AIRBORNE vs. STRUCTURE-BORNE

Acourete

Acoustics and Noise Control Company

6/26/2020

Mengapa Materi Webinar Ini Penting?

- Seringkali *sound insulation* gagal karena:

  Kebanyakan orang berasumsi bahwa suara bocor hanya melalui udara, tidak memperhitungkan/tidak tahu bahwa suara juga bias merambat melalui struktur bangunan.

- Apabila nasi sudah menjadi bubur:

  Biaya perbaikan bisa 3-4 kali lebih mahal dari pada sudah diantisipasi sebelumnya.

POLL

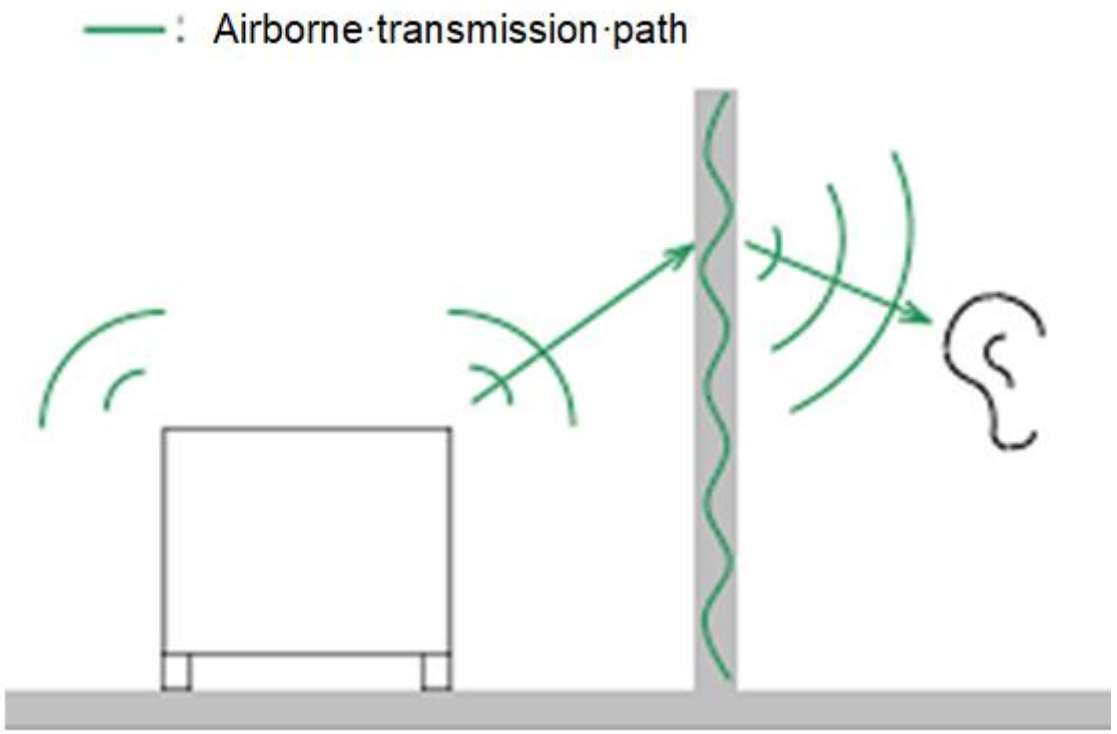
- Medium perambatan suara
  a) Cairan
  b) Padatan
  c) Gas
  d) Ketiga-tiganya benar

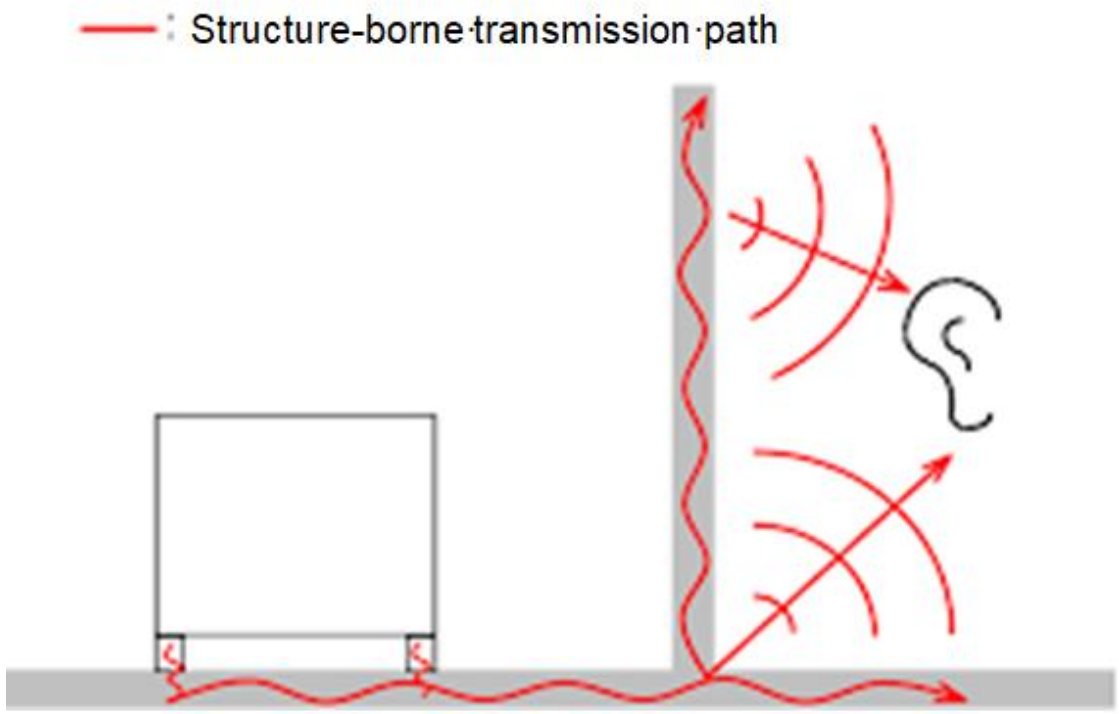
Nonton video

Point penting

- Suara berasal dari sesuatu yang bergetar
- Suara merupakan gelombang longitudinal
- Paling cepat merambat di medium padatan

Airborne & Structure-borne Noise





Poll

- Structure-borne noise merupakan perambatan suara melalui medium

a) Gas
b) Padatan
c) Cairan
d) Ketiganya benar

Structure-borne?

Structure-borne Noise

Langkah Kaki

Sport & Gym

Benturan benda padat pada permukaan bangunan

Structure-borne Noise

Mesin

Kereta Api

Kompresor AC

Transportasi di jalan raya

Benda bergetar yang menempel pada permukaan bangunan

Structure-borne Noise

Studio Musik

Sub Woofer Audio System

Suara berfrekuensi rendah

Poll

- Ketika tetangga menghidupkan televisi, kita dapat mendengarnya. Suara televisi tersebut merambat melalui medium

