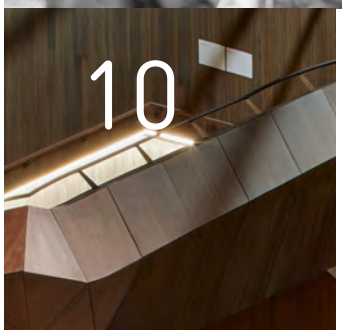
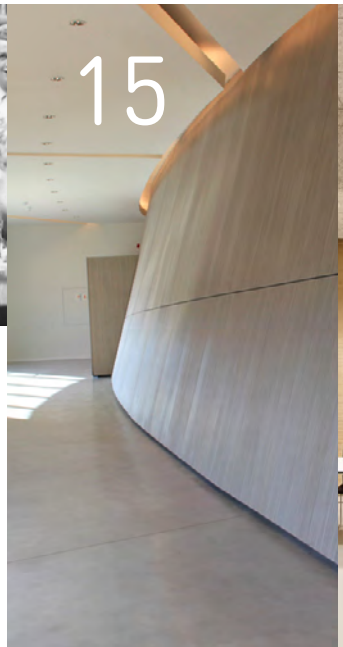
PRINT ACOUSTICS

your silent partner

ACOUSTIC — ARCHITECTURAL — AMAZING





Our company's rich history resonates in our premium architectural and acoustic absorbing solutions.

ACOUSTIC ARCHITECTURAL AMAZING

A division of Triplaco (Lefevere Group), which has over 100 years of history, Print Acoustics is committed to developing and producing the most efficient, stable and decorative acoustic absorbing solutions based on the Helmholtz Principle for the reduction of human voice reverberation. This way, we contribute to improved acoustic comfort and a healthy indoor environment in buildings.

We offer the international project market a wide range of efficient, decorative and durable acoustic absorbing panels for each application. These solutions are based on the Helmholtz principle and have a core standardly made up of black acoustic MDF and a high-quality, easy-to-clean top layer. Together with our network of partners, we guarantee our customers local and personal support for their project from specification to installation.

All acoustic absorbing products of Print Acoustics are developed and produced in-house. They are thoroughly tested in the reverberation room of an independent acoustic laboratory before they are marketed. After a study and the technical drawing of each order have been performed, the panels, cupboard doors and loose elements are produced at our factory in Harelbeke (Belgium). The quality of the products is checked both during and after the production process.

Helmholtz absorption is one of the most effective ways for acoustical correction of reverberation caused by human voice in a room. Our panels are usually installed perpendicular to the acoustic propulsion.

The core of our panels is standardly made up of black acoustic MDF. This gives an elegant and timeless look to our collection and is of a higher quality than brown MDF or chipboard. The top layer is easy to clean (with a moist cloth and a household detergent).

Our products can be made to measure. We deliver customised cupboard and sliding doors provided with hinge holes according to your plans so you can smoothly install them on site.

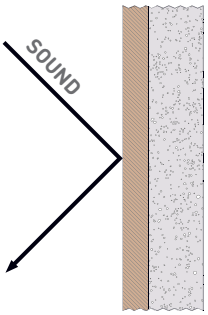
All products are scratch and shock-proof.

The products are finished in a variety of styles according to your taste. The top layer can be ordered in Print HPL, real wood veneer Decospan, varnish, digital prints on white HPL or with woven vinyl.

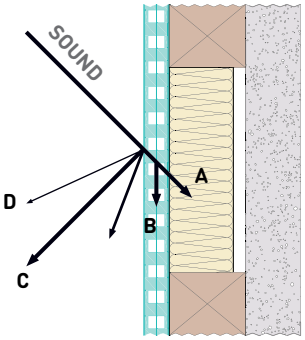
EXCEPTIONAL ACOUSTIC COMFORT

Our range of acoustic absorbing panels has been developed to absorb and reduce any disturbing sounds in a room. This leads to greater acoustic comfort, even in highly frequented rooms with a lot of background noise.

Improved acoustics imply a reduction of sound reflection as well as sound resonance time and level. This improved comfort is achieved by transforming sound into mechanic energy (vibrations or heat) in the panel and the underlying wool.
Part of the energy of the sound wave which comes into contact with our panel is reflected back into the room. Another part is absorbed by the material and the last part goes through the panel into the underlying insulation layer.



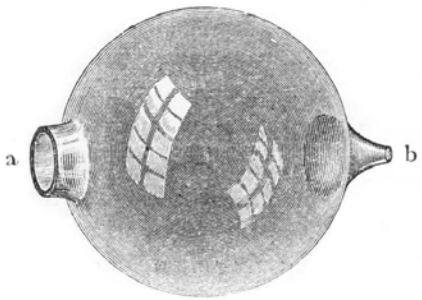
Panels without perforation



Print Acoustics® panels

Sound waves coming into contact with our acoustic panels are changed in four different ways and to a different extent by our Helmholtz panels:

A. Transmission+ Absorption (H)
B. Absorption (Helmholtz) (LM)
C. Reflection
D. Diffusion



The early Helmholtz resonator

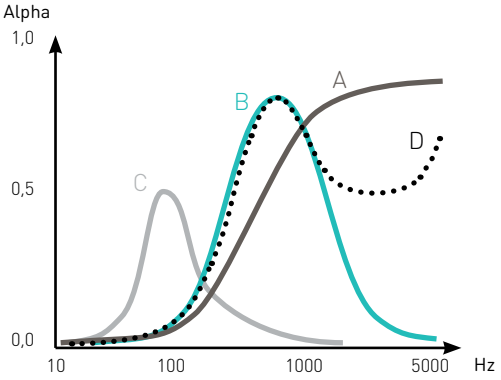
THE HELMHOLTZ PRINCIPLE

The mechanism of absorption at the core of a Print Acoustics panel is called the principle of Helmholtz resonance, named after the German physician Herr Hermann Helmholtz, who discovered this phenomenon in 1863.
Small grooves and a large cavity in the material ensure that medium and low frequencies (= human voice) are efficiently absorbed.

ABSORPTION MECHANISMS

There are a number of different absorption mechanisms to reduce the reverberation in a room. Our acoustic panels are based on the Helmholtz resonance principle (= cavity absorption). This principle is ideal for the correction of low and medium frequency noises (= human voice).

Our acoustic panels furthermore consist of a layer of porous absorbing material such as classic open mineral wool (Rockwool) or Primawool (= polyester wool with coextruded drum membrane). As a result, our panels have a very high absorbing capacity (AlphaW or NRC value).



Absorption mechanisms

- A. Porous absorption = non-covered porous material
- B. Helmholtz resonance = perforated panels
- C. Panel resonance = non-perforated panels
- D. Print Acoustics® panels = combination of A and B

CONTINUOUS PRODUCT DEVELOPMENT

Our collection of acoustic panels is designed in-house and thoroughly tested in a reverberation room of an independent acoustic laboratory. Thanks to continuous product development and an eye for detail, we have been able to optimise our products. The test results can be found in official European certified reports which are available on request. The end results are displayed in a chart in this brochure.

Test set-up in lab - EN ISO 354:2003

REVERBERATION TIME

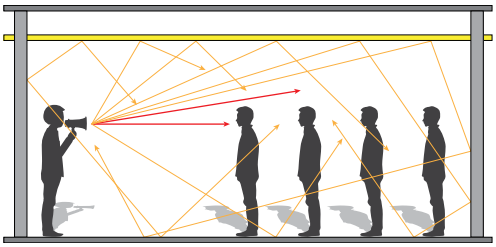
Definition of reverberation:
The time a sound is reflected in a room after the sound source stops. 'Bad acoustics' equals 'too long reverberation times' for Print Acoustics.

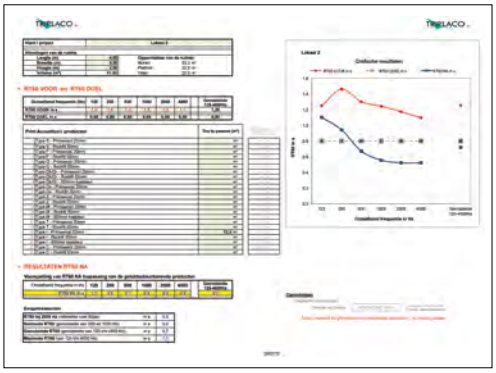
The reverberation time depends on:
> The amount of absorbing material present
> Size and volume of the room

Disadvantages of reverberation:
> Poorer speech intelligibility
> Higher acoustic pressure for the same source strength.

If you want more information about the desired reverberation time in a certain room, we can give you a target value (see table). You can have a specialised acoustic consultancy agency calculate the number of square metres you need in order to optimise the room in term of acoustics. As a service, we can calculate a theoretical target value for you (for small rectangular rooms up to 100 m³) which gives you an idea of the acoustics in a certain design. This advice is entirely without obligations and is not binding.

$$T_{60} = \frac{V}{6\Sigma A_i \alpha_i}$$





RECOMMENDED REVERBERATION TIME

BUSINESS	Recommended reverberation time in seconds
Office	0,5 - 0,8 (building regulations: max 0.8)
Call centre	0,5 - 0,8
Meeting room	0,6 - 0,8 (building regulations: max 0.8)
Reception area	0,6 - 1,0 (building regulations: max 1.0)
Waiting room	0,7 - 1,0 (building regulations: max 1.0)
Doctor's practice	0,6 - 0,8 (building regulations: max 0.8)
Doctor's office	0,5 - 0,6 (building regulations: max 0.6)

SPORTS FACILITIES	Recommended reverberation time in seconds
Swimming pool	1,2 - 1,5 (building regulations: max 1.5)
Sports hall	1,2 - 1,5 (building regulations: max 1.5

EDUCATION	Recommended reverberation time in seconds
Classroom (theoretical)	0,5 - 0,8 (building regulations: max 0.8)
Classroom (praktical)	0,6 - 0,8 (building regulations: max 0.8)
Nursery	0,5 - 0,8 (building regulations: max 0.8)
Sports area	1,2 - 1,5 (building regulations: max 1.5)

CATERING ESTABLISHMENTS	Recommended reverberation time in seconds
Restaurant	0,5 - 0,7
Cosy pub	0,5 - 0,7
Bar with music	0,8 - 1,0

MUSIC STUDIO	Recommended reverberation time in seconds
Recording studio	0,2 - 0,4
Rehearsal room	0,7 - 0,9

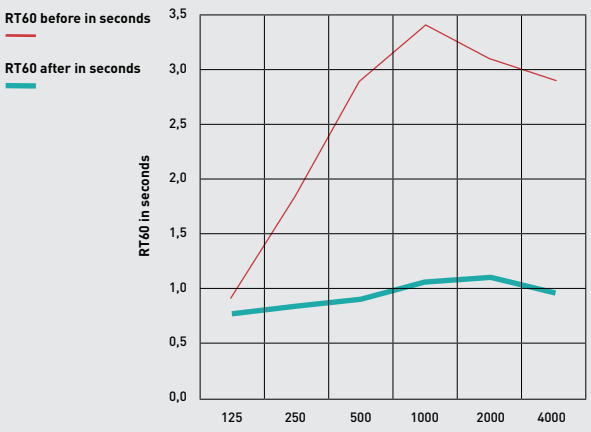
INDUSTRIAL BUILDINGS	Recommended reverberation time in seconds
Distribution centre	0,7 - 1,0
Warehouse	0,7 - 1,0
Workshop	0,7 - 1,0

HOME	Recommended reverberation time in seconds
Lounge	0,4 - 0,7
Home theatre	0,3 - 0,5

LOBBY / GROOVED

This sober yet classy reception hall of a company was optimised acoustically by means of Print Acoustics TYPE Db (applied to walls and furniture).

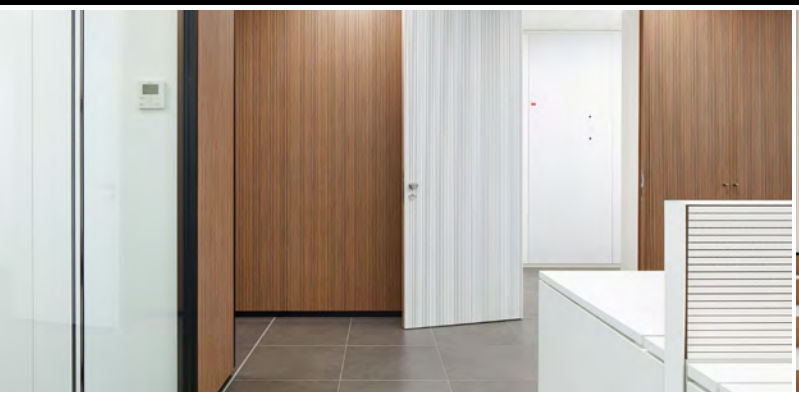
Volume	165,75 m³
Number of m² TYPE Db	26,7 m²
reverberation time RT60 before	2,49 seconds
Recommended reverberation time	0,6-1 seconds
RT60 reverberation time after installation	**0,87 seconds**



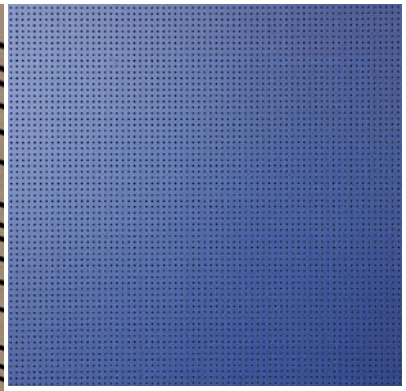
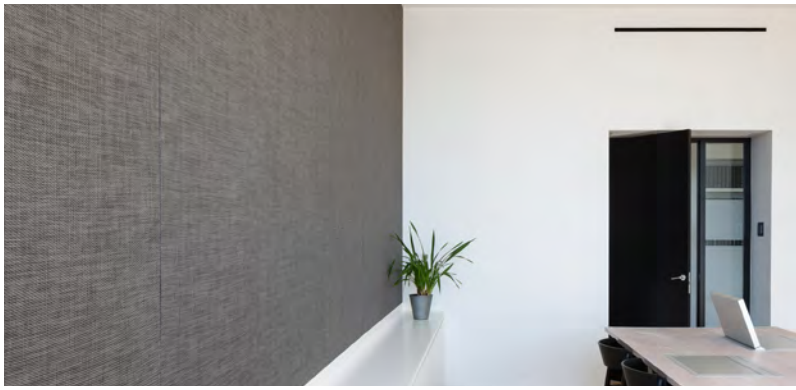
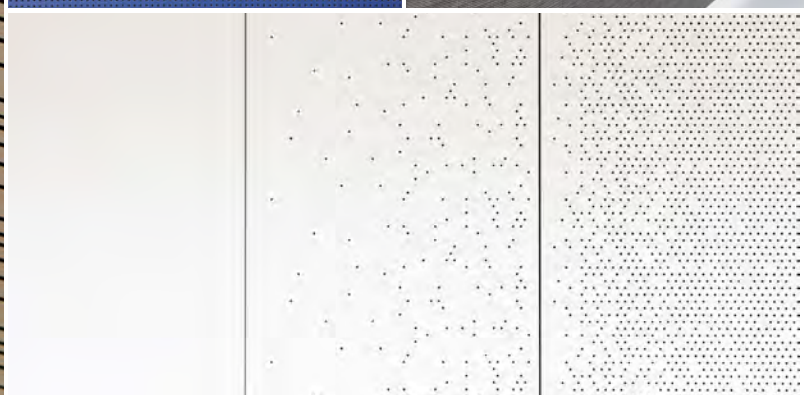
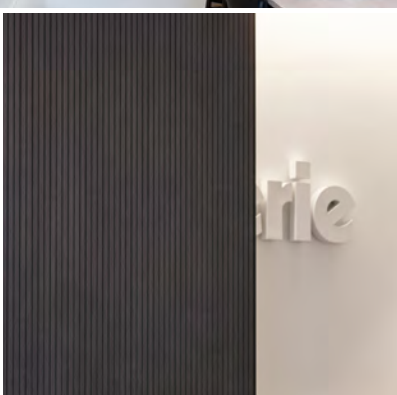
INSPIRATION

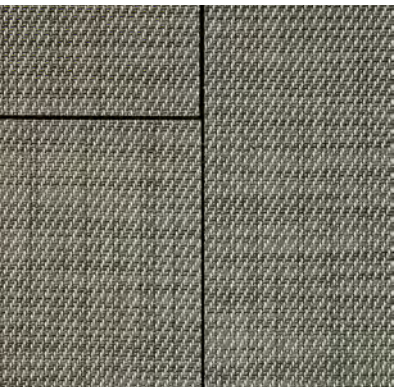
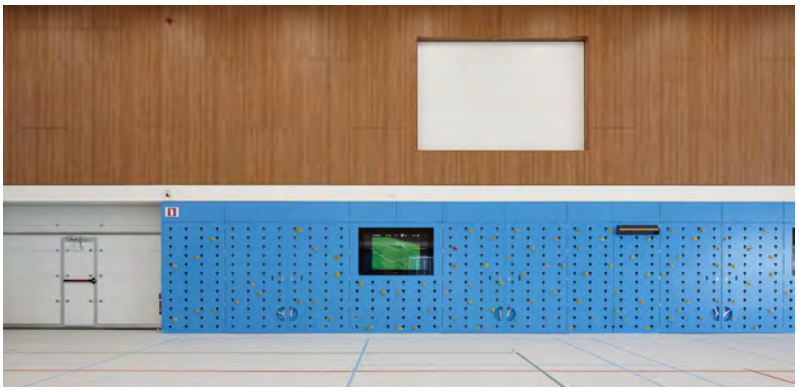
Reverberation and bad acoustics in a room are phenomena present in many environments. Therefore, our products are applied in a wide range of large and small projects. We do not want our acoustic absorbing panels to limit your creative design. That is why you can integrate them in walls, cupboard doors, furniture and ceiling elements, interior door cladding, etc.

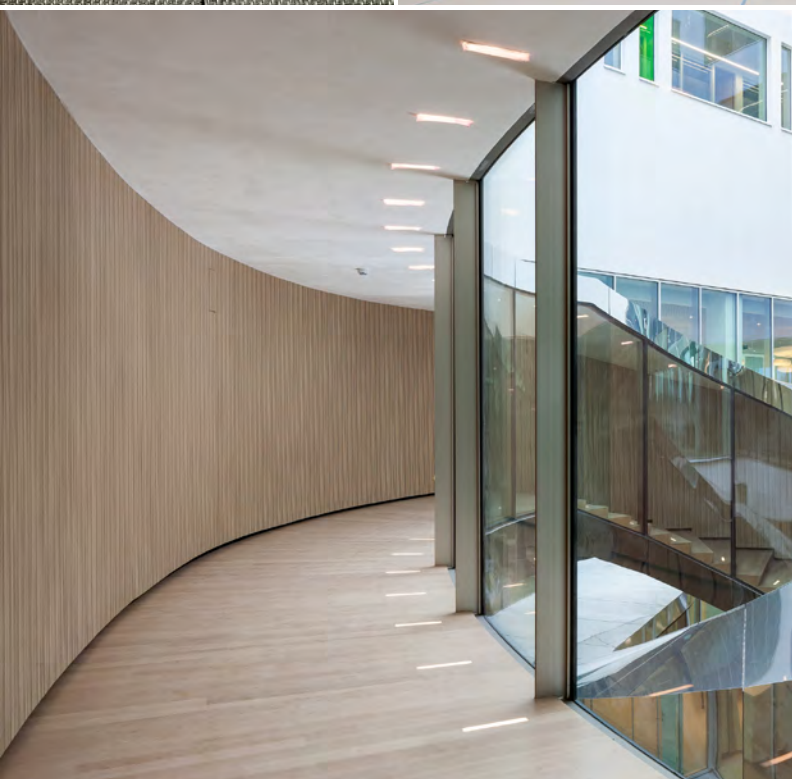
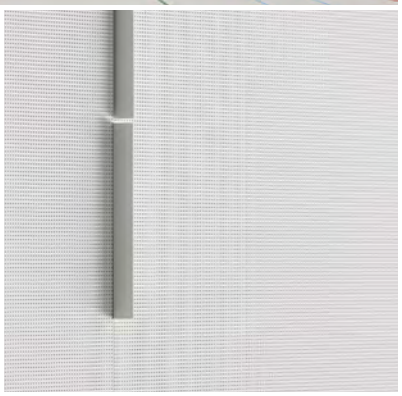
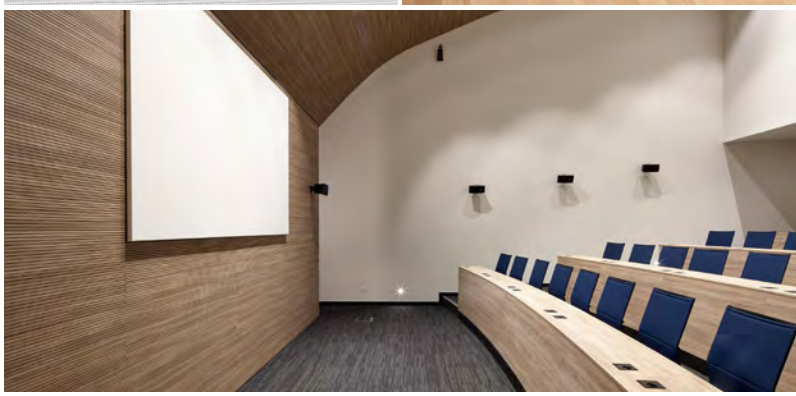
OFFICE ENVIRONMENTS / AUDITORIUMS / MUSEUMS
SPORTS CENTRES / MEETING ROOMS / RESTAURANTS
SCHOOLS / RECEPTION AREAS & HALLS / CONFERENCE CENTRES
RETIREMENT HOMES & HOSPITALS / CONCERT HALLS / WALLS / CUPBOARD DOORS / SLIDING DOORS / FURNITURE / ETC.

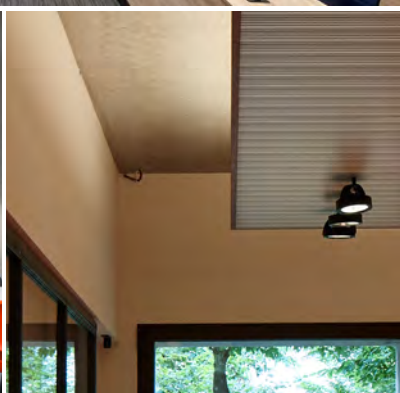




PRODUCTS

Our product range includes a wide choice of different products.
Our acoustic absorbing panels can also be aesthetically integrated into walls, ceilings, cupboard doors, baffles, etc. for any purpose.

TYPE	NAME	PERFO	BLADE	GROOVE	TOP LAYER	DIMENSIONS	EDGE-FINISHING	ALPHA W	ALPHA W	ALPHA W	ALPHA W	
		continuous %	width (mm)	width (mm)		(±mm)	long sides	70 mm 50 mm of mineral wool **wall-ceiling**	20 mm 20 mm primawool **wall-ceiling**	500 mm - - **cupboard door**	500 mm 20 mm primawool*** **cupboard door**	→ framework → filling → type → application
GROOVED												
S	Slit	6,8	13,2	2,8	HPL HPL veneer veneer	3030 x 1280 x 18 3030 x 192 x 18 3030 x 1200 x 17 3030 x 128 x 17	V T&G V T&G	**0,60** 0,75* 0,75**	**0,65** 0,70* 0,67**	-	-	see page 16
F	Fine	16	5,2	2,8	HPL veneer	3030 x 192 x 18 3030 x 128 x 17	T&G T&G	**0,80** 0,80* 0,79**	**0,70** 0,75* 0,74**	-	-	see page 18
G	Hole	6,8	13,2	2,8	HPL HPL veneer veneer	3030 x 1280 x 18 3030 x 192 x 18 3030 x 1200 x 17 3030 x 128 x 17	V T&G V T&G	**0,70** 0,75* 0,78**	**0,65** 0,70* 0,69**	-	-	see page 20
Db	Transversal core wide blade	8,75	13,2	2,8	HPL HPL veneer veneer	3030 x 1280 x 20 3030 x 192 x 20 3030 x 1200 x 19 3030 x 128 x 19	V T&G V T&G	**0,65** 0,75* 0,77**	**0,65** 0,70* 0,69**	**0,35** 0,35* 0,34**	**0,55** 0,50* 0,51**	see page 22 + 24
Ds	Transversal core Small blade	17,5	5,2	2,8	HPL veneer	3030 x 192 x 20 3030 x 128 x 19	T&G T&G	**0,85** 0,90* 0,87**	**0,75** 0,75* 0,75**	**0,40** 0,35* 0,33**	**0,60** 0,55* 0,53**	see page 26 + 28
Dr	Transversal core Random blade	8,75	Random	2,8	HPL HPL veneer veneer	3030 x 1280 x 20 3030 x 192 x 20 3030 x 1200 x 19 3030 x 128 x 19	V T&G V T&G	**0,65** 0,75* 0,77**	**0,65** 0,70* 0,69**	**0,35** 0,35* 0,34**	**0,55** 0,50* 0,51**	see page 30 + 32
Dw	Transversal core Broad blade	4,35	29,2	2,8	HPL HPL veneer veneer	3030 x 1280 x 20 3030 x 192 x 20 3030 x 1200 x 19 3030 x 128 x 19	V T&G V T&G	**0,50** 0,65* 0,65**	**0,50** 0,65* 0,61**	**0,35** 0,30* 0,30**	**0,50** 0,45* 0,45**	see page 34 + 36
Z	Z-core	7,5	23,5	8,5	HPL HPL veneer veneer	3030 x 1280 x 18 3030 x 192 x 18 3030 x 1184 x 17 3030 x 128 x 17	V T&G V T&G	**0,60** 0,75* 0,75**	**0,70** 0,75* 0,72**	-	-	see page 38
T	Tile design	6,8	29,2	2,8	HPL HPL	3008 x 1280 x 18 576 x 576 x 18	V V	**0,65** 0,75* 0,75**	**0,70** 0,70* 0,71**	-	-	see page 40
PS 250HZ	Panel absorber	2,26	13,2	2,8	HPL veneer	3030 x 192 x 11 3030 x 128 x 10	V V	**0,25** 0,50* 0,48**	**0,30** 0,45* 0,45**	-	-	see page 42

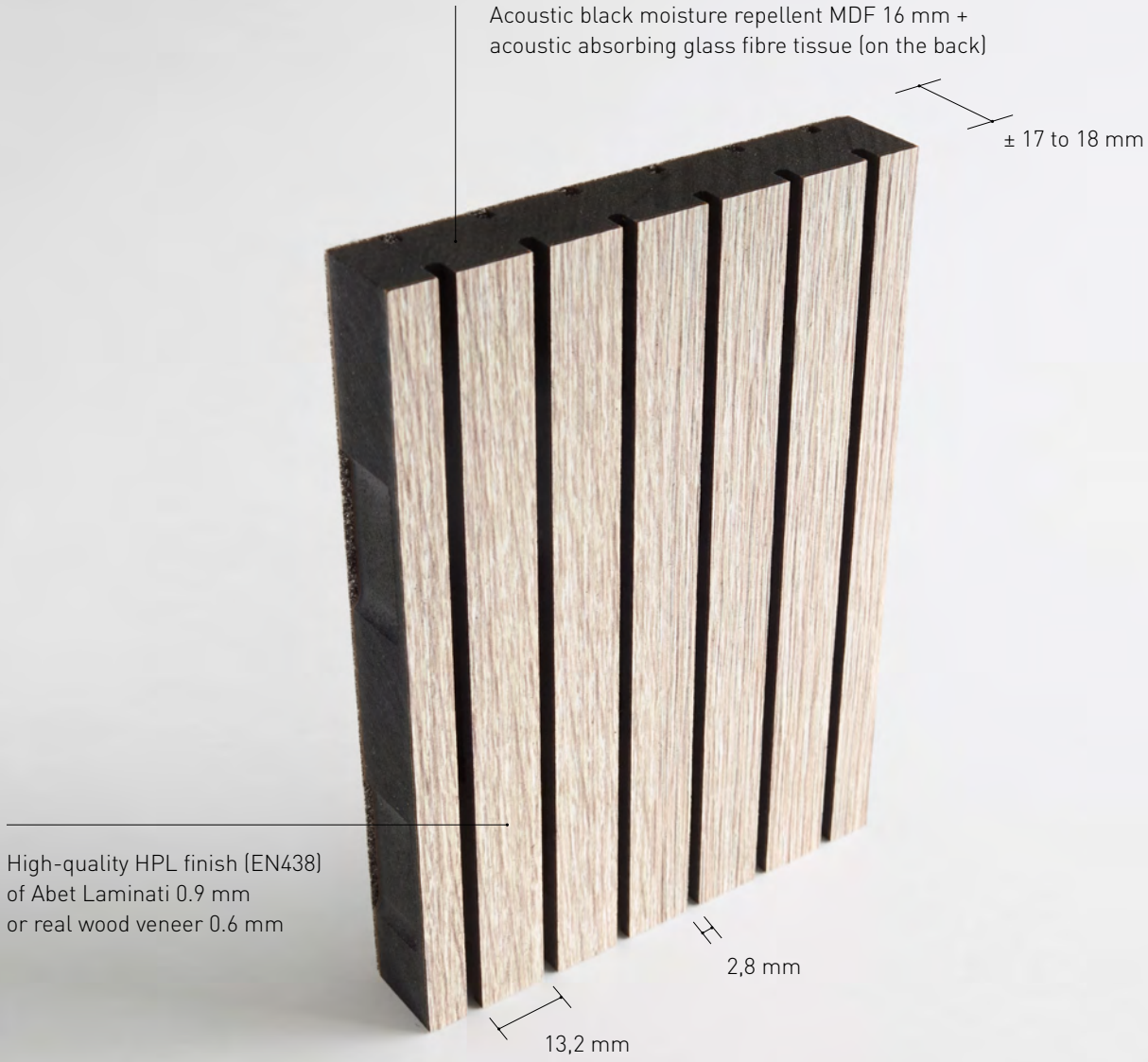
↑
V Half grooved long sides
T&G Tongue-groove
B Square-sawn

* NRC (Noise Reduction Coefficient): arithmetic average of measured sound absorption coefficient alphas at frequency levels of 250, 500, 1000 and 2000 Hz.
** SAA (Sound Absorption Average): arithmetic average of measured sound absorption coefficient alphas at frequency levels of 200 up to 2500 Hz.
*** Simulation of half empty cupboard

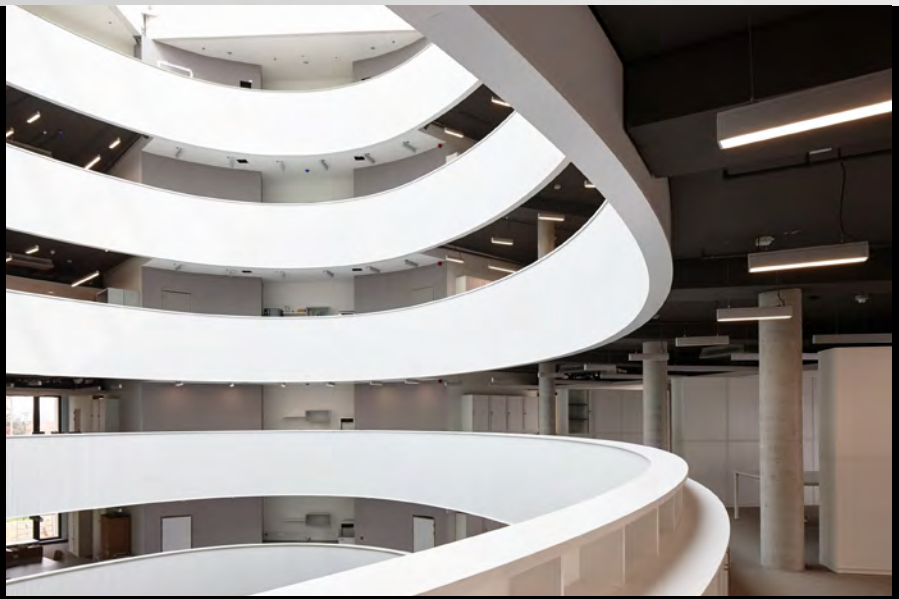
This product is not sold in Germany in respect of European patent EP1411179 / valid German DE503 05 161.6-08

TYPE	NAME	PERFO	BLADE	GROOVE	TOP LAYER	DIMENSIONS	EDGE-FINISHING	ALPHA W	ALPHA W	ALPHA W	ALPHA W	
		continuous %	width (mm)	width (mm)		(±mm)	long sides	70 mm 50 mm of mineral wool **wall-ceiling**	20 mm 20 mm primawool **wall-ceiling**	500 mm - - **cupboard door**	500 mm 20 mm primawool*** **cupboard door**	→ framework → filling → type → application
MICRO/NANO												
M	Micro	10,6	-	-	HPL veneer	3000 x 1270 x 20 3000 x 1200 x 19	B B	**0,85** 0,85* 0,86**	**0,70** 0,75* 0,77**	**0,55** 0,50* 0,51**	**0,70** 0,65* 0,66**	see page 46 + 48
ML	Micro Light	10,6	-	-	HPL veneer	3000 x 1270 x 18 3000 x 1200 x 17	B B	**0,75** 0,80* 0,80**	**0,65** 0,70* 0,67**	-	-	see page 50
ML Line	Micro Light Line	10,6	-	-	HPL veneer	3000 x 192 x 18 3000 x 192 x 17	T&G T&G	**0,85** 0,85* 0,83**	**0,60** 0,70* 0,68**	-	-	see page 52
N	Nano	5,8	-	-	veneer	3000 x 1200 x 19	B	**0,75** 0,85* 0,83**	**0,70** 0,75* 0,71**	**0,60** 0,60* 0,61**	**0,70** 0,70* 0,68**	see page54 + 56
NL	Nano Light	5,8	-	-	veneer	3000 x 1200 x 17	B	**0,75** 0,85* 0,83**	**0,65** 0,70* 0,70**	-	-	see page 58
NL Line	Nano Light Line	5,8	-	-	veneer	3000 x 192 x 17	T&G	**0,70** 0,85* 0,85**	**0,70** 0,75* 0,73**	-	-	see page 60
TEXTILE												
I	Invisible wall	-	-	-	Woven Vinyl	3030 x 640 x 10	B	**0,90** 0,85* 0,87**	**0,6** 0,70* 0,68**	-	-	see page 66
Id	Invisible door	-	-	-	Woven Vinyl	made-to-measurement thickness 18 mm	B	-	-	**0,45** 0,45* 0,43**	**0,70** 0,65* 0,64**	see page 68
DRILLED												
B	Drilled	19,6 dia 8 ctc 16	-	-	HPL veneer	3040 x 1280 x 18 3040 x 1200 x 17	B B	**0,65** 0,75* 0,74**	**0,65** 0,70* 0,68**	-	-	see page 72
C HPL	Chanfrein	7,7 dia5/ch12 D23/23	-	-	HPL veneer	3040 x 1280 x 17 3040 x 1200 x 16	B B	**0,30** 0,60* 0,60**	**0,50** 0,60* 0,61**	-	-	see page 74
C MX	Chanfrein	7,7 dia5/ch12 D23/23	-	-	MX B/BB	2464 x 1216 x 18	B	**0,30** 0,60* 0,60**	**0,50** 0,60* 0,61**	-	-	see page 74

GROOVED 



INSTALLATION *see page 84 + 85*



MATERIAL COMPOSITION

Top layer	High-quality HPL finish (EN438) of Abet Laminati 0.9 mm or real wood veneer 0.6 mm
Core	Acoustic black moisture repellent MDF 16 mm
Backing	Backing layer in HPL finish (EN438) of Abet Laminati 0.9 mm or backing veneer 0.6 mm + acoustic absorbing glass fibre tissue (on the back)
WEIGHT	12,0 kg/m²

PERFORATION

Type S perforations of 6.8%: front vertical grooves of 2.8 mm and blades of 13.2 mm in combination with continuous slits in the acoustic core
Blade/groove: 13.2/2.8 mm

STD. MEAS. FULL PANEL

(half grooved long sides)
3030x1280x±18 mm (HPL)
3030x1200x±17 mm (veneer)

STD. MEAS. PLANKS

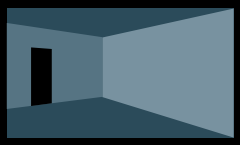
(tongue-groove long sides)
3030x192x±18 mm (HPL)
3030x128x±17 mm (veneer)

OPTIONS

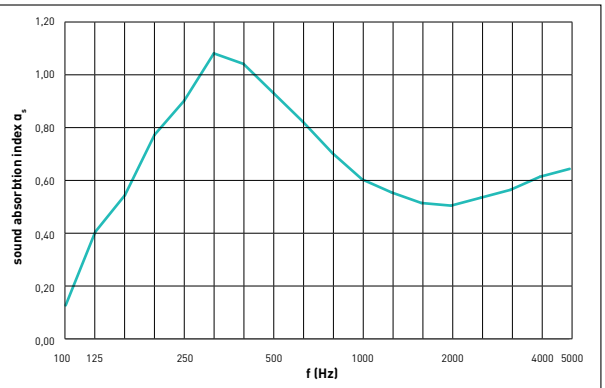
Made-to-measure	on request
Cladding panel	on request (see page 81)
Top layer	HPL, veneer, lacquer or digital print
Core	Acoustic black moisture repellent MDF or black fire retardant MDF (European fire class B)

TEST SET-UP IN LABORATORY:

TOTAL THICKNESS WALLS
88 mm



f(Hz)	T1 (s)	T2 (s)	α_s
100	7,36	5,14	0,13
125	**8,98**	**3,73**	**0,41**
150	9,81	3,21	0,55
200	10,03	2,54	0,78
250	**8,57**	**2,17**	**0,91**
315	7,84	1,85	1,09
400	7,01	1,85	1,05
500	**6,74**	**1,99**	**0,94**
630	6,76	2,16	0,83
800	6,71	2,39	0,71
1000	**7,01**	**2,68**	**0,61**
1250	6,89	2,80	0,56
1600	6,09	2,76	0,52
2000	**5,47**	**2,66**	**0,51**
2500	4,76	2,42	0,54
3150	3,93	2,12	0,57
4000	**3,15**	**1,81**	**0,62**
5000	2,47	1,54	0,65

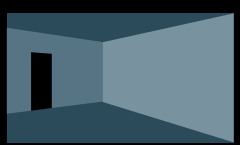


f(Hz)	α_p
125	0,35
250	0,95
500	0,95
1000	0,65
2000	0,50
4000	0,60

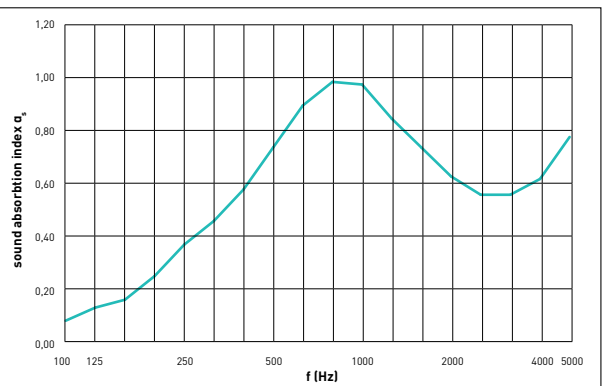
Total thickness	% perfo	α_w	f(Hz)	Sound class	NRC	SAA
88mm	6,8%	0,60	LM	C	0,75	0,75
Installation	Mounted on a wooden frame with a thickness of 70mm, filled with 50mm of mineral wool with a density of 40kg/m³.					
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997						

TEST SET-UP IN LABORATORY:

TOTAL THICKNESS WALLS
38 mm



f(Hz)	T1 (s)	T2 (s)	α_s
100	11,86	9,43	0,08
125	**10,87**	**7,81**	**0,13**
150	9,83	6,93	0,16
200	10,35	6,11	0,25
250	**9,94**	**5,02**	**0,37**
315	9,36	4,35	0,46
400	9,27	3,81	0,58
500	**9,64**	**3,30**	**0,74**
630	10,57	2,96	0,90
800	10,39	2,76	0,99
1000	**10,08**	**2,77**	**0,98**
1250	9,15	2,97	0,85
1600	7,94	3,12	0,74
2000	**6,68**	**3,21**	**0,63**
2500	5,35	3,05	0,56
3150	4,16	2,68	0,56
4000	**3,26**	**2,24**	**0,62**
5000	2,42	1,72	0,78



f(Hz)	α_p
125	0,10
250	0,35
500	0,75
1000	0,95
2000	0,65
4000	0,65

Total thickness	% perfo	α_w	f(Hz)	Sound class	NRC	SAA
38mm	6,8%	0,65	M	C	0,70	0,67
Installation	Mounted on a wooden frame with a thickness of 20 mm, filled with 20 mm PRIMAWOOL of 22,5 kg/m³.					
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997						

Acoustic black moisture repellent MDF 16 mm +
acoustic absorbing glass fibre tissue (on the back)

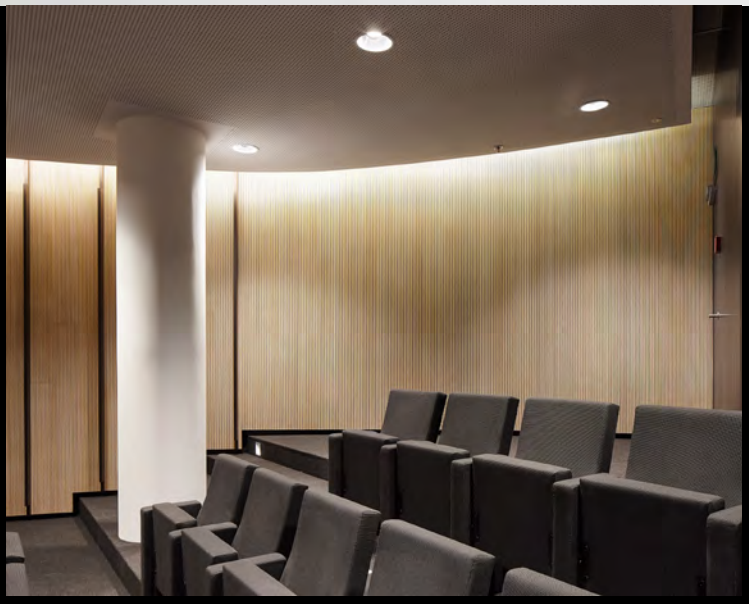
± 17 to 18 mm

High-quality HPL finish (EN438)
of Abet Laminati 0.9 mm
or real wood veneer 0.6 mm

2,8 mm

5,2 mm

INSTALLATION *see page 84 + 85*



MATERIAL COMPOSITION

Top layer	High-quality HPL finish (EN438) of Abet Laminati 0.9 mm or real wood veneer 0.6 mm
Core	Acoustic black moisture repellent MDF 16 mm
Backing	Backing in HPL finish (EN438) of Abet Laminati 0.9 mm or backing veneer 0.6 mm + acoustic absorbing glass fibre tissue (on the back)
WEIGHT	11 kg/m²

PERFORATION

Type F perforations of 16%: front vertical grooves of 2.8 mm and blades of 5.2 mm in combination with continuous slits in the acoustic core
Blade/groove: 5.2/2.8 mm

STD. MEAS. PLANKS

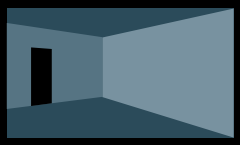
(tongue-groove long sides)
3030x192x±18 mm (HPL)
3030x128x±17 mm (veneer)

OPTIONS

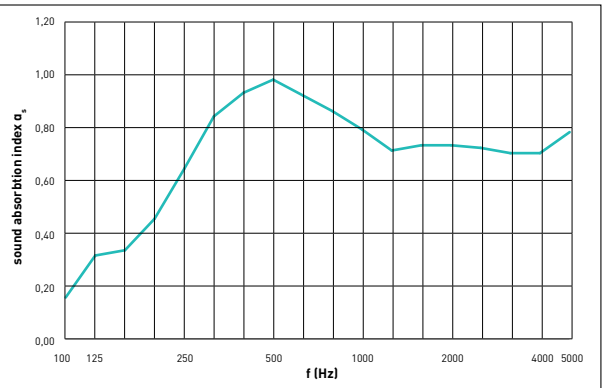
Made-to-measure	on request
Cladding panel	on request (see page 81)
Top layer	HPL, veneer, lacquer or digital print
Core	Acoustic black moisture repellent MDF or black fire retardant MDF (European fire class B)

TEST SET-UP IN LABORATORY:

TOTAL THICKNESS WALLS
88 mm



f(Hz)	T1 (s)	T2 (s)	α_s
100	12,46	8,10	0,16
125	**12,44**	**5,99**	**0,32**
150	9,04	4,95	0,34
200	8,77	4,19	0,46
250	**8,73**	**3,47**	**0,65**
315	8,74	2,91	0,85
400	8,78	2,72	0,94
500	**9,02**	**2,66**	**0,99**
630	9,71	2,83	0,93
800	9,55	2,95	0,87
1000	**9,17**	**3,09**	**0,80**
1250	8,24	3,18	0,72
1600	7,14	2,97	0,74
2000	**6,03**	**2,77**	**0,74**
2500	4,85	2,53	0,73
3150	3,73	2,26	0,71
4000	**2,93**	**1,96**	**0,71**
5000	2,18	1,58	0,79

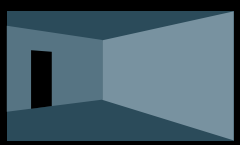


f(Hz)	α_p
125	0,25
250	0,65
500	0,95
1000	0,80
2000	0,75
4000	0,75

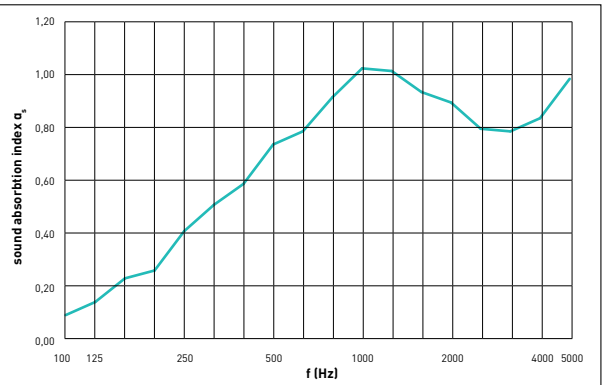
Total thickness	% perfo	α_w	f(Hz)	Sound class	NRC	SAA
88mm	16%	0,80		B	0,80	0,79
Installation	Mounted on a wooden frame with a thickness of 70mm, filled with 50mm of mineral wool with a density of 40kg/m³.					
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997						

TEST SET-UP IN LABORATORY:

TOTAL THICKNESS WALLS
38 mm

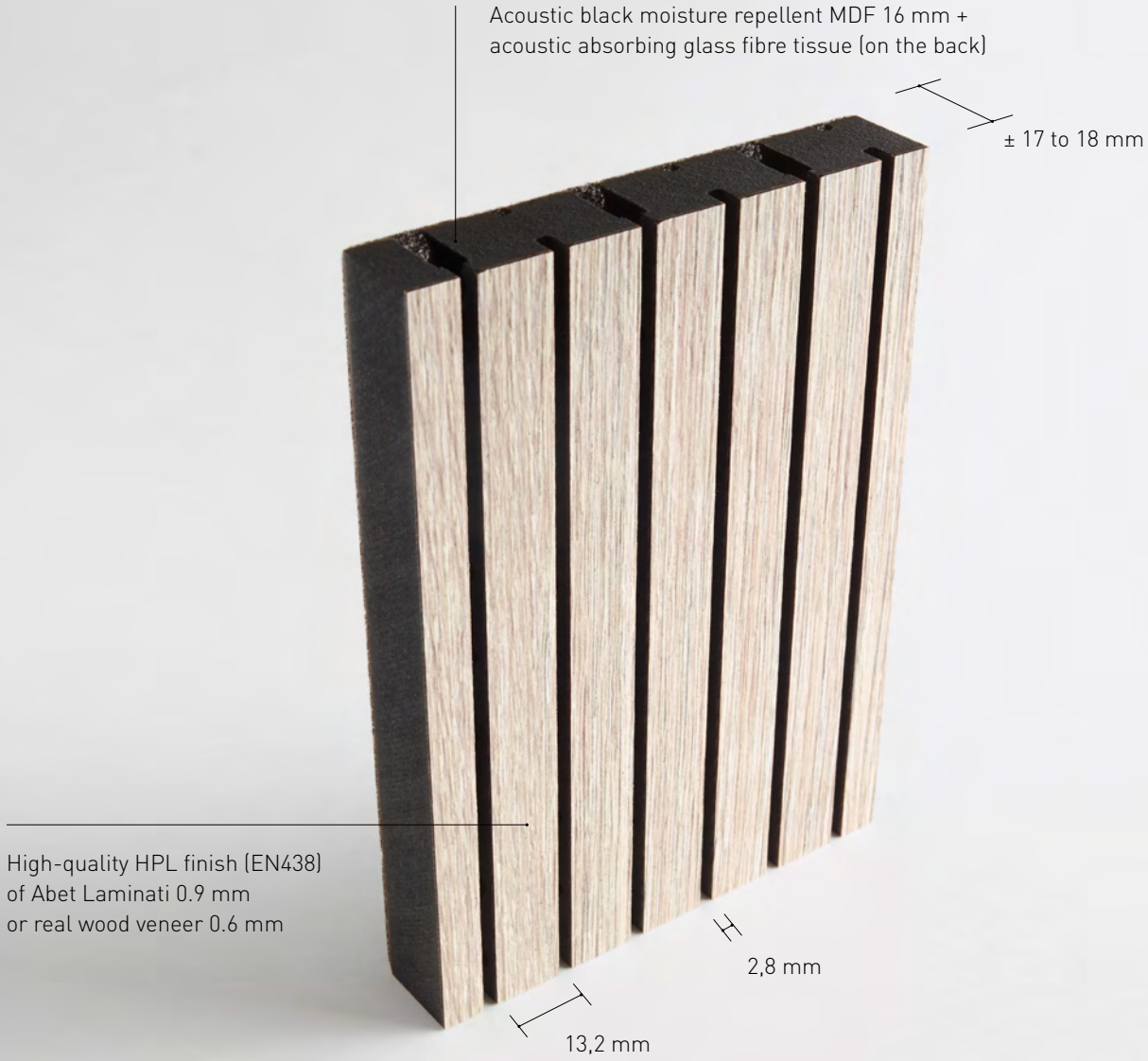


f(Hz)	T1 (s)	T2 (s)	α_s
100	12,23	9,33	0,09
125	**10,79**	**7,72**	**0,14**
150	9,82	6,15	0,23
200	9,09	5,54	0,26
250	**9,36**	**4,61**	**0,41**
315	9,30	4,09	0,51
400	9,26	3,77	0,59
500	**9,40**	**3,30**	**0,74**
630	10,04	3,22	0,79
800	9,95	2,90	0,92
1000	**9,73**	**2,66**	**1,03**
1250	8,92	2,61	1,02
1600	7,72	2,63	0,94
2000	**6,69**	**2,56**	**0,90**
2500	5,44	2,52	0,80
3150	4,32	2,25	0,79
4000	**3,40**	**1,92**	**0,84**
5000	2,54	1,51	0,99

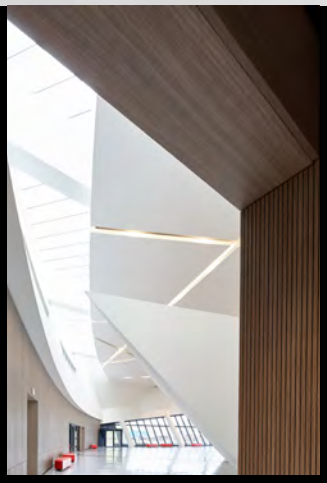


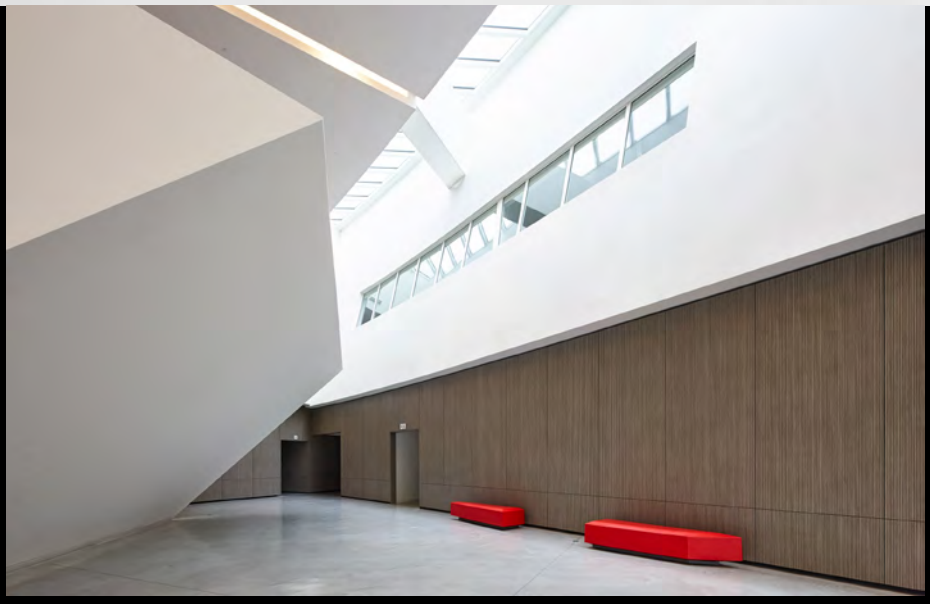
f(Hz)	α_p
125	0,15
250	0,40
500	0,70
1000	1,00
2000	0,90
4000	0,85

Total thickness	% perfo	α_w	f(Hz)	Sound class	NRC	SAA
38mm	16%	0,70	MH	C	0,75	0,74
Installation	Mounted on a wooden frame with a thickness of 20 mm, filled with 20 mm PRIMAWOOL of 22,5 kg/m³.					
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997						



INSTALLATION *see page 84 + 85*





MATERIAL COMPOSITION

Top layer	High-quality HPL finish (EN438) of Abet Laminati 0.9 mm or real wood veneer 0.6 mm
Core	Acoustic black moisture repellent MDF 16 mm
Backing	Backing in HPL finish (EN438) of Abet Laminati 0.9 mm or backing veneer 0.6 mm + acoustic absorbing glass fibre tissue (on the back)
WEIGHT	12,0 kg/m²

PERFORATION

Type G perforations of 6.8%: front vertical grooves of 2.8 mm and blades of 13.2 mm in combination with continuous drilled holes in the acoustic core
Blade/groove: 13.2/2.8 mm

STD. MEAS. FULL PANEL

(half grooved long sides)
3030x1280x±18 mm (HPL)
3030x1200x±17 mm (veneer)

STD. MEAS. PLANKS

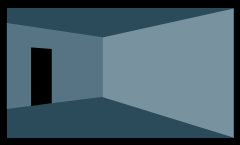
(tongue-groove long sides)
3030x192x±18 mm (HPL)
3030x128x±17 mm (veneer)

OPTIONS

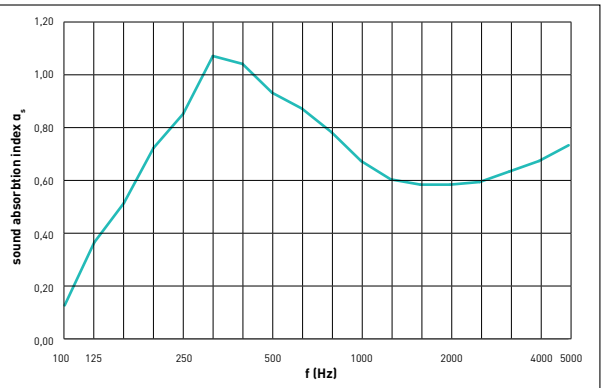
Made-to-measure	on request
Cladding panel	on request (see page 81)
Top layer	HPL, veneer, lacquer or digital print
Core	Acoustic black moisture repellent MDF or black fire retardant MDF (European fire class B)

TEST SET-UP IN LABORATORY:

TOTAL THICKNESS WALLS
88 mm



f(Hz)	T1 (s)	T2 (s)	α_s
100	7,36	5,43	0,13
125	**8,98**	**3,98**	**0,37**
150	9,81	3,36	0,52
200	10,03	2,65	0,73
250	**8,57**	**2,27**	**0,86**
315	7,84	1,87	1,08
400	7,01	1,86	1,05
500	**6,74**	**1,99**	**0,94**
630	6,76	2,08	0,88
800	6,71	2,24	0,79
1000	**7,01**	**2,50**	**0,68**
1250	6,89	2,65	0,61
1600	6,09	2,59	0,59
2000	**5,47**	**2,47**	**0,59**
2500	4,76	2,29	0,60
3150	3,93	2,02	0,64
4000	**3,15**	**1,74**	**0,68**
5000	2,47	1,46	0,74

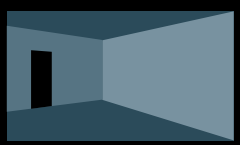


f(Hz)	α_p
125	0,35
250	0,90
500	0,95
1000	0,70
2000	0,60
4000	0,70

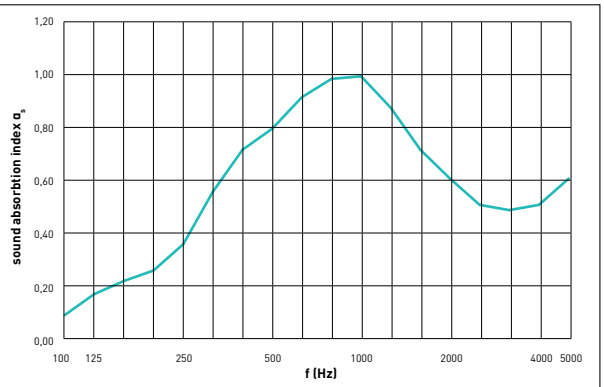
Total thickness	% perfo	α_w	f(Hz)	Sound class	NRC	SAA
88 mm	6,8%	0,70	LM	C	0,75	0,78
Installation	Mounted on a wooden frame with a thickness of 70mm, filled with 50mm of mineral wool with a density of 40kg/m³.					
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997						

TEST SET-UP IN LABORATORY:

TOTAL THICKNESS WALLS
38 mm



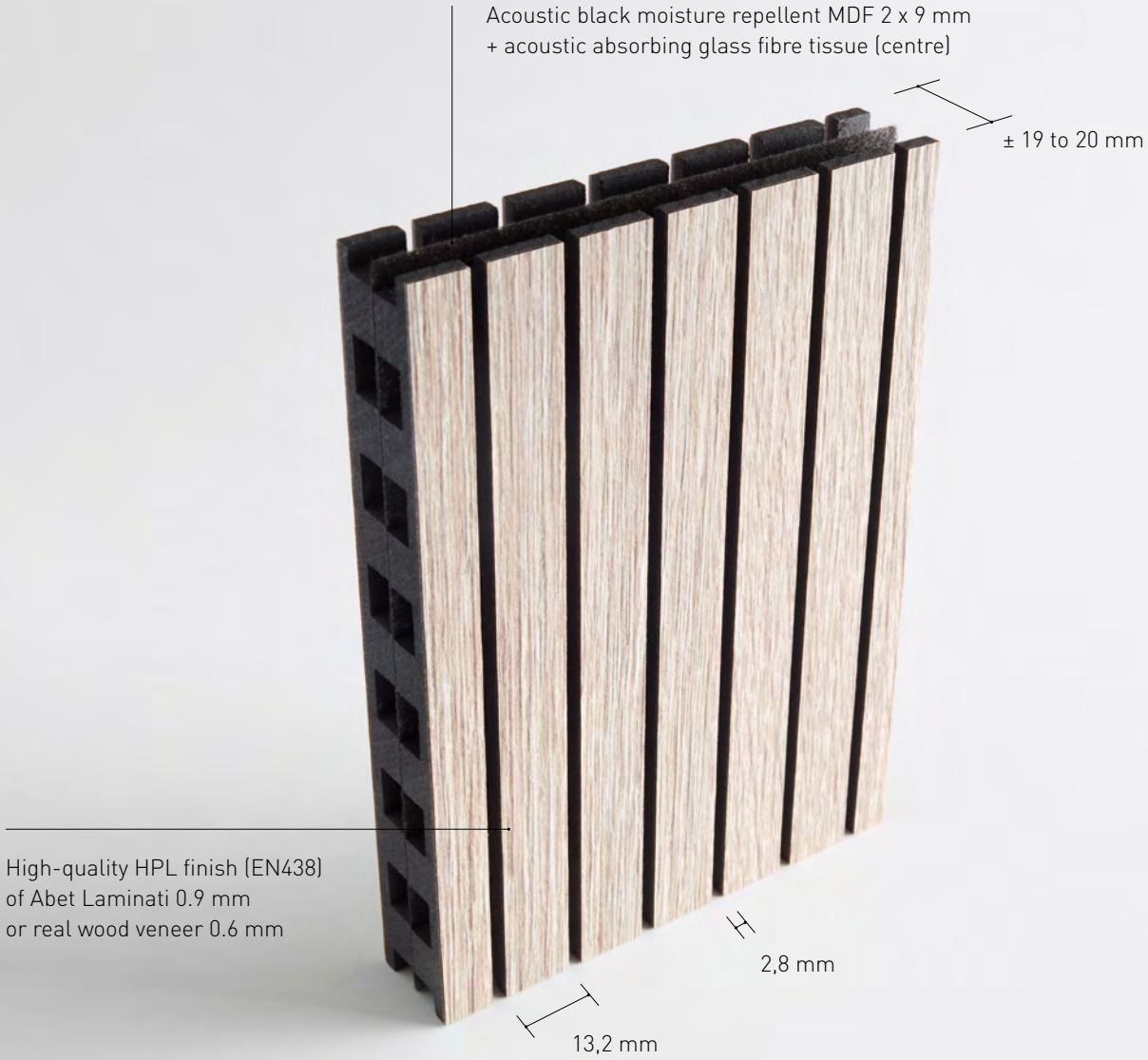
f(Hz)	T1 (s)	T2 (s)	α_s
100	12,23	9,44	0,09
125	**10,79**	**7,21**	**0,17**
150	9,82	6,27	0,22
200	9,09	5,60	0,26
250	**9,36**	**4,96**	**0,36**
315	9,30	3,92	0,56
400	9,26	3,34	0,72
500	**9,40**	**3,15**	**0,80**
630	10,04	2,90	0,92
800	9,95	2,75	0,99
1000	**9,73**	**2,72**	**1,00**
1250	8,92	2,89	0,88
1600	7,72	3,11	0,72
2000	**6,69**	**3,17**	**0,61**
2500	5,44	3,09	0,51
3150	4,32	2,71	0,49
4000	**3,40**	**2,27**	**0,51**
5000	2,54	1,74	0,61



f(Hz)	α_p
125	0,15
250	0,40
500	0,80
1000	0,95
2000	0,60
4000	0,55

Total thickness	% perfo	α_w	f(Hz)	Sound class	NRC	SAA
38 mm	6,8%	0,65	M	C	0,70	0,69
Installation	Mounted on a wooden frame with a thickness of 20 mm, filled with 20 mm PRIMAWOOL of 22,5 kg/m³.					
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997						

TYPE Db* / wall-ceiling-cupboard door



INSTALLATION *see page 84 + 85*

TYPE Db* / wall-ceiling-cupboard door

MATERIAL COMPOSITION

Top layer	High-quality HPL finish (EN438) of Abet Laminati 0.9 mm or real wood veneer 0.6 mm
Core	Core Acoustic black moisture repellent MDF 2 x 9 mm + acoustic absorbing glass fibre tissue (centre)
Backing	Backing in HPL finish (EN438) of Abet Laminati 0.9 mm or backing veneer 0.6 mm
WEIGHT	10,5 kg/m²

PERFORATION

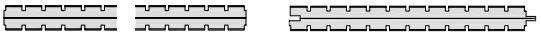
Type Db perforations of 8.75%: front vertical grooves of 2.8 mm and blades of 13.2 mm in combination with transversal continuous slits in the acoustic core
Blade/groove: 13.2/2.8 mm

STD. MEAS. FULL PANEL

(half grooved long sides)
3030x1280x±20 mm (HPL)
3030x1200x±19 mm (veneer)

STD. MEAS. PLANKS

(tongue-groove long sides)
3030x192x±20 mm (HPL)
3030x128x±19 mm (veneer)

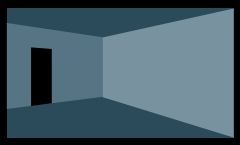


OPTIONS

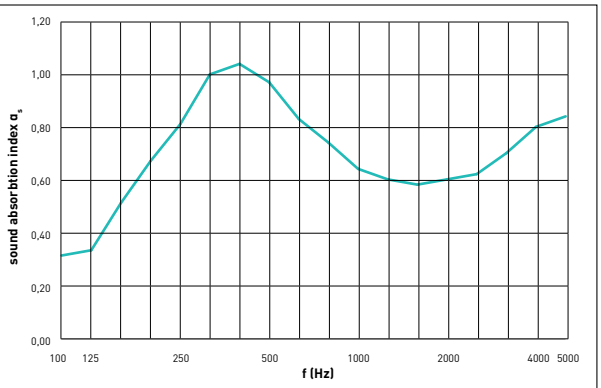
Made-to-measure	on request
Cupboard door fronts	on request (see page 76)
Cladding panel	on request (see page 81)
Flexible elements	on request (see page 80)
Top layer	HPL, veneer, lacquer or digital print
Core	Acoustic black moisture repellent MDF or black fire retardant MDF (European fire class B)

TEST SET-UP IN LABORATORY:

TOTAL THICKNESS WALLS
90 mm



f(Hz)	T1 (s)	T2 (s)	α_s
100	12,93	6,70	0,32
125	**13,05**	**6,61**	**0,34**
150	11,51	4,96	0,52
200	11,84	4,25	0,68
250	**10,89**	**3,66**	**0,82**
315	11,12	3,17	1,01
400	10,66	3,06	1,05
500	**10,86**	**3,23**	**0,98**
630	11,80	3,69	0,84
800	11,94	3,99	0,75
1000	**11,58**	**4,33**	**0,65**
1250	10,49	4,32	0,61
1600	8,98	4,13	0,59
2000	**7,67**	**3,78**	**0,61**
2500	6,13	3,32	0,63
3150	4,79	2,75	0,71
4000	**3,70**	**2,23**	**0,81**
5000	2,74	1,82	0,85

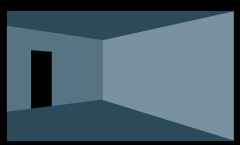


f(Hz)	α_p
125	0,40
250	0,85
500	0,95
1000	0,65
2000	0,60
4000	0,80

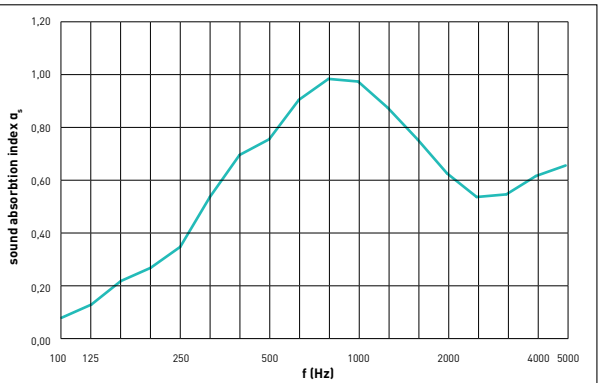
Total thickness	% perfo	α_w	f(Hz)	Sound class	NRC	SAA
90 mm	8,75%	0,65	LMH	C	0,75	0,77
Installation	Mounted on a wooden frame with a thickness of 70mm, filled with 50mm of mineral wool with a density of 40kg/m³.					
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997						

TEST SET-UP IN LABORATORY:

TOTAL THICKNESS WALLS
40 mm



f(Hz)	T1 (s)	T2 (s)	α_s
100	12,23	9,61	0,08
125	**10,79**	**7,87**	**0,13**
150	9,82	6,27	0,22
200	9,09	5,50	0,27
250	**9,36**	**4,97**	**0,35**
315	9,30	3,97	0,54
400	9,26	3,39	0,70
500	**9,40**	**3,23**	**0,76**
630	10,04	2,92	0,91
800	9,95	2,74	0,99
1000	**9,73**	**2,75**	**0,98**
1250	8,92	2,88	0,88
1600	7,72	3,02	0,76
2000	**6,69**	**3,15**	**0,63**
2500	5,44	3,04	0,54
3150	4,32	2,64	0,55
4000	**3,40**	**2,16**	**0,62**
5000	2,54	1,74	0,66



f(Hz)	α_p
125	0,15
250	0,40
500	0,80
1000	0,95
2000	0,65
4000	0,60

Total thickness	% perfo	α_w	f(Hz)	Sound class	NRC	SAA
40 mm	8,75%	0,65	M	C	0,70	0,69
Installation	Mounted on a wooden frame with a thickness of 20 mm, filled with 20 mm PRIMAWOOL of 22,5 kg/m³.					
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997						

*This product is not sold in Germany in respect of European patent EP1411179 / valid German DE503 05 161.6-08

TYPE Db* / wall-ceiling-cupboard door

INSTALLATION *see page 79*

TYPE Db* / wall-ceiling-cupboard door

MATERIAL COMPOSITION

Top layer	Top layer High-quality HPL finish (EN438) of Abet Laminati 0.9 mm or real wood veneer 0.6 mm
Core	Acoustic black moisture repellent MDF 2 x 9 mm + acoustic absorbing glass fibre tissue (centre)
Backing	High-quality HPL finish (EN438) of Abet Laminati of 0.9 mm or real wood veneer of 0.6 mm
WEIGHT	10,5 kg/m²

PERFORATION

Type Db perforations of 8.75%: front vertical grooves of 2.8 mm and blades of 13.2 mm in combination with transversal continuous slits in the acoustic core
Blade/groove: 13.2/2.8 mm
Full MDF frame for stability.

STANDARD MEASUREMENTS

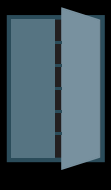
Made-to-measure cupboard and sliding doors
Thickness ±20 mm (HPL)
Thickness ±19 mm (veneer)

OPTIONS

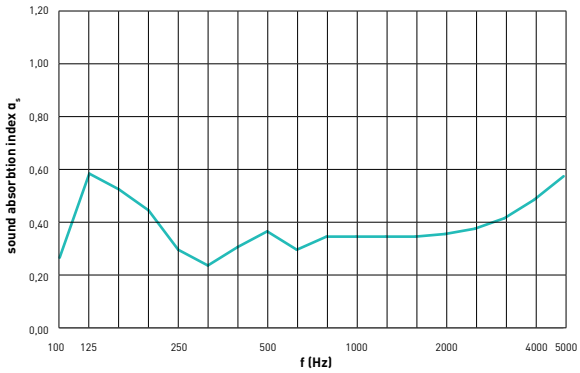
Drilled holes for hinges	on request (see page 79)
Edge finishing	Edge band in ABS 1-2 mm or in veneer edge band
Top layer	HPL, veneer, lacquer or digital print
Core	Acoustic black moisture repellent MDF or black fire retardant MDF (European fire class B)

TEST SET-UP IN LABORATORY:

CUPBOARD FRONTS, DEPTH
500 mm/empty



f(Hz)	T1 (s)	T2 (s)	α_s
100	12,65	6,70	0,27
125	**10,07**	**3,89**	**0,59**
150	9,14	4,02	0,53
200	9,60	4,48	0,45
250	**9,25**	**5,32**	**0,30**
315	9,29	5,87	0,24
400	8,86	5,17	0,31
500	**9,11**	**4,83**	**0,37**
630	9,79	5,52	0,30
800	9,72	5,16	0,35
1000	**9,53**	**5,10**	**0,35**
1250	8,69	4,89	0,35
1600	7,49	4,46	0,35
2000	**6,53**	**4,13**	**0,36**
2500	5,45	3,61	0,38
3150	4,40	3,08	0,42
4000	**3,51**	**2,53**	**0,49**
5000	2,69	2,04	0,58

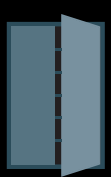


f(Hz)	α_p
125	0,45
250	0,35
500	0,35
1000	0,35
2000	0,35
4000	0,50

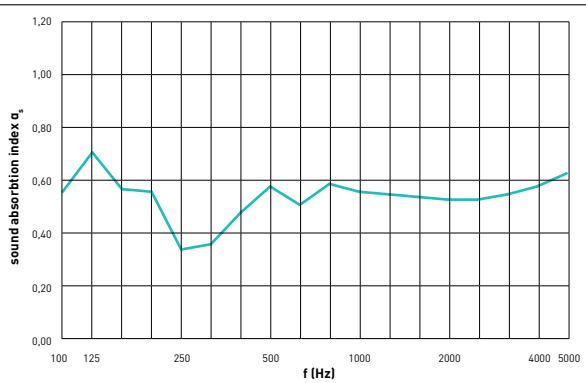
Total depth	% perfo	α_w	f(Hz)	Sound class	NRC	SAA
500 mm / empty	8,75%	0,35	H	D	0,35	0,34
Installation	Mounted on wooden frame with a height of 500 mm (= simulation of an empty cupboard)					
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997						

TEST SET-UP IN LABORATORY:

TOTAL DEPTH
500 mm/filled



f(Hz)	T1 (s)	T2 (s)	α_s
100	12,65	4,42	0,56
125	**10,07**	**3,48**	**0,71**
150	9,14	3,82	0,57
200	9,60	3,98	0,56
250	**9,25**	**5,03**	**0,34**
315	9,29	4,95	0,36
400	8,86	4,18	0,48
500	**9,11**	**3,81**	**0,58**
630	9,79	4,23	0,51
800	9,72	3,87	0,59
1000	**9,53**	**3,95**	**0,56**
1250	8,69	3,83	0,55
1600	7,49	3,62	0,54
2000	**6,53**	**3,44**	**0,53**
2500	5,45	3,12	0,53
3150	4,40	2,72	0,55
4000	**3,51**	**2,32**	**0,58**
5000	2,69	1,90	0,63

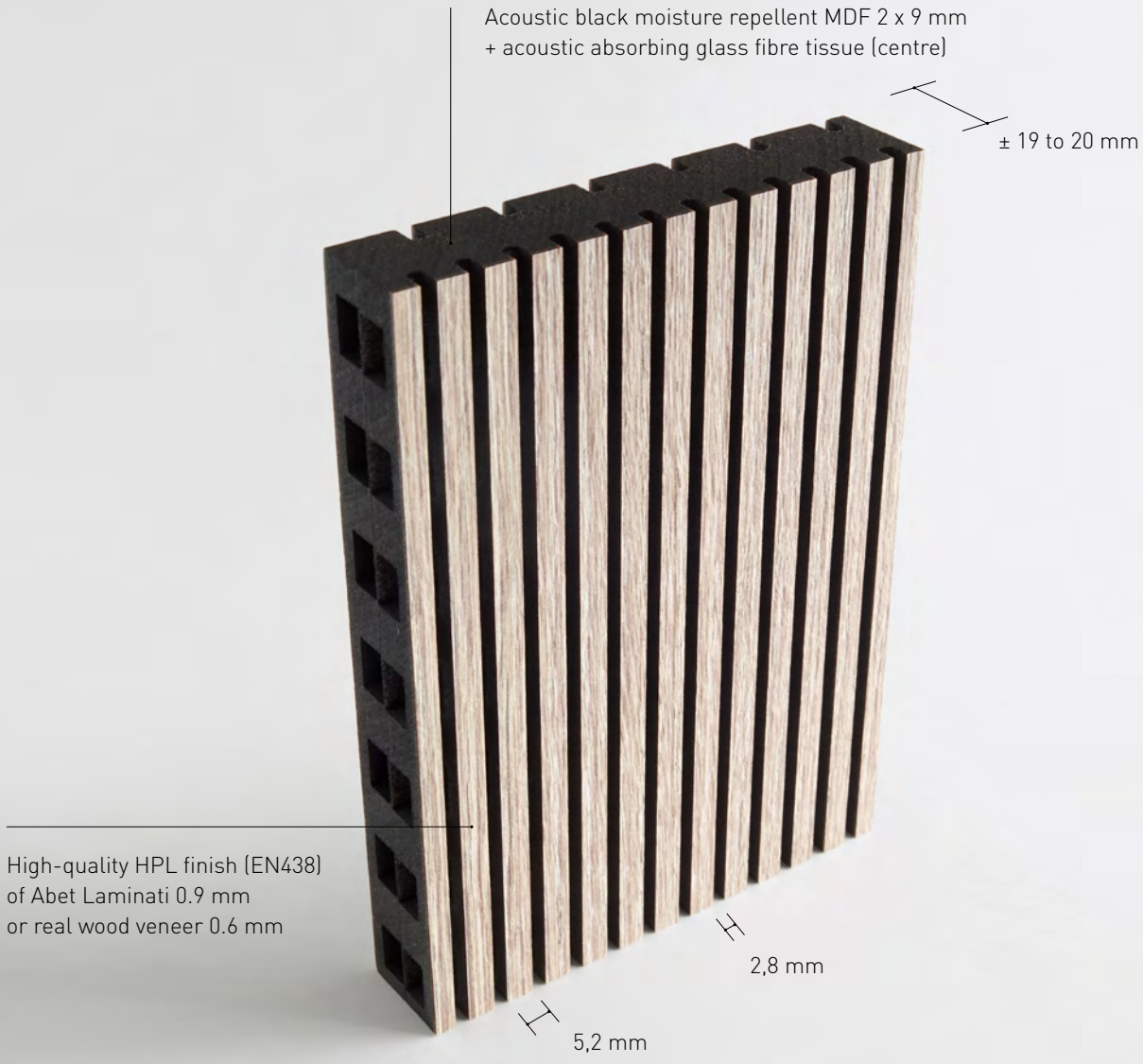


f(Hz)	α_p
125	0,60
250	0,40
500	0,50
1000	0,55
2000	0,55
4000	0,60

Total depth	% perfo	α_w	f(Hz)	Sound class	NRC	SAA
500 mm / filled	8,75%	0,55		C	0,50	0,51
Installation	Mounted on wooden frame with a height of 500 mm (= simulation of a filled cupboard), filled with 20 mm of PRIMAWOOL of 22.5 kg/m³, stuck with spun fabric side on the back of the interior of the cupboard.					
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997						

*This product is not sold in Germany in respect of European patent EP1411179 / valid German DE503 05 161.6-08

TYPE Ds* / wall-ceiling-cupboard door



INSTALLATION *see page 85*

TYPE Ds* / wall-ceiling-cupboard door

MATERIAL COMPOSITION

Top layer	High-quality HPL finish (EN438) of Abet Laminati 0.9 mm or real wood veneer 0.6 mm
Core	Acoustic black moisture repellent MDF 2 x 9 mm + acoustic absorbing glass fibre tissue (centre)
Backing	Backing in HPL finish (EN438) of Abet Laminati 0.9 mm or backing veneer 0.6 mm
WEIGHT	10,5 kg/m²

