# PROLINE BEAMGRID

## MODULAR METAL CEILING

ISO 9001:2000 CERTIFIED

CARTEL MANUFACTURING CO.

# SYSTEM DESCRIPTION

Proline Beamgrid System provides a high specification solution that combines flexibility with a highly engineered product capable of addressing even the most complex of ceiling designs.
The beam sections are arranged in one or two directions to create a modular ceiling effect, and are used to support the ceiling panels, light fittings and partition tracks.
Beams can be produced to a variety of widths, and many module sizes can be accommodated. The modules can be infilled with either a single mega panel, or a number of smaller panels to create the desired ceiling effect.



# FEATURES

**a. Durability:** Proline Beamgrid metal ceilings are made from steel or stainless steel, ensuring a long life span and requiring minimal maintenance.

**b. Quality:** Cartel Manufacturing is a quality endorsed company, certified as complying with an ISO 9001:2000

**c. Accessibility:** Proline Beamgrid ceiling systems can be easily mounted and demounted, allowing full access to above-ceiling services.

**d. Flexibility:** Integration of services like lighting and air conditioning can be easily integrated into the system. Moreover, partition walls of various designs can be situated under the beams, relocated or removed afterwards.

**e. Environmental Benefits:**

- Acoustic control, the combination of using perforated metal panels with non-woven tissue ensures superior sound absorption.
- Proline Beamgrid metal suspended ceilings are classified incombustible and will therefore not contribute to possible fires.
- Material is recyclable and made up of 50% to 80% recycled content.

The PROLINE BEAMGRID acoustic products are ideal for applications in Office environments, Educational sectors and Airports.

## VISUAL CHARCTERISTICS

**DIMENSION:** Beams can be produced in a variety of widths (100, 150, 200, 300mm). Also panels have variety of sizes to fit the required module.

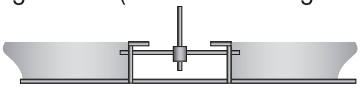
**MATERIAL:** Galvanized Steel, or Stainless Steel (mirror or brush finish). The Panel thickness varies from 0.6 up to 1 mm according to its size.

**SURFACE FINISH:** Factory applied powder-coated finish (post-coated).

**TEXTURE:** Flat smooth surface free from blemishes.

**COATING:** Electro-statically polyester powder coating from 70 to 90 microns, applied after manufacturing to cover all exposed edges.

**EDGE DETAIL:** Panels can be produced with a square edge detail (with or without gasket).



**PERFORATION OPTIONS:** Plain or Perforated (standard 1.8mm diameter holes). Any other pattern can be produced upon request.

**COLOR:** Proline standard white color. Other colors and finishes are available upon request.

## TECHNICAL CHARACTERISTICS

**LIGHT REFLECTANCE:**
LR = 70 – 90% (ASTM E 1477)

**ACOUSTIC PROPERTY:**
NRC = 0.7 – 0.9 (ASTM C423)
[perforated tile with acoustic inlay]

**FIRE CLASSIFICATION:**
Class 1 Surface Spread of Flame
(BS 476: Part 6 and 7)

**CORROSION RESISTANCE:**
Salt spray tested for 1000 hours corrosion protection
(ASTM B 117-73)

**HUMIDITY RESISTANCE:**
HR = 95%

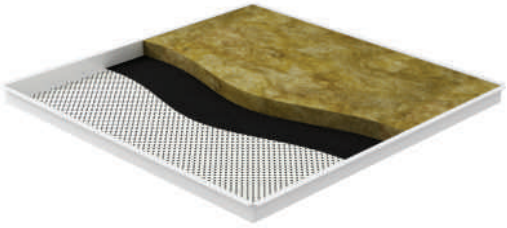
**ANTI- MICROBIAL:** Hygienic coating can be provided upon request, having an excellent anti-bacterial properties
(JIS Z 2801:2000)

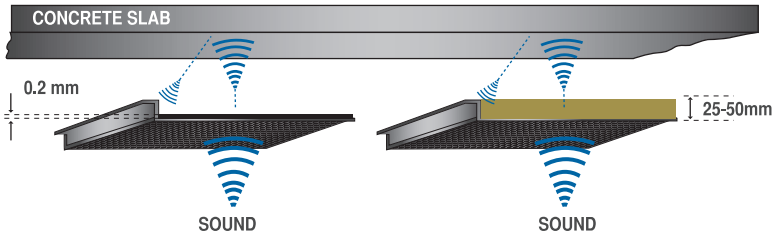
**CLEANABILITY:** Washable by applying any household mild detergent like soap or window cleaner on the ceiling surface then wiping it with a clean soft cloth.