a) Gas/udara
b) Padatan/bangunan
c) Keduanya benar

Airborne Noise

Alat music

Transportasi di jalan raya

Suara radio

Perbincangan

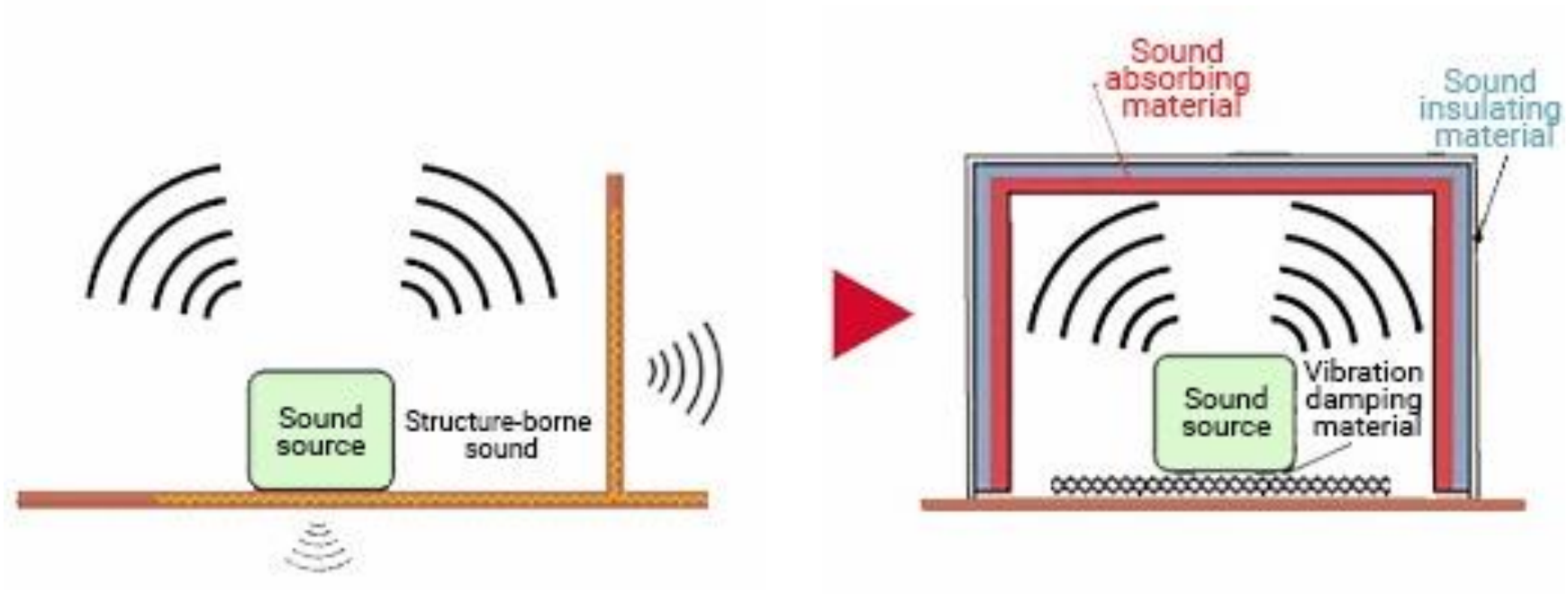
STRATEGI DESAIN STRUCTURE-BORNE NOISE

Poll

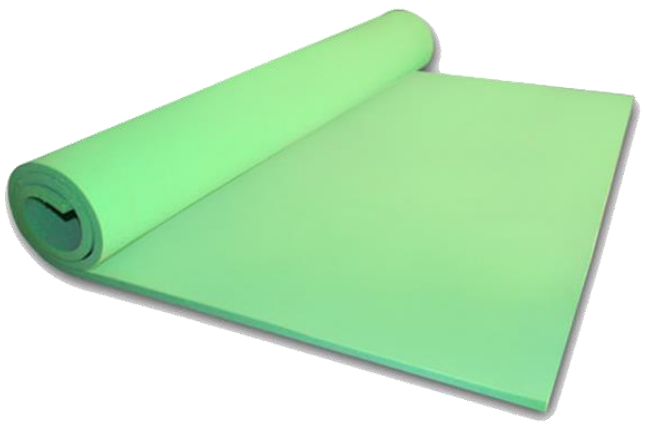
- Jika ada structure-borne noise, langkah untuk meminimalisir noise tersebut dengan

a) Menambahkan material penyerap suara
b) Menambahkan material insulasi suara
c) Menambahkan material pemutus kontak getaran

Structure-Borne Noise

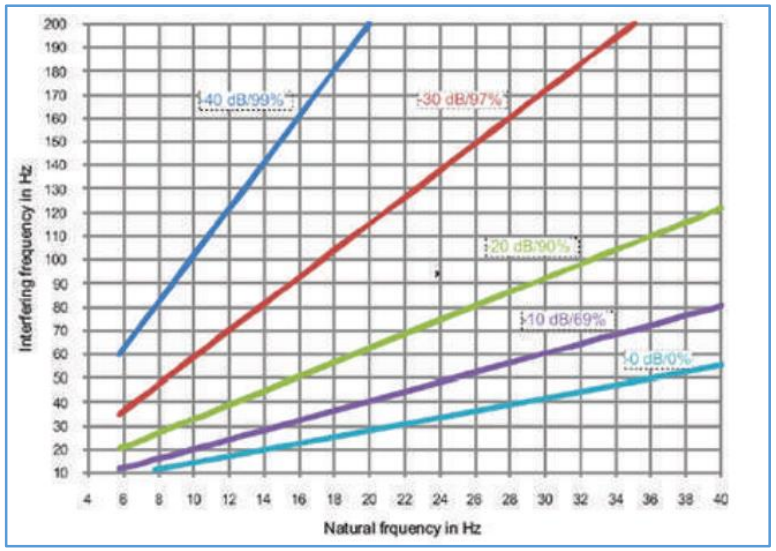


Vibration Damping - Material



Specification

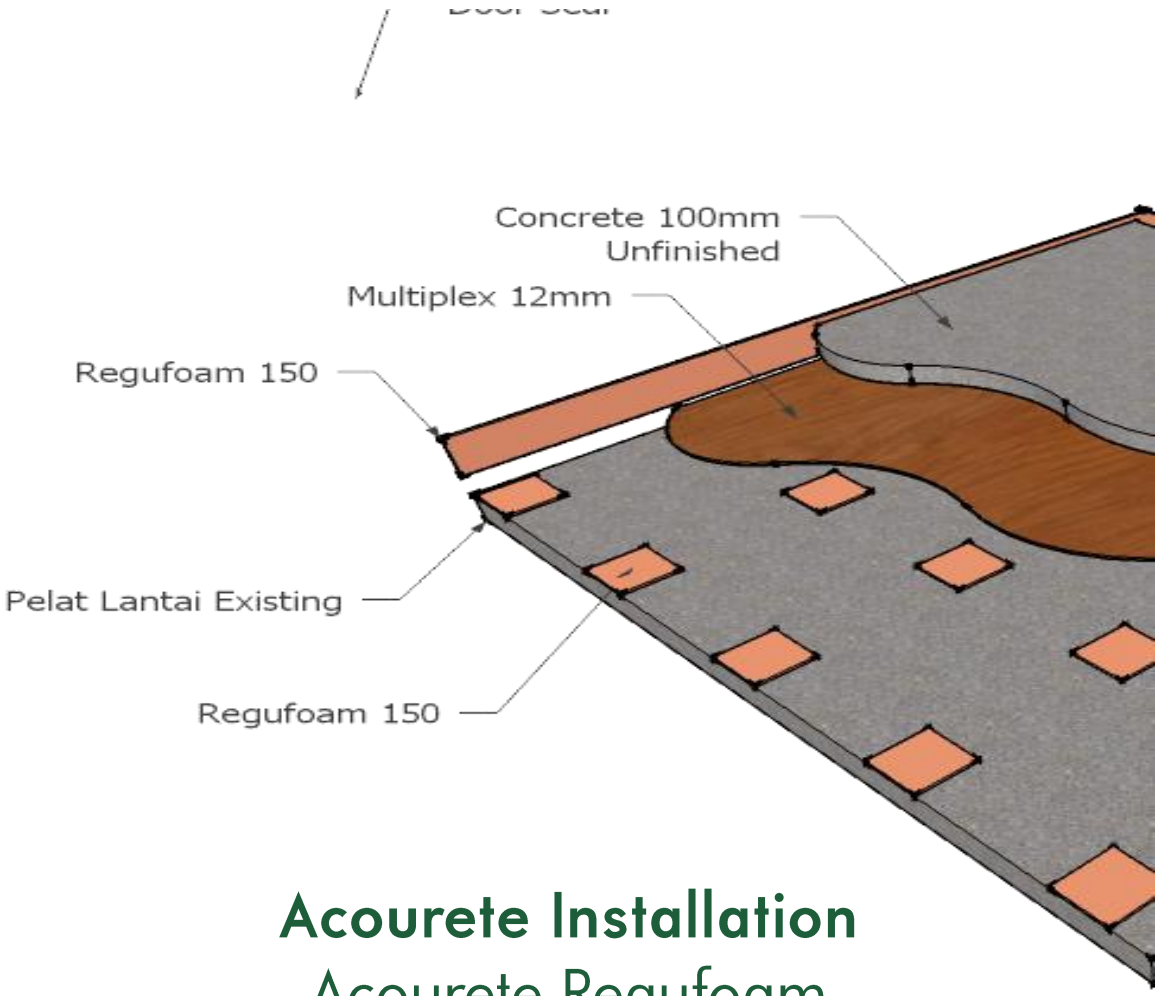
Description	Value
Ukuran	1000 x 1500 x 12 mm
Material	Cellular Polyurethane
Berat	± 2.5 kg/m
Density	150 kg/m^3
Warna	Hijau
Asal	German



