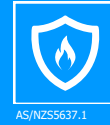


New

# Tate Forte LEC



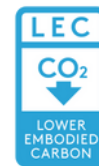
EN 12114



AS/NZS 5637.1



Please refer to the website for the most up-to-date data sheet.



Maximum safe working point load\* - 4.4kN / 448kg

Maximum safe uniform load\* - 6.1kN/m<sup>2</sup> / 611kg/m<sup>2</sup>

Factor of Safety - 2

System weight - 10.3kg/m<sup>2</sup> Grid

Grid Configuration - 600mm x 1200mm

\*based on 1.2m x 1.2m hanger configuration

Required torque for top slot - 7Nm

Colour - RAL 9016

Bottom slot - universal strut channel nut connection

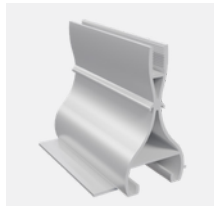
Fire classification - AS/NZS 5637.1

\*AS/NZS 5637.1 is an Australian Standard that determines the fire hazard properties of wall and ceiling linings. Tate Forte has been tested and classified in Group 1 indicating the best fire performance.

Suspended load data has been independently tested and certified by a third party accredited certification company

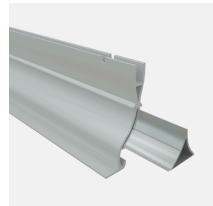
**Tate.**<sup>®</sup>

## Components



Coped structural tee 1.2m

Coped standard cross tee.



Main runner 3.6m

Standard main runner. Main runner comes with telescopic splice factory installed. The splice kit is a necessary part of the structure when splicing the main runners.



XL connector

Heavy duty connector that is used to splice main runners. Connector has a pin on the bottom surface to match the notches on the main runner.



Straight connector

An auxiliary connector is used when it is necessary to splice the Main runners outside the standard grid section or as an additional support point.



Offset Perimeter connector

The connector is used for 3-ways connections as the ending element of the system.



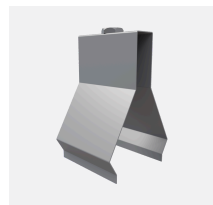
Corner connector

The connector is used in corners and does not have bottom ribs for greater flexibility during installation. Allowable joint angles 88-92°. Two threaded holes for drop rods.



M8-35 Bolt (DIN 6921)

Hex head screw with serrated flange. Used for all connectors.



Screw Down Ceiling Clip

Accessibility clip allows for the easy removal of tiles to gain access above the ceiling.



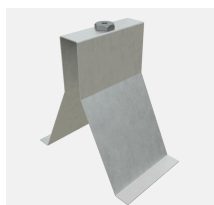
Perimeter Profile

Perimeter profile can be used at the data hall perimeter or around obstructions.



