension system to be installed before other ceiling elements.

The innovative USG Logix yoke is produced in two parts to allow it to be used with 4 in., 6 in., and 12 in. utility channels, as well as 100 mm, 150 mm, and 300 mm utility channels. Yokes supporting 12 in. and 300 mm utility channels need a piece of main tee to bridge the two parts together. The two parts are attached at the desired width by inserting no. 7 screws through the marked fastener holes provided along the top of the yoke. Two screws are required in each yoke assembly. The yoke is installed at maximum intervals of 48 in. and suspended from the structure by a minimum 12-gauge, galvanized, soft-annealed steel wire, manufactured in accordance with ASTM A641. The 12-gauge hanger wire offered by USG meets these requirements.



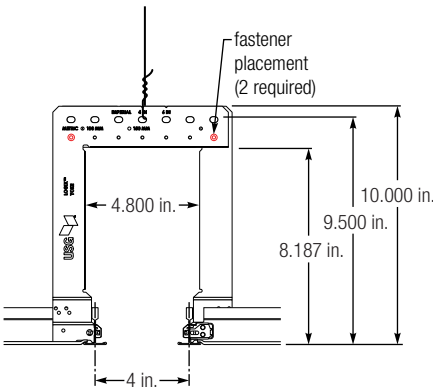
LOGIX INTEGRATED CEILING SYSTEMS

Logix Yoke

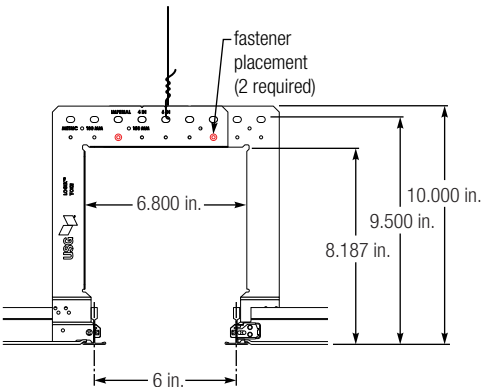
Imperial

Fastener Locations

4 in. Channel

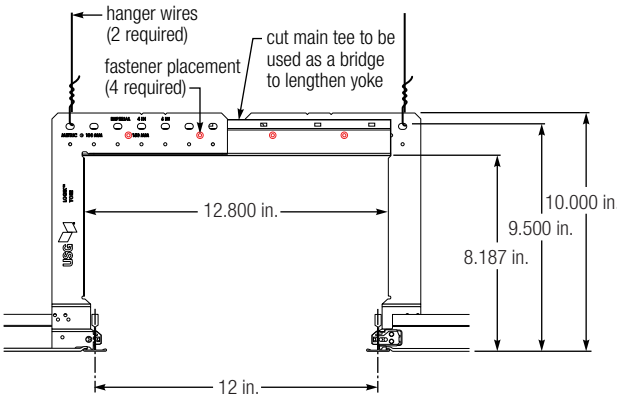


6 in. Channel



12 in. Channel

Cut main tee 1 in. longer than desired utility channel opening. For a 12 in. opening, use a 13 in. cut tee.



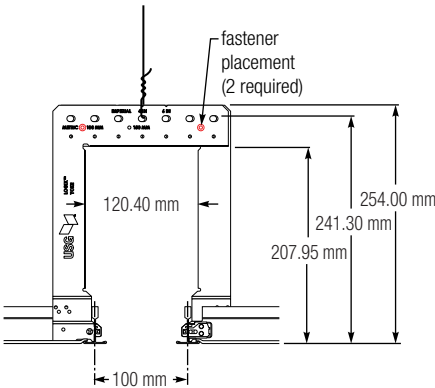
LOGIX INTEGRATED CEILING SYSTEMS

Logix Yoke

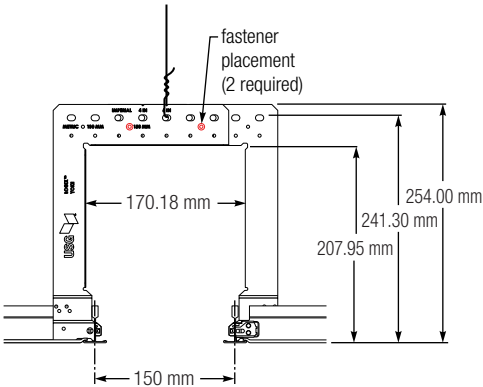
Metric

Fastener Locations

100 mm Channel

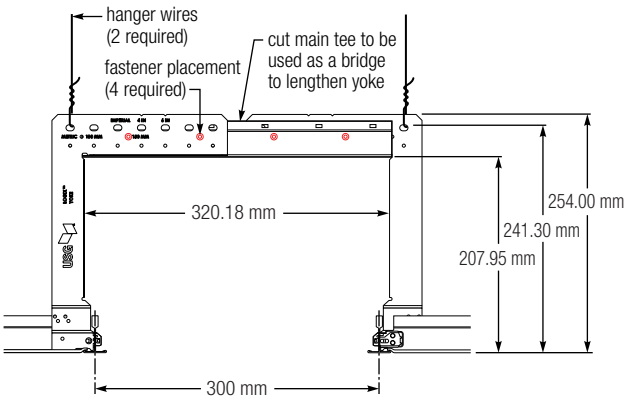


150 mm Channel



300 mm Channel

Cut main tee 25.5 mm longer than desired utility channel opening. For a 300 mm opening, use a 325.5 mm cut tee.

