

Tate Forte LEC



EN 15804:2012
+A2:2020
& ISO 14025:2006



EN 13501-1:2019



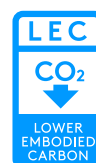
EN ISO 10140-2:2010



EN 12114:2000 - Clause 7.2



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 working linear load - 7.3kN/m / 744kg/m

Factor of Safety - 2

System weight *- 10.4 kg/m²

Grid configuration - 600mm x 1200mm

* Note: Based on a standard configuration - metal tile and 2 clips per Structural Tee

Required torque for top slot - 12Nm for Main Runner & Structural Tee Profiles. 7Nm for Perimeter Profile

Colour - RAL 9003 White

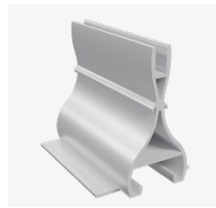
Bottom slot - universal strut channel nut connection

Fire classification** EN 13501-2019 - A1

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

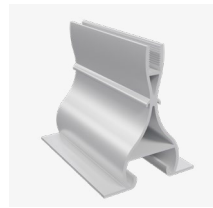
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Components



Coped structural tee 1.2m

Coped standard structural tee.



Main runner 3.6m

All main runner splice points need to be supported by a connector with a hanger above it. Each nut must be fully engaged on a single profile on the bottom channel.



XL connector

Standard connector junction. Connector has a pin on the bottom surface to match the notches on the Main runner.



Straight connector

Used on all structural profiles connected to perimeter profiles, adjacent to the perimeter connector, to provide support via a turn buckle connection to the building structure.



Perimeter connector

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



Corner connector

The connector is used only in non load bearing applications. Two threaded holes for drop rods.



Gasket

3x10mm foam gasket provides a seal between the tiles and profiles.



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.



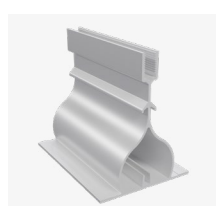
M10 Turnbuckle & Starter Rod

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



Perimeter Profile

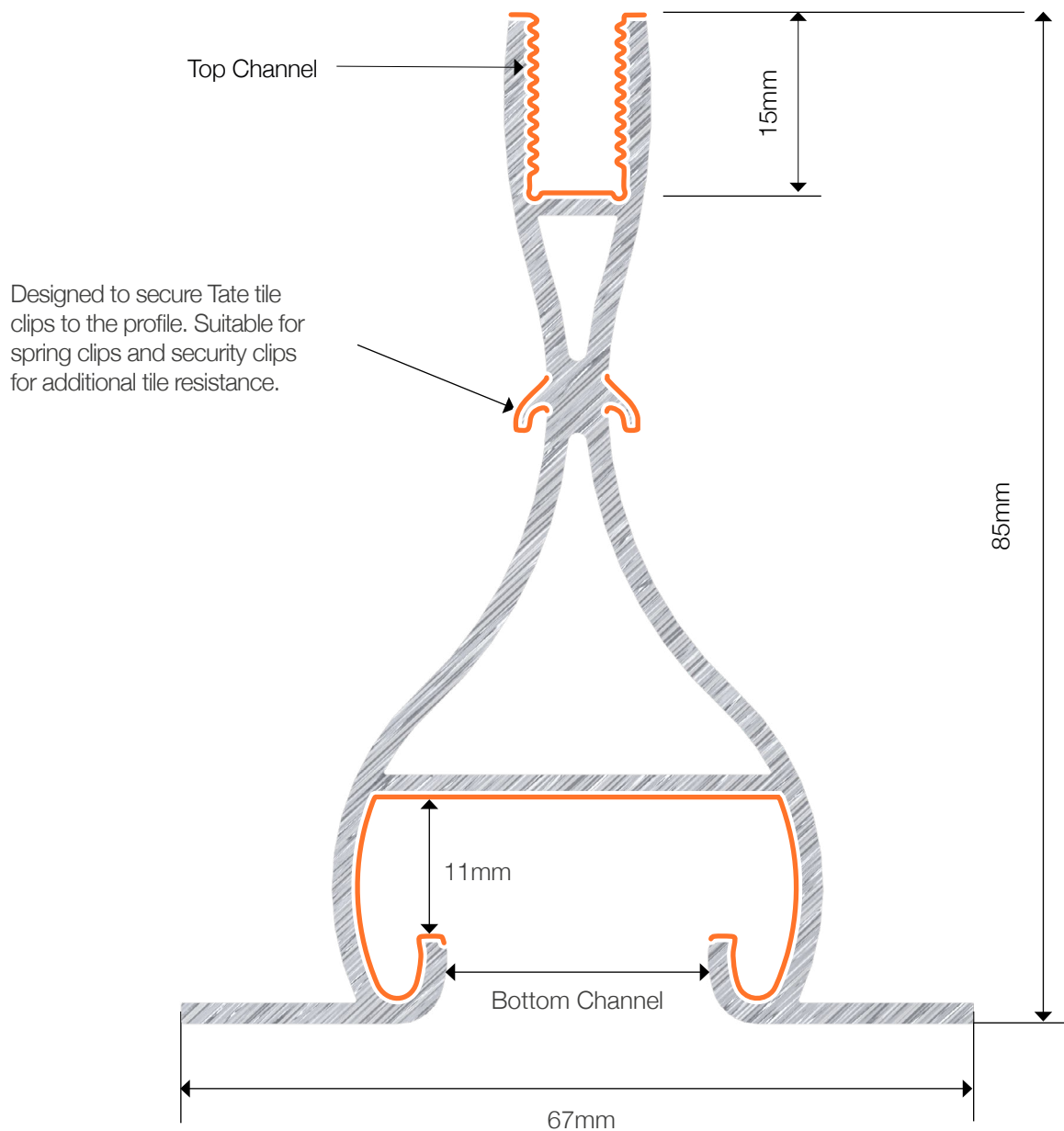
A perimeter profile can be used at the datahall perimeter or around obstructions.



