

# Tate Grid LEC

## Grid Specifications

Pre-engineered and factory produced aluminium structural ceiling grid with continuously threaded slot (M10-1.5)

Grid consists of Main Runners with notches for precise location and connection of coped Structural Tees using screw connectors

Capable of supporting power modules, light fixtures, cable trays, partitions, and other accessories

Load performance based on ceiling support spacing at 1200mm centre to centre.

- Max safe working point load: 1.7 kN
- Max safe working uniform load: 2.4 kN/m<sup>2</sup>

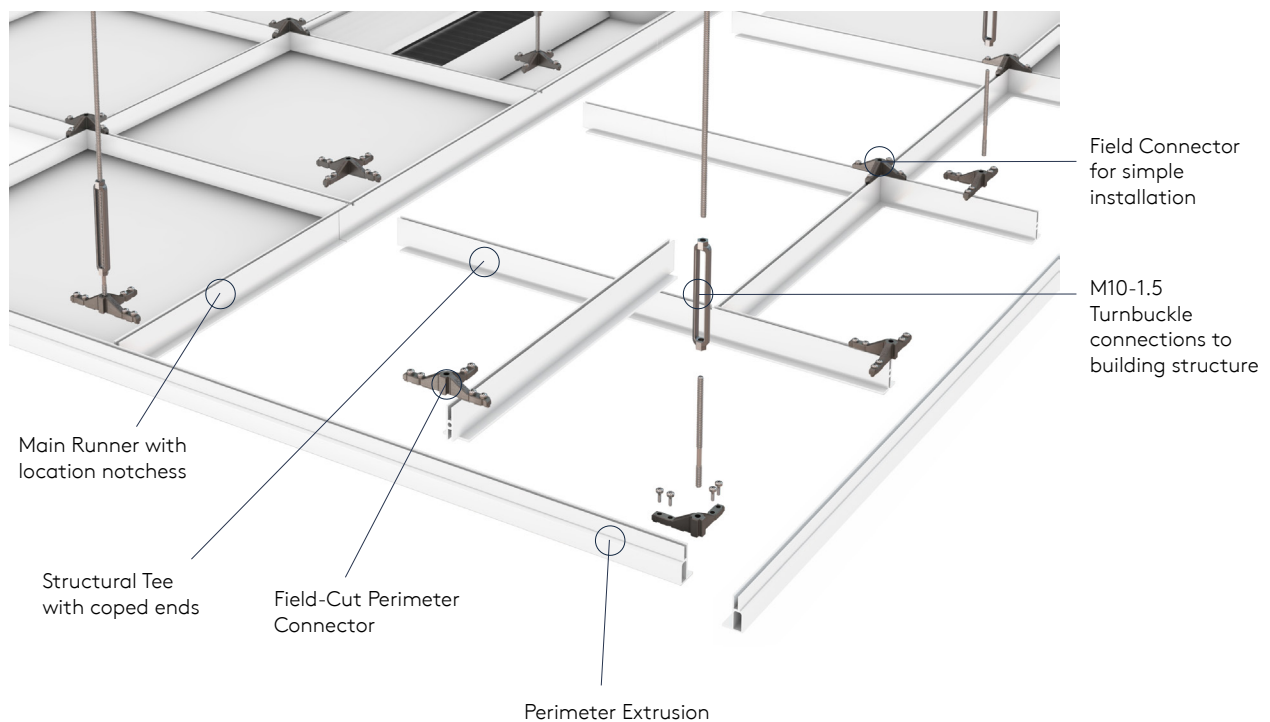
### System Weight

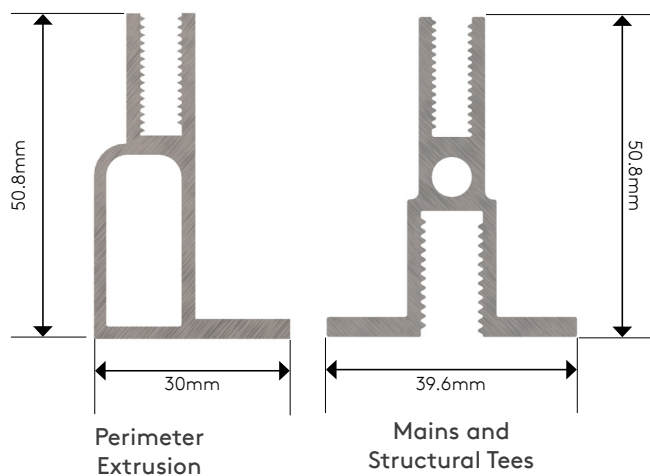
- 600mm x 600mm Grid: 4kg/m<sup>2</sup>
- 600mm x 1200mm Grid: 3kg/m<sup>2</sup>