Acourete Regufoam

Vibration Control Material

Vibration Damping - Installation



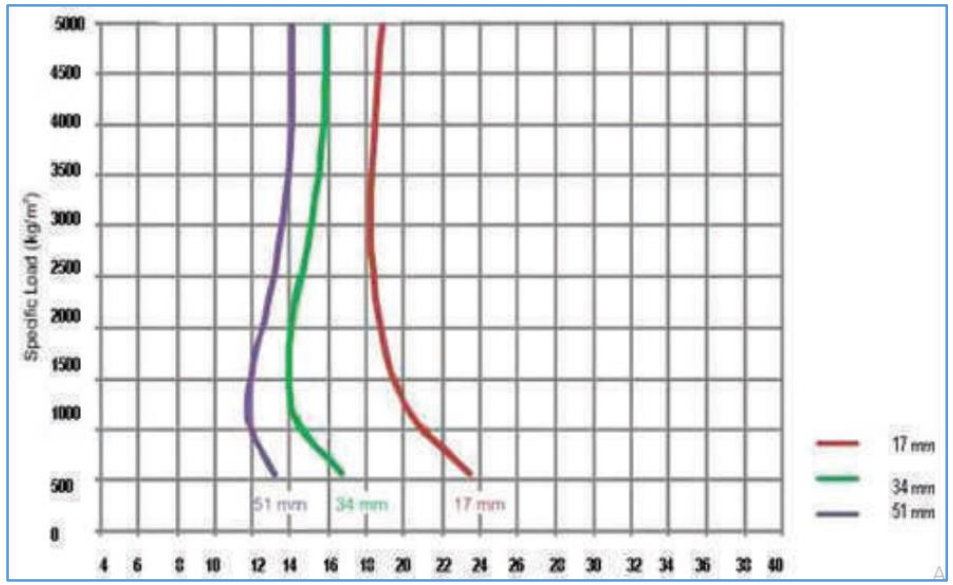
Acourete Installation

Acourete Regufoam

Vibration Damping - Material

Specification

Description	Value
Ukuran	1000 x 1250 x 17 mm
Material	Rubber, Fibres, SBR, NBR, Polyurethane
Loss Factor	0.18
Beban	5000 kg/m^2 (statis)
Warna	Hitam
Asal	German

