



KEY FEATURES

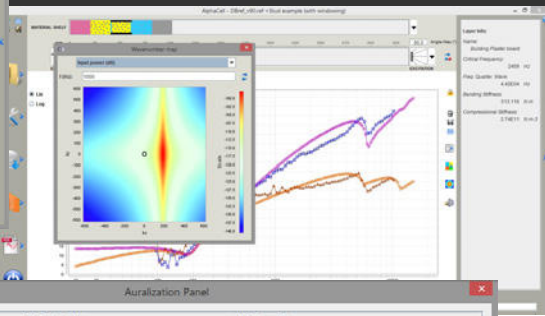
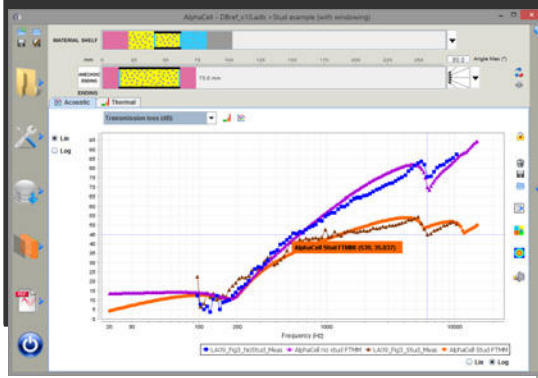
- intuitive interface
- listening of solution efficiency
- thermal properties including bridges
- multiple studs in series
- generalised equivalent plate models
- corrugated & ribbed plates
- multiple fluids including water
- compressed fibrous model
- extended material library
- fully scriptable
- export of material cards (Actran, Nastran, OptiStruct)

MATERIAL MODELS

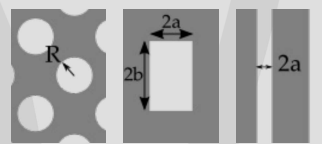
- ↳ porous materials
fibrous, foams, granulars, compressed, orthotropic
- ↳ perforated plates
circular, square, slit perf., woven/non-woven, high SPL
- ↳ solid materials
isotropic, visco-elastic, orthotropic
- ↳ orthotropic solid materials
3D, thin plate, transverse isotropic
- ↳ equivalent plate models
condensed, corrugated, stiffened plates
- ↳ heterogeneous materials
elastic / solid / porous inclusions, resonators, studs

VIBRO-ACOUSTIC EXCITATIONS

- ↳ air borne sounds
plane waves, diffuse field, modal sound field
- ↳ structure borne excitations
dynamic force, tapping machine, rain fall
- ↳ turbulent boundary layer



Source file (.wav):	Room file (.rok):	IR file (.wav):
1: piano.wav	No stud - empty cavity	saleRev1_3mics_2.wav
2: piano.wav	No stud - GW filling	saleRev1_3mics_2.wav
3: piano.wav	Stud 1 - GW filling	saleRev1_3mics_2.wav
4: roadWorks.wav	Stud 2 - Stud 1 - GW filling	saleRev1_3mics_2.wav



Layer name: Building Plaster board

Thickness (mm): 12.5

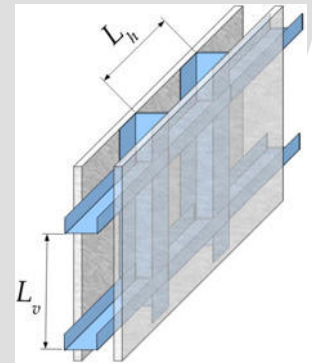
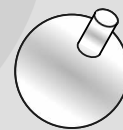
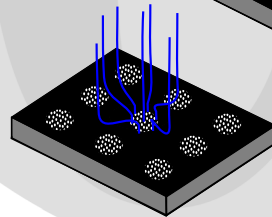
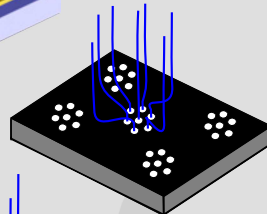
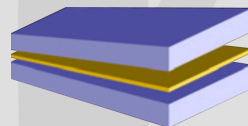
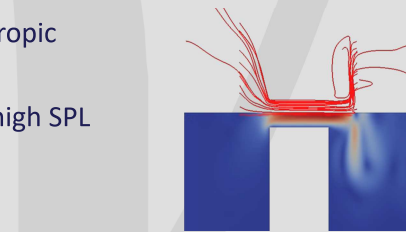
Acoustic model: None

Elastic model: Elastic (orthotropic)

Heterogeneous model: None

Material properties table:

ρ	700.0 (kg m ⁻³)	(kg m ⁻³)
μ	0.75	(kg m ⁻²)
Type	Full Orthotropic	
E1		E2
E3		
G12		G23
G31		
ν_{12}		ν_{21}
ν_{13}		ν_{31}
ν_{23}		ν_{32}
ν_{12}		ν_{21}
ν_{13}		ν_{31}
ν_{23}		ν_{32}
ν_{12}		ν_{21}
ν_{13}		ν_{31}
ν_{23}		ν_{32}



Global Indicators			
Gen_ennn	R _w (C, Ctr)	C50-3150	L _{nw}
ud...	31.0 (-3.0;-9.0)		
M...	34.0 (-3.0;-8.0)		
JF...	33.0 (-4.0;-9.0)	-4.0	81.0
PMM	32.0 (-3.0;-8.0)	-3.0	82.0
ΔL_w			
ΔC_{id}			
ΔL_{in}			
L_{iA}			
STC			

Spatial windowing:

None

Lx (m): None

Ly (m): None

Atmospheric conditions:

Reverberation Time (s): 16

Sound absorption coefficient (-): 15

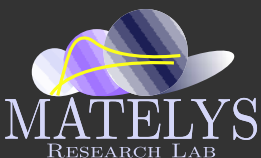
Transmission loss (dB): 14

Reverberation Time (s): 13

Equivalent Absorption Area (m²): 12

Volume: 39

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



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

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