

GRID SPECIFICATIONS

- Pre-engineered and factory-produced aluminum structural ceiling grid with continuously threaded slots (M10-1.5 & M12-1.75)
- Grid consists of Main Runners with notches for precise location and connection of coped Structural Tees using four screw connectors
- Capable of supporting power modules, light fixtures, cable trays, partitions and other accessories
- Load performance: See table on page 4
- System Weight:
 - 600mmx600mm Grid: 5.37 kg/m²
 - 600mmx1200mm Grid: 4.4 kg/m²
- Grid member center to center spacing can be selected to accommodate project specific specs. (see page 3 and 4 for more information)
- All bolt connections to the top slot or bottom of the grid should be tightened flush to a washer with a maximum torque value of 30 in-lb

CONNECTOR SPECIFICATIONS

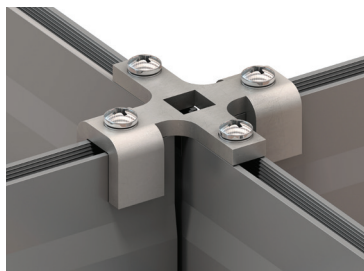
- High Strength Steel Construction
- Attaches to grid members with (4) M10-1.5 screws
- M12-1.75 turnbuckles thread into hanging connectors on mains
- Tee and Corner connectors for perimeter installation

COMPONENTS

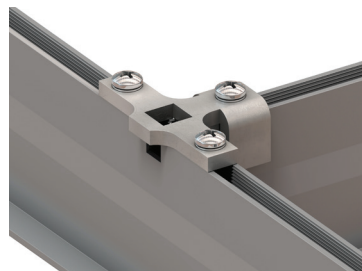
- 3.6m Main Runner / 3.6m Perimeter Angle
- 600mm Structural Tee / 1200mm Structural Tee
- Field Connector / Hanging Connector
- Perimeter Connector / Corner Connector
- M10-1.5 x 32mm Screws w/ M10 Lock washer
- M10-1.5 x 38mm Screws w/ M10 Spacers for Hanging & Field Connector overlap condition
- Splice connector for ends of mains (see Pg 5)
- M12-1.75 Turnbuckle Assembly
- Ceiling Hold Down Clips (optional)
- Factory-Applied Gasket (optional)
- Ceiling Tiles & Tate LED Lights (optional)
- Threaded Rod Connection to Building (supplied by others)

GRID OPTIONS

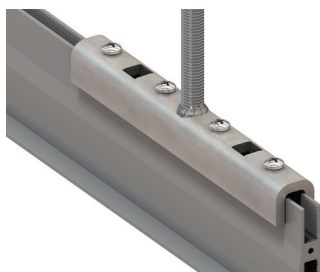
- Grid Color White Paint Black Paint
- Hanger Spacing: _____ x _____
- Grid Spacing – On center (see page 3 for detail)
- 600mm / 600mm 600mm / 1200mm
- 625mm / 625mm 625mm / 1250mm
- Other