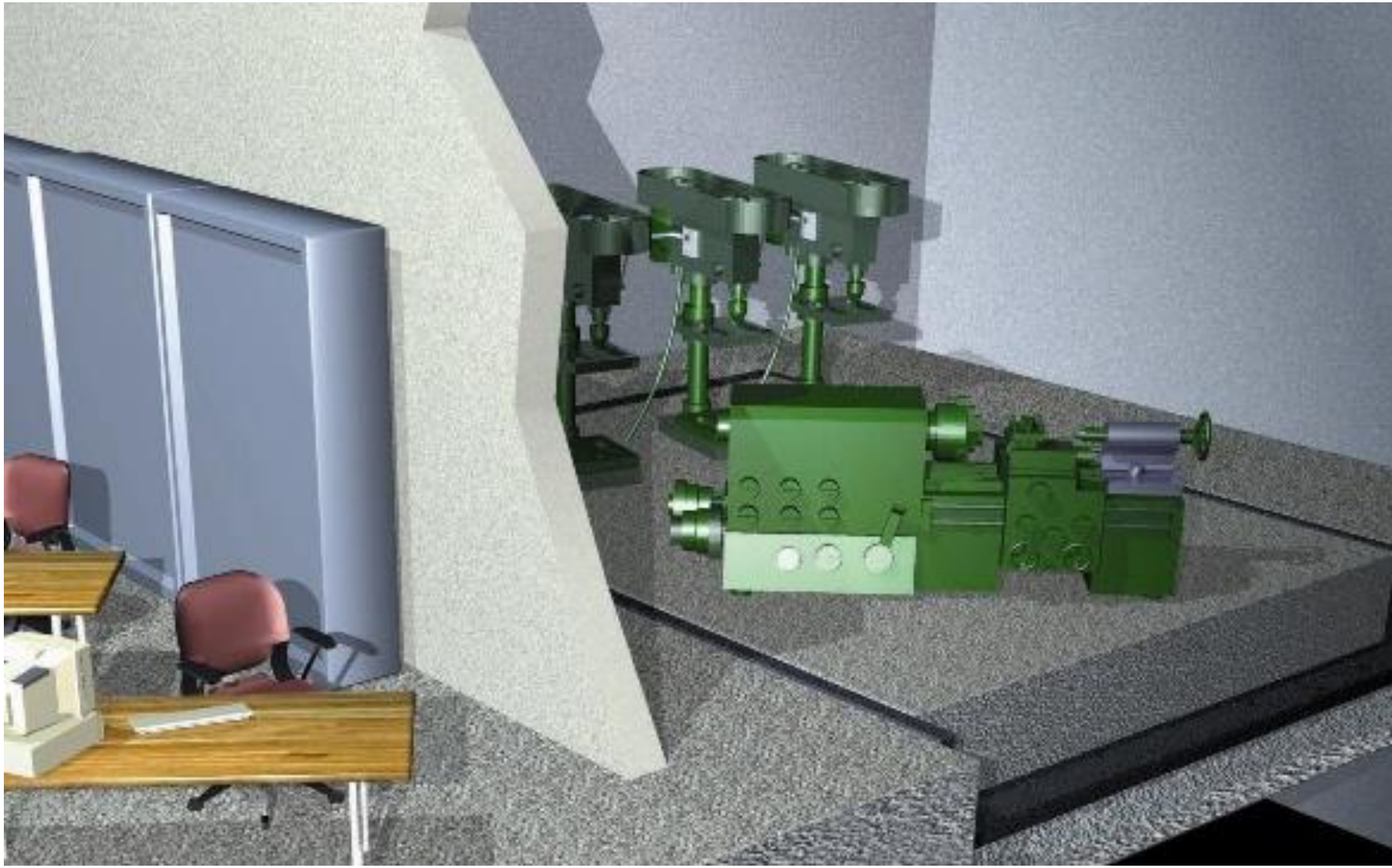


Acourete Regupol

Vibration Control Material

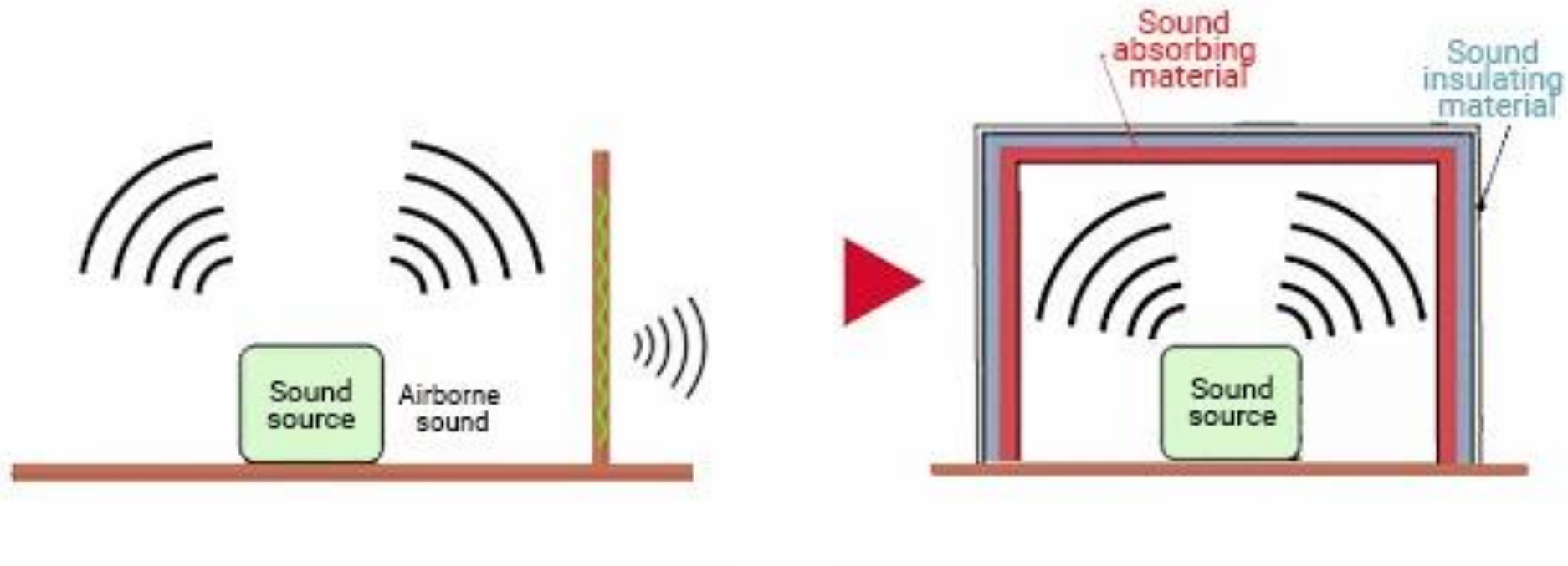
Vibration Damping - Installation

Acourete Installation
Acourete Regupol



STRATEGI DESAIN AIRBORNE NOISE

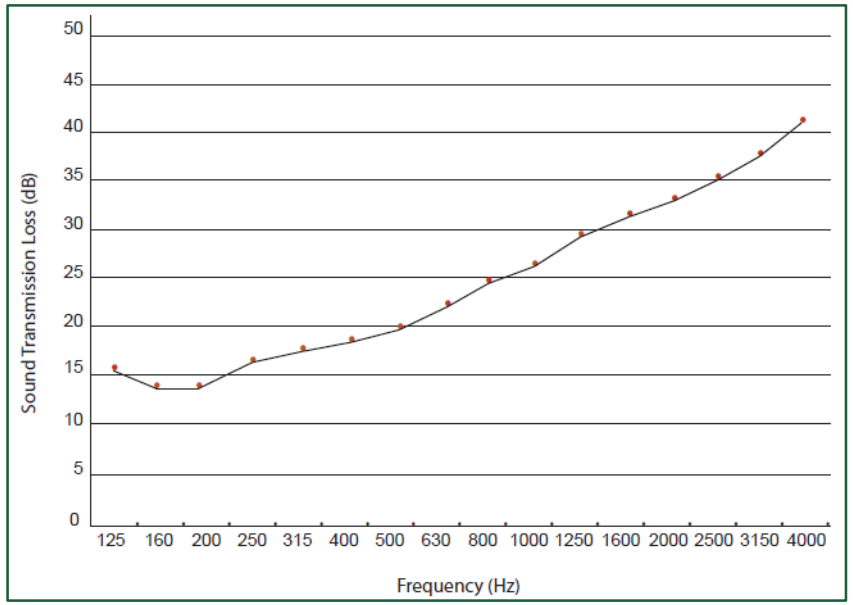
Airborne Noise



Sound Insulating - Material

Specification

Description	Value
Ukuran	1000 x 1000 x 2 mm
Material	Resin
Berat	4 kg
Densitas	2000 kg/m^3
STC	24
Warna	Hitam
Asal	Korea Selatan

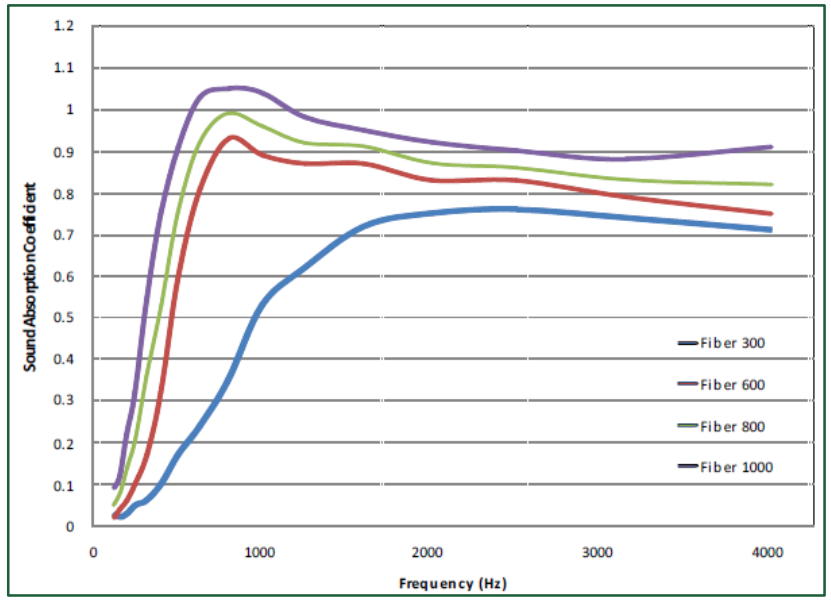


Acourete Noise Armour

Noise Insulation Material

Specification

Description	Value
Ukuran	1000 x 1500 x 10 mm
Material	Polypropylene
Berat	2.25 kg
Densitas	1000 kg/m^3
NRC	0,375
Warna	Putih
Asal	Korea Selatan



