

SoundMicro

[www.soundmicro.com](http://www.soundmicro.com)

# ACOUSTIC INNOVATION



Environmental Protection  
Comfortable  
Style

**SoundMicro**

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# Why Choose SoundMicro?

SoundMicro is a revolutionary sound-absorptive metal material on the basis of MPP (micro-perforated panels) theory of acoustics applied with CKM's peculiar manufacturing process to create an innovative sound absorber with ultra-micro perforation of less than 0.04mm (H) x 0.4mm (L). CKM's own "Smart Perf" tech output 300,000 subtle holes of 0.04mm(H) per square meter area. With ample perforations, it can absorb sound energy to be transferred into heat energy. In addition, create a silky and delicate surface visual effect that aesthetically blends with decorative materials which goes beyond traditional metal perforated panel's presenting. This prominent sound absorption performance builds amplitude of acoustical performance which can be easily extended by simply increasing the depth of the backing void. The deeper the air-void the better the sound absorption at low frequencies!

SoundMicro benefits include prevent dangers from traditional sound-reduction backing textile which may get damped, bacterial-adhered, dust fall. Namely, SoundMicro's sound reduction efficacy will never decline through years nor cause any health concerns. In addition, SoundMicro is easy for maintenance to clean with water or cloth only. SoundMicro can be widely used for noise control purpose indoors or outdoors (e.g. noise barrier)

- High Sound Absorption
- NRC:0.70
- Clean Surface
- Monolithic Flat Plane
- Water Resistant
- Mould Resistant
- Dust Proof
- Non Combustible
- Non Asbestos
- Environmental Friendly
- Lightweight
- Durable
- Versatile
- Prolonged Performance

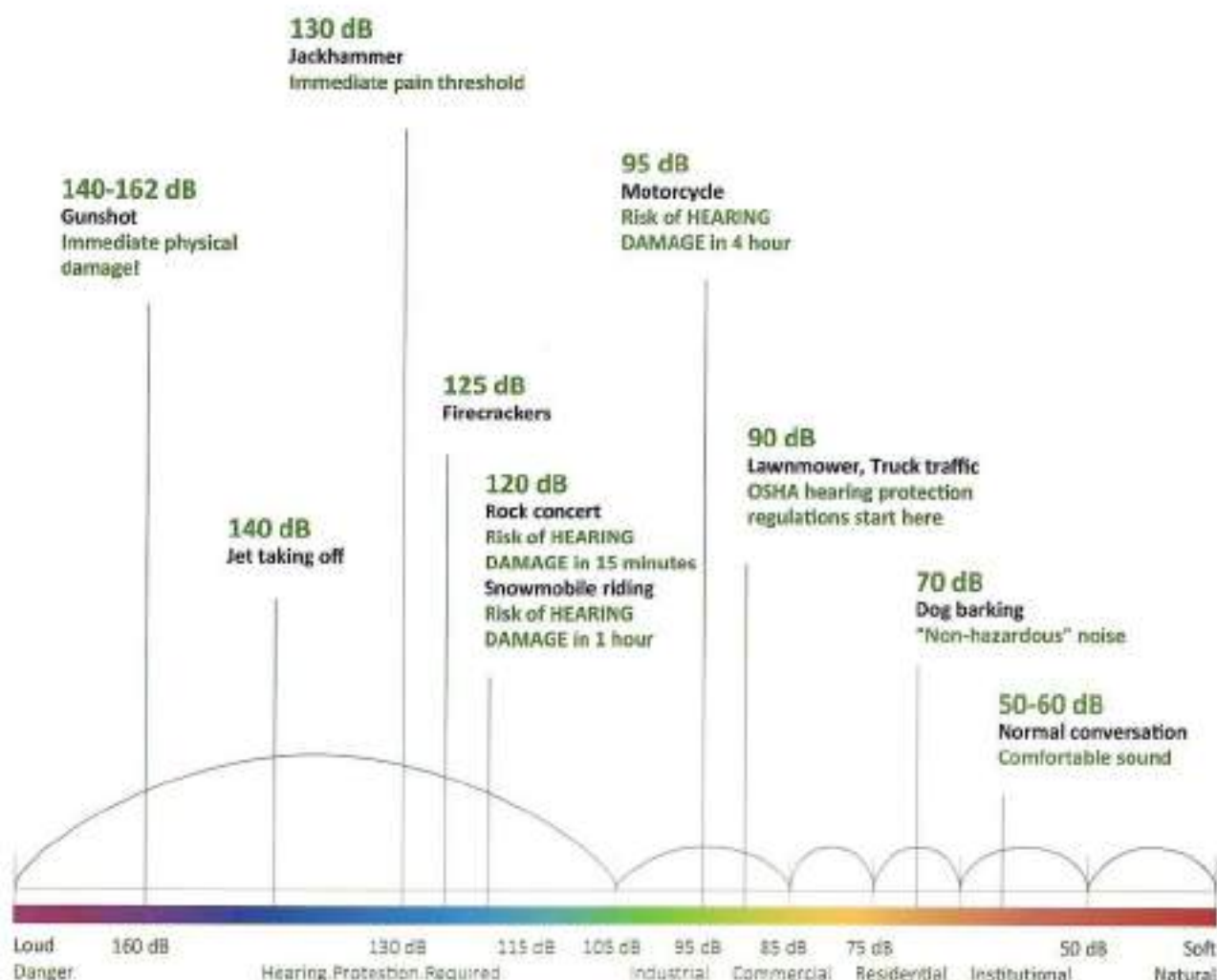


- Washable
- No Back Absorbent Fiber

## Benefits at a glance



# Noise Levels



## Color Range



### Remarks:

1. The colors above are for reference only.
2. SoundMicro range is available for a variety of applications.

# SoundMicro Acoustical Materials

**Material:**

Recyclable Aluminum "SoundMicro" metal fabric.  
High acoustical absorptive material  
No additional soft fiber insulation material required

**Surface Material:**

Tortuous surface material

**Application:**

For all general ceiling, wall types,  
noise barriers, etc.

