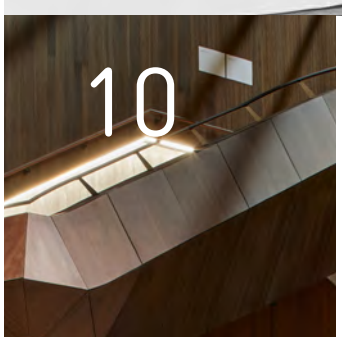
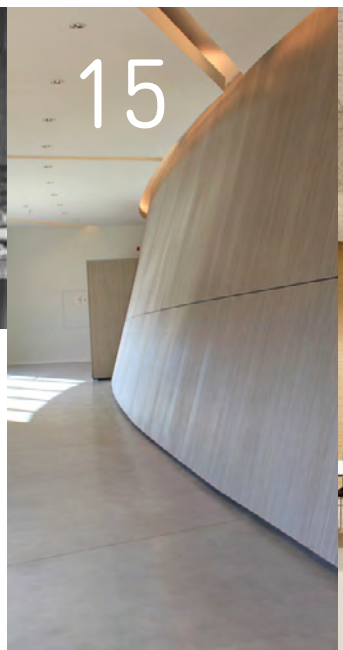
WOOD COUSTICS

warm wood, soft sound

ACOUSTIC — ARCHITECTURAL — AMAZING





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

DECOSPAN®
Wood Solutions

TRIPLACO
LEFEVERE GROUP

ACOUSTIC ARCHITECTURAL AMAZING

Decospan and Triplaco are two family owned Belgian companies with over 150 years of combined experience in wood processing business. They are both committed to develop and produce with Woodcoustics the most efficient, stable and decorative acoustically 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 interior environment in buildings.

Our range of acoustically 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 (vibration 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.

Helmholtz resonance is one of the most efficient ways to correct the acoustics of the human voice. Our panels are usually installed perpendicular to the speech direction, which provides another benefit.

The core of our panels is standardly made up of black acoustic MDF. This gives an elegant and timeless look to our collection and has a higher quality than brown MDF or chipboard.

Our products can be made to measure. We deliver customised cupboards and sliding doors, provided with hinge holes according to your plan so you can smoothly install them on site. Separate acoustic reports are available for cupboard doors.

Natural veneer has to be protected from external surface aggression. We recommend to use a qualitative lacquer protection. Woodcoustics can also be delivered in a prefinished multilayer Shinnoki® finish. These panels have a mat and impact proof surface.

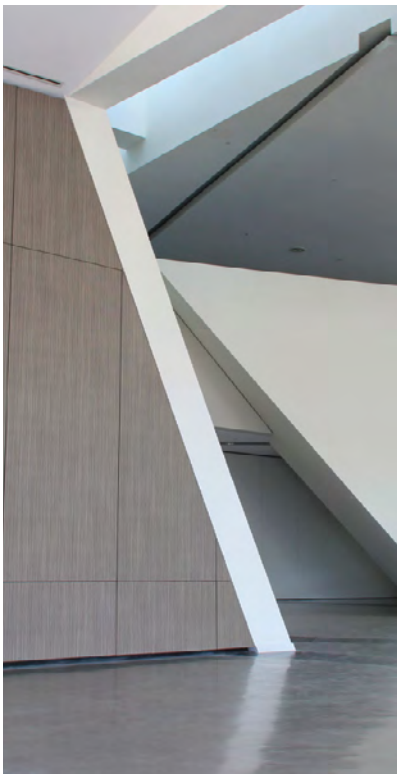
The products are finished in a variety of styles according to your taste. The top layer can be chosen from one of the six standard veneers (European oak crown cut, European oak fals quarter cut, Pine Carolina, Birch half rotary cut, American walnut, American maple) or be finished in one of the 16 prefinished veneers of the Shinnoki® range.

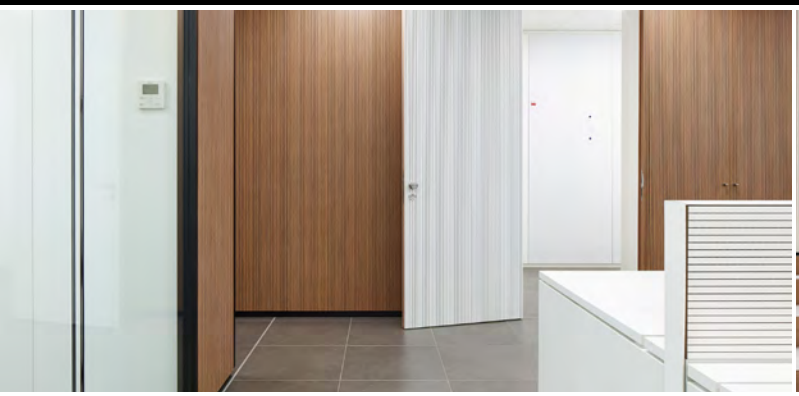
INSPIRATION

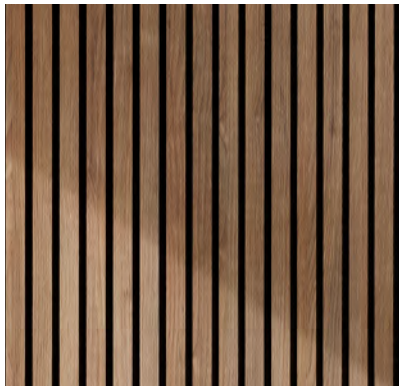
Resonance and bad acoustics in a room are a disturbing factor in many environments. That is why our more than 30 different Helmholtz products are used in a wide range of large and small projects. But we also strive for a perfect integration of the acoustically absorbing plates into your creative design.

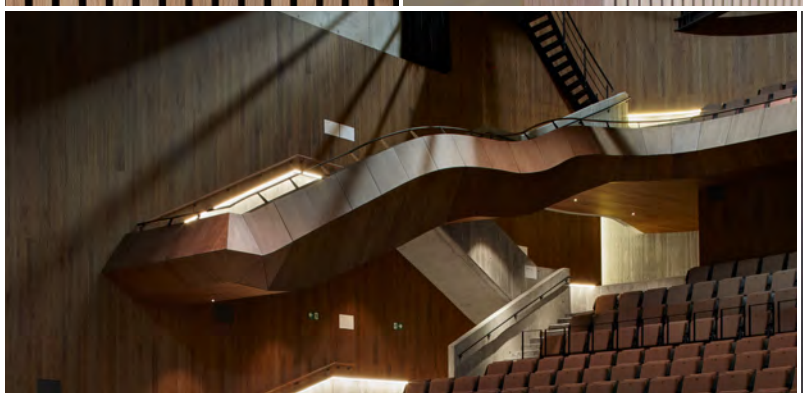
That is why you can use our panels for walls, cabinet doors, ceilings, furniture, interior door cladding, etc. and order them in one of the six standard veneers (European oak crown cut, European oak fals quarter cut, Pine Carolina, Birch half rotary cut, American walnut, American maple) or in one of the 16 prefinished veneers of the Shinnoki® range.

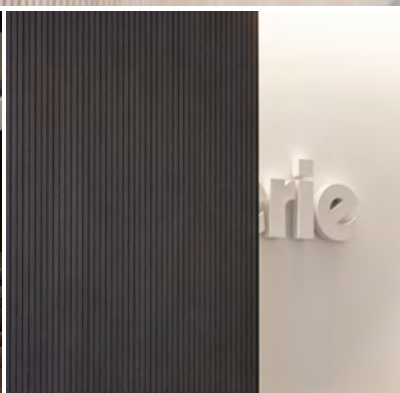
OFFICE ENVIRONMENTS / AUDITORIUMS / MUSEUMS
SPORTS CENTRES / MEETING ROOMS / RESTAURANTS
SCHOOLS / RECEPTION AREAS & HALLS / CONFERENCE CENTRES
RETIREMENT HOMES & HOSPITALS / CONCERT HALLS
WALLS / CUPBOARD DOORS / SLIDING DOORS / FURNITURE / ...

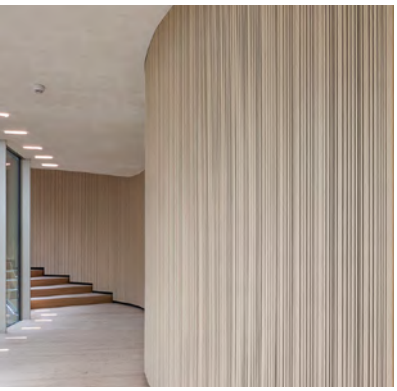
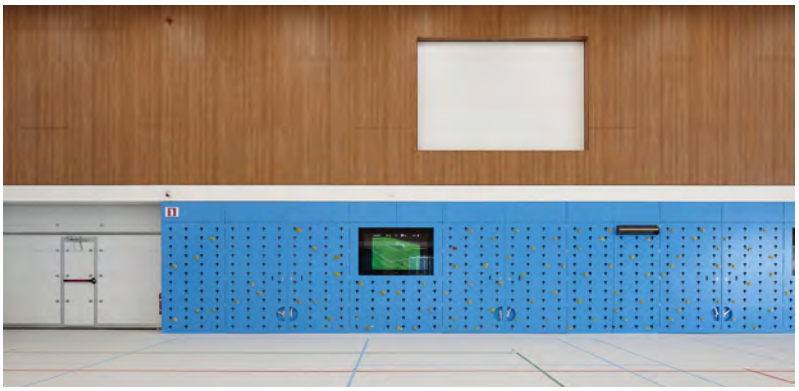
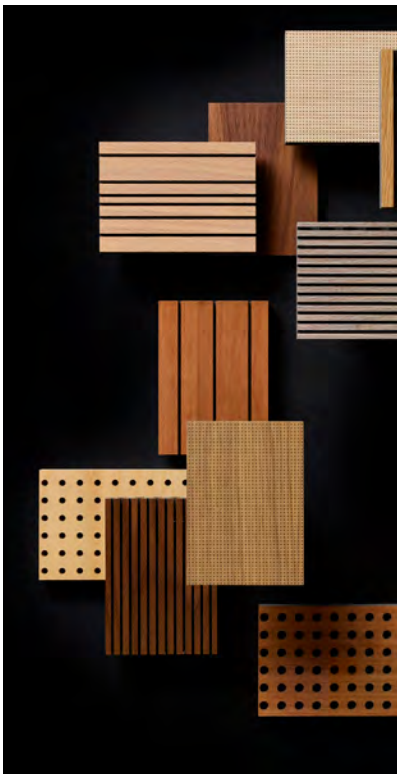


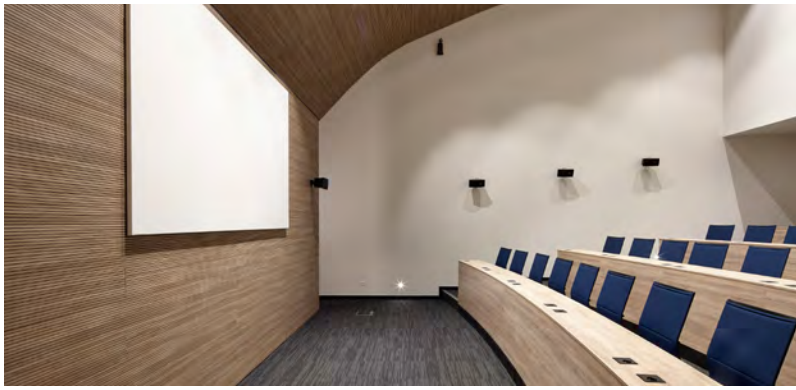
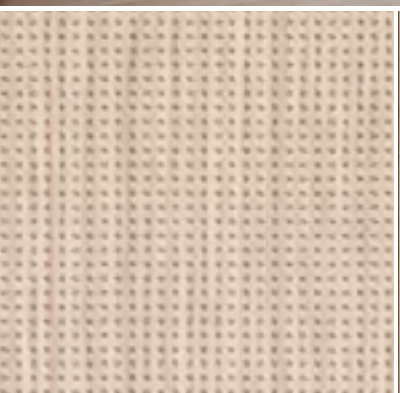
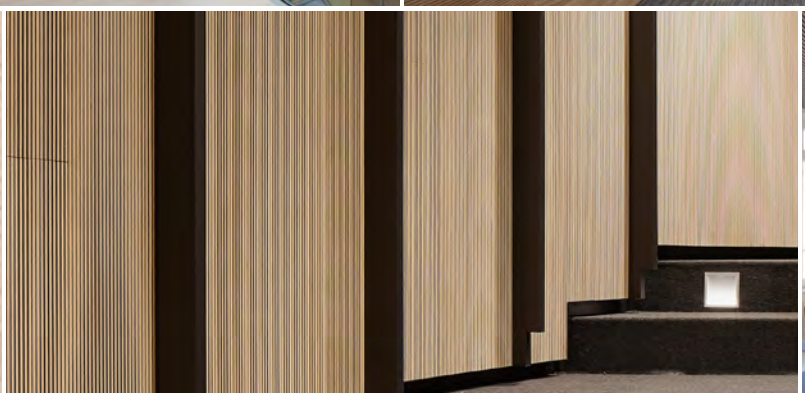
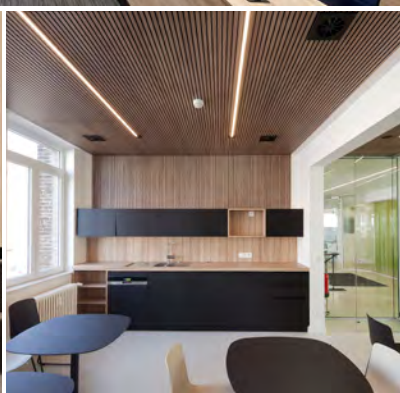








EXCEPTIONAL ACOUSTIC COMFORT

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.

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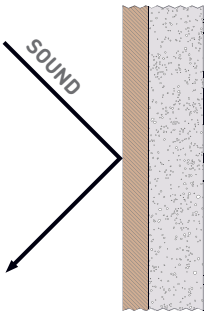
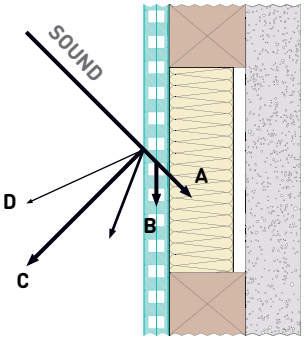


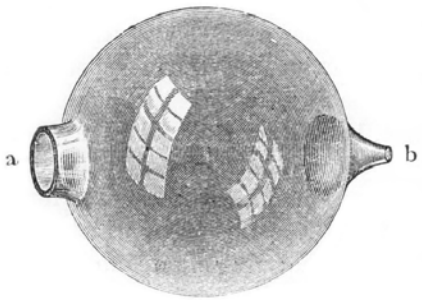
Panels without perforation



Woodcoustics 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

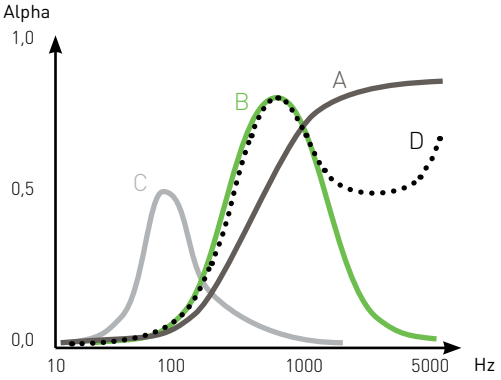
THE HELMHOLTZ PRINCIPLE

The mechanism of absorption at the core of a Woodcoustics 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).



Absorptiemechanismen

- A. Porous absorption = non-covered porous material
- B. Helmholtz resonance = perforated panels
- C. Panel resonance = non-perforated panels
- D. Woodcoustics 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 TIMES

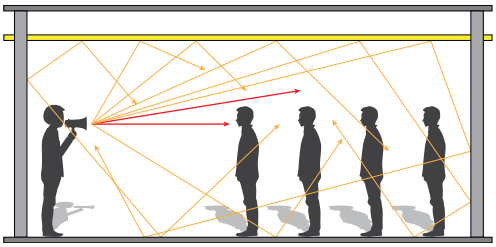
Definition of reverberation:
The time a sound is reflected in a room after the sound source stops. 'Bad acoustics' equals 'too long reverberation times' for Woodcoustics.

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 TIMES

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

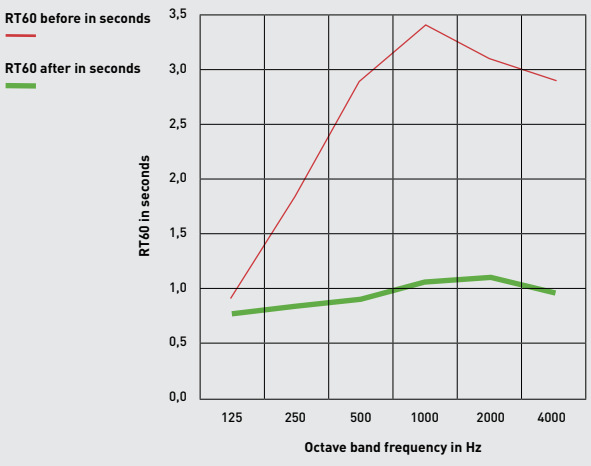
HOME	Recommended reverberation time in seconds
Lounge	0,4 - 0,7
Home theatre	0,3 - 0,5

LOBBY / GROOVED

This sober yet classy reception hall of a company was optimised acoustically by means of Woodcoustics 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**

Installation of 26,7 m² TYPE Db acoustic wall panels.



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.