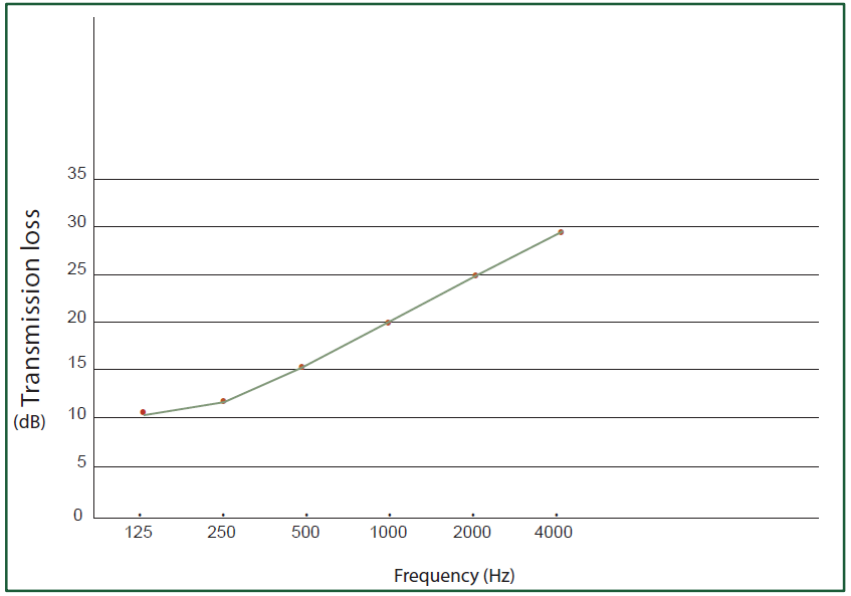
Acourete Fiber

Noise Reduction Material

Sound Insulating - Material

Specification

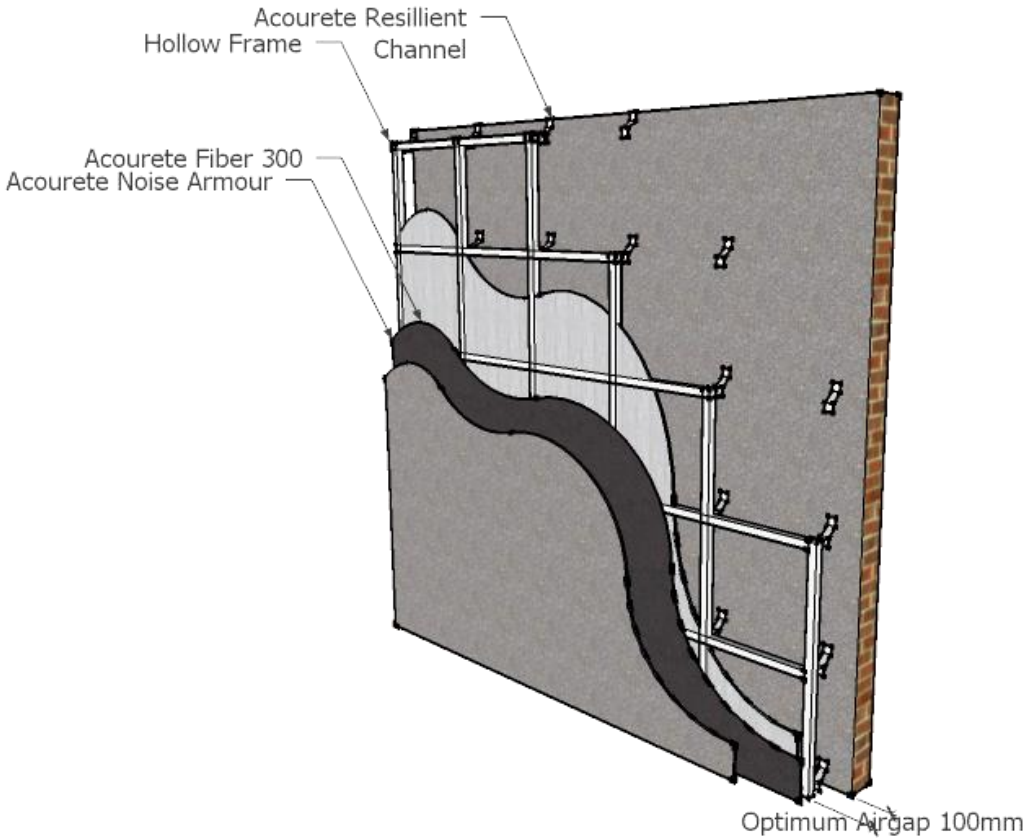
Description	Value
Ukuran	4880 x 810 x 2 mm
Material	PVC
Berat	8.3 kg
Densitas	1750 kg/m^3
STC	19
Warna	Hitam
Asal	Jepang