**Size:**

700(W) x 2,400 mm (L)

**Thickness:**

1.0mm

**Perforation Dimension:**

0.04mm (hole height)

**NRC Value:**

0.7~0.95 based on various applications and designs

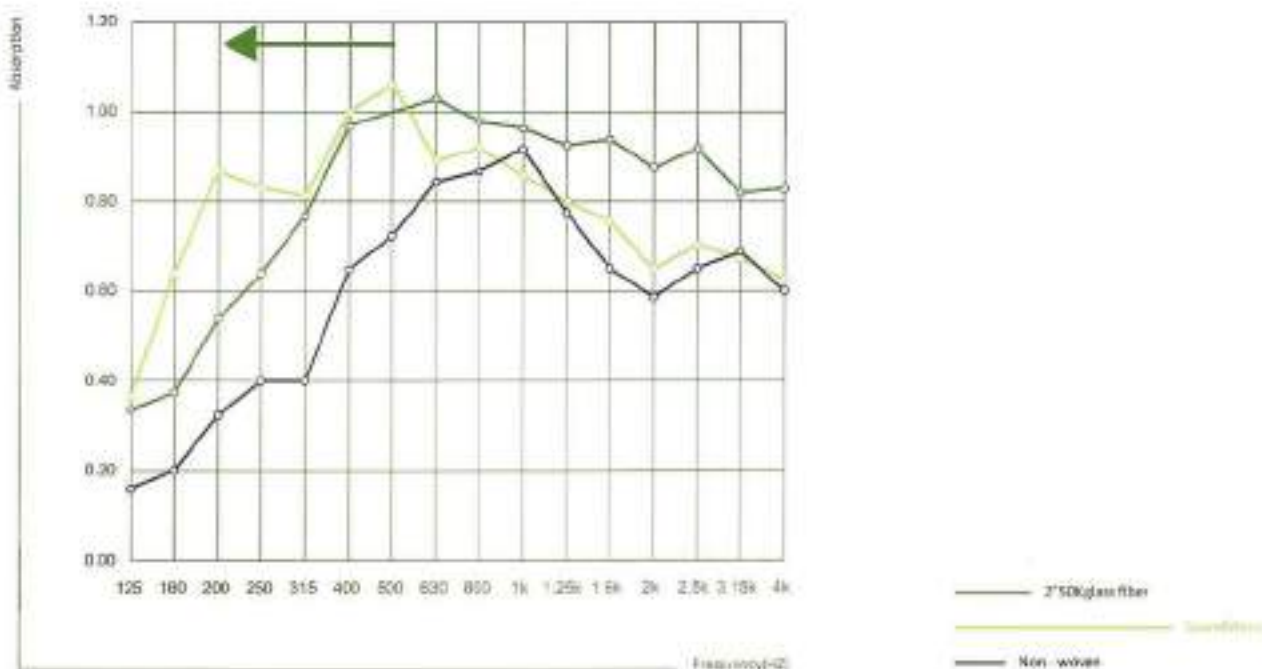
**Finish:**

PE or PTFE (outdoor) per standard colors



## NRC Comparison Between Different Materials

| Category         | Material                                                                                       | NRC     |
|------------------|------------------------------------------------------------------------------------------------|---------|
| Porosity         | Mineral wool, rock wool sponge, mineral wool linen fabrics and cotton                          | 0.4~0.9 |
| Perforated Panel | Perforated Gypsum Panel, Perforated Plywood, Perforated Aluminum Panel, Perforated Steel Panel | 0.5~0.7 |
| Panel            | Plywood, Gypsum Panel, Plastic Panel Steel Panel                                               | 0.2~0.4 |
| SoundMicro Panel |                                                                                                | 0.7~0.9 |



**Material:** Aluminum "SoundMicro" metal fabric

**Surface Appearance:** Plain, Flat Monolithic

**System:** Clip-in / Lay-in / Hook-on

**Panel Size:**

Clip-in: 600 x 600mm, 600 x 1200mm, 300 x 1200mm

Lay-in: 600 x 600mm, 600 x 1200mm, 300 x 1200mm

(Imperial size is available)

Hook-on: 600 x 600mm, 600 x 1200mm, 300 x 1200mm

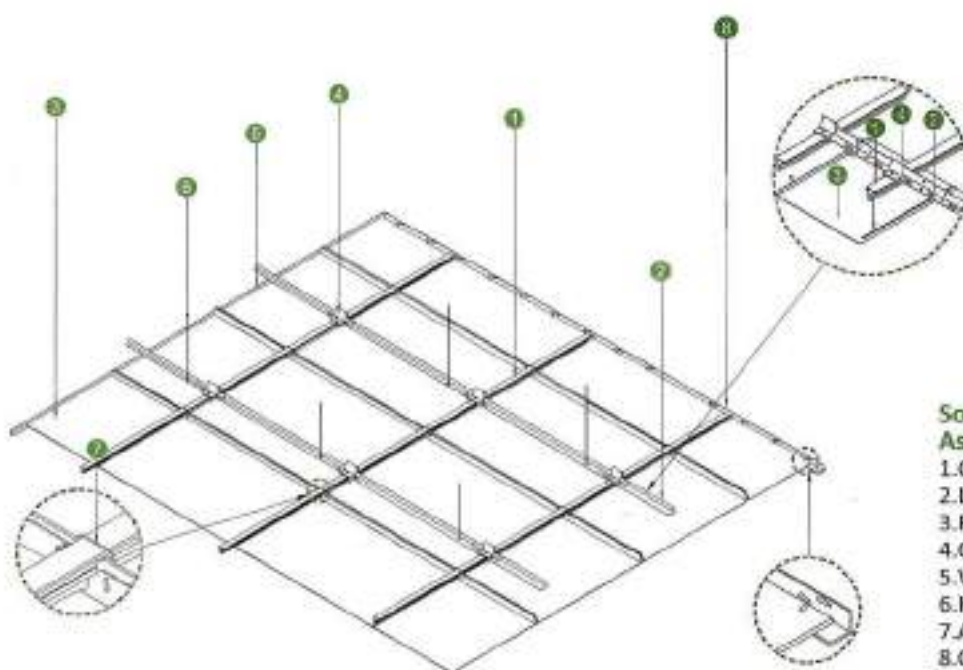
(Other custom shapes & sizes available upon request)