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	Shinnoki Shinnoki veneer veneer	3030 x 1200 x 18 3030 x 128 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	Shinnoki veneer	3030 x 128 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	Shinnoki Shinnoki veneer veneer	3030 x 1200 x 18 3030 x 128 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	Shinnoki Shinnoki veneer veneer	3030 x 1200 x 20 3030 x 128 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	Shinnoki veneer	3030 x 128 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	Shinnoki Shinnoki veneer veneer	3030 x 1200 x 20 3030 x 128 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	Shinnoki Shinnoki veneer veneer	3030 x 1200 x 20 3030 x 128 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	Shinnoki Shinnoki veneer veneer	3030 x 1184 x 18 3030 x 128 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

↑ Shinnoki® veneer
veneer

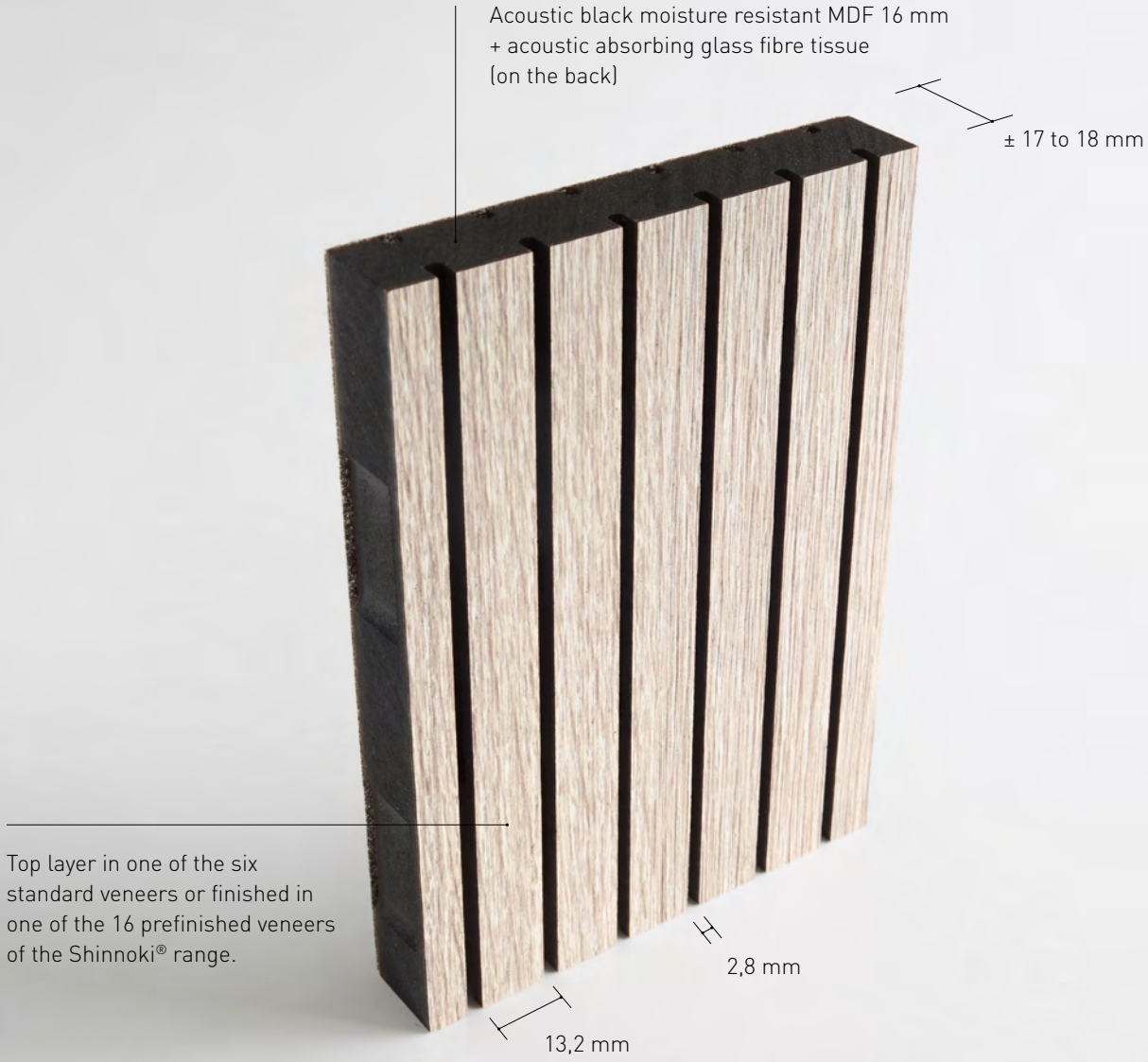
↑ V Half grooved long sides
T&G Tongue-groove
B Square-sawn

* 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

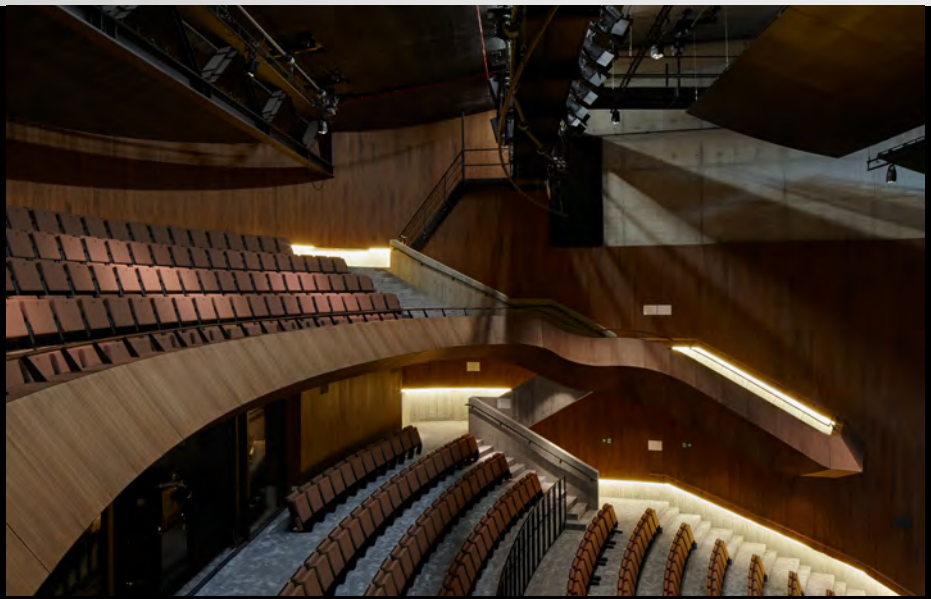
This product is not sold in Germany in respect of European patent EP1411179 / valid German DE503 05 161.6-08

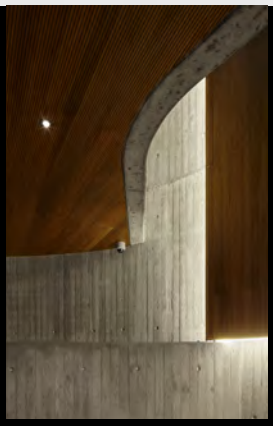
TYPE	NAME	PERFO	BLADE	GROOVE	TOP LAYER	DIMENSIONS	EDGE-FINISHING	ALPHA W	ALPHA W	ALPHA W	ALPHA W	
		continuous %	width (mm)	width (mm)		(±mm)	long sides	70 mm 50 mm of mineral wool **wall-ceiling**	20 mm 20 mm primawool **wall-ceiling**	500 mm - - **cupboard door**	500 mm 20 mm primawool*** **cupboard door**	→ framework → filling → type → application
MICRO/NANO												
M	Micro	10,6	44,2	-	Shinnoki veneer	3000 x 1200 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 42 + 44
ML	Micro Light	10,6	44,2	-	Shinnoki veneer	3000 x 1200 x 18 3000 x 1200 x 17	B B	**0,75** 0,80* 0,80**	**0,65** 0,70* 0,67**	-	-	see page 46
N	Nano	5,8	44,2	-	Shinnoki veneer	3000 x 1200 x 20 3000 x 1200 x 19	T&G T&G	**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 page 48 + 50
NL	Nano Light	5,8	44,2	-	Shinnoki veneer	3000 x 1200 x 18 3000 x 1200 x 17	B	**0,75** 0,85* 0,83**	**0,65** 0,70* 0,70**	-	-	see page 52
DRILLED												
B	Drilled	19,6 dia 8 ctc 16	-	-	Shinnoki veneer	3040 x 1200 x 18 3040 x 1200 x 17	B B	**0,65** 0,75* 0,74**	**0,65** 0,70* 0,68**	-	-	see page 58

GROOVED 



INSTALLATION *see page 68 + 69*





MATERIAL COMPOSITION

Top layer	Top layer in one of the six standard veneers or finished in one of the 16 prefinished veneers of the Shinnoki® range.
Core	Acoustic black moisture resistant MDF 16 mm
Backing	All panels have a backing veneer for stability + 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 (Shinnoki)
3030x1200x±17 mm (veneer)

STD. MEAS. LATHS

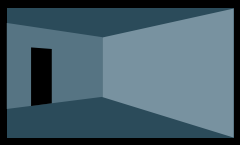
(tongue-groove long sides)
3030x192x±18 mm (Shinnoki)
3030x128x±17 mm (veneer)

OPTIONS

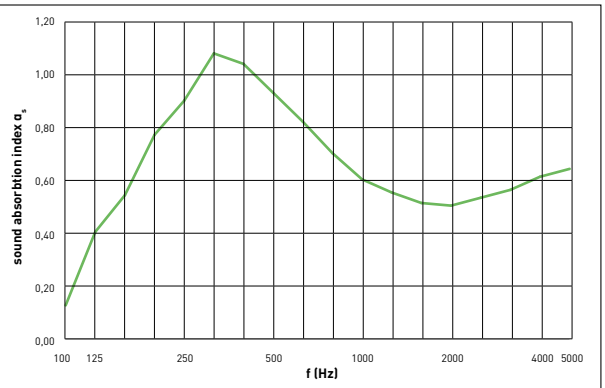
Made-to-measure	on request
Cladding panel	on request (see page 65)
Top layer	Top layer in one of the six standard veneers or finished in one of the 16 prefinished veneers of the Shinnoki® range.
Core	Acoustic black moisture resistant MDF or black fire retardant MDF (European fire class B)

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

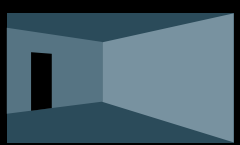


f(Hz)	α_p
125	0,35
250	0,95
500	0,95
1000	0,65
2000	0,50
4000	0,60

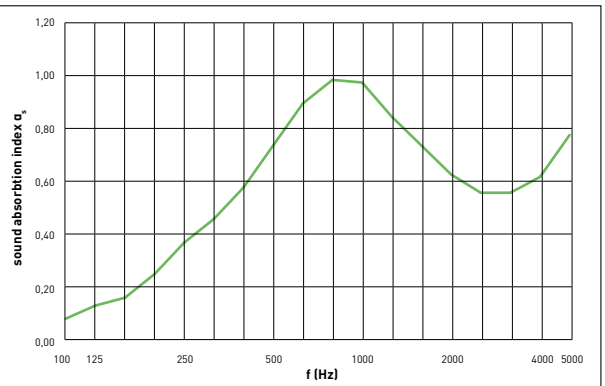
Total thickness	% perfo	α_w	f(Hz)	Sound class	NRC	SAA
88mm	6,8%	0,60	LM	C	0,75	0,75
Installation	Mounted on a wooden frame with a thickness of 70mm, filled with 50mm of mineral wool with a density of 40kg/m³.					
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997						

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 resistant MDF 16 mm
+ acoustic absorbing glass fibre tissue
(on the back)

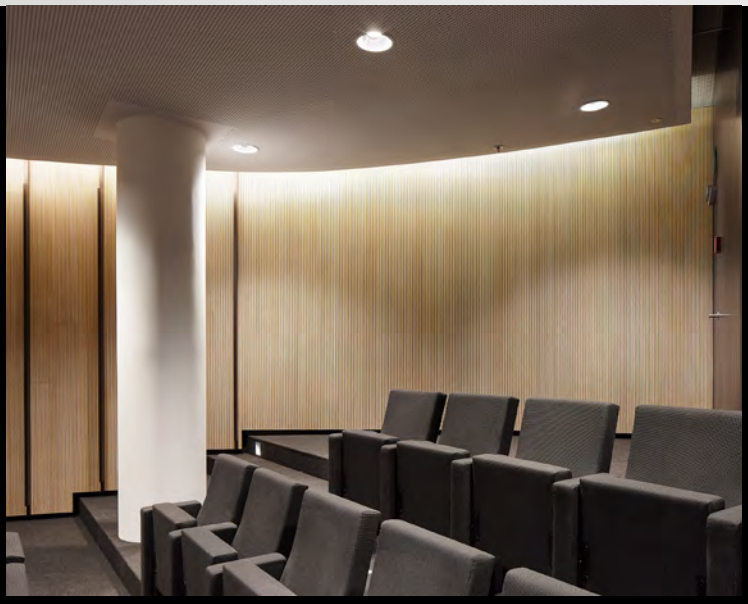
± 17 to 18 mm

Top layer in one of the six
standard veneers or finished in
one of the 16 prefinished veneers
of the Shinnoki® range.

2,8 mm

5,2 mm

INSTALLATION *see page 68 + 69*



MATERIAL COMPOSITION

Top layer	Top layer in one of the six standard veneers or finished in one of the 16 prefinished veneers of the Shinnoki® range.
Core	Acoustic black moisture resistant MDF 16 mm
Backing	All panels have a backing veneer for stability + 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. FULL PANEL

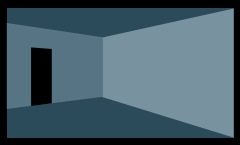
(tongue-groove long sides)
3030x128x±18 mm (Shinnoki)
3030x128x±17 mm (veneer)

OPTIONS

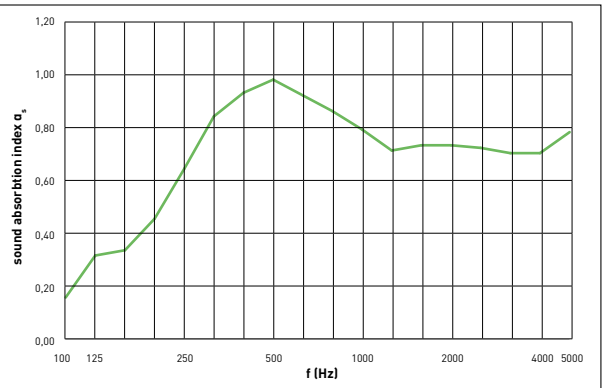
Made-to-measure	on request
Cladding panel	on request (see page 65)
Top layer	Top layer in one of the six standard veneers or finished in one of the 16 prefinished veneers of the Shinnoki® range.
Core	Acoustic black moisture resistant MDF or black fire retardant MDF (European fire class B)

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

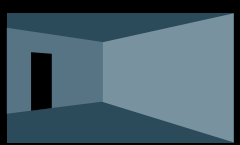


f(Hz)	α_p
125	0,25
250	0,65
500	0,95
1000	0,80
2000	0,75
4000	0,75

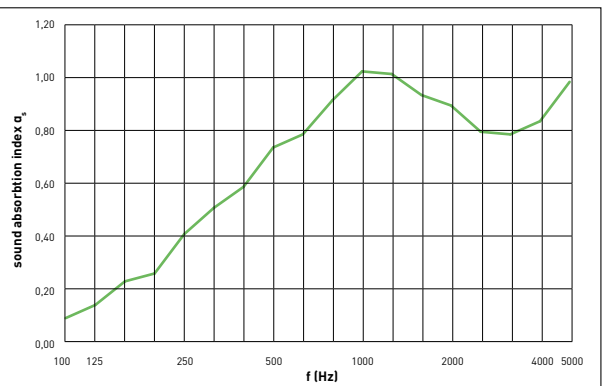
Total thickness	% perfo	α_w	f(Hz)	Sound class	NRC	SAA
88mm	16%	0,80		B	0,80	0,79
Installation	Mounted on a wooden frame with a thickness of 70mm, filled with 50mm of mineral wool with a density of 40kg/m³.					
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997						

TEST SET-UP
IN LABORATORY:

TOTAL THICKNESS WALLS
38 mm



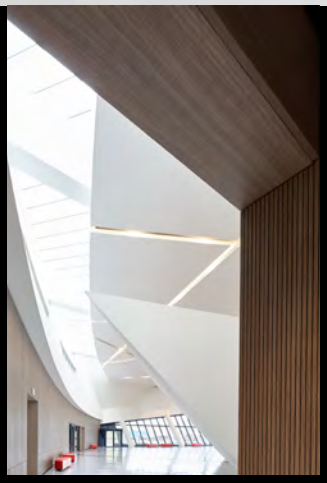
f(Hz)	T1 (s)	T2 (s)	α_s
100	12,23	9,33	0,09
125	**10,79**	**7,72**	**0,14**
150	9,82	6,15	0,23
200	9,09	5,54	0,26
250	**9,36**	**4,61**	**0,41**
315	9,30	4,09	0,51
400	9,26	3,77	0,59
500	**9,40**	**3,30**	**0,74**
630	10,04	3,22	0,79
800	9,95	2,90	0,92
1000	**9,73**	**2,66**	**1,03**
1250	8,92	2,61	1,02
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

