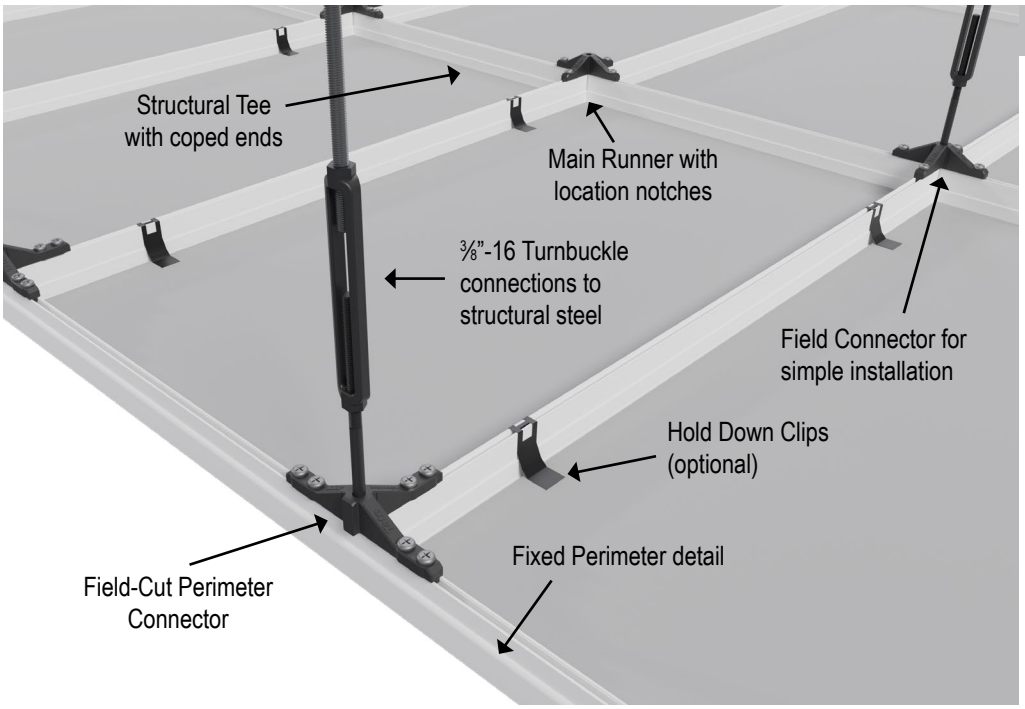


GRID SPECIFICATIONS

- Pre-engineered and factory produced aluminum structural ceiling grid with continuously threaded 3/8"-16 bottom slot
- Grid consists of Main Runners with notches for precise location and connection of coped Structural Tees using four screw connectors
- Capable of supporting power modules, light fixtures, cable trays, partitions, and other accessories
- Load performance based on building connection spacing of 4 ft. on center
  - Max grid point load at midspan of 380 lbs.
  - Max grid uniform load of 50 lbs/ft²
- System Weight:
  - 2'x2' Grid: 0.9 lb/ft²
  - 2'x4' Grid: 0.7 lb/ft²
- Grid member center to center spacing can be selected to accommodate project specific specs. (see page 3 for more information)
- All bolt connections to the top slot or bottom of the grid should be tightened flush to a washer between a torque value of 20 in-lbs and 30 in-lbs.

CONNECTOR SPECIFICATIONS

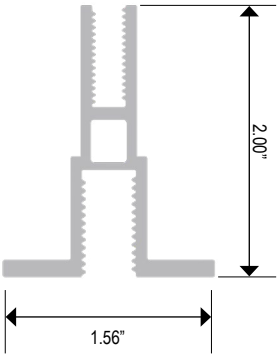
- High Strength Cast Steel
- Corrosion Resistant
- Ribs on connector to engage with grid and prevent racking
- Attaches to grid members with ¼"-20 screws
- ⅜"-16 turnbuckles with starter rod threads into connectors on a nominal 4'x4' spacing
- On site modifiable connectors for perimeter installation

