EMEA REGION

Metric Data Sheet Information

Tate Forte **LEC**

EPD
EN 15804:2012 + A2:2019

EN 13501-1:2018 Class A1

EN ISO 10140-2:2010

EN 12114:2000

Always refer to the latest version available on our website.

Please ensure you use the most up-to-date version of the data sheet available on our website. This data sheet provides information specific to Tate Forte LEC in the EMEA region. Tate Forte LEC information may vary in other regions.

Main Characteristics

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

Maximum safe uniform load* - 6.1kN/m2 / 622kg/m2

Factor of Safety - 2

System weight** - 4.94 kg/m²

Grid configuration - 600mm x 1200mm

Required torque for top slot - 12 Nm

Colour - RAL 9003

Bottom slot - universal strut channel nut connection

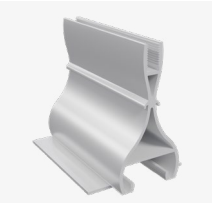
Fire classification EN 13501-1 - A1***
***EN 13501-1 - A1 is for ceiling grid system with metal pan tiles

*Max safe working uniform load is calculated by dividing the allowable max safe working load per hanger (2 x 4.4 kN) by the 1.2m x 1.2m area per hanger.
**The system weight is calculated without metal tiles.

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

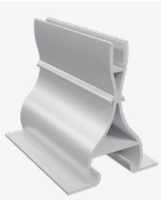
Tate®

Components



Coped structural tee 1.2m

Coped standard structural tee.



Main runner 3.6m

Standard main runner.

XL connector

Standard connector junction. 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.

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.

Fire rated gasket

3x10mm, class B2 (DIN 4102-1)

Security clip for metal tiles

Security clip for holding metal tiles.

M8-35 Bolt (DIN 6921)

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

Double spring clip for metal tiles

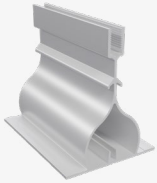
Double spring clips for a standard Tate ceiling tile. Provides access by removing tiles from below.

Splice kit

The splice kit is a necessary part of the structure when splicing the main runners. It is installed inside the bottom channel and fixed with set screws.