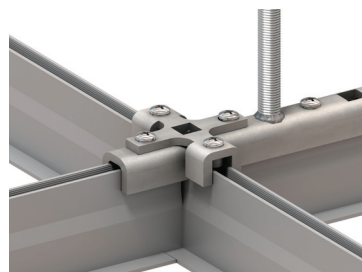
Field Connector



Duo T-Connector



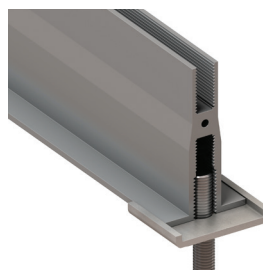
Hanging Connector



Hanging & Field Connector w spacer



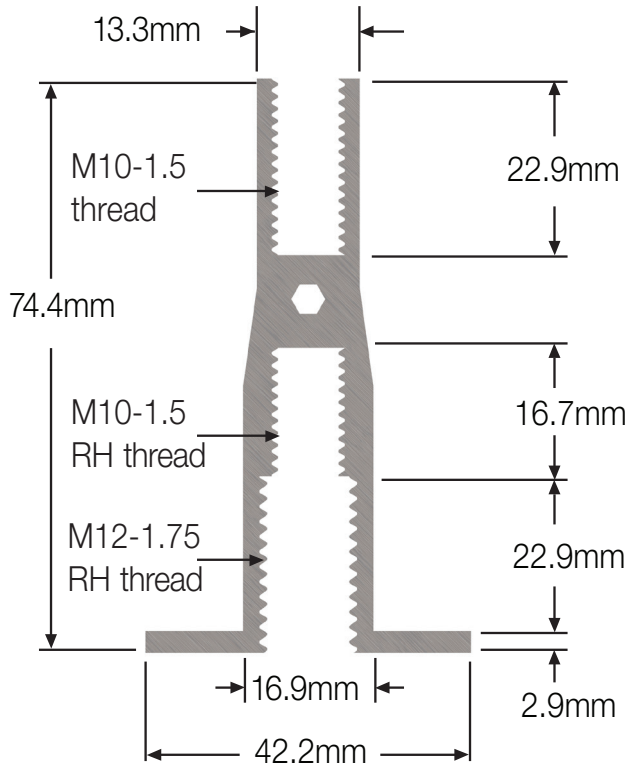
Corner Connector



Duo Anti-splay Washer

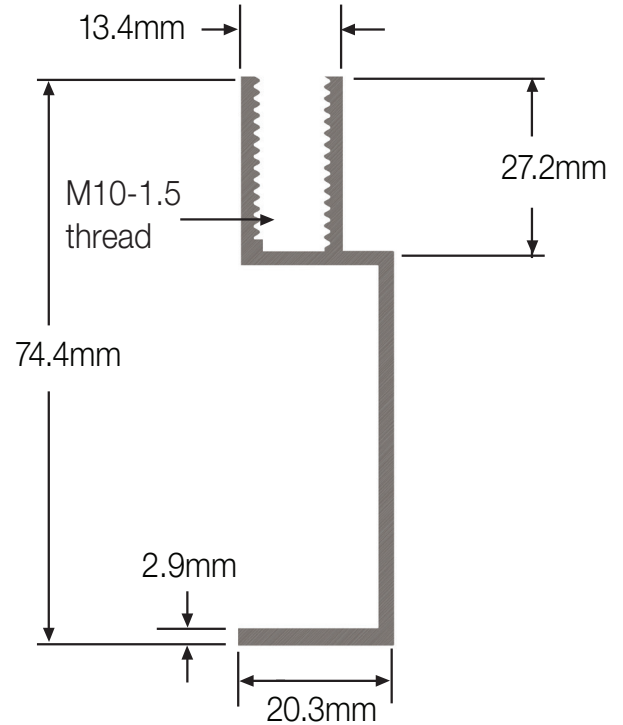
TATE DUO PROFILE OPTIONS

M10-1.5 & M12-1.75 Bottom Slot - Field & Floating Perimeter



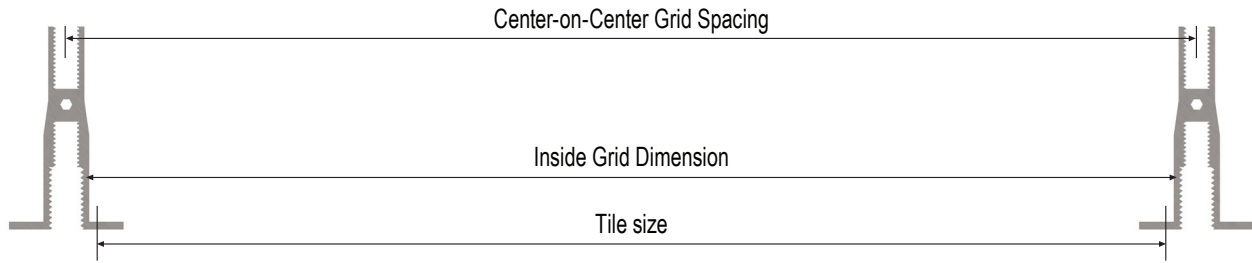
- Continuous threaded M10-1.5 top slot
- Continuous threaded M10-1.5 and M12-1.75 dual bottom slot
- Utilizes standard hardware connectors and features of Tate Duo structural ceiling

M10-1.5 Perimeter



- Continuous threaded M10-1.5 top slot
- Slim profile perimeter design
- Utilizes standard hardware connectors and features of Tate Duo structural ceiling