PERFORATION

Type Ds perforations of 17.5%: front vertical grooves of 2.8 mm and blades of 5.2 mm in combination with transversal continuous slits in the acoustic core
Blade/groove: 5.2/2.8 mm

STD. MEAS. PLANKS

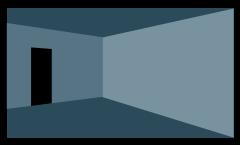
(tongue-groove long sides)
3030x192x±20 mm (HPL)
3030x128x±19 mm (veneer)

OPTIONS

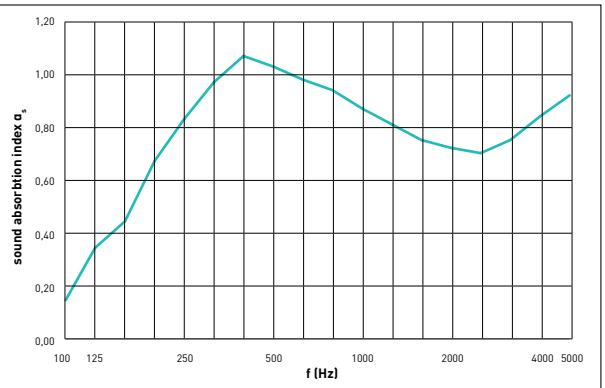
Made-to-measure	on request
Cupboard door fronts	on request (see page 76)
Cladding panel	on request (see page 81)
Top layer	HPL, veneer, lacquer or digital print
Core	Acoustic black moisture repellent MDF or black fire retardant MDF (European fire class B)

TEST SET-UP IN LABORATORY:

TOTAL THICKNESS WALLS
90 mm



f(Hz)	T1 (s)	T2 (s)	α_s
100	11,08	7,64	0,15
125	**11,14**	**5,44**	**0,35**
160	9,48	4,44	0,45
200	9,17	3,43	0,68
250	**9,11**	**2,98**	**0,84**
315	9,35	2,71	0,98
400	8,71	2,47	1,08
500	**8,62**	**2,53**	**1,04**
630	9,42	2,69	0,99
800	9,20	2,75	0,95
1000	**8,89**	**2,87**	**0,88**
1250	8,05	2,90	0,82
1600	6,95	2,88	0,76
2000	**6,00**	**2,78**	**0,73**
2500	4,86	2,54	0,71
3150	3,90	2,20	0,76
4000	**2,94**	**1,78**	**0,85**
5000	2,27	1,48	0,93

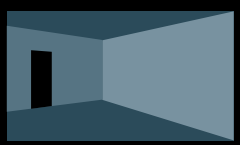


f(Hz)	α_p
125	0,30
250	0,85
500	1,00
1000	0,90
2000	0,75
4000	0,85

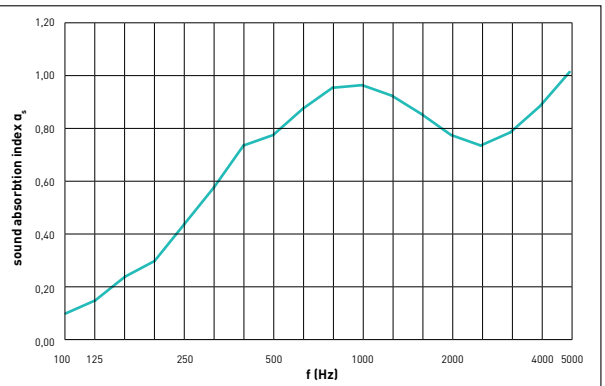
Total thickness	% perfo	α_w	f(Hz)	Sound class	NRC	SAA
90 mm	17,5%	0,85	LMH	B	0,9	0,87
Installation	Mounted on a wooden frame with a thickness of 70mm, filled with 50 mm of mineral wool with a density of 40kg/m³.					
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997						

TEST SET-UP IN LABORATORY:

TOTAL THICKNESS WALLS
40 mm



f(Hz)	T1 (s)	T2 (s)	α_s
100	12,23	9,11	0,10
125	**10,79**	**7,52**	**0,15**
150	9,82	6,04	0,24
200	9,09	5,26	0,30
250	**9,36**	**4,46**	**0,44**
315	9,30	3,80	0,58
400	9,26	3,29	0,74
500	**9,40**	**3,19**	**0,78**
630	10,04	2,99	0,88
800	9,95	2,80	0,96
1000	**9,73**	**2,77**	**0,97**
1250	8,92	2,79	0,93
1600	7,72	2,78	0,86
2000	**6,69**	**2,80**	**0,78**
2500	5,44	2,63	0,74
3150	4,32	2,25	0,79
4000	**3,40**	**1,88**	**0,89**
5000	2,54	1,50	1,02

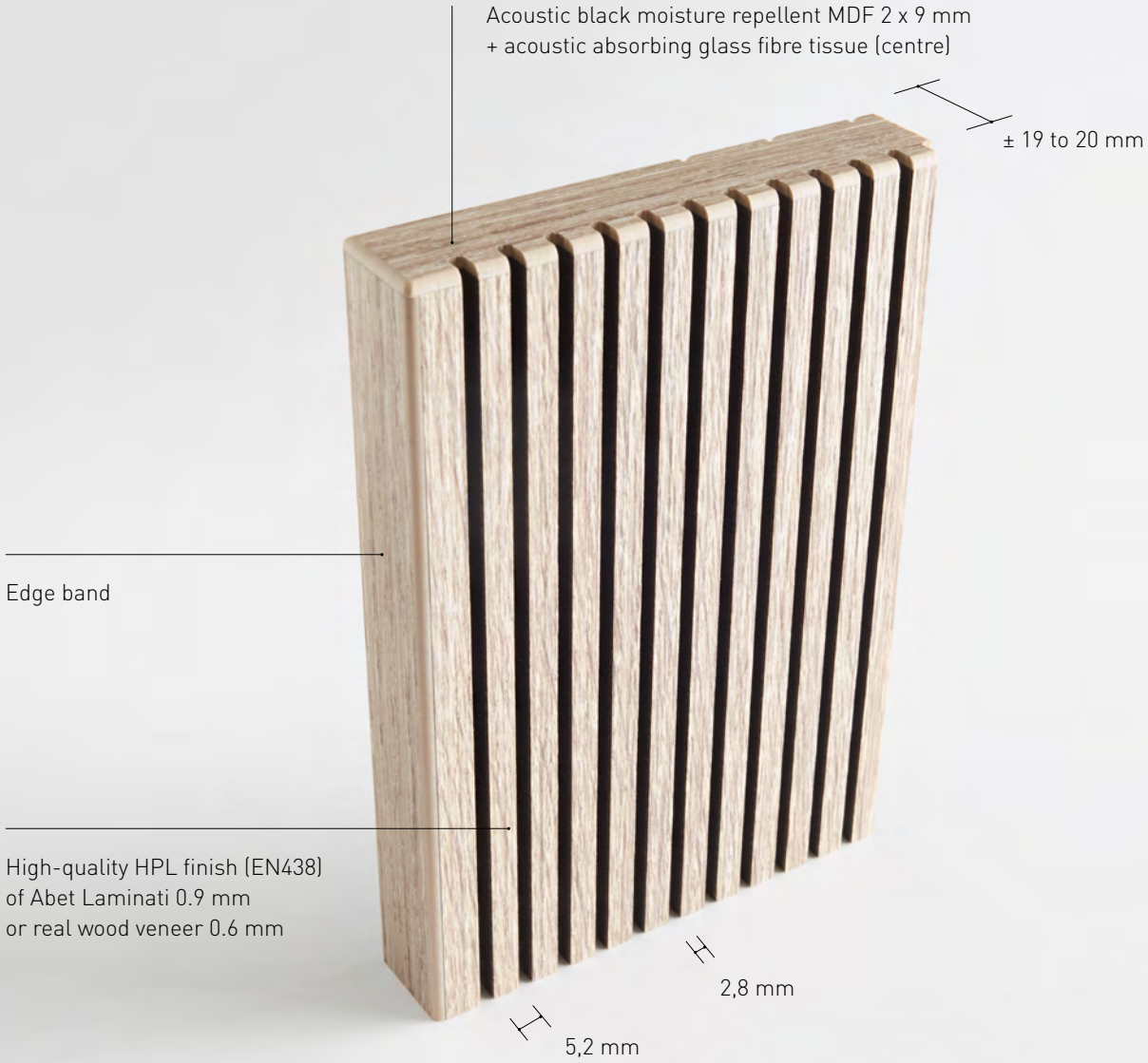


f(Hz)	α_p
125	0,15
250	0,45
500	0,80
1000	0,95
2000	0,80
4000	0,90

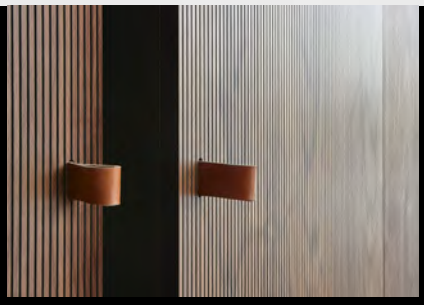
Total thickness	% perfo	α_w	f(Hz)	Sound class	NRC	SAA
40 mm	17,5%	0,75	H	C	0,75	0,75
Installation	Mounted on a wooden frame with a thickness of 20 mm, filled with 20 mm PRIMAWOOL of 22,5 kg/m³.					
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997						

*This product is not sold in Germany in respect of European patent EP1411179 / valid German DE503 05 161.6-08

TYPE Ds* / wall-ceiling-cupboard door



INSTALLATION *see page 79*



TYPE Ds* / wall-ceiling-cupboard door

MATERIAL COMPOSITION

Top layer	High-quality HPL finish (EN438) of Abet Laminati 0.9 mm or real wood veneer 0.6 mm
Core	Acoustic black moisture repellent MDF 2 x 9 mm + acoustic absorbing glass fibre tissue (centre)
Backing	High-quality HPL finish (EN438) of Abet Laminati 0.9 mm or real wood veneer 0.6 mm
WEIGHT	10,5 kg/m²

PERFORATION

Type Ds perforations of 17.5%: front vertical grooves of 2.8 mm and blades of 5.2 mm in combination with transversal continuous slits in the acoustic core
Blade/groove: 5.2/2.8 mm
Full MDF frame for stability

STD. MEASUREMENTS

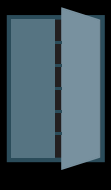
Made-to-measure cupboard and sliding doors
Thickness ±20 mm (HPL)
Thickness ±19 mm (veneer)

OPTIONS

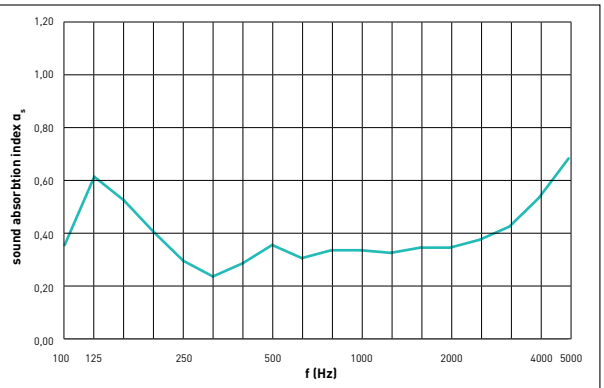
Drilled holes for hinges	On request (see page 79)
Edge finishing	Edge band in ABS 1-2 mm or in veneer edge band
Top layer	HPL, veneer, lacquer or digital print
Core	Acoustic black moisture repellent MDF or black fire retardant MDF (European fire class B)

TEST SET-UP IN LABORATORY:

CUPBOARD FRONTS, DEPTH
500 mm/empty



f(Hz)	T1 (s)	T2 (s)	α_s
100	12,65	5,69	0,36
125	**10,07**	**3,77**	**0,62**
160	9,14	4,02	0,53
200	9,60	4,71	0,41
250	**9,25**	**5,35**	**0,30**
315	9,29	5,84	0,24
400	8,86	5,29	0,29
500	**9,11**	**4,85**	**0,36**
630	9,79	5,44	0,31
800	9,72	5,16	0,34
1000	**9,53**	**5,15**	**0,34**
1250	8,69	4,93	0,33
1600	7,49	4,40	0,35
2000	**6,53**	**4,03**	**0,35**
2500	5,45	3,50	0,38
3150	4,40	2,91	0,43
4000	**3,51**	**2,31**	**0,54**
5000	2,69	1,79	0,69

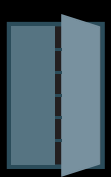


f(Hz)	α_p
125	0,50
250	0,30
500	0,30
1000	0,35
2000	0,35
4000	0,55

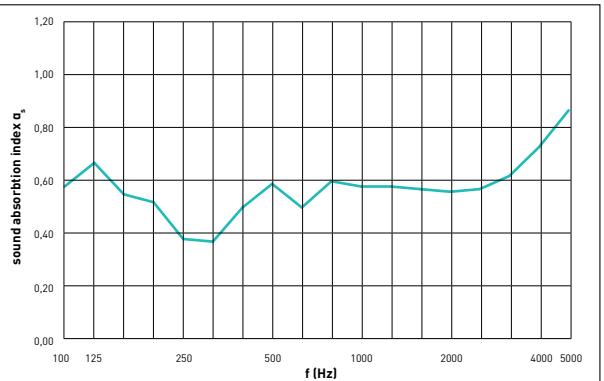
Total depth	% perfo	α_w	f(Hz)	Sound class	NRC	SAA
500 mm / empty	17,5%	0,35	H	D	0,35	0,33
Installation	Mounted on wooden frame with a height of 500 mm (= simulation of an empty cupboard)					
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997						

TEST SET-UP IN LABORATORY:

TOTAL DEPTH
500 mm/filled



f(Hz)	T1 (s)	T2 (s)	α_s
100	12,65	4,30	0,58
125	**10,07**	**3,62**	**0,67**
150	9,14	3,93	0,55
200	9,60	4,13	0,52
250	**9,25**	**4,78**	**0,38**
315	9,29	4,83	0,37
400	8,86	4,07	0,50
500	**9,11**	**3,76**	**0,59**
630	9,79	4,24	0,50
800	9,72	3,81	0,60
1000	**9,53**	**3,87**	**0,58**
1250	8,69	3,71	0,58
1600	7,49	3,50	0,57
2000	**6,53**	**3,31**	**0,56**
2500	5,45	2,98	0,57
3150	4,40	2,54	0,62
4000	**3,51**	**2,08**	**0,73**
5000	2,69	1,64	0,87



f(Hz)	α_p
125	0,60
250	0,40
500	0,55
1000	0,60
2000	0,55
4000	0,75

Total depth	% perfo	α_w	f(Hz)	Sound class	NRC	SAA
500 mm / filled	17,5%	0,60	H	C	0,55	0,53
Installation	Mounted on wooden frame with a height of 500 mm (= simulation of a filled cupboard), filled with 20 mm of PRIMAWOOL of 22.5 kg/m³, stuck with spun fabric side on the back of the interior of the cupboard.					
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997						

*This product is not sold in Germany in respect of European patent EP1411179 / valid German DE503 05 161.6-08

TYPE Dr* / wall-ceiling-cupboard door

INSTALLATION *see page 84 + 85*

TYPE Dr* / wall-ceiling-cupboard door

MATERIAL COMPOSITION

Top layer	High-quality HPL finish (EN438) of Abet Laminati 0.9 mm or real wood veneer 0.6 mm
Core	Acoustic black moisture repellent MDF 2 x 9 mm + acoustic absorbing glass fibre tissue (centre)
Backing	Backing in HPL finish (EN438) of Abet Laminati 0.9 mm or backing veneer 0.6 mm
WEIGHT	10,5 kg/m²

PERFORATION

Type Dr perforations of 8.75%: front vertical grooves of 2.8 mm and random blades in combination with transversal continuous slits in the acoustic core
Blade/groove: random/2.8 mm

STD. MEAS. FULL PANEL

(half grooved long sides)
3030x1280x±20 mm (HPL)
3030x1200x±19 mm (veneer)

STD. MEAS. PLANKS

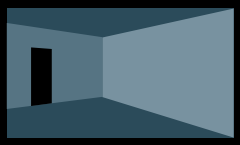
(tongue-groove long sides)
3030x192x±20 mm (HPL)
3030x128x±19 mm (veneer)

OPTIONS

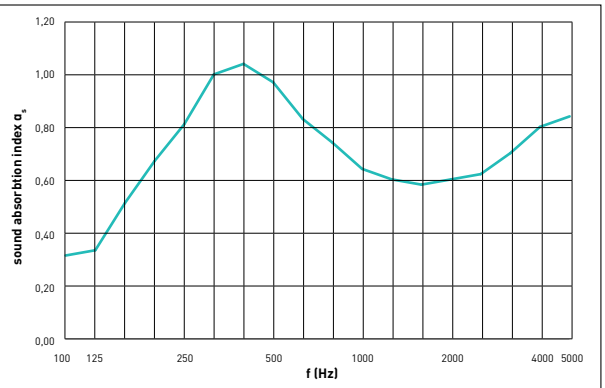
Made-to-measure	on request
Cupboard door fronts	on request (see page 76)
Cladding panel	on request (see page 81)
Flexible elements	on request (see page 80)
Top layer	HPL, veneer, lacquer or digital print
Core	Acoustic black moisture repellent MDF or black fire retardant MDF (European fire class B)

TEST SET-UP IN LABORATORY:

TOTAL THICKNESS WALLS
90 mm



f(Hz)	T1 (s)	T2 (s)	α_s
100	12,93	6,70	0,32
125	**13,05**	**6,61**	**0,34**
150	11,51	4,96	0,52
200	11,84	4,25	0,68
250	**10,89**	**3,66**	**0,82**
315	11,12	3,17	1,01
400	10,66	3,06	1,05
500	**10,86**	**3,23**	**0,98**
630	11,80	3,69	0,84
800	11,94	3,99	0,75
1000	**11,58**	**4,33**	**0,65**
1250	10,49	4,32	0,61
1600	8,98	4,13	0,59
2000	**7,67**	**3,78**	**0,61**
2500	6,13	3,32	0,63
3150	4,79	2,75	0,71
4000	**3,70**	**2,23**	**0,81**
5000	2,74	1,82	0,85

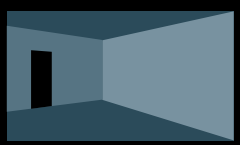


f(Hz)	α_p
125	0,40
250	0,85
500	0,95
1000	0,65
2000	0,60
4000	0,80

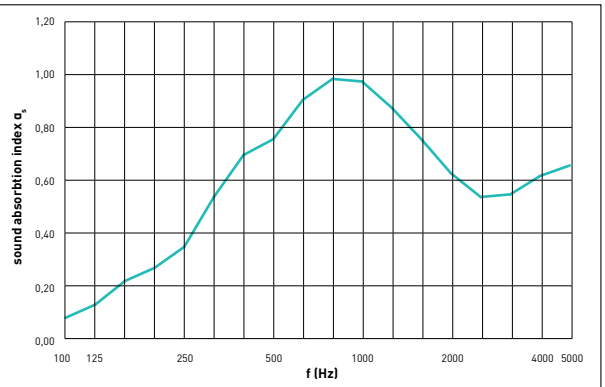
Total thickness	% perfo	α_w	f(Hz)	Sound class	NRC	SAA
90 mm	8,75%	0,65	LMH	C	0,75	0,77
Installation	Mounted on a wooden frame with a thickness of 70 mm, filled with 50 mm of mineral wool with a density of 40 kg/m³.					
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997						

TEST SET-UP IN LABORATORY:

TOTAL THICKNESS WALLS
40 mm



f(Hz)	T1 (s)	T2 (s)	α_s
100	12,23	9,61	0,08
125	**10,79**	**7,87**	**0,13**
150	9,82	6,27	0,22
200	9,09	5,50	0,27
250	**9,36**	**4,97**	**0,35**
315	9,30	3,97	0,54
400	9,26	3,39	0,70
500	**9,40**	**3,23**	**0,76**
630	10,04	2,92	0,91
800	9,95	2,74	0,99
1000	**9,73**	**2,75**	**0,98**
1250	8,92	2,88	0,88
1600	7,72	3,02	0,76
2000	**6,69**	**3,15**	**0,63**
2500	5,44	3,04	0,54
3150	4,32	2,64	0,55
4000	**3,40**	**2,16**	**0,62**
5000	2,54	1,74	0,66



f(Hz)	α_p
125	0,15
250	0,40
500	0,80
1000	0,95
2000	0,65
4000	0,60

Total thickness	% perfo	α_w	f(Hz)	Sound class	NRC	SAA
40 mm	8,75%	0,65	M	C	0,70	0,69
Installation	Mounted on a wooden frame with a thickness of 20 mm, filled with 20 mm PRIMAWOOL of 22,5 kg/m³.					
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997						

*This product is not sold in Germany in respect of European patent EP1411179 / valid German DE503 05 161.6-08

INSTALLATION *see page 79*

TYPE Dr* / wall-ceiling-cupboard door

MATERIAL COMPOSITION

Top layer	High-quality HPL finish (EN438) of Abet Laminati 0.9 mm or real wood veneer 0.6 mm
Core	Acoustic black moisture repellent MDF 2 x 9 mm + acoustic absorbing glass fibre tissue (centre)
Backing	High-quality HPL finish (EN438) of Abet Laminati 0.9 mm or real wood veneer 0.6 mm

WEIGHT 10,5 kg/m²

PERFORATION

Type Dr perforations of 8.75%: front vertical grooves of 2.8 mm and random blades in combination with transversal continuous slits in the core
Blade/groove: random/2.8 mm
Full MDF frame for stability.

STD. MEASUREMENTS

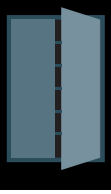
Made-to-measure cupboard and sliding doors
Thickness ±20 mm (HPL)
Thickness ±19 mm (veneer)

OPTIONS

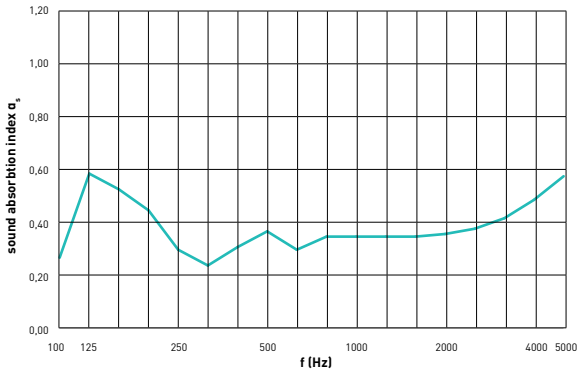
Drilled holes for hinges	On request (see page 79)
Edge finishing	Edge band in ABS 1-2 mm or in veneer edge band
Top layer	HPL, veneer, lacquer or digital print
Core	Acoustic black moisture repellent MDF or black fire retardant MDF (European fire class B)

TEST SET-UP IN LABORATORY:

CUPBOARD FRONTS, DEPTH
500 mm/empty



f(Hz)	T1 (s)	T2 (s)	α_s
100	12,65	6,70	0,27
125	**10,07**	**3,89**	**0,59**
150	9,14	4,02	0,53
200	9,60	4,48	0,45
250	**9,25**	**5,32**	**0,30**
315	9,29	5,87	0,24
400	8,86	5,17	0,31
500	**9,11**	**4,83**	**0,37**
630	9,79	5,52	0,30
800	9,72	5,16	0,35
1000	**9,53**	**5,10**	**0,35**
1250	8,69	4,89	0,35
1600	7,49	4,46	0,35
2000	**6,53**	**4,13**	**0,36**
2500	5,45	3,61	0,38
3150	4,40	3,08	0,42
4000	**3,51**	**2,53**	**0,49**
5000	2,69	2,04	0,58

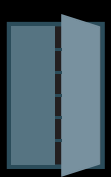


f(Hz)	α_p
125	0,45
250	0,35
500	0,35
1000	0,35
2000	0,35
4000	0,50

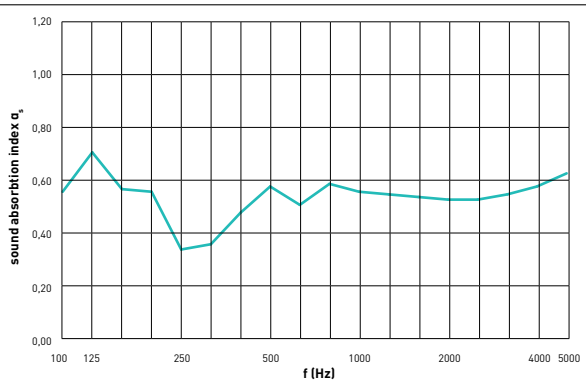
Total depth	% perfo	α_w	f(Hz)	Sound class	NRC	SAA
500 mm / empty	8,75%	0,35	H	D	0,35	0,34
Installation	Mounted on wooden frame with a height of 500 mm (= simulation of an empty cupboard)					
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997						

TEST SET-UP IN LABORATORY:

TOTAL DEPTH
500 mm/filled



f(Hz)	T1 (s)	T2 (s)	α_s
100	12,65	4,42	0,56
125	**10,07**	**3,48**	**0,71**
150	9,14	3,82	0,57
200	9,60	3,98	0,56
250	**9,25**	**5,03**	**0,34**
315	9,29	4,95	0,36
400	8,86	4,18	0,48
500	**9,11**	**3,81**	**0,58**
630	9,79	4,23	0,51
800	9,72	3,87	0,59
1000	**9,53**	**3,95**	**0,56**
1250	8,69	3,83	0,55
1600	7,49	3,62	0,54
2000	**6,53**	**3,44**	**0,53**
2500	5,45	3,12	0,53
3150	4,40	2,72	0,55
4000	**3,51**	**2,32**	**0,58**
5000	2,69	1,90	0,63

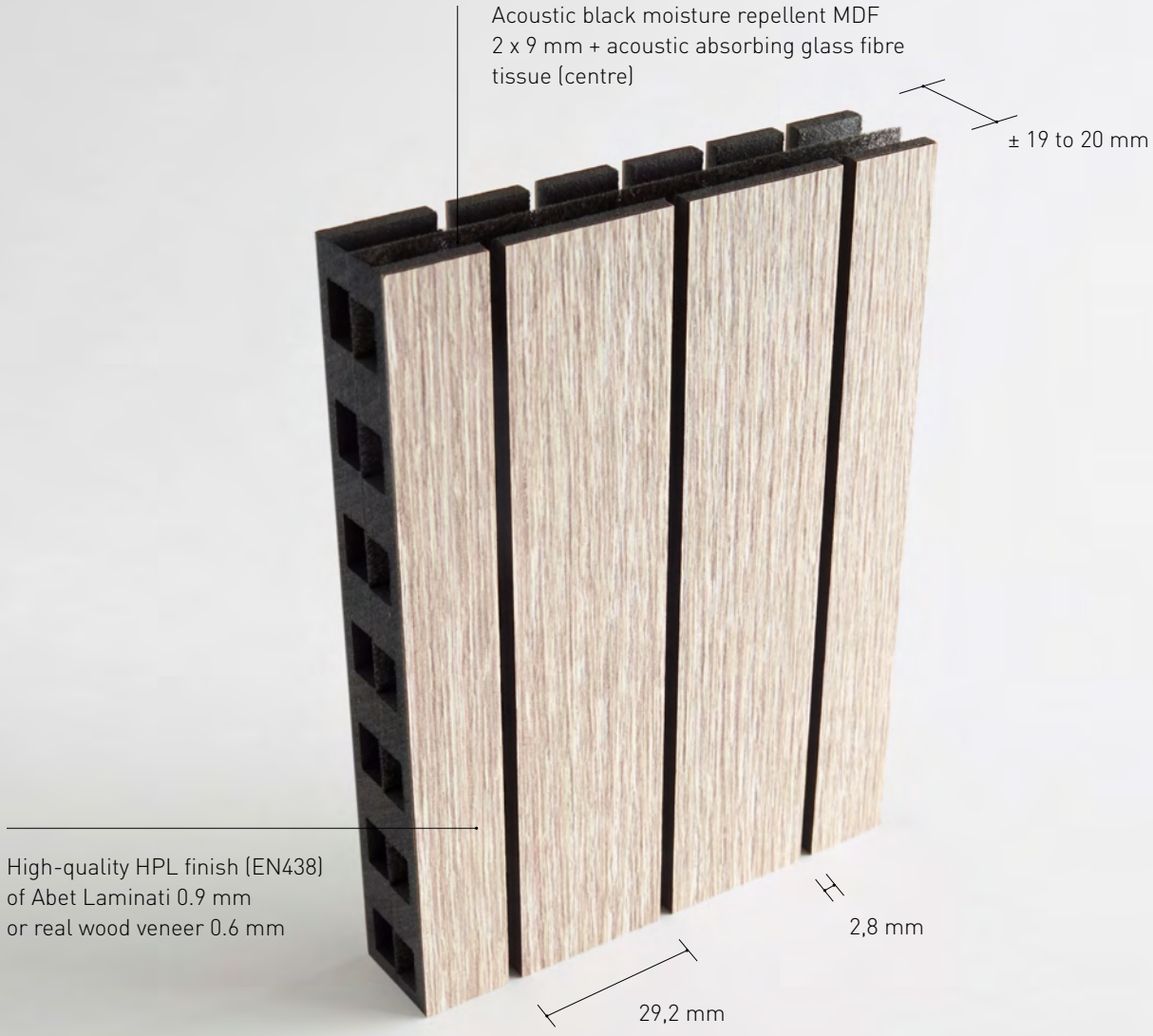


f(Hz)	α_p
125	0,60
250	0,40
500	0,50
1000	0,55
2000	0,55
4000	0,60

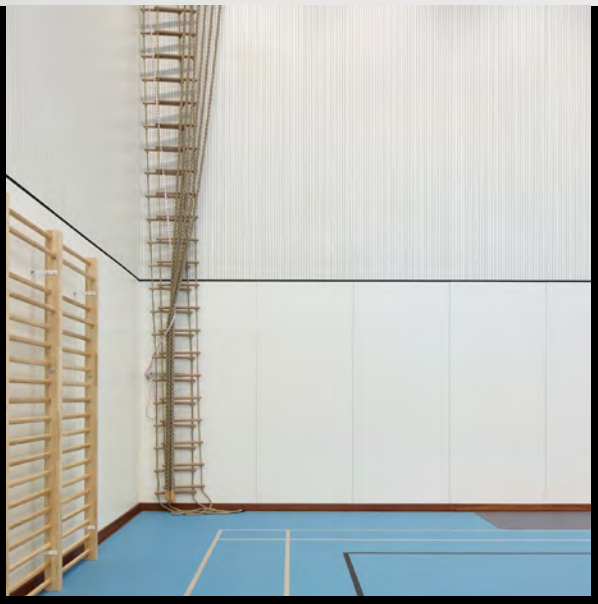
Total depth	% perfo	α_w	f(Hz)	Sound class	NRC	SAA
500 mm / filled	8,75%	0,55		C	0,50	0,51
Installation	Mounted on wooden frame with a height of 500 mm (= simulation of a filled cupboard), filled with 20 mm of PRIMAWOOL of 22.5 kg/m³, stuck with spun fabric side on the back of the interior of the cupboard.					
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997						

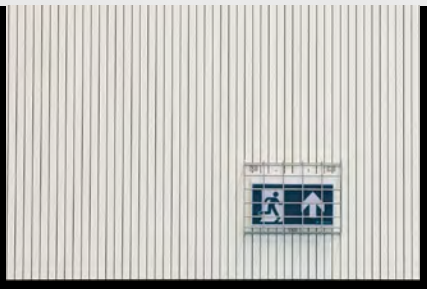
*This product is not sold in Germany in respect of European patent EP1411179 / valid German DE503 05 161.6-08

TYPE Dw* / wall-ceiling-cupboard door



INSTALLATION *see page 84 + 85*





TYPE Dw* / wall-ceiling-cupboard door

MATERIAL COMPOSITION

Top layer	High-quality HPL finish (EN438) of Abet Laminati 0.9 mm or real wood veneer 0.6 mm
Core	Acoustic black moisture repellent MDF 2 x 9 mm + acoustic absorbing glass fibre tissue (centre)
Backing	Backing in HPL finish (EN438) of Abet Laminati 0.9 mm or backing veneer 0.6 mm
WEIGHT	10,5 kg/m²

PERFORATION

Type Dw perforations of 4.35%: front vertical grooves of 2.8 mm and blades of 29.2 mm in combination with transversal continuous slits in the acoustic core
Blade/groove: 29.2/2.8 mm

STD. MEAS. FULL PANEL

(half grooved long sides)
3030x1280x±20 mm (HPL)
3030x1200x±19 mm (veneer)

STD. MEAS. PLANKS

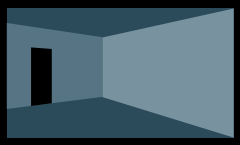
(tongue-groove long sides)
3030x192x±20 mm (HPL)
3030x128x±19 mm (veneer)

OPTIONS

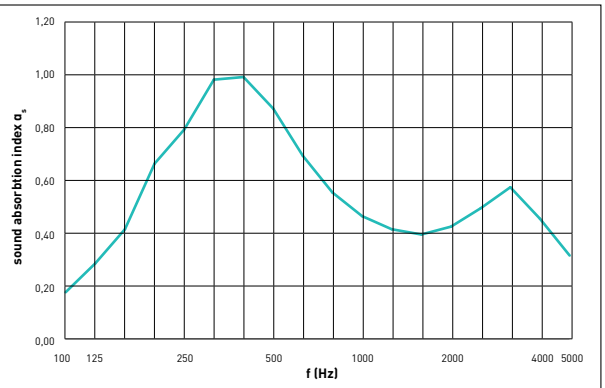
Made-to-measure	on request
Cupboard door fronts	on request (see page 76)
Cladding panel	on request (see page 81)
Flexible elements	on request (see page 80)
Top layer	HPL, veneer, lacquer or digital print
Core	Acoustic black moisture repellent MDF or black fire retardant MDF (European fire class B)

TEST SET-UP IN LABORATORY:

TOTAL THICKNESS WALLS
90 mm



f(Hz)	T1 (s)	T2 (s)	α_s
100	11,16	7,31	0,18
125	**10,95**	**5,94**	**0,29**
160	9,55	4,60	0,42
200	9,52	3,53	0,67
250	**9,46**	**3,14**	**0,80**
315	8,86	2,65	0,99
400	8,73	2,62	1,00
500	**9,47**	**2,94**	**0,88**
630	9,86	3,49	0,70
800	9,97	4,01	0,56
1000	**9,85**	**4,44**	**0,47**
1250	9,03	4,56	0,42
1600	7,86	4,34	0,40
2000	**6,81**	**3,94**	**0,43**
2500	5,54	3,30	0,50
3150	4,40	2,77	0,58
4000	**3,46**	**2,64**	**0,46**
5000	2,61	2,40	0,32

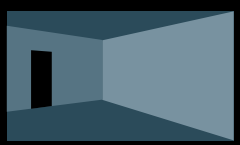


f(Hz)	α_p
125	0,30
250	0,80
500	0,85
1000	0,50
2000	0,45
4000	0,45

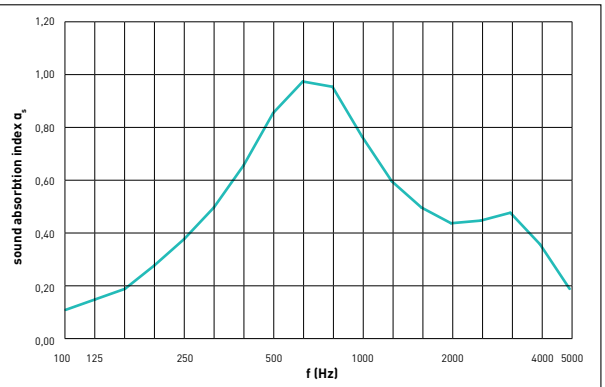
Total thickness	% perfo	α_w	f(Hz)	Sound class	NRC	SAA
90 mm	4,35%	0,50	LM	D	0,65	0,65
Installation	Mounted on a wooden frame with a thickness of 70 mm, filled with 50 mm of mineral wool with a density of 40 kg/m³.					
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997						

TEST SET-UP IN LABORATORY:

TOTAL THICKNESS WALLS
40 mm



f(Hz)	T1 (s)	T2 (s)	α_s
100	11,59	8,75	0,11
125	**10,96**	**7,68**	**0,15**
160	9,33	6,34	0,19
200	9,12	5,41	0,28
250	**9,21**	**4,76**	**0,38**
315	9,07	4,12	0,50
400	8,85	3,47	0,66
500	**9,29**	**2,96**	**0,86**
630	9,90	2,76	0,98
800	9,79	2,80	0,96
1000	**9,66**	**3,23**	**0,77**
1250	8,85	3,67	0,60
1600	7,71	3,81	0,50
2000	**6,62**	**3,76**	**0,44**
2500	5,33	3,28	0,45
3150	4,17	2,75	0,48
4000	**3,28**	**2,55**	**0,36**
5000	2,45	2,24	0,19

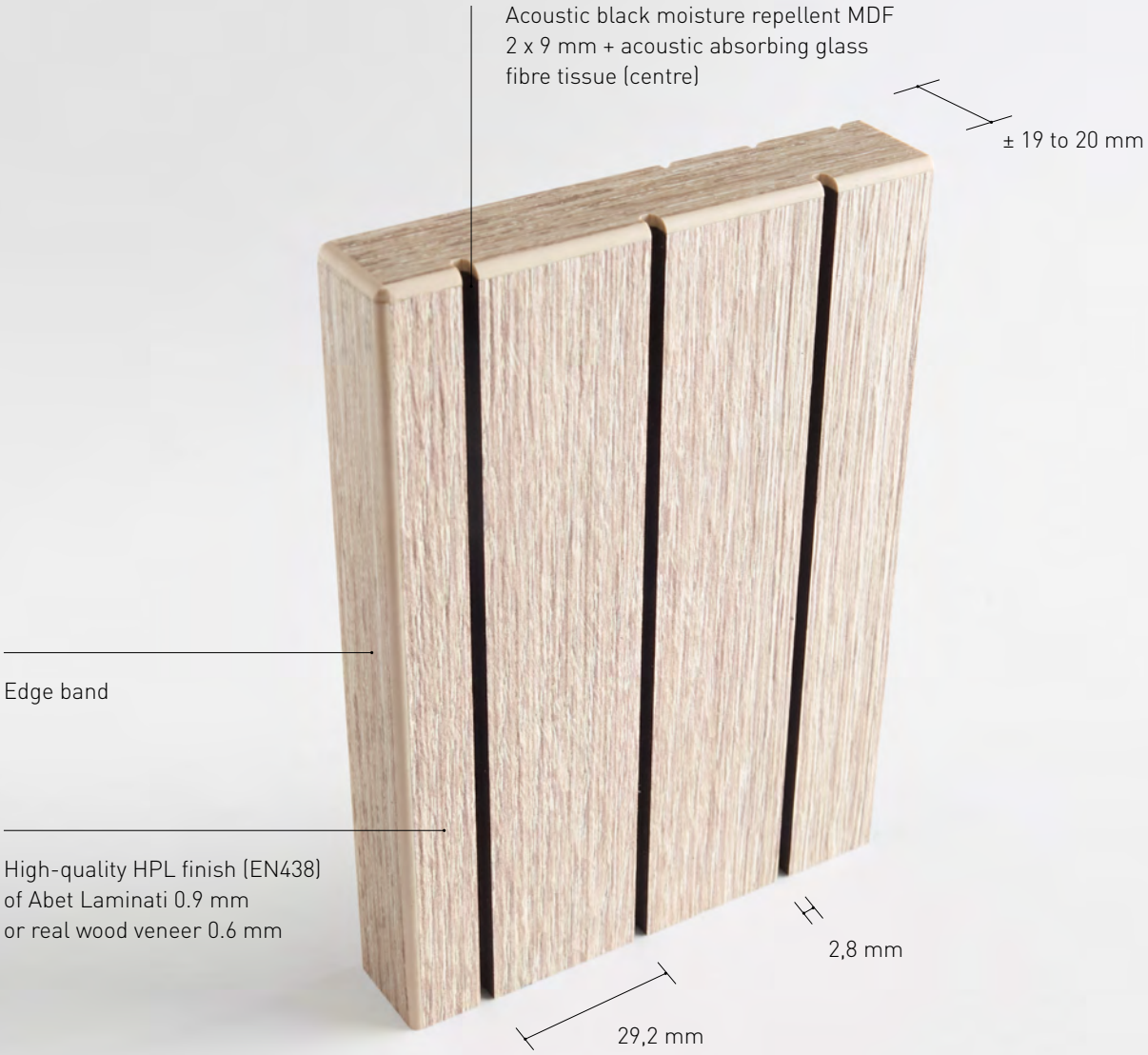


f(Hz)	α_p
125	0,15
250	0,40
500	0,85
1000	0,80
2000	0,45
4000	0,35

Total thickness	% perfo	α_w	f(Hz)	Sound class	NRC	SAA
40 mm	4,35%	0,50	MM	D	0,65	0,61
Installation	Mounted on a wooden frame with a thickness of 20 mm, filled with 20 mm PRIMAWOOL of 22,5 kg/m³.					
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997						

*This product is not sold in Germany in respect of European patent EP1411179 / valid German DE503 05 161.6-08

TYPE Dw* / wall-ceiling-cupboard door



INSTALLATION *see page 79*

TYPE Dw* / wall-ceiling-cupboard door

MATERIAL COMPOSITION

Top layer	High-quality HPL finish (EN438) of Abet Laminati 0.9 mm or real wood veneer 0.6 mm
Core	Acoustic black moisture repellent MDF 2 x 9 mm + acoustic absorbing glass fibre tissue (centre)
Backing	High-quality HPL finish (EN438) of Abet Laminati 0.9 mm or real wood veneer 0.6 mm
WEIGHT	10,5 kg/m²

PERFORATION

Type Dw perforations of 4.35%: front vertical grooves of 2.8 mm and blades of 29.2 mm in combination with transversal continuous slits in the acoustic core
Blade/groove: 29.2/2.8 mm
Full MDF frame for stability.