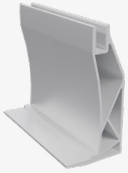
Turnbuckle M10

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



Light Infill

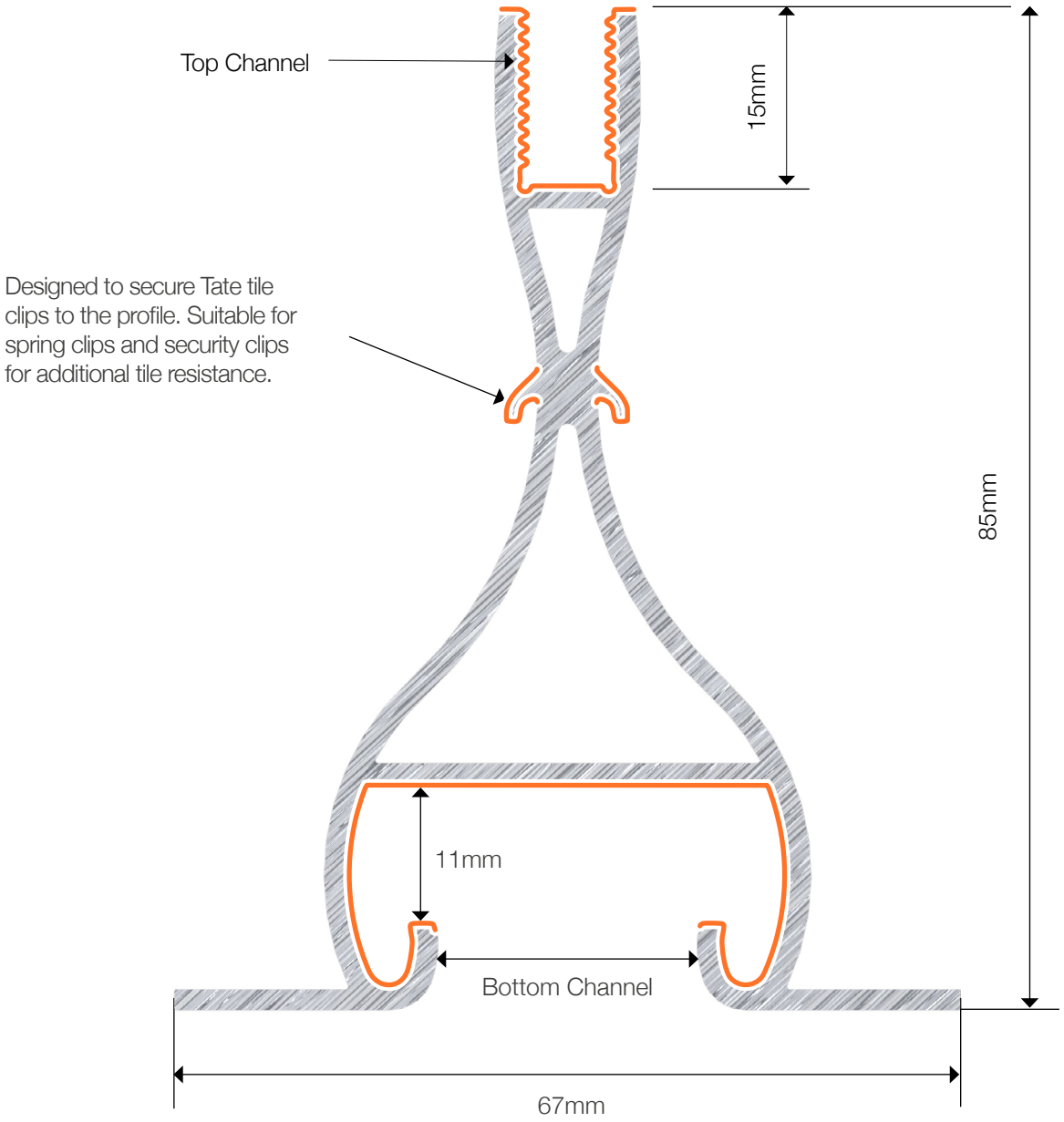
Non-structural lightweight profile with closed face bottom channel.



Perimeter Profile

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

Cross Section

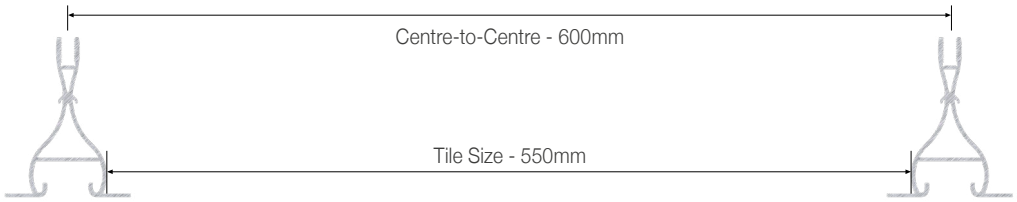


Type of Connection

Top Channel - Continuous threaded M8 top slot

Bottom Channel – Universal strut channel connection.

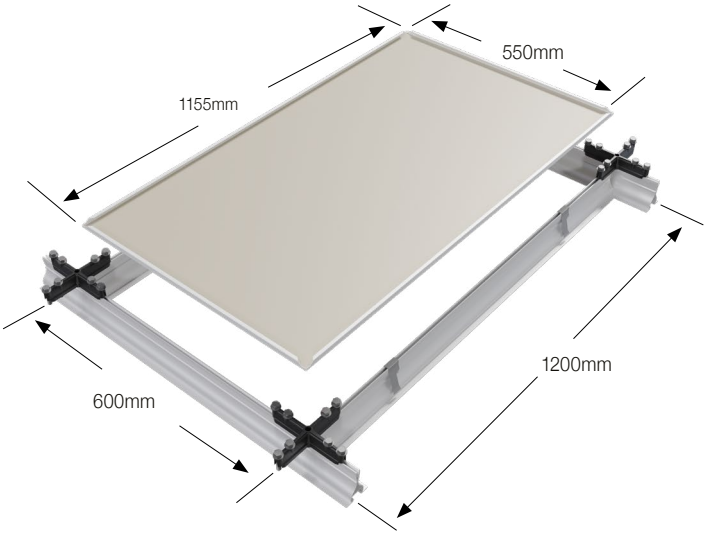
Grid Spacing and Tile Sizing



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.