GRID SPACING AND TILE SIZING



For grid spacing on a 600mm x 600mm or 600mm x 1200mm module size, use this table to determine tile size requirement:

Grid Profile	Grid Spacing (L x W)	Tile Size (L x W)
M10-1.5 & M12-1.75 Bottom Slot	600mm x 600mm	577mm x 577mm +/- 3mm
	600mm x 1200mm	577mm x 1177mm +/- 3mm

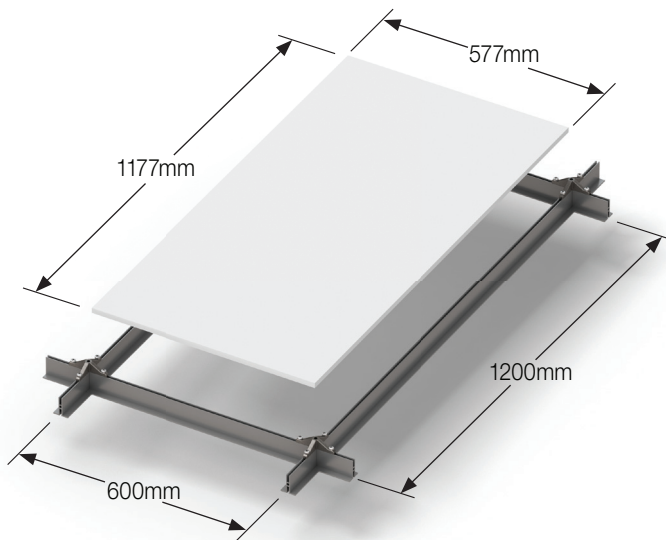
Note: Maximum Tile Size = Inside Grid Dimension minus 3mm. Minimum Tile Size is based on a minimum overlap on the extrusion flange of 3mm when the tile is shifted all the way to one side.

For grid spacing on a larger module size to fit standard 600mm x 600mm or 600mm x 1200mm nominal tile sizes, use this table:

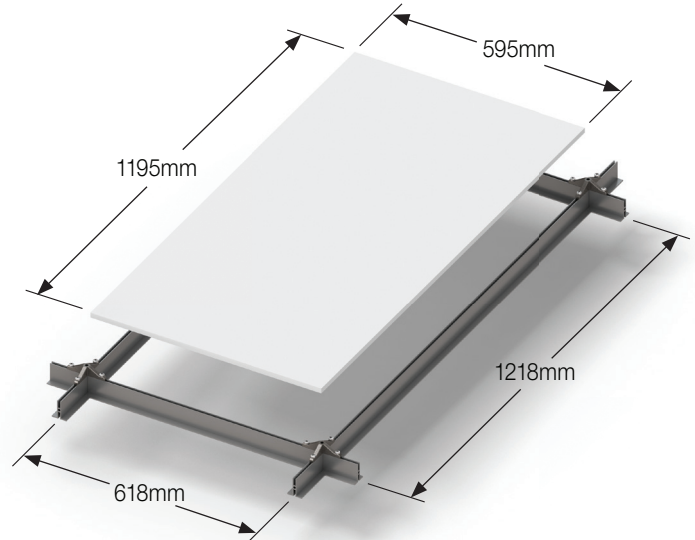
Grid Profile	Grid Spacing (L x W)	Tile Size (L x W)
M10-1.5 & M12-1.75 Bottom Slot	618mm x 618mm	595mm x 595mm +/- 3mm
	618mm x 1218mm	595mm x 1195mm +/- 3mm

