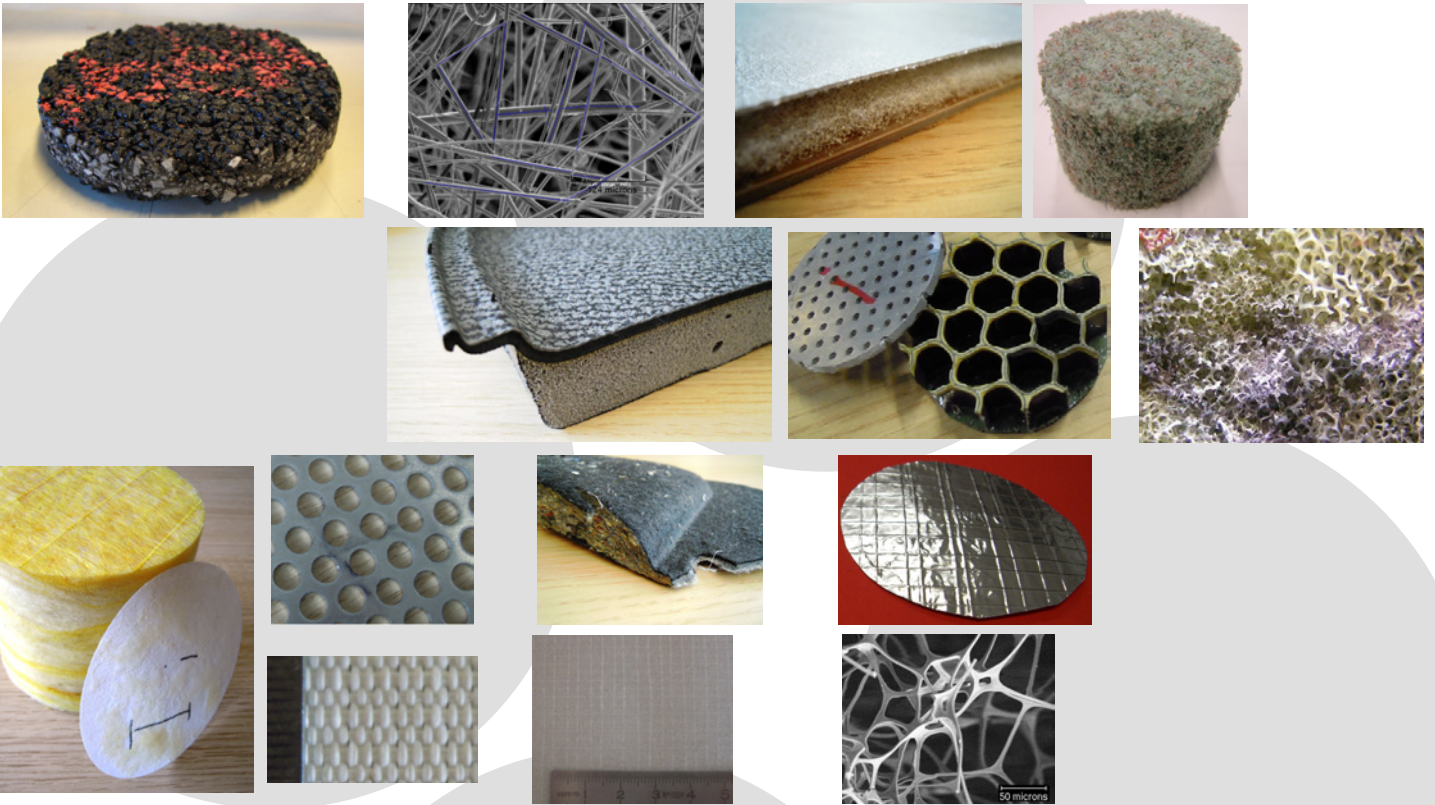


RokCell

RokCell is a material characterisation assistant for porous materials, fabrics, perforated plates and liners.

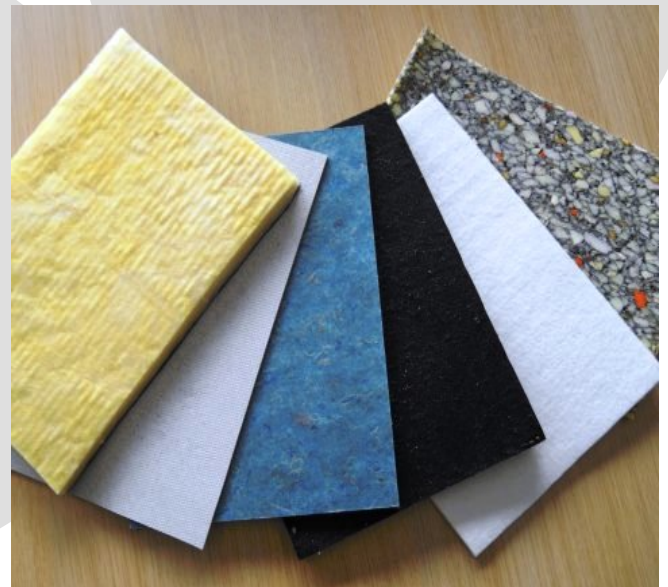


RokCell characterizes the parameters representative of the **acoustic energy dissipation** in porous media.