Turnbuckle M10

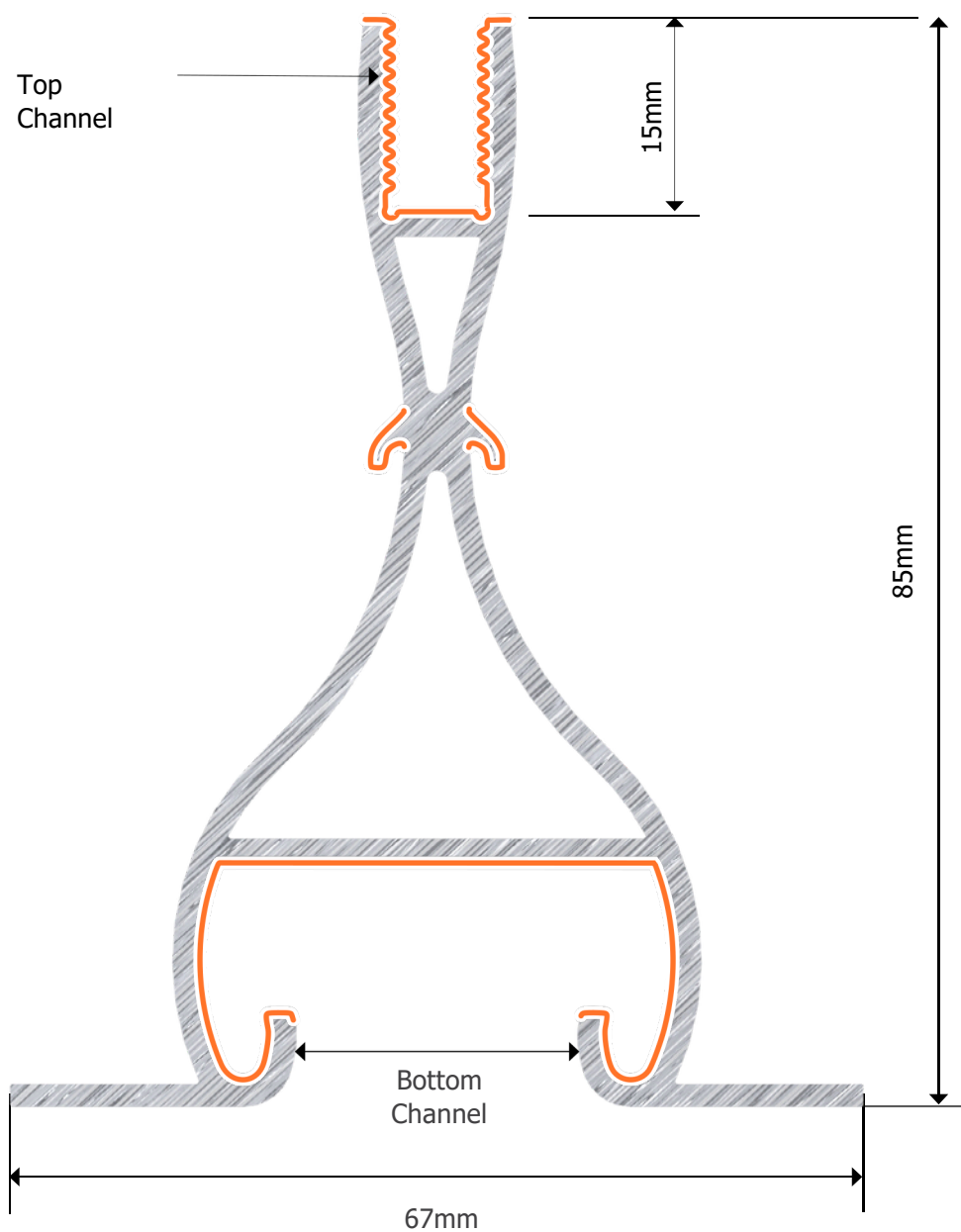
M10 Turnbuckle with a starter rod is used to connect the structural ceiling with M10 threaded rods.



Security Hold Down Clip

Hold down clip that prevents removal of tiles below the ceiling for security. Hold down clips should be used on all edges where the tile has been cut. Clip can be cut on-site to suit perimeter installation.

## Cross Section



## Type of Connection

Top Channel - Continuous threaded M8 top slot

Bottom Channel – Universal strut channel nut connection.