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

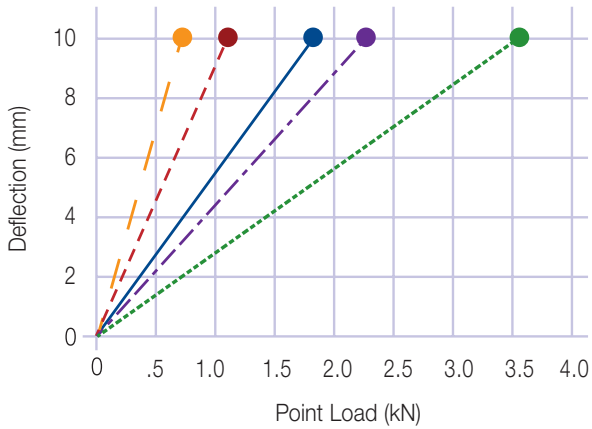
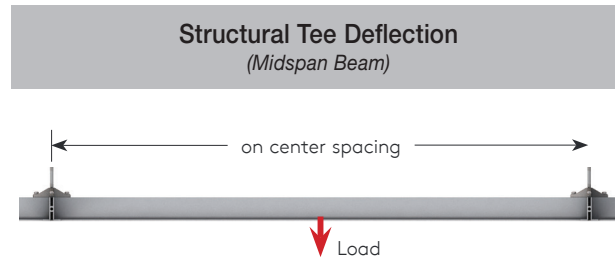


Sizing Based on 600mm x 1200mm Nominal Tile Size



PERFORMANCE CRITERIA

The bottom side of the structural grid is available with M10-1.5 & M12-1.75 continuous threaded slot for mounting items directly to the grid. Refer to the table below for load performance details on the grid and connections.



On Center Hanger Spacing	
— 2400 x 1200	— 1500 x 1200
— 2100 x 1200	— 1200 x 1200
— 1800 x 1200	

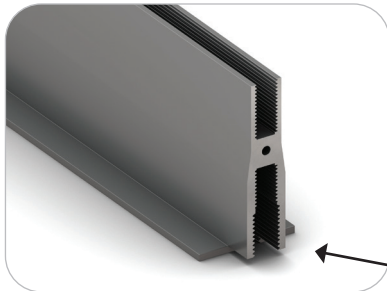
Calculate midspan beam deflection at any point below yield

$$S = \frac{WL^3}{48EI}$$

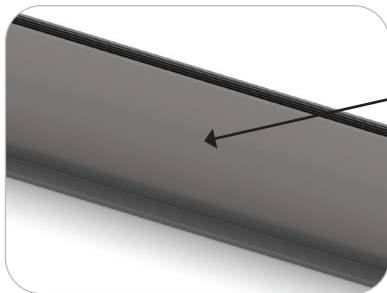
S = Deflection
 W = load
 L = 1200mm
 E = 68.9kN/mm²
 I = 278,800mm⁴

On center hanger spacing	Max safe working Uniform load kN/m ²	Max. allowable deflection	Max safe working load (kN)	Ultimate point load (kN)
1200mm x 1200mm	10.8	10mm	3.56	7.12
1500mm x 1200mm	8.6	10mm	2.22	4.45
1800mm x 1200mm	7.2	10mm	1.78	3.56
2100mm x 1200mm	6.1	10mm	1.11	2.22
2400mm x 1200mm	5.4	10mm	0.67	1.33

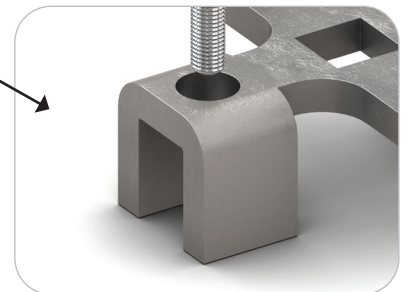
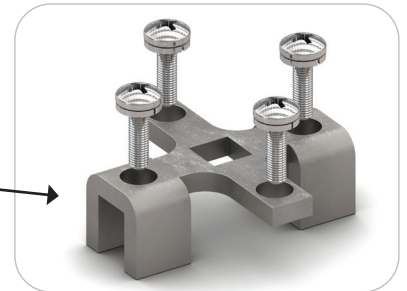
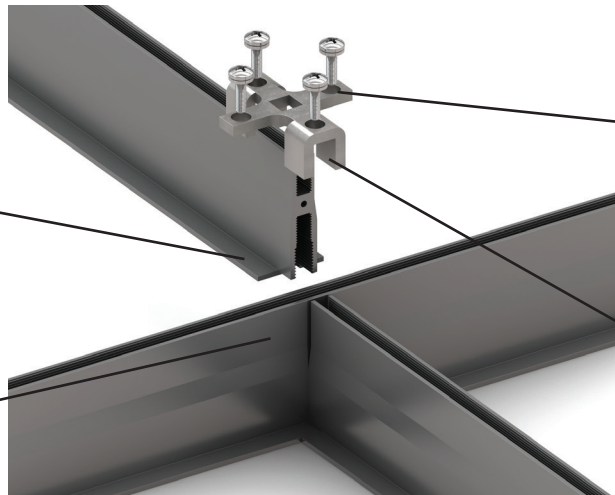
Max safe working load based hanging points no less than 1200mm apart in any direction.