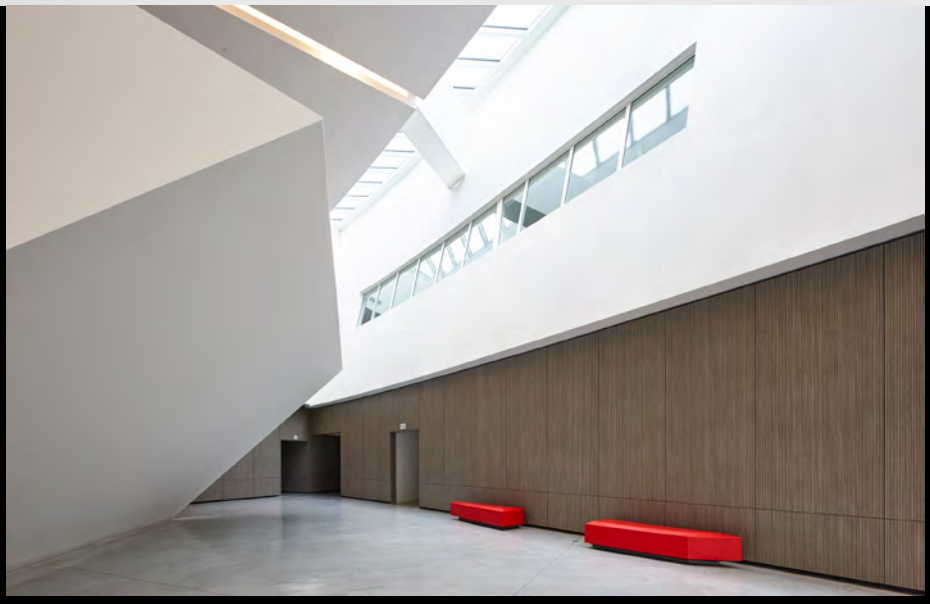


f(Hz)	α_p
125	0,15
250	0,40
500	0,70
1000	1,00
2000	0,90
4000	0,85

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 68 + 69*





MATERIAL COMPOSITION

Top layer	Top layer in one of the six standard veneers or finished in one of the 16 prefinished veneers of the Shinnoki® range.
Core	Acoustic black moisture resistant MDF 16 mm
Backing	All panels have a backing veneer for stability + 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)
3030x1200x±18 mm (Shinnoki)
3030x1200x±17 mm (veneer)

STD. MEAS. LATHS

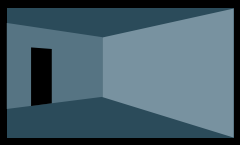
(tongue-groove long sides)
3030x128x±18 mm (Shinnoki)
3030x128x±17 mm (veneer)

OPTIONS

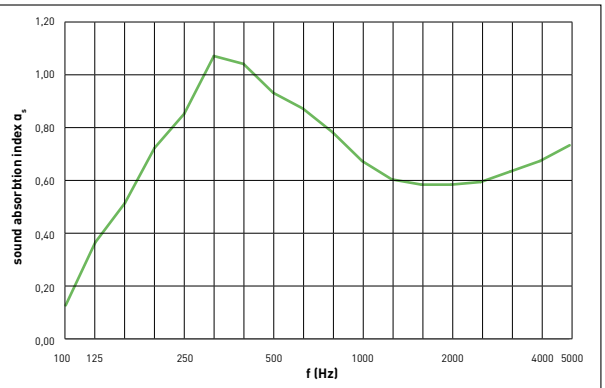
Made-to-measure	on request
Cladding panel	on request (see page 65)
Top layer	Top layer in one of the six standard veneers or finished in one of the 16 prefinished veneers of the Shinnoki® range.
Core	Acoustic black moisture resistant MDF or black fire retardant MDF (European fire class B)

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

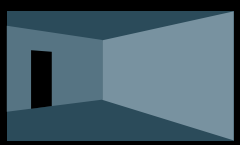


f(Hz)	α_p
125	0,35
250	0,90
500	0,95
1000	0,70
2000	0,60
4000	0,70

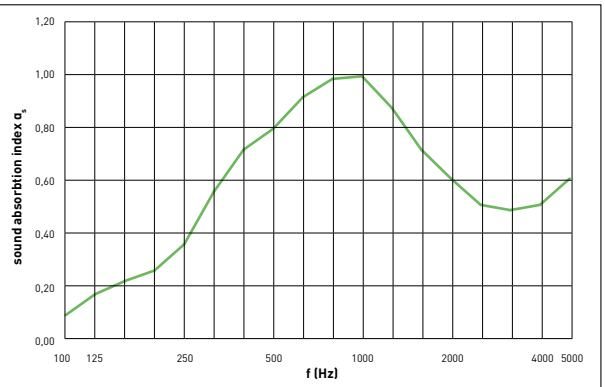
Total thickness	% perfo	α_w	f(Hz)	Sound class	NRC	SAA
88 mm	6,8%	0,70	LM	C	0,75	0,78
Installation	Mounted on a wooden frame with a thickness of 70mm, filled with 50mm of mineral wool with a density of 40kg/m³.					
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997						

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 68 + 69*

TYPE Db* / wall-ceiling-cupboard door

MATERIAL COMPOSITION

Top layer Top layer in one of the six standard veneers or finished in one of the 16 prefinished veneers of the Shinnoki® range.

Core Acoustic black moisture resistant MDF 2x9 mm + acoustic absorbing glass fibre tissue (centre)

Backing All panels have a backing veneer for stability

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

Sports hall-approved (see page 68)

STD. MEAS. FULL PANEL

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

STD. MEAS. LATHS

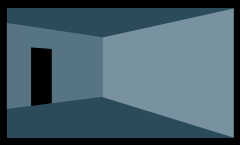
(tongue-groove long sides)
3030x128x±20 mm (Shinnoki)
3030x128x±19 mm (veneer)

OPTIONS

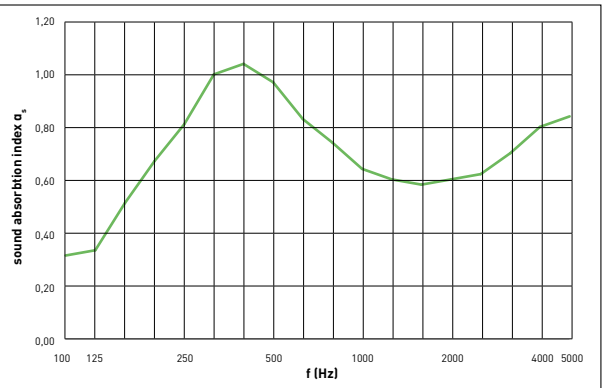
Made-to-measure	on request
Cupboard doorfronts	on request (see page 60)
Cladding panel	on request (see page 65)
Flexible elements	on request (see page 64)
Top layer	Top layer in one of the six standard veneers or finished in one of the 16 prefinished veneers of the Shinnoki® range.
Core	Acoustic black moisture resistant 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

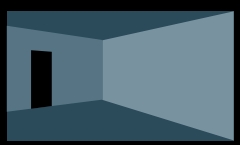


f(Hz)	α_p
125	0,40
250	0,85
500	0,95
1000	0,65
2000	0,60
4000	0,80

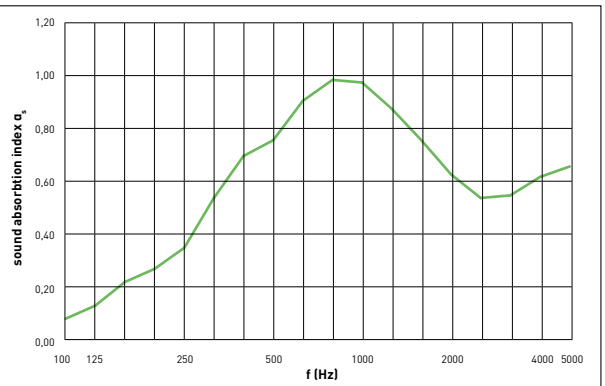
Total thickness	% perfo	α_w	f(Hz)	Sound class	NRC	SAA
90 mm	8,75%	0,65	LMH	C	0,75	0,77
Installation	Mounted on a wooden frame with a thickness of 70mm, filled with 50mm of mineral wool with a density of 40kg/m³.					
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997						

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

INSTALLATION *see page 63*

MATERIAL COMPOSITION

Top layer	Top layer in one of the six standard veneers or finished in one of the 16 prefinished veneers of the Shinnoki® range.
Core	Acoustic black moisture resistant MDF 2x9 mm + acoustic absorbing glass fibre tissue (centre)
Backing	All panels have a backing veneer for stability
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 edge frame for stability.

STANDARD MEASUREMENTS

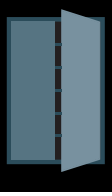
Made-to-measure cupboard and sliding doors
Thickness ±20 mm (Shinnoki)
Thickness ±19 mm (veneer)

OPTIONS

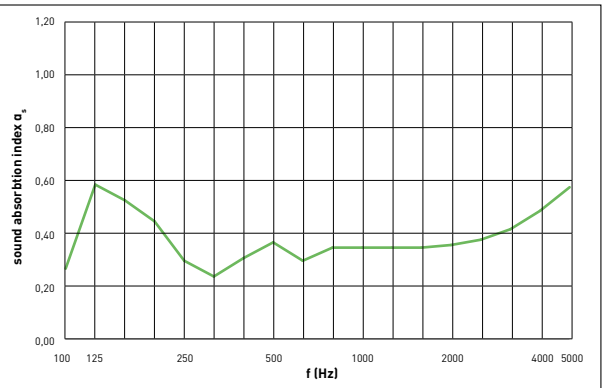
Drilled holes for hinges	on request (see page 63)
Edge finishing	Edge band in ABS 1 mm
Top layer	Top layer in one of the six standard veneers or finished in one of the 16 prefinished veneers of the Shinnoki® range.
Core	Acoustic black moisture resistant MDF or black fire retardant MDF (European fire 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

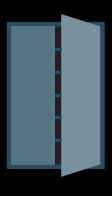


f(Hz)	α_p
125	0,45
250	0,35
500	0,35
1000	0,35
2000	0,35
4000	0,50

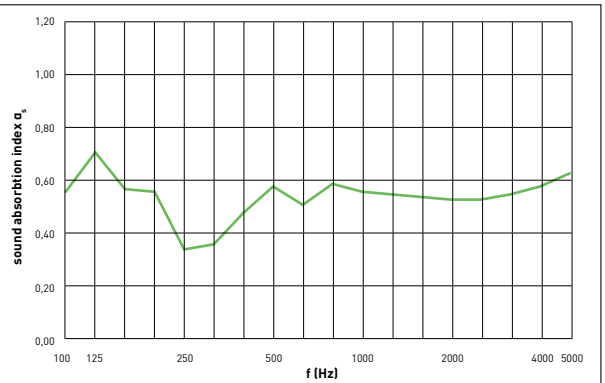
Total depth	% perfo	α_w	f(Hz)	Sound class	NRC	SAA
500 mm / empty	8,75%	0,35	H	D	0,35	0,34
Installation	Mounted on wooden frame with a height of 500 mm (= simulation of an empty cupboard)					
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997						

TEST SET-UP IN LABORATORY:

TOTAL DEPTH
500 mm/filled



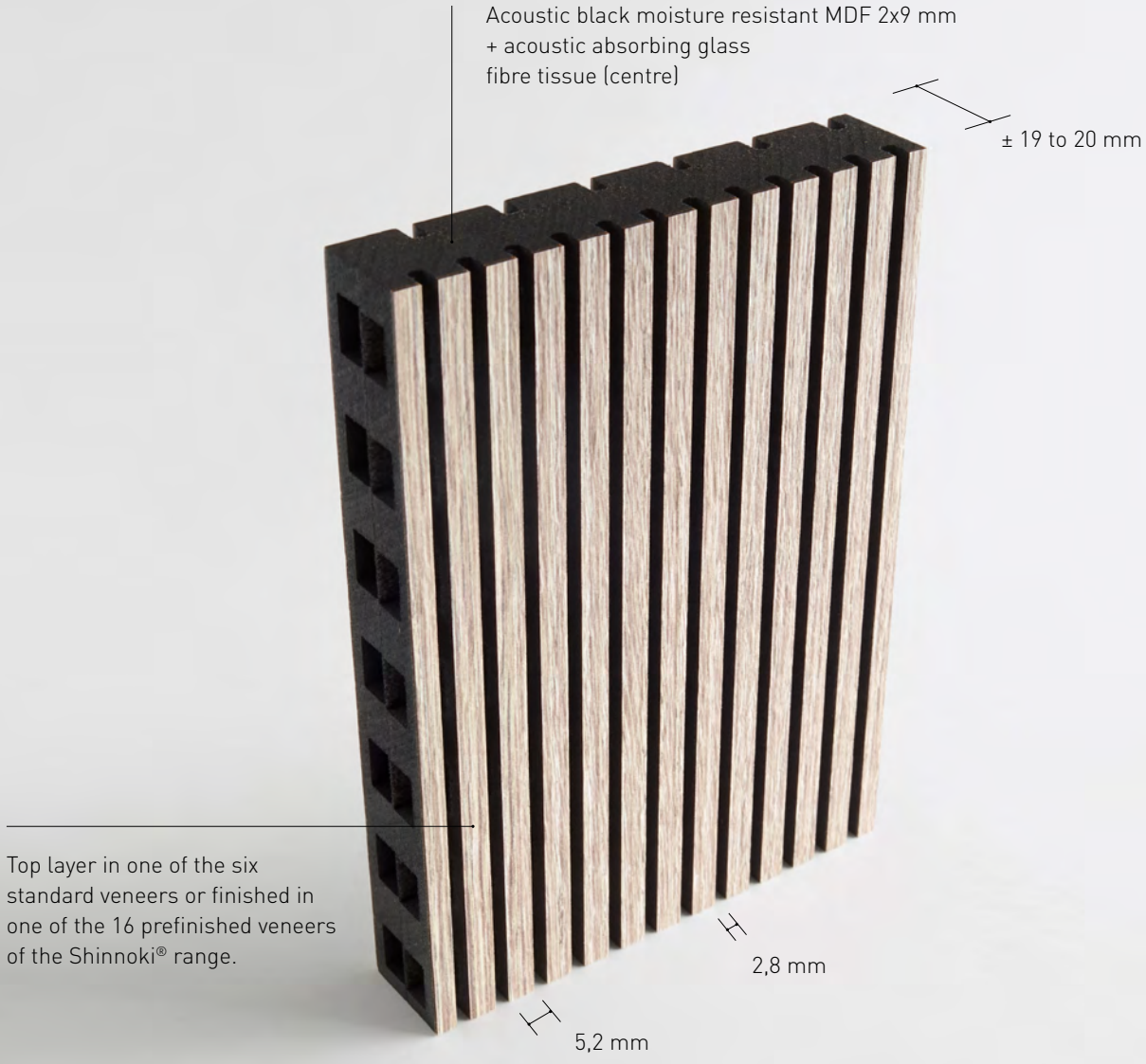
f(Hz)	T1 (s)	T2 (s)	α_s
100	12,65	4,42	0,56
125	**10,07**	**3,48**	**0,71**
150	9,14	3,82	0,57
200	9,60	3,98	0,56
250	**9,25**	**5,03**	**0,34**
315	9,29	4,95	0,36
400	8,86	4,18	0,48
500	**9,11**	**3,81**	**0,58**
630	9,79	4,23	0,51
800	9,72	3,87	0,59
1000	**9,53**	**3,95**	**0,56**
1250	8,69	3,83	0,55
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



INSTALLATION *see page 85*

TYPE Ds* / wall-ceiling-cupboard door

MATERIAL COMPOSITION

Top layer	Top layer in one of the six standard veneers or finished in one of the 16 prefinished veneers of the Shinnoki® range.
Core	Acoustic black moisture resistant MDF 2x9 mm + acoustic absorbing glass fibre tissue (centre)
Backing	All panels have a backing veneer for stability
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

Sports hall-approved (see page 69)

STD. MEAS. LATHS

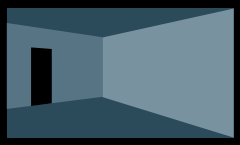
(tongue-groove long sides)
3030x128x±20 mm (Shinnoki)
3030x128x±19 mm (veneer)

OPTIONS

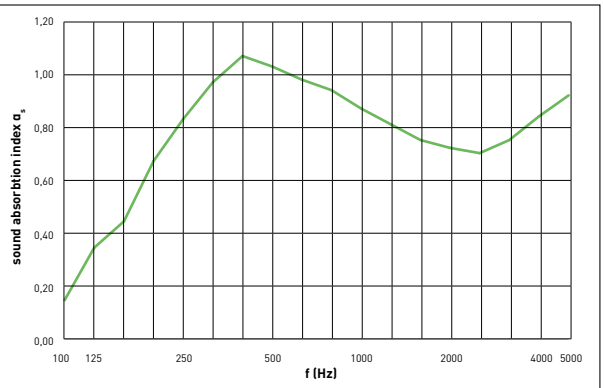
Made-to-measure	on request
Cupboard doorfronts	on request (see page 60)
Cladding panel	on request (see page 65)
Top layer	Top layer in one of the six standard veneers or finished in one of the 16 prefinished veneers of the Shinnoki® range.
Core	Acoustic black moisture resistant MDF or black fire retardant 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