STD. MEASUREMENTS

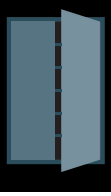
Made-to-measure cupboard and sliding doors
Thickness ±20 mm (HPL)
Thickness ±19 mm (veneer)

OPTIONS

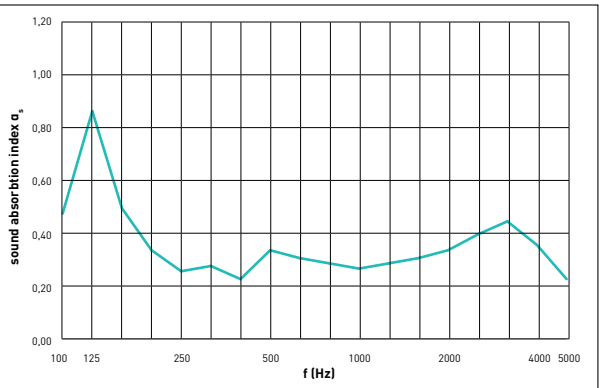
Drilled holes for hinges	On request (see page 79)
Edge finishing	Edge band in ABS 1-2 mm or in veneer edge band
Top layer	HPL, veneer, lacquer or digital print
Core	Acoustic black moisture repellent MDF or black fire retardant MDF (European fire class B)

TEST SET-UP IN LABORATORY:

CUPBOARD FRONTS, DEPTH
500 mm/empty



f(Hz)	T1 (s)	T2 (s)	α_s
100	8,73	4,04	0,48
125	**10,00**	**2,99**	**0,87**
160	8,67	4,01	0,50
200	8,41	4,77	0,34
250	**8,81**	**5,44**	**0,26**
315	9,20	5,45	0,28
400	8,49	5,60	0,23
500	**8,88**	**4,90**	**0,34**
630	9,45	5,27	0,31
800	9,53	5,49	0,29
1000	**9,18**	**5,47**	**0,27**
1250	8,56	5,11	0,29
1600	7,52	4,62	0,31
2000	**6,84**	**4,21**	**0,34**
2500	5,85	3,60	0,40
3150	4,92	3,09	0,45
4000	**4,09**	**2,93**	**0,36**
5000	3,24	2,70	0,23

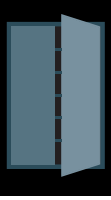


f(Hz)	α_p
125	0,60
250	0,30
500	0,30
1000	0,30
2000	0,35
4000	0,35

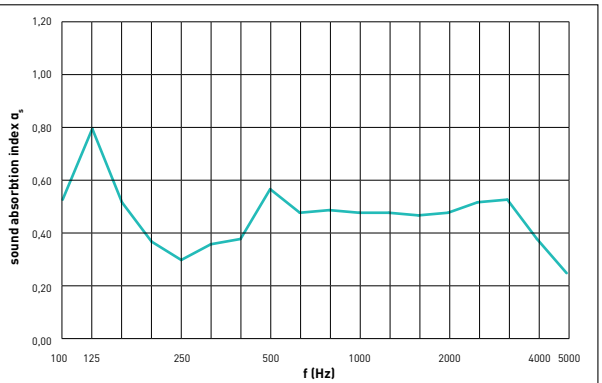
Total depth	% perfo	α_w	f(Hz)	Sound class	NRC	SAA
500 mm / empty	4,35%	0,35		D	0,30	0,30
Installation	Mounted on wooden frame with a height of 500 mm (= simulation of an empty cupboard)					
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997						

TEST SET-UP IN LABORATORY:

TOTAL DEPTH
500 mm/filled



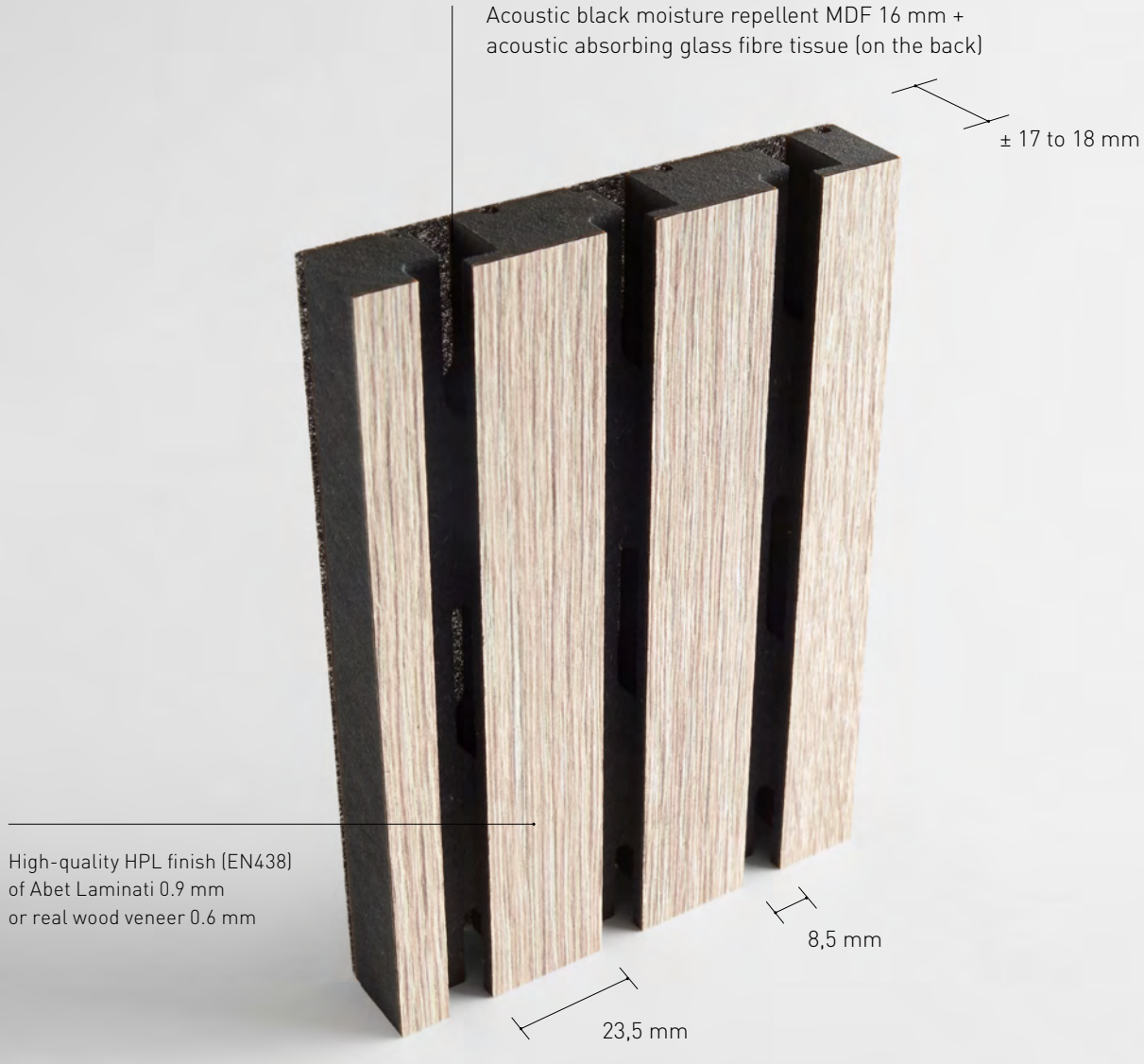
f(Hz)	T1 (s)	T2 (s)	α_s
100	8,37	3,81	0,53
125	**10,00**	**3,18**	**0,80**
160	8,67	3,93	0,52
200	8,41	4,61	0,37
250	**8,81**	**5,15**	**0,30**
315	9,20	4,87	0,36
400	8,49	4,55	0,38
500	**8,88**	**3,77**	**0,57**
630	9,45	4,28	0,48
800	9,53	4,23	0,49
1000	**9,18**	**4,20**	**0,48**
1250	8,56	4,08	0,48
1600	7,52	3,84	0,47
2000	**6,84**	**3,64**	**0,48**
2500	5,85	3,23	0,52
3150	4,92	2,90	0,53
4000	**4,09**	**2,88**	**0,38**
5000	3,24	2,66	0,25



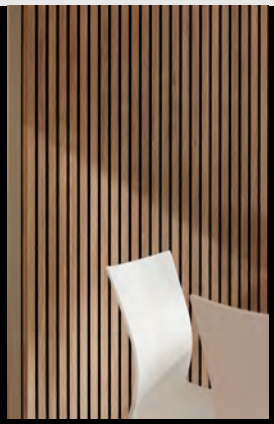
f(Hz)	α_p
125	0,60
250	0,35
500	0,45
1000	0,50
2000	0,50
4000	0,40

Total depth	% perfo	α_w	f(Hz)	Sound class	NRC	SAA
500 mm / filled	4,35%	0,50		D	0,45	0,45
Installation	Mounted on wooden frame with a height of 500 mm (= simulation of a filled cupboard), filled with 20 mm of PRIMAWOOL of 22.5 kg/m³, stuck with spun fabric side on the back of the interior of the cupboard.					
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997						

*This product is not sold in Germany in respect of European patent EP1411179 / valid German DE503 05 161.6-08



INSTALLATION *see page 84 + 85*



MATERIAL COMPOSITION

Top layer	High-quality HPL finish (EN438) of Abet Laminati 0.9 mm or real wood veneer 0.6 mm
Core	Acoustic black moisture repellent MDF 16 mm
Backing	Backing in HPL finish (EN438) of Abet Laminati 0.9 mm or backing veneer 0.6 mm + acoustic absorbing glass fibre tissue (on the back)
WEIGHT	11,0 kg/m²

PERFORATION

Type Z perforations of 7.5%: front vertical grooves of 8.5 mm and blades of 23.5 mm in combination with sideways slits in the acoustic core
Blade/groove: 23.5/8.5 mm

STD. MEAS. FULL PANEL

(half grooved long sides)
3030x1280x±18 mm (HPL)
3030x1184x±17 mm (veneer)

STD. MEAS. PLANKS

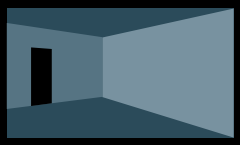
(tongue-groove long sides)
3030x192x±18 mm (HPL)
3030x128x±17 mm (veneer)

OPTIONS

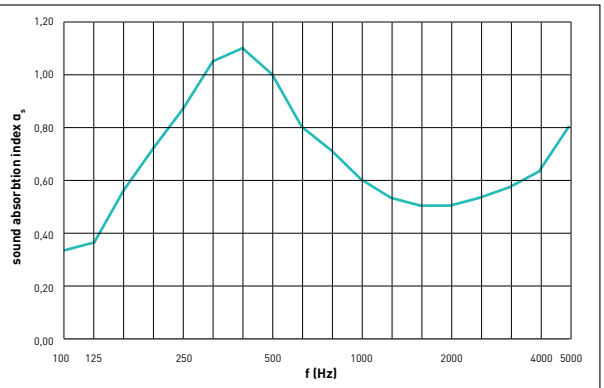
Made-to-measure	on request
Cladding panel	on request (see page 81)
Top layer	HPL, veneer, lacquer or digital print
Core	Acoustic black moisture repellent MDF or black fire retardant MDF (European fire class B)

TEST SET-UP IN LABORATORY:

TOTAL THICKNESS WALLS
88 mm



f(Hz)	T1 (s)	T2 (s)	α_s
100	12,93	6,68	0,34
125	**13,05**	**6,39**	**0,37**
150	11,51	4,77	0,57
200	11,84	4,18	0,73
250	**10,89**	**3,58**	**0,88**
315	11,12	3,15	1,06
400	10,88	3,02	1,11
500	**10,86**	**3,24**	**1,01**
630	11,80	3,86	0,81
800	11,94	4,22	0,72
1000	**11,58**	**4,63**	**0,61**
1250	10,49	4,73	0,54
1600	8,98	4,56	0,51
2000	**7,67**	**4,20**	**0,51**
2500	8,13	3,81	0,54
3150	4,79	3,02	0,58
4000	**3,70**	**2,47**	**0,64**
5000	2,74	1,87	0,81

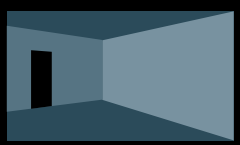


f(Hz)	α_p
125	0,45
250	0,90
500	1,00
1000	0,60
2000	0,50
4000	0,70

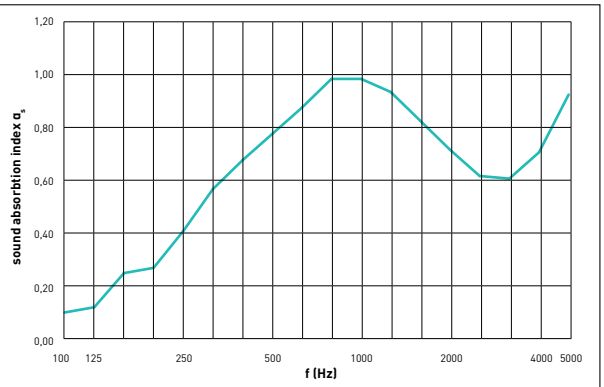
Total thickness	% perfo	α_w	f(Hz)	Sound class	NRC	SAA
88 mm	7,5%	0,60	LM	C	0,75	0,75
Installation	Mounted on a wooden frame with a thickness of 70mm, filled with 50mm of mineral wool with a density of 40 kg/m³.					
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997						

TEST SET-UP IN LABORATORY:

TOTAL THICKNESS WALLS
38 mm

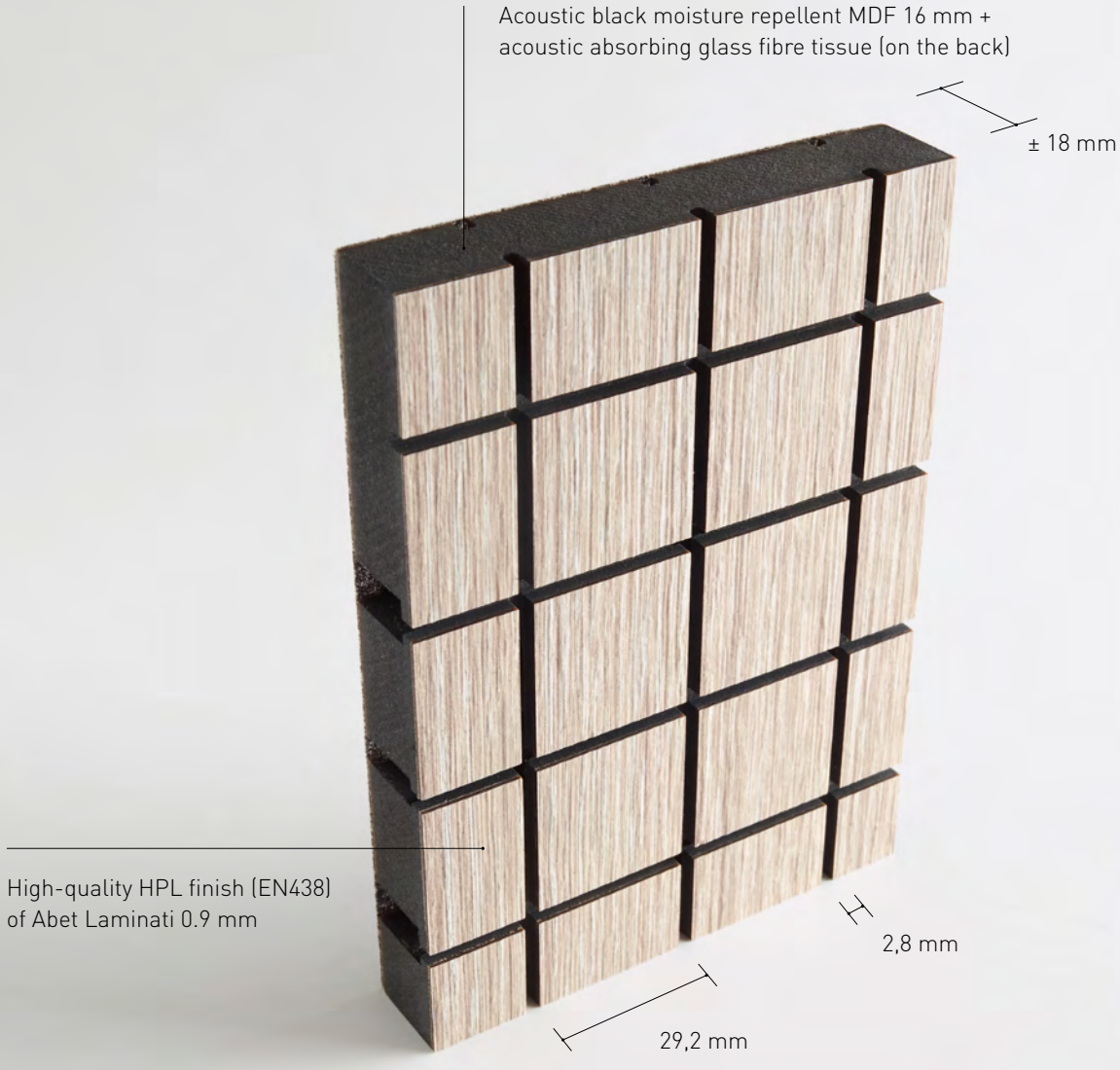


f(Hz)	T1 (s)	T2 (s)	α_s
100	12,23	9,20	0,10
125	**10,79**	**7,93**	**0,12**
150	9,82	5,95	0,25
200	9,09	5,51	0,27
250	**9,36**	**4,61**	**0,41**
315	9,30	3,85	0,57
400	9,26	3,46	0,68
500	**9,40**	**3,19**	**0,78**
630	10,04	2,98	0,88
800	9,95	2,74	0,99
1000	**9,73**	**2,72**	**0,99**
1250	8,92	2,75	0,94
1600	7,72	2,86	0,83
2000	**6,69**	**2,93**	**0,72**
2500	5,44	2,85	0,62
3150	4,32	2,52	0,61
4000	**3,40**	**2,06**	**0,71**
5000	2,54	1,55	0,93

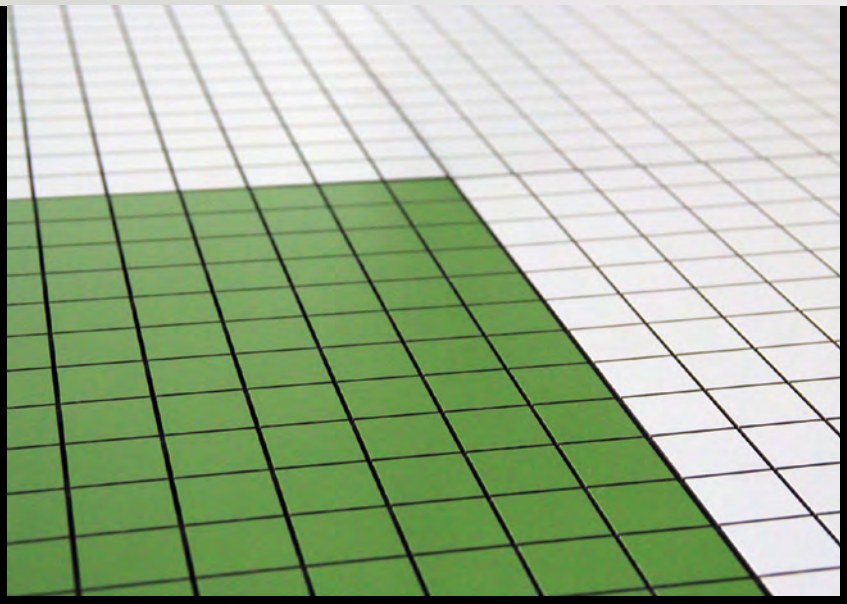


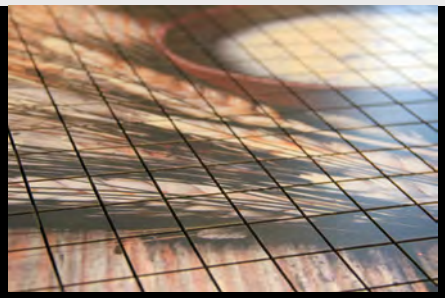
f(Hz)	α_p
125	0,15
250	0,40
500	0,80
1000	1,00
2000	0,70
4000	0,75

Total thickness	% perfo	α_w	f(Hz)	Sound class	NRC	SAA
38mm	7,5%	0,70	M	C	0,75	0,72
Installation	Mounted on a wooden frame with a thickness of 20 mm, filled with 20 mm PRIMAWOOL of 22,5 kg/m³.					
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997						



INSTALLATION *see page 84*





MATERIAL COMPOSITION

Top layer	High-quality HPL finish (EN438) of Abet Abet Laminati 0,9 mm
Core	Acoustic black moisture repellent MDF 16 mm
Backing	Backing in HPL finish (EN438) of Abet Laminati 0.9 mm + acoustic absorbing glass fibre tissue (on the back)
WEIGHT	11,5 kg/m²

PERFORATION

Type T perforations of 6.8%: mosaic pattern with grooves of 2.8 mm and blades of 29.2 mm. The perforations connect nicely to each other both horizontally and vertically.

STD. MEAS. FULL PANEL

(half grooved long sides)
3008x1280x±18 mm (HPL)

STD. MEAS. PLANKS

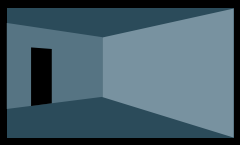
(half grooved long sides)
576x576x±18 mm (HPL)

OPTIONS

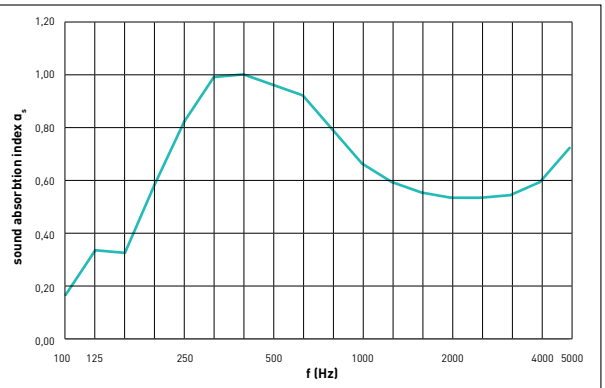
Made-to-measure	on request
Cladding panel	on request (see page 81)
Top layer	HPL, lacquer or digital print
Core	Acoustic black moisture repellent MDF or black fire retardant MDF (European fire class B)

TEST SET-UP IN LABORATORY:

TOTAL THICKNESS WALLS
80 mm



f(Hz)	T1 (s)	T2 (s)	α_s
100	12,21	7,87	0,17
125	**11,52**	**5,64**	**0,34**
150	9,98	5,31	0,33
200	9,84	3,86	0,59
250	**9,09**	**3,00**	**0,83**
315	9,32	2,67	1,00
400	9,12	2,64	1,01
500	**9,15**	**2,71**	**0,97**
630	9,95	2,86	0,93
800	9,83	3,18	0,80
1000	**9,55**	**3,54**	**0,67**
1250	8,79	3,69	0,60
1600	7,60	3,59	0,56
2000	**6,49**	**3,39**	**0,54**
2500	5,28	3,07	0,54
3150	4,14	2,64	0,55
4000	**3,26**	**2,22**	**0,60**
5000	2,43	1,72	0,73

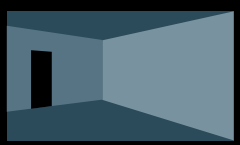


f(Hz)	α_p
125	0,30
250	0,80
500	0,95
1000	0,70
2000	0,55
4000	0,65

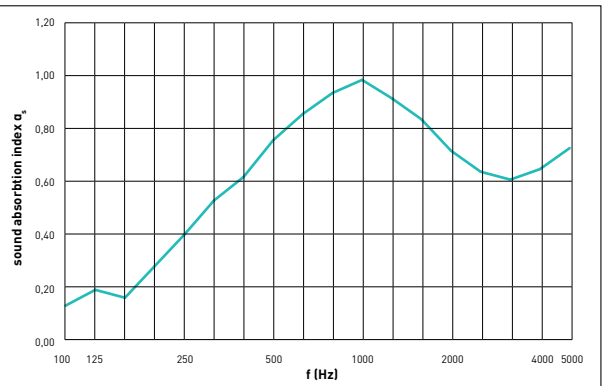
Total thickness	% perfo	α_w	f(Hz)	Sound class	NRC	SAA
88 mm	6,8%	**0,65**	LM	C	0,75	0,75
Installation	Mounted on a wooden frame with a thickness of 70mm, filled with 50mm of mineral wool with a density of 40kg/m³.					
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997						

TEST SET-UP IN LABORATORY:

TOTAL THICKNESS WALLS
30 mm



f(Hz)	T1 (s)	T2 (s)	α_s
100	12,12	8,57	0,13
125	**11,73**	**7,38**	**0,19**
150	10,10	7,04	0,16
200	10,15	5,74	0,28
250	**9,26**	**4,64**	**0,40**
315	9,28	4,00	0,53
400	9,11	3,63	0,62
500	**9,36**	**3,20**	**0,76**
630	10,04	3,01	0,86
800	9,93	2,83	0,94
1000	**9,68**	**2,70**	**0,99**
1250	8,97	2,78	0,92
1600	7,85	2,82	0,84
2000	**6,82**	**2,93**	**0,72**
2500	5,58	2,84	0,64
3150	4,46	2,57	0,61
4000	**3,53**	**2,18**	**0,65**
5000	2,66	1,74	0,73



f(Hz)	α_p
125	0,15
250	0,40
500	0,75
1000	0,95
2000	0,75
4000	0,65

Total thickness	% perfo	α_w	f(Hz)	Sound class	NRC	SAA
38 mm	6,8%	**0,70**	M	C	0,70	0,71
Installation	Mounted on a wooden frame with a thickness of 20 mm, filled with 20 mm PRIMAWOOL of 22,5 kg/m³.					
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997						

Acoustic black moisture repellent
MDF 9 mm + acoustic absorbing
glass fibre tissue (on the back)

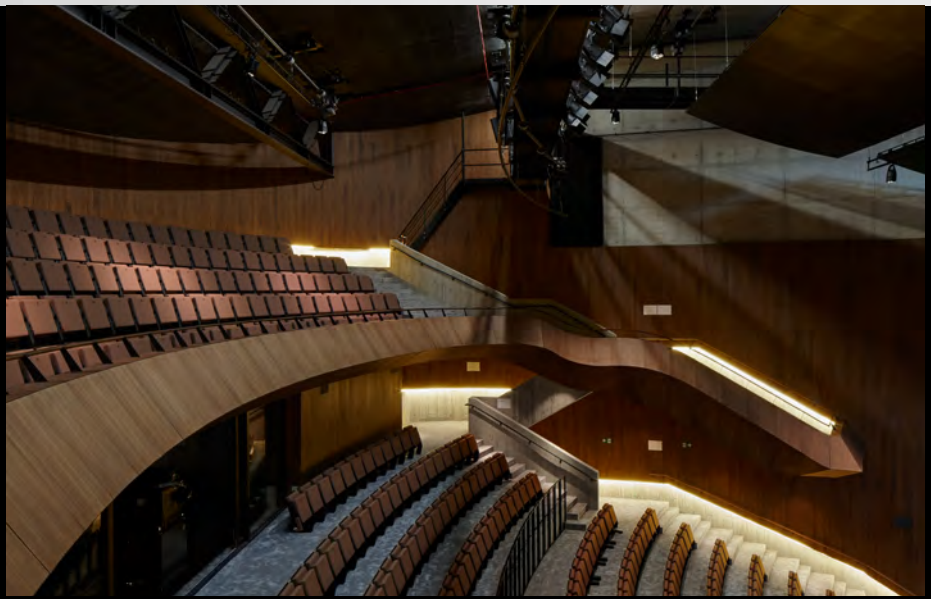
± 10 to 11 mm

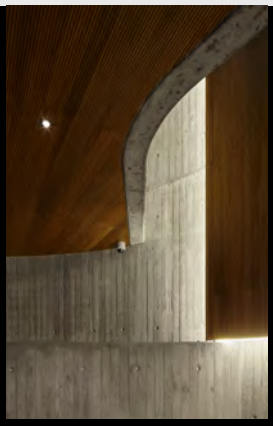
High-quality HPL finish (EN438)
of Abet Laminati 0.9 mm
or real wood veneer 0.6 mm

2,8 mm

13,2 mm

INSTALLATION *see page 85*





MATERIAL COMPOSITION

Top layer	High-quality HPL finish (EN438) of Abet Laminati 0.9 mm or real wood veneer 0.6 mm
Core	Acoustic black moisture repellent MDF 9 mm
Backing	Backing in HPL finish (EN438) of Abet Laminati 0.9 mm or backing veneer 0.6 mm + acoustic absorbing glass fibre tissue (on the back)
WEIGHT	6,0 kg/m²

PERFORATION

Type PS 250 Hz, low frequency panel absorber for musical environment with perforations of 2.26%: front vertical grooves of 2.8 mm and blades of 13.2 mm in combination with continuous grooves in the acoustic core
Blade/groove: 13.2/2.8 mm

STD. MEASUREMENTS PLANKS

(Half grooved - overlap)
3030x192x±11 mm (HPL) 3030x128x±10 mm (veneer)

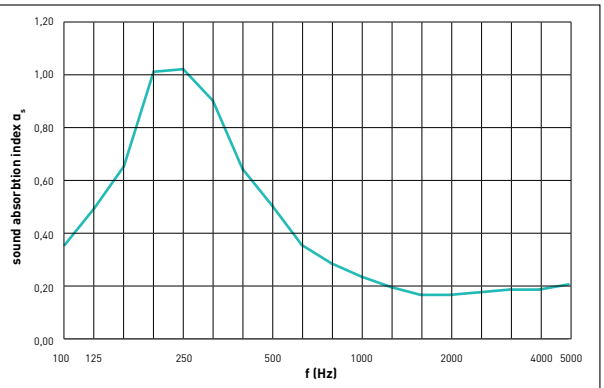
OPTIONS

Made-to-measure	on request
Cladding panel	on request (see page 81)
Top layer	HPL, veneer, lacquer or digital print
Core	Acoustic black moisture repellent MDF or black fire retardant MDF (European fire class B)

TEST SET-UP IN LABORATORY:

TOTAL THICKNESS WALLS
80 mm

f(Hz)	T1 (s)	T2 (s)	α_s
100	13,72	5,95	0,36
125	**9,95**	**4,27**	**0,50**
150	9,53	3,56	0,66
200	8,58	2,56	1,02
250	**9,36**	**2,61**	**1,03**
315	8,92	2,81	0,91
400	8,67	3,44	0,65
500	**9,18**	**4,06**	**0,51**
630	9,77	5,00	0,36
800	9,66	5,54	0,29
1000	**9,54**	**5,94**	**0,24**
1250	8,88	6,04	0,20
1600	7,93	5,79	0,17
2000	**7,06**	**5,35**	**0,17**
2500	6,00	4,69	0,18
3150	4,97	3,99	0,19
4000	**4,06**	**3,38**	**0,19**
5000	3,18	2,71	0,21

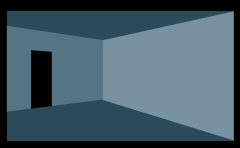


f(Hz)	α_p
125	0,50
250	1,00
500	0,50
1000	0,25
2000	0,15
4000	0,20

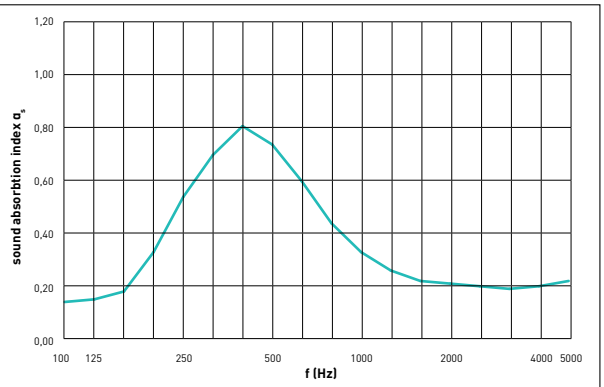
Total thickness	% perfo	α_w	f(Hz)	Sound class	NRC	SAA
80 mm	2,26%	0,25	LM	E	0,50	0,48
Installation	Mounted on a wooden frame with a thickness of 70 mm, filled with 50 mm of mineral wool with a density of 40 kg/m³.					
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997						

TEST SET-UP IN LABORATORY:

TOTAL THICKNESS WALLS
30 mm



f(Hz)	T1 (s)	T2 (s)	α_s
100	13,63	8,98	0,14
125	**10,11**	**7,19**	**0,15**
150	9,83	6,68	0,18
200	8,75	4,91	0,33
250	**9,55**	**4,01**	**0,54**
315	9,03	3,34	0,70
400	8,74	3,01	0,81
500	**9,34**	**3,26**	**0,74**
630	9,98	3,84	0,60
800	9,95	4,57	0,44
1000	**9,75**	**5,27**	**0,33**
1250	9,15	5,58	0,26
1600	8,07	5,52	0,22
2000	**7,22**	**5,81**	**0,21**
2500	6,08	4,61	0,20
3150	4,97	3,99	0,19
4000	**4,05**	**3,36**	**0,20**
5000	3,16	2,69	0,22

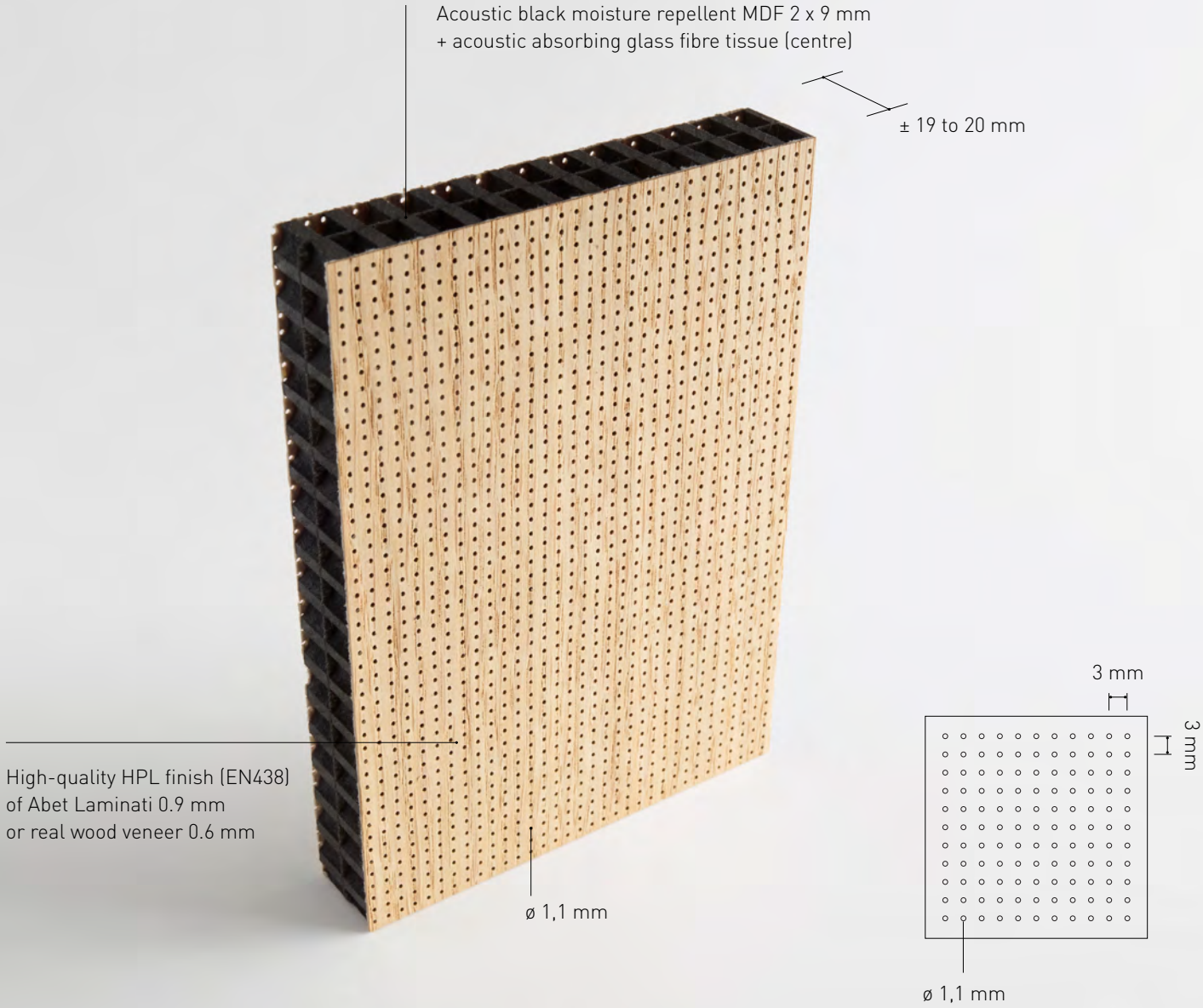


f(Hz)	α_p
125	0,15
250	0,50
500	0,70
1000	0,35
2000	0,20
4000	0,20

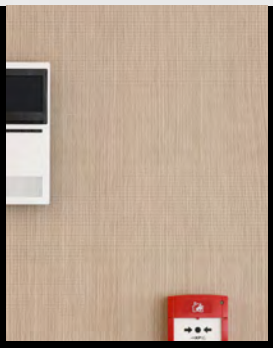
Total thickness	% perfo	α_w	f(Hz)	Sound class	NRC	SAA
30 mm	2,26%	0,30	LM	D	0,45	0,45
Installation	Mounted on a wooden frame with a thickness of 20 mm, filled with 20 mm PRIMAWOOL of 22,5 kg/m³.					
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997						