Structural Tee coped for simplified installation and stronger connections

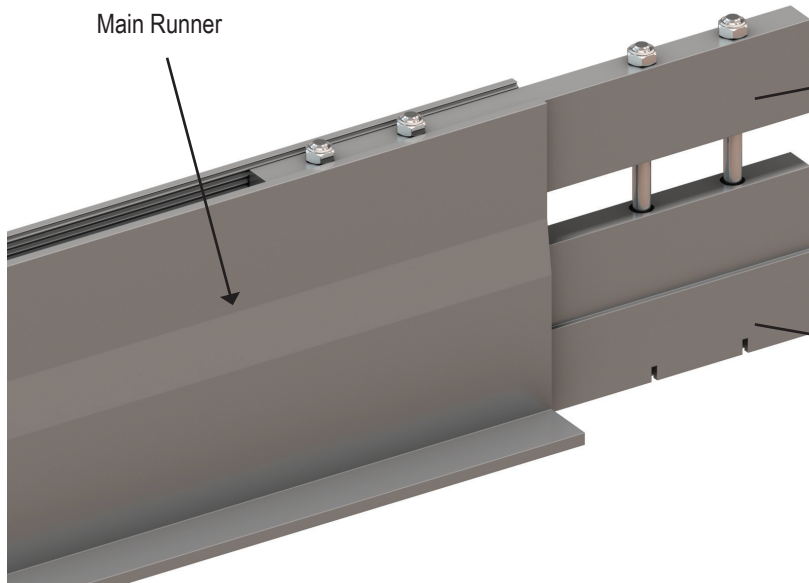


Main Runners in 3.6m lengths

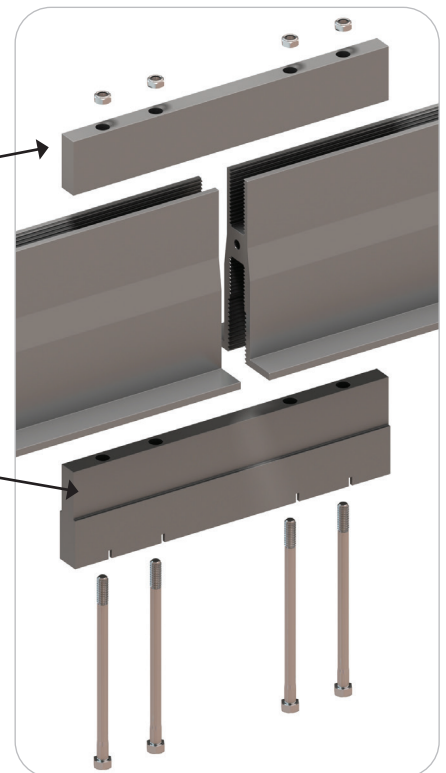


U channel connector to align with grid and prevent racking

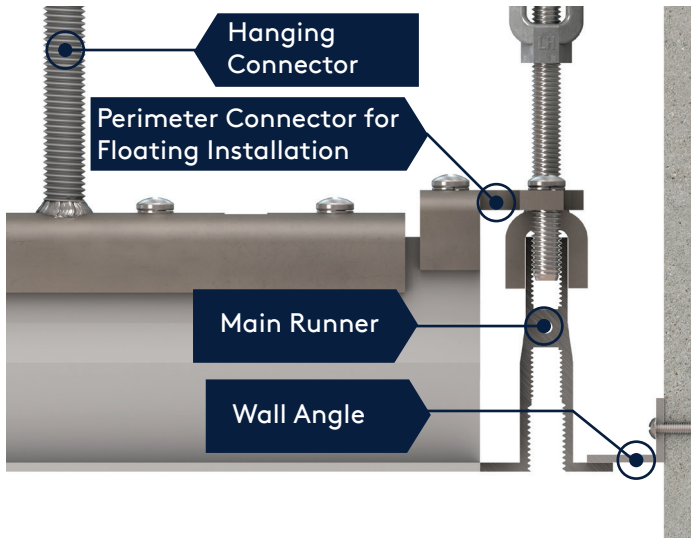
SPLICE CONNECTOR



Duo main Splice is designed for additional support at the ends of each Main Runner.