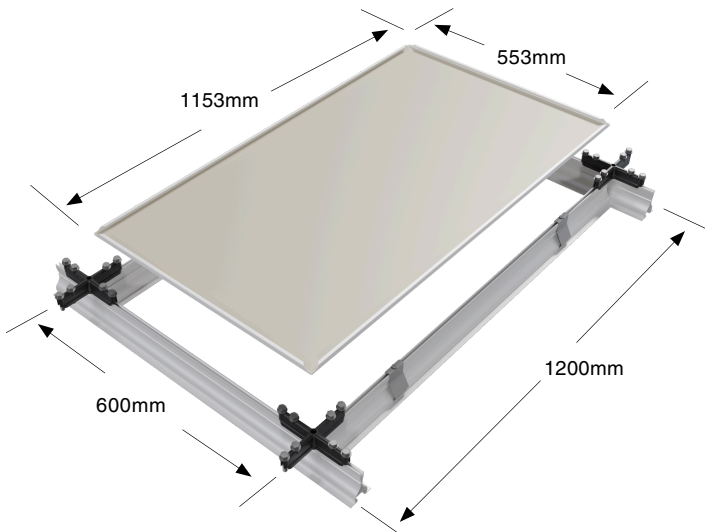
Grid Spacing and Tile Sizing



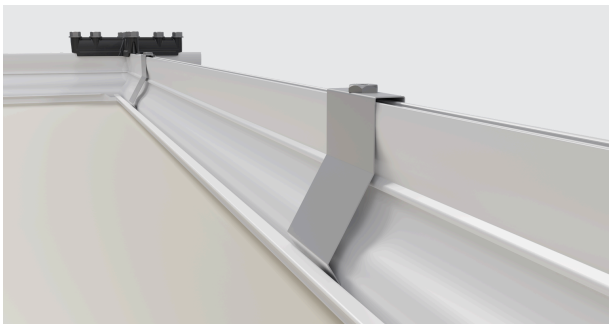
Grid spacing can be adjusted to fit standard 600mm x 1200mm nominal tile size, depending on customer's preference. Refer to the table below to determine tile size requirements.

| Grid           | Grid Spacing (L x W) | Tile Size (L x W)                          |
|----------------|----------------------|--|
| Tate Forte LEC | 1200mm x 600mm       | 1153mm x 553mm +/- 3mm (see example below) |

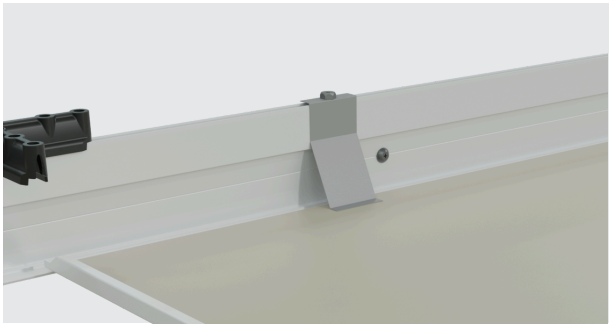
Note: Maximum Tile Size = Inside Grid Dimension minus 3mm. Minimum Tile Size is based on a minimum overlap on the extrusion flange of 3mm when the tile is shifted all the way to one side.



Sizing Based on 600mm x 1200mm Grid Spacing



Screw Down Clip that allows for tile to be removed.



Hold down clip that is used at all edges where the tile is cut. Also used as a security clip to prevent the removal of tiles and access to the above ceiling.