MICRO/NANO

TYPE M / wall-ceiling-cupboard door



INSTALLATION *see page 87*



TYPE M / wall-ceiling-cupboard door

MATERIAL COMPOSITION

Top layer	High-quality HPL finish (EN438) of Abet Laminati 0.9 mm or real wood veneer 0.6 mm
Core	Acoustic black moisture repellent MDF 2 x 9 mm + acoustic absorbing glass fibre tissue (centre)
Backing	Backing in HPL finish (EN438) of Abet Laminati 0.9 mm or backing veneer 0.6 mm
WEIGHT	11 kg/m²

PERFORATION

Type M with top layer perforations of 10.6%, core perforations of 44.2%: provided with perforated top layer and backing with micro perforations with a diameter of 1.1 mm across the entire surface area (linear, 3/3/1.1 mm) in combination with 2 x perforated acoustic core (provided with a full MDF of 55 mm and a perforated zone in the core [linear, 8/8/6 mm]) and acoustic absorbing glass fibre tissue (centre)

STD. MEASUREMENTS FULL PANEL

(square-sawn)
3000x1270x±20 mm (HPL)
3000x1200x±19 mm (veneer)

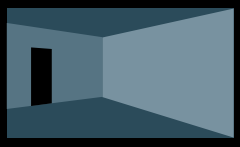
(composition of full board, see page 62)

OPTIONS

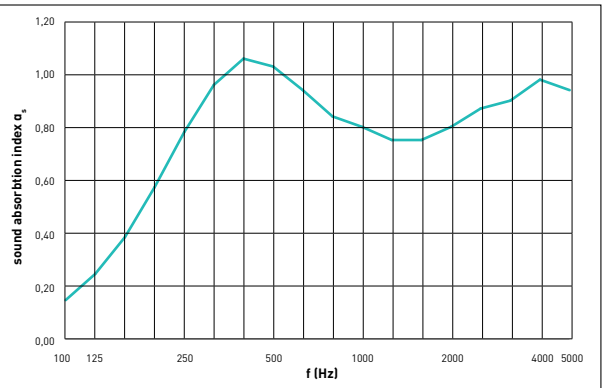
Made-to-measure	on request
Cupboard door fronts	on request (see page 76)
Cladding panel	on request (see page 81)
Flexible elements	on request (see page 80)
Top layer	HPL, veneer of digital print
Core	Acoustic black moisture repellent MDF or black fire retardant MDF (European fire class B)

TEST SET-UP IN LABORATORY:

TOTAL THICKNESS WALLS
90 mm



f(Hz)	T1 (s)	T2 (s)	α_s
100	11,85	8,03	0,15
125	**10,45**	**6,08**	**0,25**
150	9,96	4,89	0,39
200	10,61	3,99	0,58
250	**9,51**	**3,14**	**0,79**
315	9,36	2,73	0,97
400	9,34	2,54	1,07
500	**9,39**	**2,58**	**1,04**
630	10,31	2,83	0,95
800	10,03	3,05	0,85
1000	**9,78**	**3,13**	**0,81**
1250	8,94	3,21	0,76
1600	7,75	3,07	0,76
2000	**6,58**	**2,79**	**0,81**
2500	5,29	2,47	0,88
3150	4,12	2,20	0,91
4000	**3,23**	**1,91**	**0,99**
5000	2,41	1,69	0,95

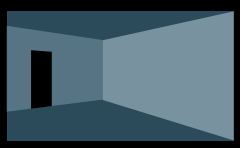


f(Hz)	α_p
125	0,25
250	0,80
500	1,00
1000	0,80
2000	0,80
4000	0,95

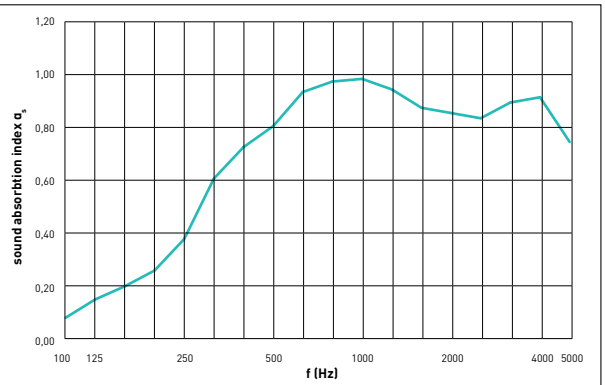
Total thickness	% perfo top layer	% perfo core	α_w	f(Hz)	Sound class	NRC	SAA
90 mm	10,6%	44,2%	0,85		B	0,85	0,86
Installation	Mounted on a wooden frame with a thickness of 70 mm, filled with 50 mm of mineral wool with a density of 40 kg/m³.						
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997							

TEST SET-UP IN LABORATORY:

TOTAL THICKNESS WALLS
40 mm



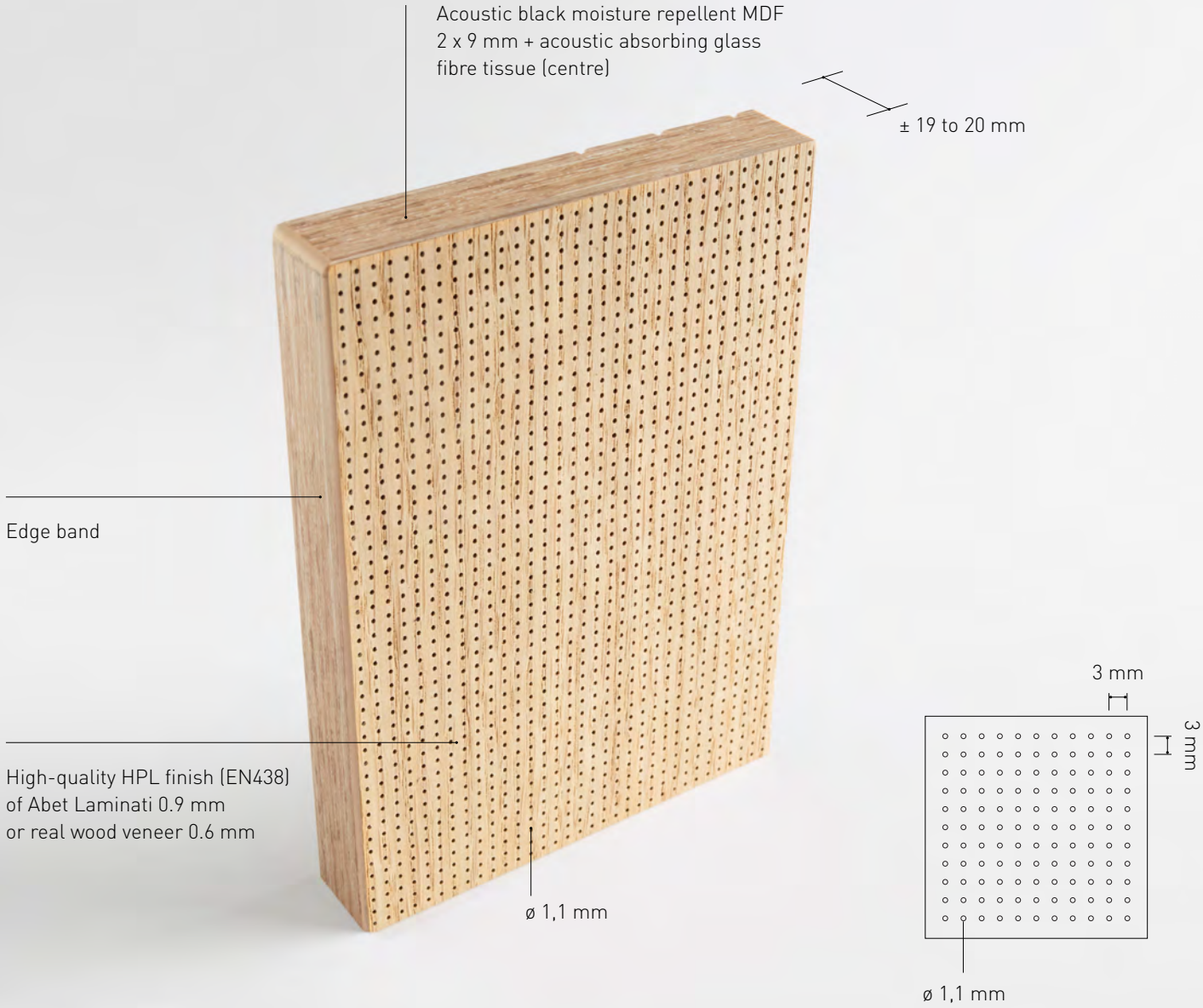
f(Hz)	T1 (s)	T2 (s)	α_s
100	12,23	9,64	0,08
125	**10,79**	**7,49**	**0,15**
150	9,82	6,41	0,20
200	9,09	5,59	0,26
250	**9,36**	**4,78**	**0,38**
315	9,30	3,71	0,61
400	9,26	3,30	0,73
500	**9,40**	**3,11**	**0,81**
630	10,04	2,87	0,94
800	9,95	2,76	0,98
1000	**9,73**	**2,72**	**0,99**
1250	8,92	2,73	0,95
1600	7,72	2,75	0,88
2000	**6,69**	**2,64**	**0,86**
2500	5,44	2,44	0,84
3150	4,32	2,11	0,90
4000	**3,40**	**1,84**	**0,92**
5000	2,54	1,66	0,75



f(Hz)	α_p
125	0,15
250	0,40
500	0,85
1000	1,00
2000	0,85
4000	0,85

Total thickness	% perfo top layer	% perfo core	α_w	f(Hz)	Sound class	NRC	SAA
40 mm	10,6%	44,2%	0,70	MH	C	0,75	0,77
Installation	Mounted on a wooden frame with a thickness of 20 mm, filled with 20 mm PRIMAWOOL of 22,5 kg/m³.						
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997							

TYPE M / wall-ceiling-cupboard door



INSTALLATION *see page 79*

TYPE M / wall-ceiling-cupboard door

MATERIAL COMPOSITION

Top layer	High-quality HPL finish (EN438) of Abet Laminati 0.9 mm or real wood veneer 0.6 mm
Core	Acoustic black moisture repellent MDF 2 x 9 mm + acoustic absorbing glass fibre tissue (centre)
Backing	High-quality HPL finish (EN438) of Abet Laminati 0.9 mm or real wood veneer 0.6 mm

WEIGHT 11 kg/m²

PERFORATION

Type M with top layer perforations of 10.6%, core perforations of 44.2%: provided with perforated top layer and backing with micro perforations with a diameter of 1.1 mm across the entire surface area (linear, 3/3/1.1 mm) in combination with 2 x perforated core (provided with a full MDF of 55 mm and a perforated zone in the core [linear, 8/8/6 mm]) and acoustic absorbing glass fibre tissue (centre)

STD. MEASUREMENTS

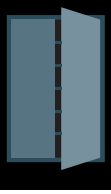
Made-to-measure cupboard and sliding doors
Thickness ±20 mm (HPL)
Thickness ±19 mm (veneer)

OPTIONS

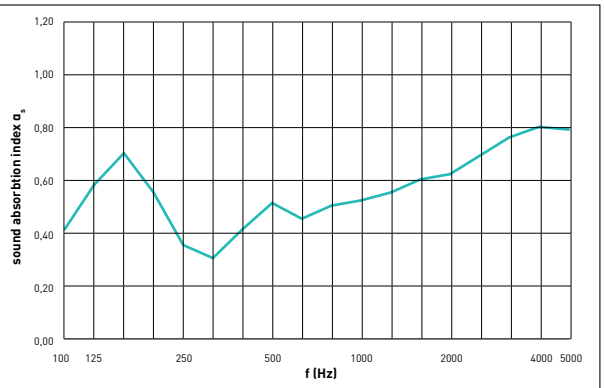
Drilled holes for hinges	On request (see page 79)
Edge finishing	Edge band in ABS 1-2 mm or in veneer edge band
Top layer	HPL, veneer of digital print
Core	Acoustic black moisture repellent MDF or black fire retardant MDF (European fire class B)

TEST SET-UP IN LABORATORY:

CUPBOARD FRONTS, DEPTH
500 mm/empty



f(Hz)	T1 (s)	T2 (s)	α_s
100	12,65	5,24	0,42
125	**10,07**	**3,91**	**0,59**
150	9,14	3,36	0,71
200	9,60	3,94	0,56
250	**9,25**	**4,90**	**0,36**
315	9,29	5,31	0,31
400	8,86	4,47	0,42
500	**9,11**	**4,07**	**0,52**
630	9,79	4,47	0,46
800	9,72	4,20	0,51
1000	**9,53**	**4,08**	**0,53**
1250	8,69	3,80	0,56
1600	7,49	3,43	0,61
2000	**6,53**	**3,16**	**0,63**
2500	5,45	2,76	0,70
3150	4,40	2,38	0,77
4000	**3,51**	**2,08**	**0,81**
5000	2,69	1,81	0,80

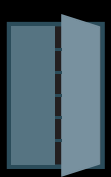


f(Hz)	α_p
125	0,55
250	0,40
500	0,45
1000	0,55
2000	0,65
4000	0,80

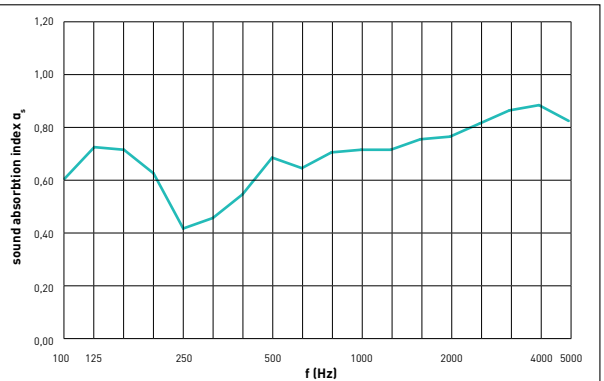
Total depth	% perfo top layer	% perfo core	α_w	f(Hz)	Sound class	NRC	SAA
500 mm / empty	10,6%	44,2%	0,55	H	D	0,50	0,51
Installation	Mounted on wooden frame with a height of 500 mm (= simulation of an empty cupboard)						
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997							

TEST SET-UP IN LABORATORY:

TOTAL DEPTH
500 mm/filled



f(Hz)	T1 (s)	T2 (s)	α_s
100	12,65	4,16	0,61
125	**10,07**	**3,43**	**0,73**
160	9,14	3,32	0,72
200	9,60	3,68	0,63
250	**9,25**	**4,56**	**0,42**
315	9,29	4,37	0,46
400	8,86	3,87	0,55
500	**9,11**	**3,41**	**0,69**
630	9,79	3,67	0,65
800	9,72	3,46	0,71
1000	**9,53**	**3,39**	**0,72**
1250	8,69	3,28	0,72
1600	7,49	3,02	0,76
2000	**6,53**	**2,85**	**0,77**
2500	5,45	2,56	0,82
3150	4,40	2,25	0,87
4000	**3,51**	**2,01**	**0,89**
5000	2,69	1,80	0,83

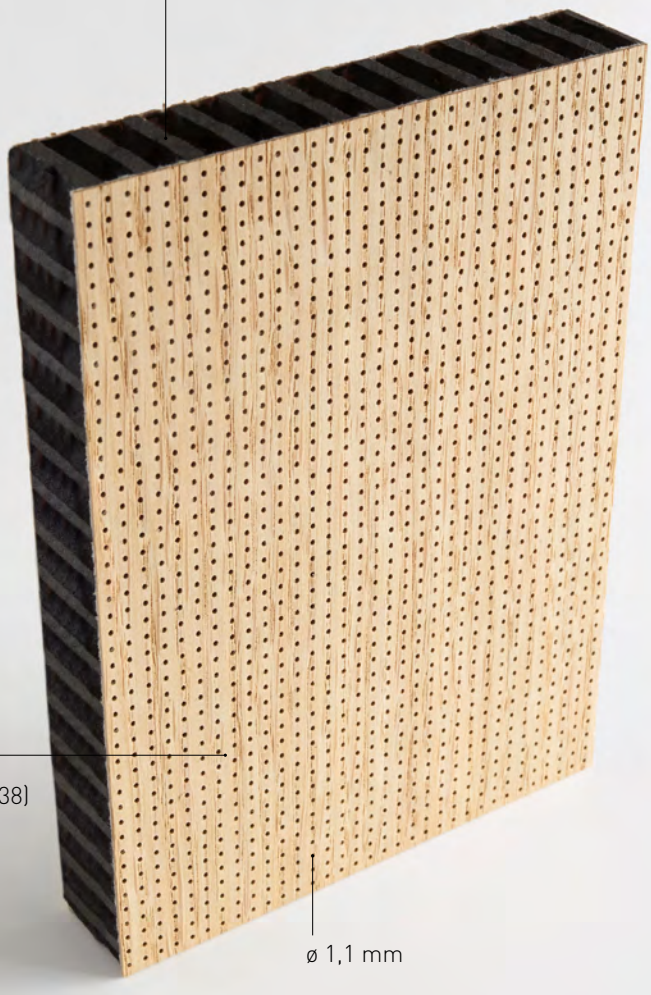


f(Hz)	α_p
125	0,70
250	0,50
500	0,65
1000	0,70
2000	0,80
4000	0,85

Total depth	% perfo top layer	% perfo core	α_w	f(Hz)	Sound class	NRC	SAA
500 mm / filled	10,6%	44,2%	0,70	H	C	0,65	0,66
Installation	Mounted on wooden frame with a height of 500 mm (= simulation of a filled cupboard), filled with 20 mm of PRIMAWOOL of 22.5 kg/m³, stuck with spun fabric side on the back of the interior of the cupboard.						
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997							

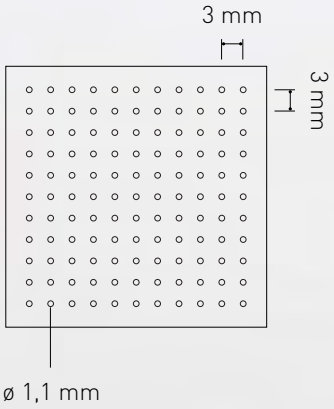
Acoustic black moisture repellent MDF 16 mm
+ acoustic absorbing glass fibre tissue (on the back)

± 17 to 18 mm

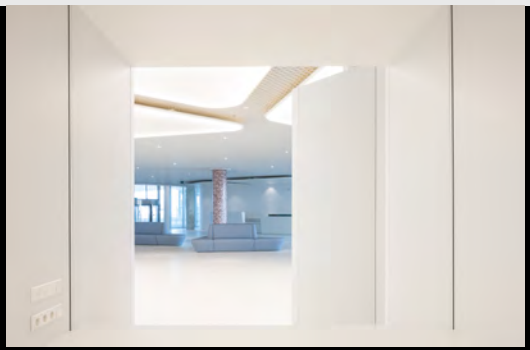


High-quality HPL finish (EN438)
of Abet Laminati 0.9 mm
or real wood veneer 0.6 mm

ø 1,1 mm



INSTALLATION *see page 87*



MATERIAL COMPOSITION

Top layer	High-quality HPL finish (EN438) of Abet Laminati 0.9 mm or real wood veneer 0.6 mm
Core	Acoustic black moisture repellent MDF 16 mm
Backing	Backing in HPL finish (EN438) of Abet Laminati of 0.9 mm or backing veneer of 0.6 mm + acoustic absorbing glass fibre tissue (on the back)
WEIGHT	10 kg/m²

PERFORATION

Type ML with top layer perforations of 10.6%, core perforations of 44.2%: provided with perforated top layer and backing with micro perforations with a diameter of 1.1 mm across the entire surface area (linear, 3/3/1.1 mm) in combination with 2 x perforated core (provided with a full MDF of 55 mm and a perforated zone in the core (linear, 8/8/6 mm)) and acoustic absorbing glass fibre tissue (back)

STD. MEASUREMENTS FULL PANEL

(square-sawn)
3000x1270x±18 mm (HPL)
3000x1200x±17 mm (veneer)

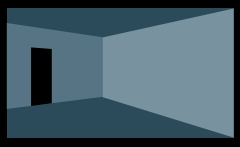
(composition of full board, see page 62)

OPTIONS

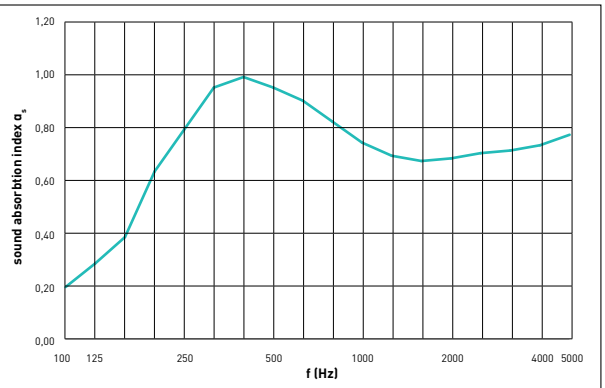
Made-to-measure	on request
Cladding panel	on request (see page 81)
Flexible elements	on request (see page 80)
Top layer	HPL, veneer of digital print
Core	Acoustic black moisture repellent MDF or black fire retardant MDF (European fire class B)

TEST SET-UP IN LABORATORY:

TOTAL THICKNESS WALLS
88 mm



f(Hz)	T1 (s)	T2 (s)	α_s
100	11,82	7,22	0,20
125	**11,43**	**6,03**	**0,29**
160	9,06	4,66	0,39
200	9,30	3,56	0,64
250	**9,25**	**3,09**	**0,80**
315	9,35	2,73	0,96
400	8,89	2,61	1,00
500	**9,18**	**2,72**	**0,96**
630	10,00	2,89	0,91
800	9,89	3,08	0,83
1000	**9,62**	**3,25**	**0,75**
1250	8,88	3,32	0,70
1600	7,80	3,21	0,68
2000	**6,83**	**3,01**	**0,69**
2500	5,65	2,72	0,71
3150	4,51	2,40	0,72
4000	**3,60**	**2,09**	**0,74**
5000	2,76	1,75	0,78

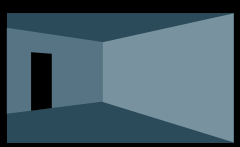


f(Hz)	α_p
125	0,30
250	0,80
500	0,95
1000	0,75
2000	0,70
4000	0,75

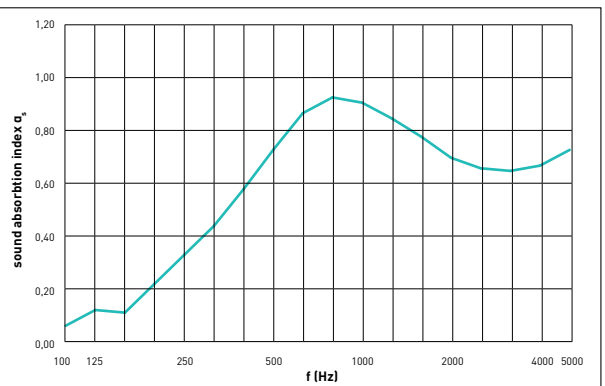
Total thickness	% perfo top layer	% perfo core	α_w	f(Hz)	Sound class	NRC	SAA
88 mm	10,6%	44,2%	0,75	L	C	0,80	0,80
Installation	Mounted on a wooden frame with a thickness of 70mm, filled with 50mm of mineral wool with a density of 40kg/m³.						
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997							

TEST SET-UP IN LABORATORY:

TOTAL THICKNESS WALLS
38 mm

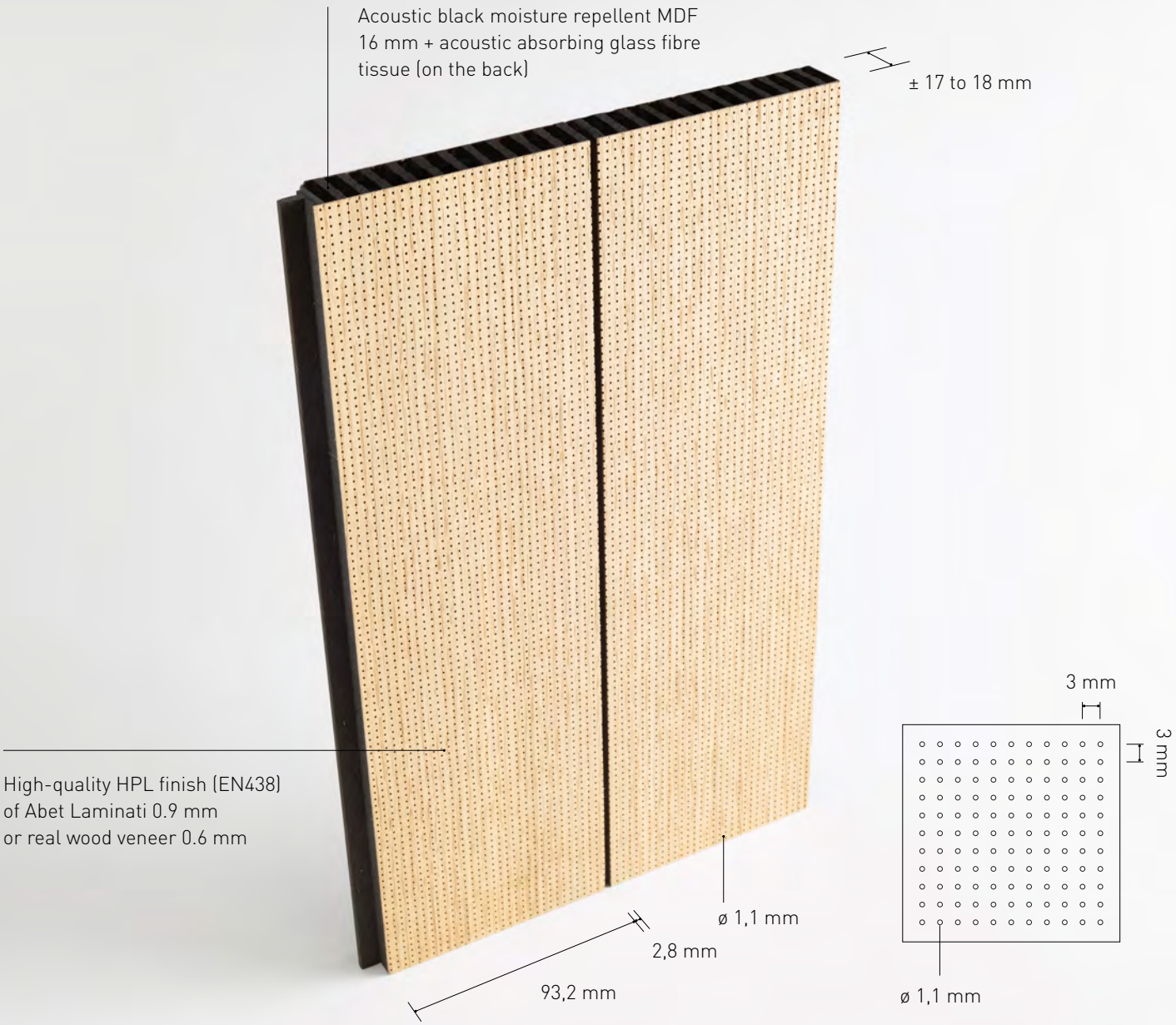


f(Hz)	T1 (s)	T2 (s)	α_s
100	11,80	9,81	0,06
125	**11,34**	**8,30**	**0,12**
160	9,04	7,09	0,11
200	9,39	6,02	0,22
250	**9,01**	**5,03**	**0,33**
315	9,28	4,44	0,44
400	8,84	3,70	0,58
500	**9,31**	**3,30**	**0,73**
630	10,03	3,01	0,87
800	10,17	2,86	0,93
1000	**9,83**	**2,88**	**0,91**
1250	9,14	2,95	0,85
1600	7,98	2,99	0,78
2000	**6,93**	**3,02**	**0,70**
2500	5,74	2,86	0,66
3150	4,53	2,58	0,65
4000	**3,62**	**2,24**	**0,67**
5000	2,76	1,84	0,73



f(Hz)	α_p
125	0,10
250	0,35
500	0,80
1000	0,95
2000	0,70
4000	0,70

Total thickness	% perfo top layer	% perfo core	α_w	f(Hz)	Sound class	NRC	SAA
38 mm	10,6%	44,2%	0,65	M	C	0,70	0,67
Installation	Mounted on a wooden frame with a thickness of 20 mm, filled with 20 mm PRIMAWOOL of 22,5 kg/m³.						
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997							



INSTALLATION *see page 85*

MATERIAL COMPOSITION

Top layer	High-quality HPL finish (EN438) of Abet Laminati 0.9 mm or real wood veneer 0.6 mm
Core	Acoustic black moisture repellent MDF 16 mm
Backing	Backing in HPL finish (EN438) of Abet Laminati of 0.9 mm or backing veneer of 0.6 mm + acoustic absorbing glass fibre tissue (on the back)
WEIGHT	10 kg/m²

PERFORATION

Type ML LINE with top layer perforations of 10.6%, core perforations of 33.2%: provided with perforated top layer with micro perforations with a diameter of 1.1 mm across the entire surface area (linear, 3/3/1.1 mm) + central joint in combination with perforated acoustic core (with perforated zone in the core [linear, 8/8/6 mm]) and acoustic absorbing glass fibre tissue (back)

STD. MEASUREMENTS PLANKS

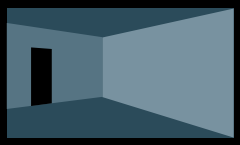
(tongue-groove long sides)
3030x192x±18 mm (HPL)
3030x192x±17 mm (veneer)

OPTIONS

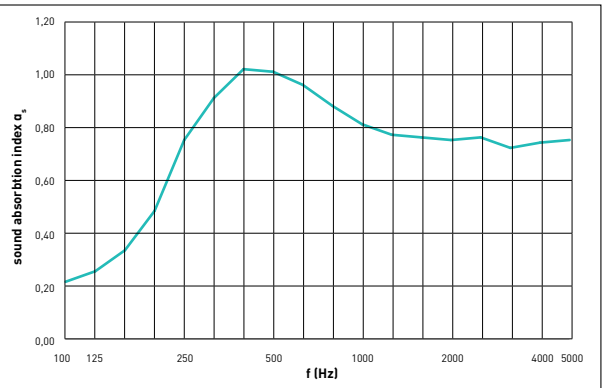
Made-to-measure	on request
Cladding panel	on request (see page 81)
Top layer	HPL, veneer of digital print
Core	Acoustic black moisture repellent MDF or black fire retardant MDF (European fire class B)

TEST SET-UP IN LABORATORY:

TOTAL THICKNESS WALLS
88 mm



f(Hz)	T1 (s)	T2 (s)	α_s
100	12,09	7,06	0,22
125	**10,69**	**6,12**	**0,26**
160	9,17	5,00	0,34
200	8,59	4,03	0,49
250	**9,01**	**3,20**	**0,76**
315	9,18	2,83	0,92
400	8,81	2,57	1,03
500	**9,07**	**2,61**	**1,02**
630	9,83	2,79	0,97
800	9,89	2,97	0,89
1000	**9,60**	**3,09**	**0,82**
1250	8,80	3,12	0,78
1600	7,71	3,00	0,77
2000	**6,63**	**2,83**	**0,76**
2500	5,39	2,55	0,77
3150	4,24	2,31	0,73
4000	**3,34**	**2,00**	**0,75**
5000	2,54	1,67	0,76

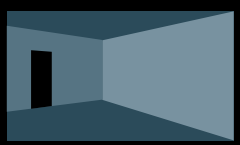


f(Hz)	α_p
125	0,30
250	0,70
500	1,00
1000	0,85
2000	0,75
4000	0,75

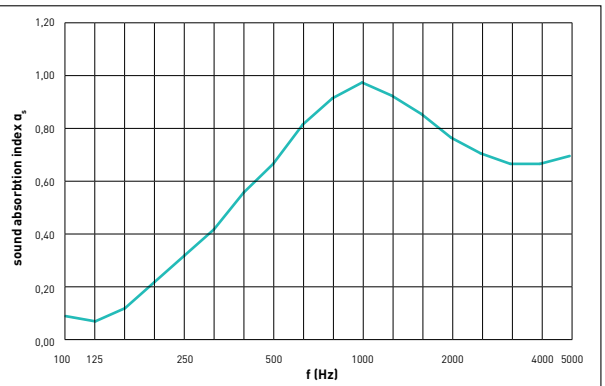
Total thickness	% perfo top layer	% perfo core	α_w	f(Hz)	Sound class	NRC	SAA
88 mm	10,6%	33,2%	0,85		B	0,85	0,83
Installation	Mounted on a wooden frame with a thickness of 70 mm, filled with 50 mm of mineral wool with a density of 40 kg/m³.						
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997							

TEST SET-UP IN LABORATORY:

TOTAL THICKNESS WALLS
38 mm



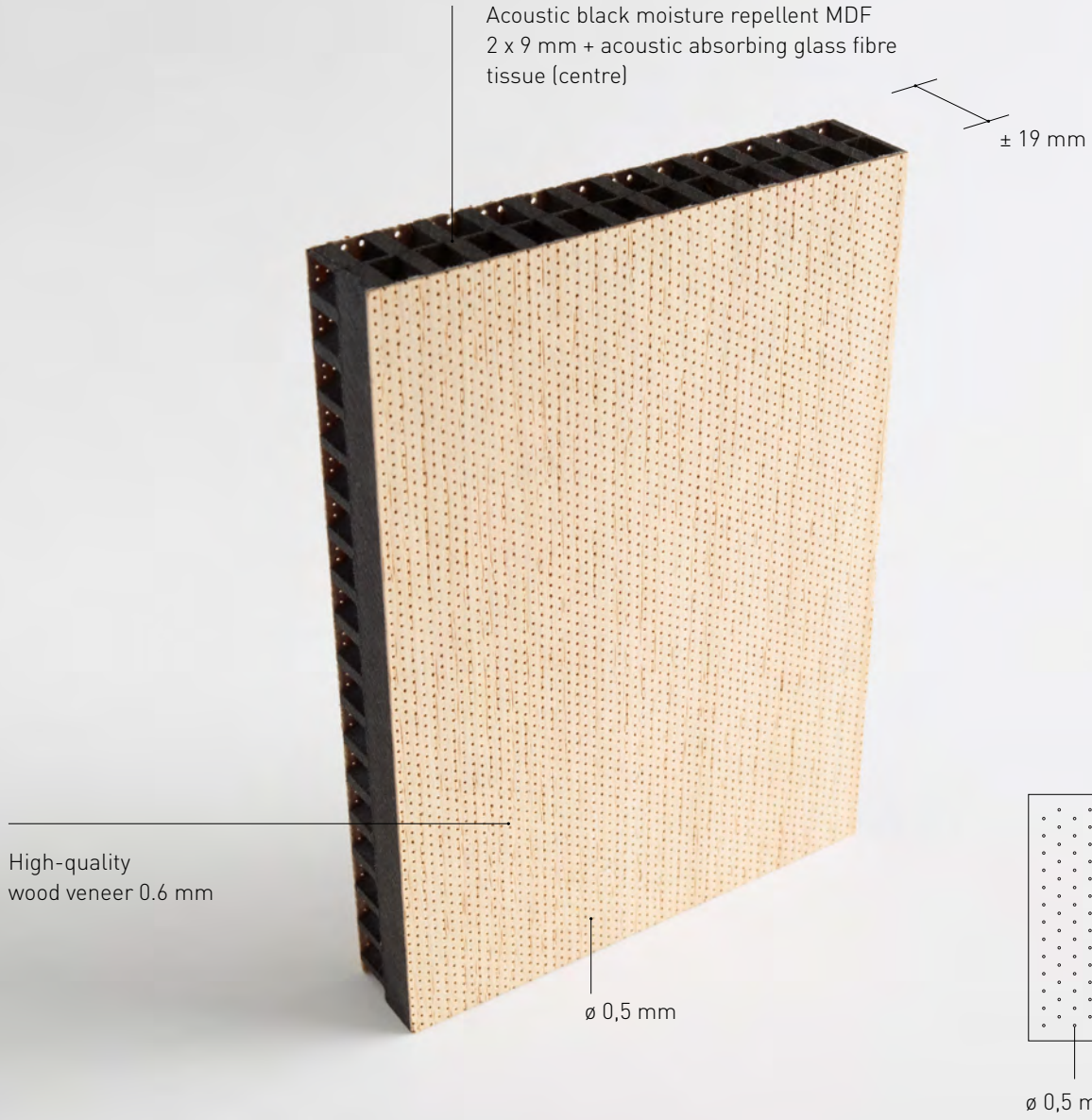
f(Hz)	T1 (s)	T2 (s)	α_s
100	12,11	9,38	0,09
125	**9,84**	**8,36**	**0,07**
160	8,93	6,92	0,12
200	8,57	5,72	0,22
250	**9,04**	**5,10**	**0,32**
315	9,04	4,54	0,42
400	8,75	3,81	0,56
500	**9,08**	**3,50**	**0,67**
630	9,96	3,14	0,82
800	9,91	2,92	0,92
1000	**9,68**	**2,77**	**0,98**
1250	8,77	2,79	0,93
1600	7,57	2,81	0,86
2000	**6,47**	**2,83**	**0,77**
2500	5,16	2,67	0,71
3150	3,99	2,39	0,67
4000	**3,10**	**2,07**	**0,67**
5000	2,31	1,69	0,70

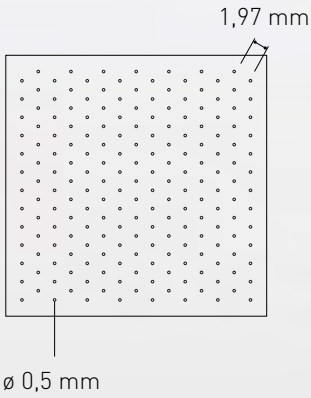


f(Hz)	α_p
125	0,10
250	0,30
500	0,70
1000	0,95
2000	0,80
4000	0,70

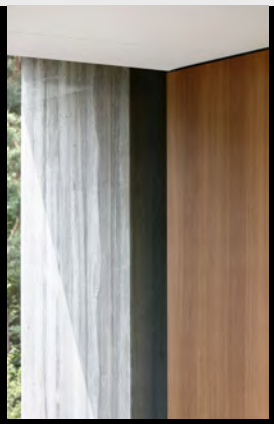
Total thickness	% perfo top layer	% perfo core	α_w	f(Hz)	Sound class	NRC	SAA
38 mm	10,6%	33,2%	0,60	M	C	0,70	0,68
Installation	Mounted on a wooden frame with a thickness of 20 mm, filled with 20 mm PRIMAWOOL of 22,5 kg/m³.						
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997							

TYPE N / wall-ceiling-cupboard door





INSTALLATION *see page 87*



TYPE N / wall-ceiling-cupboard door

MATERIAL COMPOSITION

Top layer	High-quality wood veneer 0.6 mm
Core	Acoustic black moisture repellent MDF 2 x 9 mm + acoustic absorbing glass fibre tissue (centre)
Backing	Backing veneer 0,6 mm
WEIGHT	11 kg/m²

PERFORATION

Type N with top layer perforations of 5.8%, core perforations of 44.2%: provided with perforated top layer and backing with nano perforations with a diameter of 0.5 mm across the entire surface area (diagonally, 1.97/1.97/0.5 mm) in combination with 2 x perforated acoustic core (provided with a full MDF of 55 mm and a perforated zone in the core (linear, 8/8/6 mm)) and acoustic absorbing glass fibre tissue (centre)

