New Tate Grid+ LEC

EN 13501: 1 Class A1 | EN ISO 10140-2: 2010 | EN 12114 | EN1090 - 1 : 2009 + A1 EN1090 - 2 : 2018 | EN 15804+A2

LEC CO_2 LOWER EMBODIED CARBON

Main Characteristics

Maximum safe working point load - 2.2kN / 224kg*

Maximum safe uniform load - 3.0kN/m² / 305kg/m²*

Factor of Safety - 2

System weight - 2.9kg/m²

Grid configuration - 600mm x 1200mm

Maximum torque for top slot - 7Nm

Maximum torque for bottom slot - 4Nm

Colour - RAL 9003

Bottom slot - M10 –1.5

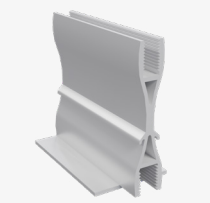
System achieves A1 performance for reaction to fire tests EN 13501:1 Class A1

*based on 1.2m x 1.2m hanger configuration

Suspended load data has been independently tested and certified by a third party accredited engineering body

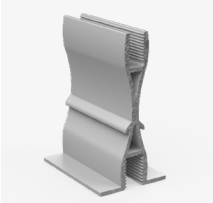
Tate®

Components



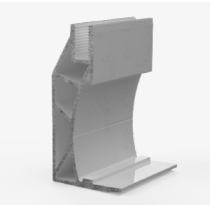
Coped structural tee 1.2m

Coped standard cross tee.



Main runner 3.6m

Standard main runner.



Perimeter profile

A perimeter profile can be used at the datahall perimeter or around obstructions.

Field connector

Field connector.

XL connector

Heavy duty connector that is used to splice main runners.

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.

Perimeter connector

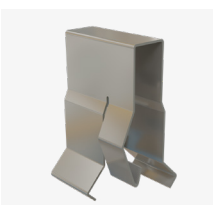
The connector is used for 3-way connections as the ending element of the system.

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.

Fire rated gasket

3x10mm, class B2 (DIN 4102-1).



Double spring clip for metal tiles

Double Spring clips for a standard Tate ceiling tile (1180x580x12). Allows access by pushing up the tile. Can be used multiple times.

M8-35 Screw

DIN 6921. Hex head screw with serrated flange. Used for all connectors.