**Thickness:** 1.0mm

**NRC Value:** 0.70

**Finish:** PE or PTFE (outdoor) per standard colors

(Other colors are available upon request)

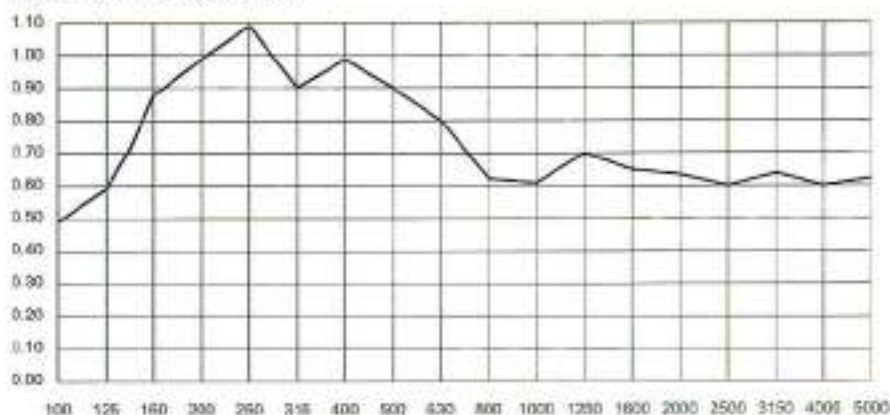


**SoundMicro Clip-in Ceiling Tiles Assembly Drawing**

- 1. Clamping Rail
- 2. L Bar
- 3. Panel
- 4. Clip
- 5. Wall Angle
- 6. Hanger
- 7. Anti-seismic Fix Clip (For Outdoor Use)
- 8. Clip Wall Angle

### Sound Absorption Performance

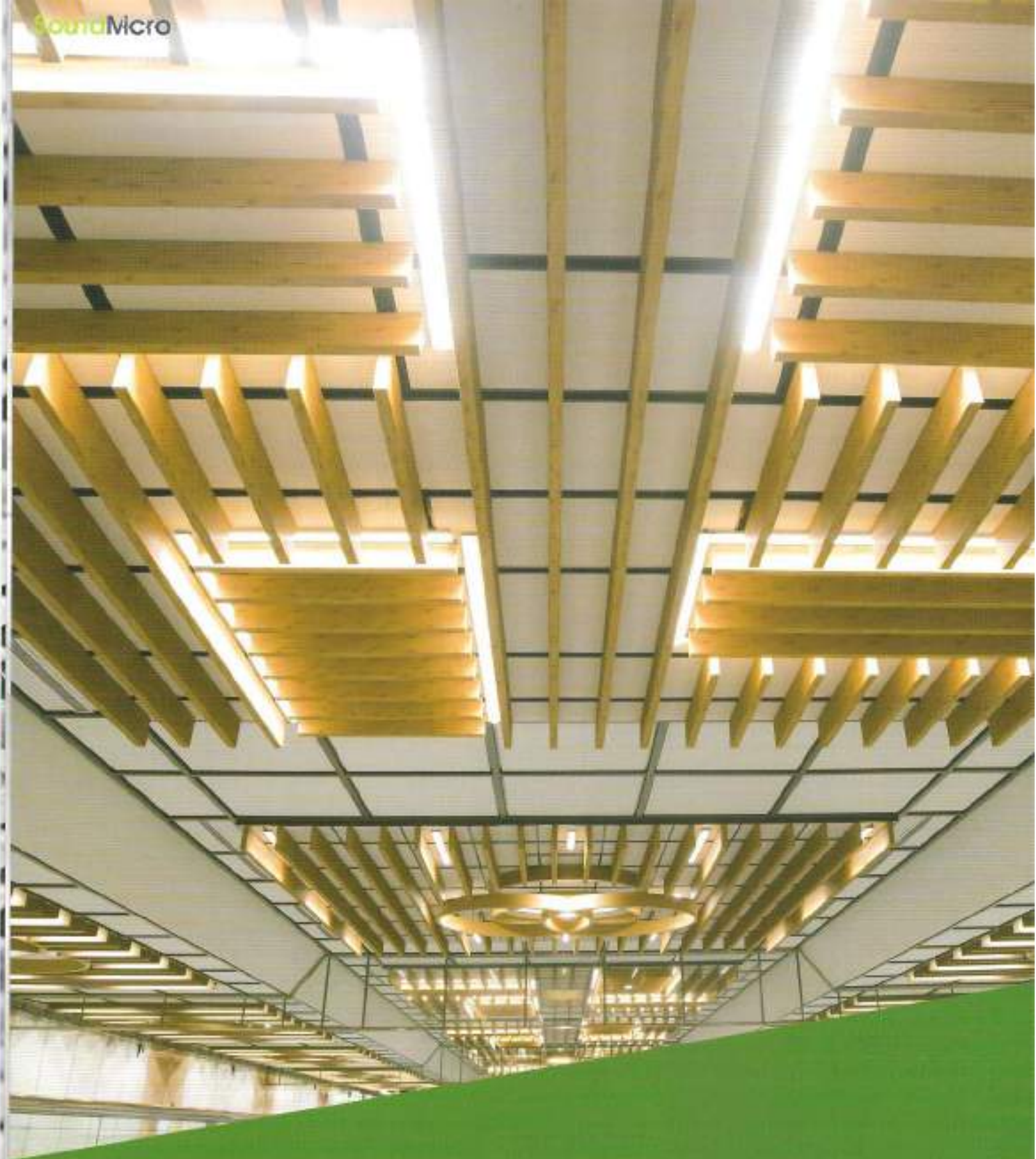
Below graph extracted from Intertek Test Report No.120511001SU-BP-15  
(in accordance with EN12354:2004+A1:2006)