STD. MEASUREMENTS FULL PANEL

(square-sawn)
3000x1200x±19 mm (veneer)

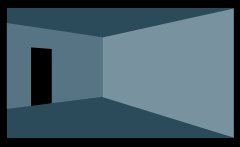
(composition of full plate,see page 62)

OPTIONS

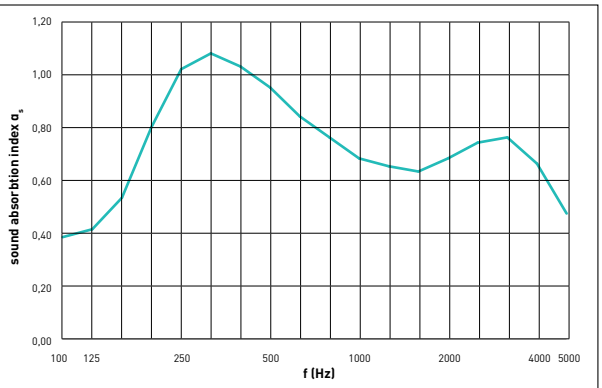
Made-to-measure	on request
Cupboard door fronts	on request (see page 76)
Cladding panel	on request (see page 81)
Flexible elements	on request (see page 80)
Top layer	veneer lacquer or colour oil
Core	Acoustic black moisture repellent MDF or black fire retardant MDF (European fire class B)

TEST SET-UP IN LABORATORY:

TOTAL THICKNESS WALLS
89 mm



f(Hz)	T1 (s)	T2 (s)	α_s
100	13,46	5,56	0,39
125	**9,79**	**4,68**	**0,42**
150	8,61	3,84	0,54
200	9,76	3,13	0,81
250	**9,67**	**2,64**	**1,03**
315	9,62	2,53	1,09
400	9,24	2,59	1,04
500	**9,26**	**2,75**	**0,96**
630	9,87	3,06	0,85
800	9,55	3,27	0,77
1000	**9,54**	**3,47**	**0,69**
1250	8,85	3,47	0,66
1600	7,69	3,33	0,64
2000	**6,64**	**3,02**	**0,69**
2500	5,39	2,62	0,75
3150	4,35	2,33	0,77
4000	**3,30**	**2,13**	**0,67**
5000	2,52	1,98	0,48

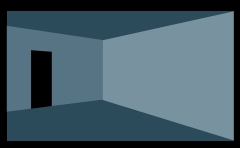


f(Hz)	α_p
125	0,45
250	1,00
500	0,95
1000	0,70
2000	0,70
4000	0,65

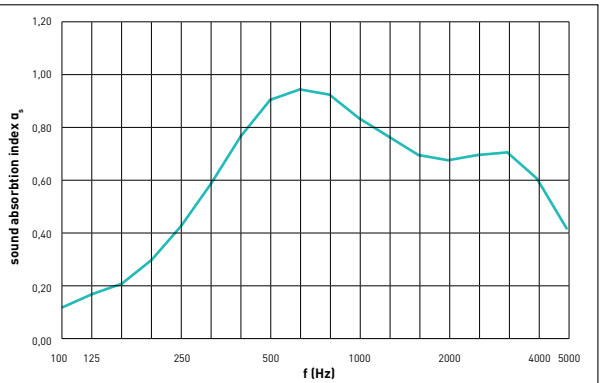
Total thickness	% perfo top layer	% perfo core	α_w	f(Hz)	Sound class	NRC	SAA
89 mm	5,8%	44,2%	0,75	L	C	0,85	0,83
Installation	Mounted on a wooden frame with a thickness of 70 mm, filled with 50 mm of mineral wool with a density of 40 kg/m³.						
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997							

TEST SET-UP IN LABORATORY:

TOTAL THICKNESS WALLS
39 mm



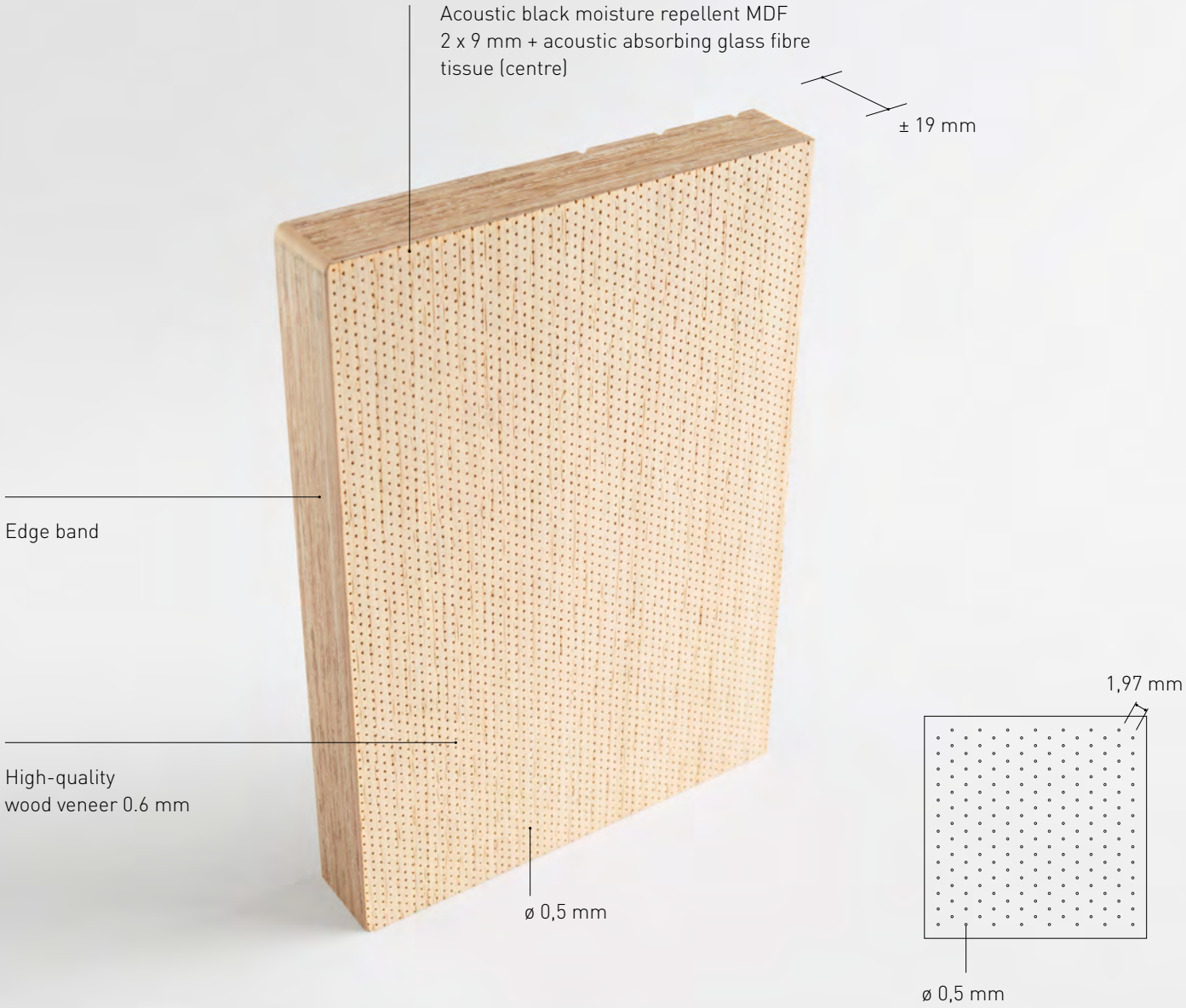
f(Hz)	T1 (s)	T2 (s)	α_s
100	11,79	8,48	0,12
125	**11,81**	**7,65**	**0,17**
160	9,25	6,11	0,21
200	9,54	5,40	0,30
250	**9,96**	**4,66**	**0,43**
315	9,37	3,78	0,59
400	8,95	3,14	0,77
500	**9,11**	**2,82**	**0,91**
630	9,94	2,83	0,95
800	9,81	2,85	0,93
1000	**9,53**	**3,03**	**0,84**
1250	8,81	3,14	0,77
1600	7,65	3,13	0,70
2000	**6,59**	**2,98**	**0,68**
2500	5,35	2,67	0,70
3150	4,21	2,33	0,71
4000	**3,20**	**2,10**	**0,61**
5000	2,45	1,90	0,42



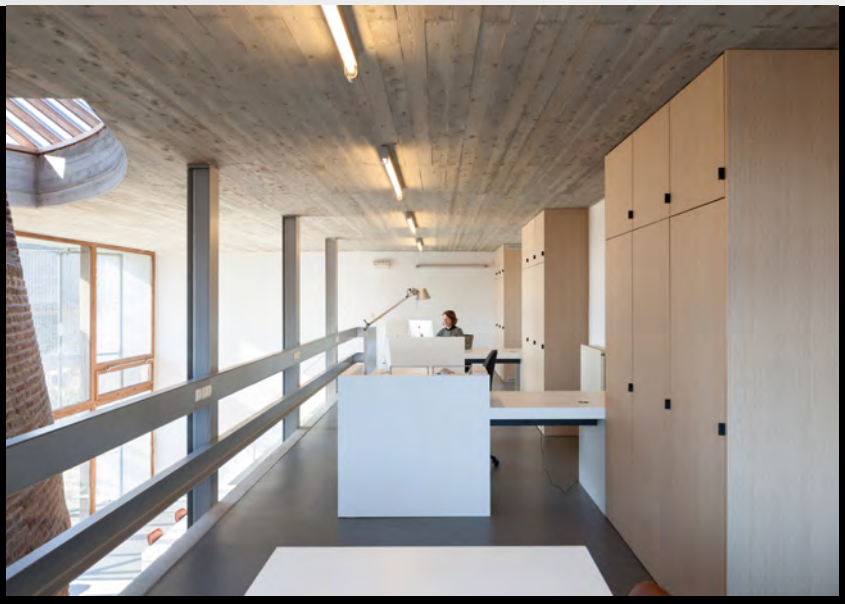
f(Hz)	α_p
125	0,15
250	0,45
500	0,90
1000	0,85
2000	0,70
4000	0,60

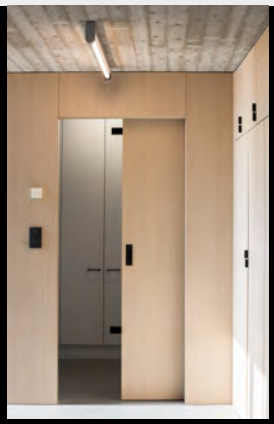
Total thickness	% perfo top layer	% perfo core	α_w	f(Hz)	Sound class	NRC	SAA
39 mm	5,8%	44,2%	0,70		C	0,75	0,71
Installation	Mounted on a wooden frame with a thickness of 20 mm, filled with 20 mm PRIMAWOOL of 22,5 kg/m³.						
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997							

TYPE N / wall-ceiling-cupboard door



INSTALLATION *see page 79*





TYPE N / wall-ceiling-cupboard door

MATERIAL COMPOSITION

Top layer	High-quality wood veneer 0.6 mm
Core	Acoustic black moisture repellent MDF 2 x 9 mm + acoustic absorbing glass fibre tissue (centre)
Backing	High-quality wood veneer 0.6 mm
WEIGHT	11 kg/m²

PERFORATION

Type N with top layer perforations of 5.8%, core perforations of 44.2%: provided with perforated top layer and backing with nano perforations with a diameter of 0.5 mm across the entire surface area (diagonally, 1.97/1.97/0.5 mm) in combination with 2 x perforated core (provided with a full MDF of 55 mm and a perforated zone in the core (linear, 8/8/6 mm)) and acoustic absorbing glass fibre tissue (centre)

STD. MEASUREMENTS FULL PANEL

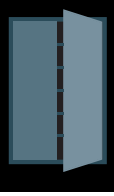
Made-to-measure cupboard and sliding doors
Thickness ±19 mm (veneer)

OPTIONS

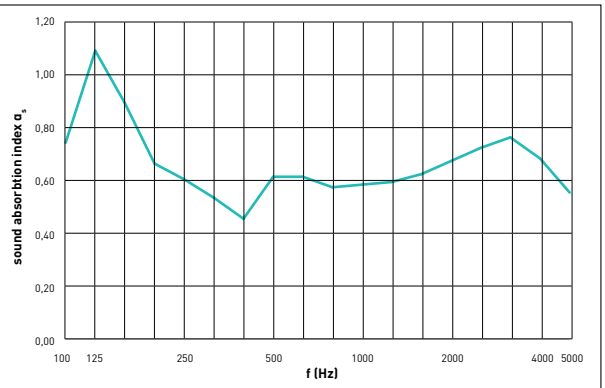
Drilled holes for hinges	on request (see page 79)
Edge finishing	edge band in veneer
Top layer	veneer lacquer or colour oil
Core	Acoustic black moisture repellent MDF or black fire retardant MDF (European fire class B)

TEST SET-UP IN LABORATORY:

CUPBOARD FRONTS, DEPTH
500 mm/empty



f(Hz)	T1 (s)	T2 (s)	α_s
100	9,27	3,25	0,75
125	**10,34**	**2,57**	**1,10**
160	8,78	2,84	0,90
200	8,47	3,38	0,67
250	**8,91**	**3,66**	**0,61**
315	9,11	3,95	0,54
400	8,73	4,21	0,46
500	**9,22**	**3,67**	**0,62**
630	9,79	3,74	0,62
800	9,78	3,93	0,58
1000	**9,45**	**3,82**	**0,59**
1250	8,82	3,69	0,60
1600	7,52	3,37	0,63
2000	**6,54**	**3,05**	**0,68**
2500	5,37	2,69	0,73
3150	4,32	2,38	0,77
4000	**3,29**	**2,16**	**0,69**
5000	2,53	1,98	0,56

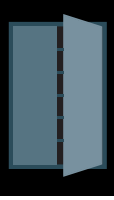


f(Hz)	α_p
125	0,90
250	0,60
500	0,55
1000	0,60
2000	0,70
4000	0,65

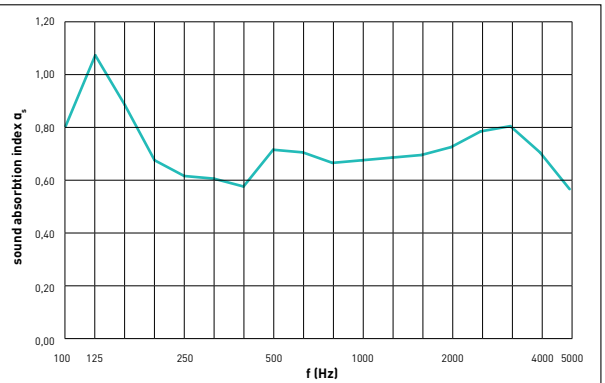
Total depth	% perfo top layer	% perfo core	α_w	f(Hz)	Sound class	NRC	SAA
500 mm / empty	5,8%	44,2%	0,60		C	0,60	0,51
Installation	Mounted on wooden frame with a height of 500 mm (= simulation of an empty cupboard)						
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997							

TEST SET-UP IN LABORATORY:

TOTAL DEPTH
500 mm/filled



f(Hz)	T1 (s)	T2 (s)	α_s
100	9,27	3,10	0,81
125	**10,34**	**2,60**	**1,08**
160	8,78	2,85	0,89
200	8,47	3,35	0,68
250	**8,91**	**3,60**	**0,62**
315	9,11	3,66	0,61
400	8,73	3,71	0,58
500	**9,22**	**3,35**	**0,72**
630	9,79	3,43	0,71
800	9,78	3,58	0,67
1000	**9,45**	**3,51**	**0,68**
1250	8,82	3,38	0,69
1600	7,52	3,17	0,70
2000	**6,54**	**2,93**	**0,73**
2500	5,37	2,59	0,79
3150	4,32	2,33	0,81
4000	**3,29**	**2,14**	**0,71**
5000	2,53	1,97	0,57



f(Hz)	α_p
125	0,90
250	0,65
500	0,65
1000	0,70
2000	0,75
4000	0,70

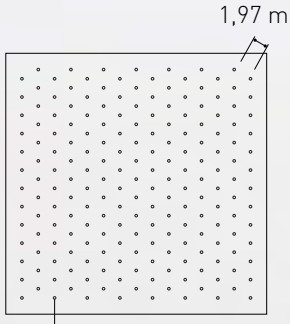
Total depth	% perfo top layer	% perfo core	α_w	f(Hz)	Sound class	NRC	SAA
500 mm / filled	5,8%	44,2%	0,70		C	0,70	0,68
Installation	Mounted on wooden frame with a height of 500 mm (= simulation of a filled cupboard), filled with 20 mm of PRIMAWOOL of 22.5 kg/m³, stuck with spun fabric side on the back of the interior of the cupboard.						
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997							

Acoustic black moisture repellent MDF
16 mm + acoustic absorbing glass fibre tissue
(on the back)

± 17 mm

High-quality
wood veneer 0.6 mm

ø 0,5 mm



INSTALLATION *see page 87*

MATERIAL COMPOSITION

Top layer	High-quality wood veneer 0.6 mm
Core	Acoustic black moisture repellent MDF 16 mm
Backing	Backing veneer 0,6 mm + acoustic absorbing glass fibre tissue (on the back)
WEIGHT	10 kg/m²

PERFORATION

Type NL with top layer perforations of 5,8%, core perforations of 44.2%: provided with perforated top layer with micro perforations with a diameter of 0,5 mm across the entire surface area (diagonal, 1,97/1,97/0,5 mm) + central joint in combination with perforated acoustic core (with perforated zone in the core [linear, 8/8/6 mm]) and acoustic absorbing glass fibre tissue (back)

STD. MEASUREMENTS FULL PANEL

(square-sawn)
3000x1200x±17 mm (veneer)

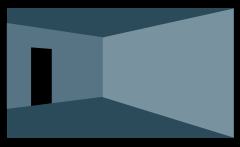
(composition of full plate,see page 62)

OPTIONS

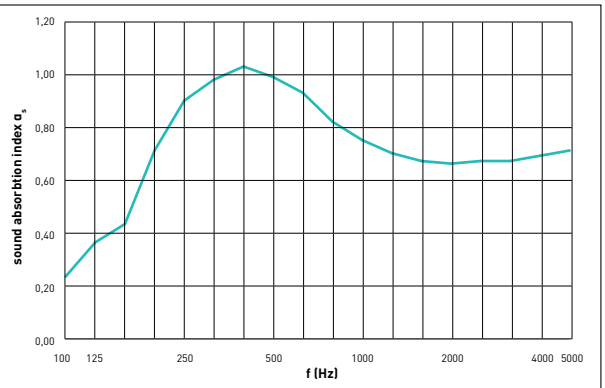
Made-to-measure	on request
Cladding panel	on request (see page 81)
Flexible elements	on request (see page 80)
Top layer	veneer lacquer or colour oil
Core	Acoustic black moisture repellent MDF or black fire retardant MDF (European fire class B)

TEST SET-UP IN LABORATORY:

TOTAL THICKNESS WALLS
87 mm



f(Hz)	T1 (s)	T2 (s)	α_s
100	11,82	6,70	0,24
125	**11,43**	**5,37**	**0,37**
160	9,06	4,39	0,44
200	9,30	3,32	0,72
250	**9,25**	**2,82**	**0,91**
315	9,35	2,68	0,99
400	8,89	2,55	1,04
500	**9,18**	**2,65**	**1,00**
630	10,00	2,83	0,94
800	9,89	3,07	0,83
1000	**9,62**	**3,23**	**0,76**
1250	8,88	3,29	0,71
1600	7,80	3,19	0,68
2000	**6,83**	**3,04**	**0,67**
2500	5,65	2,77	0,68
3150	4,51	2,45	0,68
4000	**3,60**	**2,13**	**0,70**
5000	2,76	1,79	0,72

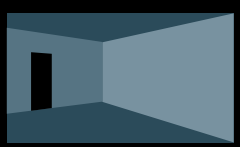


f(Hz)	α_p
125	0,35
250	0,85
500	1,00
1000	0,75
2000	0,70
4000	0,70

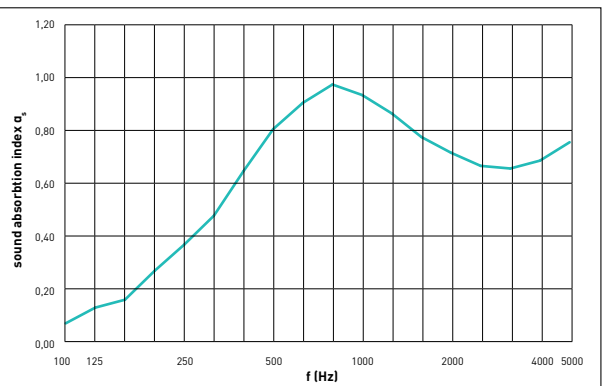
Total thickness	% perfo top layer	% perfo core	α_w	f(Hz)	Sound class	NRC	SAA
87 mm	5,8%	44,2%	0,75	LM	C	0,85	0,83
Installation	Mounted on a wooden frame with a thickness of 70 mm, filled with 50 mm of mineral wool with a density of 40 kg/m³.						
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997							

TEST SET-UP IN LABORATORY:

TOTAL THICKNESS WALLS
37 mm

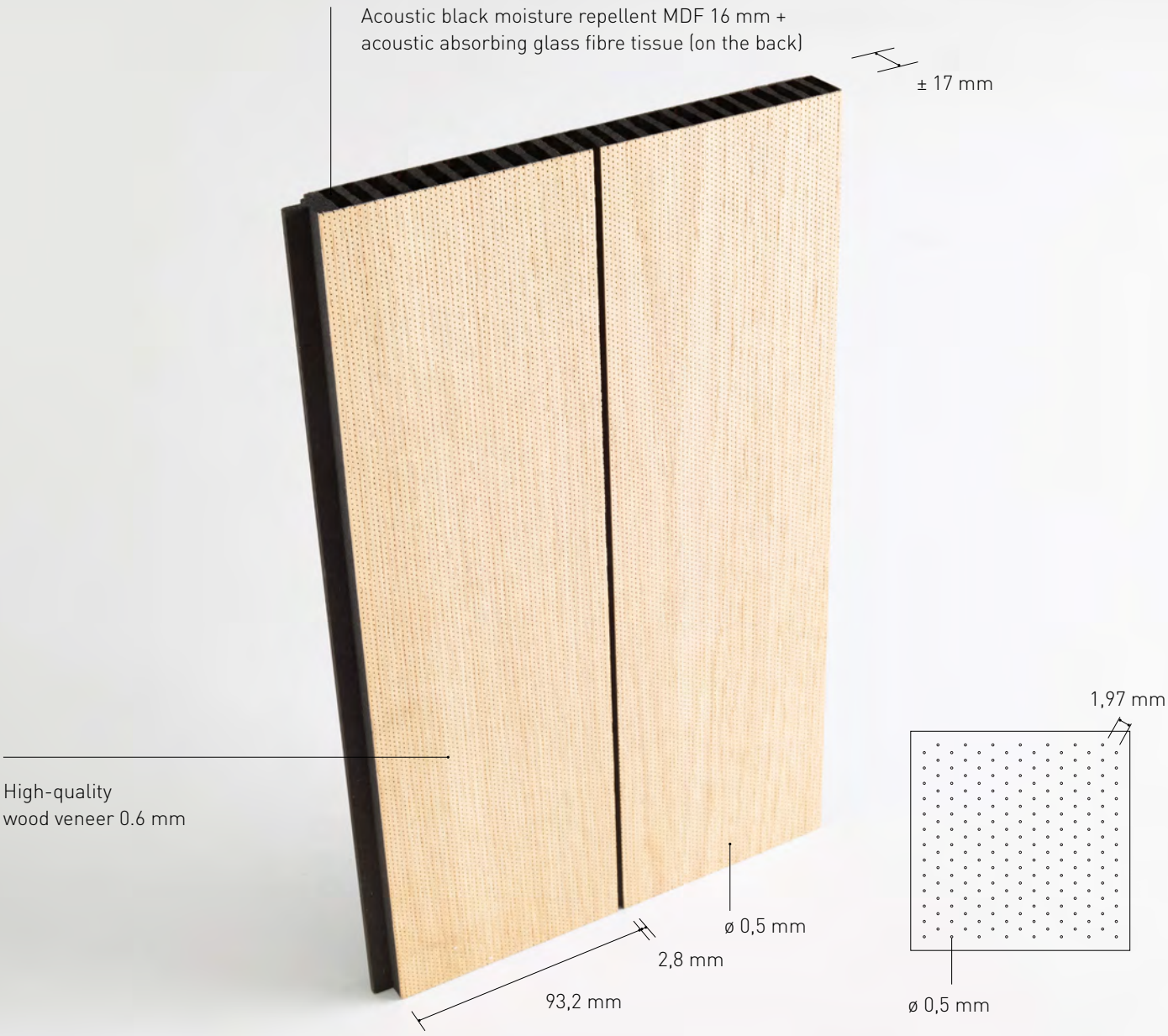


f(Hz)	T1 (s)	T2 (s)	α_s
100	11,80	9,63	0,07
125	**11,34**	**8,09**	**0,13**
160	9,04	6,46	0,16
200	9,39	5,58	0,27
250	**9,01**	**4,75**	**0,37**
315	9,28	4,22	0,48
400	8,84	3,47	0,65
500	**9,31**	**3,07**	**0,81**
630	10,03	2,89	0,91
800	10,17	2,77	0,98
1000	**9,83**	**2,81**	**0,94**
1250	9,14	2,90	0,87
1600	7,98	2,98	0,78
2000	**6,93**	**2,98**	**0,72**
2500	5,74	2,84	0,67
3150	4,53	2,55	0,66
4000	**3,62**	**2,20**	**0,69**
5000	2,76	1,81	0,76

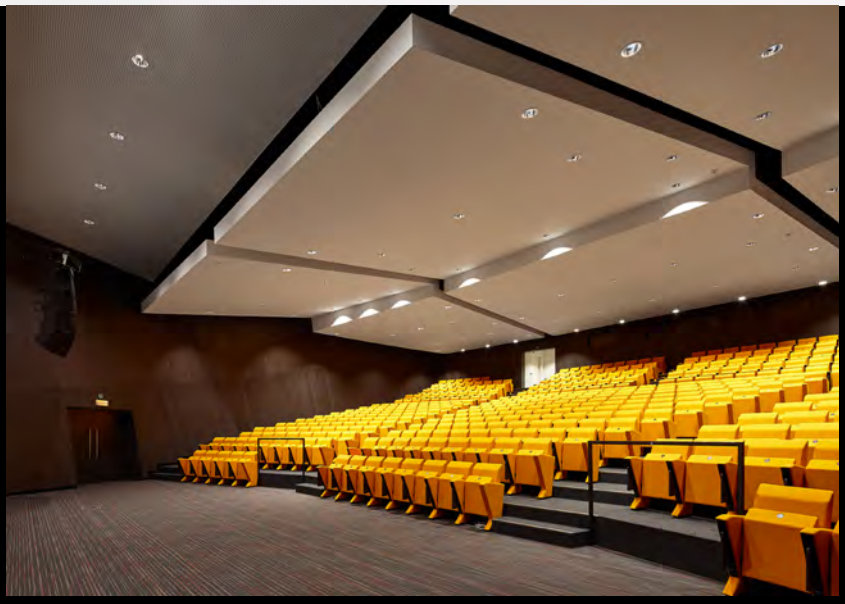


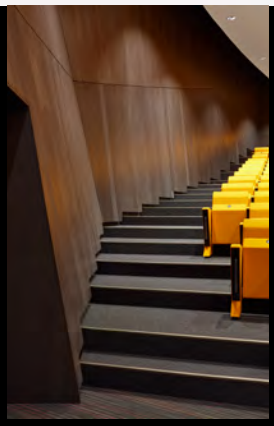
f(Hz)	α_p
125	0,10
250	0,35
500	0,80
1000	0,95
2000	0,70
4000	0,70

Total thickness	% perfo top layer	% perfo core	α_w	f(Hz)	Sound class	NRC	SAA
37 mm	5,8%	44,2%	0,65	M	C	0,70	0,70
Installation	Mounted on a wooden frame with a thickness of 20 mm, filled with 20 mm PRIMAWOOL of 22,5 kg/m³.						
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997							



INSTALLATION *see page 85*





MATERIAL COMPOSITION

Top layer	High-quality wood veneer 0.6 mm
Core	Acoustic black moisture repellent MDF 16 mm
Backing	Backing in veneer 0.6 mm + acoustic absorbing glass fibre tissue (back)
WEIGHT	10 kg/m²

PERFORATION

Type NL LINE with top layer perforations of 5.8%, core perforations of 33.2%: provided with perforated top layer with nano perforations with a diameter of 0.5 mm across the entire surface area (diagonally, 1.97/1.97/0.5 mm) + central joint in combination with perforated core (with perforated zone in the core [linear, 8/8/6 mm]) and acoustic absorbing glass fibre tissue (back side)

STD. MEASUREMENTS PLANKS

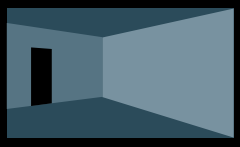
(tongue-groove long sides)
3030x192x±17 mm (veneer)

OPTIONS

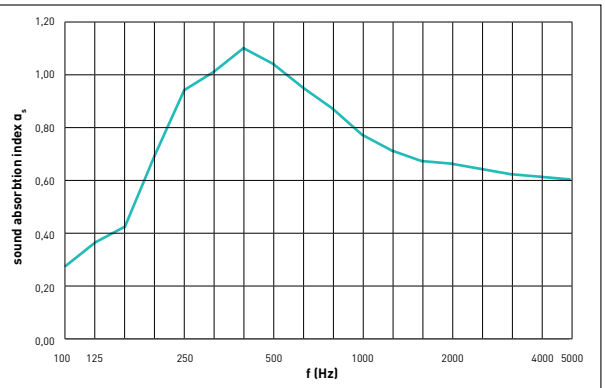
Made-to-measure	on request
Cladding panel	on request (see page 81)
Flexible elements	on request (see page 80)
Top layer	veneer lacquered or colour oil
Core	Acoustic black moisture repellent MDF or black fire retardant MDF (European fire class B)

TEST SET-UP IN LABORATORY:

TOTAL THICKNESS WALLS
87 mm



f(Hz)	T1 (s)	T2 (s)	α_s
100	12,77	6,55	0,28
125	**11,45**	**5,37**	**0,37**
160	9,11	4,44	0,43
200	9,52	3,41	0,70
250	**9,85**	**2,81**	**0,95**
315	9,31	2,62	1,02
400	8,78	2,42	1,11
500	**8,95**	**2,55**	**1,05**
630	9,41	2,75	0,96
800	9,42	2,92	0,88
1000	**9,11**	**3,12**	**0,78**
1250	8,45	3,21	0,72
1600	7,49	3,16	0,68
2000	**6,70**	**3,03**	**0,67**
2500	5,74	2,86	0,65
3150	4,79	2,63	0,63
4000	**3,85**	**2,34**	**0,62**
5000	3,14	2,07	0,61

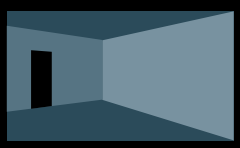


f(Hz)	α_p
125	0,35
250	0,90
500	1,00
1000	0,80
2000	0,65
4000	0,60

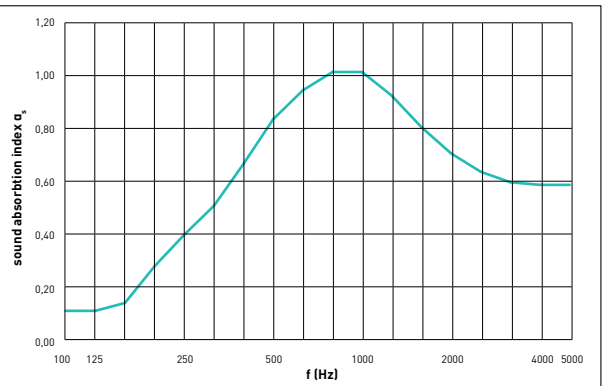
Total thickness	% perfo top layer	% perfo core	α_w	f(Hz)	Sound class	NRC	SAA
87 mm	5,8%	33,2%	0,70	LM	C	0,85	0,85
Installation	Mounted on a wooden frame with a thickness of 70mm, filled with 50mm of mineral wool with a density of 40kg/m³.						
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997							

TEST SET-UP IN LABORATORY:

TOTAL THICKNESS WALLS
37 mm



f(Hz)	T1 (s)	T2 (s)	α_s
100	12,43	9,07	0,11
125	**11,15**	**8,35**	**0,11**
160	9,10	6,79	0,14
200	9,67	5,61	0,28
250	**9,91**	**4,81**	**0,40**
315	9,47	4,11	0,51
400	8,75	3,41	0,67
500	**9,13**	**2,99**	**0,84**
630	9,54	2,79	0,95
800	9,54	2,64	1,02
1000	**9,26**	**2,62**	**1,02**
1250	8,64	2,73	0,93
1600	7,62	2,86	0,81
2000	**6,86**	**2,96**	**0,71**
2500	5,91	2,92	0,64
3150	4,98	2,75	0,60
4000	**4,05**	**2,44**	**0,59**
5000	3,34	2,15	0,59



f(Hz)	α_p
125	0,10
250	0,40
500	0,80
1000	1,00
2000	0,70
4000	0,60

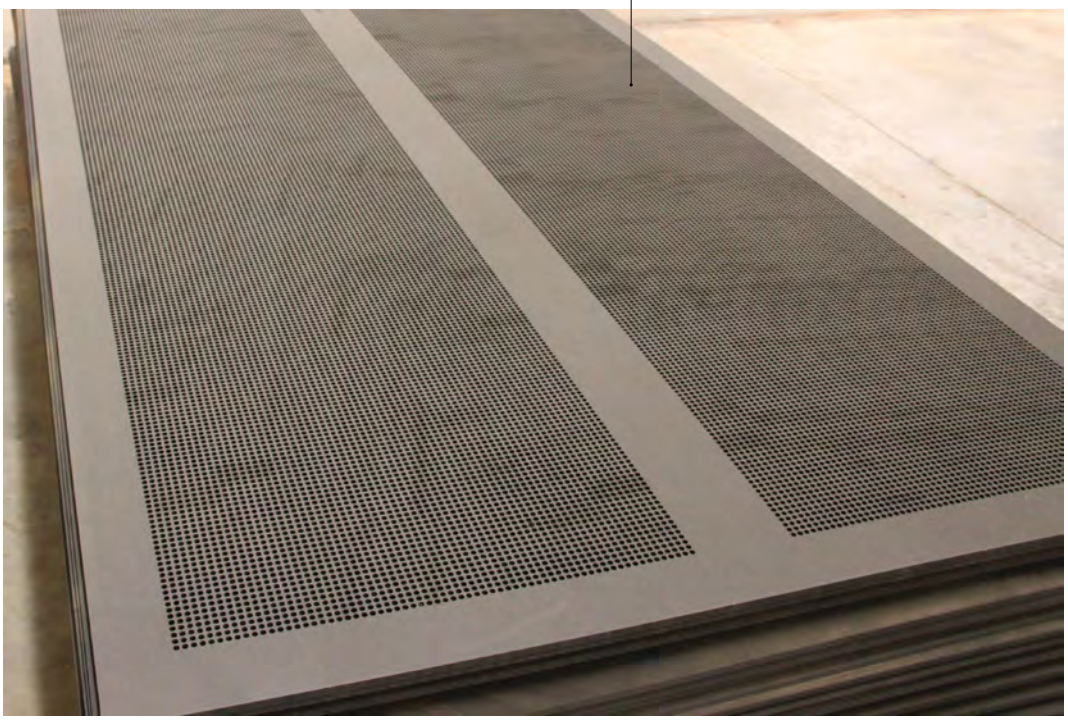
Total thickness	% perfo top layer	% perfo core	α_w	f(Hz)	Sound class	NRC	SAA
37 mm	5,8%	33,2%	0,70	M	C	0,75	0,73
Installation	Mounted on a wooden frame with a thickness of 20 mm, filled with 20 mm PRIMAWOOL of 22,5 kg/m³.						
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997							

TYPE M / ML / N / NL

Core

> 3000x1270 mm
> In black moisture repellent or fire retardant MDF with a non-perforated area around and at the centre of the panel (full edge not visible on visible side)

Two perforated areas in the core (linear, 8/8/6 mm)



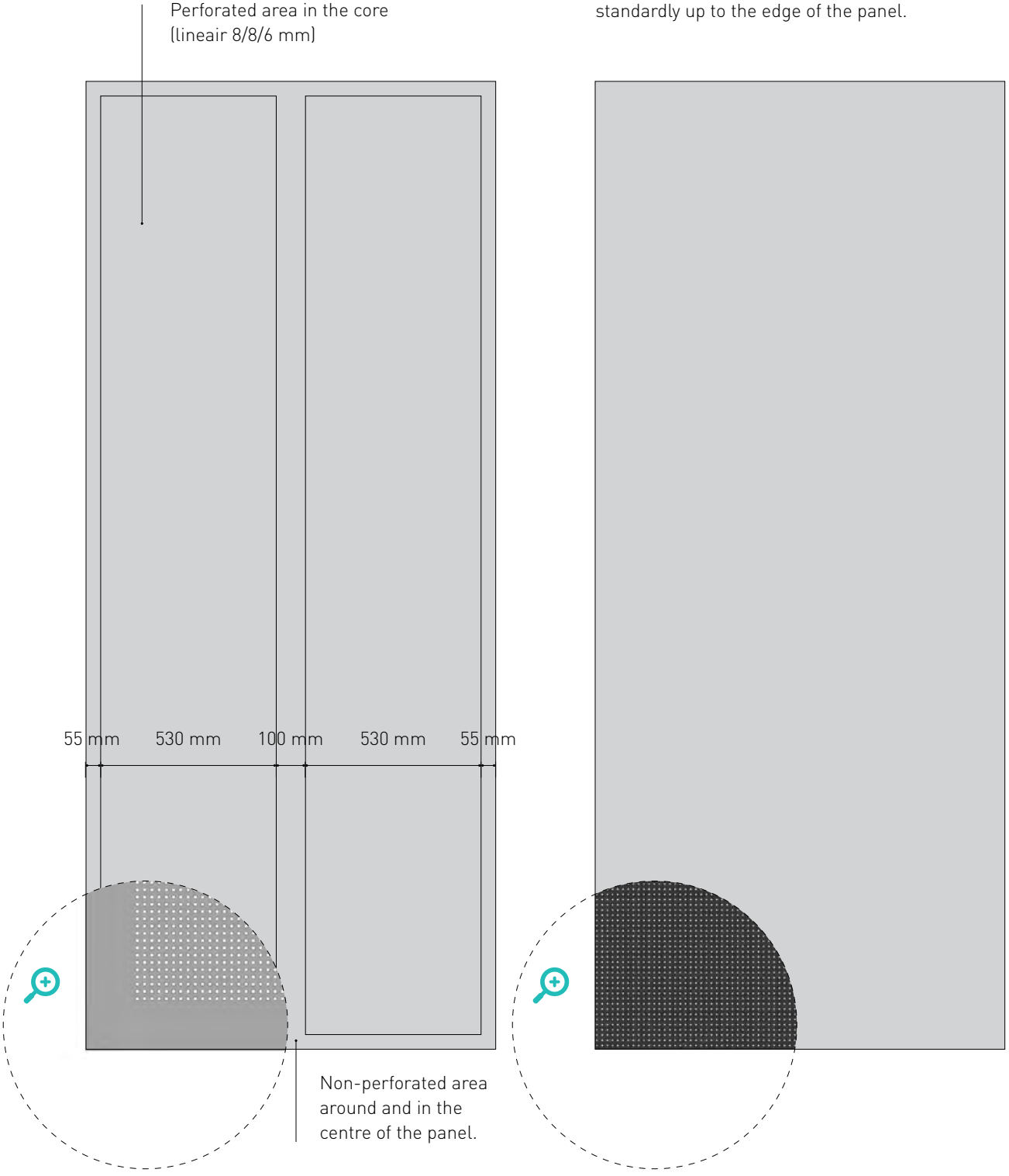
Perforated top layer with micro or nano perforations. Micro perforations standardly up to the edge of the panel. The perforations can differ slightly near the edge.

