Metric Data Sheet Information

New

Tate Forte LEC

EN 12114 | AS/NZS5637.1 | EPD EN 15804+A2

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

APAC REGION

LEC CO_2 LOWER EMBODIED CARBON

Maximum safe working point load* - 4.4kN / 448kg	Required torque for top slot - 7Nm
Maximum safe uniform load* - 6.1kN/m² / 611kg/m²	Colour - RAL 9016
Factor of Safety - 2	Bottom slot - universal strut channel nut connection
System weight - 10.3kg/m² Grid	Fire classification - AS/NZ5637.1

Grid Configuration - 600mm x 1200mm

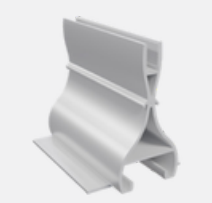
*based on 1.2m x 1.2m hanger configuration

*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

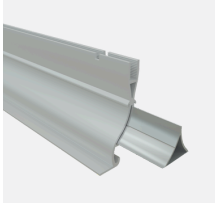
Tate®

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

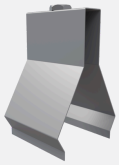
The connector is used for 3-ways connections as the ending element of the system.

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.

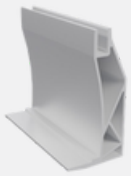
M8-35 Bolt (DIN 6921)

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.