Light Infill

Non-structural lightweight profile with closed face bottom channel.

Main Runner & Structural Tee Cross Section

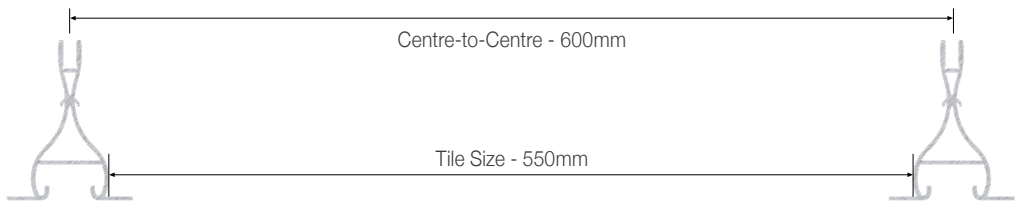


Type of Connection

Top Channel - Continuous threaded M8 top slot

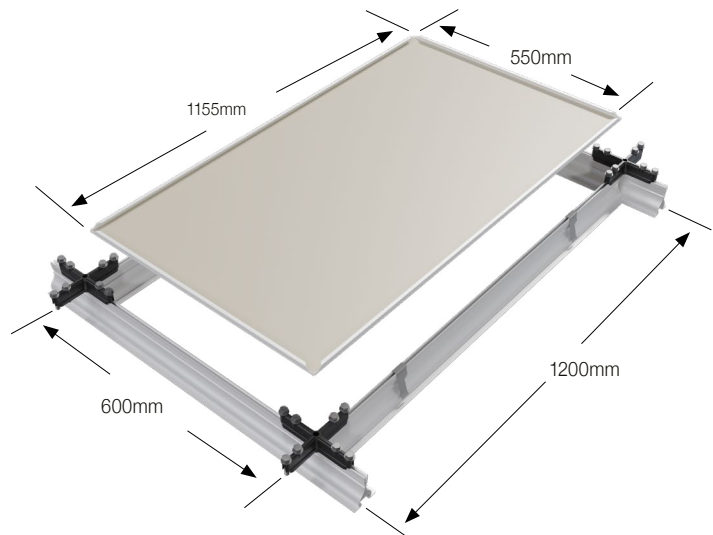
Bottom Channel – Universal strut channel connection.

Grid Spacing and Tile Sizing



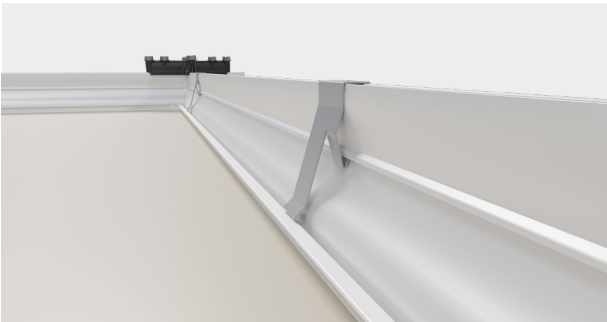
Grid spacing can be adjusted to fit standard 600mm x 1200mm nominal tile size, depending on customer's preference.
Refer to the table below to determine tile size requirements.