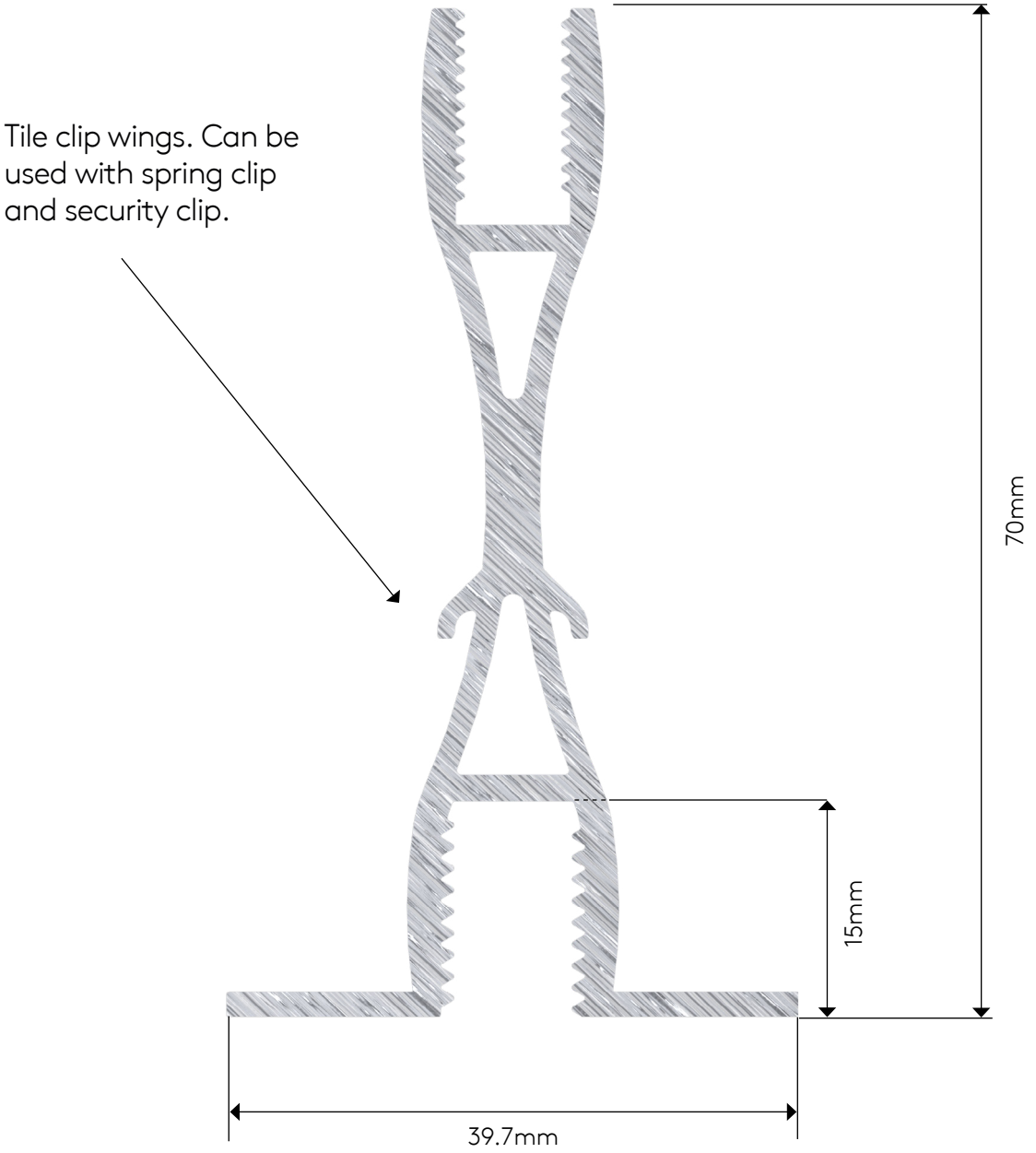
Security clip for metal tiles

Security clip for restricted metal tiles.

