

Influence of a perforated plate on an air-gap

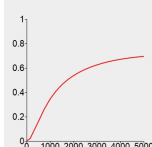
The next figure presents the sound absorption coefficient of a 20 mm thick perforated plate (or facing screen) with:

- a perforation rate of 10 %
- and a perforation radius of 20 microns, backed by an air-gap (or plenum) of 20 mm thick.

An optimal set of parameters (thickness, perforation rate and radius) for the perforated plate (or facing screen) can be identified.

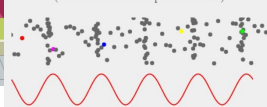
20 mm

Sound abs. coefficient vs. frequency:



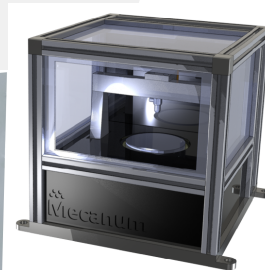
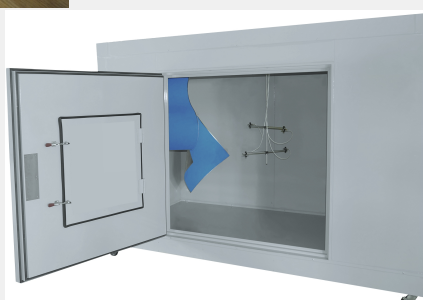
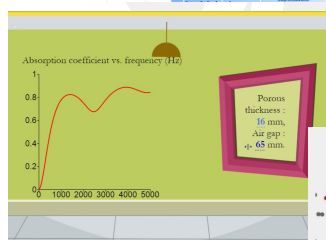
Plane wave:

(Particle motion and pressure wave)

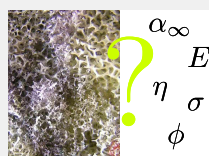


Non-plane wave:

(Particle motion)

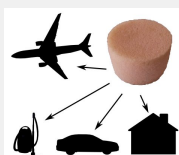


Prepare to be MATELYS approved !



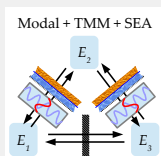
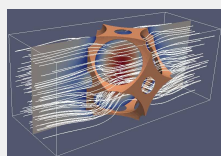
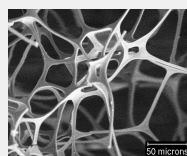
Characterization

We characterize the intrinsic acoustic and elastic parameters of porous materials. We also characterize intrinsically the sound sources.



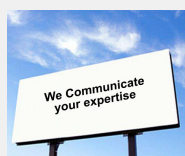
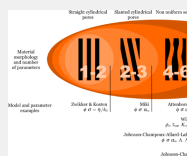
Prescription

At the interface between suppliers and customers, we prescribe noise control solutions and assist you to meet multi-functional specifications.



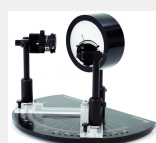
Research

We lead R&D projects in materials, acoustics, mechanics, thermodynamics piping and flow.



Training

We provide training sessions and design specific tools to disseminate your expertise : porous materials, perforated plates, micro-macro approaches, building acoustics, automotive acoustics...



Products

We provide turnkey test rigs for porous material characterization and for acoustic & vibration measurements.

Software

We develop original software products. As we are first users and developers, we offer a responsive and skilled support.



multi-layer prediction



Micro-Macro models



porous, screens & liners charac



material database



impedance tube meas



ISO 10140 & ISO 354 meas



piping meas & analysis