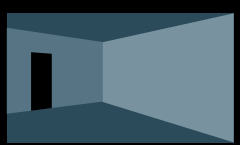


f(Hz)	α_p
125	0,30
250	0,85
500	1,00
1000	0,90
2000	0,75
4000	0,85

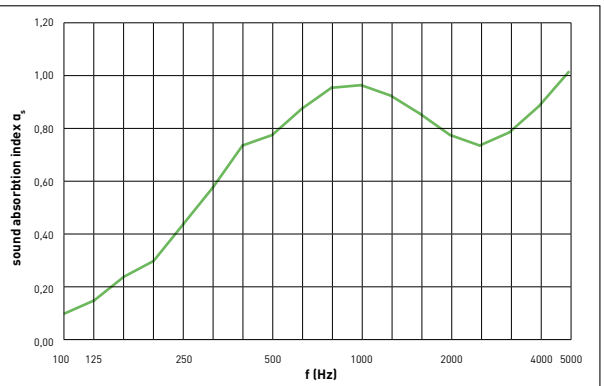
Total thickness	% perfo	α_w	f(Hz)	Sound class	NRC	SAA
90 mm	17,5%	0,85	LMH	B	0,9	0,87
Installation	Mounted on a wooden frame with a thickness of 70mm, filled with 50 mm of mineral wool with a density of 40kg/m³.					
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997						

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

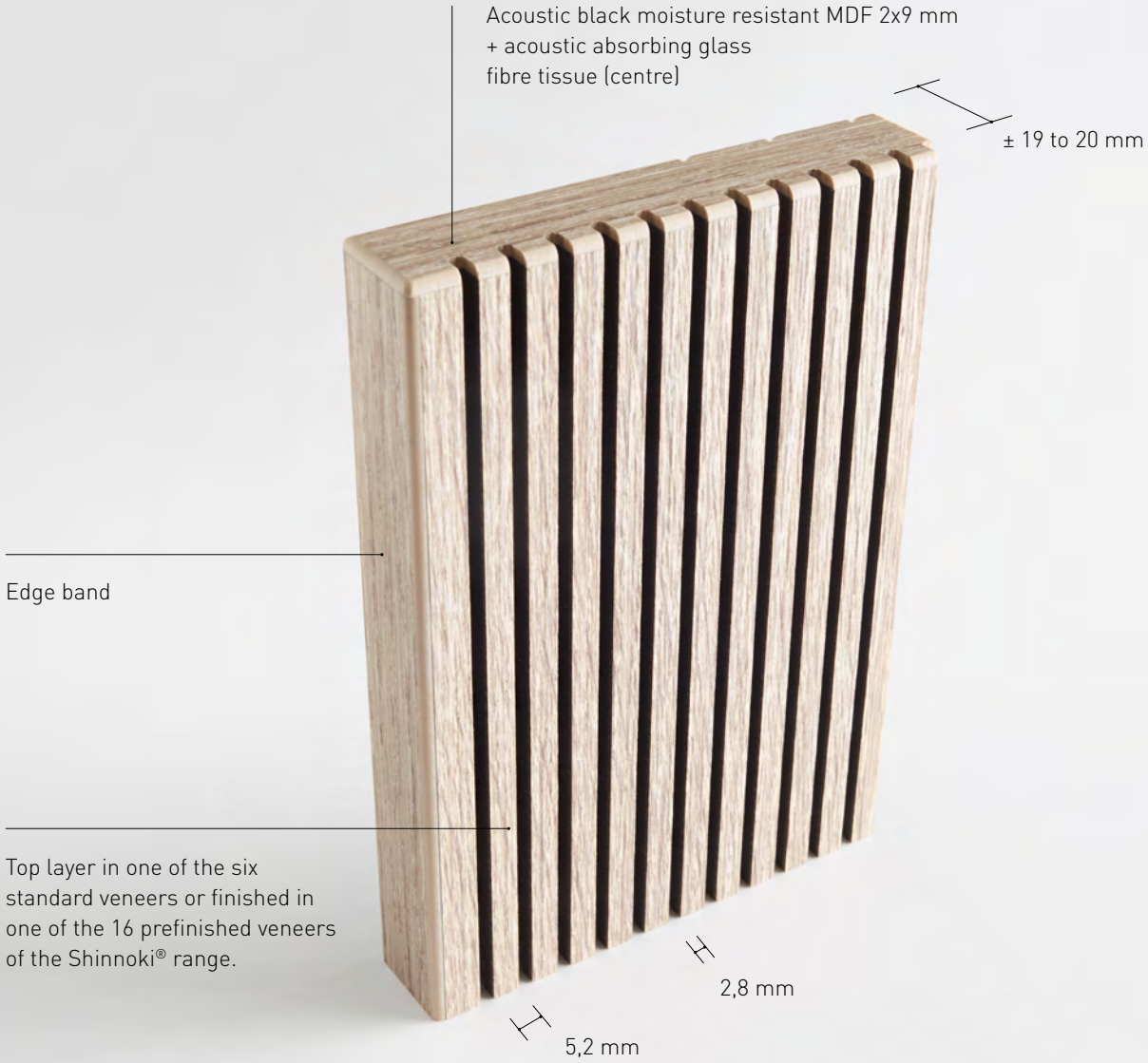


f(Hz)	α_p
125	0,15
250	0,45
500	0,80
1000	0,95
2000	0,80
4000	0,90

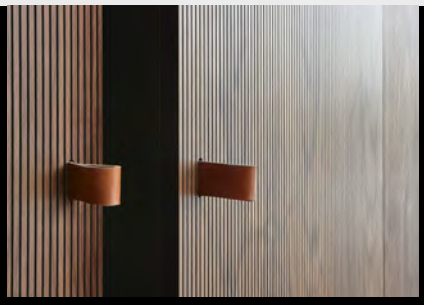
Total thickness	% perfo	α_w	f(Hz)	Sound class	NRC	SAA
40 mm	17,5%	0,75	H	C	0,75	0,75
Installation	Mounted on a wooden frame with a thickness of 20 mm, filled with 20 mm PRIMAWOOL of 22,5 kg/m³.					
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997						

*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 63*



TYPE Ds* / wall-ceiling-cupboard door

MATERIAL COMPOSITION

Top layer	Top layer in one of the six standard veneers or finished in one of the 16 prefinished veneers of the Shinnoki® range.
Core	Acoustic black moisture resistant MDF 2x9 mm + acoustic absorbing glass fibre tissue (centre)
Backing	All panels have a backing veneer for stability
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 edge frame for stability

STANDARD MEASUREMENTS

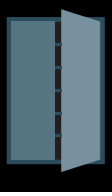
Made-to-measure cupboard and sliding doors
Thickness ±20 mm (Shinnoki)
Thickness ±19 mm (veneer)

OPTIONS

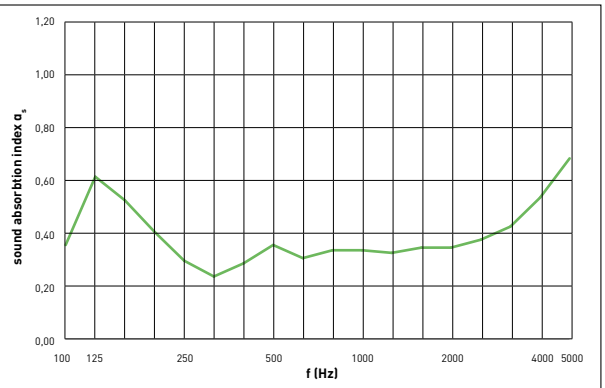
Drilled holes for hinges	on request (see page 63)
Edge finishing	Edge band in ABS 1 mm
Top layer	Top layer in one of the six standard veneers or finished in one of the 16 prefinished veneers of the Shinnoki® range.
Core	Acoustic black moisture resistant MDF or black fire retardant MDF (European fire 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

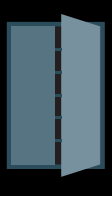


f(Hz)	α_p
125	0,50
250	0,30
500	0,30
1000	0,35
2000	0,35
4000	0,55

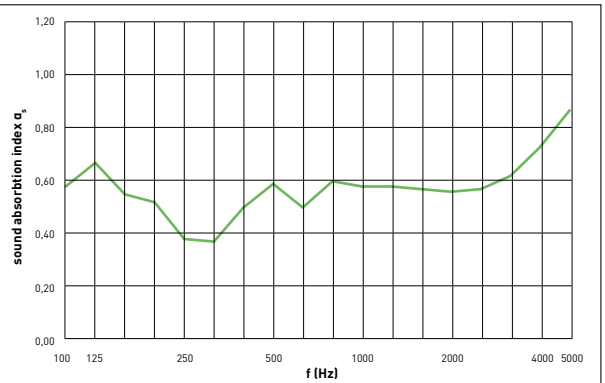
Total depth	% perfo	α_w	f(Hz)	Sound class	NRC	SAA
500 mm / empty	17,5%	0,35	H	D	0,35	0,33
Installation	Mounted on wooden frame with a height of 500 mm (= simulation of an empty cupboard)					
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997						

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 68 + 69*

TYPE Dr* / wall-ceiling-cupboard door

MATERIAL COMPOSITION

Top layer	Top layer in one of the six standard veneers or finished in one of the 16 prefinished veneers of the Shinnoki® range.
Core	Acoustic black moisture resistant MDF 2x9 mm + acoustic absorbing glass fibre tissue (centre)
Backing	All panels have a backing veneer for stability
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

Sports hall-approved (see page 68)

STD. MEAS. FULL PANEL

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

STD. MEAS. LATHS

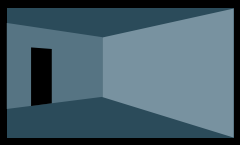
(tongue-groove long sides)
3030x128x±20 mm (Shinnoki)
3030x128x±19 mm (veneer)

OPTIONS

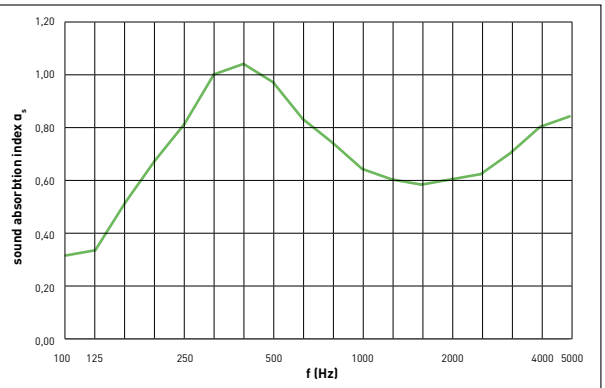
Made-to-measure	on request
Cupboard doorfronts	on request (see page 60)
Cladding panel	on request (see page 65)
Flexible elements	on request (see page 64)
Top layer	Top layer in one of the six standard veneers or finished in one of the 16 prefinished veneers of the Shinnoki® range.
Core	Acoustic black moisture resistant 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

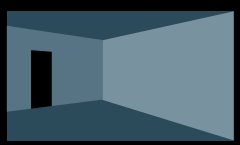


f(Hz)	α_p
125	0,40
250	0,85
500	0,95
1000	0,65
2000	0,60
4000	0,80

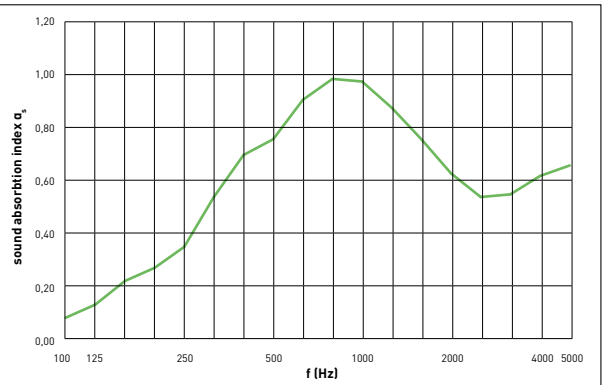
Total thickness	% perfo	α_w	f(Hz)	Sound class	NRC	SAA
90 mm	8,75%	0,65	LMH	C	0,75	0,77
Installation	Mounted on a wooden frame with a thickness of 70 mm, filled with 50 mm of mineral wool with a density of 40 kg/m³.					
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997						

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

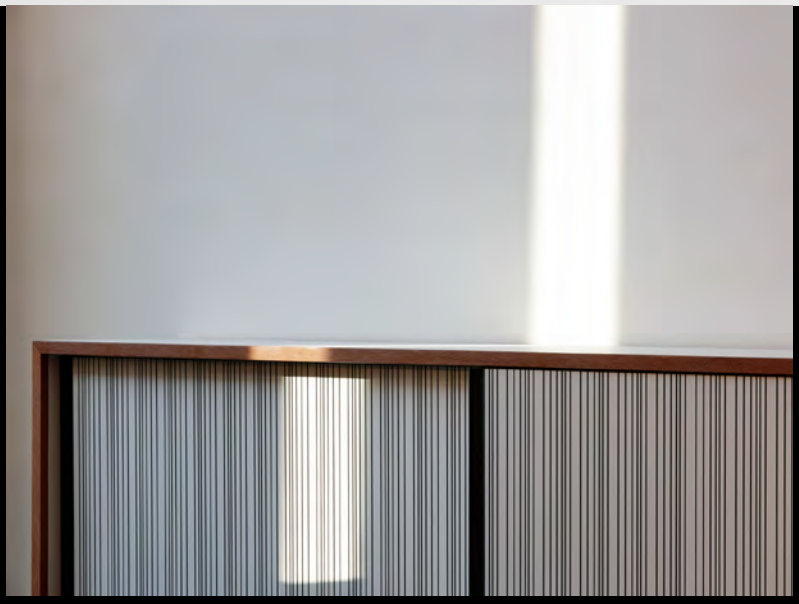
Acoustic black moisture resistant MDF 2x9 mm
+ acoustic absorbing glass
fibre tissue (centre)

± 19 to 20 mm

Top layer in one of the six standard veneers or finished in one of the 16 prefinished veneers of the Shinnoki® range.

2,8 mm

INSTALLATION *see page 63*



TYPE Dr* / wall-ceiling-cupboard door

MATERIAL COMPOSITION

Top layer	Top layer in one of the six standard veneers or finished in one of the 16 prefinished veneers of the Shinnoki® range.
Core	Acoustic black moisture resistant MDF 2x9 mm + acoustic absorbing glass fibre tissue (centre)
Backing	All panels have a backing veneer for stability
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 edge frame for stability.

STANDARD MEASUREMENTS

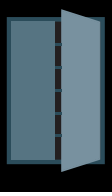
Made-to-measure cupboard and sliding doors
Thickness ±20 mm (Shinnoki)
Thickness ±19 mm (veneer)

OPTIONS

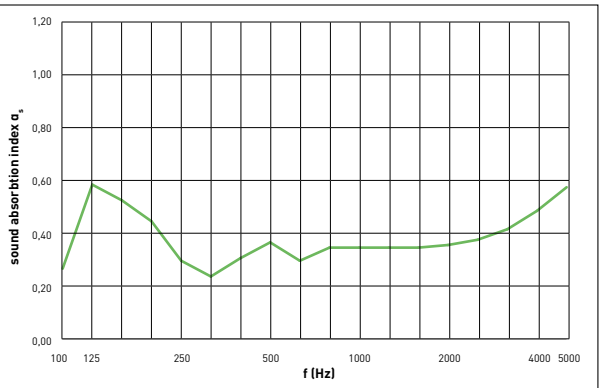
Drilled holes for hinges	on request (see page 63)
Edge finishing	Edge band in ABS 1 mm
Top layer	Top layer in one of the six standard veneers or finished in one of the 16 prefinished veneers of the Shinnoki® range.
Core	Acoustic black moisture resistant MDF or black fire retardant MDF (European fire 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

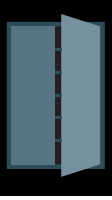


f(Hz)	α_p
125	0,45
250	0,35
500	0,35
1000	0,35
2000	0,35
4000	0,50

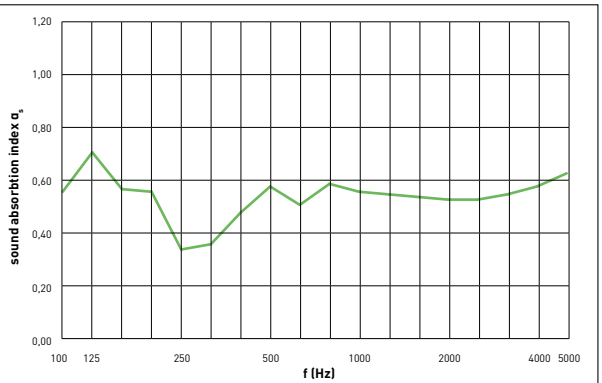
Total depth	% perfo	α_w	f(Hz)	Sound class	NRC	SAA
500 mm / empty	8,75%	0,35	H	D	0,35	0,34
Installation	Mounted on wooden frame with a height of 500 mm (= simulation of an empty cupboard)					
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997						