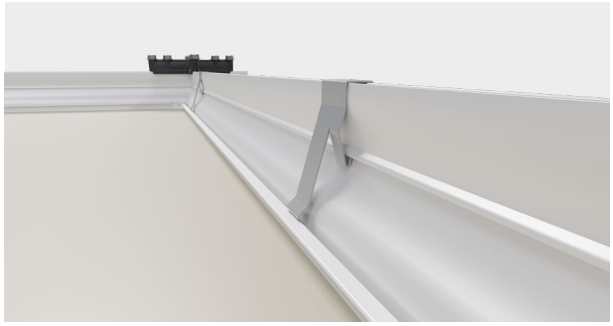
Grid Profile	Grid Spacing (L x W)	Tile Size (L x W)
Tate Forte LEC	1200mm x 600mm	1155mm x 550mm +/- 3mm (see example below)

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.

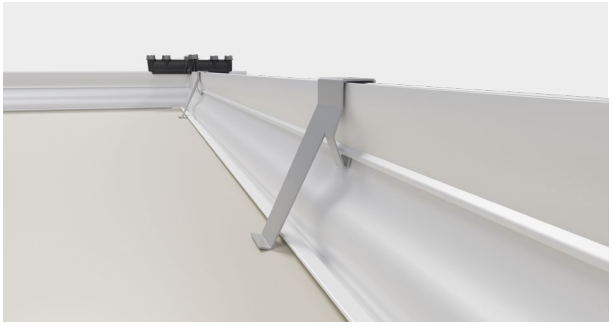


Note: Image for reference only. For specific data centre air pressures, contact the Tate technical team for clip configuration.

Sizing Based on 600mm x 1200mm Grid Spacing



Spring clips must be installed before the tile, ensuring the spring is aligned with the tile edge. This clip allows for easy access above the ceiling.