All bolt connections to the top slot or bottom of the grid should be tightened flush to a washer with a maximum torque value of 4Nm

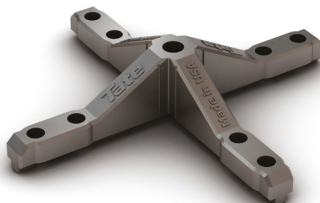
### Key Benefits

- High strength and performance with the ability to suspend a uniform load of 2.4kN/m<sup>2</sup>
- Continuously threaded M10 bottom slot to allow multiple containment configurations
- Fast and easy to install

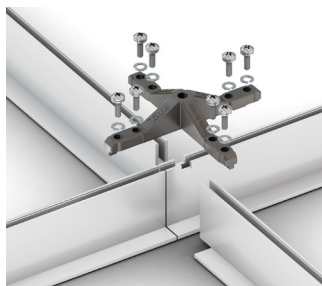




Field Connector



Perimeter & XL Connector



Simple supported 8 screw assembly and vertically supported flanged grid



Pre-threaded connections for cable trays, utilities and other accessories

## Connector Specifications

Black painted steel

Ribs on connector to engage with grid and prevent racking

Attaches to grid members with  $\frac{1}{4}$ "-20 screws

Perimeter connectors cut on site to suit conditions

M10-1.5 Turnbuckles with starter rod threads into connectors on a 1200x1200mm spacing

## Components

3600mm Main Runner/3600mm Fixed Perimeter Extrusion

600mm Structural Tee /1200mm Structural Tee

Field Connector /XL Connector

Perimeter Connector

$\frac{1}{4}$ "-20 Screw and Lock Washer

M10-1.5 x 178mm Turnbuckle Assembly with Starter Rod

Ceiling Hold Down Clips (optional)

Gasket (optional)

Ceiling Tiles & Lights

Threaded Rod Connection to Building (supplied by others)

## Grid Options

Grid Color ☐ Powder Coat White

Grid Thread Pattern – Bottom Slot

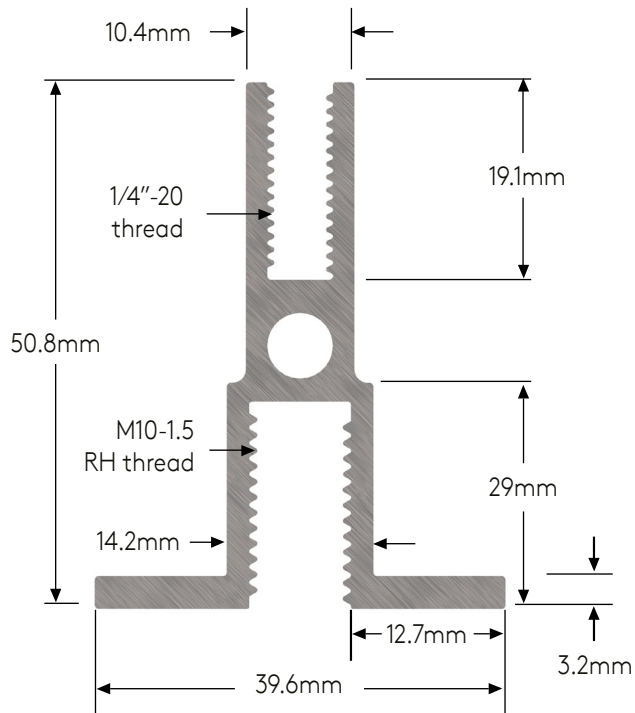
☐ M10-1.5

Grid Spacing – On centre (see page 4 for detail)