Full panel core dimensions

> 3000x1270 mm

Visible side of top layer of full panel

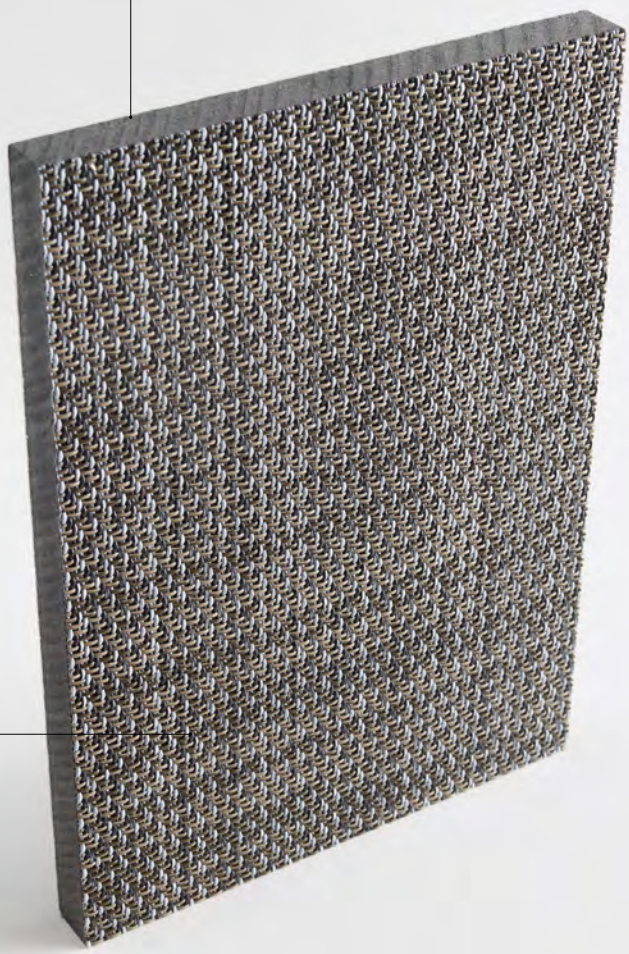
Perforated top layer with micro perforations (linear, 3/3/1.1 mm) or nano perforations (diagonally, 1.97/1.97/0.5 mm). Perforations standardly up to the edge of the panel.



TEXTILE

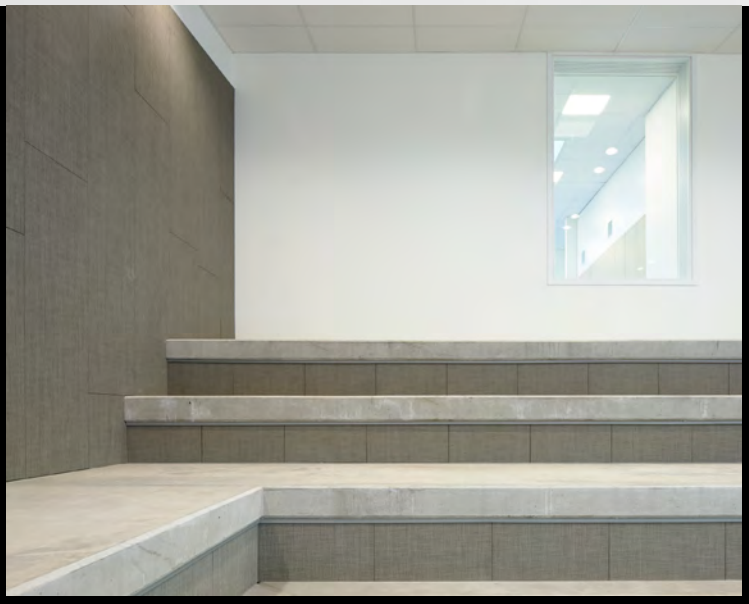
Acoustic black moisture repellent MDF
9 mm + acoustic absorbing glass fibre
tissue (on the back)

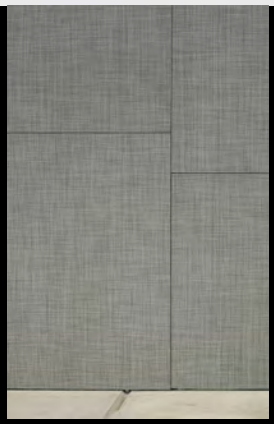
± 10 mm



High-quality woven vinyl
finish of 1 mm
2 sides

INSTALLATION *see page 86*





MATERIAL COMPOSITION

Top layer	High-quality woven vinyl finish of 1 mm
Core	Core Acoustic black moisture repellent MDF 9 mm
Backing	Acoustic absorbing glass fibre tissue
WEIGHT	6,0 kg/m²

PERFORATION

Type I invisible perforation pattern combined with drilled holes in the acoustic core

STD. MEASUREMENTS FULL PANEL

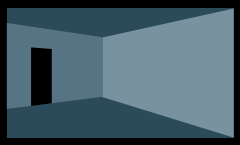
(square-sawn)
3030x640x10 mm (woven vinyl)

OPTIONS

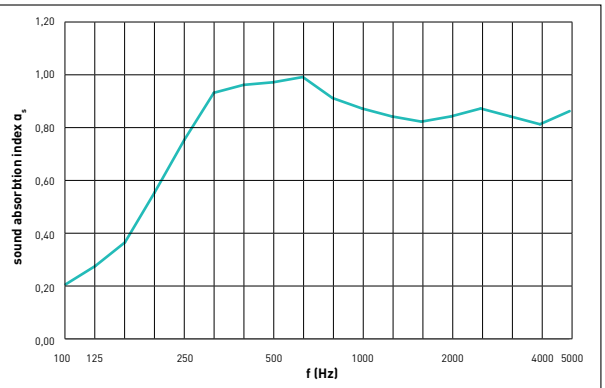
Made-to-measure	on request
Cupboard door fronts	on request (see page 76)
Cladding panel	on request (see page 81)
Flexible elements	on request (see page 80)
Top layer	Woven vinyl finish
Core	Acoustic black moisture repellent MDF or black fire retardant MDF (European fire class C)

TEST SET-UP
IN LABORATORY:

TOTAL THICKNESS WALLS
80 mm



f(Hz)	T1 (s)	T2 (s)	α_s
100	12,57	7,40	0,21
125	**12,83**	**6,53**	**0,28**
150	10,20	5,07	0,37
200	10,76	4,12	0,56
250	**9,66**	**3,26**	**0,76**
315	9,50	2,81	0,94
400	9,44	2,74	0,97
500	**9,29**	**2,70**	**0,98**
630	10,38	2,75	1,00
800	10,33	2,91	0,92
1000	**10,02**	**2,97**	**0,88**
1250	9,19	2,97	0,85
1600	8,04	2,88	0,83
2000	**6,92**	**2,67**	**0,85**
2500	5,67	2,42	0,88
3150	4,50	2,21	0,85
4000	**3,54**	**1,97**	**0,82**
5000	2,68	1,63	0,87

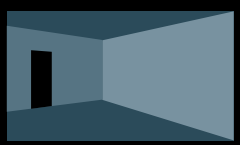


f(Hz)	α_p
125	0,30
250	0,75
500	1,00
1000	0,90
2000	0,85
4000	0,85

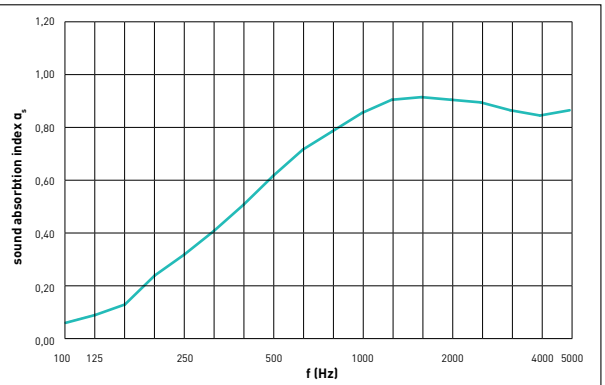
Total thickness	% perfo	α_w	f(Hz)	Sound class	NRC	SAA
80mm		0,90		A	0,85	0,87
Installation	Mounted on a wooden frame with a thickness of 70mm, filled with 50mm of mineral wool with a density of 40kg/m³.					
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997						

TEST SET-UP
IN LABORATORY:

TOTAL THICKNESS WALLS
30 mm



f(Hz)	T1 (s)	T2 (s)	α_s
100	11,86	9,95	0,06
125	**10,87**	**8,70**	**0,09**
150	9,83	7,33	0,13
200	10,35	6,21	0,24
250	**9,94**	**5,34**	**0,32**
315	9,36	4,64	0,41
400	9,27	4,08	0,51
500	**9,64**	**3,72**	**0,62**
630	10,57	3,48	0,72
800	10,39	3,24	0,79
1000	**10,08**	**3,04**	**0,86**
1250	9,15	2,85	0,91
1600	7,94	2,69	0,92
2000	**6,68**	**2,55**	**0,91**
2500	5,35	2,36	0,90
3150	4,16	2,15	0,87
4000	**3,26**	**1,91**	**0,85**
5000	2,42	1,59	0,87

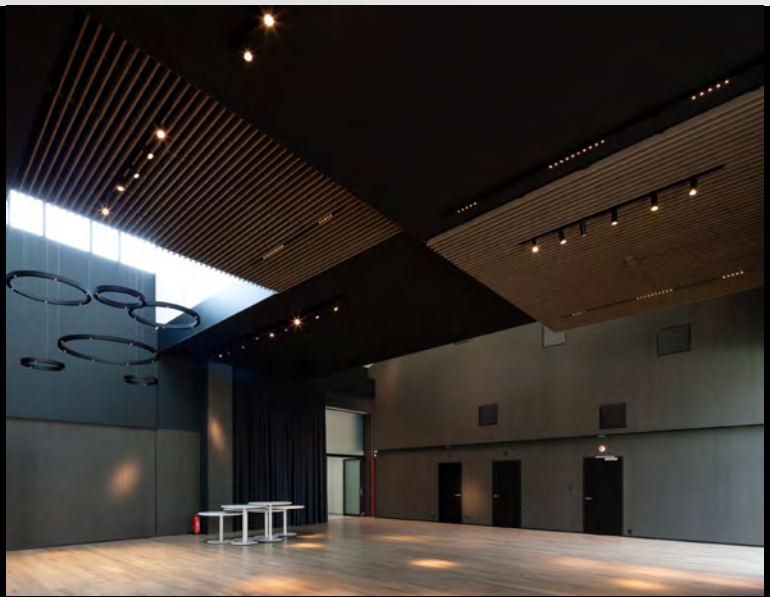


f(Hz)	α_p
125	0,10
250	0,30
500	0,60
1000	0,85
2000	0,90
4000	0,85

Total thickness	% perfo	α_w	f(Hz)	Sound class	NRC	SAA
30mm		0,60	MHH	C	0,70	0,68
Installation	Mounted on a wooden frame with a thickness of 20 mm, filled with 20 mm PRIMAWOOL of 22,5 kg/m³.					
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997						

TYPE Id / cupboard door

INSTALLATION *see page 79*



MATERIAL COMPOSITION

Top layer	High-quality woven vinyl finish of 1 mm
Core	Acoustic black moisture repellent MDF 16 mm
Backing	High-quality woven vinyl finish of 1 mm
WEIGHT	11,0 kg/m²

PERFORATION

Type I invisible perforation pattern combined with drilled holes in the acoustic core Full MDF frame for stability.

STD. MEASUREMENTS

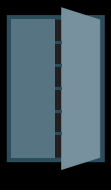
Made-to-measure cupboard and sliding doors
Thickness ±18 mm

OPTIONS

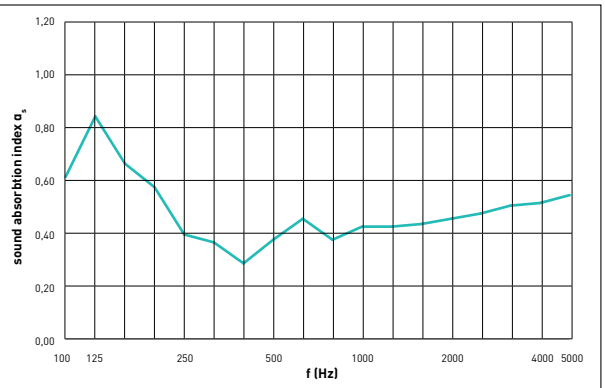
Drilled holes for hinges	On request (see page 79)
Edge finishing	Edge band in ABS 1-2 mm
Top layer	Woven vinyl finish
Core	Acoustic black moisture repellent MDF or black fire retardant MDF (European fire class C)

TEST SET-UP
IN LABORATORY:

CUPBOARD FRONTS, DEPTH
500 mm/empty



f(Hz)	T1 (s)	T2 (s)	α_s
100	9,46	3,70	0,62
125	**9,72**	**3,04**	**0,85**
150	8,47	3,38	0,67
200	8,90	3,74	0,58
250	**8,72**	**4,53**	**0,40**
315	9,01	4,74	0,37
400	8,67	5,16	0,29
500	**8,78**	**4,66**	**0,38**
630	9,42	4,34	0,46
800	9,57	4,85	0,38
1000	**9,24**	**4,51**	**0,43**
1250	8,60	4,33	0,43
1600	7,53	3,97	0,44
2000	**6,70**	**3,68**	**0,46**
2500	5,66	3,28	0,48
3150	4,68	2,86	0,51
4000	**3,64**	**2,42**	**0,52**
5000	2,89	2,03	0,55

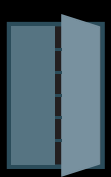


f(Hz)	α_p
125	0,70
250	0,45
500	0,40
1000	0,40
2000	0,45
4000	0,50

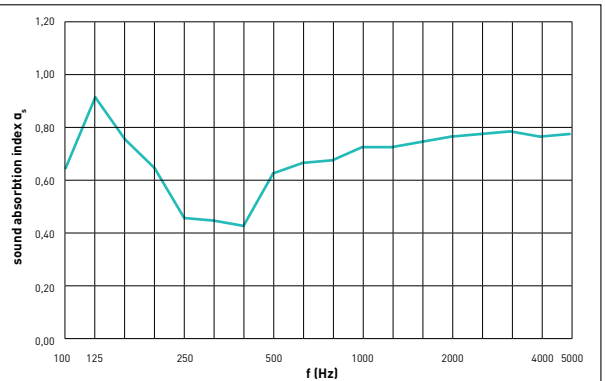
Total depth	% perfo	α_w	f(Hz)	Sound class	NRC	SAA
500 mm / empty		0,45		D	0,45	0,43
Installation	Mounted on wooden frame with a height of 500 mm (= simulation of an empty cupboard)					
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997						

TEST SET-UP
IN LABORATORY:

TOTAL DEPTH
500 mm/filled



f(Hz)	T1 (s)	T2 (s)	α_s
100	9,46	3,57	0,65
125	**9,72**	**2,86**	**0,92**
150	8,47	3,13	0,76
200	8,90	3,50	0,65
250	**8,72**	**4,23**	**0,46**
315	9,01	4,33	0,45
400	8,67	4,33	0,43
500	**8,78**	**3,54**	**0,63**
630	9,42	3,50	0,67
800	9,57	3,49	0,68
1000	**9,24**	**3,30**	**0,73**
1250	8,60	3,22	0,73
1600	7,53	3,01	0,75
2000	**6,70**	**2,82**	**0,77**
2500	5,66	2,60	0,78
3150	4,68	2,36	0,79
4000	**3,64**	**2,08**	**0,77**
5000	2,89	1,81	0,78



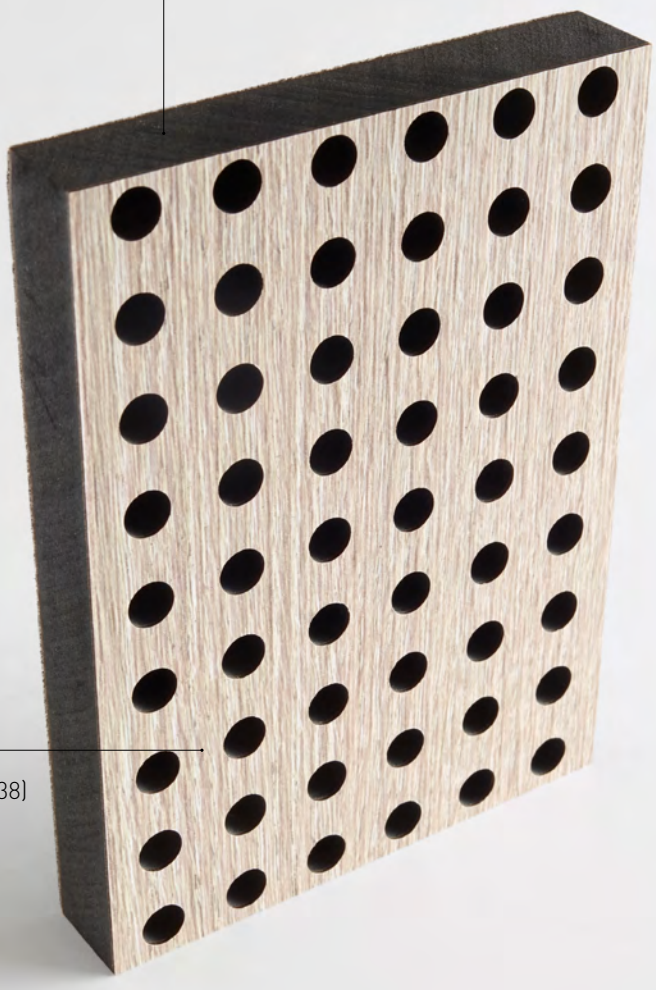
f(Hz)	α_p
125	0,80
250	0,50
500	0,60
1000	0,70
2000	0,75
4000	0,80

Total depth	% perfo	α_w	f(Hz)	Sound class	NRC	SAA
500 mm / filled		0,70		C	0,65	0,64
Installation	Mounted on wooden frame with a height of 500 mm (= simulation of a filled cupboard), filled with 20 mm of PRIMAWOOL of 22.5 kg/m³, stuck with spun fabric side on the back of the interior of the cupboard.					
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997						

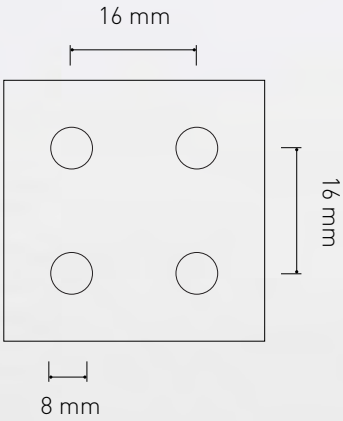
DRILLED 

Acoustic black moisture repellent MDF
16 mm + acoustic absorbing glass fibre
tissue (on the back)

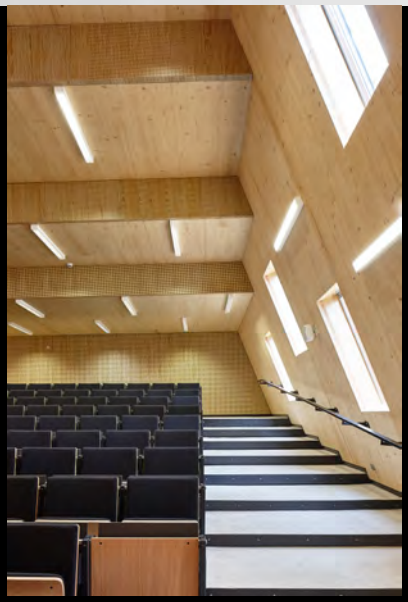
± 17 to 18 mm

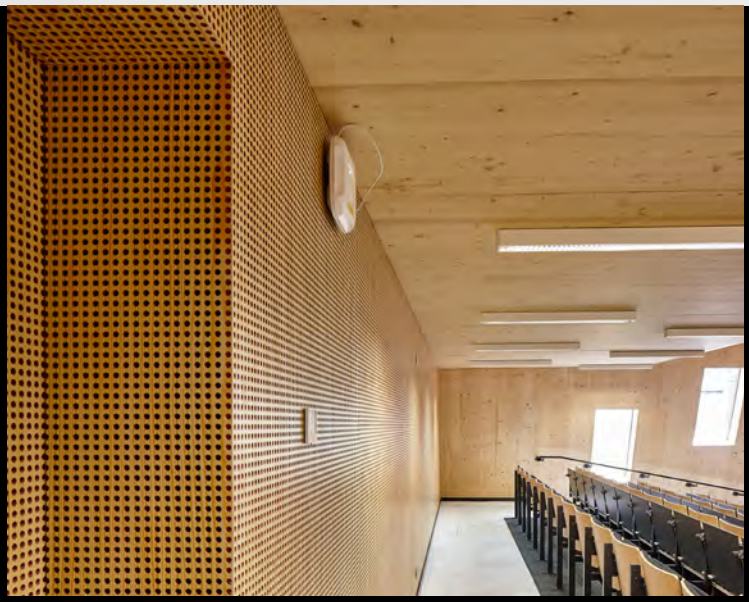


High-quality HPL finish (EN438)
of Abet Laminati 0.9 mm
or real wood veneer 0.6 mm



INSTALLATION *see page 87*





MATERIAL COMPOSITION

Top layer	High-quality HPL finish (EN438) of Abet Laminati 0.9 mm or real wood veneer 0.6 mm
Core	Acoustic black moisture repellent MDF 16 mm
Backing	Backing in HPL finish (EN438) of Abet Laminati 0.9 mm or backing veneer 0.6 mm + acoustic absorbing glass fibre tissue (on the back)
WEIGHT	12,0 kg/m²

PERFORATION

Type B perforations of 19.6%: linear continuous drilled holes with a diameter of 8 mm and a CTC distance of 16 mm

STD. MEASUREMENTS FULL PANEL

(square-sawn)
3040x1280x±18 mm (HPL)
3040x1200x±17 mm (veneer)

OPTIONS

Made-to-measure	on request
Cladding panel	on request (see page 81)
Top layer	HPL, veneer, lacquer or digital print
Core	Acoustic black moisture repellent MDF or black fire retardant MDF (European fire class B), Multiplex birch BB/BB, spruce or poplar

Other drill patterns are possible as well:

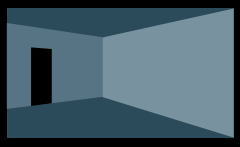
Perforation	Distance between holes	% perfo	αw	αw
Ø	Ctc distance		Wall thickness: 70 mm, filled with 50 mm of mineral wool	Wall thickness: 20 mm, filled with 20 mm of primawool
5 mm	16-16 mm	7,7%	0,35	0,30
8 mm	**16-16 mm**	**19,6%**	**0,65**	**0,65**
5 mm	32-32 mm	1,5%	0,15	0,20
8 mm	32-32 mm	4,9%	0,25	0,25

TEST SET-UP IN LABORATORY:

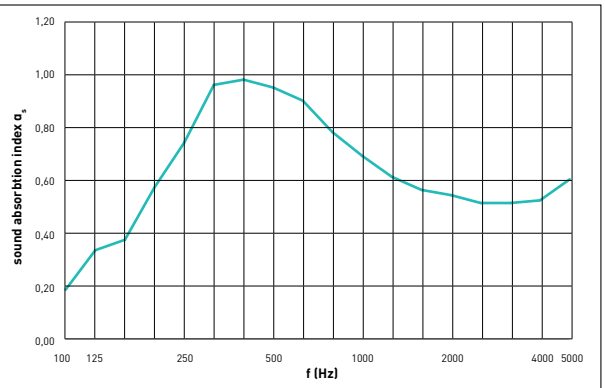
TOTAL THICKNESS WALLS

88 mm

(dia 8mm, HOH 16-16mm)



f(Hz)	T1 (s)	T2 (s)	α_s
100	11,92	7,45	0,19
125	**9,12**	**5,00**	**0,34**
150	10,10	4,96	0,38
200	9,86	3,89	0,58
250	**9,20**	**3,21**	**0,75**
315	9,25	2,72	0,97
400	9,10	2,65	0,99
500	**9,19**	**2,73**	**0,96**
630	10,06	2,91	0,91
800	9,81	3,18	0,79
1000	**9,57**	**3,42**	**0,70**
1250	9,06	3,62	0,62
1600	8,12	3,63	0,57
2000	**7,25**	**3,50**	**0,55**
2500	6,16	3,31	0,52
3150	5,20	3,01	0,52
4000	**4,31**	**2,67**	**0,53**
5000	3,40	2,18	0,61



f(Hz)	α_p
125	0,30
250	0,75
500	0,95
1000	0,70
2000	0,55
4000	0,55

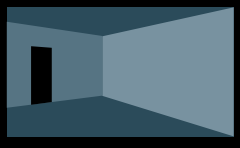
Total thickness	% perfo	αw	f(Hz)	Sound class	NRC	SAA
88 mm	19,6%	**0,65**	LM	C	0,75	0,74
Installation	Mounted on a wooden frame with a thickness of 70mm, filled with 50mm of mineral wool with a density of 40kg/m³.					
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997						

TEST SET-UP IN LABORATORY:

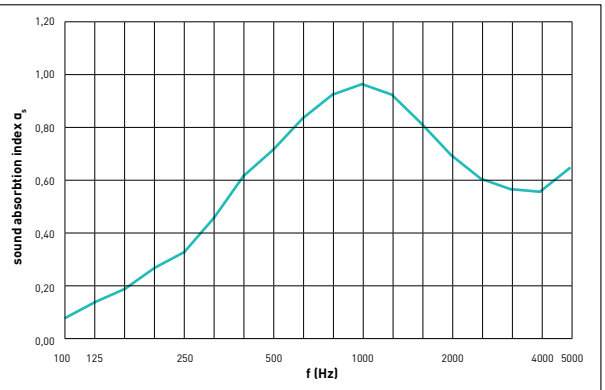
TOTAL THICKNESS WALLS

38 mm

(dia 8mm, HOH 16-16mm)



f(Hz)	T1 (s)	T2 (s)	α_s
100	11,92	9,41	0,08
125	**9,12**	**6,79**	**0,14**
150	10,10	6,68	0,19
200	9,86	5,72	0,27
250	**9,20**	**5,10**	**0,33**
315	9,25	4,31	0,46
400	9,10	3,61	0,62
500	**9,19**	**3,30**	**0,72**
630	10,06	3,07	0,84
800	9,81	2,84	0,93
1000	**9,57**	**2,74**	**0,97**
1250	9,06	2,77	0,93
1600	8,12	2,90	0,82
2000	**7,25**	**3,05**	**0,70**
2500	6,16	3,06	0,61
3150	5,20	2,88	0,57
4000	**4,31**	**2,59**	**0,56**
5000	3,40	2,11	0,65



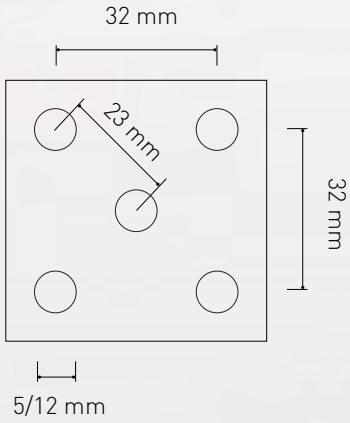
f(Hz)	α_p
125	0,15
250	0,35
500	0,75
1000	0,95
2000	0,70
4000	0,60

Total thickness	% perfo	αw	f(Hz)	Sound class	NRC	SAA
38mm	19,6%	**0,65**	M	C	0,70	0,68
Installation	Mounted on a wooden frame with a thickness of 20 mm, filled with 20 mm PRIMAWOOL of 22,5 kg/m³.					
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997						

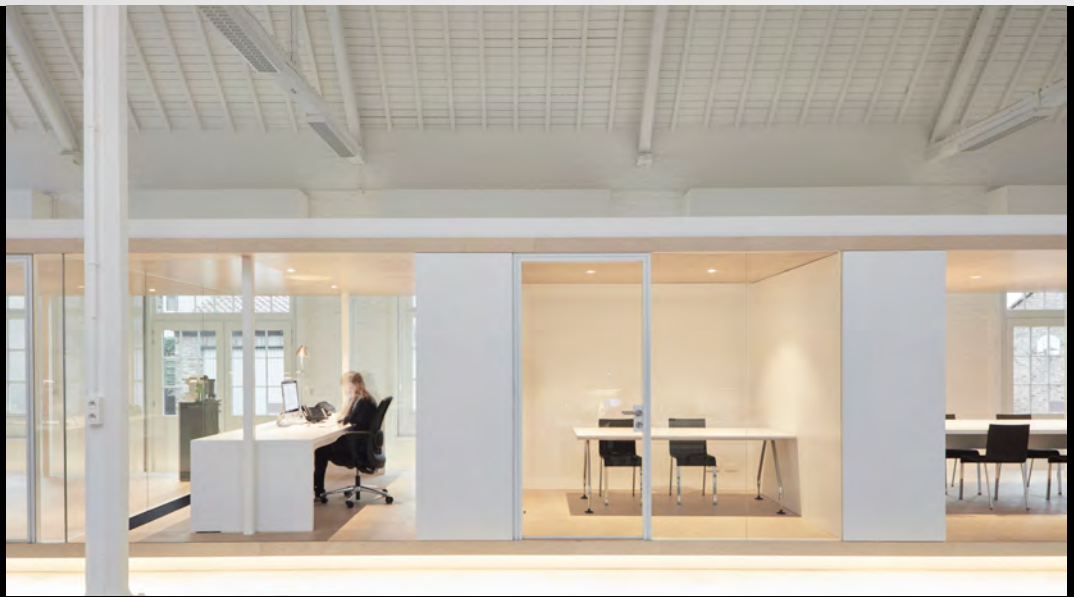
Multiplex birch + acoustic absorbing
glass fibre tissue (on the back)

± 16 to 18 mm

Multiplex birch veneer B/BB or
high-quality HPL finish (EN438)
of Abet Laminati 0.9 mm
or real wood veneer 0.6 mm



INSTALLATION *see page 87*



MATERIAL COMPOSITION C HPL

Top layer	High-quality HPL finish (EN438) of Abet Laminati 0.9 mm or real wood veneer 0.6 mm
Core	Multiplex birch CP/CP 15 mm
Backing	Backing in HPL finish (EN438) of Abet Laminati 0.9 mm or backing veneer 0.6 mm + acoustic absorbing glass fibre tissue (on the back)

MATERIAL COMPOSITION C MX

Core	Multiplex birch B/BB 18 mm
WEIGHT	10,0 kg/m²

PERFORATION

Type C MX perforations of 7.7%: staggered continuous drilled holes of 5/23/23 mm diagonal with Chanfrein of 12 mm

STD. MEASUREMENTS FULL PANEL

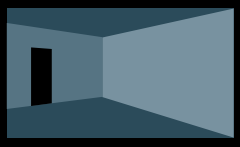
(square-sawn)
3040x1280x+/-17 mm (C- HPL)
3040x1200x+/-16 mm (C- veneer)
2464x1216x+/-18 mm (C-MX)

OPTIONS

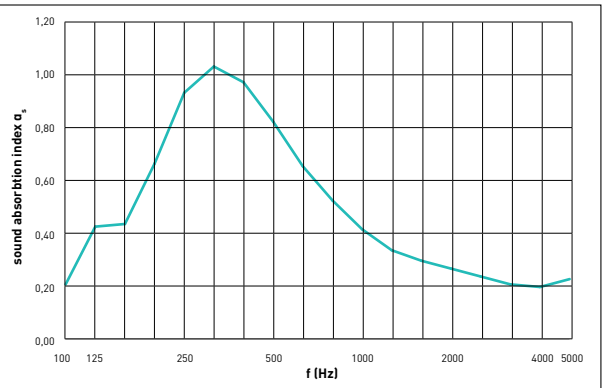
Made-to-measure	on request
Cladding panel	on request (see page 81)
Top layer	HPL, veneer, natural varnish or stain

TEST SET-UP IN LABORATORY:

TOTAL THICKNESS WALLS
88 mm



f(Hz)	T1 (s)	T2 (s)	α_s
100	12,46	7,29	0,21
125	**12,44**	**5,12**	**0,43**
150	9,04	4,36	0,44
200	8,77	3,40	0,67
250	**8,73**	**2,72**	**0,94**
315	8,74	2,54	1,04
400	8,78	2,65	0,98
500	**9,02**	**2,98**	**0,83**
630	9,71	3,55	0,66
800	9,55	4,06	0,53
1000	**9,17**	**4,51**	**0,42**
1250	8,24	4,71	0,34
1600	7,14	4,58	0,30
2000	**6,03**	**4,30**	**0,27**
2500	4,85	3,82	0,24
3150	3,76	3,24	0,21
4000	**2,93**	**2,69**	**0,20**
5000	2,18	2,07	0,23

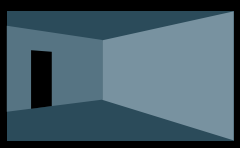


f(Hz)	α_p
125	0,35
250	0,90
500	0,85
1000	0,45
2000	0,25
4000	0,20

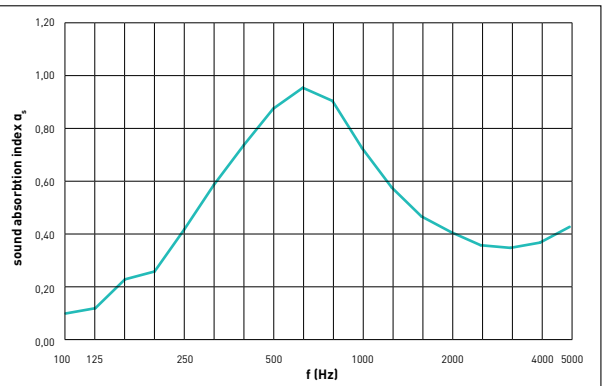
Total depth	% perfo	α_w	f(Hz)	Sound class	NRC	SAA
88 mm	7,7%	0,30	LM	D	0,60	0,60
Installation	Mounted on a wooden frame with a thickness of 70mm, filled with 50mm of mineral wool with a density of 40kg/m³.					
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997						

TEST SET-UP IN LABORATORY:

TOTAL THICKNESS WALLS
38 mm



f(Hz)	T1 (s)	T2 (s)	α_s
100	12,23	9,12	0,10
125	**10,79**	**8,00**	**0,12**
150	9,82	6,13	0,23
200	9,09	5,56	0,26
250	**9,36**	**4,57**	**0,42**
315	9,30	3,75	0,59
400	9,26	3,26	0,74
500	**9,40**	**2,92**	**0,88**
630	10,04	2,79	0,96
800	9,95	2,89	0,91
1000	**9,73**	**3,34**	**0,73**
1250	8,92	3,71	0,58
1600	7,72	3,88	0,47
2000	**6,69**	**3,84**	**0,41**
2500	5,44	3,54	0,36
3150	4,32	3,04	0,35
4000	**3,40**	**2,51**	**0,37**
5000	2,54	1,94	0,43

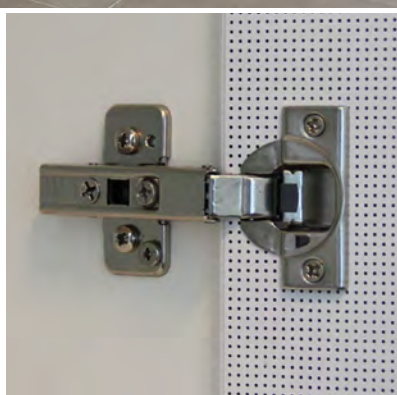


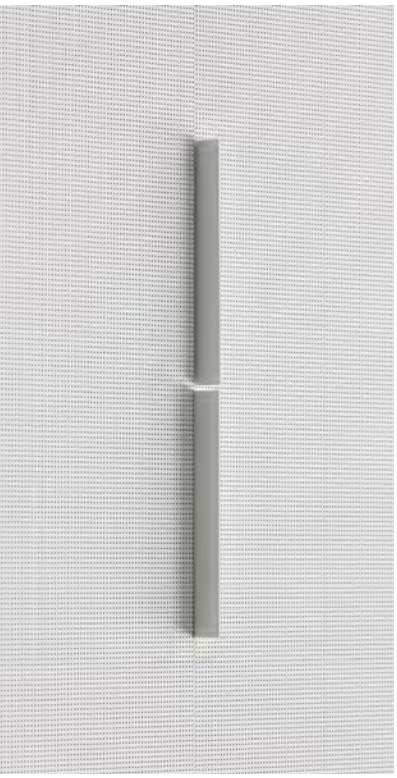
f(Hz)	α_p
125	0,15
250	0,40
500	0,85
1000	0,75
2000	0,40
4000	0,40

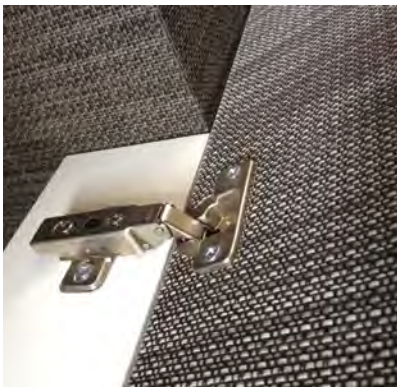
Total depth	% perfo	α_w	f(Hz)	Sound class	NRC	SAA
38 mm	7,7%	0,50	MM	D	0,60	0,61
Installation	Mounted on a wooden frame with a thickness of 20 mm, filled with 20 mm PRIMAWOOL of 22,5 kg/m³.					
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997						

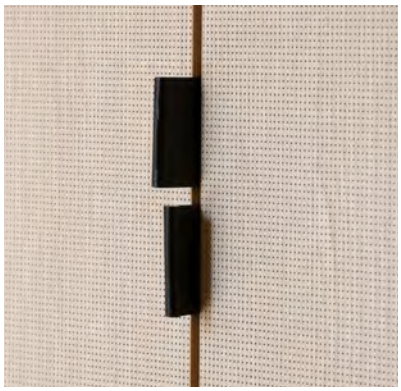
MADE-TO-MEASURE CUPBOARD DOORS

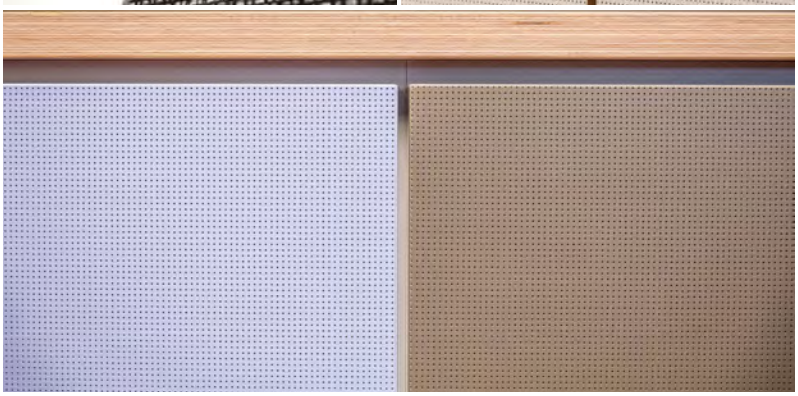
Why opt for acoustic cupboard door fronts?
Within the project, Print Acoustics offers you the possibility of a complete solution for sound absorption in the room. Our panels enable you to install an integrated sound absorbing wall, interior door and cupboard door. This way, you can design your room the way you want to.