Main Characteristics

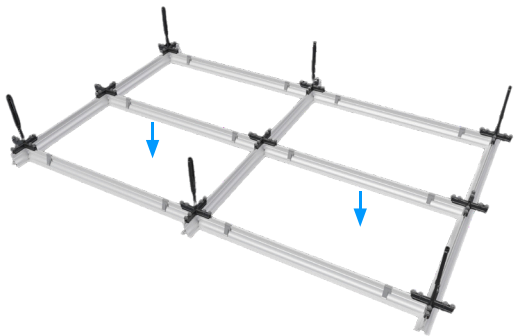
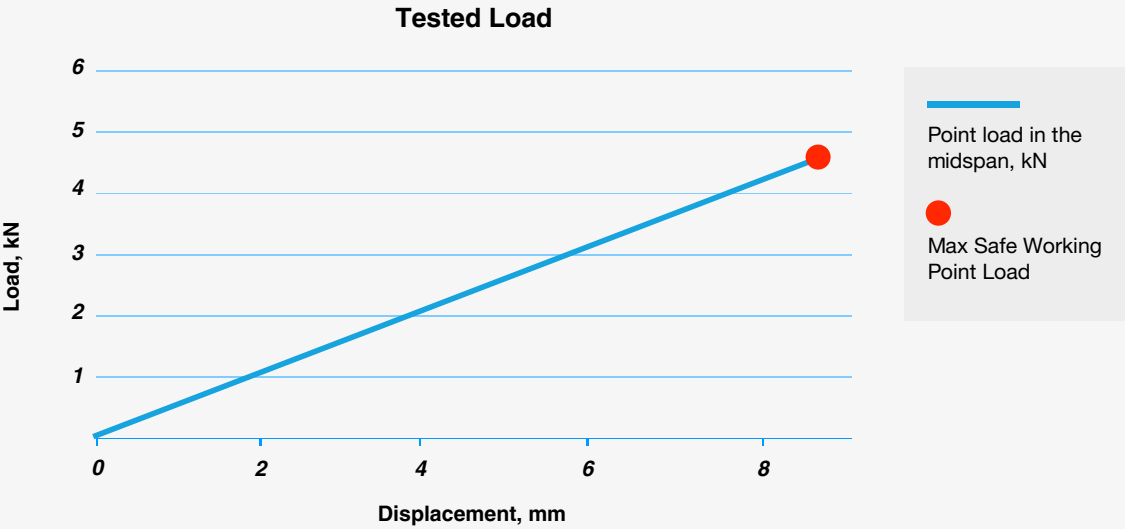
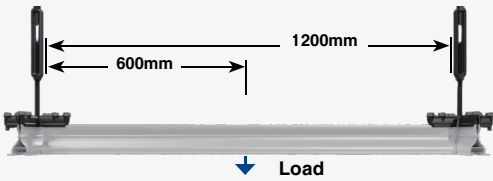
|  |                                       |
|--|---------------------------------------|
| Dimensions - 1153 x 553 x 0.7mm        | Back Finish - Unpainted Treated Steel |
| Weight - 3.68kg                        | Fire classification - AS5637.1        |
| Thickness - 0.7 mm                     | Security hold down clips optional     |
| Material - Galvanised prepainted steel | Factory applied gasket optional       |
| Front Colour - RAL 9016                |                                       |

The metal pan ceiling tile is designed exclusively for the Tate Forte LEC structural ceiling systems. Suitable for data centre applications, the metal pan ceiling tile offers a clean finish to the structural ceiling systems.

Performance criteria

The Bottom side of the structural Grid has a Universal Channel slot, designed to fit standard strut channel nuts. Refer to the table below for load performance details on the grid and connections.

Structural Tee Deflection  
(Midspan Beam)



| Span,<br>mm | Loading at Deflection Limit, kN |       |       |       |
|-------------|---------------------------------|-------|-------|-------|
|             | L/360                           | L/240 | L/180 | L/120 |
| 1200        | 2.2                             | 3.1   | 4.0   | 4.4*  |

\*Limited by the workload

| Hanger<br>Configuration | Max Safe Working<br>Uniform Load (kN/m <sup>2</sup> ) | Deflection at max<br>point load (mm) | Max Safe Working<br>Point Load (kN) | Factor of<br>Safety |
|-------------------------|---|--------------------------------------|-------------------------------------|---------------------|
| 1200mm x 1200mm         | 6.1   | 10                                   | 4.4                                 | 2                   |

Suspended load data has been independently tested and certified by a third party accredited certification company