☐ 600 x 600mm

☐ 600 x 1200mm

### M10 - 1.5 Bottom Slot

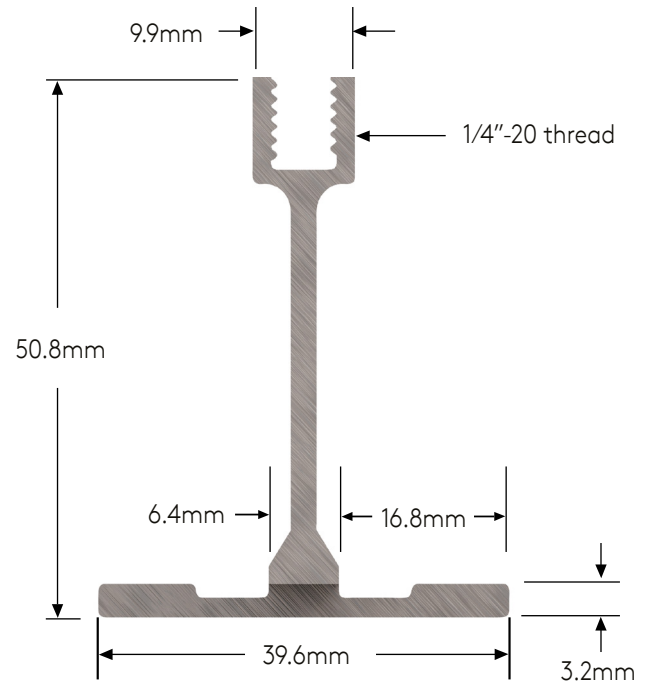


Continuous threaded  $\frac{1}{4}$ "-20 top slot

Continuous threaded M10-1.5 bottom slot

Utilises standard hardware connectors and features of Tate Grid

### Light Structural Extrusion

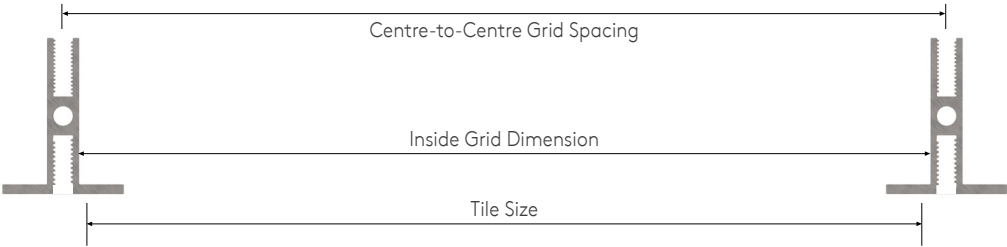


Continuous threaded  $\frac{1}{4}$ "-20 top slot

Utilises standard hardware connectors and features of Tate Grid

For infill applications where complete mounting flexibility across the ceiling is not required

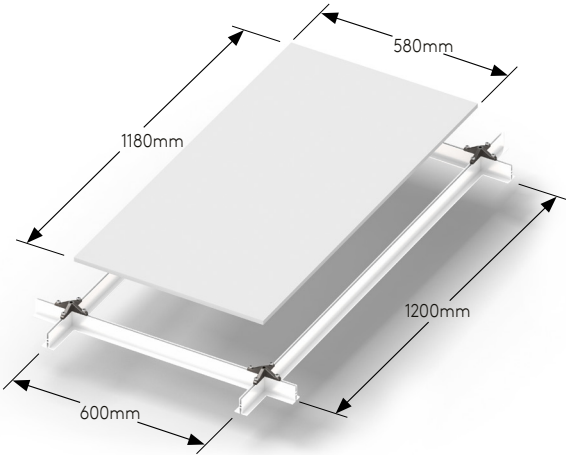
Grid Spacing and Tile Sizing



Grid spacing can be adjusted to fit standard 600 x 600mm or 600 x 1200mm nominal tile sizes, depending on customer's preference. Refer to the table below to determine tile size requirements.