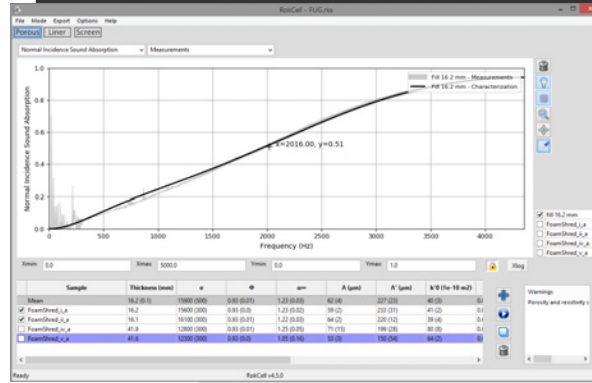
Its main objective is to provide values which **physically relates** to the **material behavior**.

Three modes are available according to the type of studied materials :

- **JCAL** for **porous materials** : fibrous, cellular foams, granular media,
- **SCREEN** for screens, **fabrics**, woven, non-woven textiles, **perforated plates**,
- **LINER** for any porous media to be described with a **time-domain impedance model**.



Prepare to be MATELYS approved !



FEM analysis

Freq. min (Hz): 4.000123 Freq. max (Hz): 4364.134 Nb Freq.: 200

Edge BC: Bonded No elastic model!

Leaks (%): 4.3 Leak width (mm): 0.5 Actual radius (mm): 22.5

Elt order: 12

Compute

Use your existing setup and characterize !

Inputs

Impedance tube measured data obtained with :

- the three microphone technique
- the four microphone technique
- the 2 micros / 2-load method
- the 3 micros / 2-load method

To be used ideally with **TubeCell** acquisition software.

MATELYS also provides **turnkey equipments** and **customised setups** : porosity, resistivity, elastic modulus ...

Introduce accurate inputs in your design process !

FEM, CAA, SEA, Ray-tracing tools...

Key features

- **analytical inversion**
- check for **parameter consistency**
- **Bayesian inversion**
- **air flow resistivity and open porosity estimation** from acoustical measurements
- **FEM module** to estimate **bonding** or **leakages** effects

Dedicated export to

- **AlphaCell**
- **Actran** (FFT product)

Outputs for porous materials

- JCA / JCAL parameters

Outputs for screens and perforated plates

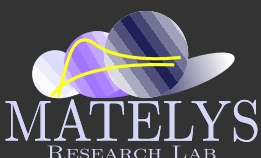
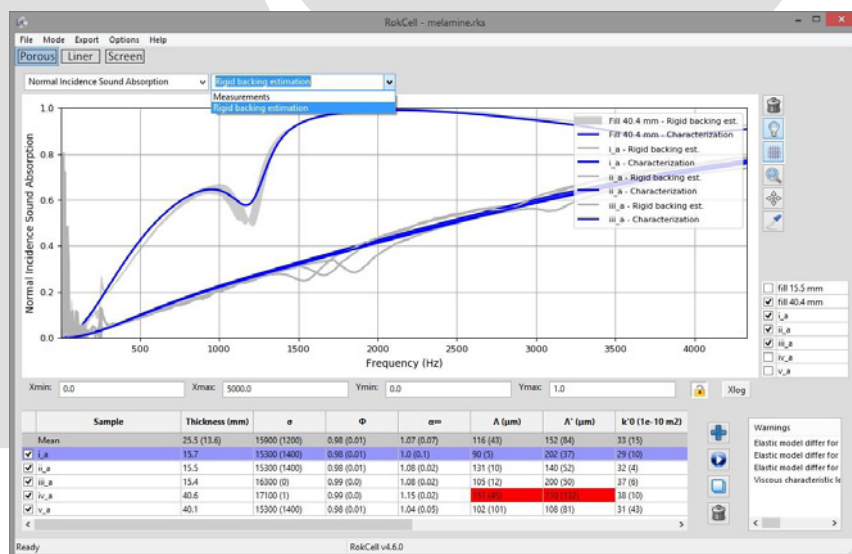
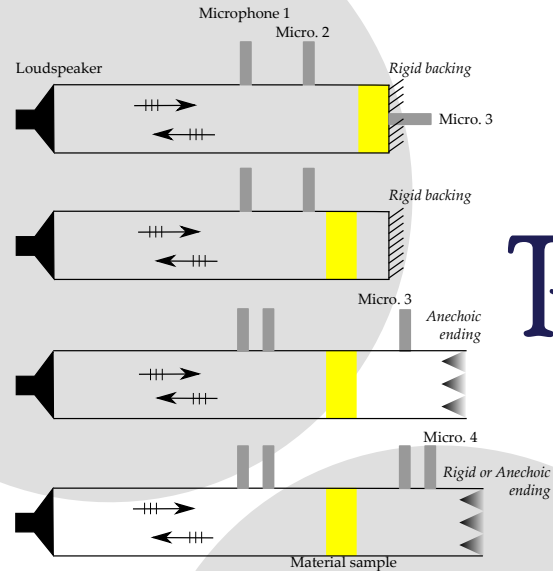
- resistivity, opening rate, JCA equivalent parameters

Output for liners

- parameters for **Özyörük** time-domain impedance model

RokCell runs under

MS-Windows, Linux, Unix, Mac



RokCell is a software product designed and developed by MATELYS-Research Lab

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