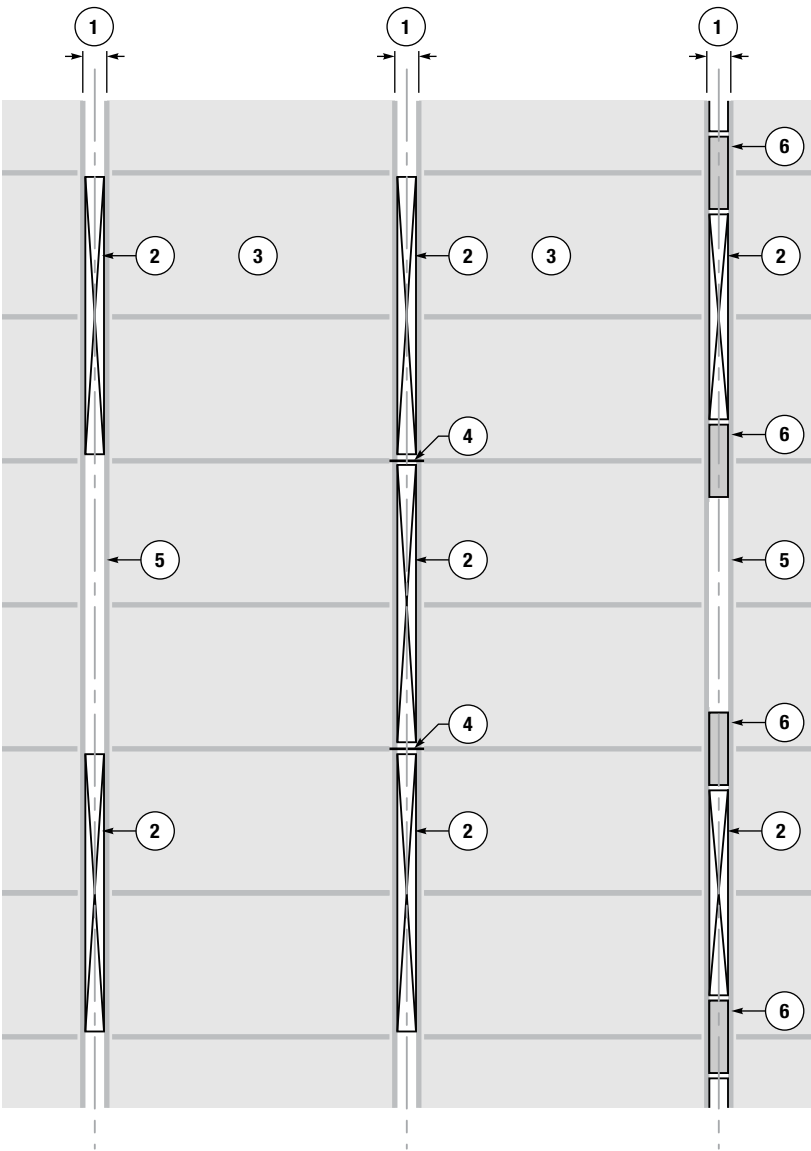


Reflected Ceiling Plan

Example

Reflected Ceiling Plan (RCP) Layout

- ① Utility Channel
- ② Opening for Luminaire, Mechanical Grille, or Other Utility
- ③ Infill Panel
- ④ Yoke
- ⑤ Channel Panel
- ⑥ Connector Panel



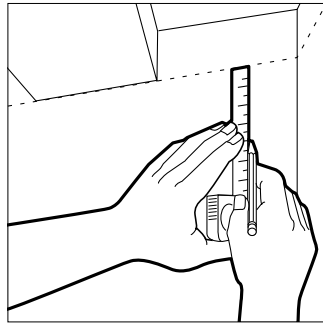
Note: The reflected ceiling plan (RCP) shown above demonstrates one potential layout. Numerous configurations are possible. Please contact your sales representative for more information.

LOGIX INTEGRATED CEILING SYSTEMS

Installation

Step 1

Determine the finished ceiling height.



Step 1a

Determine the ceiling height *without* a Logix yoke.

Allow clearance of at least 4 in. below the lowest air duct, pipe, or beam.

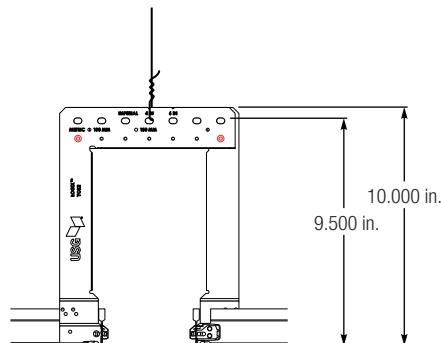
Step 1b

Determine the ceiling height *with* a Logix yoke.