Grid Profile	Grid Spacing (L x W)	Tile Size (L x W)
M10-1.5 Bottom Slot	600 x 600mm	580 x 580mm +/- 3mm
	1200 x 600mm	1180 x 580mm +/- 3mm (see example below)

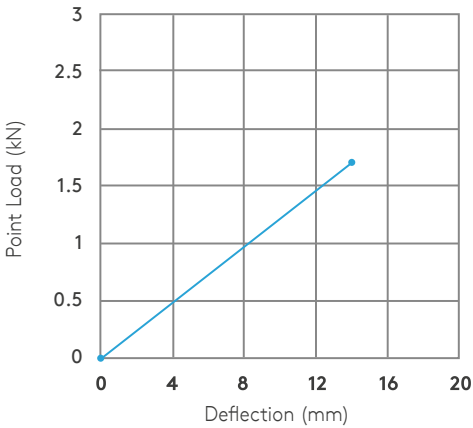
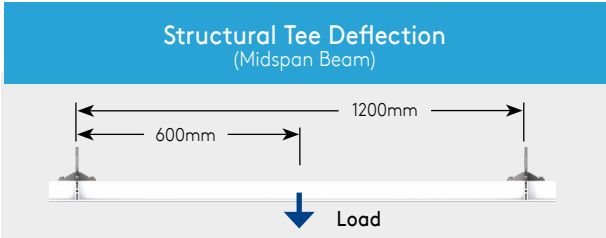
Note: Maximum Tile Size = Inside Grid Dimension minus 3mm. Minimum Tile Size is based on a minimum overlap on the extrusion flange of 3mm when the tile is shifted all the way to one side.



Sizing Based on  
600 x 1200mm Grid Spacing

Performance Criteria

The bottom side of the structural grid is M10-1.5 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

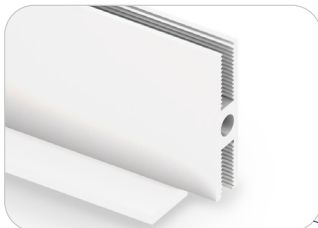
$$S = \frac{WL^3}{48EI}$$

S = Deflection  
W = load  
L = 1200mm  
E = 68.9 kN/mm<sup>2</sup>  
I = 63700mm<sup>4</sup>

Hanger Configuration	Max Safe Working Uniform Load (kN/m <sup>2</sup> )	Max Allowable Deflection (mm)	Max Safe Working Point Load (kN)	Ultimate Load (kN)
1200mm x 1200mm	2.4	14	1.7*	3.1