Turnbuckle M10

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

Cross section

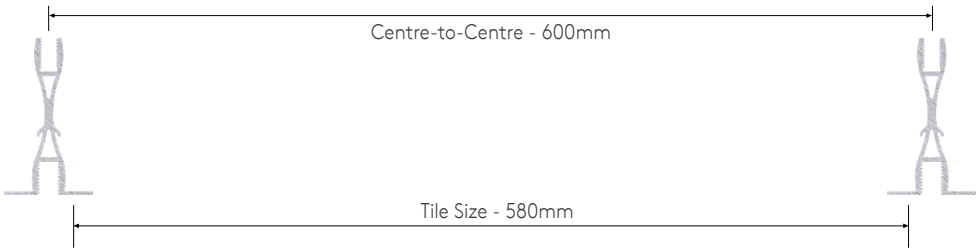


Continuous threaded M8 top slot

Continuous threaded M10-1.5 bottom slot

Utilises standard hardware connectors and features of Tate Grid+ LEC

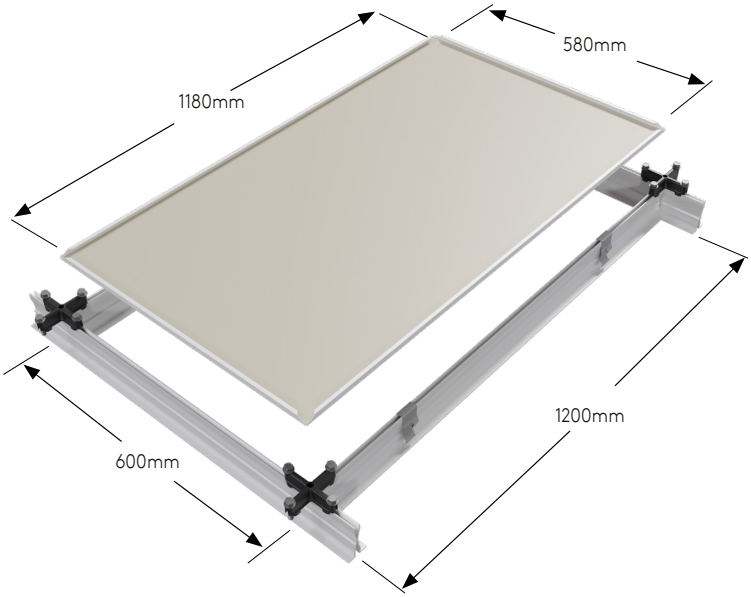
Grid Spacing and Tile Sizing



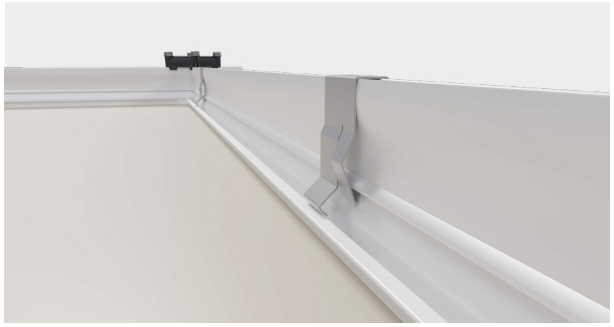
Grid spacing can be adjusted to fit standard 600mm x 1200mm nominal tile size, depending on customer's preference. Refer to the table below to determine tile size requirements.

Grid Profile	Grid Spacing (L x W)	Tile Size (L x W)
Tate Grid+ LEC	1200mm x 600mm	1180mm x 580mm +/- 3mm (see example below)

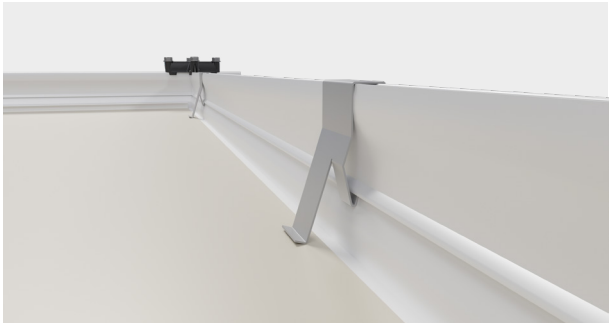
Note: Maximum Tile Size = Inside Grid Dimension minus 3mm. Minimum Tile Size is based on a minimum overlap on the extrusion flange of 3mm when the tile is shifted all the way to one side.