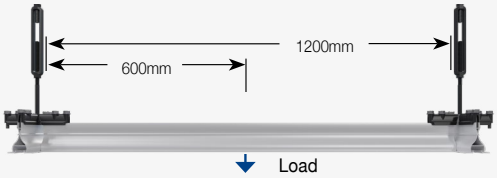


Security Clips

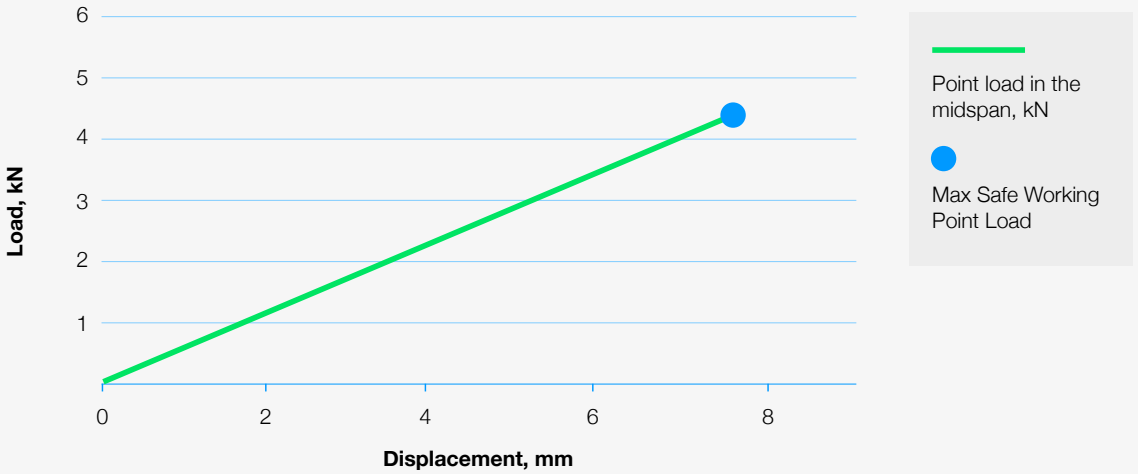
Performance criteria

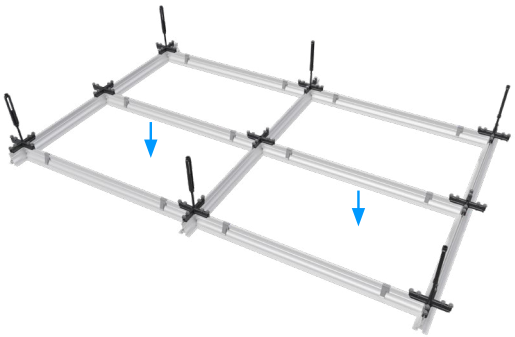
The bottom side of the structural grid has a universal channel slot, designed to fit standard strut channel nuts. Refer to the table below for load performance details on the grid and connections.

Structural Tee Deflection
(Midspan Beam)



Tested Load





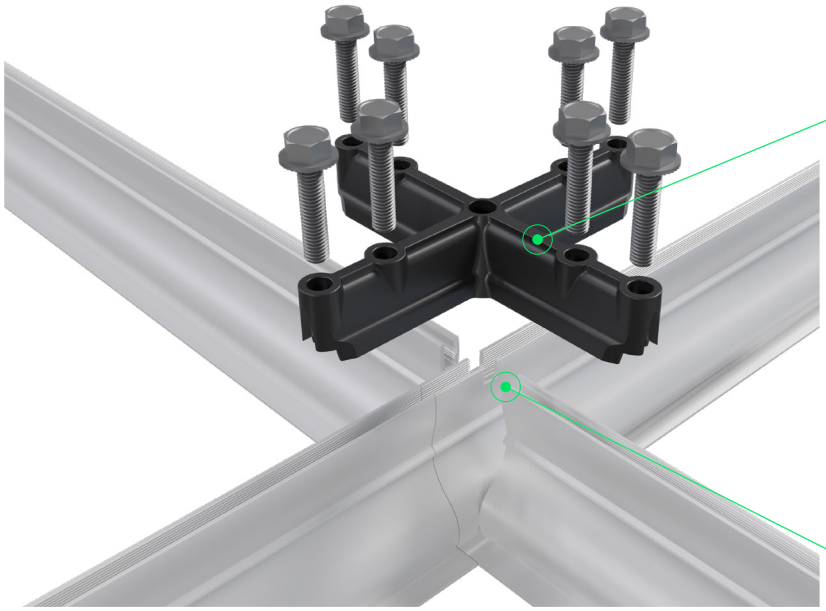
Span, mm	Loading at Deflection Limit, kN			
	L/360	L/240	L/180	L/120
1200	2.0*	2.9	3.8	4.4**

*Predicted load (kN) at a midspan deflection of L/360, where L=1200mm, so midspan deflection is 1200mm/360 = 3.33mm.
**Limited by the workload

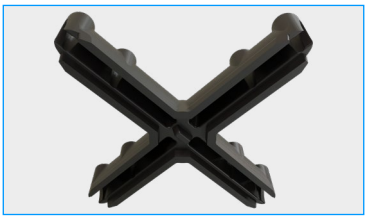
Hanger Configuration	Max Safe Working Uniform Load (kN/m²)	Deflection at max load (mm)	Max Safe Working Point Load (kN)	Factor of Safety
1200mm x 1200mm	6.1	7.8	4.4	2

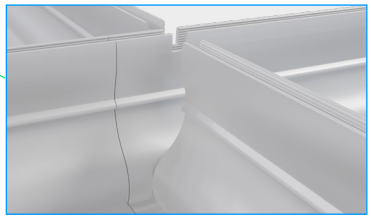
Suspended load data has been independently tested and certified by a third party accredited certification company