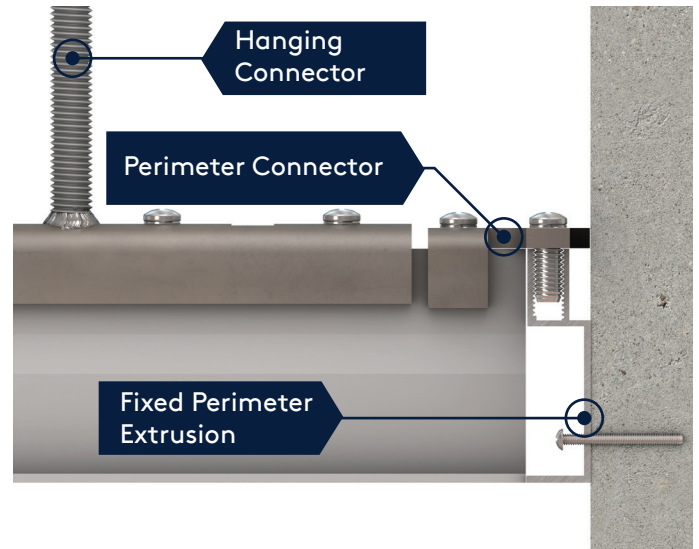
PERIMETER DETAILS



Floating Installation Detail

Main Runners are utilized when installing with a floating detail. When installing with a floating perimeter, Perimeter Connectors can be utilized to align the main runner with the grid while installing close enough to the wall so that angle can be used to fill the void. A hanger is required at the end of each tee to ensure full load rating.

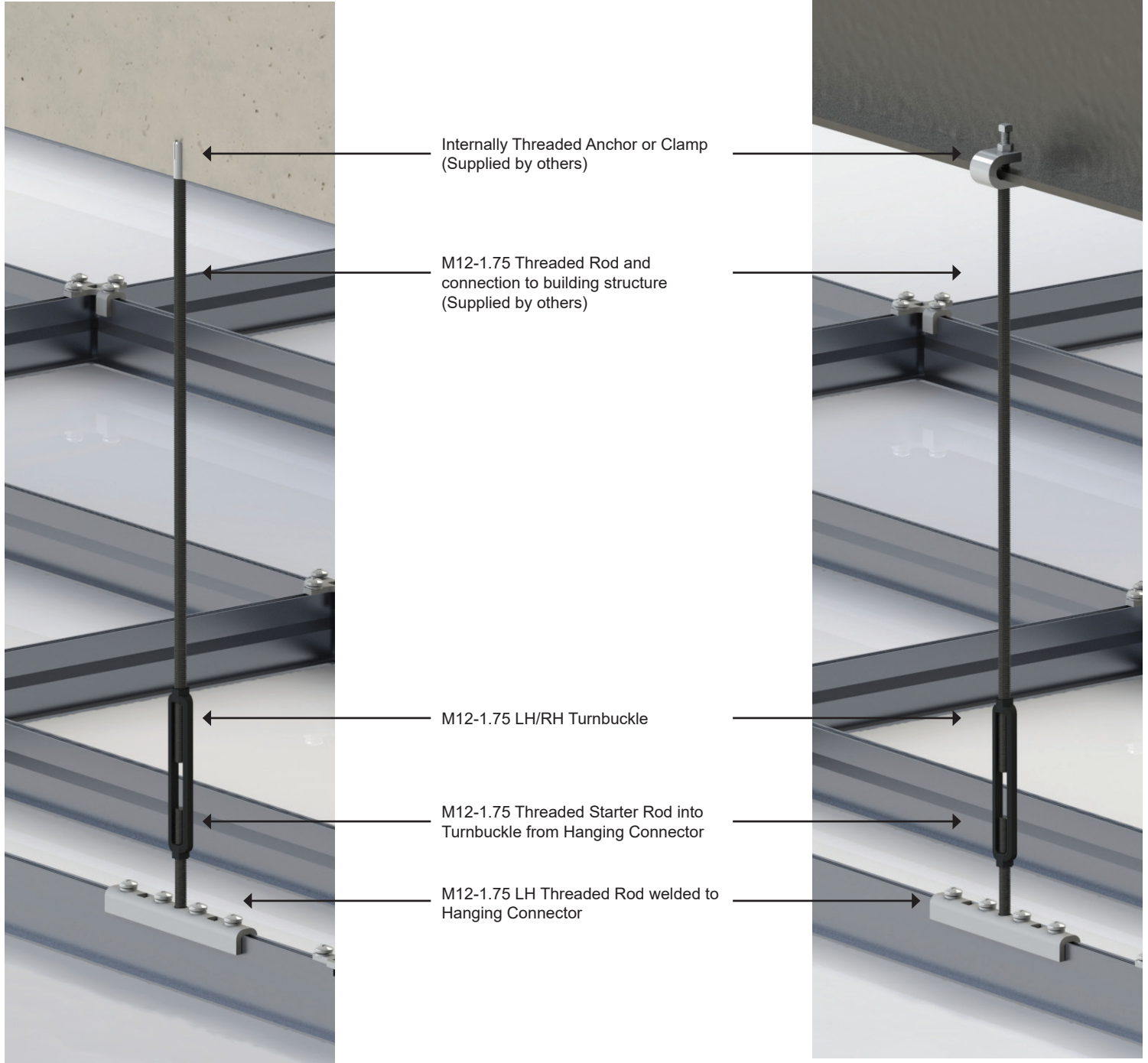
Additionally it is recommended to utilize a Wall Angle attached to the perimeter.