COMPONENTS

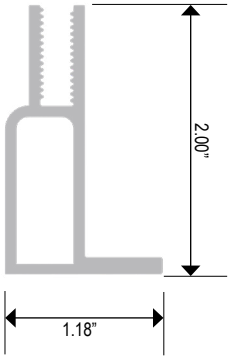
- 144" Main Runner / 144" Perimeter Main
- 24" Structural Tee / 48" Structural Tee
- Field Connector / XL Connector
- Perimeter Connector
- ¼"-20 x 1-1/8" Screws w/ ¼" Lock washer
- ⅜"-16 x 7" Turnbuckle Assembly with Starter Rod
- Ceiling Hold Down Clips (optional)
- Factory Applied Gasket (optional)
- Ceiling Tiles & Tate LED (optional)
- Threaded Rod Connection to Building (supplied by others)

GRID OPTIONS

Grid Color ☐ White ☐ Black ☐ Other
Standard Grid Spacing Options (see P.3 for detail)
☐ 24" / 24" ☐ 24" / 48"
☐ 24 ½" / 24 ½" ☐ 24 ½" / 48 ½"
☐ Custom Grid Spacing Options Available



Mains and Structural Tees

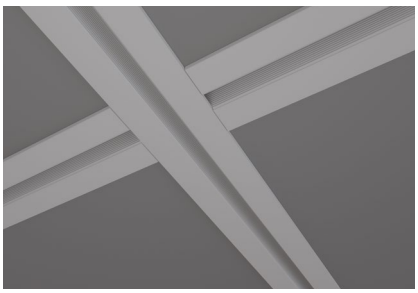


Fixed Perimeter Extrusion (optional)

Field Connector

Perimeter & XL Connector for Main to Main Connection

Quick and easy main and cross tee connections



Pre-threaded slot for easy attachment of equipment

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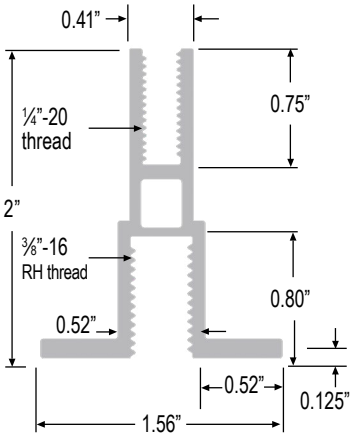
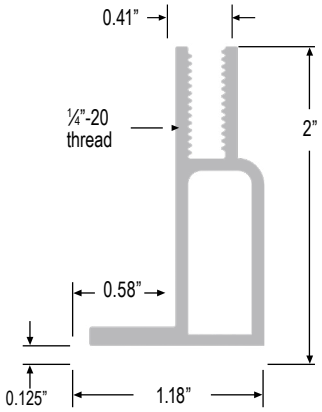
PROFILE OPTIONS

⅜”-16 Bottom Slot - Field & Floating Perimeter



- Continuous threaded 1/4”-20 top slot
- Continuous threaded 3/8”-16 bottom slot
- Utilizes standard hardware connectors and features of Tate Grid

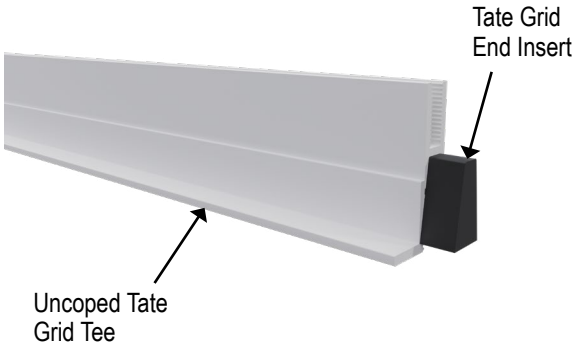
Fixed Perimeter

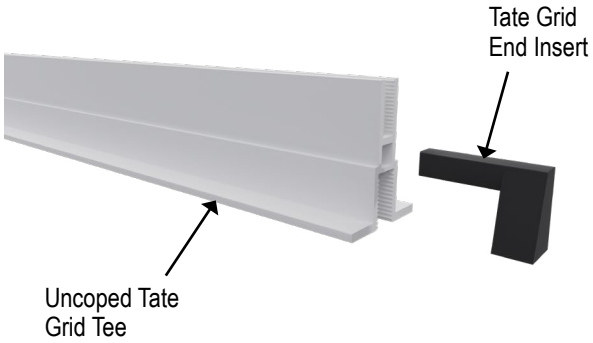


- Continuous threaded 1/4”-20 top slot
- Intended for fixed perimeter installation areas
(See page 6)
- Utilizes all standard hardware connectors and features of Tate Grid

Tate Grid End Insert

The Tate Grid End Insert is used for additional support at the end of the uncoped (field cut) Tate Grid Structural Tee.