Within our range of acoustic absorbing panels, you can also choose from the made-to-measure cupboard fronts listed below. All our cupboard fronts come with an absorption certificate issued by an independent acoustic laboratory.

TYPE	NAME	PERFO	BLADE	GROOVE	TOP LAYER	CUPBOARD DOOR	EDGE-FINISHING	EDGE-FINISHING
		continuous %	width (mm)	width (mm)		width = B (mm)	long sides	short sides
GROOVED								
Db	Transversal core Wide blade	8,75	13,2	2,8	HPL veneer	B-(2x13,2)-2,8 = multiplicity 16 mm	ABS veneer	ABS -
Ds	Transversal core Small blade	17,5	5,2	2,8	HPL veneer	B-(2x5,2)-2,8 = multiplicity 8 mm	ABS veneer	ABS -
Dr	Transversal core Random blade	8,75	Random	2,8	HPL veneer	free	ABS veneer	ABS -
Dw	Transversal core Broad blade	4,35	29,2	2,8	HPL veneer	B-(2x29,2)-2,8 = multiplicity 32 mm	ABS veneer	ABS -
MICRO/NANO								
M	Micro	10,6	-	-	HPL veneer	free*	ABS veneer	ABS veneer
N	Nano	5,8	-	-	veneer	free*	veneer	veneer
TEXTILE								
Id	Invisible door	-	-	-	Woven Vinyl	free	-	-

* The perforations can differ slightly near the edge.

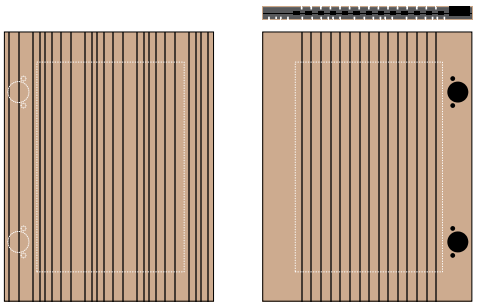
This product is not sold in Germany in respect of European patent EP1411179 / valid German DE503 05 161.6-08

Print Acoustics cupboard doors can only be made to measure. Within this scope, we always follow your instructions in terms of quantities and dimensions. If desired, we can also provide the doors with drilled holes for hinges, millings for handles and edging with ABS edge band of 1 or 2 mm (four sides) or in case of veneer with a veneer edge band (two long sides).

CUPBOARD DOOR HINGE

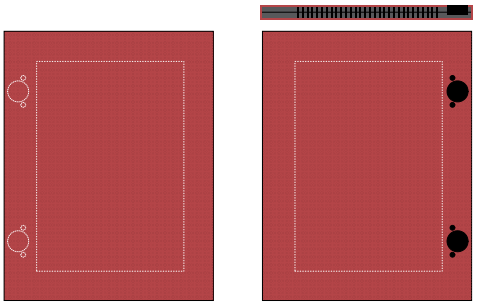
Acoustic absorbing cupboard doors are strongly perforated in the core to optimise absorption capacity. To ensure stability of the cupboard doors, we provide a full edge frame at the core of approx. 50 mm and, depending on the height, 1 or 2 horizontal transverses. Due to the acoustic black MDF core, this is almost invisible.

GROOVED



front back

MICRO/NANO



front back

When designing and installing acoustic cupboard doors, you must take into account the following areas of concern:

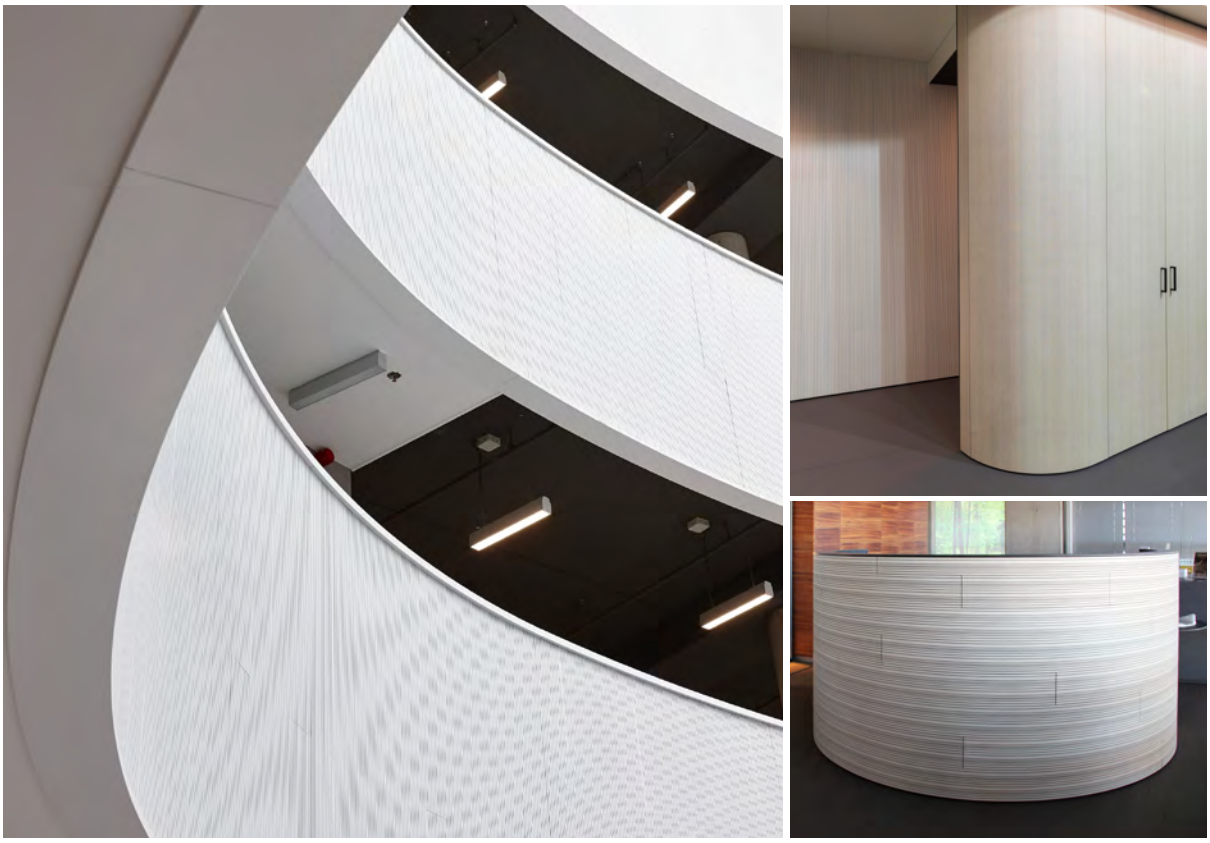
> max width of 600 mm
> max height of 3000 mm
> first and last hinge at 125 mm from the edge
> double hinge to be provided at the top
> distance between hinges max 352 mm
> spacers on back side of the door
> cupboard magnets (3 magnets divided across the height)
> In case of high cupboards, one permanent shelf is installed halfway the height of the cupboard. This shelf must be in the plane of the body.

CUPBOARD SLIDING DOOR

Print Acoustics can also produce cupboard sliding doors which can be easily installed by means of a top-running system with the rail fixed directly underneath the door lintel and a guide at the bottom.
You can always contact us for any more information on the technical requirements.

SPECIALS

Within a project, you often come into contact with fixed decoration elements which need to be flexible in order to maintain the aesthetics of the design. Print Acoustics can also create acoustic absorbing panels for baffles, sliding walls or cladding for interior doors.



Acou Flex flexible elements

Grooved		Vertical groove pattern Possible for all types in the shape of planks with a radius of min 3 m (to be installed by you on a flexible support structure)
		Horizontal groove pattern On request Flex planks, TYPE Db flex, Dr flex, Dw flex, with a radius of min 1.5 m (to be installed by you on a flexible support structure)
Micro/nano		On request you can order 10 mm flex panels in micro perforations (Mo-flex type) and nano perforations (No-flex type) with a radius of min 1.5 m (to be installed by you on a flexible support structure)
Textile		On request you can order 10 mm flex panels in I-flex TYPE with a radius of min 1.5 m (to be installed by you on a flexible support structure)

Acou Sliding Walls

Print Acoustics can produce made-to-measure acoustic absorbing sliding walls. They consist of two Type Db, Dr, Dw, I, M, N sides and a core with a full edge frame filled with sound absorbing PRIMAWOOL. Thickness approx. 60 mm

Panels for interior door cladding (non acou)

We can provide "false" acoustic panels for the cladding of an interior door. This ensures that the aesthetic quality of the project is not compromised. These panels (provided in full panel measurements) can be glued to an existing interior door.
Added thickness approx. 11 mm

Baffles

You can also opt for acoustic baffles to absorb the sound in a room. These baffles are available as individual wall or ceiling elements. They can be made to measure on the basis of all our types.

SOUNDSCAPES by Zumi is one of our partners who designs acoustic ceiling lightning fittings.
> www.zumi.be

The unique aspect of this collection is that you can choose from both our different types of acoustic absorbing panel materials AND our wide range of top layer possibilities: HPL laminate, real wood veneer, lacquer, digital print or woven vinyl.

As we have these top layers in stock or can produce them ourselves, we can always guarantee quick delivery for standard measurements and made-to-measure parts.

If desired, you can request samples of the top layer you are interested in.

1. HPL

The PRINT HPL high pressure laminates of Abet Laminati consist of layers of cellulose fibrous material combined with a decorative top layer impregnated with thermosetting resins and bonded together using a high pressure (9 Mpa = 90 kg/cm2), high temperature (150 ° C) process.

All top layers are manufactured according to the European norm EN 438 I/II. The HPL top layer has a thickness of 0.9 mm and is therefore one of the highest-quality top layers on the market.

The complete technical details of PRINT HPL and the available colours and textures (more than 500 uni-colours and wood imitations) are available on request (by telephone or via e-mail). You can also find information on www.printacoustics.com.

ABET LAMINATI
Unlimited selection

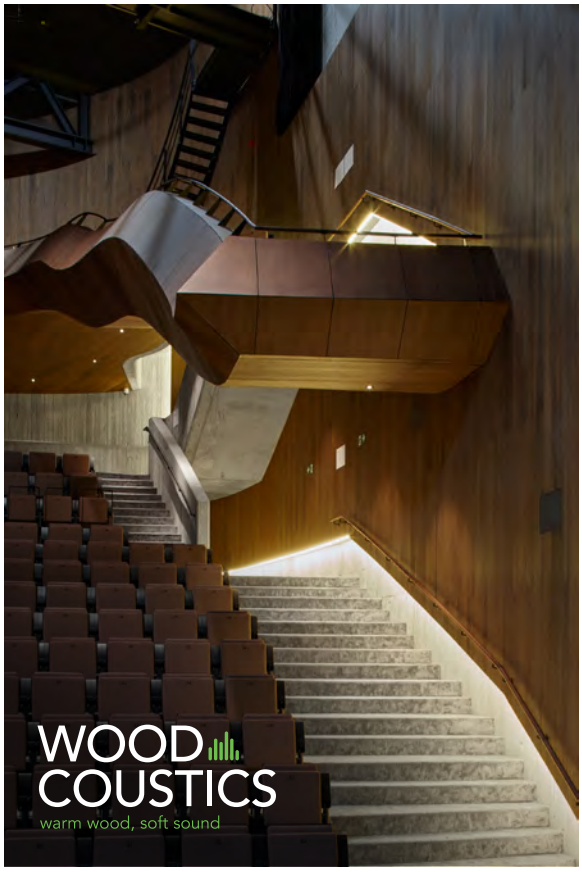
print hpl
high pressure laminates

2. VENEER

Our acoustic panels are also available with a top layer in real wood veneer Decospan (you can choose from plain cut oak, quarter cut oak, beech, birch, walnut, ash, etc.).

The panels can be delivered untreated so that the interior designer can stain or varnish them, or we can deliver them finished. Finishing options include: UV varnish, matt varnish, stain, colour oil...

DECOSPAN



3. WOVEN VINYL

This unique top layer for our TYPE I panels consists of woven vinyl. A glass fibre core is coextruded with a bicolour PVC coating.
A fabric is woven using screen weaving technology. The resulting fabric is extremely dense and still breathable.

The collection also includes two Jacquard patterns (SUE & SAFFIR).

ntgrate®

1. NOVA 2. DIESEL 3. STORM 4. GERBEN 5. PEPPER 6. SILKA 7. ADANNA 8. SUE 9. SAFFIR

4. DIGITAL PRINT

We can print your image on our acoustic panels by means of digital printing on a HPL laminate sublayer. This is carried out with a four-colour printing process.

To have a good representation of your image, the digital file provided must have a minimum size of 150 dpi in CMYK on scale 1/1.

Only vertical application due to limited scratch resistance.

5. LACQUER

The grooved panels can be delivered in a RAL or NCS colour finished with transparent matt lacquer. This is done in-house at our production site. (the quality of the lacquer in the groove is less covering than the lacquer of the top layer).

TYPE S, G, Db, Dr, Dw, Z, T

Installation on a single or double wooden frame (ctc 640 mm for panels of 1280 mm / ctc 600 mm for panels of 1200 mm) using nails/brads of the Senco Print Acoustics type (RAL 8014) in the grooves of the panel by means of a Print Acoustics pneumatic pistol.

Type Z panels can also be mounted with black screws in the 8.5 mm wide groove.

The openings of the wooden framework must be filled with a sound absorbing material (e.g. Rockwool or Primawool).

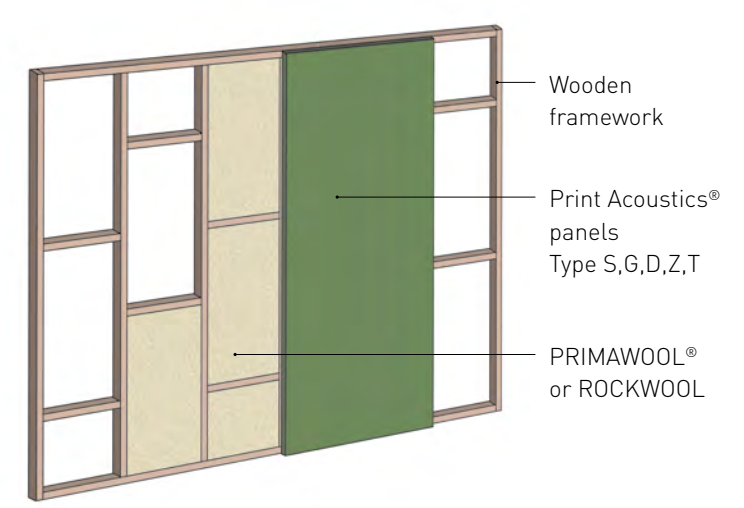
The four sides of the panel must always be supported by the framework. The long sides of two panels are mounted against each other to a common underlying frame.

The short sides of two panels are mounted to a common underlying frame with a distance of 2 to 3 mm between them.

We advise you to leave a space of 2.5 mm per meter in height and width in order to allow the construction to expand.

Proposed installation patterns as well as our guidelines to store the panels can be found on Page 88. Our guidelines for corner and plinth details can be found on Page 90.

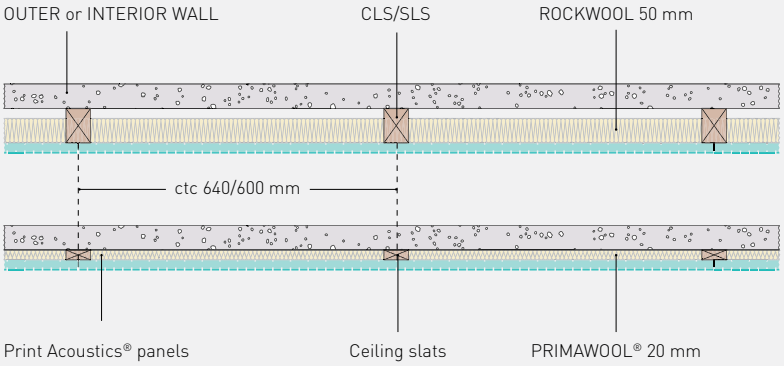
On request you can obtain specific installation guidelines and certificates for: walls with an expected increased impact (sports rooms, party rooms, etc.) according to standard ETAG 003 and EN 13,964 and for ceiling installation.



TEST SET-UP IN LABORATORY:

TOTAL THICKNESS WALLS
88/90 mm

TOTAL THICKNESS WALLS
38/40 mm



TYPE S, F, G, Db, Dr, Ds, Dw, Z, PS, ML line, NL line

Installation on a single or double wooden frame installed horizontally (ctc +/- 640 mm) using nails/brads of the Senco Print Acoustics type (RAL 8014) in the grooves of the planks by means of a Print Acoustics pneumatic pistol.

Type Z planks can also be mounted with black screws in the 8.5 mm wide groove.

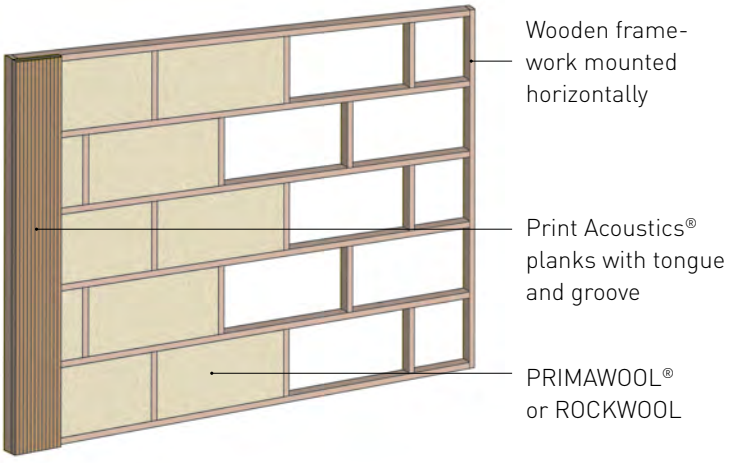
The openings of the wooden framework must be filled with a sound absorbing material (e.g. Rockwool or Primawool).

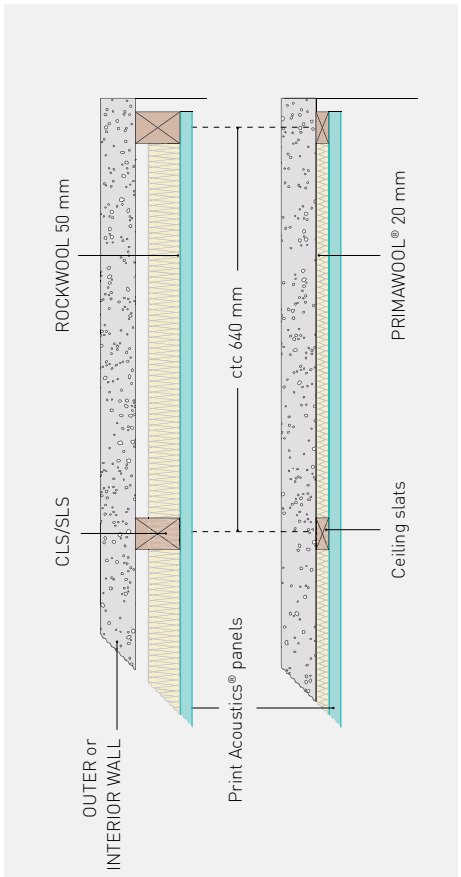
The long sides of planks with tongue and groove are mounted against each other. The short sides of two panels are mounted to a common underlying frame with a distance of 2 to 3 mm between them.

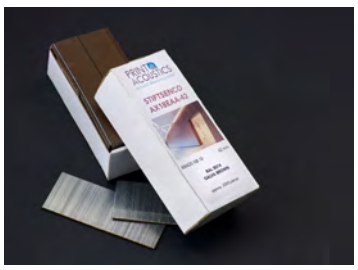
We advise you to leave a space of 2.5 mm per meter in height and width in order to allow the construction to expand.

Proposed installation patterns as well as our guidelines to store the panels can be found on Page 88. Our guidelines for corner and plinth details can be found on Page 90.

On request you can obtain specific installation guidelines and certificates for: walls with an expected increased impact (sports rooms, party rooms, etc.) according to standard ETAG 003 and EN 13,964 and for ceiling installation.







TEST SET-UP IN LABORATORY:

TOTAL THICKNESS WALLS
88/90 mm

TOTAL THICKNESS WALLS
38/40 mm

TYPE I

Installation on a single or double wooden frame (ctc 640 mm for panels of 640 mm) using nails/ brads of the Senco Print Acoustics type (RAL 8014) in the full MDF edge of the panel by means of an 18-gauge pneumatic pistol. The nails/ brads penetrate the woven vinyl top layer and are invisible.

The openings of the wooden framework must be filled with a sound absorbing material (e.g. Rockwool or Primawool).

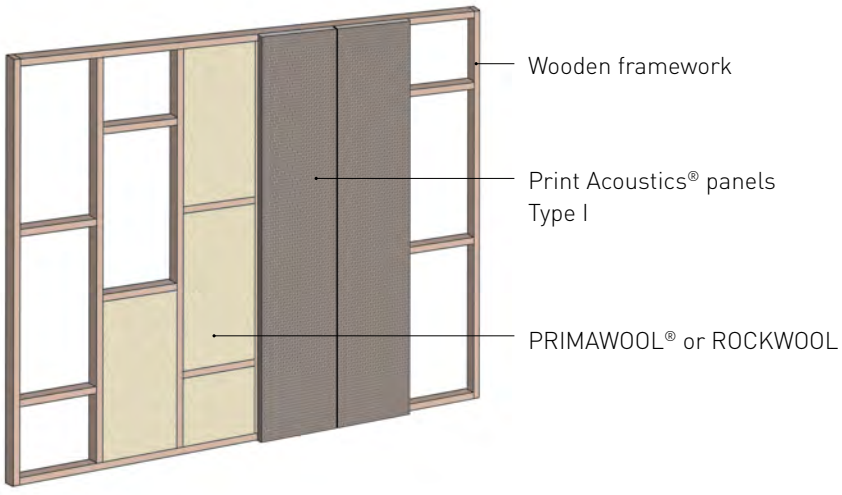
The four sides of the panel must always be supported by the framework. The short sides of two panels are mounted next to each other to a common underlying frame with a distance of 2 to 3 mm between them.

The short sides of two panels are mounted to a common underlying frame with a distance of 2 to 3 mm between them.

We advise you to leave a space of 2.5 mm per meter in height and width in order to allow the construction to expand.

Proposed installation patterns as well as our guidelines to store the panels can be found on Page 88.

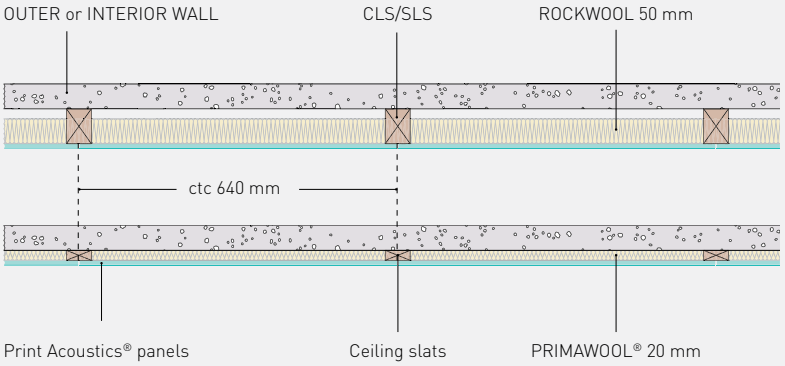
On request you can obtain specific installation guidelines and certificates for: walls with an expected increased impact (sports rooms, party rooms, etc.) and for ceiling installation.



TEST SET-UP
IN LABORATORY:

TOTAL THICKNESS WALLS
80 mm

TOTAL THICKNESS WALLS
30 mm



TYPE B, C HPL, C MX, M, ML, N, NL

Installation on a single or double wooden frame (ctc 640 mm for panels of 1280 mm / ctc 600 mm for panels of 1200 mm) can be done by means of invisible planks. These invisible planks are screwed onto the back of the panels and the acoustic absorbing panels are then hung onto the frame.

The openings of the wooden framework must be filled with a sound absorbing material (e.g. Rockwool or Primawool).

The four sides of the panel must always be supported by the framework. The short sides of two panels are mounted next to each other to a common underlying frame with a distance of 2 to 3 mm between them.

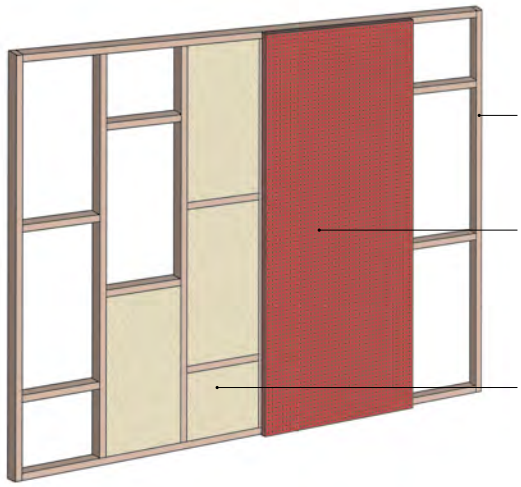
The short sides of two panels are mounted to a common underlying frame with a distance of 2 to 3 mm between them.

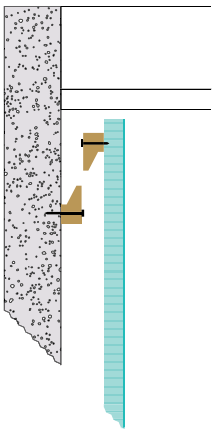
We advise you to leave a space at the top between the panel and the ceiling so as to enable you to join the two elements.

We advise you to leave a space of 2.5 mm per meter in height and width in order to allow the construction to expand.

Proposed installation patterns as well as our guidelines to store the panels can be found on Page 88. Our guidelines for corner and plinth details can be found on Page 90.

On request you can obtain specific installation guidelines and certificates for: walls with an expected increased impact (sports rooms, party rooms, etc.) according to standard ETAG 003 and EN 13,964 and for ceiling installation.

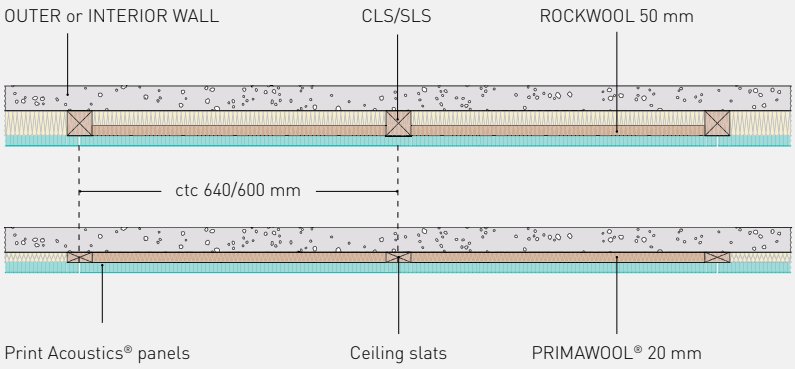




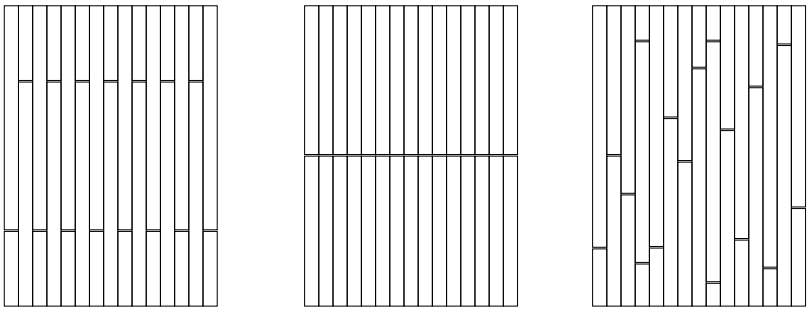
TEST SET-UP
IN LABORATORY:

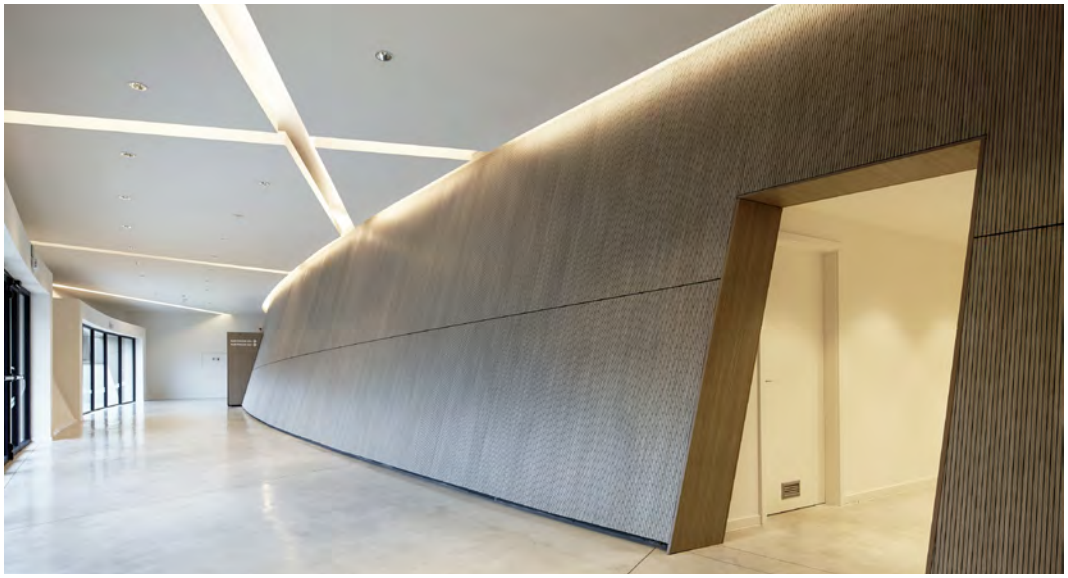
TOTAL THICKNESS WALLS
88/90 mm

TOTAL THICKNESS WALLS
38/40 mm



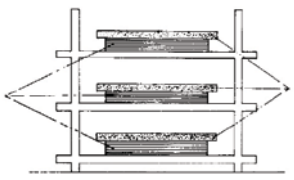
There are different possible installation patterns for panels and planks.
A couple of examples of patterns with planks are given in the drawings below.



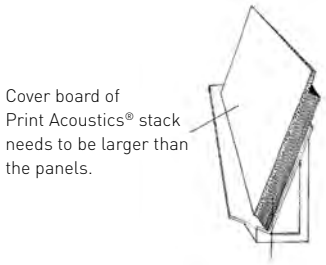


STORAGE OF FINISHED PANELS

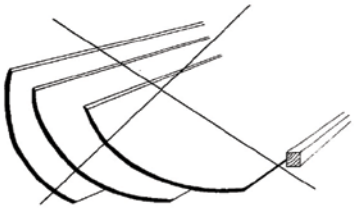
The acoustic panels/planks can be mounted horizontally and vertically. For conditioning, we recommend to store the panels in the room at least 48 hours before mounting them. These panels are by nature and composition only to be mounted in a well-conditioned room with a relative humidity between 35 and 55 % and a temperature between 14 and 30 °C.



Print Acoustics® panels



Print Acoustics® panels



Bad stacking

TECHNICAL DATA SHEET PRIMAWOOL®

Description

> Low density absorber
> 100% polyester fibre
> 1-sided drum membrane: white
> Colour of polyester fibre: white
> Applications: walls, ceilings and baffle filling

Features

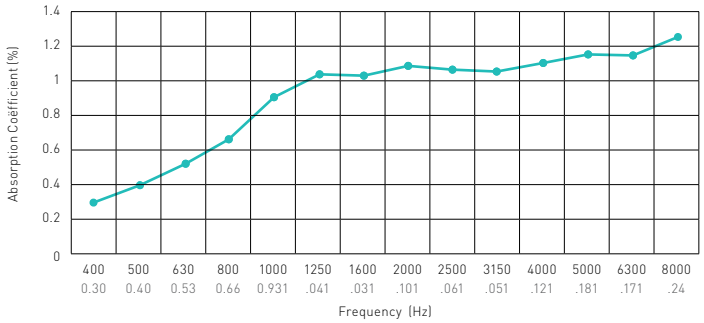
> 100 % recyclable PET
> Inodorous
> No emission of volatile organic compounds (VOCs) (A+ level)
> Moisture and rot resistant
> Non irritating for skin and eyes
> European fire class B-s2-d0

Figures

Density ISO 9073-1	450 gr/m²
Thickness E0 (without load) ISO 9073-2	22 mm (measured without package)
Thickness E1 (load of 50g/50cm²)	21 mm (measured without package)
Thickness E10 (load of 500g/500cm²)	13 mm (measured without package)
Inflammability FMVSS 302	<100 mm/min (self-extinguishing)
Dimensions of roll (length / width / width tolerances)	30 rm / 600 mm / -0 +2 cm
Package	36 m² (2 separate rolls of 30 m)

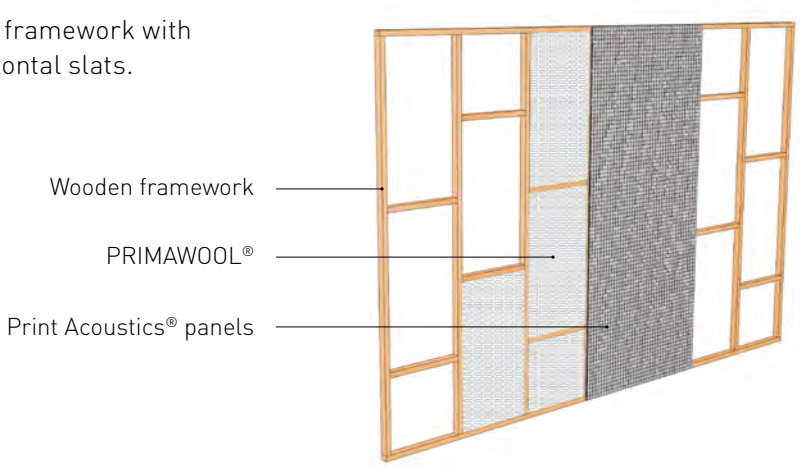
Acoustic features

Absorption coefficient is determined by measuring a sample of PRIMAWOOL® in the reverberation room.



Installation PRIMAWOOL®

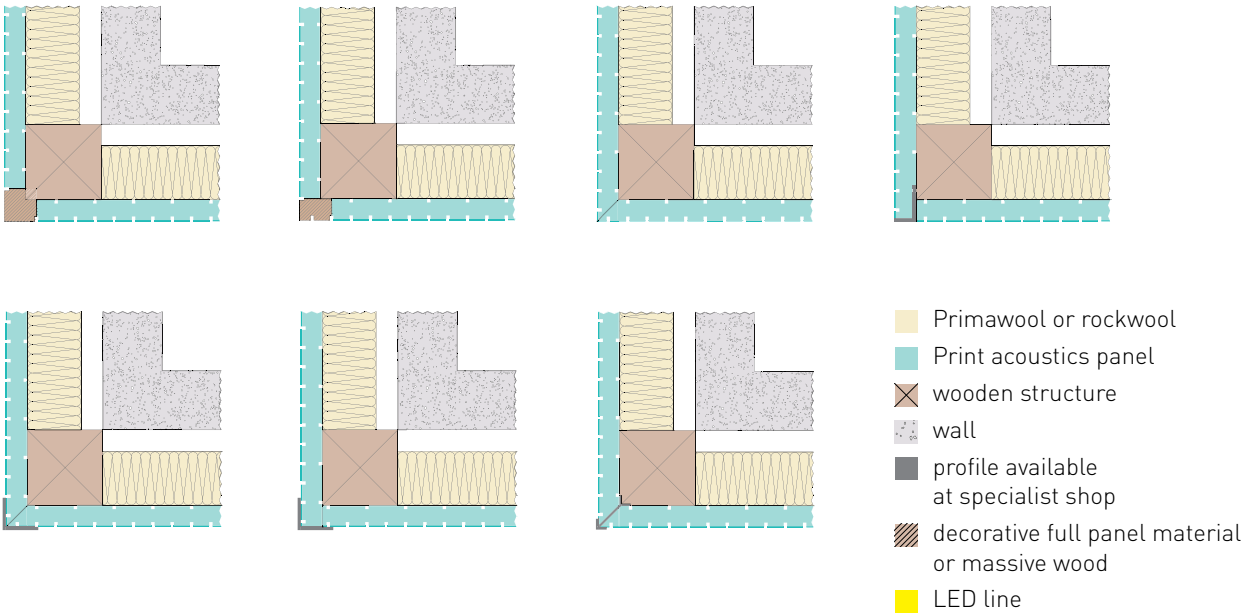
Installation in a framework with vertical or horizontal slats.



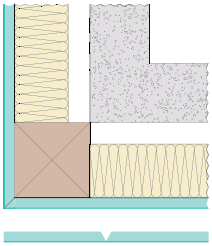
DETAILS

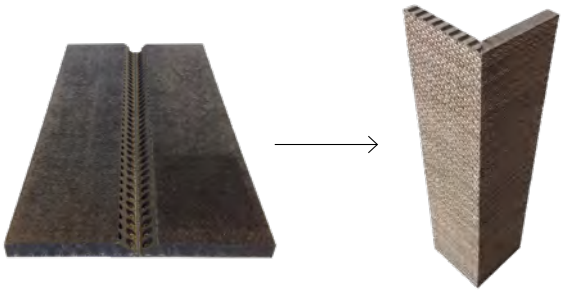
In terms of finishing details, it is important to take into account acoustic perforations at the core per type. A number of the different possible finishes are illustrated below with a support structure.

Corner solutions

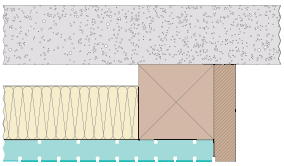


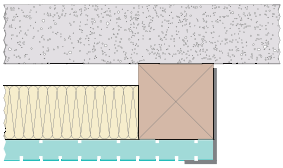
Corner solution type I

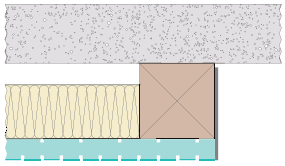




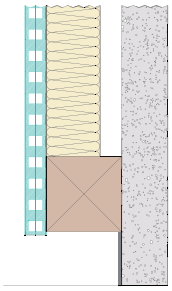
Wall connections

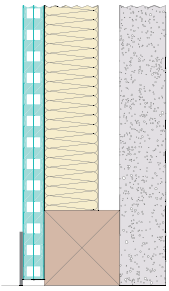






Floor connections





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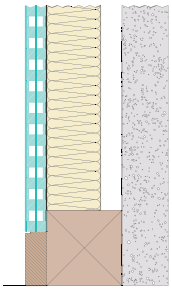
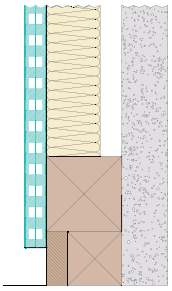
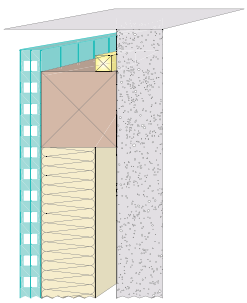




Ceiling LED line



*Required plinth position in case of type F or Ds

PRINT ACOUSTICS
your silent partner

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