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

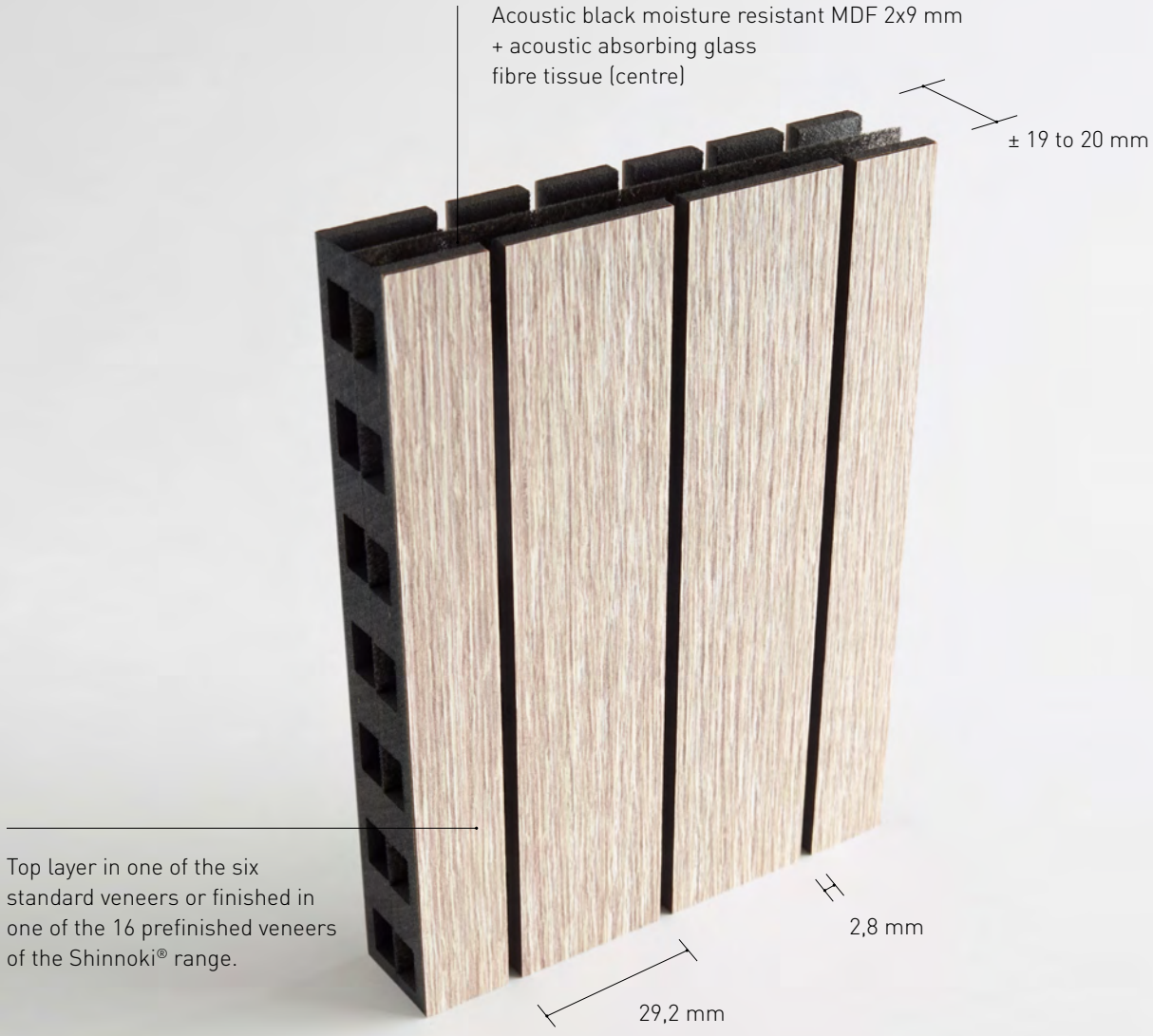


f(Hz)	α_p
125	0,60
250	0,40
500	0,50
1000	0,55
2000	0,55
4000	0,60

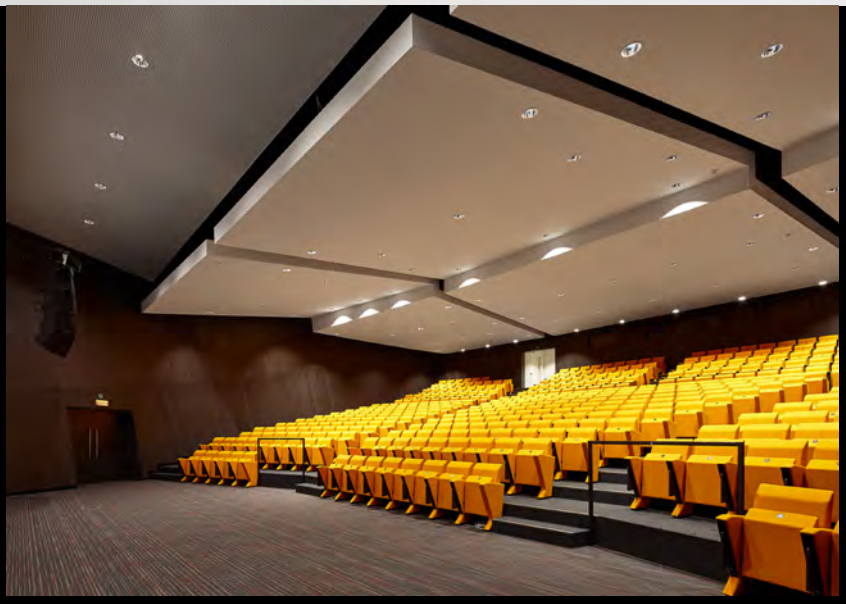
Total depth	% perfo	α_w	f(Hz)	Sound class	NRC	SAA
500 mm / filled	8,75%	0,55		C	0,50	0,51
Installation	Mounted on wooden frame with a height of 500 mm (= simulation of a filled cupboard), filled with 20 mm of PRIMAWOOL of 22.5 kg/m³, stuck with spun fabric side on the back of the interior of the cupboard.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

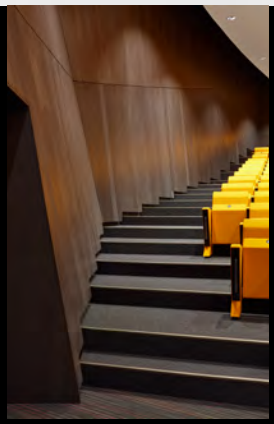
*This product is not sold in Germany in respect of European patent EP1411179 / valid German DE503 05 161.6-08

TYPE Dw* / wall-ceiling-cupboard door



INSTALLATION *see page 68 + 69*





TYPE Dw* / wall-ceiling-cupboard door

MATERIAL COMPOSITION

Top layer	Top layer in one of the six standard veneers or finished in one of the 16 prefinished veneers of the Shinnoki® range.
Core	Acoustic black moisture resistant MDF 2x9 mm + acoustic absorbing glass fibre tissue (centre)
Backing	All panels have a backing veneer for stability
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

Sports hall-approved (see page 68)

STD. MEAS. FULL PANEL

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

STD. MEAS. LATHS

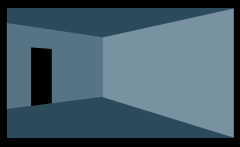
(tongue-groove long sides)
3030x128x±20 mm (Shinnoki)
3030x128x±19 mm (veneer)

OPTIONS

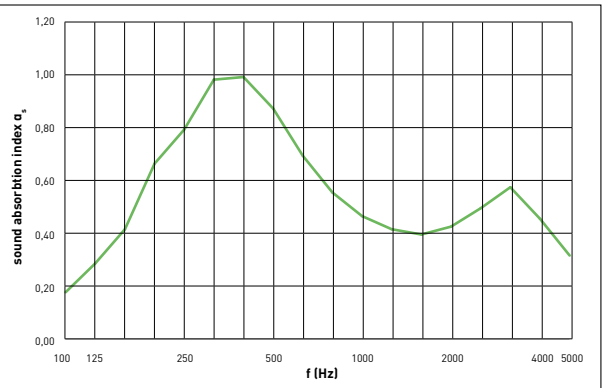
Made-to-measure	on request
Cupboard doorfronts	on request (see page 60)
Cladding panel	on request (see page 65)
Flexible elements	on request (see page 64)
Top layer	Top layer in one of the six standard veneers or finished in one of the 16 prefinished veneers of the Shinnoki® range.
Core	Acoustic black moisture resistant 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

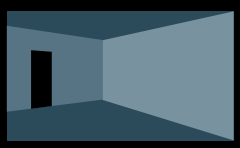


f(Hz)	α_p
125	0,30
250	0,80
500	0,85
1000	0,50
2000	0,45
4000	0,45

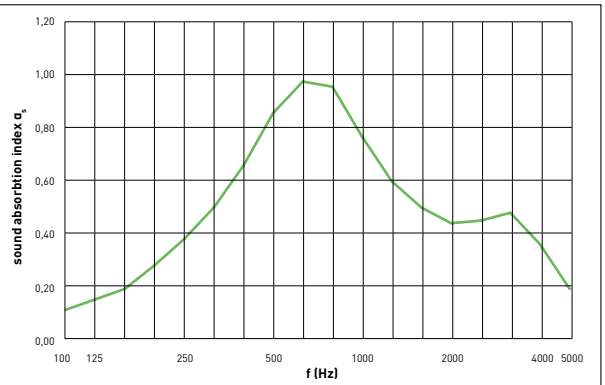
Total thickness	% perfo	α_w	f(Hz)	Sound class	NRC	SAA
90 mm	4,35%	0,50	LM	D	0,65	0,65
Installation	Mounted on a wooden frame with a thickness of 70 mm, filled with 50 mm of mineral wool with a density of 40 kg/m³.					
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997						

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

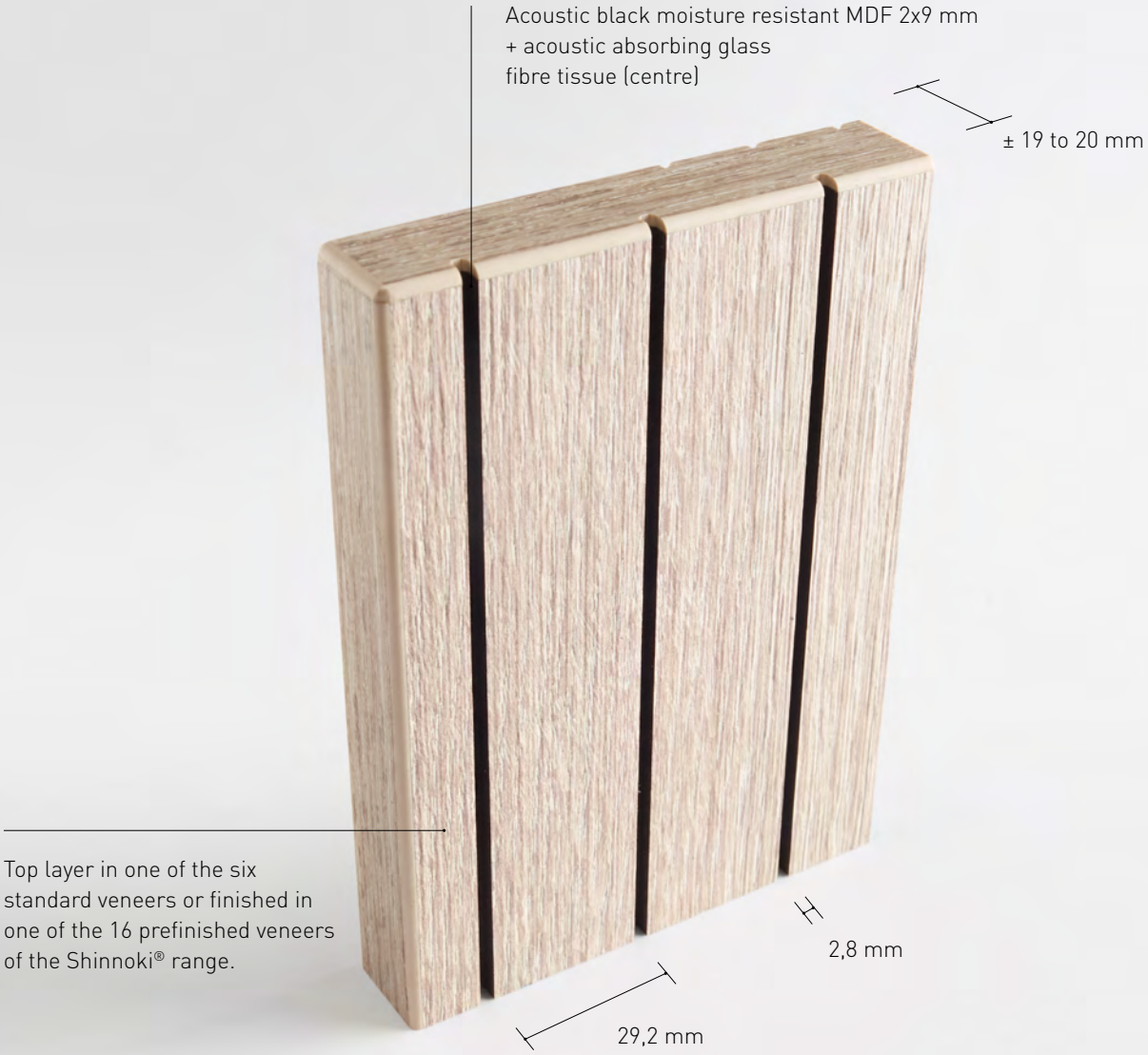


f(Hz)	α_p
125	0,15
250	0,40
500	0,85
1000	0,80
2000	0,45
4000	0,35

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 63*

TYPE Dw* / wall-ceiling-cupboard door

MATERIAL COMPOSITION

Top layer — Top layer in one of the six standard veneers or finished in one of the 16 prefinished veneers of the Shinnoki® range.

Core — Acoustic black moisture resistant MDF 2x9 mm + acoustic absorbing glass fibre tissue (centre)

Backing — High-quality finish in Decospan veneer ± 0,6 mm or veneers of the Shinnoki® range. ± 0,1 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 edge frame for stability.

STANDARD MEASUREMENTS

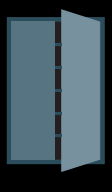
Made-to-measure cupboard and sliding doors
Thickness ±20 mm (Shinnoki)
Thickness ±19 mm (veneer)

OPTIONS

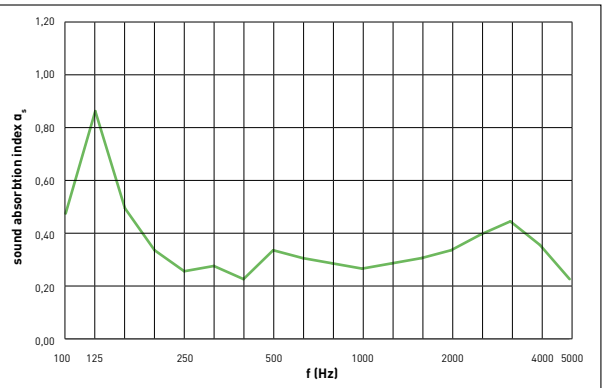
Drilled holes for hinges	on request (see page 63)
Edge finishing	Edge band in ABS 1 mm
Top layer	Top layer in one of the six standard veneers or finished in one of the 16 prefinished veneers of the Shinnoki® range.
Core	Acoustic black moisture resistant MDF or black fire retardant MDF (European fire 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

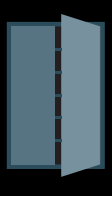


f(Hz)	α_p
125	0,60
250	0,30
500	0,30
1000	0,30
2000	0,35
4000	0,35

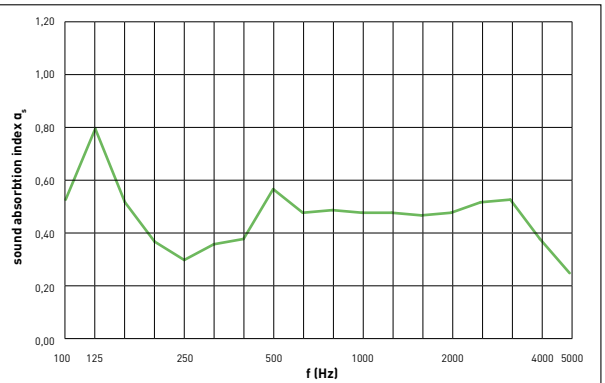
Total depth	% perfo	α_w	f(Hz)	Sound class	NRC	SAA
500 mm / empty	4,35%	0,35		D	0,30	0,30
Installation	Mounted on wooden frame with a height of 500 mm (= simulation of an empty cupboard)					
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997						

TEST SET-UP IN LABORATORY:

TOTAL DEPTH
500 mm/filled



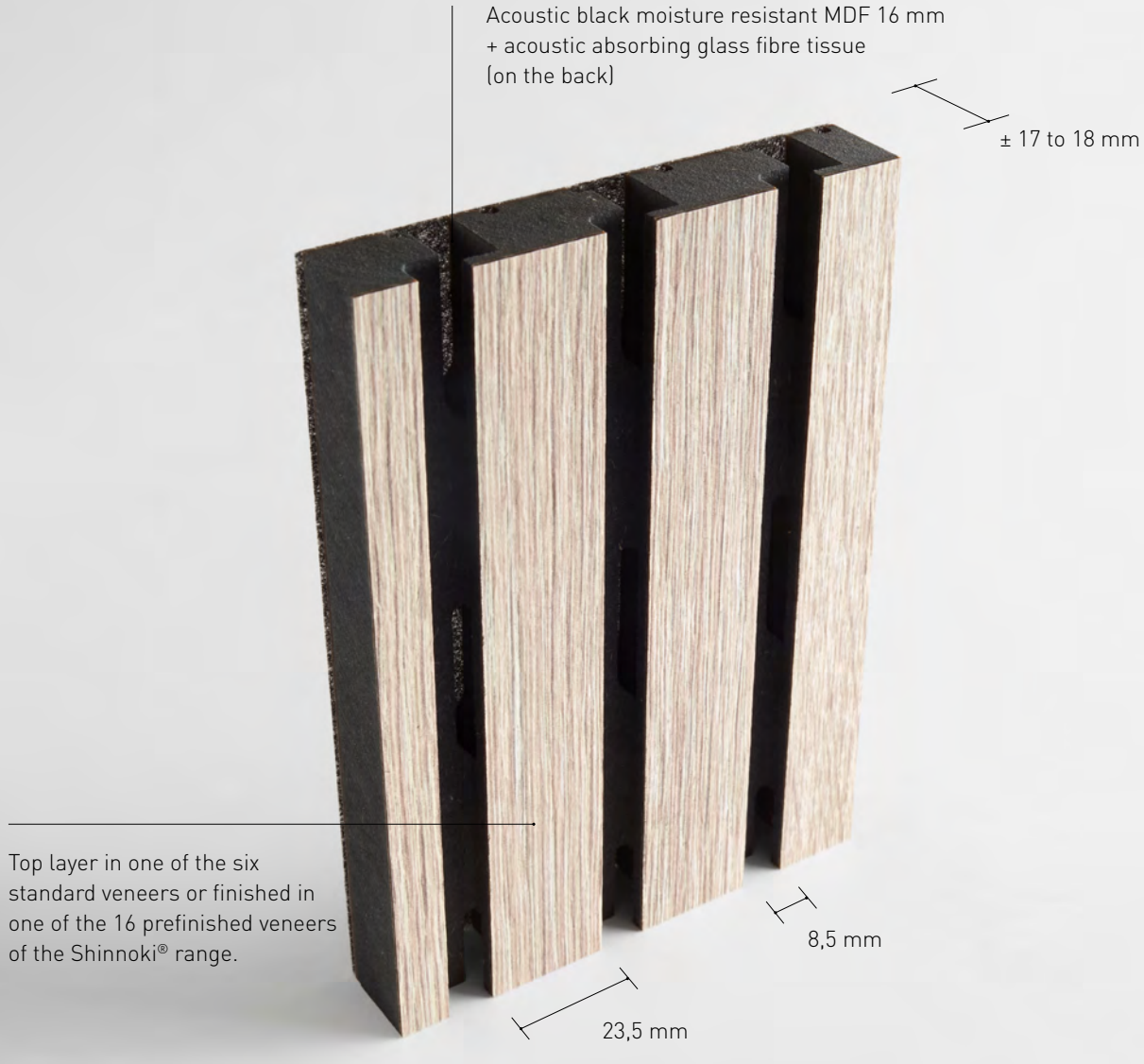
f(Hz)	T1 (s)	T2 (s)	α_s
100	8,37	3,81	0,53
125	**10,00**	**3,18**	**0,80**
160	8,67	3,93	0,52
200	8,41	4,61	0,37
250	**8,81**	**5,15**	**0,30**
315	9,20	4,87	0,36
400	8,49	4,55	0,38
500	**8,88**	**3,77**	**0,57**
630	9,45	4,28	0,48
800	9,53	4,23	0,49
1000	**9,18**	**4,20**	**0,48**
1250	8,56	4,08	0,48
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