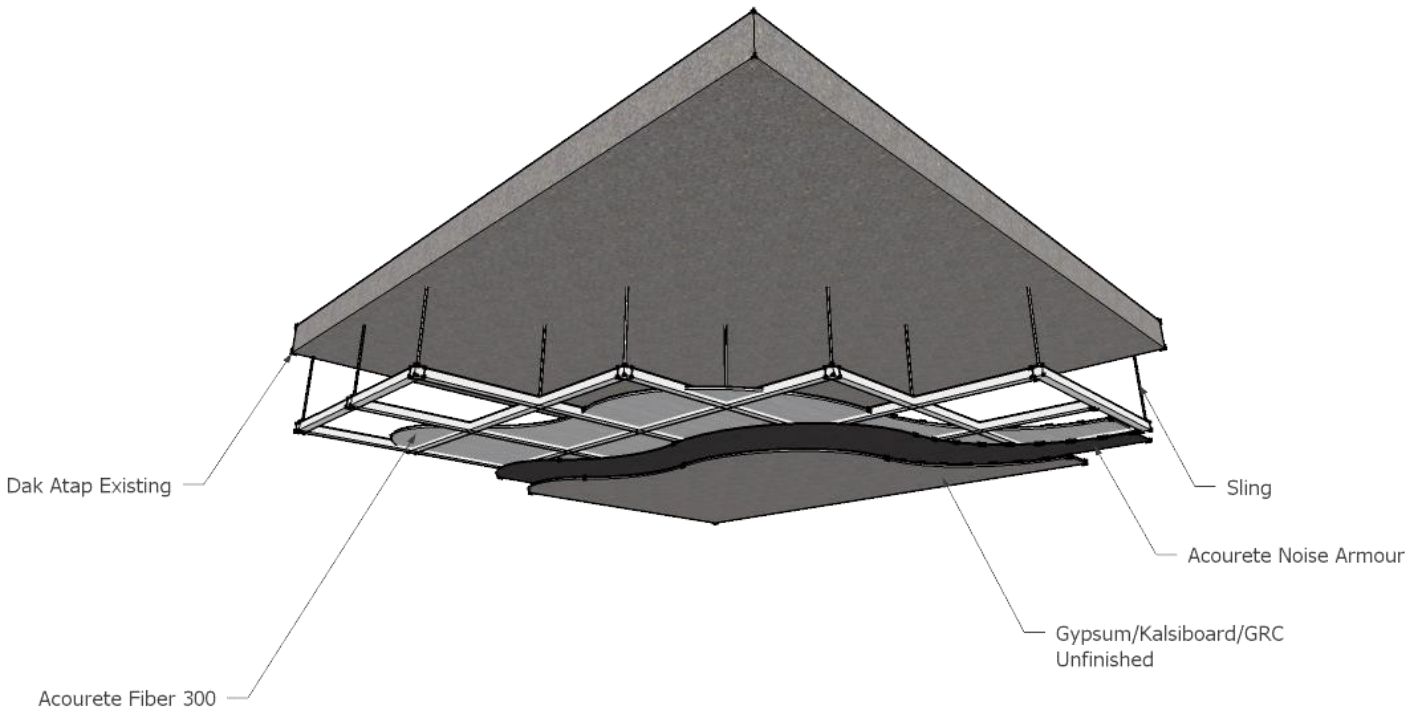


Acourete Silent Wall

Noise Insulation Material

Sound Insulating - Installation



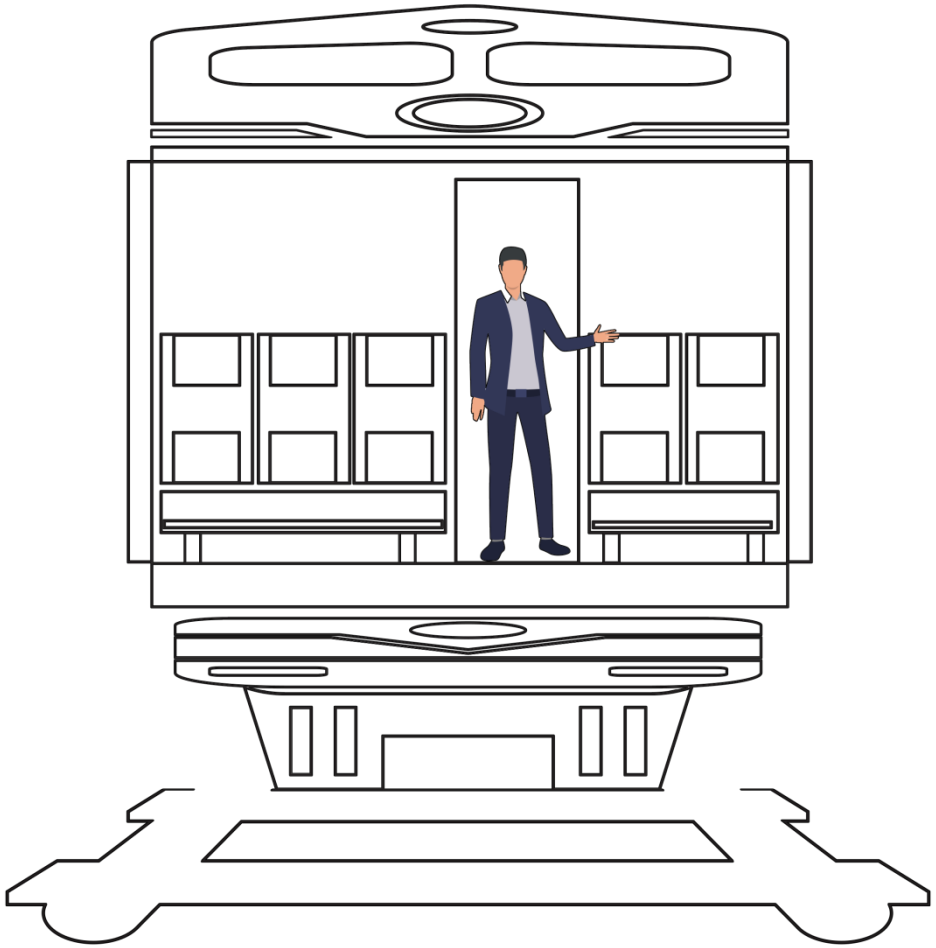


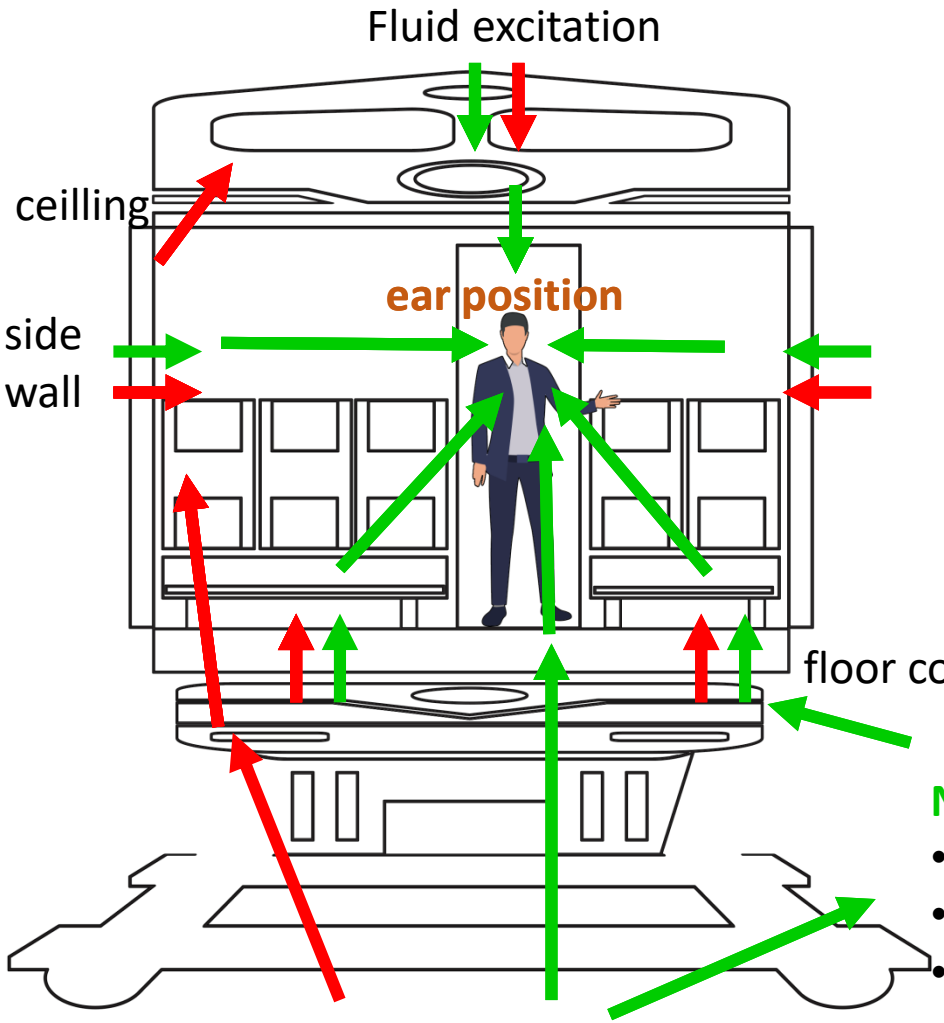
Acourete Installation

Wall and Ceiling

STUDI

KASUS





Air borne noise