## Ceiling Panel

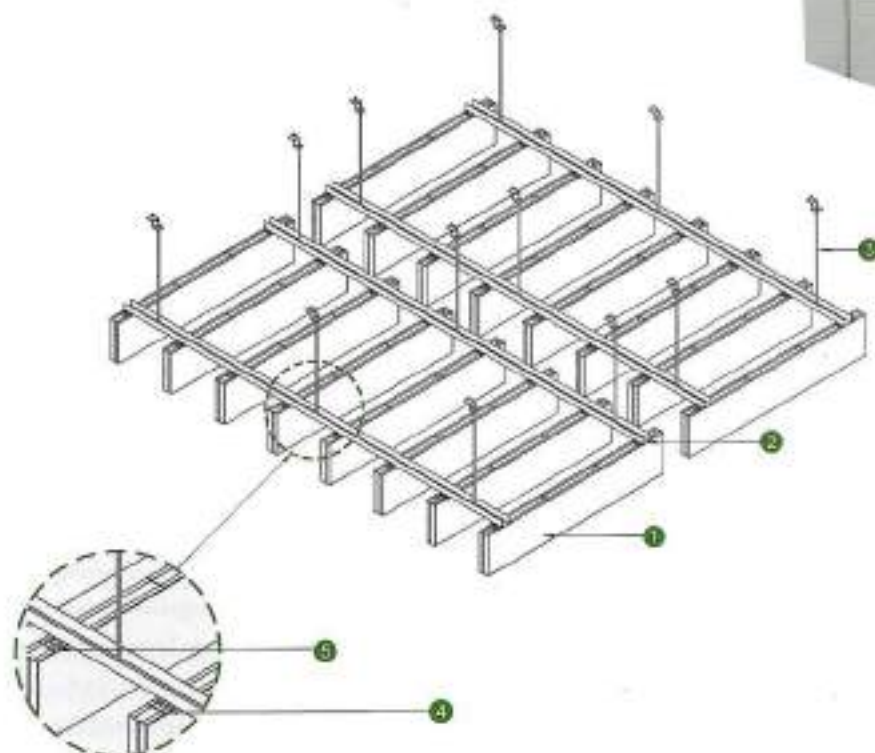
SoundMicro Metal Ceiling Panel with 300,000 ultra-micro perforation holes per square meter which are barely visible creates a silky appearance breaking away from stereotype for traditional metal perforated panels. Possessing with water and dust resistant and no backing textile properties, SM can be extensively applied even to high temperature and humidity circumstance without losing NRC performance throughout its product life cycle. It is modularly made in 600mm (W) x 600mm (L) and 600mm (W) x 1200mm (L) including lay-in, clip-in or hook-on system.



## Baffle

SoundMicro Baffle is a quite peculiar and diversified system. With its open linear ceiling design, the system is flexible in layout and can be combined with luminaries and air conditioning. Easy for equipment maintenance which is different from traditional closed ceilings.

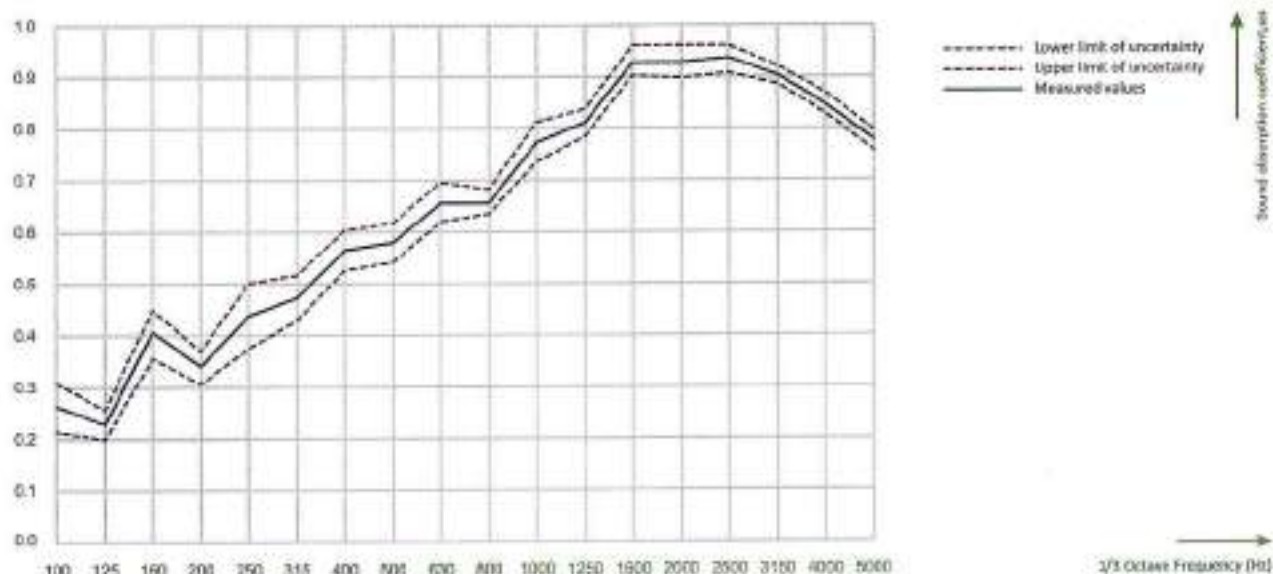
**Material:** Aluminum "SoundMicro" metal fabric  
**Size:** W30(~50)mm x H100(~280)mm x L600(~2400)mm  
**Pitch:** 300mm O.C or upon design request  
**Thickness:** 1.0mm  
**NRC Value:** 0.7  
**Finish:** PE or PTFE (outdoor) per standard colors  
 (Other colors are available upon request)



**SoundMicro Baffle  
 Assembly Drawing**  
 1. SoundMicro Baffle  
 2. Pre-painted U Channel  
 3. 3.1/4" (6mm) Hanger  
 4. Hanger Plate  
 5. Fix Clip

### Sound Absorption Performance

Below graph extracted from TÜV SÜD PSR Test Report No.: 119166181-MEC-028-EME  
 (in accordance with ASTM C423-02a)