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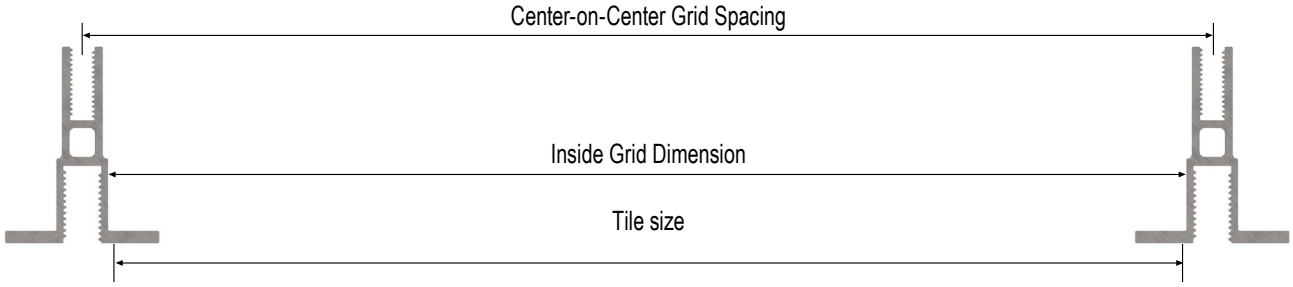
STANDARD GRID SPACING AND TILE SIZING



If you want the Grid Spacing to be on a 24" x 24" or 24" x 48" module size, use this table to determine tile size requirement:

Grid Profile	Grid Spacing (L x W)	Tile Size (L x W)	Hanger Spacing
3/8"-16 Bottom Slot	24" x 24"	23 7/32" x 23 7/32" +/- 1/8"	48" x 48"
	24" x 48"	23 7/32" x 47 7/32" +/- 1/8" (see example below)	48" x 48"

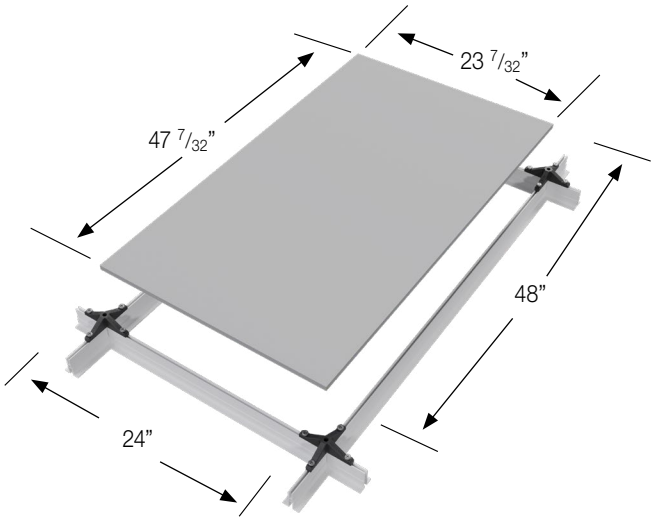
Note: Maximum Tile Size = Inside Grid Dimension minus 1/8". Minimum Tile Size is based on a minimum overlap on the extrusion flange of 1/8" when the tile is shifted all the way to one side.