**GREEN BUILDING MATERIAL:** Fully recyclable and environmentally friendly.

# ACOUSTIC INSULATION

The Proline panels are provided with non-woven, non-flammable, acoustic black felt glued over the whole perforated area. The Acoustic Felt is a sound absorption layer of 0.2mm thick having NRC 0.7 to 0.9. Its sound absorption performance is tested in accordance with ASTM C423-90a. Additionally, Rockwool Insulation pads 25-50 mm thick and 40-110 kg/m3 density can be fitted inside the Proline panels to provide high performance of acoustic insulation, thermal insulation, and fire protection.





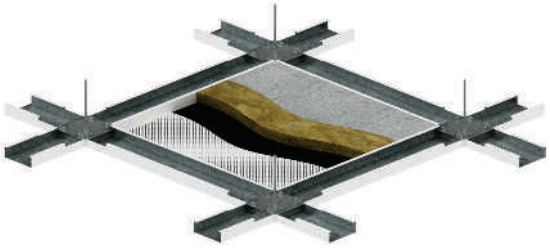

**ACOUSTIC FELT**
**0.2 mm**

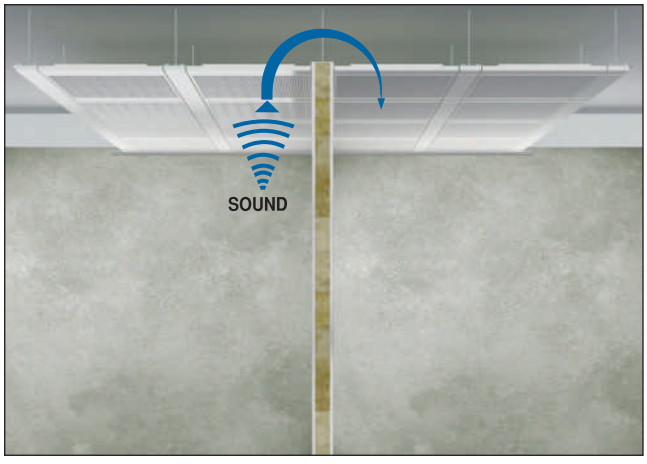
**ROCKWOOL INSULATION**
**25-50 mm**

Proline acoustic products are classified under ASTM E1264 the american standard classification for acoustical ceiling products.

# SOUND TRANSMISSION

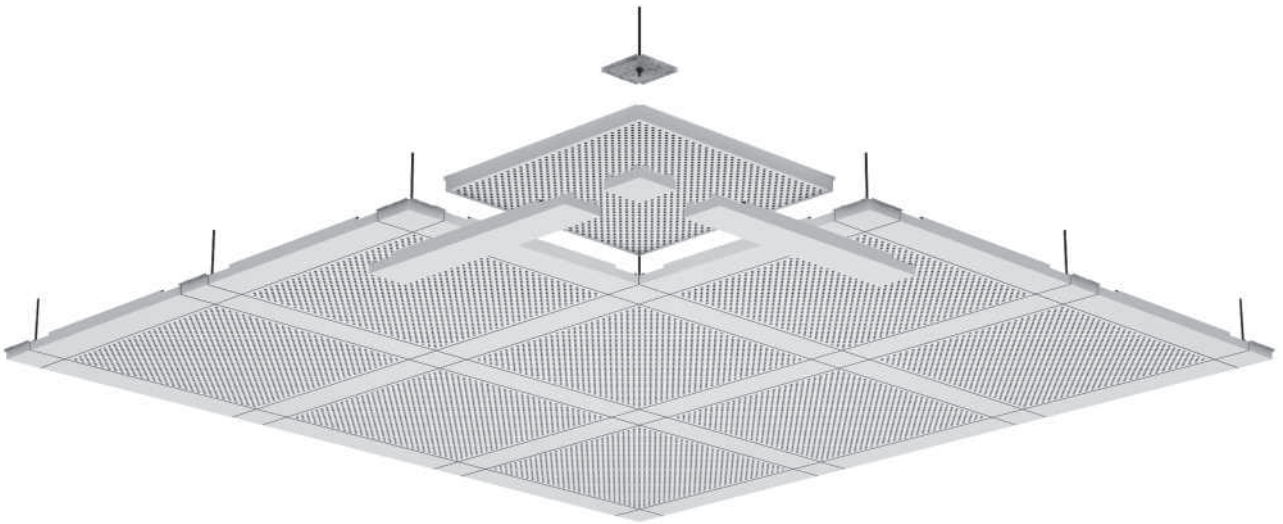
Sound attenuation pad consists of steel backing sheet placed above the acoustic insulation to reduce sound transmission from one room to another. The sound attenuation pads are particularly effective when partition walls are used.