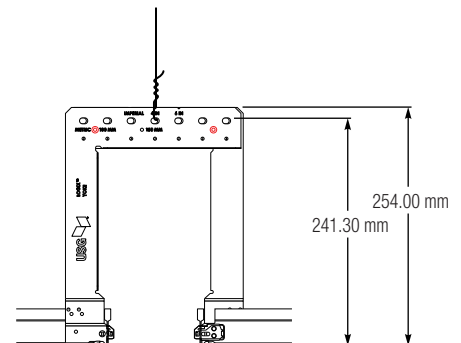
When using a yoke, allow a clearance of no less than 14 in. below the lowest air duct, pipe, or beam. The yoke extends 10 in. above the face of the suspension system.

When suspended from hanger wire, a minimum of 3 in. of additional clearance is required for a typical code-compliant hanger wire wrap. Large and plank-sized panels used with Logix may require a deeper plenum ceiling height for installation and access.

Imperial



Metric



LOGIX INTEGRATED CEILING SYSTEMS

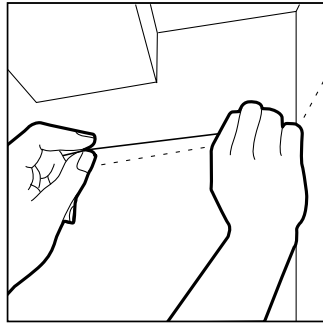
Installation

Step 2

Mark the perimeter.

Snap a chalk line 3/4 in. above the determined ceiling height.

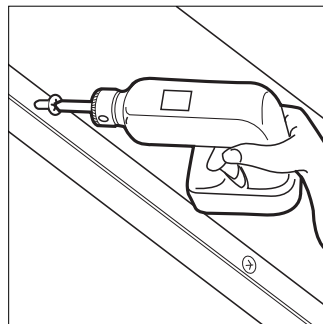
Check the chalk line with a level to ensure that the ceiling will be uniformly level.



Step 3

Install wall angles.

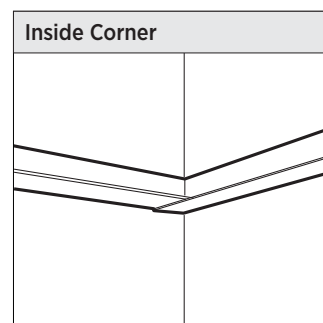
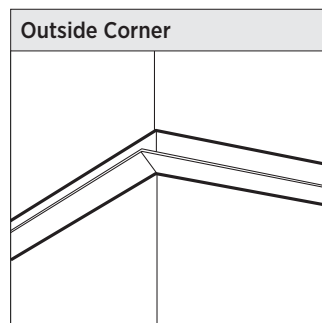
Align the top of each wall angle along the chalk line. Space screws every 2 ft. o.c. or closer.



Cut the corners.

At outside corners, miter wall angles to 45°.

At inside corners, cut angles to 90° and butt together.



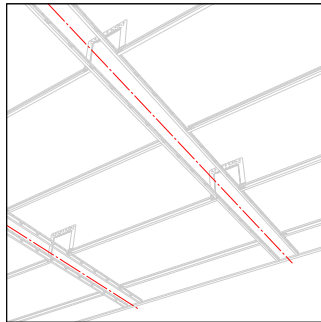
LOGIX INTEGRATED CEILING SYSTEMS

Installation

Step 4

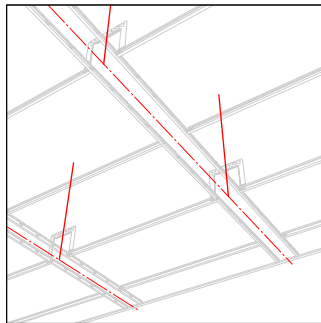
Determine the centerline of the utility channel.

Note: The channel module dimension (the measurement from the centerline of two adjacent utility channels) will vary based on the size of the utility channel and the infill panel size.



Determine the location of the hanger wires.

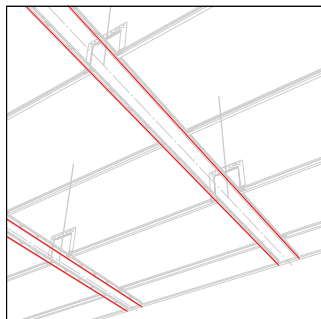
Hanger wires for yokes should be located in the center of the channel and plumb.



Step 5

Establish and mark the main tee locations.

Stretch string across the room at each main tee location.



LOGIX INTEGRATED CEILING SYSTEMS

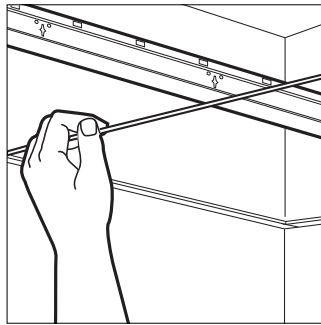
Installation

Step 6

Establish and mark the cross tee locations.

Stretch a string perpendicular to the main tee strings to mark the first row of cross tees.

Main tees are equipped with pre-punched slots for aligning the remaining cross tees.