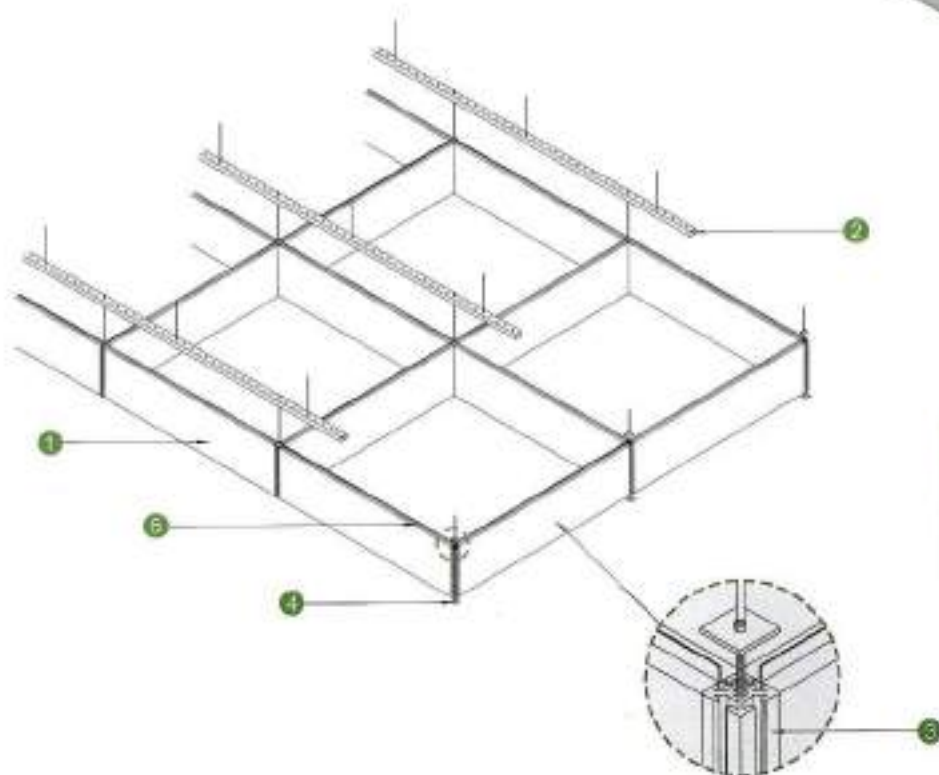




## Cell Ceiling

Open Cell Ceiling is a flexible application which is a sound absorber assembled by 600mm (W) x 600mm (L) baffle units. This open ceiling system is flexible in layout and can be combined with luminaries and air conditioning. Easy for equipment maintenance which is different from traditional closed ceilings.

**Material:** Aluminum "SoundMicro" metal fabric  
**Size:** W30(~50)mm x H100(~280)mm x L600(~2400)mm  
**Thickness:** 1.0mm  
**NRC Value:** 0.7  
**Finish:** PE or PTFE (outdoor) per standard colors  
 (Others colors are available upon request)

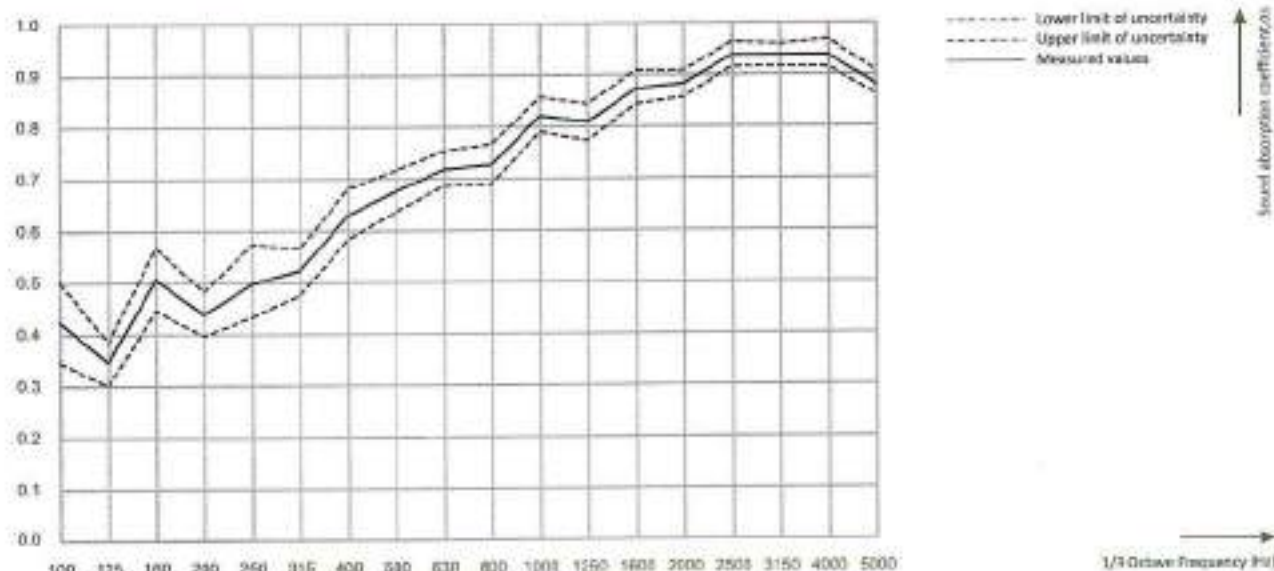


#### SoundMicro Cell Ceiling Assembly Details

- 1.SoundMicro Baffle
- 2.Prepainted U Channel
- 3.Connect Bar
- 4.Capping
- 5.Fix Clip

#### Sound Absorption Performance

Below graph extracted from TÜV SÜD PSB Test Report No.: 710166161-MEC-028-EMK  
 (in accordance with ASTM C423-02a)





## Indoor Sound-Absorptive Wall

SoundMicro Material has outstanding sound-absorptive performance which can not only apply to ceilings but also to indoor walls. SoundMicro wall panel combines paper / Aluminum honeycomb on the back greatly reinforce its impact resistance capability and maintain superior sound absorption effect. It expands application range for SoundMicro!