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)

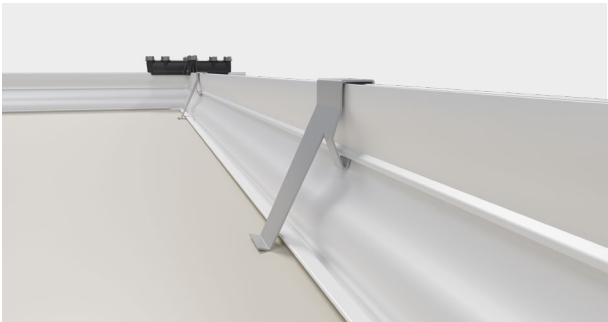


Note: Image for reference only. For specific data centre air pressures, contact the Tate technical team for clip configuration.

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.

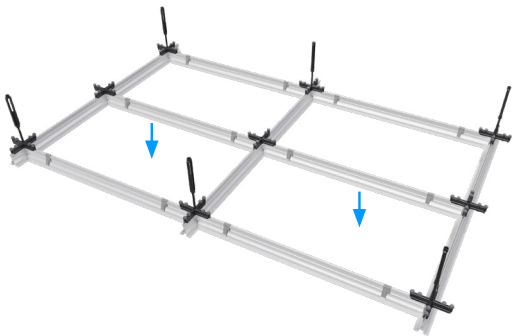
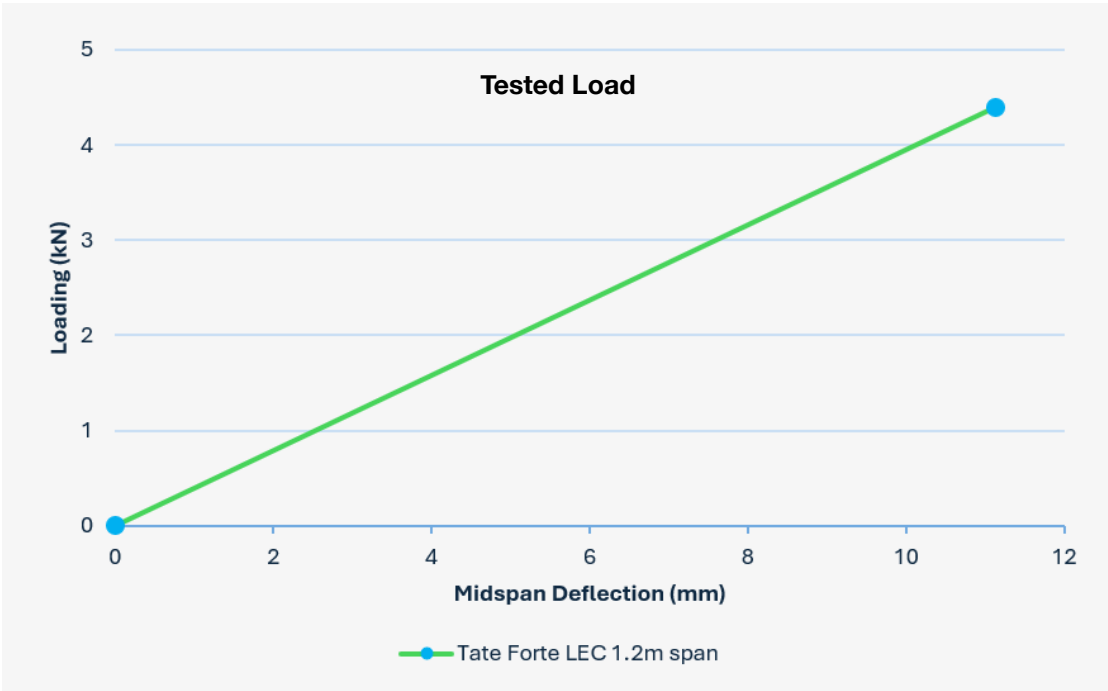
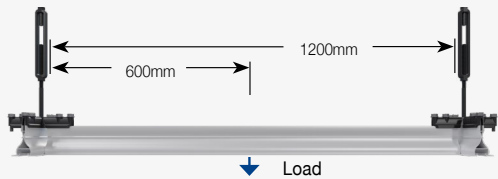


Security Clips

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)