If you want the Grid Spacing to be on a larger module size to fit standard 24" x 24" or 24" x 48" nominal tile sizes, use this table:

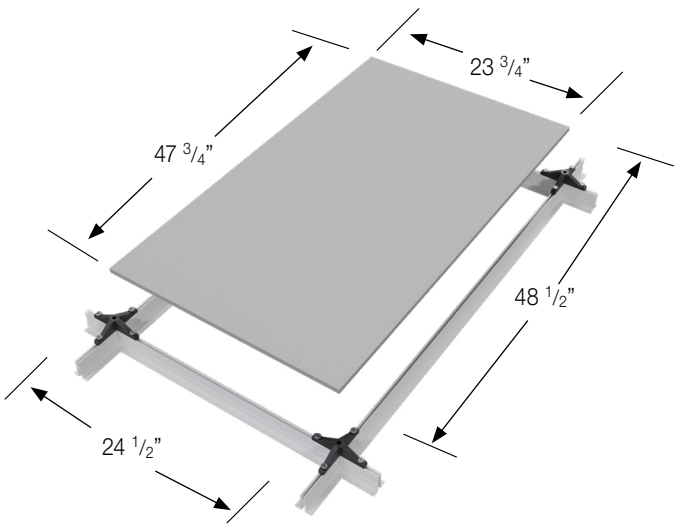
Grid Profile	Grid Spacing (L x W)	Tile Size (L x W)	Hanger Spacing
3/8"-16 Bottom Slot	24 1/2" x 24 1/2"	23 3/4" x 23 3/4" +/- 1/8"	49" x 49"
	24 1/2" x 48 1/2"	23 3/4" x 47 3/4" +/- 1/8" (see example below)	49" x 48 1/2"

Note: Maximum Tile Size = Inside Grid Dimension minus 1/8". Minimum Tile Size is based on a minimum overlap on the extrusion flange of 1/8" when the tile is shifted all the way to one side.

Sizing Based on 24" x 48" Grid Spacing



Sizing Based on 24" x 48" Nominal Tile Size



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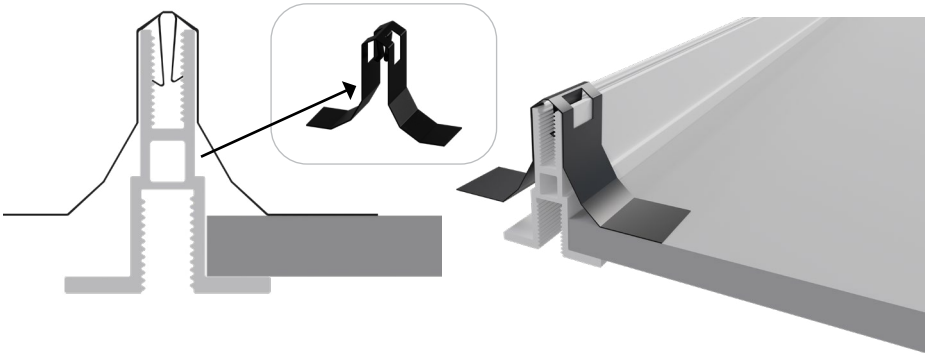
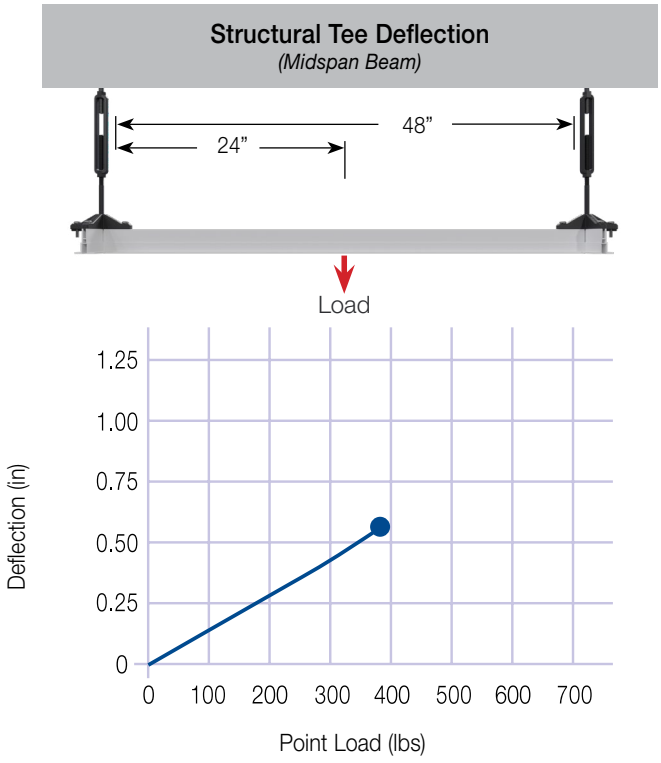
HOLD DOWN CLIPS