XL Connector



XL Connector

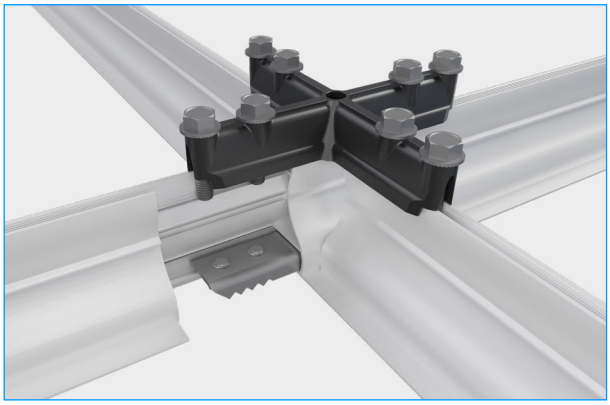




Main Runner Splice

XL Connector is designed for all cross connections excluding the perimeter

Splice Kit



Tate Forte LEC requires the installation of the splice kit at each main runner splice. The splice kit is installed in the bottom channel using four set screws.

Straight Connector

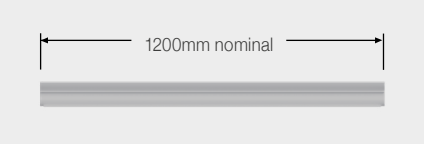
Straight connector allows for a flexible hanger configuration.

Torque Settings

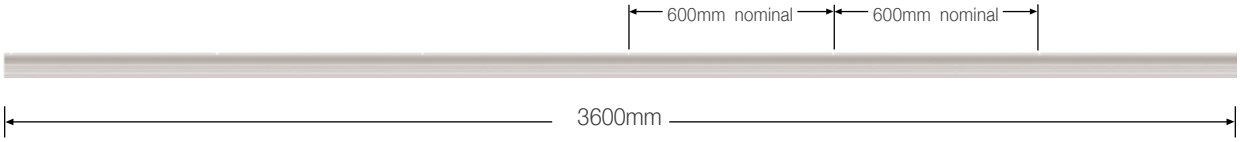
Required Torque for Top Channel Connections: 12 Nm

Universal Strut Channel Nut Connection to Bottom Channel

Main Runner and Structural Tees

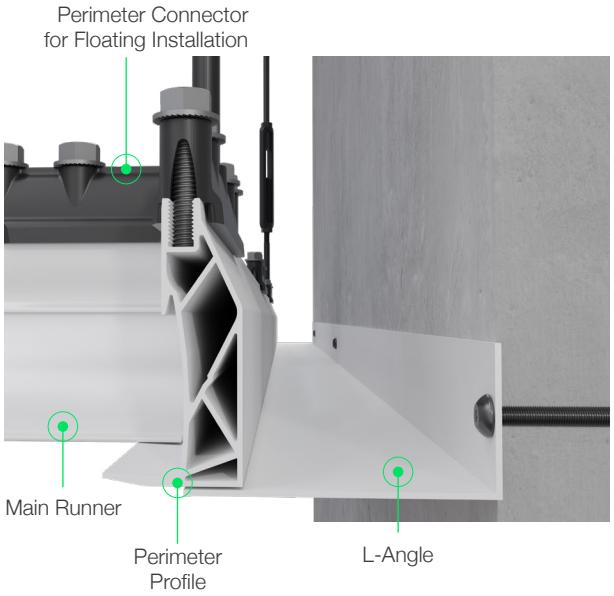


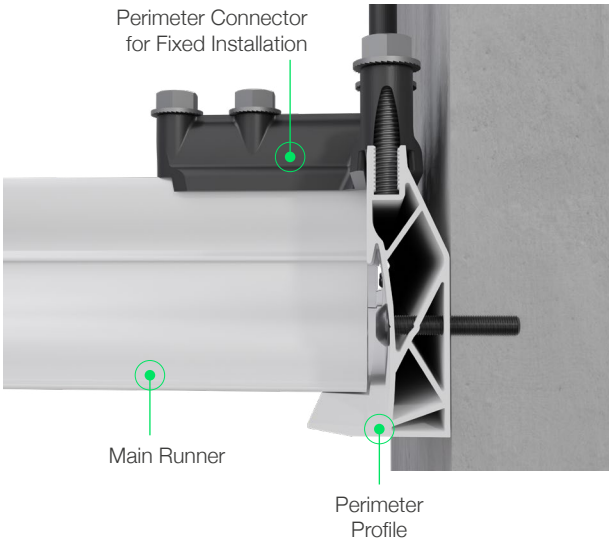
All main runners are notched every 600mm for proper alignment and spacing of the connectors.