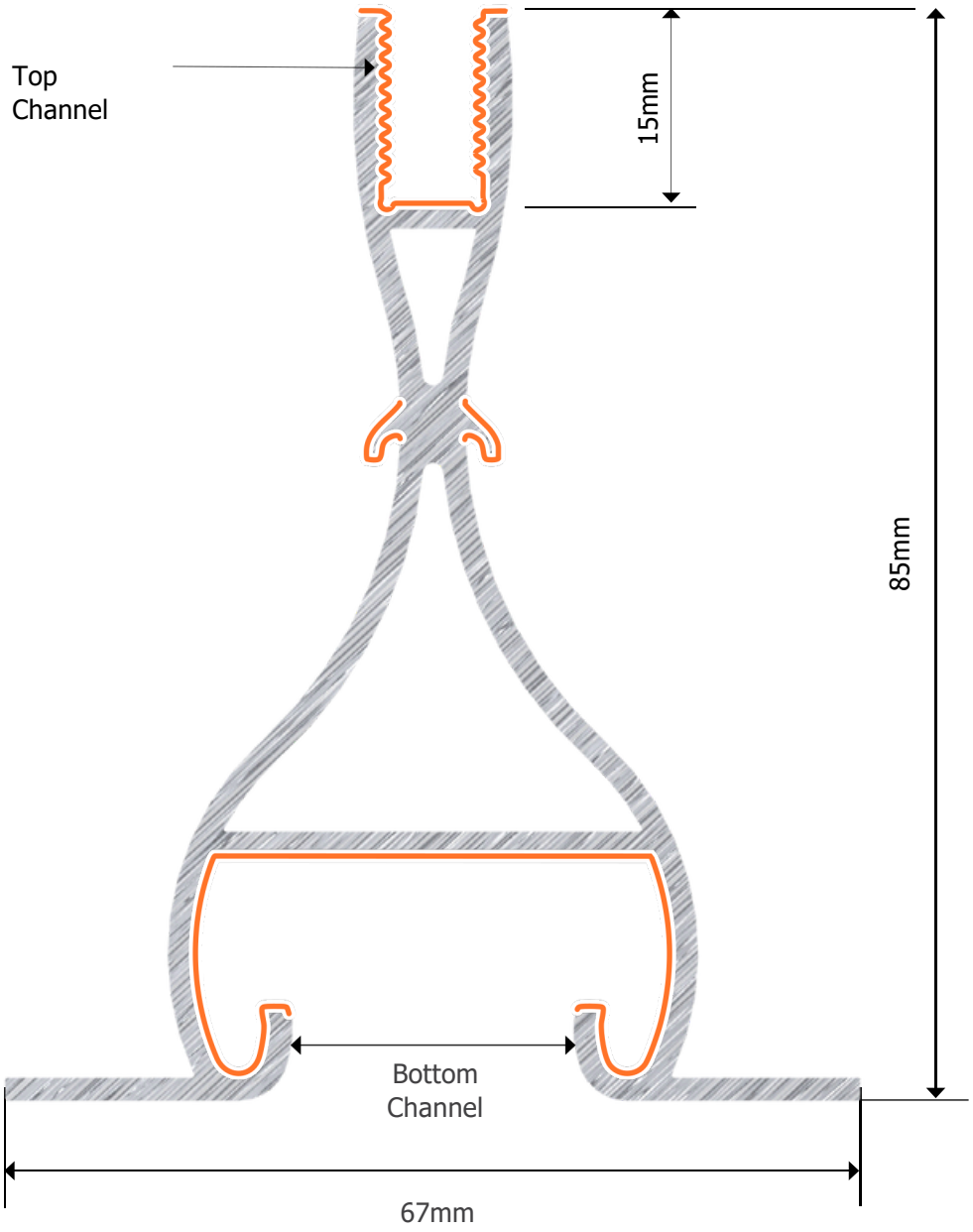
Turnbuckle M10

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

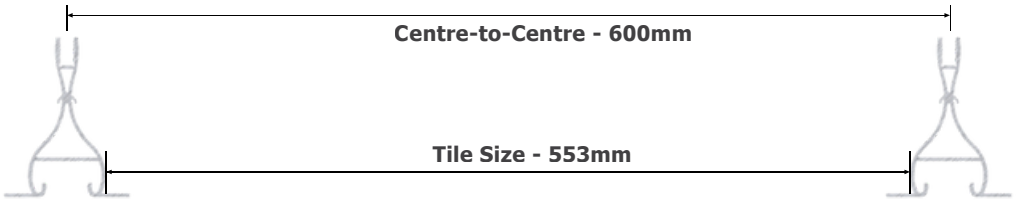


Type of Connection

Top Channel - Continuous threaded M8 top slot

Bottom Channel – Universal strut channel nut connection.

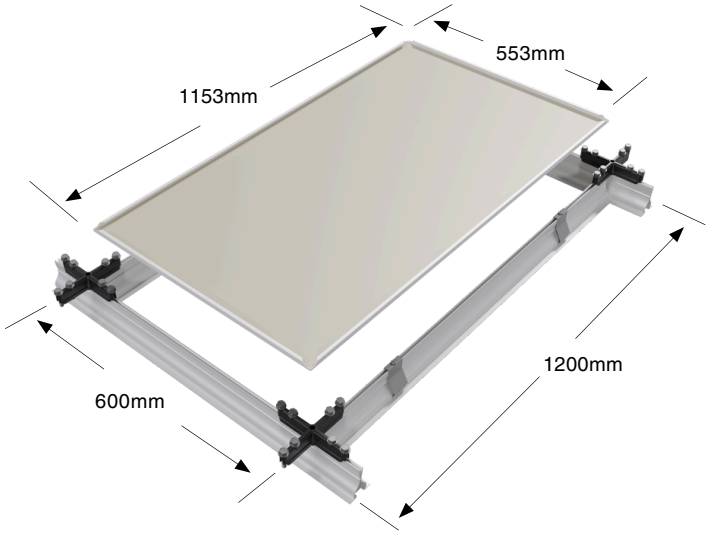
Grid Spacing and Tile Sizing



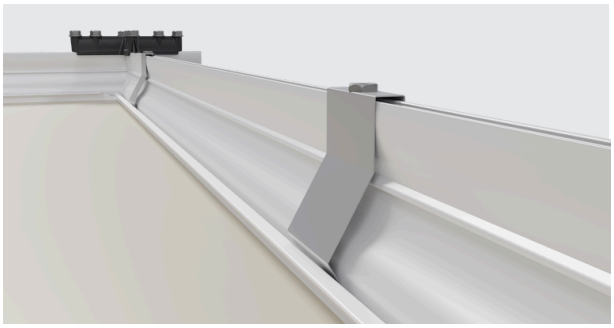
Grid spacing can be adjusted to fit standard 600mm x 1200mm nominal tile size, depending on customer's preference. Refer to the table below to determine tile size requirements.