Span, mm	Loading at Deflection Limit, kN			
	L/360	L/240	L/180	L/120
1200	1.11	1.8	2.51	3.91

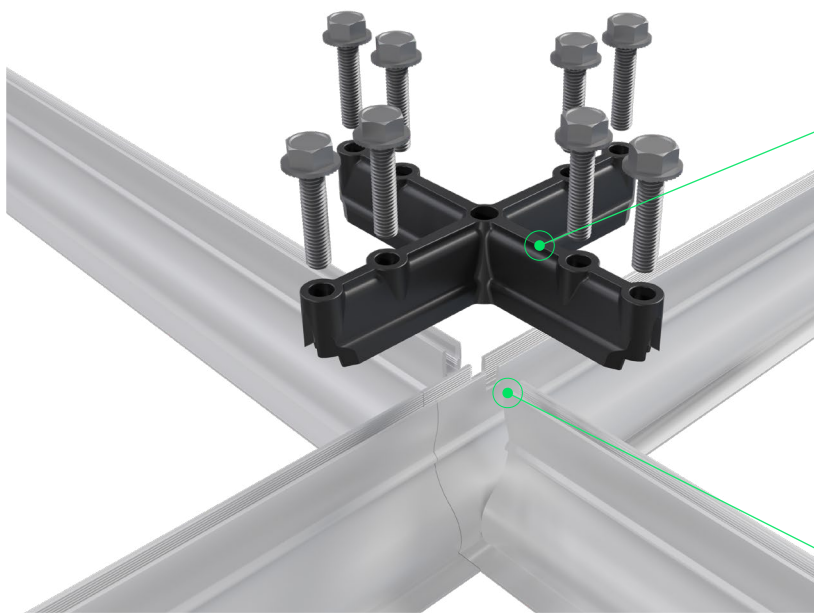
*Predicted load (kN) at a midspan deflection of L/360, where L=1200mm, so midspan deflection is 1200mm/360 = 3.33mm.
**Limited by the workload

Hanger Configuration	Max Safe Working Linear Load (kN/m)	Deflection at max load (mm)	Max Safe Working Point Load (kN)	Factor of Safety
1200mm x 1200mm	7.3	11.14	4.4	2

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



XL Connector



XL Connector



Main Runner Splice

XL Connector is designed for all cross connections excluding the perimeter. All splice points need to be supported by a connector with a hanger above it. Each nut must be fully engaged on a single profile on the bottom channel.

Straight Connector



Straight connector allows for a flexible hanger configuration.

This is required for all members connecting to a perimeter profile as detailed on page 8.

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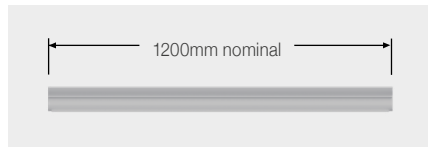
Torque Settings



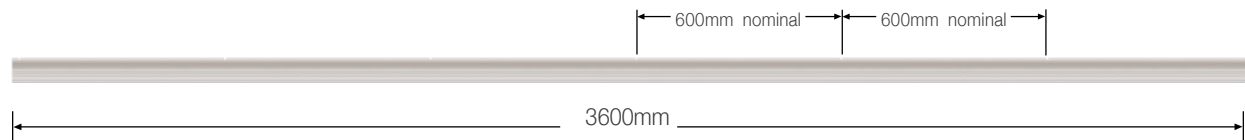
Required Torque for Top Channel
Connections: 12Nm for Main
Runner & Structural Tee Profiles
7Nm for Perimeter Profile Nm

Universal Strut
Channel Nut
Connection to
Bottom Channel

Main Runner and Structural Tees

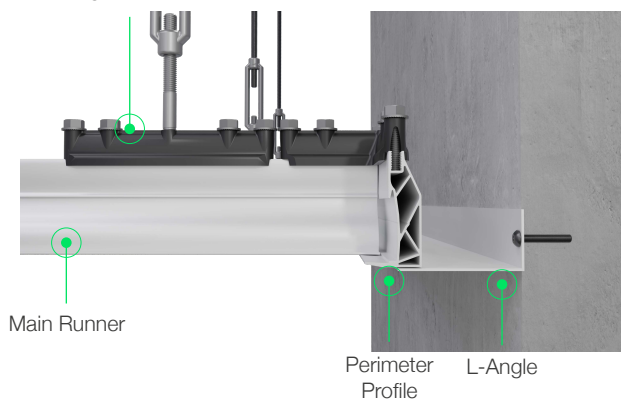


All main runners are notched every 600mm for proper alignment and spacing of the connectors.