\*Max safe working point load no less than 1200mm in any direction

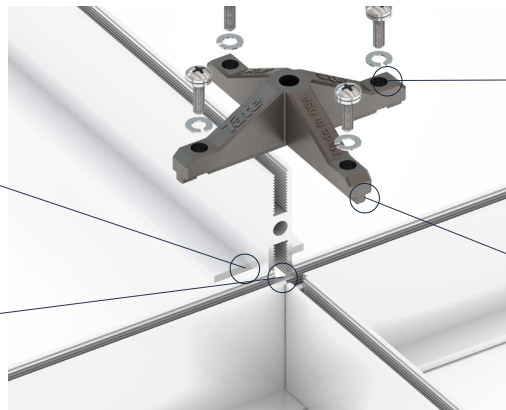
## Field Connector Assembly



Structural Tee coped for simplified installation and more robust connections

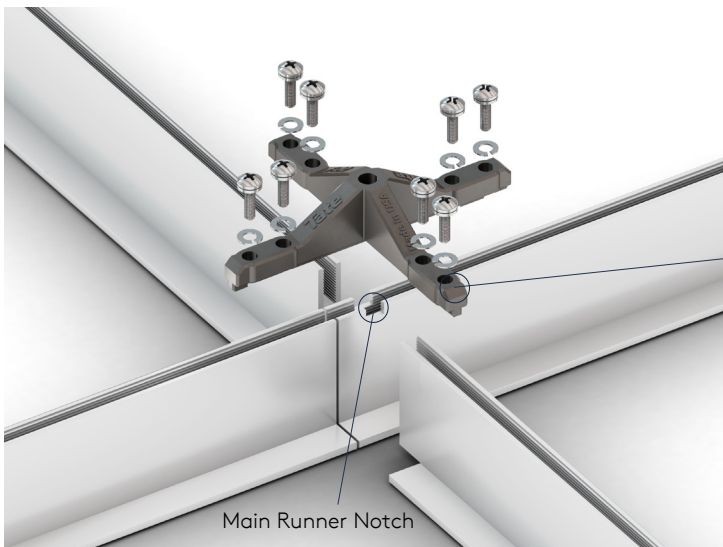


Main Runners notched to positively position Connectors on centre every time

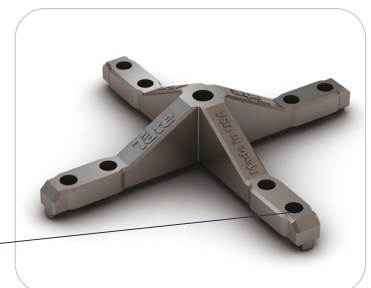


Ribs on Connector to align with grid

## XL Connector



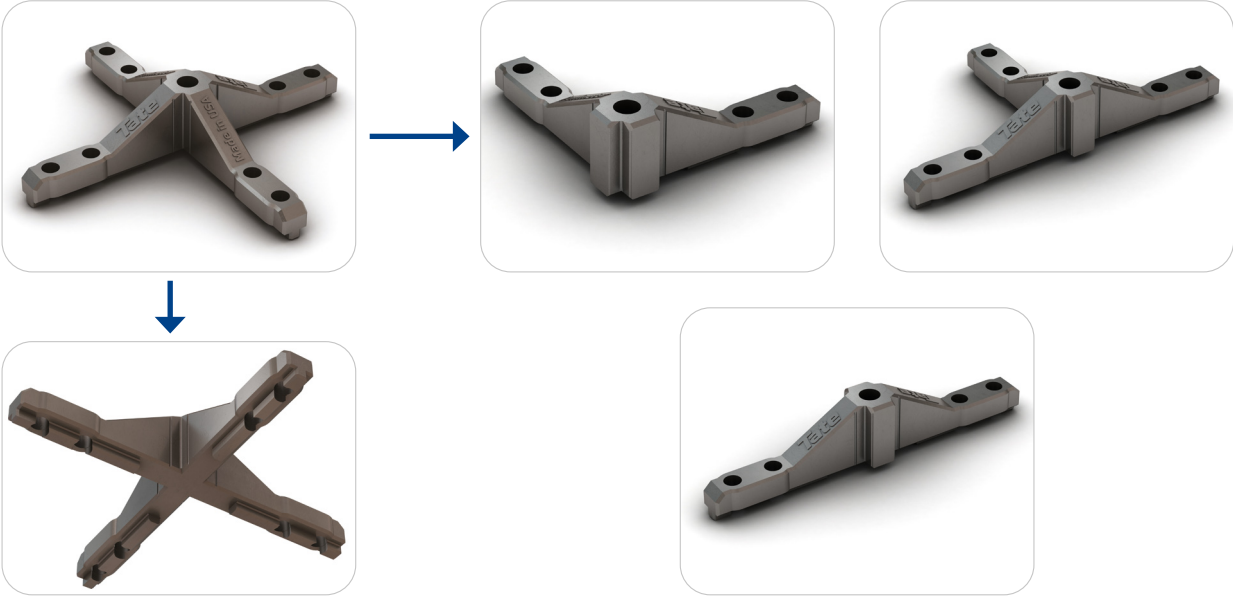
Main Runner Notch



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

Each available bolt hole on connectors must be secured with a screw.