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

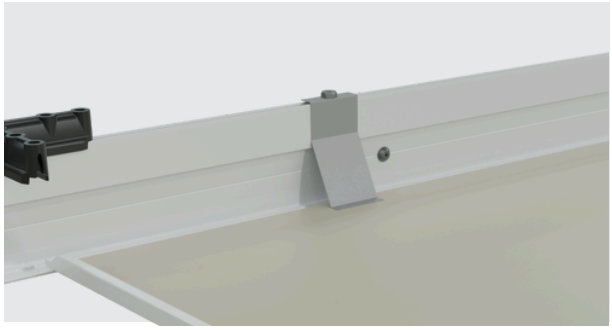
Note: Maximum Tile Size = Inside Grid Dimension minus 3mm. Minimum Tile Size is based on a minimum overlap on the extrusion flange of 3mm when the tile is shifted all the way to one side.



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

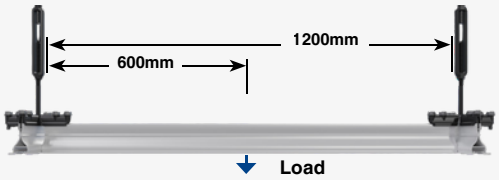
Dimensions -1153 x 553 x 0.7mm	Back Finish - Unpainted Treated Steel
Weight - 3.68kg	Fire classification - AS5637.1
Thickness - 0.7 mm	Security hold down clips optional
Material - Galvanised prepainted steel	Factory applied gasket optional
Front Colour - RAL 9016	

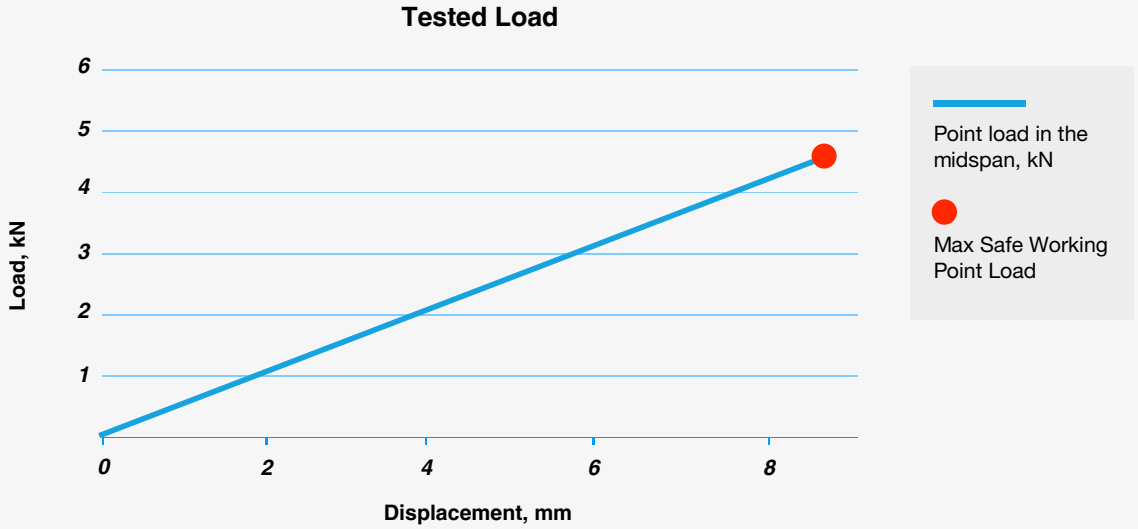
The metal pan ceiling tile is designed exclusively for the Tate Forte LEC structural ceiling systems. Suitable for data centre applications, the metal pan ceiling tile offers a clean finish to the structural ceiling systems.