Sizing Based on 600mm x 1200mm Grid Spacing



Spring clip that allows access by pushing up tile

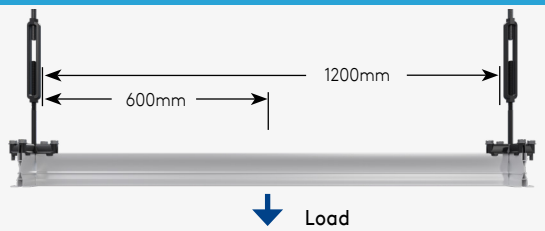


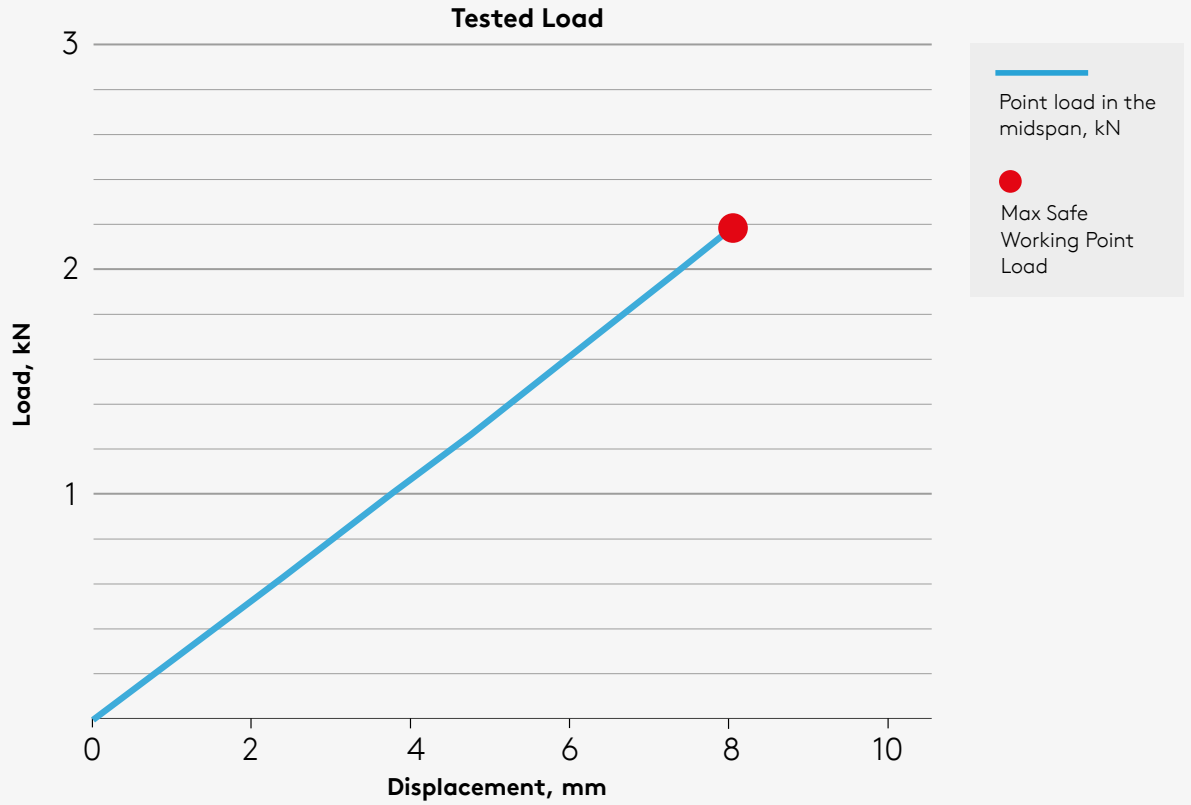
Security clip that holds down tile

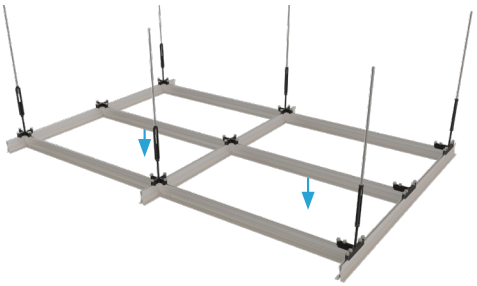
Performance Criteria

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.

Structural Tee Deflection
(Midspan Beam)







Span, mm	Loading at Deflection Limit, kN			
	L/360	L/240	L/180	L/120
1200	0.823	1.274	1.725	*2.2

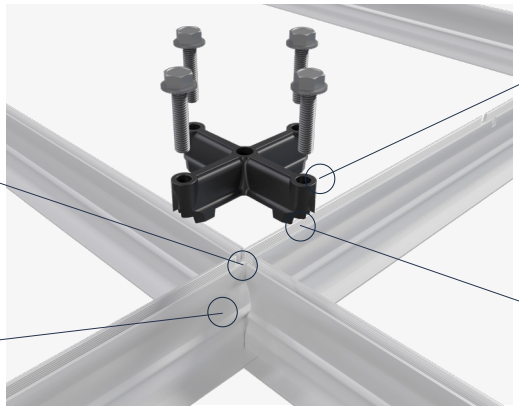
* Limited by the workload

Hanger Configuration	Max Safe Working Uniform Load (kN/m²)	Deflection at max load (mm)	Max Safe Working Point Load (kN)	Factor of Safety
1200mm x 1200mm	3.0	8.4*	2.2**	2

* Deflection is based on safe working load
** Max safe working point load no less than 1200mm in any direction

Suspended load data has been independently tested and certified by a third party accredited engineering body