**Material:** Aluminum "SoundMicro" metal fabric  
**Surface Appearance:** Plain, Flat Monolithic  
**System:** Clip-in / flat Sheet  
**Maximum Size:** 680 (W) x 2400mm (L) (Nominal)  
**Thickness:** 1.0mm  
**Panel Size:** Clip-in: 300 x 600mm, 300 x 1200mm, 600 x 600mm  
**NRC Value:** 0.70  
**Finish:** PE or PTFE (outdoor) per standard colors  
 (Others colors are available upon request)

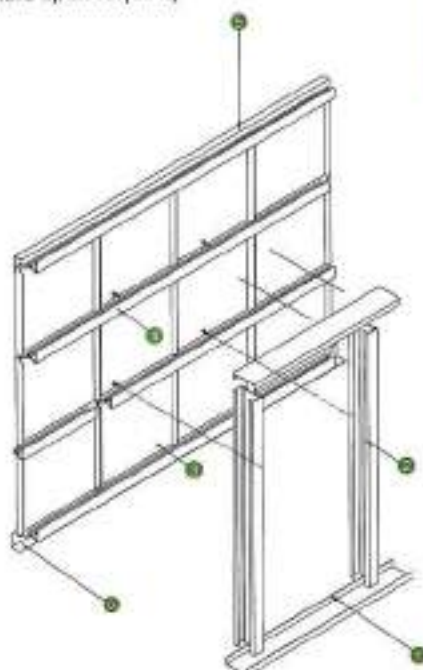


#### Clip In Wall

1. U Track
2. C-stud
3. Soundmicro Panel
4. Clamping Rail
5. 7 Type Wall Angle
6. Skirting

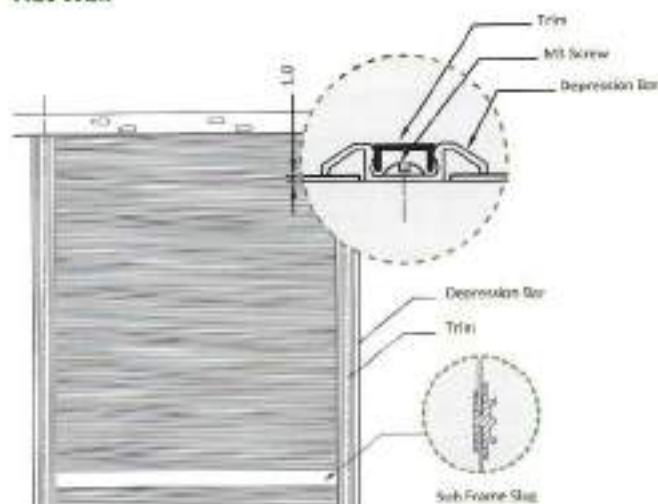


Turn Panel



Clamping Rail is Fixed On the C-stud

#### Flat Wall

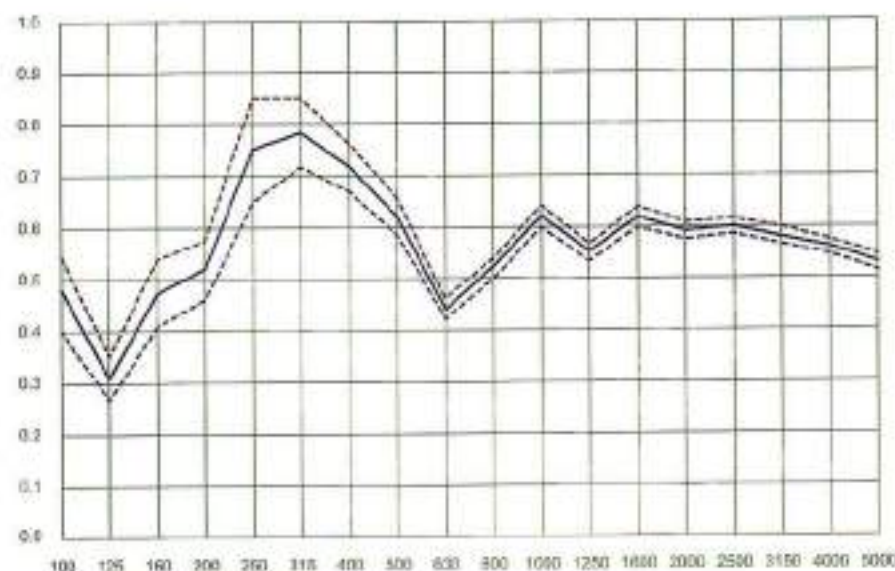


**Panel :** 300x600mm, 300x1200mm, 600x600mm  
**Accessories:** Clamping Rail, C Stud, U Track, Skirting, 7 type Wall angle