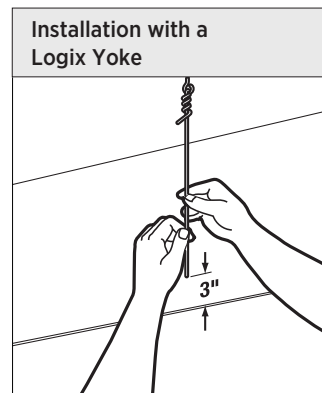
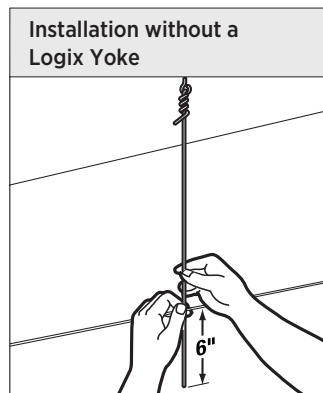


Step 7

Suspend hanger wires.

Install lag screws at 4 ft. intervals along the main tee string lines.

Attach a hanger wire to each screw and cut 6 in. *below* the string line for installations without a Logix yoke and 3 in. *above* the string line for installations with a Logix yoke.

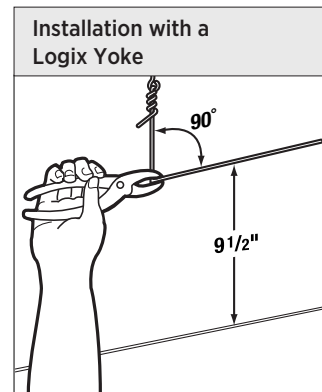
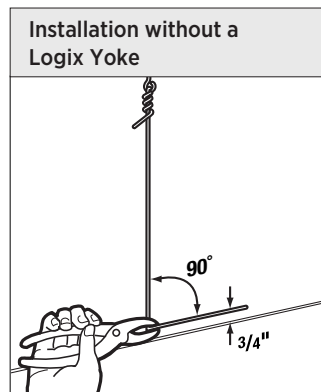


LOGIX INTEGRATED CEILING SYSTEMS

Installation

Bend hanger wires.

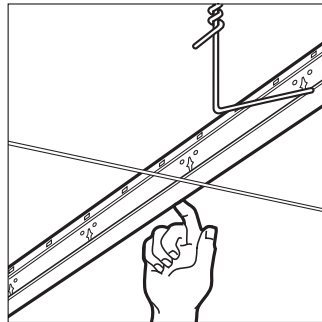
Use pliers to bend each hanger wire at a 90° angle 3/4 in. above the string line for installations without a Logix yoke and 10 in. above the string line for installations with a Logix yoke.



Step 8

Align main tees.

In each row, trim the main tee so that the slot for the first row of cross tees lines up with the cross tee string. Rest the end of the main tee on the wall angle.



LOGIX INTEGRATED CEILING SYSTEMS

Installation

Step 9

Suspend main tees.

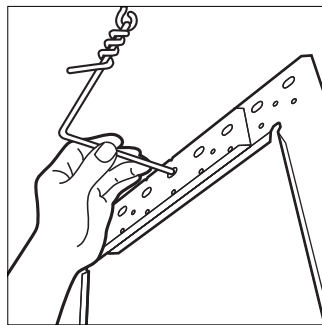
Suspend main tees with a Logix yoke.

Step 9a

Attach the yokes to the hanger wires.

When connecting the hanger wire to the yoke, pull the hanger wire through the center hole along the top of the yoke, and then bend up and twist the end three full turns in a tight wrap.

Note: A tight wrap typically consists of three complete turns within 1 in. Some jurisdictions may require four complete turns. These requirements may vary by jurisdiction.

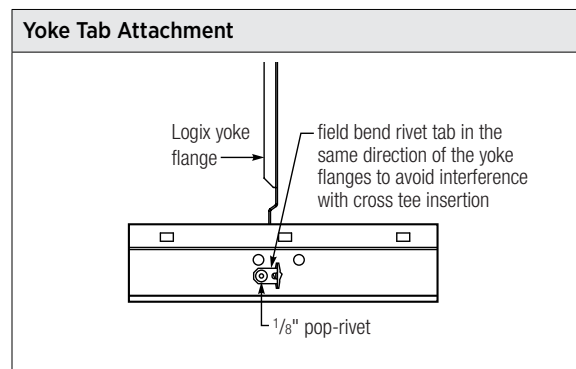


Step 9b

Attach the suspended yokes to the paired main tees.

Insert the yoke rivet tab through the cross tee slot and field bend the rivet tab in the same direction of the yoke flanges to avoid interference with the cross tee insertion.

Connect the yoke to the main tee with a 1/8 in. diameter steel pop rivet inserted from the inside of the utility channel through the rivet tab and into the web of the main tee so that the finished side of the pop rivet is facing the inside of the channel.



Note: View illustrated is from the *inside* of the utility channel.

LOGIX INTEGRATED CEILING SYSTEMS

Step 9 continued

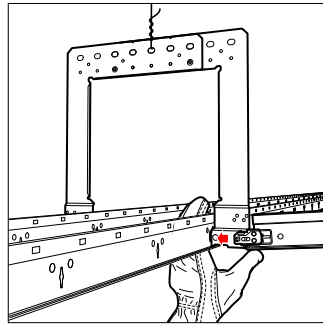
Step 9c

Installation

Suspend main tees.

Insert cross tees.