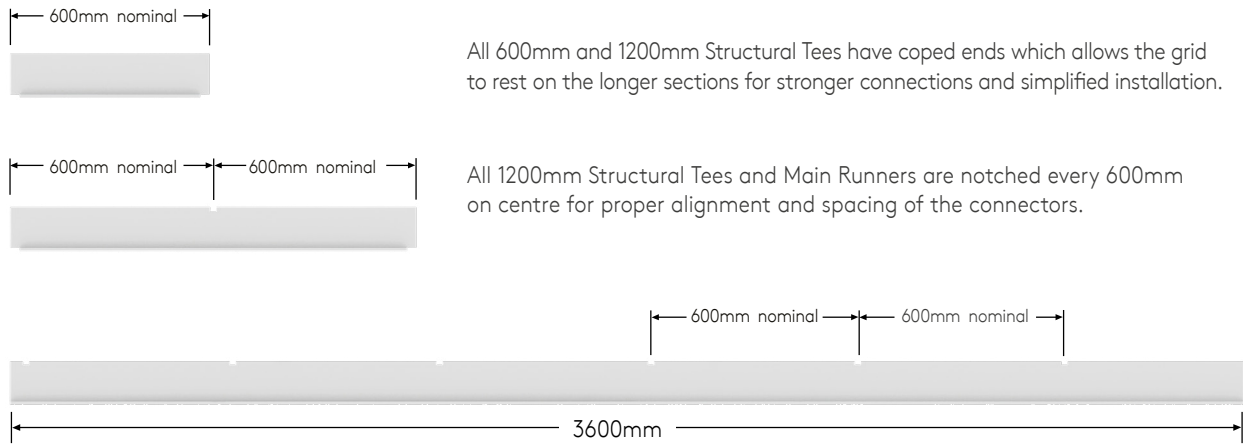
Perimeter Connector



Bottom of Perimeter Connector is designed with ribs that locate the connector on Perimeter Extrusion.

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

Main Runners and Structural Tees

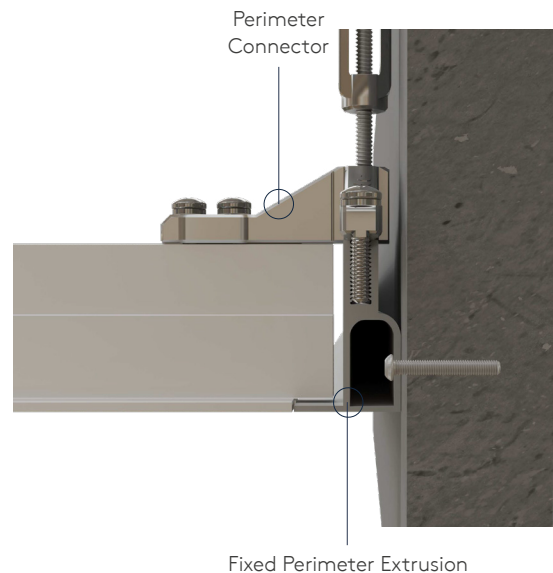
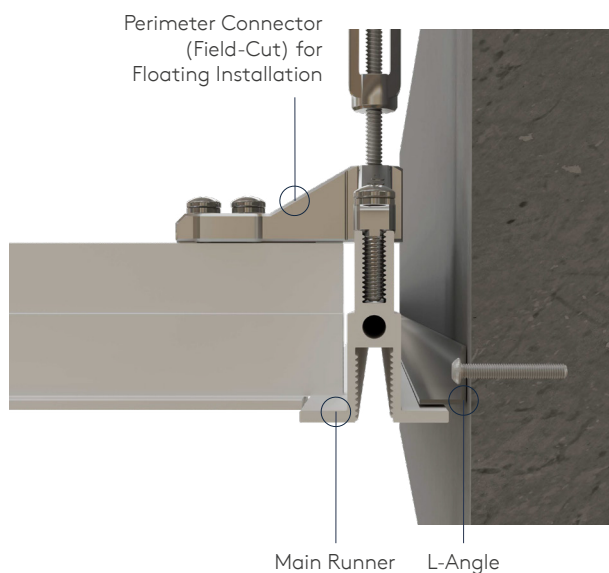


All 600mm and 1200mm Structural Tees have coped ends which allows the grid to rest on the longer sections for stronger connections and simplified installation.

All 1200mm Structural Tees and Main Runners are notched every 600mm on centre 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

## Perimeter Details



### Floating Installation Detail

Main Runners are utilised when installing with a floating detail. When installing with a floating perimeter, Perimeter Connectors can be utilised.

Additionally it is recommended to utilise a L-Angle attached to the perimeter.