Structure-borne nois

ceilling

side wall

side wndows

Fluid excitation

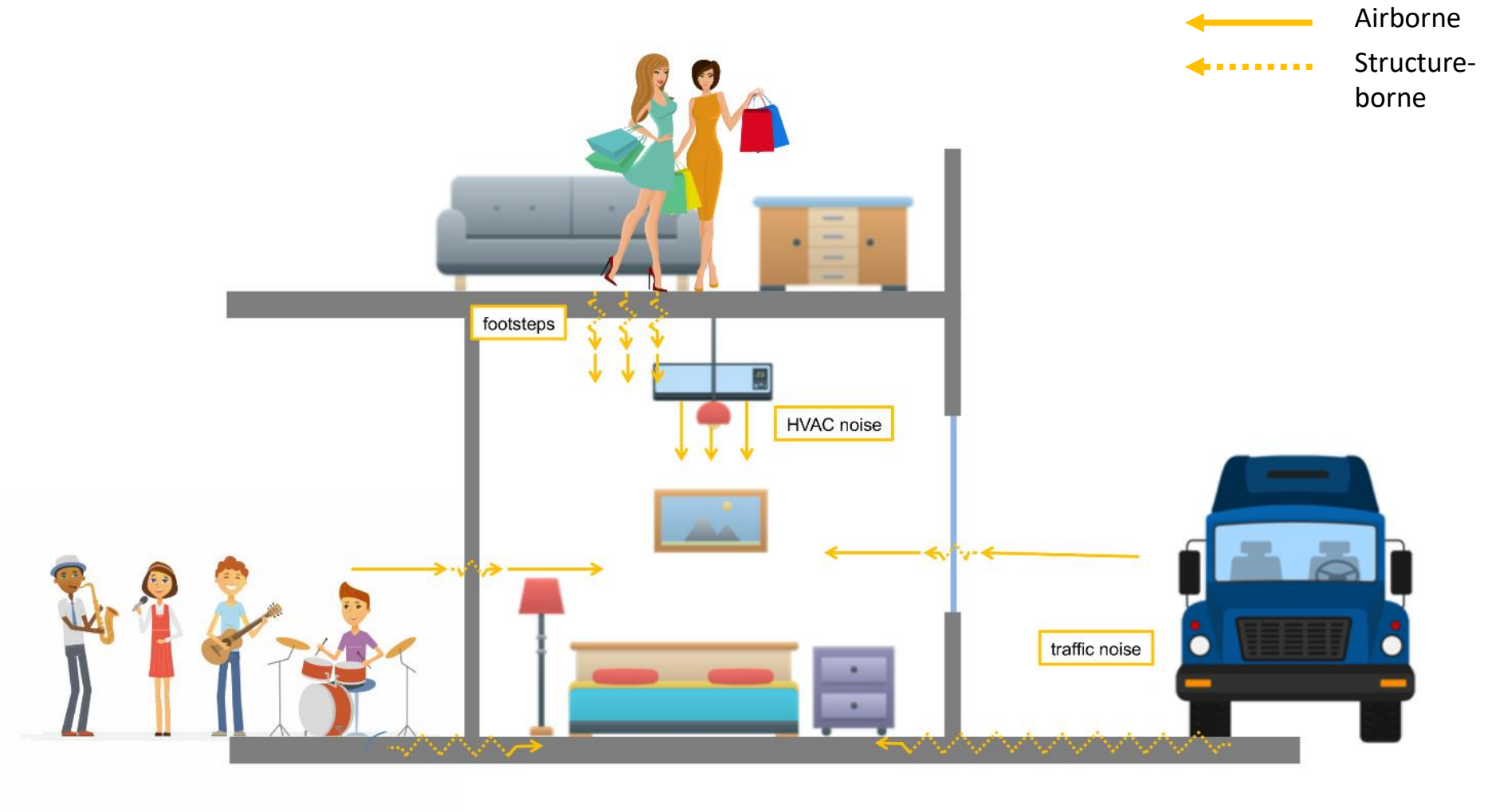
Acoustical excitation

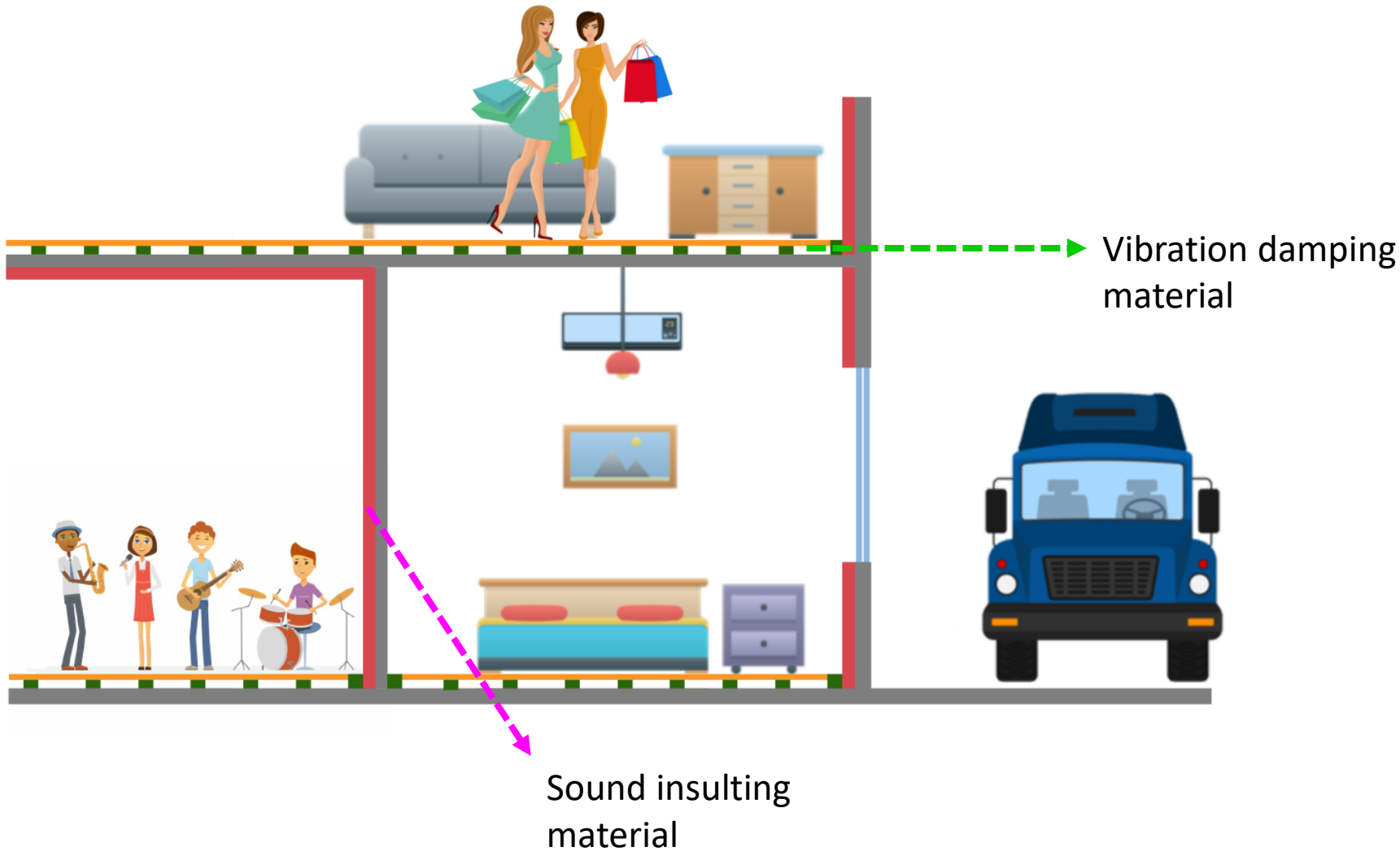
Noise sources

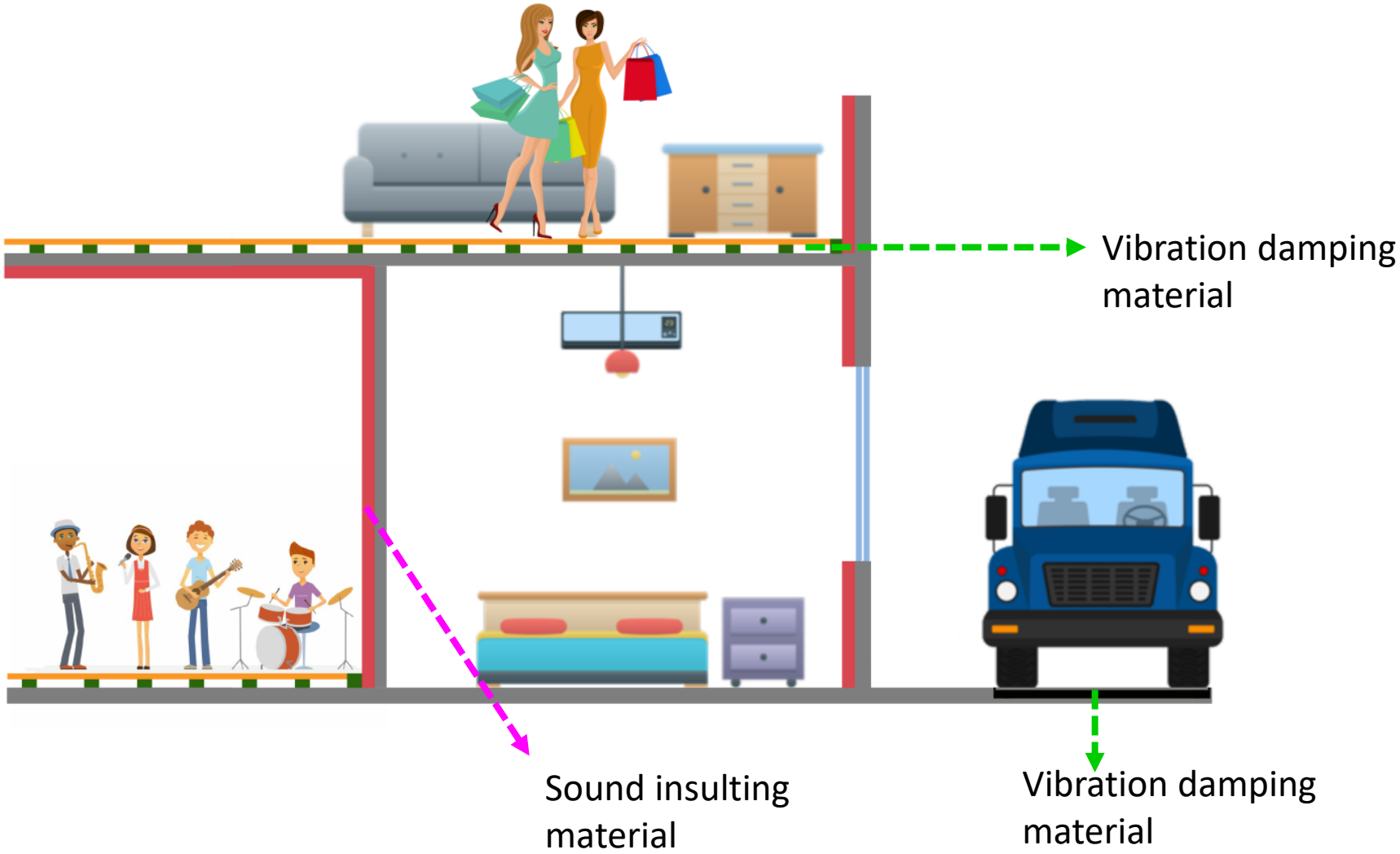
- Motor, Fan
- Wheel & rail
- Track reflection
- Fluid noise