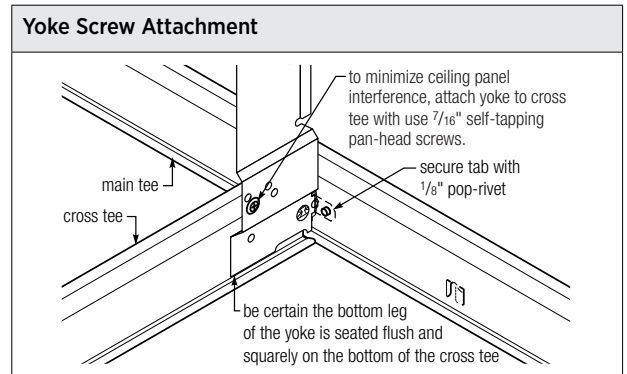
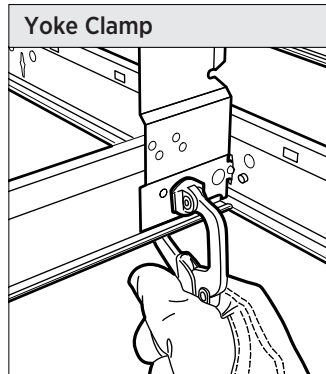
Insert cross tees through the same slot as the yoke tabs on the opposite side of the yoke flange.



Step 9d

Secure yokes to cross tees.

Be certain the bottom leg of the yoke is seated flush and squarely on the bottom of the tee. Use clamps to keep the yoke in place. Screw attach the yoke to the cross tee with 7/16 in. self-tapping pan-head screws.



Note: View illustrated is from the *outside* of the utility channel.

Tips

- Yokes should be at or near grid intersections or connector panels.
- Channels are typically installed first; however, this is not necessary. Square and fix the first channel to an adjacent wall whenever possible. If this is not possible, we recommend securing the channel to the structure with kickers to fix it in place.

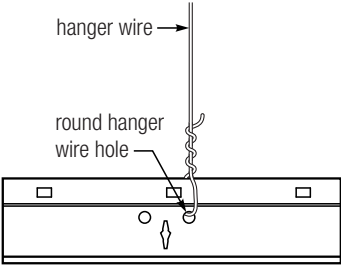
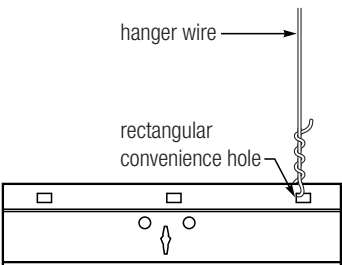
Step 9
continued

Installation

Suspend main tees.

Suspend main tees without a Logix yoke.

When connecting the hanger wire to a main tee, pull each hanger wire through a round hole below the bulb of the main tee or through a convenience hole in the tee bulb, and then bend up and twist the end three full turns in a tight wrap.

Round Hanger Wire Hole Attachment	Rectangular (Convenience) Hole Attachment
	

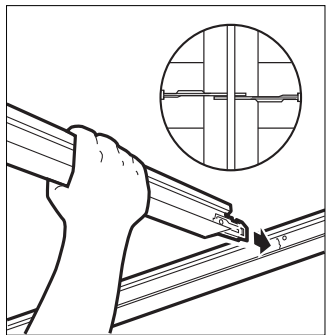
Step 10

Install cross tees without Logix yokes.

Install cross tees carefully to prevent damage to the main tee. Hold the cross tee above the main tee and insert down into the main tee. On the opposite end, push the cross tee through the main tee slot until you hear it click.

Where two cross tees occupy the same slot, insert the second cross tee to the left of the first cross tee.

One hanger wire shall be installed mid-span on 8 ft. cross tees.



LOGIX INTEGRATED CEILING SYSTEMS

Step 10 continued

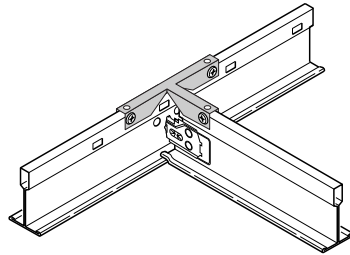
Installation

Ashlar Condition Guidelines

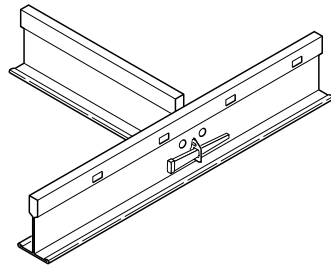
Cross tee clips that connect to a utility channel where a light fixture is located may interfere with the light fixture. It may be necessary to trim the inserted clip end to avoid interference.

In an ashlar condition, where a *single cross tee intersects with a main tee*, secondary attachment methods may be necessary. Refer to the following guidelines for the allowable methods:

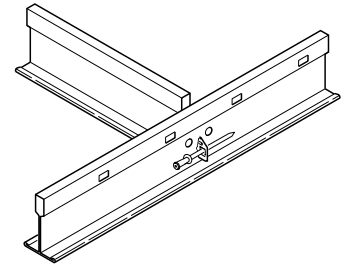
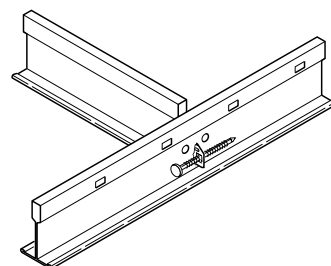
- A USG DH3 3-Way Connector with a fastener connection to the main tee and a fastener connection to the cross tee is acceptable for use in ashlar installations in Seismic Design Categories C, D, E, and F.