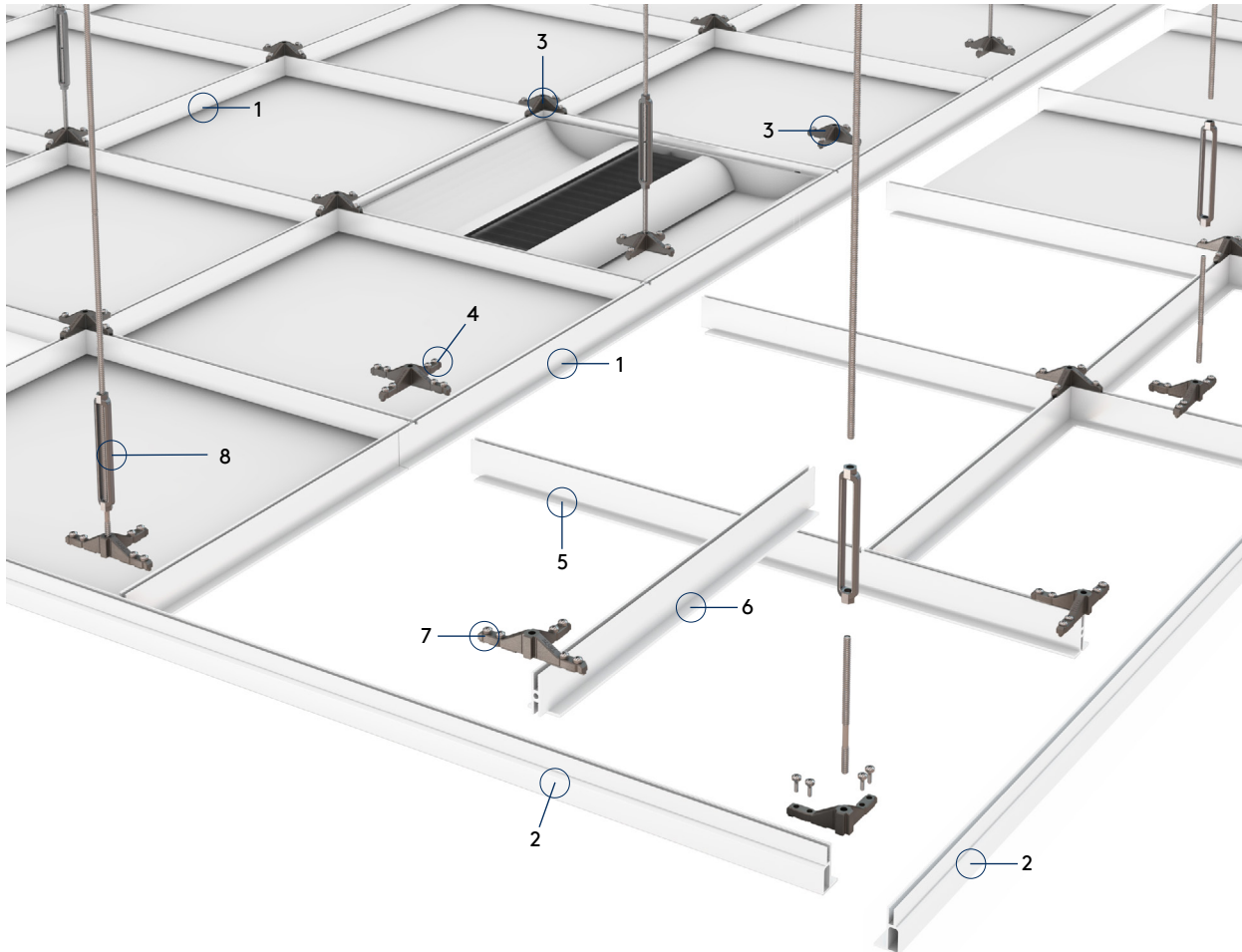
### Fixed Installation Detail

Perimeter Extrusions are designed to create a clean corner joint assembly.

Perimeter Angles can be cut on site to desired length when assembled along perimeter walls. Perimeter Angles can also be bolted directly to the wall with appropriate fasteners for wall type.