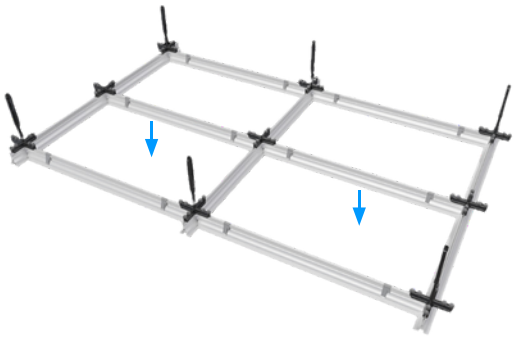
Performance criteria

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, 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

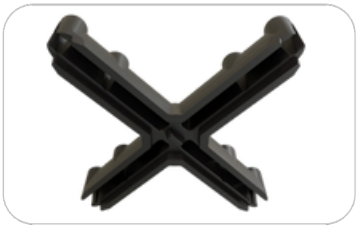
Hanger Configuration	Max Safe Working Uniform Load (kN/m2)	Deflection at max point load (mm)	Max Safe Working Point Load (kN)	Factor of Safety
1200mm x 1200mm	6.1	10	4.4	2

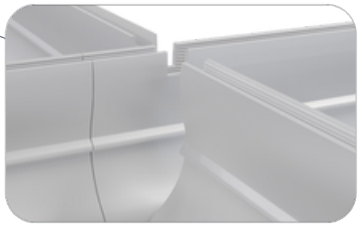
Suspended load data has been independently tested and certified by a third party accredited certification company

XL Connector

XL Connector is designed for all cross connections excluding the perimeter

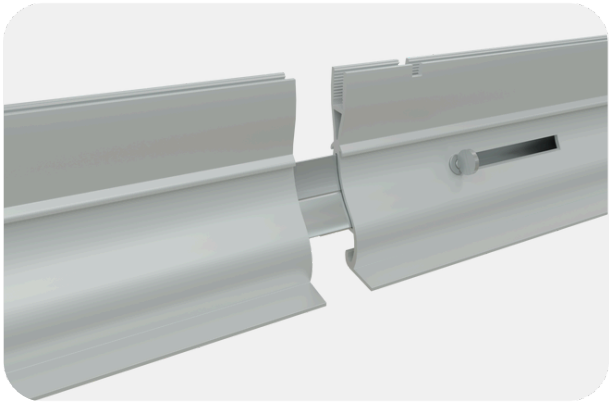
XL Connector





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.

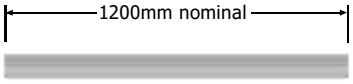
Torque Settings

Required torque for top channel connections: 7Nm

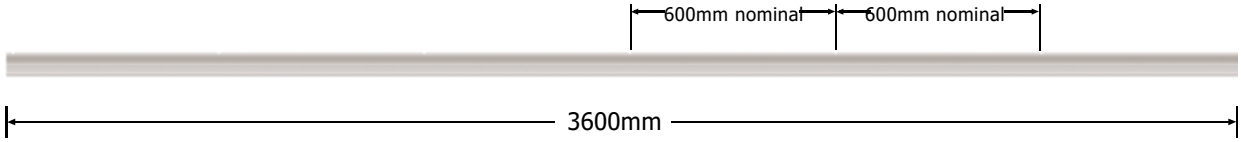
Universal Strut Channel Nut Connection to Bottom Channel