- Hold down clips can be provided with the Tate Grid system as an option.
- Two hold down clips are recommended per tile.
- Hold down clips are installed by pressing them into the top thread by hand or lightly tapping them with a mallet.
- Hold down clips are designed for use with 1/2” - 1” thick ceiling tiles
- PN44403

PERFORMANCE CRITERIA

The bottom side of the structural grid is available with a ⅜”-16 continuous threaded slot for mounting items directly to the grid. Refer to the table below for load performance details on the grid and connections.



Calculate midspan beam deflection at any point below yield

$$S = \frac{WL^3}{48EI}$$

S = Deflection
W = load
L = 48in

$E = 10x10^6$ lbs/in^2
I = .153 in^4

On Center Hanger Spacing	Max. Uniform Load	Max. Safe Working Load (Point Load)	Midspan Deflection at Max. Safe Working Load	Safety Factor
4’ x 4’	50 lbs/ft^2	380 lbs*	.53”	2x

**Max point load no less than 4’ apart in any direction.*

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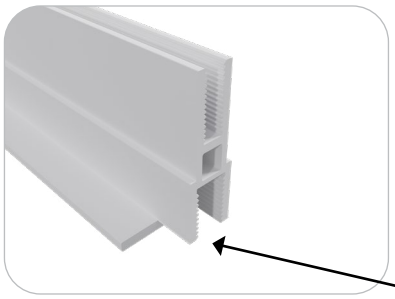
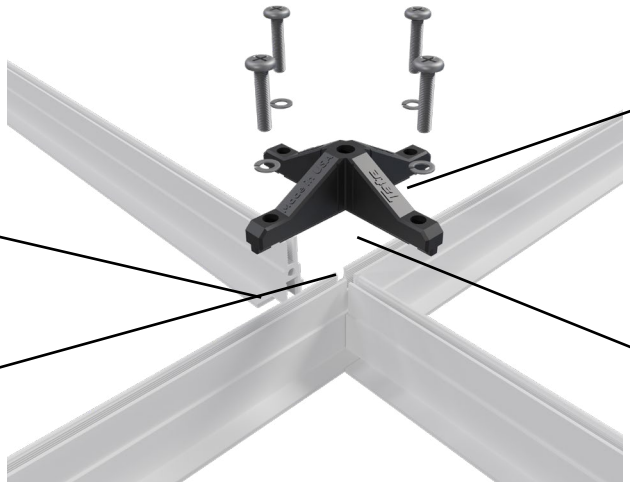
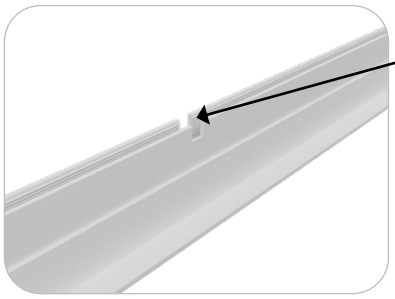
FIELD CONNECTOR ASSEMBLY