**Panel :** 680x2400mm (Custom made)  
**Accessories:** Push-in Bar, Trim, Angles, Sub Frame

#### Sound Absorption Performance

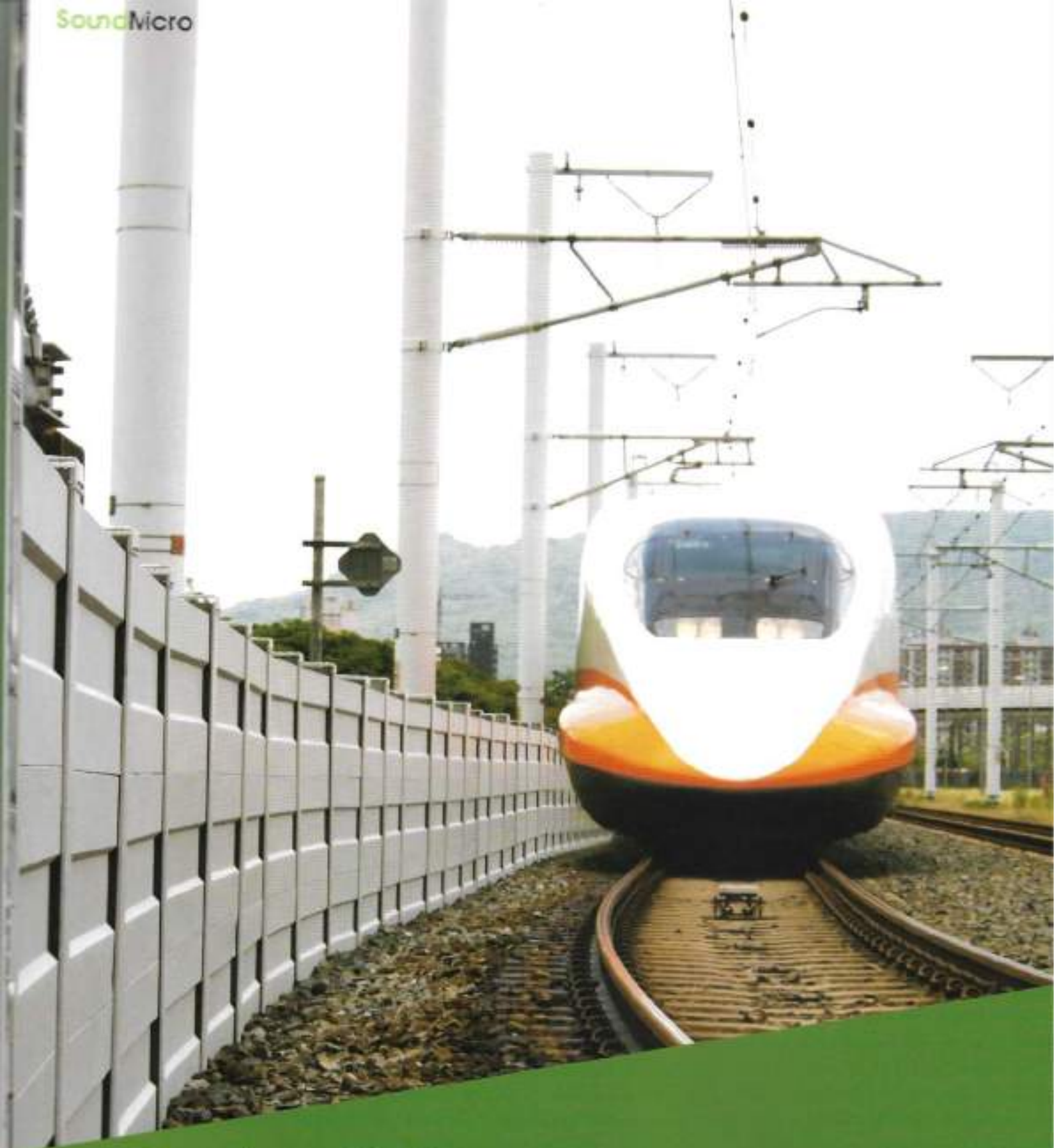
Below graph extracted from from TÜV SÜD PSE Test Report No. 729166181-MEC-038-EMK  
 (in accordance with ASTM C423 (2a))



--- Lower limit of uncertainty  
 --- Upper limit of uncertainty  
 — Measured values

Sound absorption coefficient NRC

1/3 Octave frequency (Hz)



## Outdoor Noise Barrier

SoundMicro Material with predominant sound absorption function can apply to diverse indoor spaces as well as outdoor acoustical barriers to block outdoor noises; for example, traffic noises, construction sites noises or factory noises. With unique feature of no acoustical fiber backing, SoundMicro noise barrier would not attenuate sound-absorption / insulation result under wet weather and circumstances. For traditional perforated noise barrier, its sound reduction efficacy will greatly fall down after its acoustical fiber backing get damped. Simultaneously, acoustical fiber will sink down due to the dampness, which may cause permanent sound-absorptive function decay. SoundMicro Noise Barrier with 1.55mm thickness steel plate can achieve noise reduction up to 35dB or more.

**Material:** Aluminum "SoundMicro" metal fabric front + Galvanized steel back

**Size:**

500mm W x 2000(~3000)mm L x 100(200)mm E

**Thickness:**

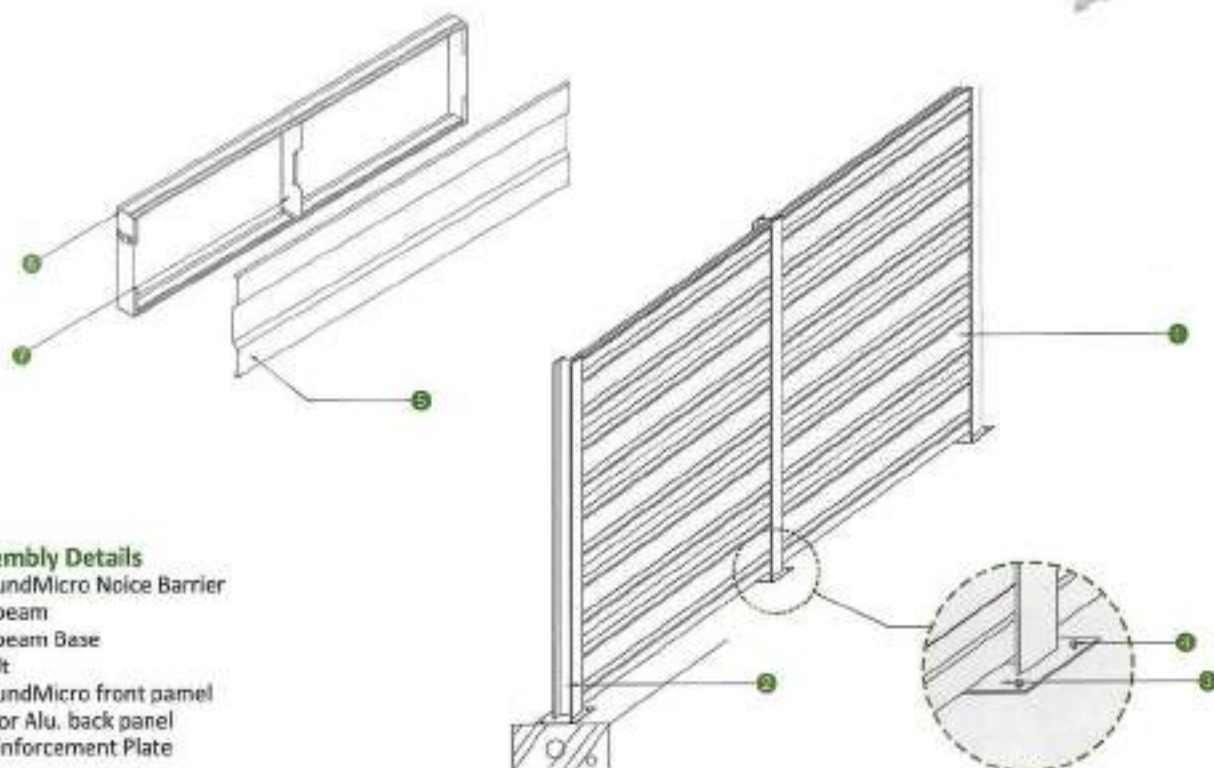
Front: 1.0mm SoundMicro Panel;