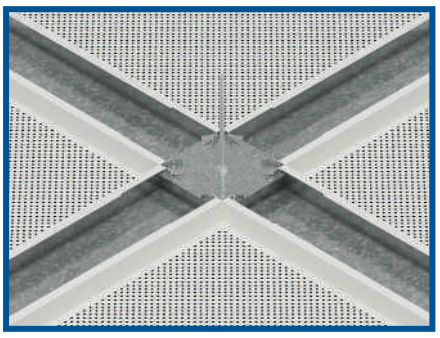




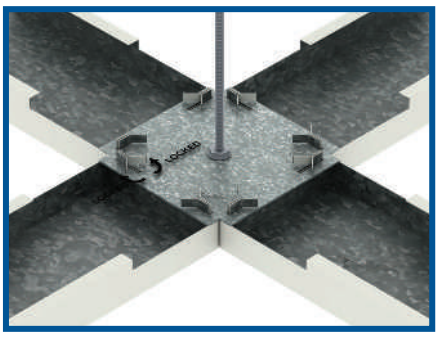
# SUSPENSION SYSTEM

The Proline Beamgrid System consists of fully demountable lay-in infill panels supported by beam channels, which run in two directions to form a modular ceiling. The beam channels and junction boxes are secured to junction plates at each corner of the module. The system is supported to the structural soffit by using M6 threaded rod.

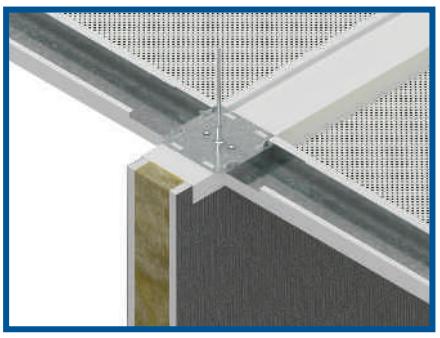




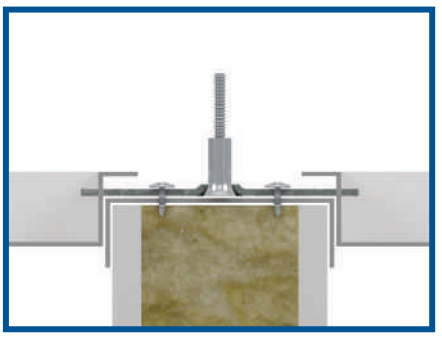
1- Top View



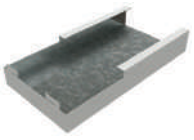
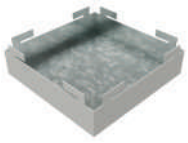
2- Assembly



3- Side View



4- Section

| | | |
|---|---|---|
| 1 |  | **BEAM CHANNEL:** 0.8mm GI steel polyester powder coated to match panel, connected to the junction plate from its pre-punched edges. |
| 2 |  | **JUNCTION BOX:** 0.8mm GI steel polyester powder coated to match panel, connected to the junction plate from its pre-punched edges. |
| 3 |  | **JUNCTION PLATE:** 1.5mm GI steel used to support the beam channels and junction boxes. |
| 4 |  | **THREADED ROD:** M6 GI suspension rod hanged from the soffit and fixed to the junction plate by using M6 nuts. |
| 5 |  | **EDGE TRIM:** 0.6mm GI steel polyester powder coated to match panel. L or W shaped fixed to the wall @ 400mm maximum centers, starting @150mm from the adjacent wall. |

# INSTALLATION

1. Using a laser, or equivalent, determine ceiling level and secure perimeter edge trim to the wall at 400mm maximum centers.
2. Cut lengths of M6 threaded suspension rod to suit suspension depth ensuring sufficient length for fixing.
3. Secure rod hangers, at centers corresponding to junction plate, to the structural soffit using fixings approved by the architect and determined by load and safety factor considerations.
4. Junction plates are located on to the rod hangers and secured with 2No. M6 nuts, taking care to maintain a perfect level.
5. Beam channels are inserted into the junction plates through the pre-punched slots and locked using the tabs. Then Junction boxes are fitted through the plate slots and locked into place using the tabs.
6. Panels can now be offered into place.
7. Cut perimeter panels must be retained using wedges spaced at 300mm maximum centers.

Please note; site conditions, special applications, services integration etc. may require variations to the above instructions, which are given purely as a general guide.

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