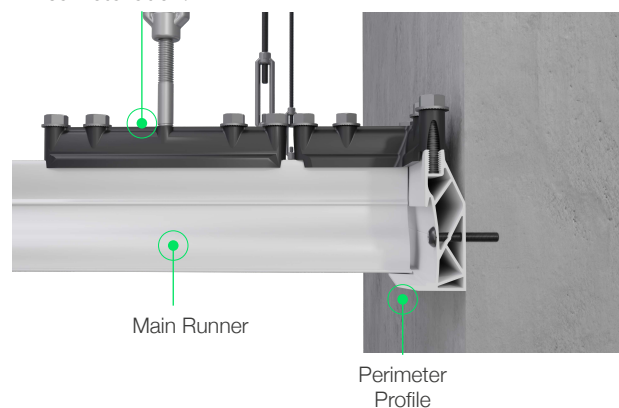


Perimeter Details

Straight Connector for Floating installation.



Straight Connector for Fixed installation.



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.

A straight connector positioned adjacent to the perimeter connector shall provide structural support for the profile through the turnbuckle connection to the building structure. In this case, no separate support above the perimeter connector is required.

Fixed Installation Detail

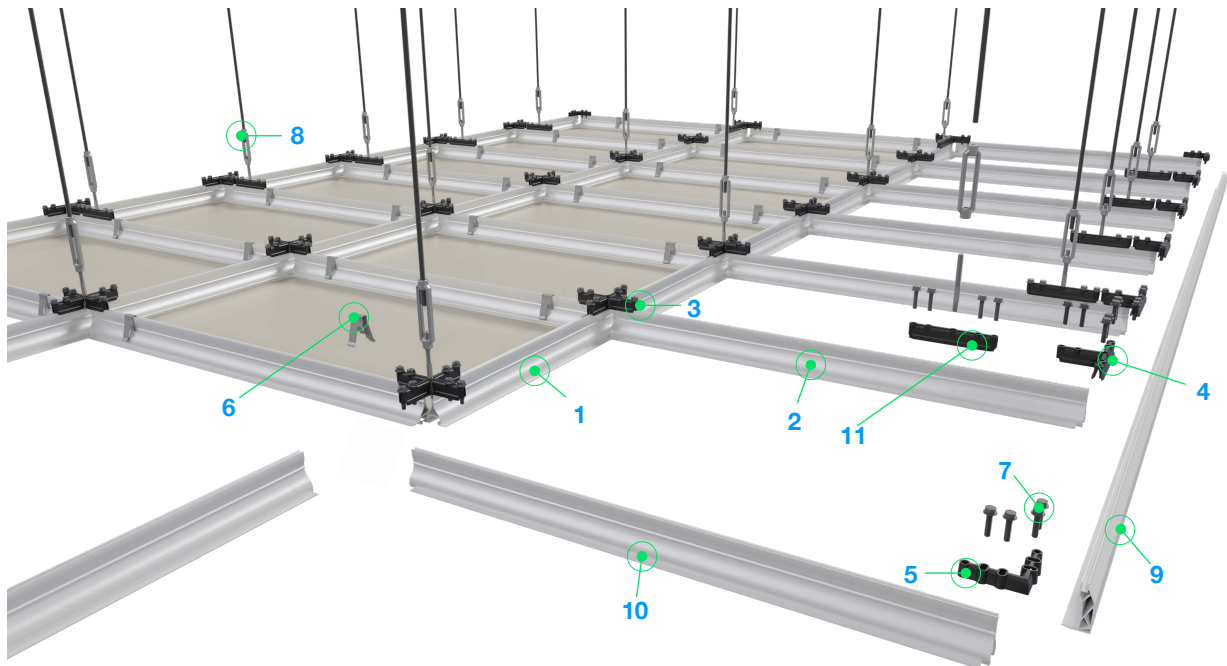
Perimeter profiles with main runners or structural tees are utilized when installing a fixed perimeter along the perimeter wall. Perimeter profiles can be cut on site to desired length when assembled along perimeter walls. The Perimeter profiles are bolted directly to the wall with appropriate fasteners for wall type.

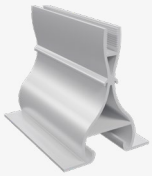
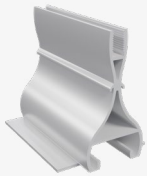
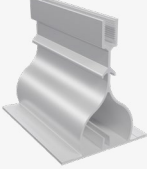
A straight connector positioned adjacent to the perimeter connector shall provide structural support for the profile through the turnbuckle connection to the building structure. In this case, no separate support above the perimeter connector is required.