600mm X 600mm Ceiling Grid With 1200mm X 1200mm Hanger Configuration and Fixed Perimeter



1 3600mm Main Runner

4 XL Connector

7 Perimeter Connectors

2 3600mm Perimeter Runner

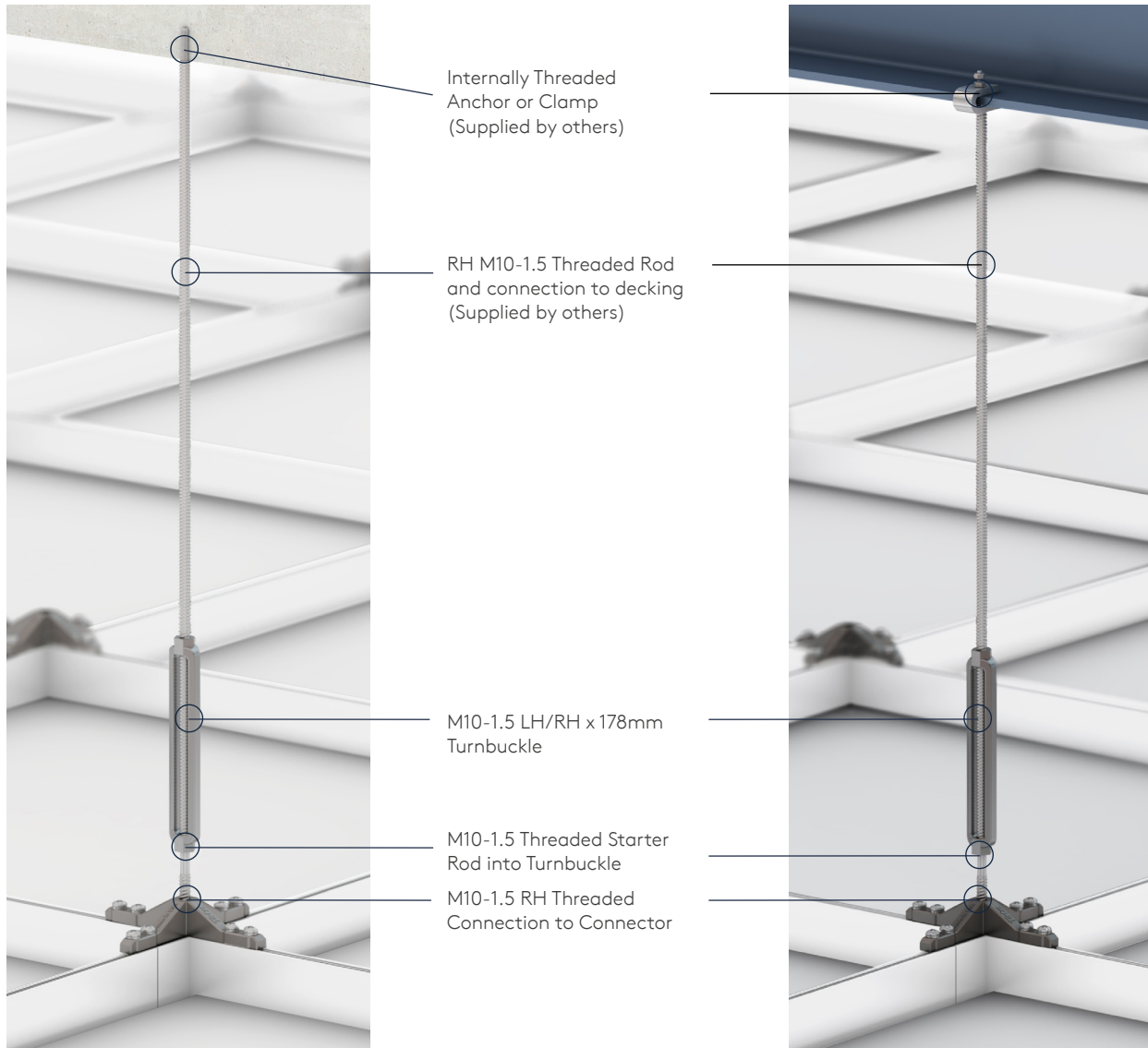
5 1200mm Structural Tee

8 Turnbuckle Assembly

3 Field Connectors

6 600mm Structural Tee

## Fixing to Building Structure



For more information, access to our EPD and supporting information see [tateglobal.com](https://tateglobal.com).

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