Note: Structural tee and main runner dimensions shown are nominal and account for a (typical) Tate ceiling grid configuration.

Perimeter Details





Floating Installation Detail

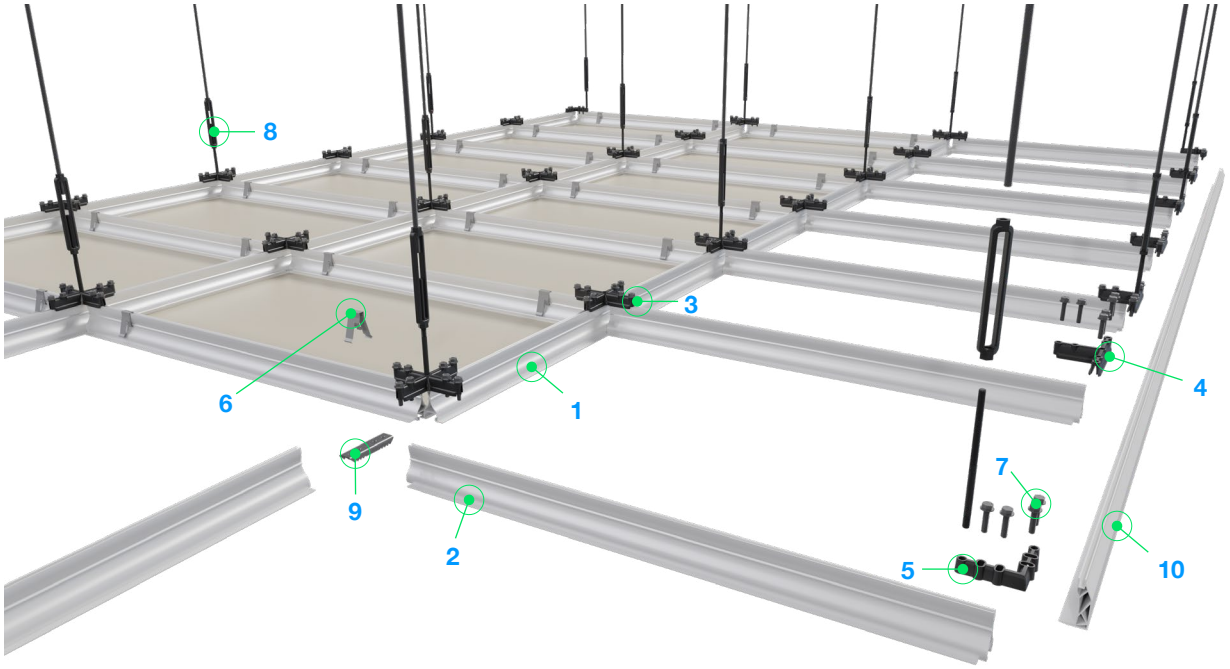
Perimeter profiles are used when installing the floating detail in conjunction with L angles. L angles can be cut on site to desired length when assembled along perimeter walls. The L angles are bolted directly to the wall with appropriate fasteners for wall type.

Fixed Installation Detail

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 to the wall with appropriate fasteners for wall type.

On-site cope cut of profiles not required

1200mm X 1200mm Hanger Configuration



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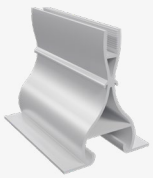
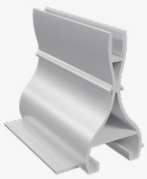


Main Runner 3.6m

2



Structural Tee 1.2m

3

XL Connector

4

Perimeter Connector

5

Corner Connector

6

Spring Clips for a Metal Tile

7

M8-35 Bolt (DIN 6921)