Field Connector



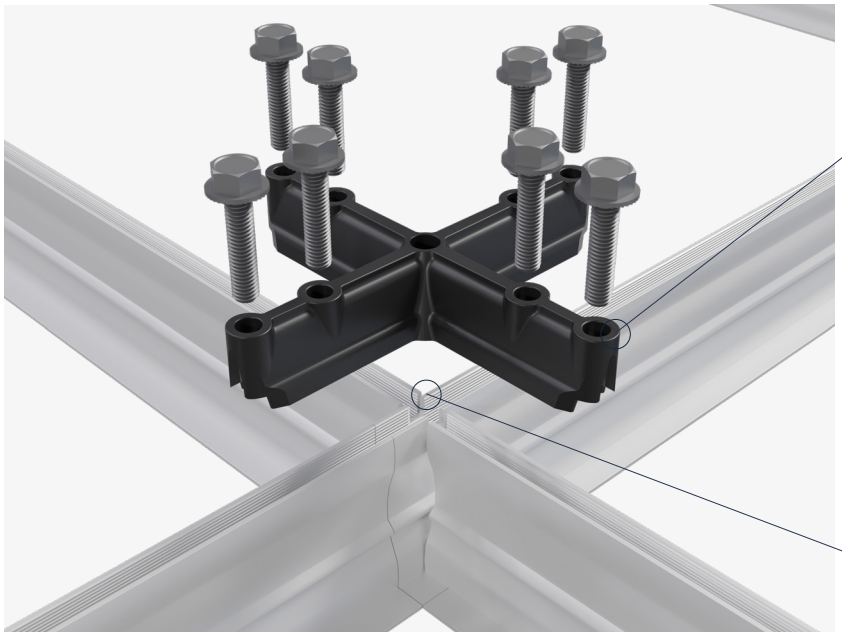
Structural Tee

Main runner notched for precision alignment

Field Connector

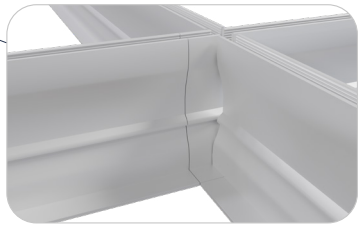
Ribs on Connector to align with grid

XL Connector



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

XL Connector



Main Runner Splice

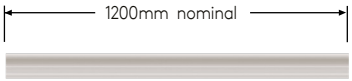
Torque Settings

Maximum torque for top slot: 7Nm

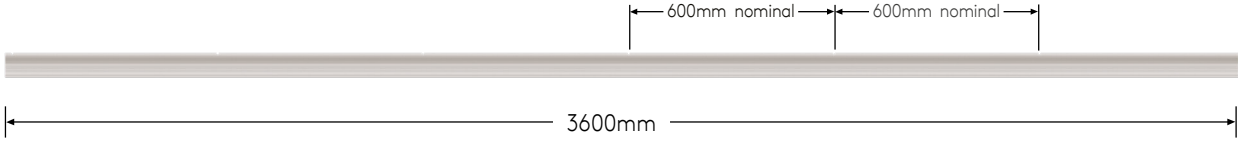
Minimum thread engagement: 14.5mm

Maximum torque for bottom slot: 4Nm

Main Runners and Structural Tees

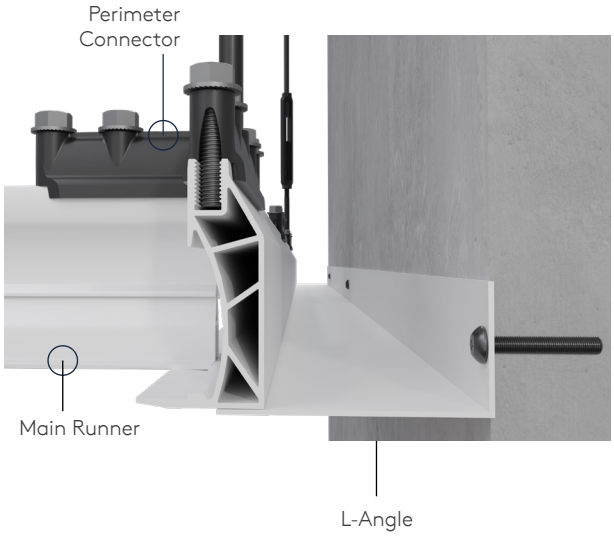