On-site cope cut of profiles not required

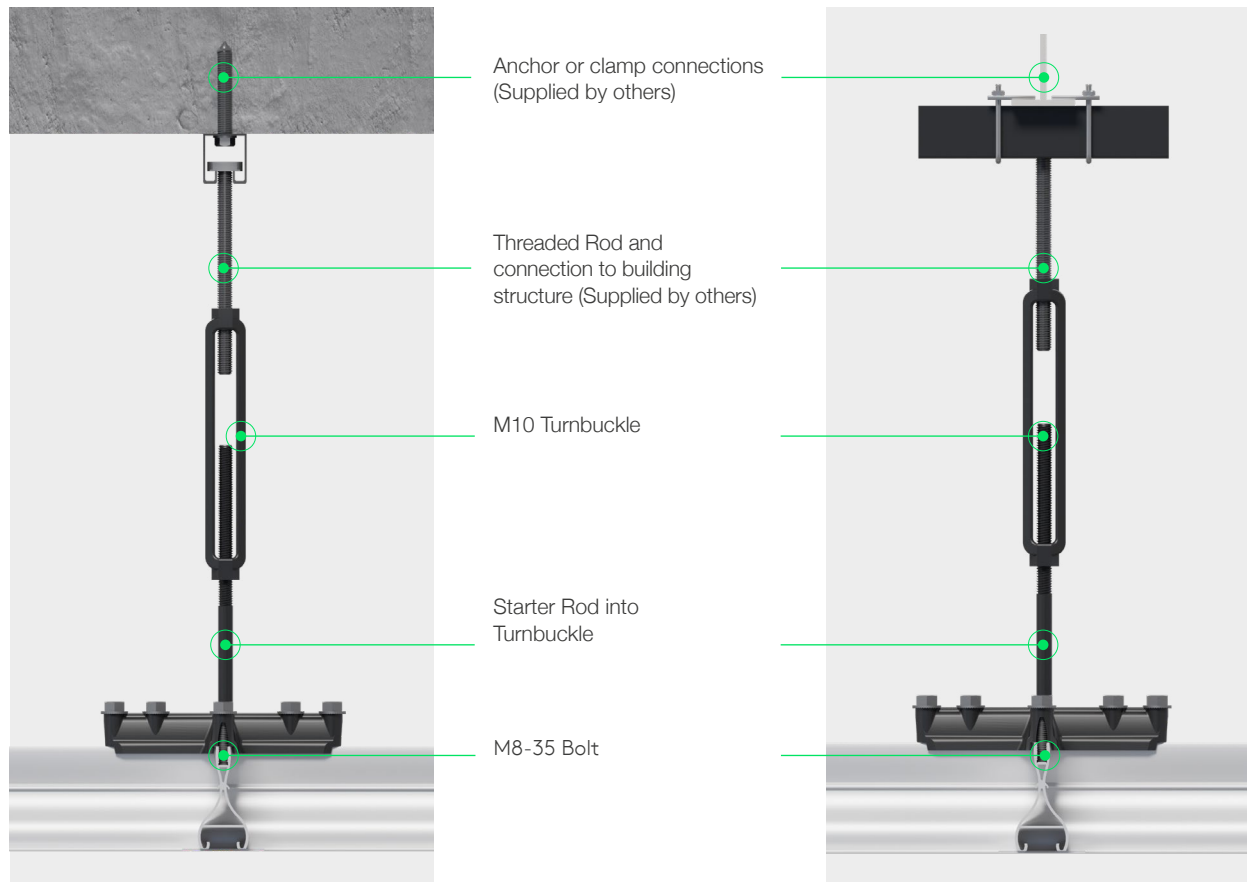
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1200mm X 1200mm Hanger Configuration



1  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  Perimeter Profile	10  Light Infill	11  Straight Connector	

Fixing to Building Structure



Building structure must be able to carry an Area Load of 6.2 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 8.9kN 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.

If slab capacity is below the requirements of the Tate Forte System the responsible stakeholders need to ensure that the load rating of the system aligns with the load rating of the slab. This is outside of Tate's scope.

Lower Embodied Carbon structural ceiling solution made with lower carbon raw materials. Environmental claims supported by a third-party verified EPD to EN 15804:2012+A2:2020 & ISO 14025:2006

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

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