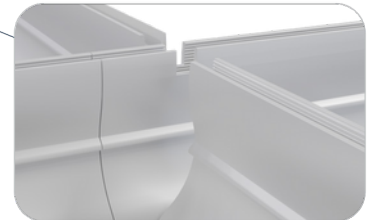
## XL Connector



XL Connector is designed for all cross connections excluding the perimeter

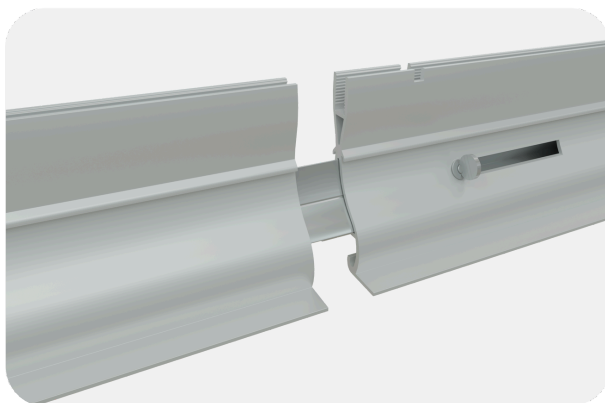


XL Connector



Main Runner Splice

## Splice Kit



Tate Forte LEC requires the use of a telescopic splice kit between each main runner. The splice kit comes pre installed and is chamfered for easier telescopic installation.

## Straight Connector



Dual straight connectors on 600mm spacings allow for flexible hanger configurations.

## Torque Settings



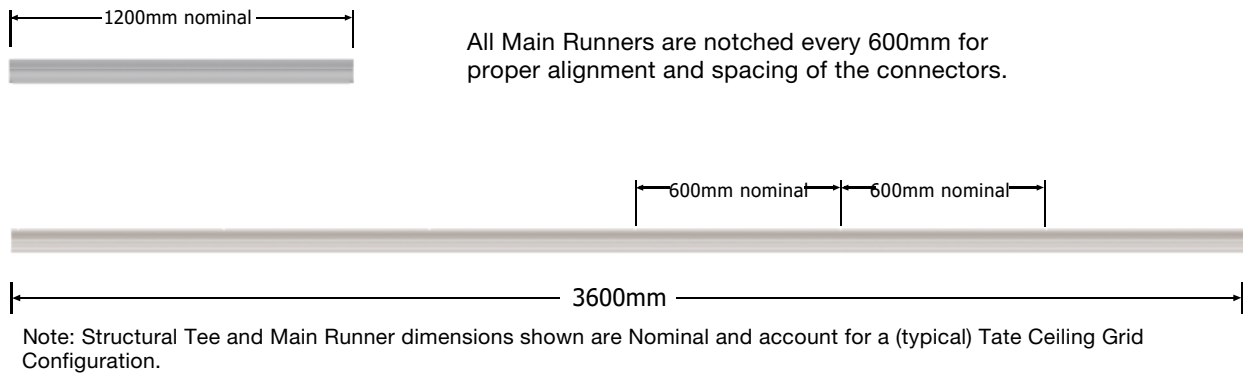
Required torque for  
top channel  
connections: 7Nm