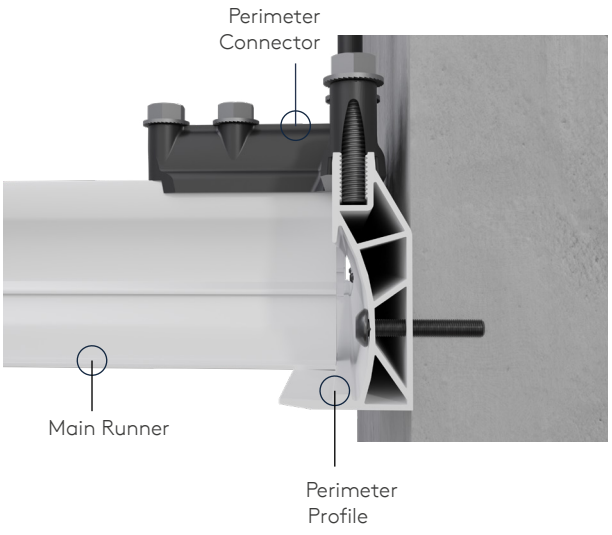
All Main Runners are notched every 600mm for proper alignment and spacing of the connectors.



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

Perimeter Details





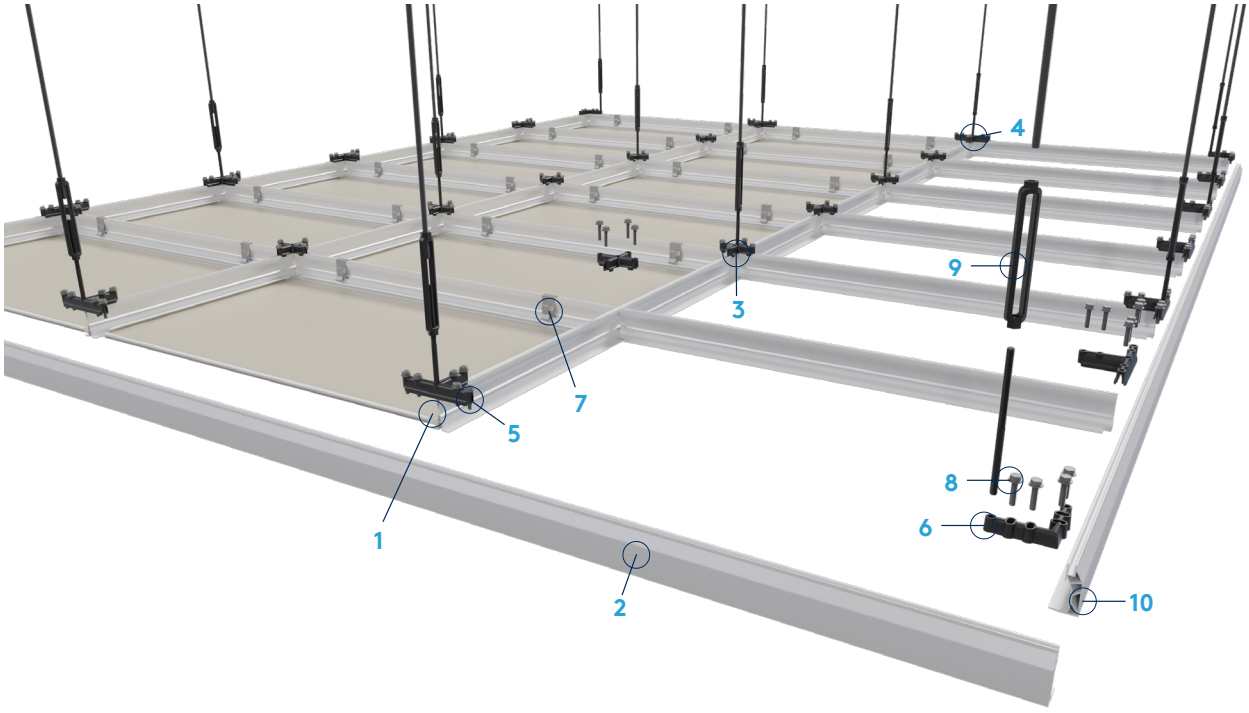
Floating Installation Detail

A floating perimeter installation uses the Perimeter profile in conjunction with the L angle. The L angles can be cut on site and bolted directly to the wall with appropriate fasteners (fasteners not supplied by Tate). The perimeter profile is supported by drop rods spaced at a maximum of 1.2m through turnbuckles and perimeter connectors.

