



Impact noise level forecasting software

The **AcouS STING® software** has been developed from the acquired experience and from the daily confrontation with concrete problems of impact noise insulation.

Some main characteristics :

Models of robust calculations

Therefore we have developed theoretical basic models either within the framework of internal research, or within the framework of research under contract.

Accessibility of the parameters of entry

This work has allowed us to define the essential and relevant characteristics, requiring only parameters of entry which are accessible to an acoustician on the ground : dimensions, Young's modulus, density and loss factor.

Fields of application and development

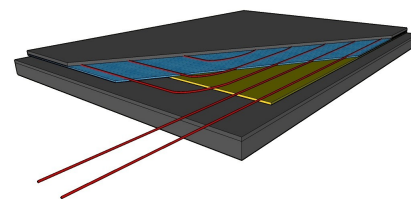
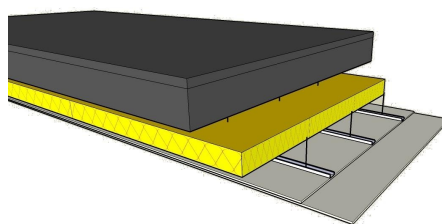
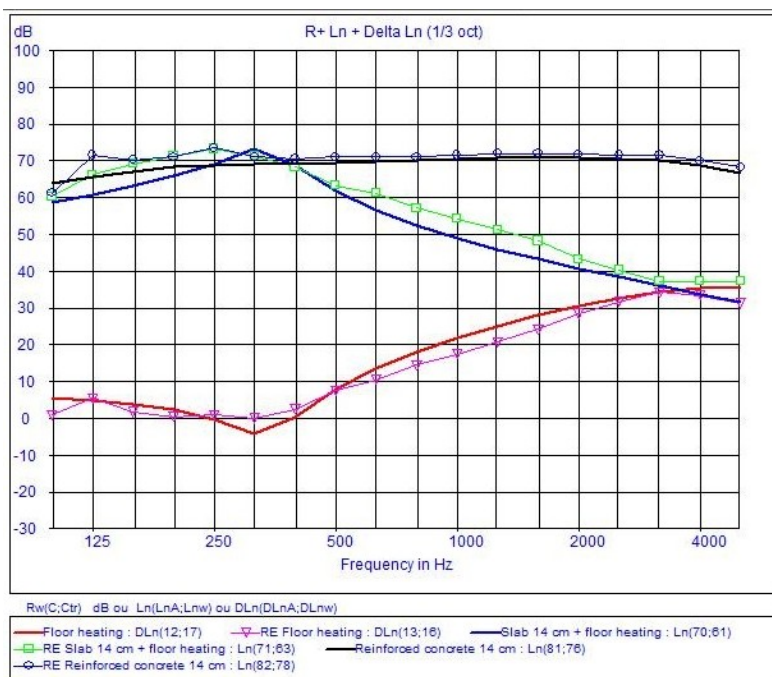
Calculations of indexes corresponding to standards (ISO 717-2,...)

Minimum PC configuration :

- Windows 7, Vista, Windows XP
- Computer provided with a CD-Rom drive and a hard disk,

The **AcouS STING® software** is a simple and adaptable tool which allows by its applications to :

- ✓ Determine the impact noise level of a simple or complex floor,
- ✓ Help in the development of new products,
- ✓ Optimize operations of measurement in a laboratory,
- ✓ Estimate the performance of a floor covering,
- ✓ Extrapolate the performances of conventional works,
- ✓ Forecast of unconventional works and their optimization,
- ✓ Understand the acoustic behavior of a floor.

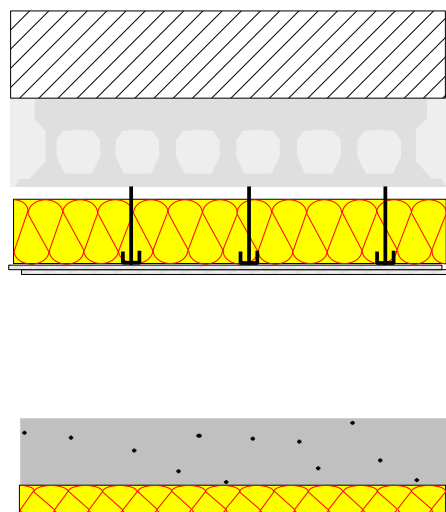


The acoustic performance of floors

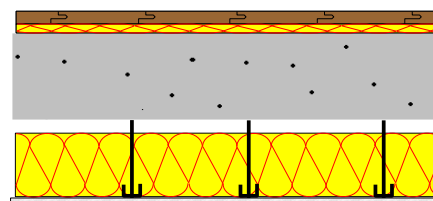
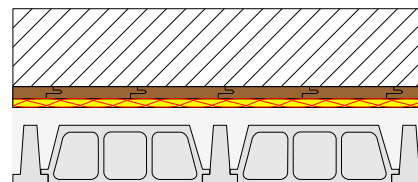
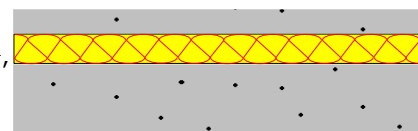
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Physical and dimensional characteristics			
	Chape tradi 4cm	Reinforced concrete 14 ...	MAXIMA
Length (m)	4	4	4
Width (m)	2.5	2.5	2.5
Thickness (mm)	40.00	140.00	32.00
Weight/unit of volume (kg/m ³)	2300	2300	39
Young's modulus (N/m ²)	1.4E+010	1.3E+010	1.5E+007
Loss factor	0.05	0.05	0.3
Air flow resistivity (Pa. s/m ²)			
Porous mat. bond coeff.			
Cavity reverberation ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fiber Coeff.			
Mass per unit of area (kg/m ²)	92.00	322.00	1.25
Critical frequency (Hz)			
Stiffness (N/m ³)			4.7E+008
Type of wall	C Covering	SL Slab	UL Under layer
Number of layers	1	1	1