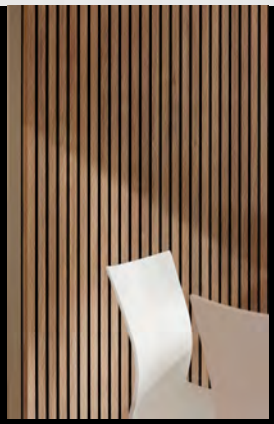
f(Hz)	α_p
125	0,60
250	0,35
500	0,45
1000	0,50
2000	0,50
4000	0,40

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 68 + 69*



MATERIAL COMPOSITION

Top layer	Top layer in one of the six standard veneers or finished in one of the 16 prefinished veneers of the Shinnoki® range.
Core	Acoustic black moisture resistant MDF 16 mm
Backing	All panels have a backing veneer for stability + 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)
3030x1124x±18 mm (Shinnoki)
3030x1184x±17 mm (veneer)

STD. MEAS. LATHS

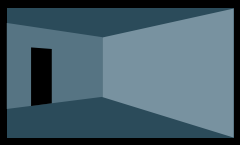
(tongue-groove long sides)
3030x128x±20 mm (Shinnoki)
3030x128x±19 mm (veneer)

OPTIONS

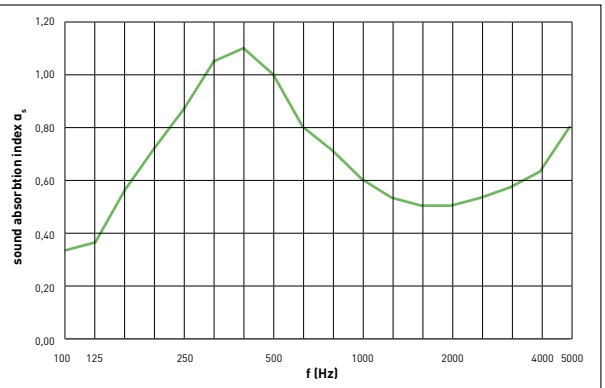
Made-to-measure	on request
Cladding panel	on request (see page 65)
Top layer	Top layer in one of the six standard veneers or finished in one of the 16 prefinished veneers of the Shinnoki® range.
Core	Acoustic black moisture resistant MDF or black fire retardant MDF (European fire class B)

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

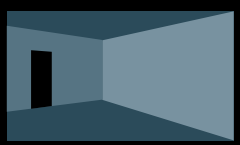


f(Hz)	α_p
125	0,45
250	0,90
500	1,00
1000	0,60
2000	0,50
4000	0,70

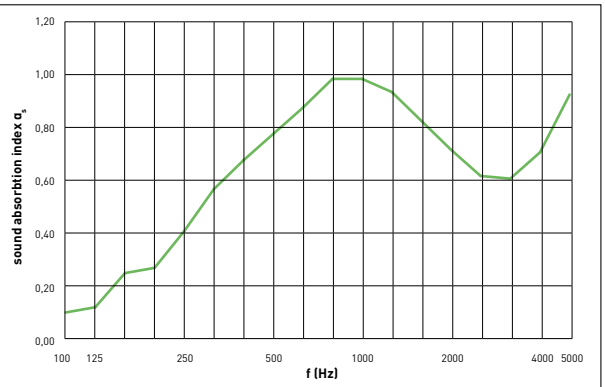
Total thickness	% perfo	α_w	f(Hz)	Sound class	NRC	SAA
88 mm	7,5%	0,60	LM	C	0,75	0,75
Installation	Mounted on a wooden frame with a thickness of 70mm, filled with 50mm of mineral wool with a density of 40 kg/m³.					
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997						

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

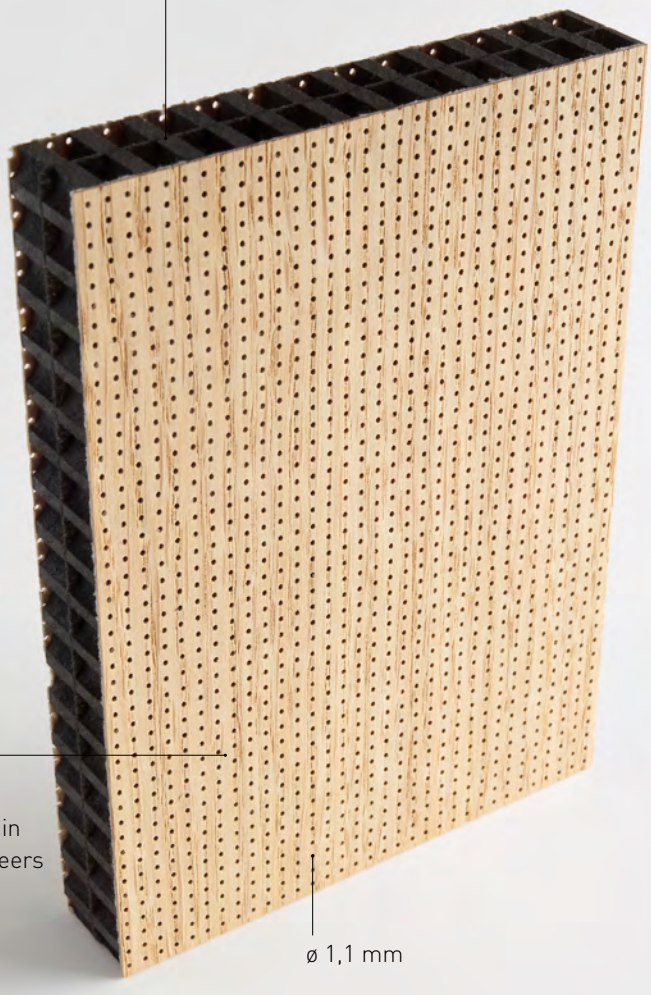
Total thickness	% perfo	α_w	f(Hz)	Sound class	NRC	SAA
38mm	7,5%	0,70	M	C	0,75	0,72
Installation	Mounted on a wooden frame with a thickness of 20 mm, filled with 20 mm PRIMAWOOL of 22,5 kg/m³.					
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997						

MICRO/NANO

TYPE M / wall-ceiling-cupboard door

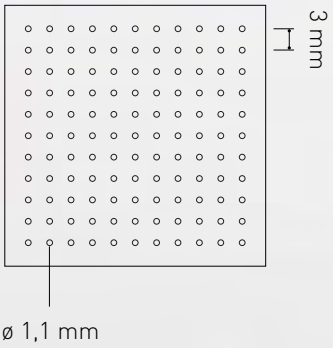
Acoustic black moisture resistant MDF 2x9 mm
+ acoustic absorbing glass
fibre tissue (centre)

± 19 to 20 mm

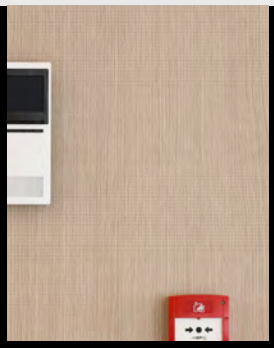


Top layer in one of the six standard veneers or finished in one of the 16 prefinished veneers of the Shinnoki® range.

ø 1,1 mm



INSTALLATION *see page 70*



TYPE M / wall-ceiling-cupboard door

MATERIAL COMPOSITION

Top layer	Top layer in one of the six standard veneers or finished in one of the 16 prefinished veneers of the Shinnoki® range.
Core	Acoustic black moisture resistant MDF 2x9 mm + acoustic absorbing glass fibre tissue (centre)
Backing	All panels have a backing veneer for stability
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 an edge band of 55 mm and a perforated zone in the core [linear, 8/8/6 mm]) and acoustic absorbing glass fibre tissue (centre)

Sports hall-approved (see page 70)

STD. MEAS. FULL PANEL

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

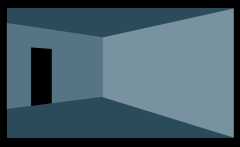
(composition of full plate, see page 54)

OPTIONS

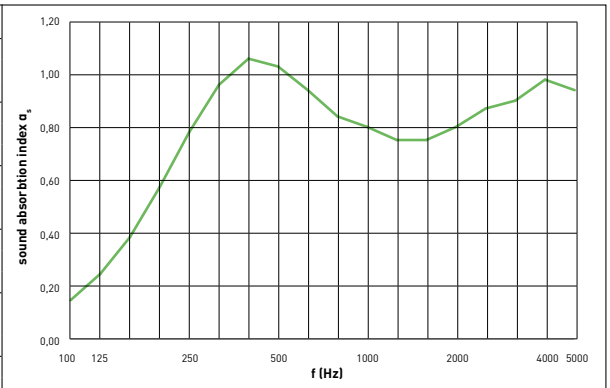
Made-to-measure	on request
Cupboard doorfronts	on request (see page 60)
Cladding panel	on request (see page 65)
Flexible elements	on request (see page 64)
Top layer	Top layer in one of the six standard veneers or finished in one of the 16 prefinished veneers of the Shinnoki® range.
Core	Acoustic black moisture resistant 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

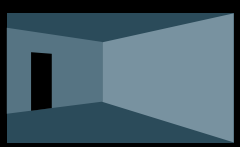


f(Hz)	α_p
125	0,25
250	0,80
500	1,00
1000	0,80
2000	0,80
4000	0,95

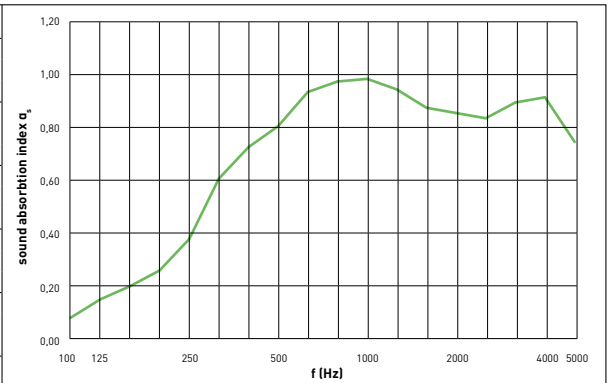
Total thickness	% perfo top layer	% perfo core	α_w	f(Hz)	Sound class	NRC	SAA
90 mm	10,6%	44,2%	0,85		B	0,85	0,86
Installation	Mounted on a wooden frame with a thickness of 70 mm, filled with 50 mm of mineral wool with a density of 40 kg/m³.						
Values according to reverberation room test EN ISO 354:2003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

TEST SET-UP IN LABORATORY:

TOTAL THICKNESS WALLS
40 mm



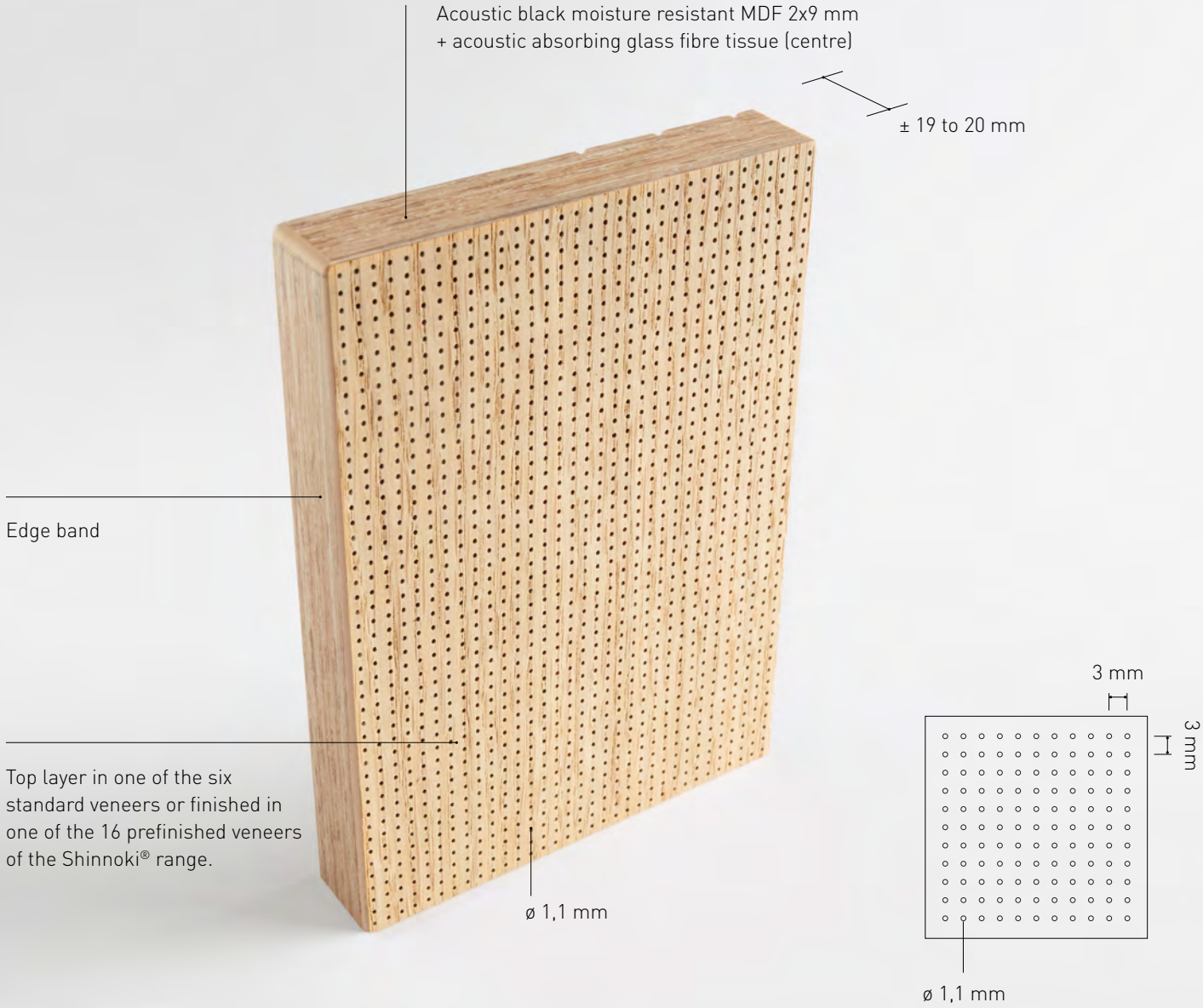
f(Hz)	T1 (s)	T2 (s)	α_s
100	12,23	9,64	0,08
125	**10,79**	**7,49**	**0,15**
150	9,82	6,41	0,20
200	9,09	5,59	0,26
250	**9,36**	**4,78**	**0,38**
315	9,30	3,71	0,61
400	9,26	3,30	0,73
500	**9,40**	**3,11**	**0,81**
630	10,04	2,87	0,94
800	9,95	2,76	0,98
1000	**9,73**	**2,72**	**0,99**
1250	8,92	2,73	0,95
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 63*

TYPE M / wall-ceiling-cupboard door

MATERIAL COMPOSITION

Top layer	Top layer in one of the six standard veneers or finished in one of the 16 prefinished veneers of the Shinnoki® range.
Core	Acoustic black moisture resistant MDF 2x9 mm + acoustic absorbing glass fibre tissue (centre)
Backing	All panels have a backing veneer for stability
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 an edge band of 55 mm and a perforated zone in the core [linear, 8/8/6 mm]) and acoustic absorbing glass fibre tissue (centre)

STANDARD MEASUREMENTS

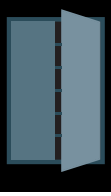
Made-to-measure cupboard and sliding doors
Thickness ±20 mm (Shinnoki)
Thickness ±19 mm (veneer)