Universal Strut  
Channel Nut  
Connection to  
Bottom Channel

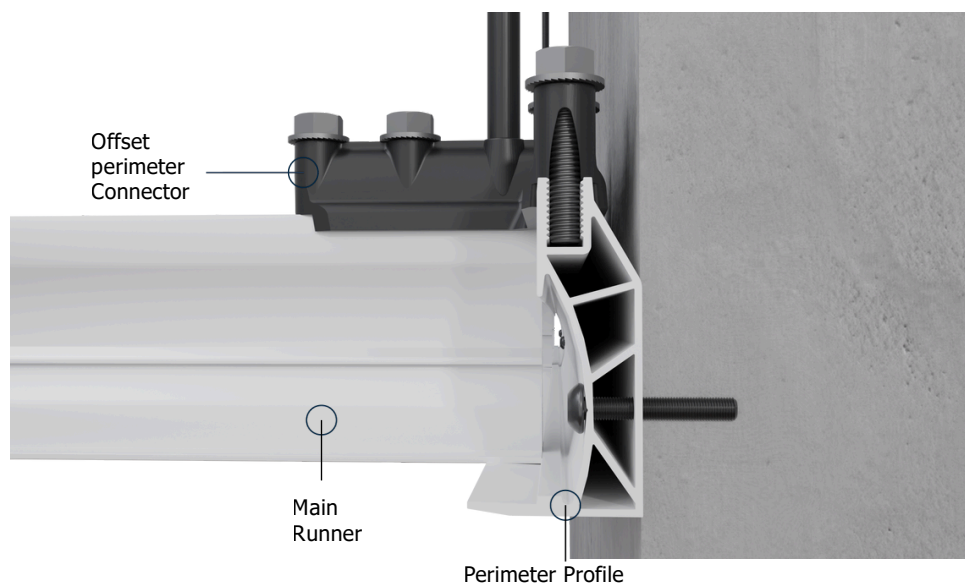
## Intersection Detail



Main Runners and Structural Tees



Perimeter Details

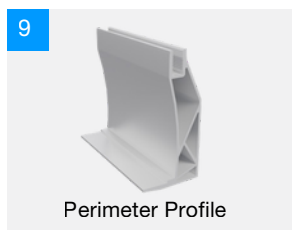
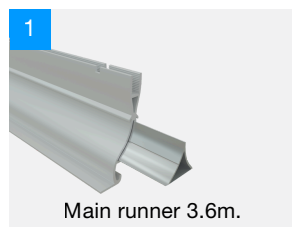
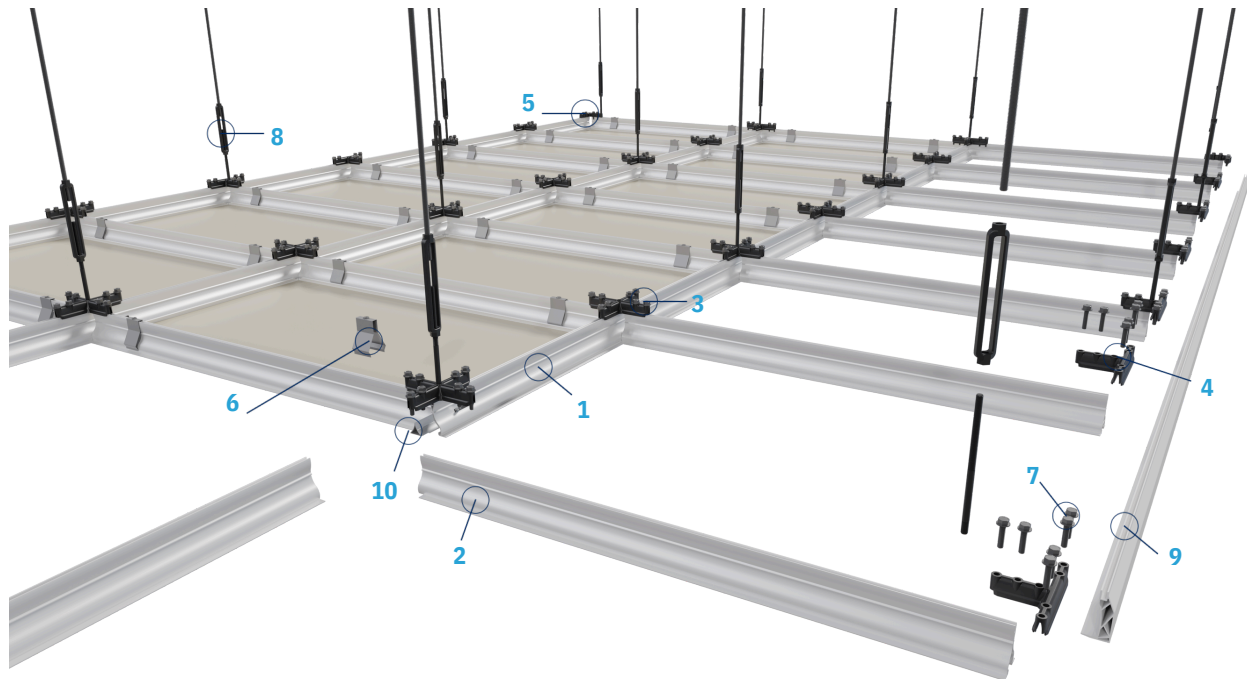