Back: 1.5mm Galvanized Steel or 1.2mm Aluminum

**NRC:** 0.8~0.95 (by different designs)

**STC:** 35 dB

**Finish:** PTFE (outdoor) per standard colors  
(Other colors are available upon request)

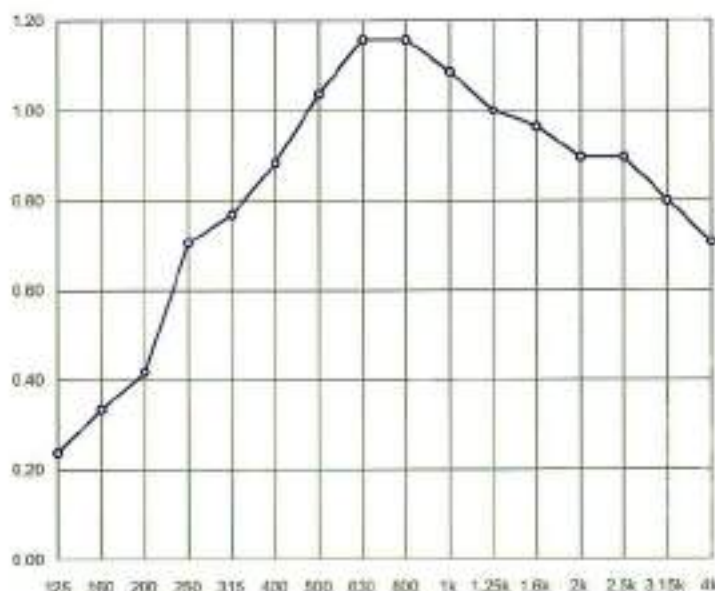


#### Assembly Details

- 1.SoundMicro Noise Barrier
- 2.H-beam
- 3.H-beam Base
- 4.Bolt
- 5.SoundMicro front panel
- 6.GI or Alu. back panel
- 7.Reinforcement Plate

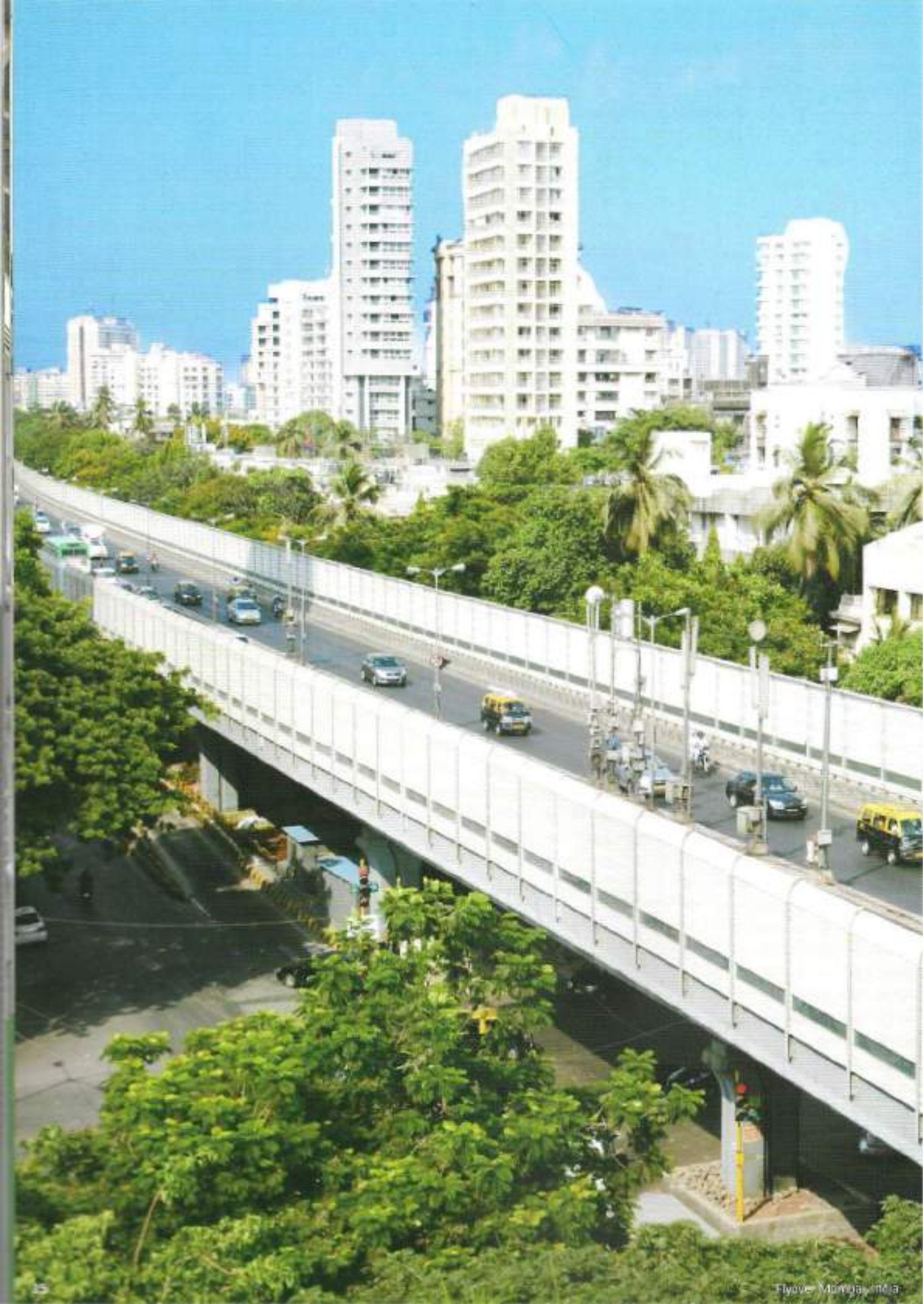
#### Sound Absorption Performance

Below graph extracted from TAF Testing Laboratory 2406 Report.



↑  
Sound absorption coefficient

→  
1/3 Octave Frequency (Hz)





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