OPTIONS

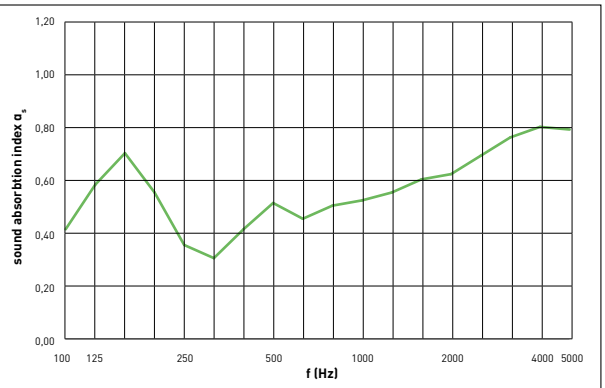
Drilled holes for hinges	on request (see page 63)
Edge finishing	Edge band in ABS 1 mm
Top layer	Top layer in one of the six standard veneers or finished in one of the 16 prefinished veneers of the Shinnoki® range.
Core	Acoustic black moisture resistant MDF or black fire retardant MDF (European fire 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

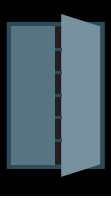


f(Hz)	α_p
125	0,55
250	0,40
500	0,45
1000	0,55
2000	0,65
4000	0,80

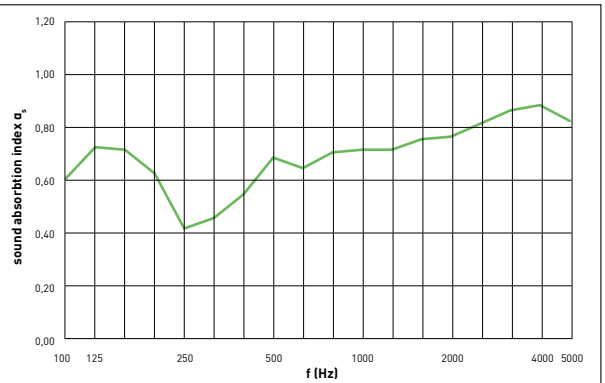
Total depth	% perfo top layer	% perfo core	α_w	f(Hz)	Sound class	NRC	SAA
500 mm / empty	10,6%	44,2%	0,55	H	D	0,50	0,51
Installation	Mounted on wooden frame with a height of 500 mm (= simulation of an empty cupboard)						
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997							

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

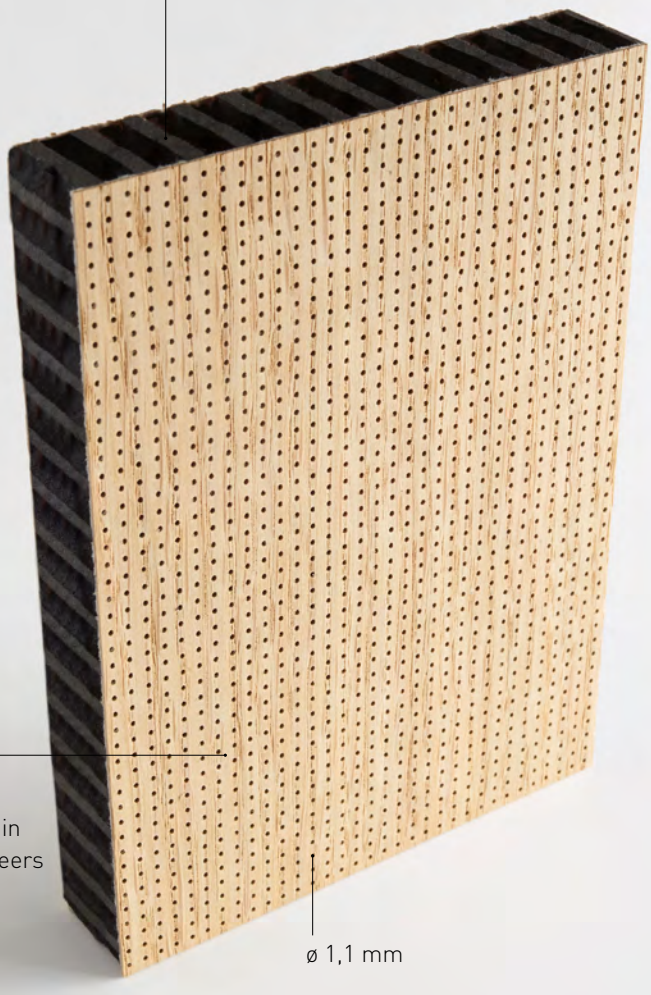


f(Hz)	α_p
125	0,70
250	0,50
500	0,65
1000	0,70
2000	0,80
4000	0,85

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							

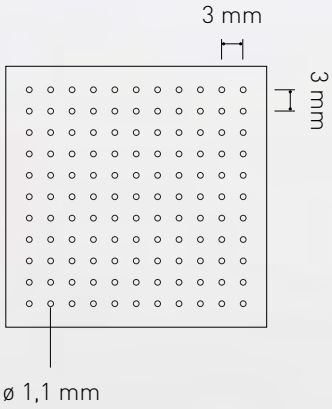
Acoustic black moisture resistant MDF 16 mm
+ acoustic absorbing glass fibre tissue
(on the back)

± 17 to 18 mm

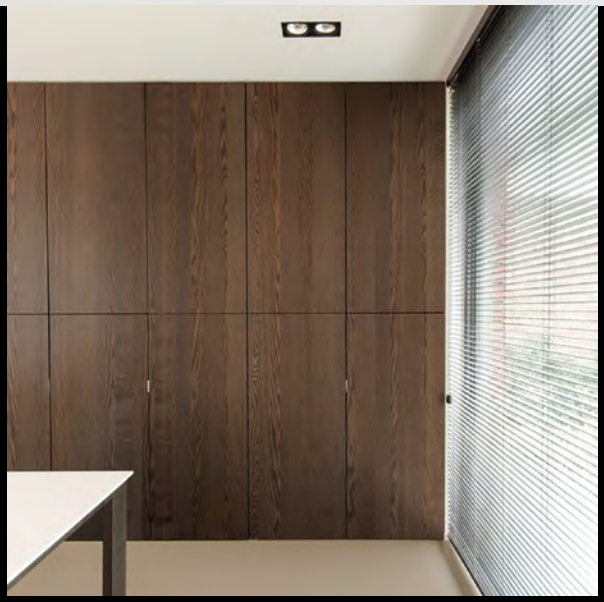


Top layer in one of the six standard veneers or finished in one of the 16 prefinished veneers of the Shinnoki® range.

ø 1,1 mm



INSTALLATION *see page 70*



MATERIAL COMPOSITION

Top layer	Top layer in one of the six standard veneers or finished in one of the 16 prefinished veneers of the Shinnoki® range.
Core	Acoustic black moisture resistant MDF 16 mm
Backing	All panels have a backing veneer for stability + 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 penetrated core (provided with an edge band of 55 mm and a perforated zone in the core [linear, 8/8/6 mm]) and acoustic absorbing glass fibre tissue (back)

Sports hall-approved (see page 70)

STD. MEAS. FULL PANEL

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

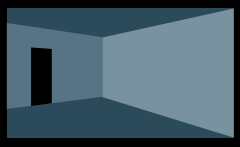
(composition of full plate, see page 54)

OPTIONS

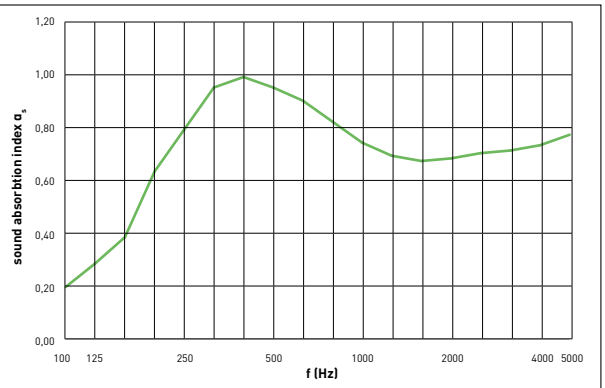
Made-to-measure	on request
Cladding panel	on request (see page 65)
Flexible elements	on request (see page 64)
Top layer	Top layer in one of the six standard veneers or finished in one of the 16 prefinished veneers of the Shinnoki® range.
Core	Acoustic black moisture resistant MDF or black fire retardant 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

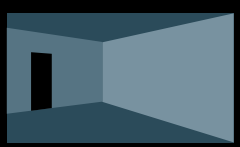


f(Hz)	α_p
125	0,30
250	0,80
500	0,95
1000	0,75
2000	0,70
4000	0,75

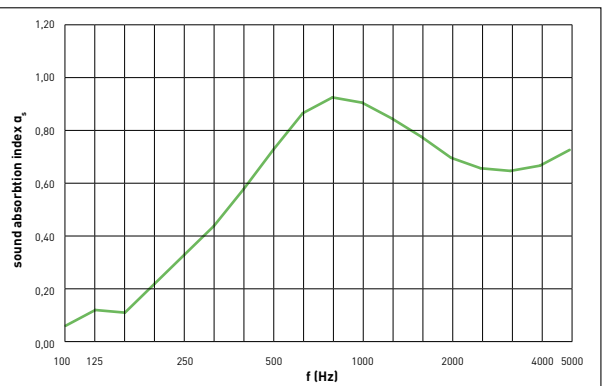
Total thickness	% perfo top layer	% perfo core	α_w	f(Hz)	Sound class	NRC	SAA
88 mm	10,6%	44,2%	0,75	L	C	0,80	0,80
Installation	Mounted on a wooden frame with a thickness of 70mm, filled with 50mm of mineral wool with a density of 40kg/m³.						
Values according to reverberation room test EN ISO 354:2003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



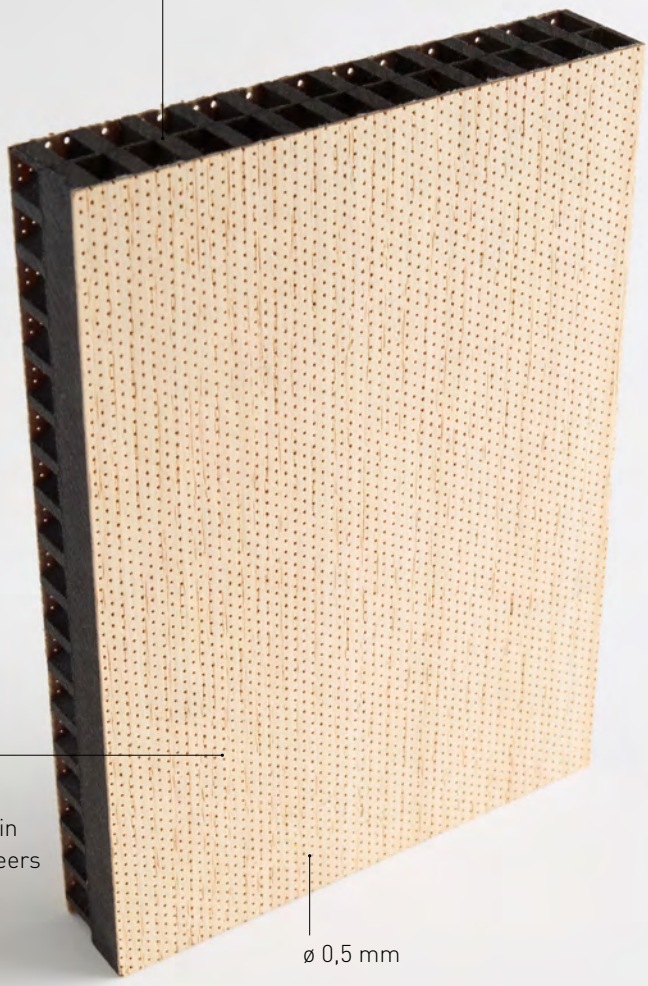
f(Hz)	α_p
125	0,10
250	0,35
500	0,80
1000	0,95
2000	0,70
4000	0,70

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							

TYPE N / wall-ceiling-cupboard door

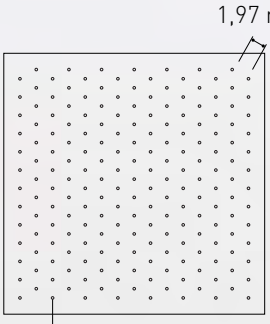
Acoustic black moisture resistant MDF
2x9 mm + acoustic absorbing glass fibre
tissue (centre)

± 19 to 20 mm

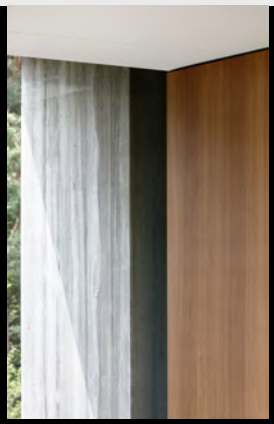


Top layer in one of the six
standard veneers or finished in
one of the 16 prefinished veneers
of the Shinnoki® range.

ø 0,5 mm



INSTALLATION *see page 70*



MATERIAL COMPOSITION

Top layer	Top layer in one of the six standard veneers or finished in one of the 16 prefinished veneers of the Shinnoki® range.
Core	Acoustic black moisture resistant MDF 2x9 mm + acoustic absorbing glass fibre tissue (centre)
Backing	Backing in tegenfineer ± 0,6 mm of in backing afgewerkt fineer ± 1 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 an edge of 55 mm and a perforated zone in the core [linear, 8/8/6 mm]) and acoustic absorbing glass fibre tissue (centre)

Sports hall-approved (see page 70)

STD. MEAS. FULL PANEL

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

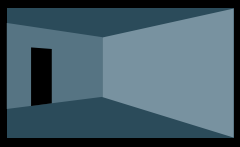
(composition of full plate, see page 54)

OPTIONS

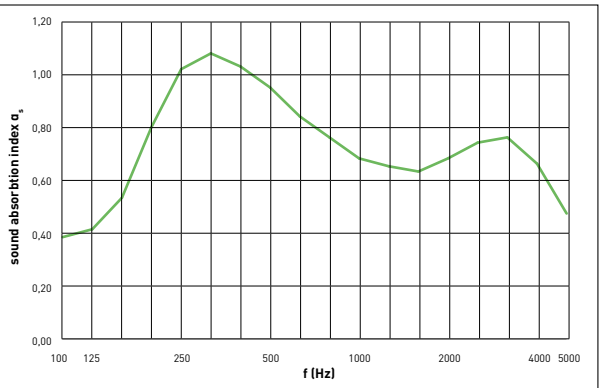
Made-to-measure	on request
Cupboard doorfronts	on request (see page 60)
Cladding panel	on request (see page 65)
Flexible elements	on request (see page 64)
Top layer	Top layer in one of the six standard veneers or finished in one of the 16 prefinished veneers of the Shinnoki® range.
Core	Acoustic black moisture resistant 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

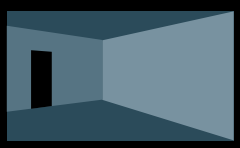


f(Hz)	α_p
125	0,45
250	1,00
500	0,95
1000	0,70
2000	0,70
4000	0,65

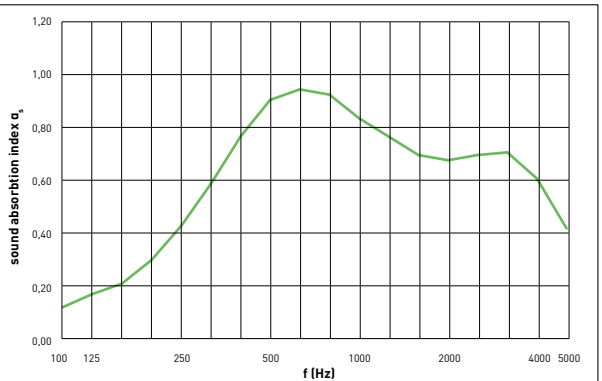
Total thickness	% perfo top layer	% perfo core	α_w	f(Hz)	Sound class	NRC	SAA
89 mm	5,8%	44,2%	0,75	L	C	0,85	0,83
Installation	Mounted on a wooden frame with a thickness of 70 mm, filled with 50 mm of mineral wool with a density of 40 kg/m³.						
Values according to reverberation room test EN ISO 354:2003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



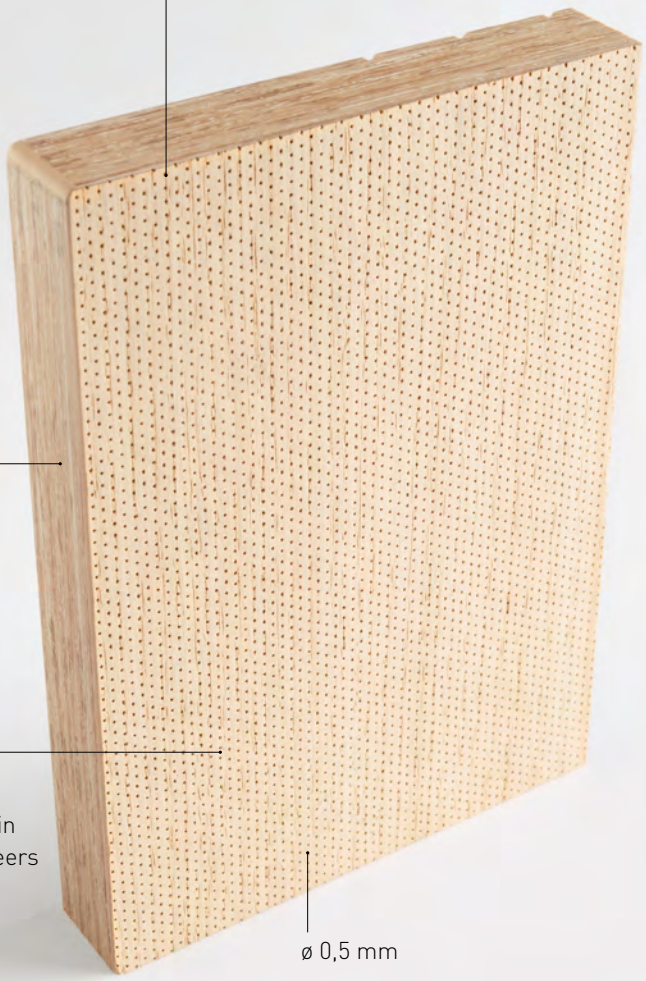
f(Hz)	α_p
125	0,15
250	0,45
500	0,90
1000	0,85
2000	0,70
4000	0,60