Assembly bank the various types of simulated floors



- ⇒ Homogenous Floors; Hollow core slabs, Interjoist floors¹,
- ⇒ Coverings for hard ground,
 - Floating screeds,
 - Heating floors,
 - Floating floors,
 - Tiling/Stone floors on mini screeds,
- ⇒ Flexible floorings,
 - Homogeneous,
 - Multilayer,
- ⇒ Ceiling,
 - Suspended plasterboards,
 - Plafonnettes,
 - Suspended ceilings,
 - ...



¹ The hollow core slab and interjoist floors are under implementation

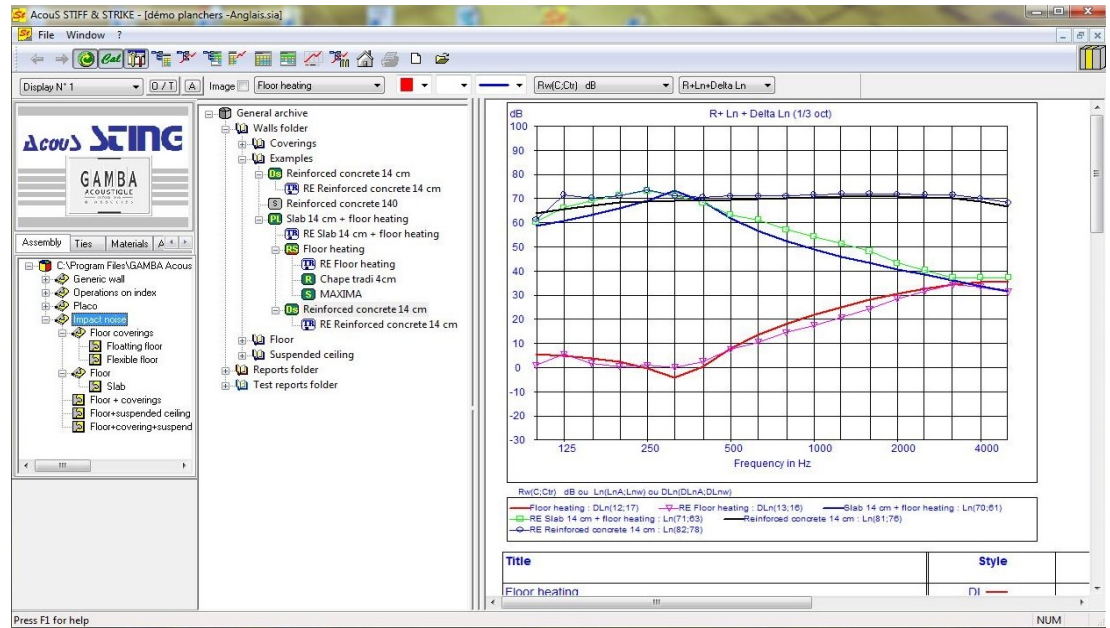
User-friendly interface

Customizable display and printing facilitates adaptation as necessary.

A database containing the most common materials coupled with a variety of basic models allows the user to simulate from very simple floors to very complex floors.

The ability to create new materials and reuse already made arrangements provides unparalleled comfort and flexibility of use. The automation of calculations and effort devoted to their speed of execution can have a greater interactivity between the changes of characteristics and outcomes.

Assistance in the creation of floors allows the user to become operational very quickly.



The results

are presented as graphs and / or customizable tables with global values in L_w , L_{nATr} , ΔL_w and ΔL_A conforming to international standards (ISO 717-2 ...) and by one-third octave or octave.

Title	Style	Ln dB(A)	Lnw dB	Delta L dB(A)	Delta Lw dB
Floor heating	DL			12	17
RE Floor heating	TR			13	16
Slab 14 cm + floor heating	L	70	61		
RE Slab 14 cm + floor heating	TR	71	63		
Reinforced concrete 14 cm	L	81	76		
RE Reinforced concrete 14 cm	TR	82	78		

Results in octave band (Central frequency in Hz)										
Title	Style	31.5	63	125	250	500	1000	2000	4000	8000
Floor heating	DL	6	6	4		4	20	30	35	28
RE Floor heating	TR			2		5	16	27	33	
Slab 14 cm + floor heating	L	54	60	66	73	70	55	46	39	36
RE Slab 14 cm + floor heating	TR			71	77	70	59	50	42	
Reinforced concrete 14 cm	L	60	65	70	73	74	75	75	73	64
RE Reinforced concrete 14 cm	TR			74	77	75	76	76	75	

[For additional information please contact :](#)

GAMBA ACOUSTIQUE ET ASSOCIES

163 Rue du Colombier - BP 67678

31676 LABEGE Cedex - FRANCE

Tél. : +33 (0)5 62 24 36 76 - Fax : +33 (0)5 62 24 35 25

E-Mail : logiciel.gamba@acoustique-gamba.fr

Site : <http://www.acoustique-gamba.fr>