Vibration Sources

- Bogie
- Air Conditioner
- Ventilator
- Transformer


Airborne
Structure-borne
footsteps
HVAC noise
traffic noise


Vibration damping material
Sound insulting material


Vibration damping material
Sound insulting material
Vibration damping material

Contact Us

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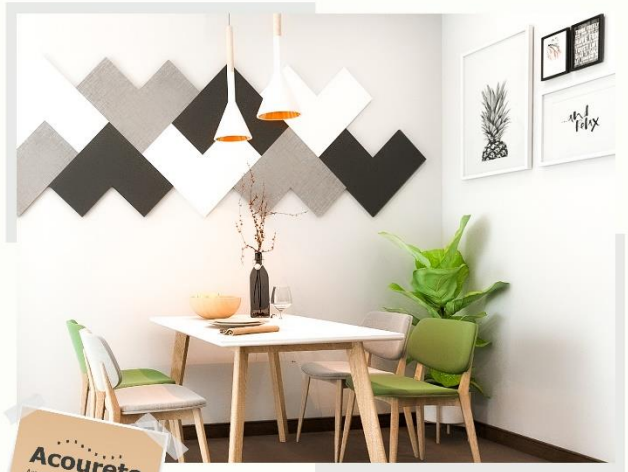
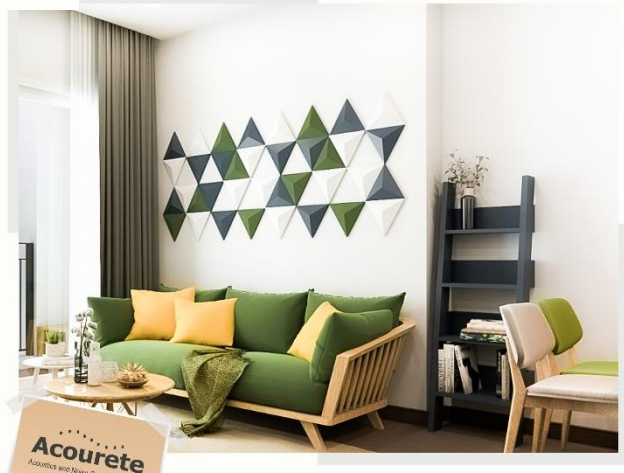
Acourete

NEW ACOURETE PRODUCT



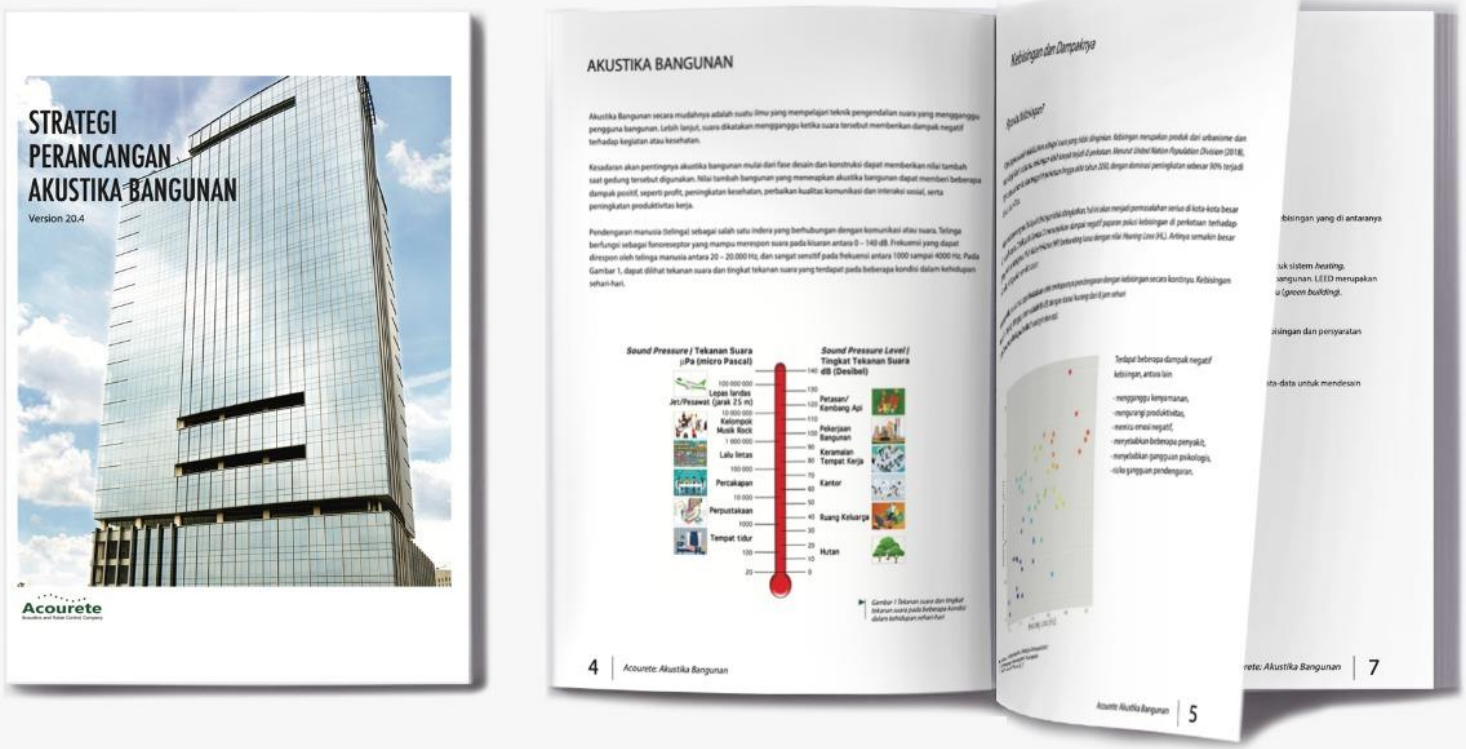
Decorative Acoustic Panel
Square Triangle

Decorative Acoustic Panel
Hexagon



Decorative Acoustic Panel
Pyramid

Decorative Acoustic Panel
Square Random



Pengetahuan Tambahan

E-Book Strategi Perancangan Akustika Bangunan

Download: https://bit.ly/2yxchY4

NEXT ACOURETE WEBINAR