Fixed Installation Detail

Perimeter Extrusions are designed to create a clean corner joint assembly. Perimeter Angles can be cut on site to desired length when assembled along perimeter walls. Perimeter Angles can also be bolted directly to the wall with appropriate fasteners for the wall type. A hanger is required at the end of each tee to ensure full load rating.

TURNBUCKLE ASSEMBLY



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Safety Guidelines

THIS INFORMATION MUST BE SHARED WITH ALL SERVICE PROVIDERS WHO INTEND TO SUSPEND SERVICES FROM THE TATE DUO SYSTEM

Tate Duo is a structural ceiling system designed to support static vertical loads. When installing services to the bottom 3/8"-16 or 1/2"-13 threaded channel, the following instructions must be adhered to:

1. Tate Duo is limited to a maximum point load of 800 lbs or distributed load of 112 lb/ft² at 4ft hanger spacing. See data table for ratings at other spans.
 - a. Exceeding these values may cause a failure in the system.
2. When hanging equipment from the 1/2" slot, an anti-splay washer must be used to prevent separation of the slot under heavy loads.
3. Do not torque the threaded rod or bolts above 30 in-lbs. Over torquing will damage the threaded slots reducing the load capacity of the Tate Duo System.
 - a. Failure to adhere to this may result in the shearing of bottom slot threads reducing the load capacity of the Tate Duo system.
4. Equal care must be taken during the installation of the Tate Duo to not exceed the 30 in-lbs torque limit on the top screws connecting the Tate Duo to the suitable connector.
 - a. Failure to adhere to this may result in the shearing of top slot threads reducing the load capacity of the Tate Duo system.
5. Only screws supplied by Tate should be used on the top slot.
 - a. Failure to adhere to this may result in the reduction of the load capacity of the Tate Duo system.
6. For threaded rod connections, the rod should be fully engaged. For bolted connections bolts should be carefully selected to maximize thread engagement, but should not be oversized to avoid bottoming out. There must be at least 0.67 in. thread length into the 1/2" slot or 1.4 in. thread length into the 3/8" slot as measured from the bottom to the flange.
 - a. Failure to adhere to this may result in the reduction of the load capacity of the Tate Duo system.
7. Do not impose a dynamic load on the connection to Tate Duo. During installation of supported services, bracing is required to prevent dynamic load on the Tate Duo ceiling.
 - a. Moment forces imposed on the Tate Duo system may cause failure of the connection between the services and the Tate Duo system.
8. All bottom thread fixings should be completed with suitable washers.
9. Tate Duo is NOT a walk-on ceiling.