8

M10 Turnbuckle

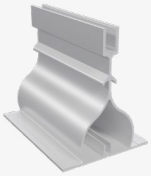
9

Splice Kit

10

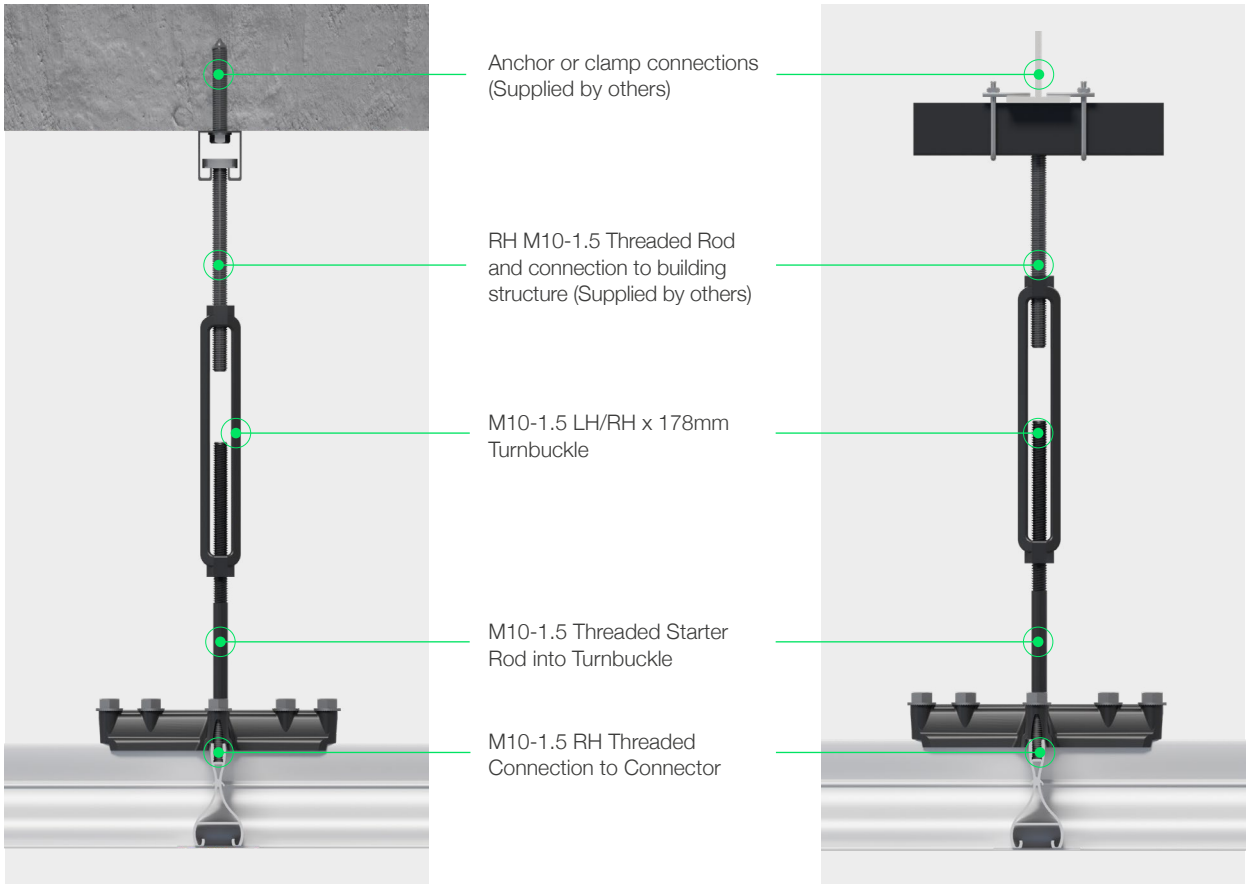
Perimeter Profile

11



Light Infill
Not Shown in Render

Fixing to Building Structure



Building structure must be able to carry an Area Load of 6.25 kN/m2 (System Self-weight calculated with Tate Metal Tiles). This 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 Point Load of 9.0kN at the connection to the building structure. (System Selfweight 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.

Lower Embodied Carbon structural ceiling solution made with lower carbon raw materials. Environmental claims supported by a third-party verified EPD to the latest EN1504+A2 standard.

For technical enquiries and project support, contact us via email to **info@tateglobal.com**

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