Structural Tee coped for simplified installation and stronger connections

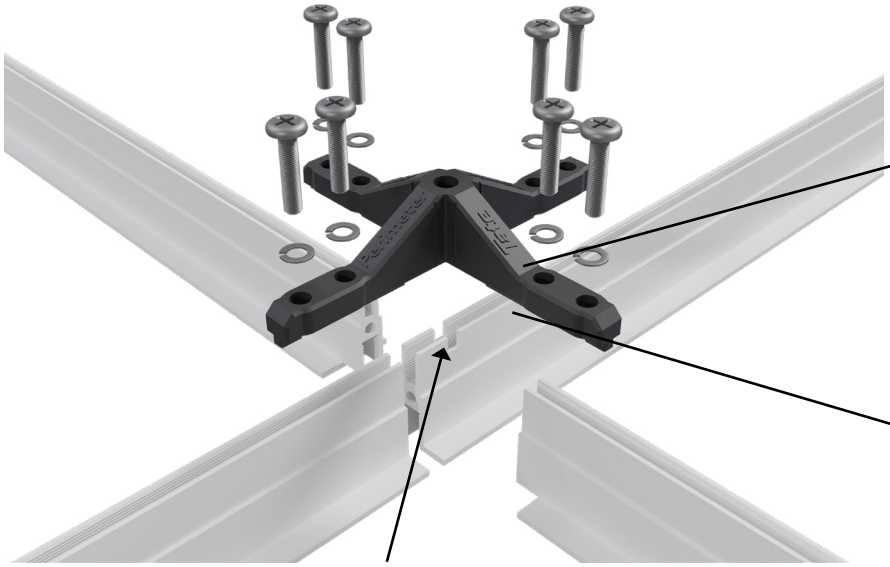


Ribs on connector to align with grid and prevent racking



Main Runners notched to positively position connectors on center every time

XL CONNECTOR



Main Runner Notch

XL Connector is designed for additional support at the ends of each Main Runner.

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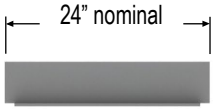
PERIMETER CONNECTOR

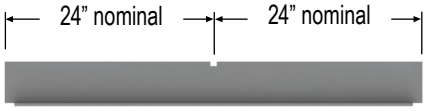
Top View

Bottom View

Perimeter Connector can be cut on site to be used in various locations to connect grid together.

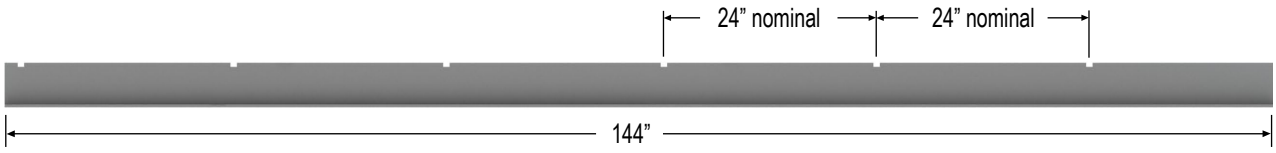
MAIN RUNNERS AND STRUCTURAL TEES





24” & 48” Structural Tees have coped ends which allow the grid to rest on the longer sections for stronger connections.

48” Structural Tees and 12’ Main Runners are notched every 24” on center for proper alignment and spacing of the connectors.



Note: Structural Tee and Main Runner dimensions are nominal and are adjusted for custom-sized ceiling grid designs

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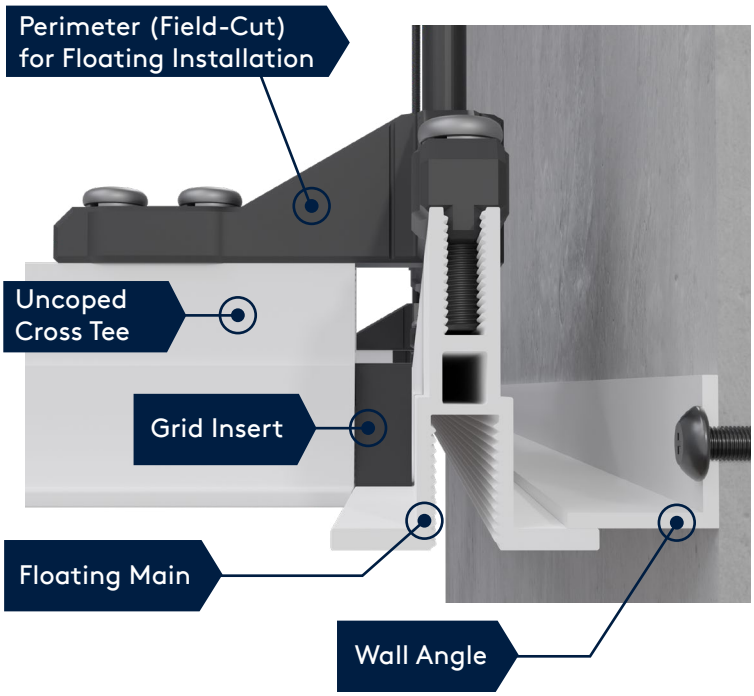
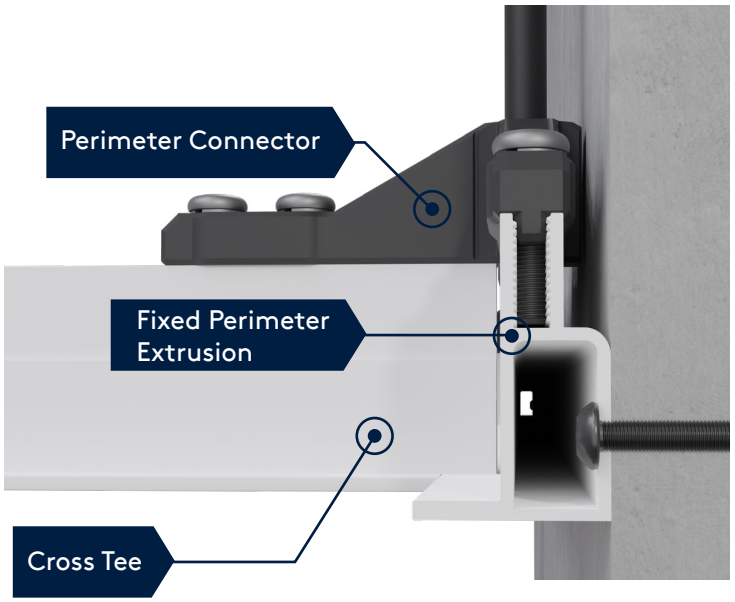
PERIMETER DETAILS