Fixed Installation Detail

A fixed perimeter installation uses the Perimeter profile which can be cut on site and bolted directly to the wall with appropriate fasteners (fasteners not supplied by Tate). The perimeter profile is supported by drop rods spaced at a maximum of 1.2m through turnbuckles and perimeter connectors.

1200mm X 1200mm Hanger Configuration and Fixed Perimeter



1

Coped structural tee 1.2m

2

Main runner 3.6m

3

Field Connector

4

XL Connector

5

Perimeter Connector

6

Corner Connector

7

Double spring clip
for metal tile

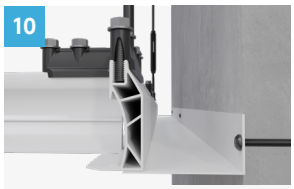
8

M8-35 screw

9

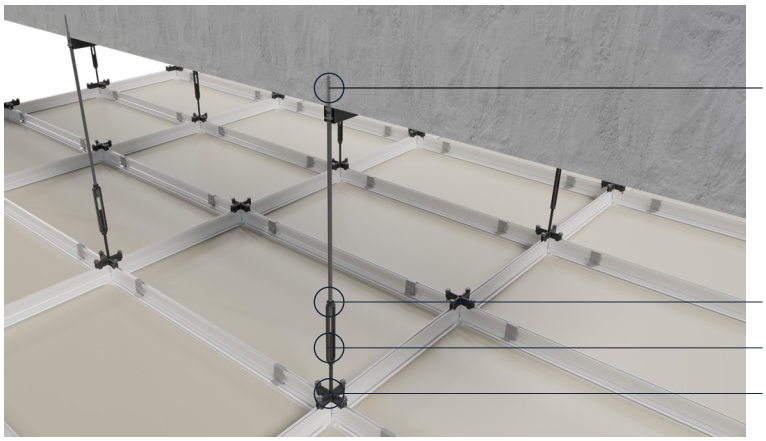
M10 Turnbuckle

10



Perimeter Profile

Fixing to Building Structure*

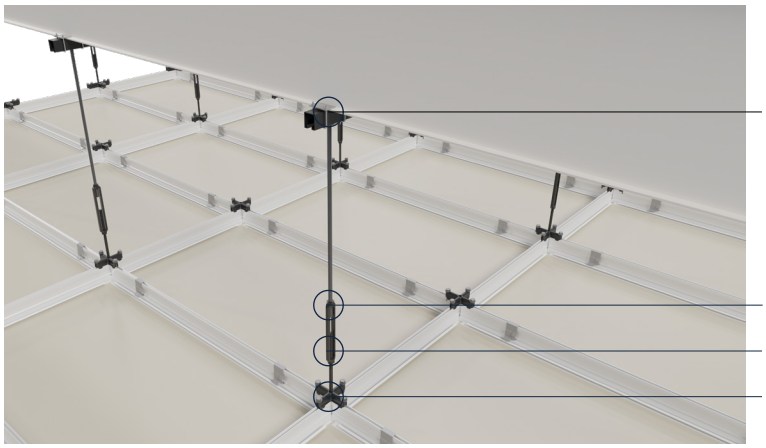


Internally Threaded Anchor or Clamp
(Supplied by others)

M10-1.5 LH/RH x 178mm Turnbuckle

M10-1.5 Threaded Starter Rod into Turnbuckle

M10-1.5 RH Threaded Connection to Connector



Connection to superstructure
designed and specified by others

M10-1.5 LH/RH x 178mm Turnbuckle

M10-1.5 Threaded Starter Rod into Turnbuckle

M10-1.5 RH Threaded Connection to Connector

*Building structure must be able to carry a Design Area Load of 3.125 kN/m2 (System Self-weight with full load capacity 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.

** Turnbuckle connection must be capable of supporting a Design Point Load of 4.5kN at the connection to the building structure. (System Self-weight with full load capacity calculated with Tate Metal Tiles). This design 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.

Lower Embodied Carbon structural ceiling solution made with raw materials produced using renewable energy. Environmental claims supported by a third-party verified EPD to the latest EN15804+A2 standard.

Contact our technical team for support: T: +353 1 6856518, **E:** info@tateeurope.com

Tate
Unit 2 Kylemore Park West,
Ballyfermot, Dublin 10, D10 KH30, Ireland
T: +353 (0)1 685 6518