- A 1 ½ in. masonry nail inserted through a non-opposing cross tee clip is acceptable for use in ashlar installations in Seismic Design Categories C, D, E, and F.



- A ring nail or pop rivet inserted through a non-opposing cross tee clip is acceptable for use in ashlar installations in Seismic Design Category C.



LOGIX INTEGRATED CEILING SYSTEMS

Step 10 continued

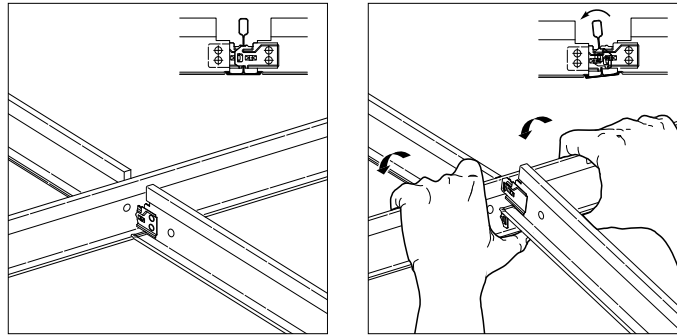
Tips

Installation

- In conditions where a non-opposing cross tee clip must be cut to accommodate a light fixture or other building element, the USG DH3 3-way connector with a fastener connection to the main tee and a fastener connection to the cross tee is acceptable for use in ashlar installations in Seismic Design Categories C, D, E, and F.
- Inserting hanger wire through a non-opposing cross tee clip is *not* recommended.
- Bending or folding a non-opposing cross tee clip is *not* recommended.

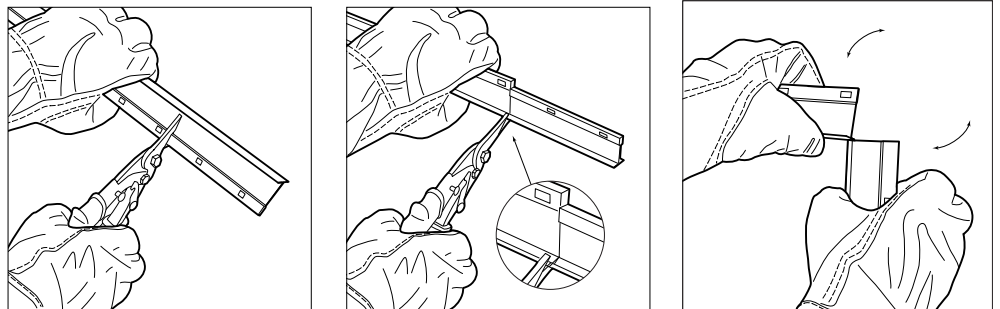
Removing Cross Tees

Push up on the main tee and twist away until the cross tee pops out.



Cutting Tees

Cutting tees is easiest with metal snips. First, cut the bulb and stem, and then bend the tee at the cut and snip the face flanges. If metal snips are not available, use a hacksaw to saw down from the bulb through the stem and flanges. Sand or file rough edges smooth.



LOGIX INTEGRATED CEILING SYSTEMS

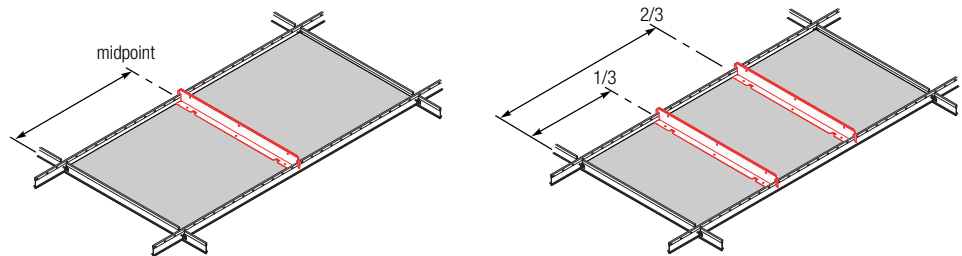
Step 11

Installation

Install stabilizer bars.

A stabilizer bar is required for all modules 60 in. and larger. If the opening is ≥ 60 in., then one stabilizer bar is required at midpoint. If the opening is ≥ 96 in., then two stabilizer bars are required at the $1/3$ and $2/3$ points.

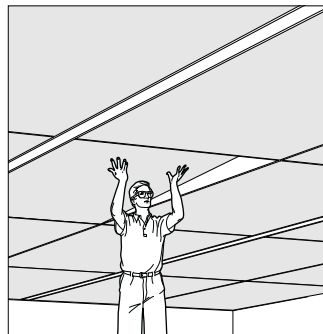
Note: For more information about stabilizer bars, please refer to IC592. A video demonstrating stabilizer bar installation can be viewed at www.youtube.com/user/USGCorporation.



Step 12

Install panels.

If arrows are printed on panel backs, install so that all of the arrows point in the same direction. Panels without arrows may be installed in any direction. Simply angle the panel up through an opening, and then straighten and lower until it rests evenly on the tees.