Floating Installation Detail with Grid Insert

Main Runners are utilized when installing with a floating detail. When installing with a floating perimeter, Perimeter Connectors can be utilized to take advantage of the notches and ribs that align extrusions and prevent racking.

Additionally it is recommended to utilize a Wall Angle attached to the perimeter.



Fixed Installation Detail

Perimeter Extrusions are designed to create a fixed perimeter detail. Perimeter Extrusions can be cut on site to desired length when assembled along perimeter walls. Perimeter Extrusions can also be bolted directly to the wall with appropriate fasteners for wall type.

Note, pre-drilling is recommended and through holes are suggested for simpler light fixture or drop ceiling tile installation.

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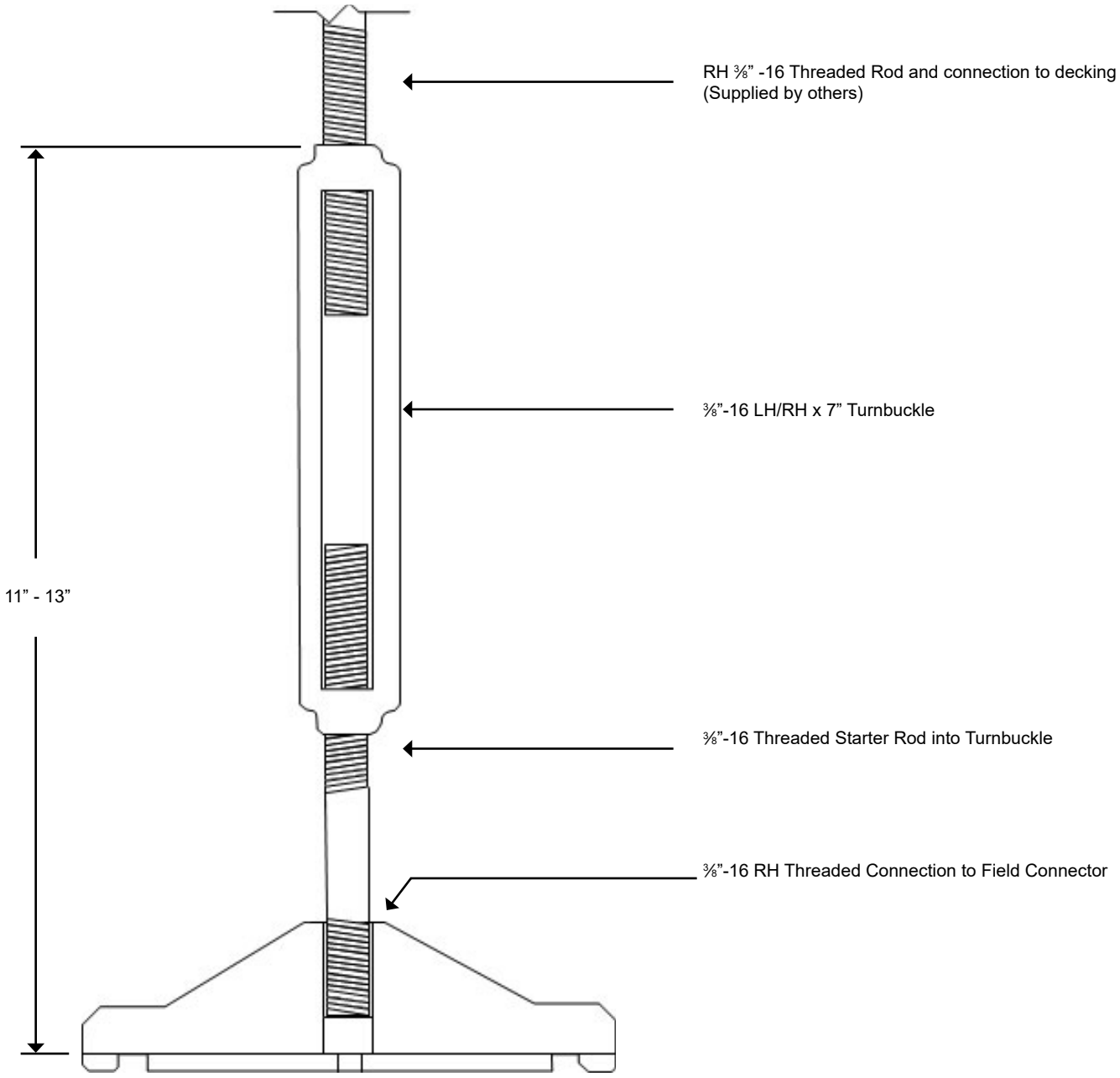
TURNBUCKLE ASSEMBLY