Fixed Installation Details

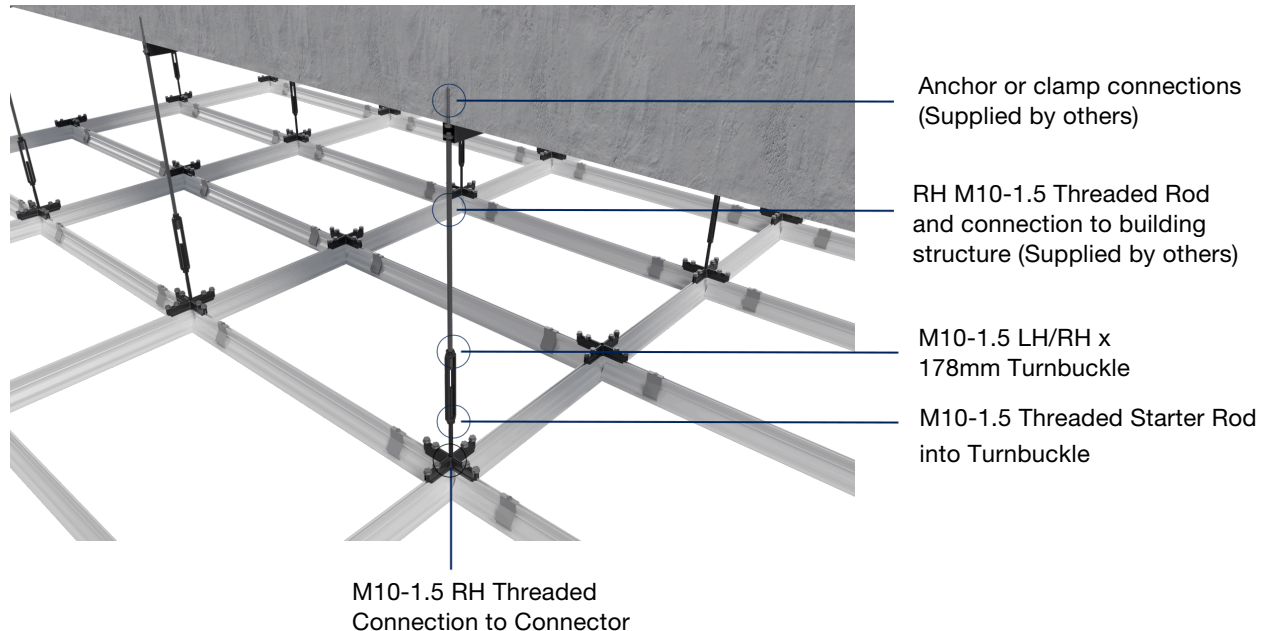
Perimeter Profiles with Main Runners or Structural Tees are utilized when installing a fixed perimeter along the perimeter wall. Perimeter Profiles can be cut on site to desired length when assembled along perimeter walls. The Perimeter Profiles are bolted directly to the wall with appropriate fasteners for wall type.

No coping at Perimeter required

## 1200mm X 1200mm Hanger Configuration



## Fixing to Building Structure



\*Building structure must be able to carry an Area Load of 6.25 kN/m<sup>2</sup> (System Self-weight calculated with Tate Metal Tiles). This design load transmitted through the turnbuckle has no factor of safety included (outside Tate's scope). The factor of safety must be decided by the building's designers and structural engineers, as it may vary for different countries.

\*\*Turnbuckle connection must be capable of supporting a Point Load of 9.0kN at the connection to the building structure. (System Self-weight calculated with Tate Metal Tiles). This load transmitted by the turnbuckle has no factor of safety included (outside Tate's scope). The factor of safety must be decided by the building's designers and structural engineers, as it may vary for different countries. Contact Tate APAC technical support for typical connection details.

Tate Forte LEC is a Lower Embodied Carbon structural ceiling solution made with lower-carbon raw materials. An Environmental Product Declaration (EPD) is in development and undergoing third-party verification. Contact Tate for more information.