LOGIX INTEGRATED CEILING SYSTEMS

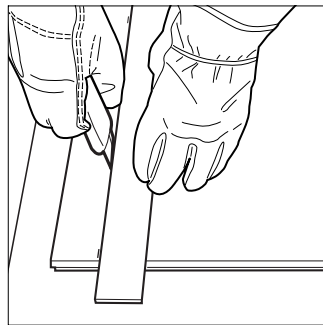
Tips

Installation

Cutting Panels

Lay the panel face-side up on a flat, clean cutting surface and mark the measurement on the tile.

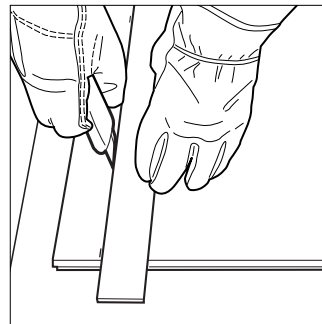
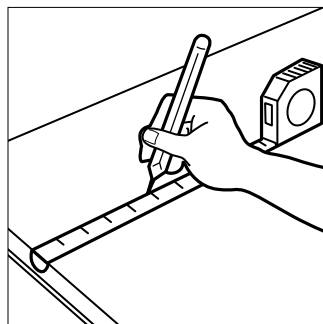
Align a straight edge with the measurement, and use a utility knife to cut through the panel.



Cutting Perimeter Panels

To cut panels to fit border rows, first measure the border row opening at both ends and in the center to ensure that the measurement is consistent throughout. Measure each opening between the wall and web (vertical leg) of the parallel tee; check the dimensions at the ends and center of the opening to ensure that the module is straight. Lay the panel face-side up on a flat cutting surface, mark the measurement, and cut with a utility knife and straight edge.

To trim for a shadowline edge, install the panel with its cut edge against the wall and its factory edge tight against the opposite tee. Draw a line on the panel face along the wall angle. Remove and cut the panel on the line to match the depth of the shadowline recess, and then cut in from the panel edge to complete the shadowline detail.



LOGIX INTEGRATED CEILING SYSTEMS

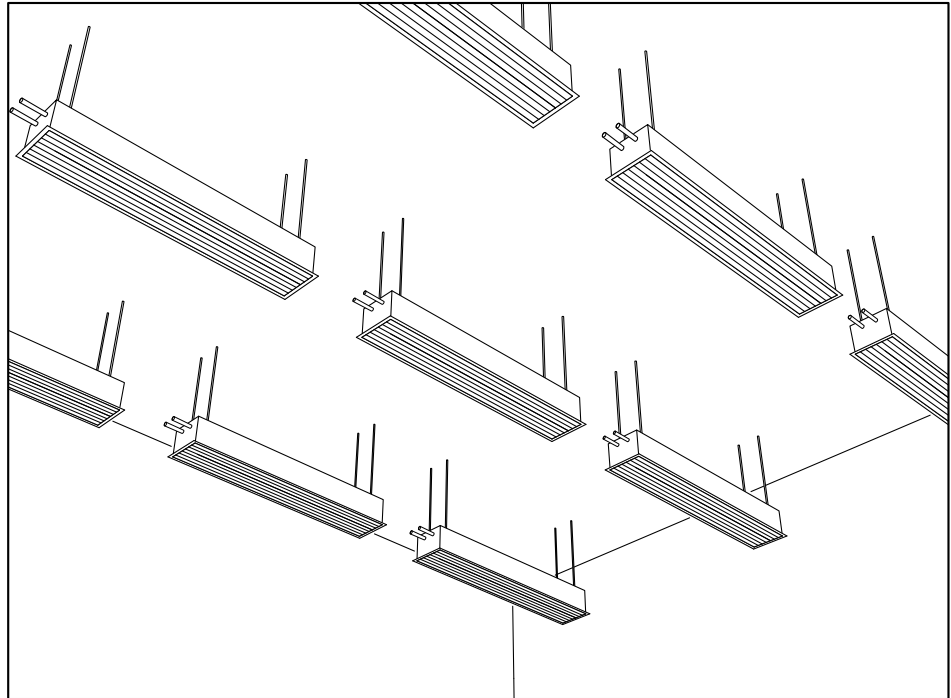
Installation

Tips

Chilled Beams

Chilled beams shall be supported independently from a support system adequate to carry the chilled beam load and per manufacturer's instructions. Acoustical suspension systems are not designed to support chilled beams. Chilled beams are typically installed by the mechanical contractor and require coordination because the acoustical suspension system is installed after the chilled beams. The mechanical contractor shall ensure that the chilled beam aligns with the determined suspension system opening. Ceiling panels are installed after the mechanical contractor aligns the chilled beam with the suspension system and performs the required connections. The mechanical contractor shall ensure that the chilled beam connections do not interfere with the suspension system or cause any misalignment.