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Safety Guidelines

THIS INFORMATION MUST BE SHARED WITH ALL SERVICE PROVIDERS WHO INTEND TO SUSPEND SERVICES FROM THE TATE GRID SYSTEM

Tate Grid is a structural ceiling system designed to support static vertical loads. When installing services to the bottom ³/₈"-16 threaded channel, the following instructions must be adhered to:

1. Tate Grid is limited to a maximum point load of 380 lbs or distributed load of 50 lb/ft2.
    a. Exceeding these values may cause a failure in the system.
2. Torque the threaded rod or bolts between 20 in-lbs and 30 in-lbs. Over torquing will damage the threads of the 3/8"-16 slot reducing the load capacity of the Tate Grid System.
    a. Failure to adhere to this may result in the shearing of bottom slot threads reducing the load capacity of the Tate Grid system.
3. Equal care must be taken during the installation of the Tate Grid to install the top screws connecting the Tate Grid to the suitable connector at a torque limit between 20 in-lbs and 30 in-lbs.
    a. Failure to adhere to this may result in the shearing of top slot threads reducing the load capacity of the Tate Grid system.
4. Only screws supplied by Tate should be used on the top slot.
    a. Failure to adhere to this may result in the reduction of the load capacity of the Tate Grid system.
5. There must be at least 5/8 in. thread engagement between threaded rod or bolt supporting the suspended service(s).
    a. Failure to adhere to this may result in the reduction of the load capacity of the Tate Grid system.
6. Do not impose a dynamic load on the connection to Tate Grid. During installation of supported services, bracing is required to prevent dynamic load on the Tate Grid ceiling.
    a. Moment forces imposed on the Tate Grid system may cause failure of the connection between the services and the Tate Grid system.
7. All bottom thread fixings should be completed with suitable washers.
8. Tate Grid is NOT a walk-on ceiling.
9. In certain conditions the loading capacity of the Tate Structural Ceiling System may be greater than the loading capacity of the building structure and/or means of attachment to the building structure. Consult with a licensed structural engineer to obtain site specific recommendations regarding the attachment of the Tate Structural Ceiling System and any associated loading to the building structure.
10. Structural ceiling systems as a whole shall be analyzed and designed to local codes by a qualified engineer.