



"AlphaCell is probably the most advanced TMM/FTMM suite for NVH simulations"



AlphaCell predicts the **vibro-acoustic** response of **multi-layer systems** to various sound excitations :

- **easy & fast** simulations
- **listen** to sound package efficiency
- broad application material **library**
- **complete set** of material models
- various **imports / exports**
- **reactive** and **skilled support**

Save your time and energy to focus on your **core activities** !

AlphaCell is a software product by MATELYS-Research Lab > <https://alphacell.matelys.com/>

Distributed in Germany by :
Gesellschaft für Akustikforschung Dresden mbH
Blumenstraße 80
01307 Dresden
Germany

Phone: +49 (0) 351 811 309-42
Fax: +49 (0) 351 811 309-50
E-mail: info@akustikforschung.de
Web: www.akustikforschung.de





KEY FEATURES



- **intuitive** interface
- **listening** of solution efficiency
- plane and **curved geometries**
- **thermal** properties including bridges
- multiple **studs** in series
- generalised **equivalent plate & porous** models
- **imperfect** interfaces
- **corrugated & ribbed** plates
- multiple **fluids** including **water**
- **compressed** fibrous model
- extended **material library**
- fully **scriptable**
- export of material **cards** and **FE model**

MATERIAL MODELS

→ porous materials

fibrous, foams, granulars, compressed, orthotropic

→ perforated plates

circ., square, conical, slit perf., non-woven, annular pores, high SPL

→ solid materials

isotropic, visco-elastic, orthotropic

→ orthotropic solid materials

3D, thin plate, transverse isotropic

→ equivalent plate models

condensed, corrugated, stiffened/ribbed plates

→ heterogeneous materials

elastic / solid / porous inclusions, resonators, sorption

VIBRO-ACOUSTIC EXCITATIONS

→ air borne sounds

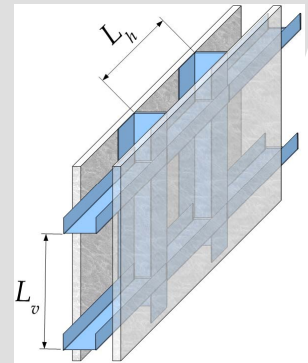
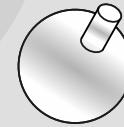
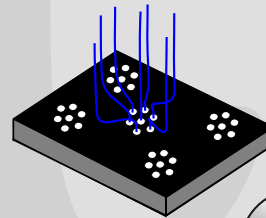
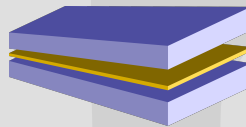
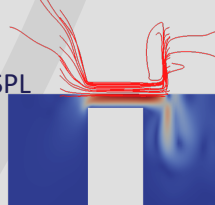
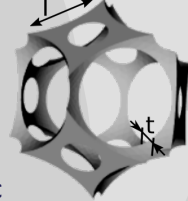
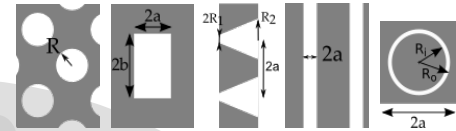
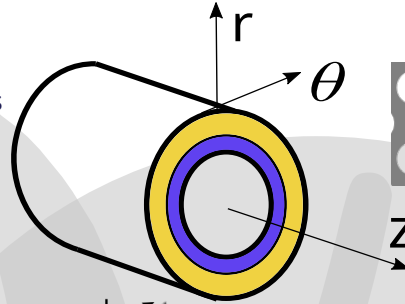
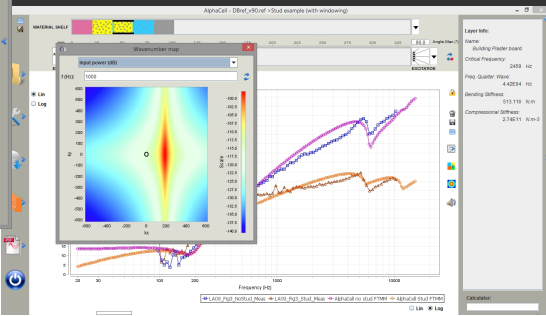
plane waves, diffuse field, modal sound field

→ structure borne excitations

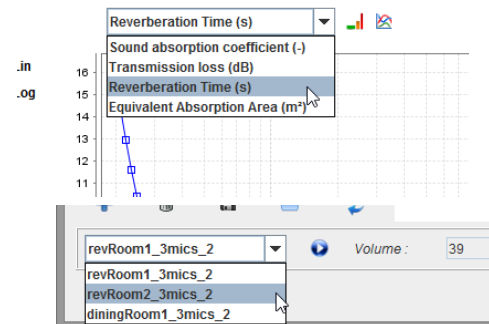
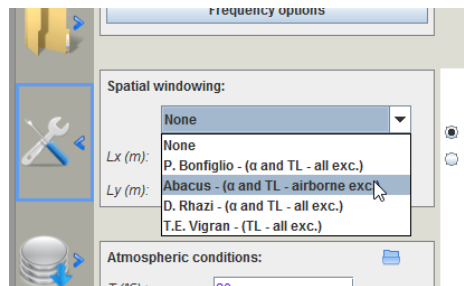
dynamic force, moving wall, tapping/rolling machine, rain fall

→ turbulent boundary layer

Global Indicators			
	R_w (C, Ctr)	C50-3150	L _{nw}
ud...	31.0 (-3.0;-9.0)		
M...	34.0 (-3.0;-8.0)		
I F...	33.0 (-4.0;-9.0)	-4.0	81.0
PM	32.0 (-3.0;-8.0)	-3.0	82.0
ΔL _w			
ΔC _{la}			
ΔL _{lin}			
LiA			
STC			



Assembly Panel (Alpha and TL)



AlphaCell runs under
MS-Windows 7,8,10,11 ; Linux ; Unix ; Mac



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

<https://alphacell.matelys.com/>
alphacell@matelys.com

MATELYS - Research Lab
7 rue des Maraîchers, Bât B
F-69120 Vaulx-en-Velin
FRANCE

Phone: +33 972 50 93 16
Fax: +33 972 50 93 15
Email: contact@matelys.com
Web: <https://www.matelys.com/>