Chilled Beams Installed with Independent Support System (Mechanical Contractor)

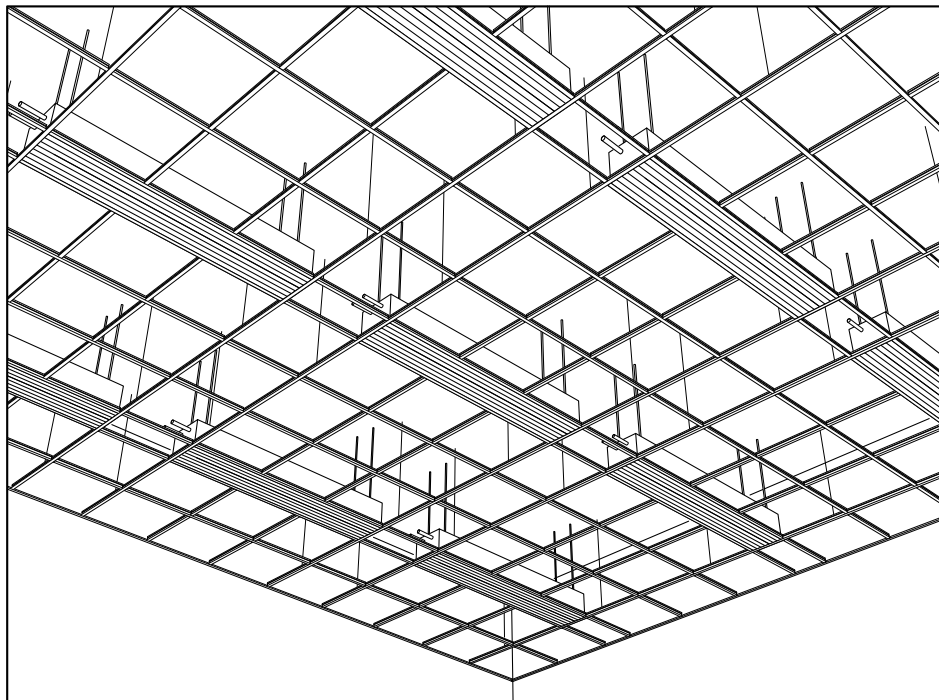


LOGIX INTEGRATED CEILING SYSTEMS

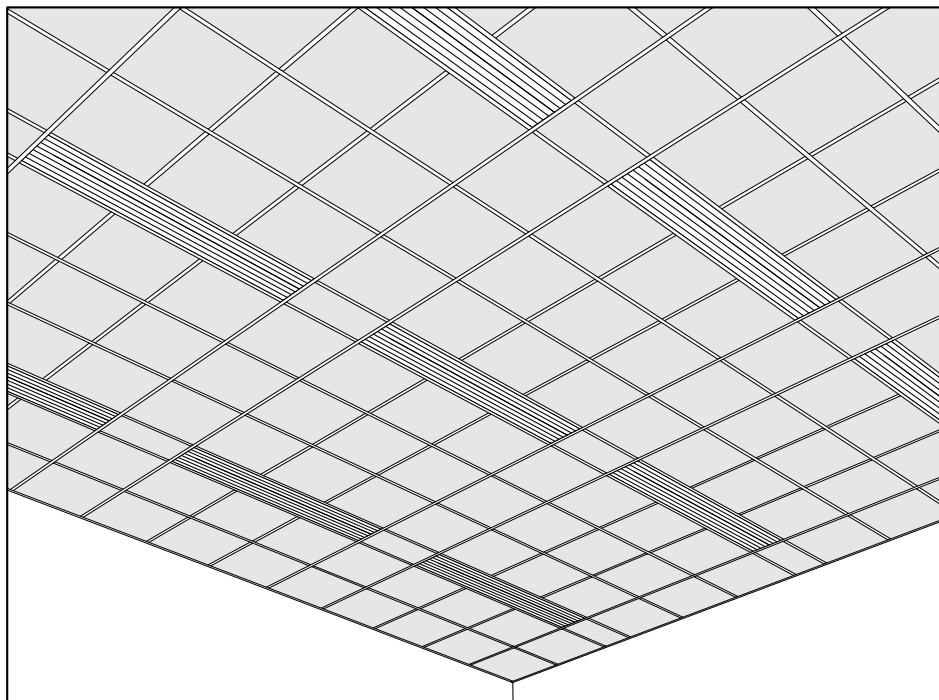
Installation

Tips

Ceiling Suspension System Installed with Chilled Beams (Ceilings Contractor)



Chilled Beams Installation Complete with Panels



PRODUCT INFORMATION

See usg.com for the most up-to-date product information.

INSTALLATION

The products and systems presented in this guide must be installed in compliance with ASTM C636, ASTM E580, CISCA, and standard industry practices, within all applicable code requirements. Alternative assemblies and installation methods may be utilized when approved by the authority having jurisdiction. USG recommends checking with the authority having jurisdiction prior to designing and installing a suspended ceiling system.

CODE COMPLIANCE

The information presented is correct to the best of our knowledge at the date of issuance. Because codes continue to evolve, check with local officials prior to designing and installing a ceiling system. Other restrictions and exemptions may apply. This is only intended as a quick installation reference.

NOTICE

We shall not be liable for incidental and consequential damages, directly or indirectly sustained, nor for any loss caused by application of these goods not in accordance with current printed instructions or for other than the intended use. Our liability is expressly limited to replacement of defective goods. Any claim shall be deemed waived unless made in writing to us within thirty (30) days from date it was or reasonably should have been discovered.

SAFETY FIRST!

Follow good safety and industrial hygiene practices during installation. Wear appropriate personal protective equipment. Read MSDS and literature before specification and installation.

WEBSITES

usg.com
seismicceilings.com
sustainableceilings.com
usgdesignstudio.com

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