TRO GRID SUSPENDED & SELF SUPPORTING LAY IN GRID CEILINGS

These consist of Armstrong Tatra fissured fibreboard square edged tiles (1200 x 600mm) and a 25mm exposed grid unless otherwise specified.

Troax Lee Manufacturing recommends that the TRO Grid ceiling should be set out so that the layout is as symmetrical as possible and that perimeter tiles are in excess of ½ a module. In the event of irregular shaped rooms or a dimensional conflict the specifier shall indicate their preference prior to installation.

Unless otherwise requested, this ceiling will be a general white shade. Some TRO-Grid tiles exhibit directionality in their face texture or pattern. It is recommended practice that square module tiles, with directional fissured face patterns, are installed with the direction of the pattern alternating from tile to tile, creating a 'chequerboard' effect. For other directional products, the specifier should indicate if the pattern is to be linear, alternate (chequerboard) or random in layout, or to follow a specific design.

Exposed grid systems should be installed in the 'ladder' formation with main runners at 1200 mm centres (1200mm or 600mm modules) and 1200 mm cross tees spanning between main runners at 600 mm centres. 600 mm cross tees then span between the 1200 mm cross tees and run parallel to main runners. The 'H' formation grid layout (1200mm cross tees at 1200 mm centres and 600mm cross tees perpendicular to main runners) should not be used, as this will result in a greater grid deflection from a given tile load, unless intentionally specified and the consequences understood. All Troax Lee Manufacturing loading information is based upon grid installed in the 'ladder' formation.

The minimum cavity depth necessary to install a modular suspended ceiling will normally be determined by considerations such as any service fittings, ducts and pipes which are present or which will have to be accommodated. For exposed grid lay-in tiles, which have to be lifted diagonally upwards through the grid before being laid down onto the grid flanges, a minimum clear height of about 150 mm is required. For Vector edged tiles which are only engaged from below the grid, or where there are no cavity services present, then practical considerations of handling and fixing short hangers will prevail.

Suspended ceiling grid systems are primarily intended to support the distributed load from the ceiling tiles, which is typically between 1 kg/m2 and 8.5 kg/m2. This will ensure, for a standard 600 x 600 mm or 1200 x 600 mm layout, a deflection of the grid between points of support that is visually acceptable.

In certain instances it may be possible to extend the centres of the hangers supporting the main runners. This will be dependent upon the layout of the grid, the weight of the ceiling tile and whether additional loads are being supported by the grid.

The maximum weight of flange or bulb supported service fittings, or the maximum point loads that can be supported by the ceiling grid will depend upon the type and layout of the grid, and the weight of the ceiling tile.

Where perimeter trims are to be fixed to surfaces or substrates which may be liable to shrinkage, such as timber or wood based battens, allowance should be made to prevent deformation or distortion of the trim occurring.

Perimeter trims should be neatly jointed at all external and internal angles. Overlapped sections or 'dummy' mitres (the overlapped lower section only mitred) are considered acceptable methods. Butt mitred joints should be specified prior to installation if required.

Suspension wire must always be mechanically pre-straightened prior to use and should not be less than 2 mm diameter. Wire hangers should be straight and free from kinks.

The maximum length of any wire hanger is governed only by the ability to pre-straighten it.

When 'tying off' wire hangers, there should be at least 3 complete turns of the wire forming a tight coil.

Suspension hangers should be vertical or nearly vertical where ever possible. However, a hanger can be used at up to 45º from the vertical provided that there is a second adjacent hanger up to 45º from the vertical that opposes the lateral force of the first hanger. Any rigid braces used to provide lateral restraint should be less than 45º from the horizontal.

Main runners should have a hanger within 150mm of joints between abutting main sections.
Any grid section (main runner or cross tee) that bears onto the perimeter trim requires support within 600mm, so that excessive loads are not transferred onto the trim. This dimension should be reduced to 450mm or less if heavy overlay materials are used or service fittings supported by the tile and grid system are located near the perimeter.

Unless specifically accepted by the specifier, pop rivets and screw heads should not be visible.

Except for ceilings required to provide structural fire protection or fire resistance, hold-down or retaining clips are not normally required unless specified prior to installation.