Intersection Detail

Main Runners and Structural Tees

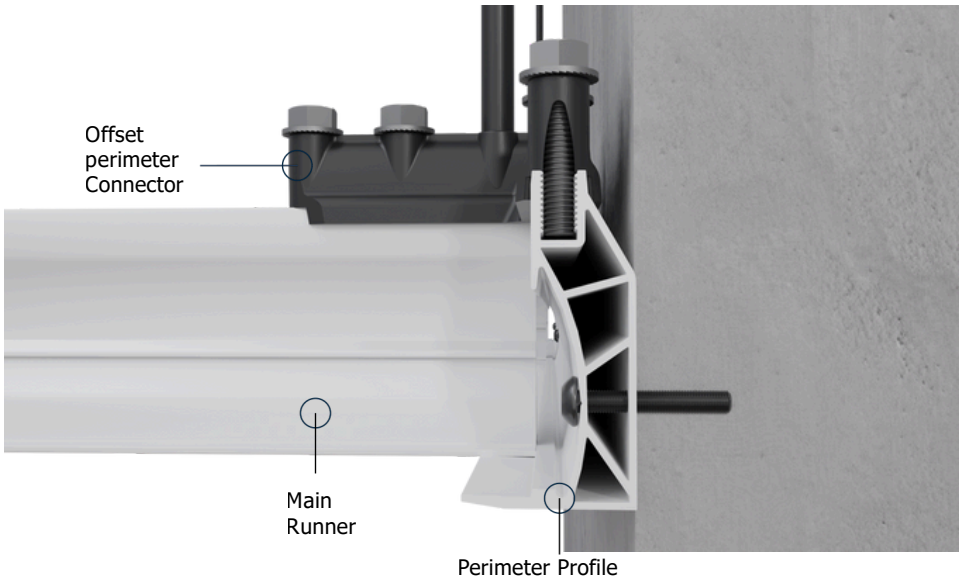


All Main Runners are notched every 600mm for proper alignment and spacing of the connectors.



Note: Structural Tee and Main Runner dimensions shown are Nominal and account for a (typical) Tate Ceiling Grid Configuration.

Perimeter Details

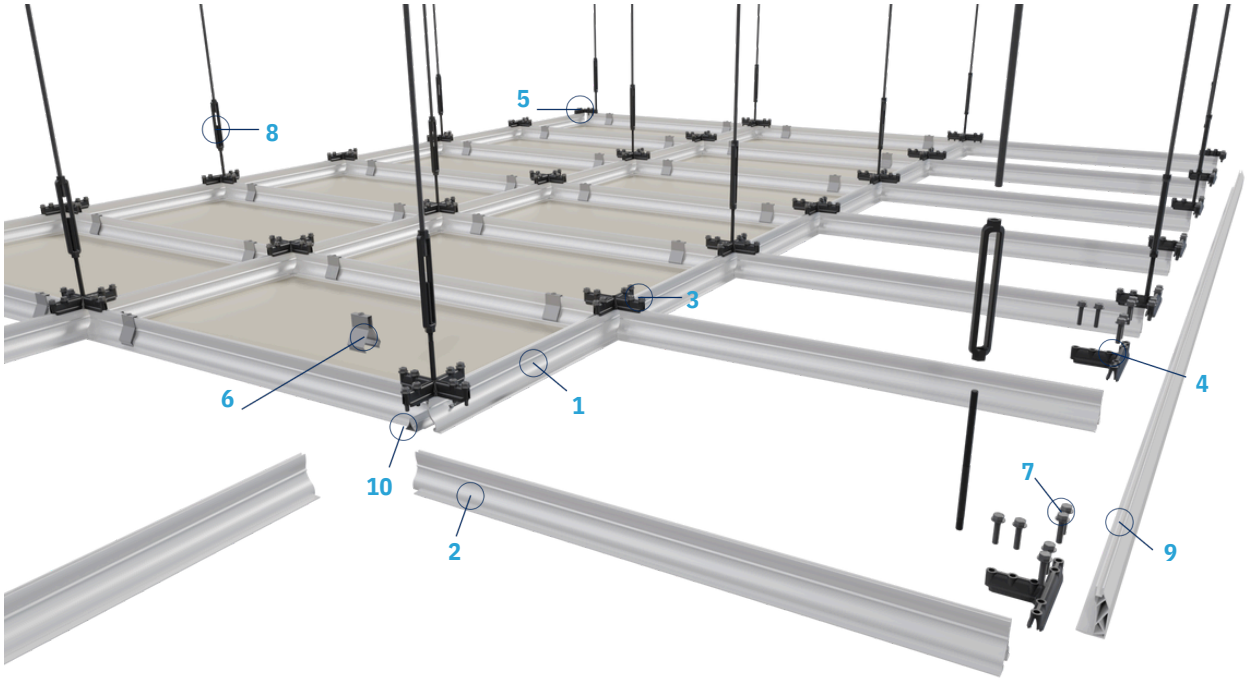


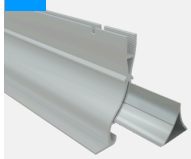
Fixed Installation Details

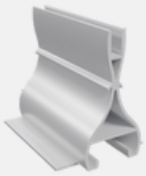
Perimeter Profiles with Main Runners or Structural Tees are utilized when installing a fixed perimeter along the perimeter wall. Perimeter Profiles can be cut on site to desired length when assembled along perimeter walls. The Perimeter Profiles are bolted directly to the to the wall with appropriate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

No coping at Perimeter required

1200mm X 1200mm Hanger Configuration



1

Main runner 3.6m.

2

Cross tee 1.2m

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XL Connector

4

Offset Perimeter Connector

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Corner Connector

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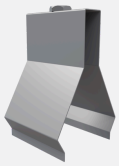
Screw Down Ceiling Clip

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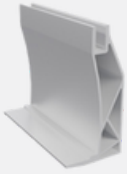
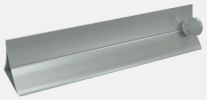
M8-35 Bolt (DIN 6921)

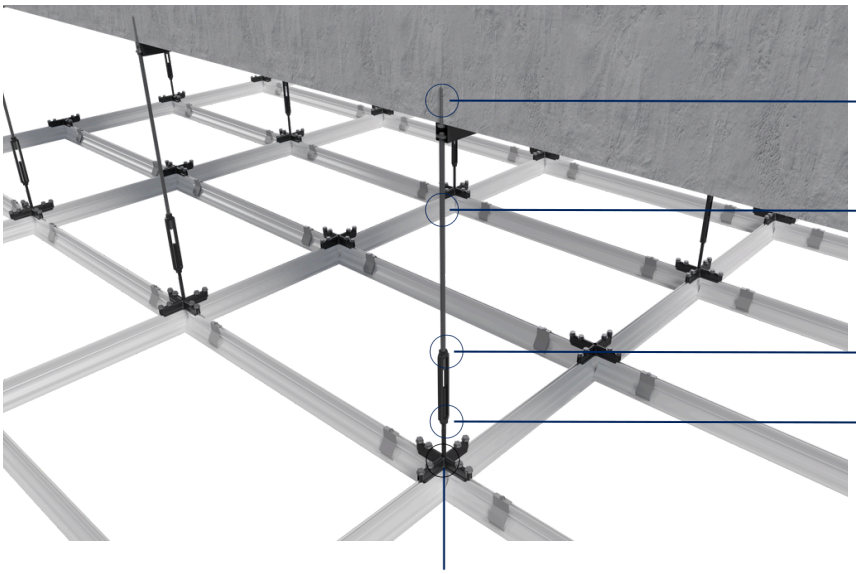
8

M10 Turnbuckle

9

Perimeter Profile

10

Telescopic Splice

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 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.

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