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

Acoustic black moisture resistant MDF
2x9 mm + acoustic absorbing glass fibre
tissue (centre)

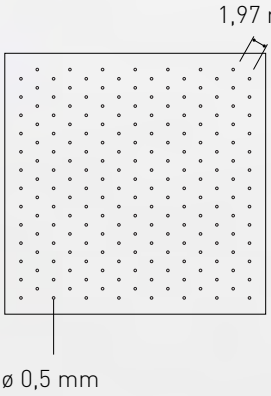
± 19 to 20 mm



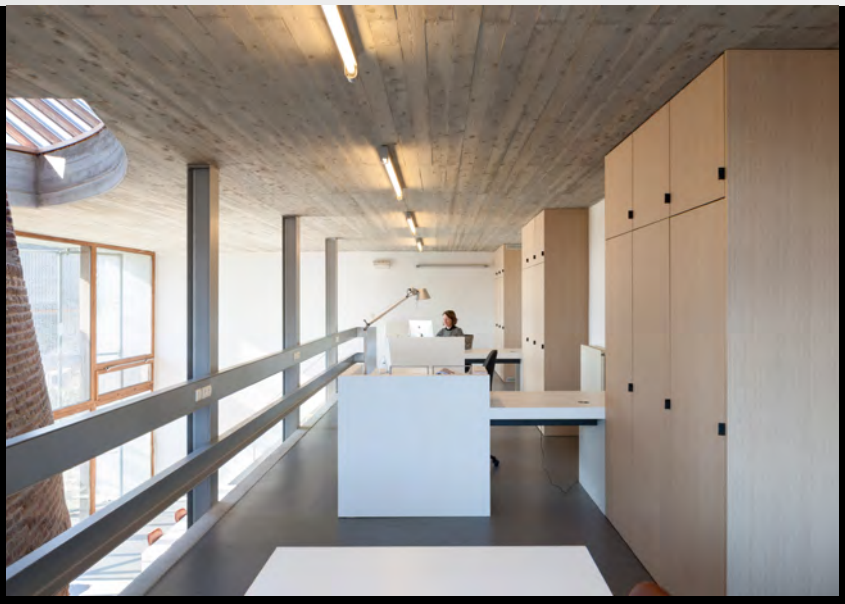
Edge band

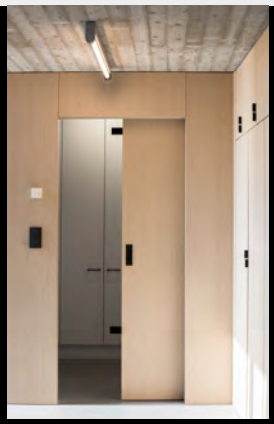
Top layer in one of the six
standard veneers or finished in
one of the 16 prefinished veneers
of the Shinnoki® range.

ø 0,5 mm



INSTALLATION *see page 63*





TYPE N / wall-ceiling-cupboard door

MATERIAL COMPOSITION

Top layer	Top layer in one of the six standard veneers or finished in one of the 16 prefinished veneers of the Shinnoki® range.
Core	Acoustic black moisture resistant MDF 2x9 mm + acoustic absorbing glass fibre tissue (centre)
Backing	All panels have a backing veneer for stability
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 an edge of 55 mm and a perforated zone in the core [linear, 8/8/6 mm]) and acoustic absorbing glass fibre tissue (centre)

STANDARD MEASUREMENTS

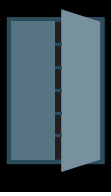
Made-to-measure cupboard and sliding doors
Thickness ±20 mm (Shinnoki)
Thickness ±19 mm (veneer)

OPTIONS

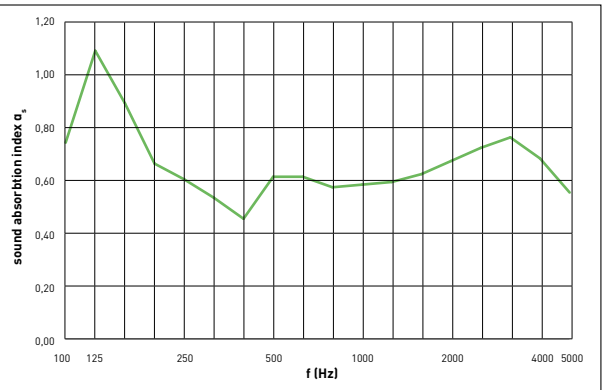
Drilled holes for hinges	on request (see page 63)
Edge finishing	Edge band in veneer
Top layer	Top layer in one of the six standard veneers or finished in one of the 16 prefinished veneers of the Shinnoki® range.
Core	Acoustic black moisture resistant MDF or black fire retardant MDF (European fire class 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

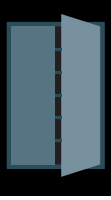


f(Hz)	α_p
125	0,90
250	0,60
500	0,55
1000	0,60
2000	0,70
4000	0,65

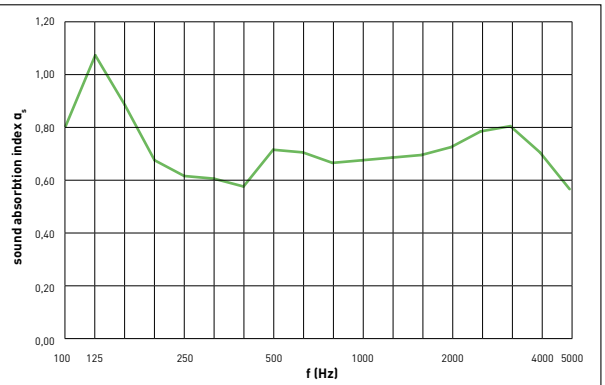
Total depth	% perfo top layer	% perfo core	α_w	f(Hz)	Sound class	NRC	SAA
500 mm / empty	5,8%	44,2%	**0,60**		C	0,60	0,51
Installation	Mounted on wooden frame with a height of 500 mm (= simulation of an empty cupboard)						
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997							

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

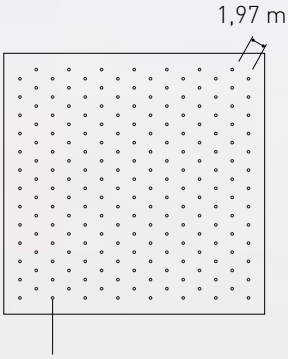
Total depth	% perfo top layer	% perfo core	α_w	f(Hz)	Sound class	NRC	SAA
500 mm / filled	5,8%	44,2%	**0,70**		C	0,70	0,68
Installation	Mounted on wooden frame with a height of 500 mm (= simulation of a filled cupboard), filled with 20 mm of PRIMAWOOL of 22.5 kg/m³, stuck with spun fabric side on the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

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

± 17 to 18 mm

Top layer in one of the six standard veneers or finished in one of the 16 prefinished veneers of the Shinnoki® range.

ø 0,5 mm



INSTALLATION *see page 70*

MATERIAL COMPOSITION

Top layer	Top layer in one of the six standard veneers or finished in one of the 16 prefinished veneers of the Shinnoki® range.
Core	Acoustic black moisture resistant MDF 16 mm
Backing	All panels have a backing veneer for stability + 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)

Sports hall-approved (see page 70)

STD. MEAS. FULL PANEL

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

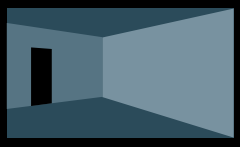
(composition of full plate, see page 54)

OPTIONS

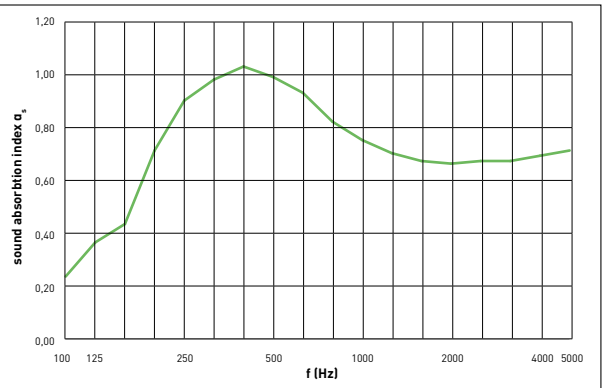
Made-to-measure	on request
Cladding panel	on request (see page 65)
Flexible elements	on request (see page 64)
Top layer	Top layer in one of the six standard veneers or finished in one of the 16 prefinished veneers of the Shinnoki® range.
Core	Acoustic black moisture resistant MDF or black fire retardant 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

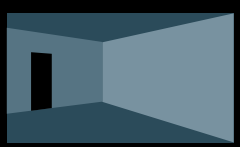


f(Hz)	α_p
125	0,35
250	0,85
500	1,00
1000	0,75
2000	0,70
4000	0,70

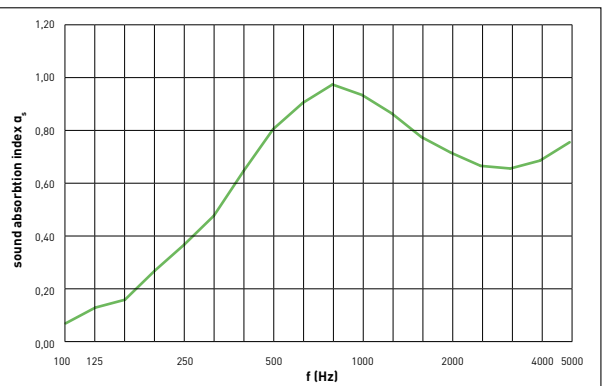
Total thickness	% perfo top layer	% perfo core	α_w	f(Hz)	Sound class	NRC	SAA
87 mm	5,8%	44,2%	0,75	LM	C	0,85	0,83
Installation	Mounted on a wooden frame with a thickness of 70 mm, filled with 50 mm of mineral wool with a density of 40 kg/m³.						
Values according to reverberation room test EN ISO 354:2003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

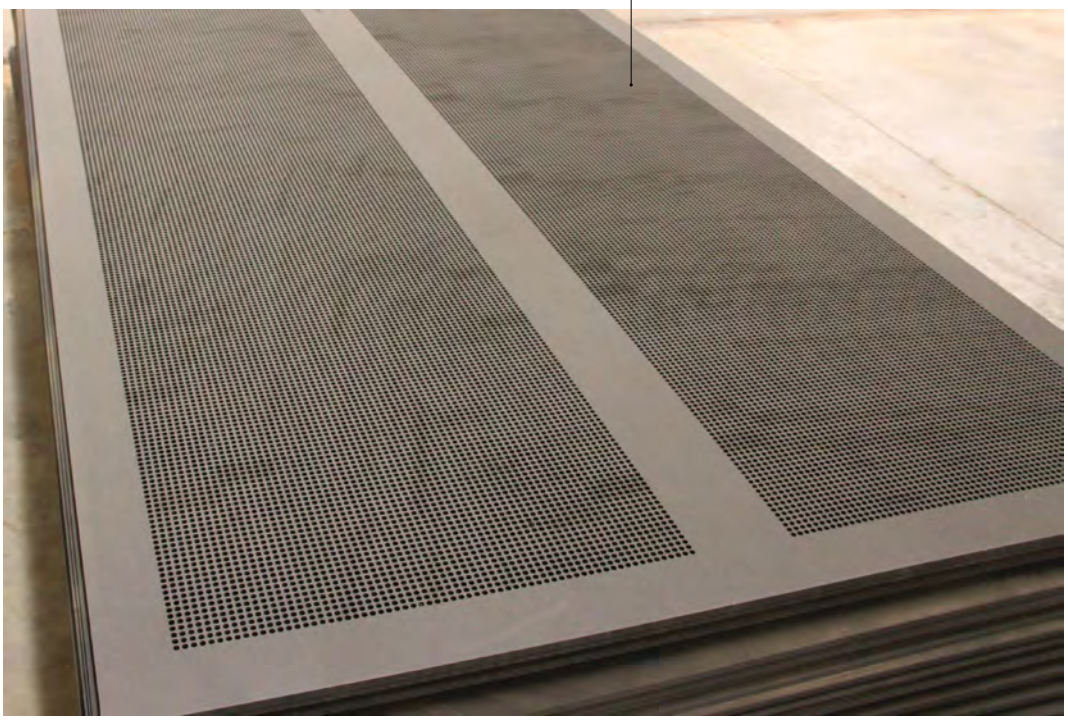
Total thickness	% perfo top layer	% perfo core	α_w	f(Hz)	Sound class	NRC	SAA
37 mm	5,8%	44,2%	0,65	M	C	0,70	0,70
Installation	Mounted on a wooden frame with a thickness of 20 mm, filled with 20 mm PRIMAWOOL of 22,5 kg/m³.						
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997							

TYPE M / ML / N / NL

Core

> 3000x1270 mm
> In black moisture resistant 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)



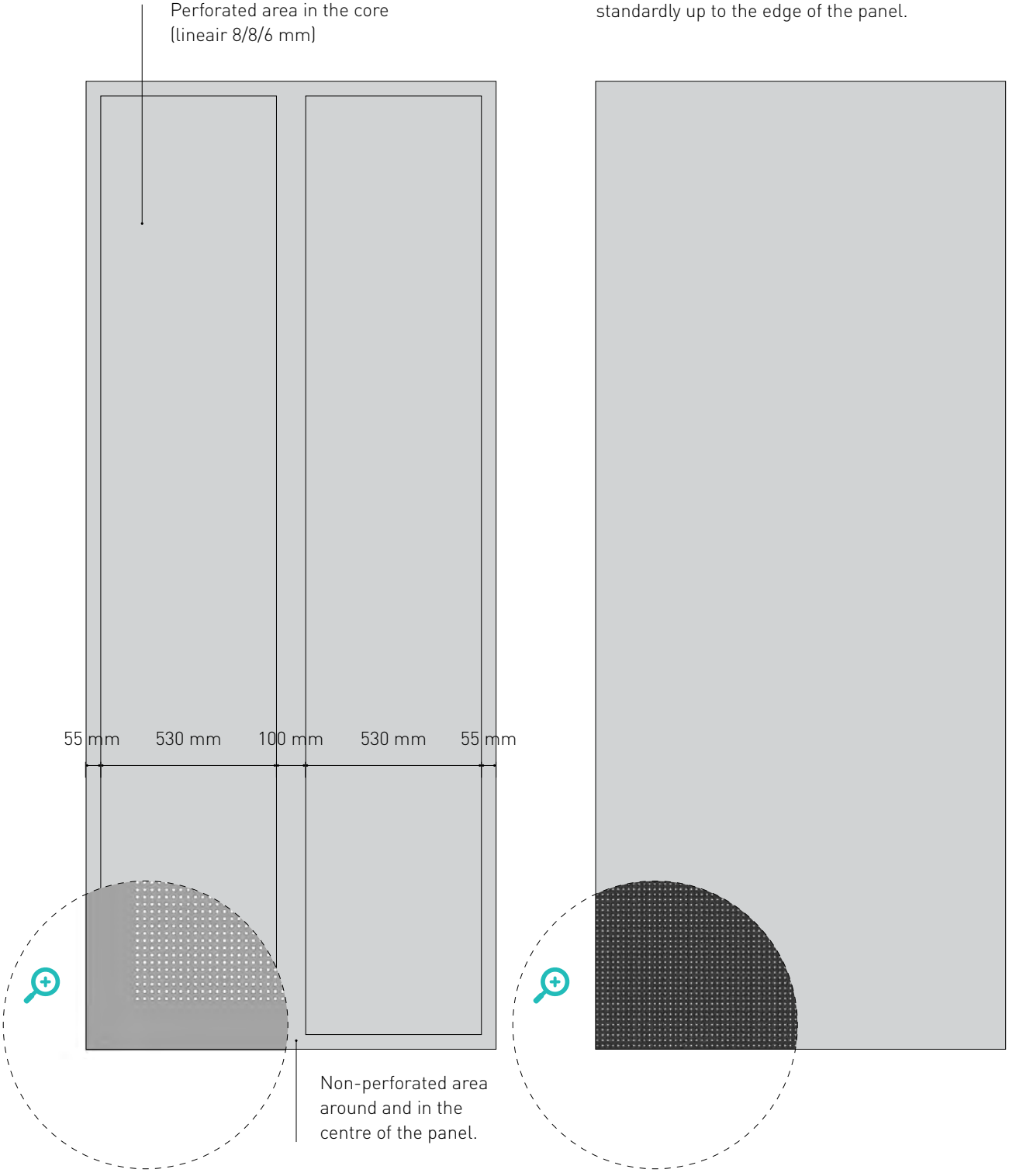
Perforated top layer with micro or nano perforations. Micro perforations standardly up to the edge of the panel. The perforations can differ slightly near the edge.

Full panel core dimensions

> 3000x1270 mm

Visible side of top layer of full panel

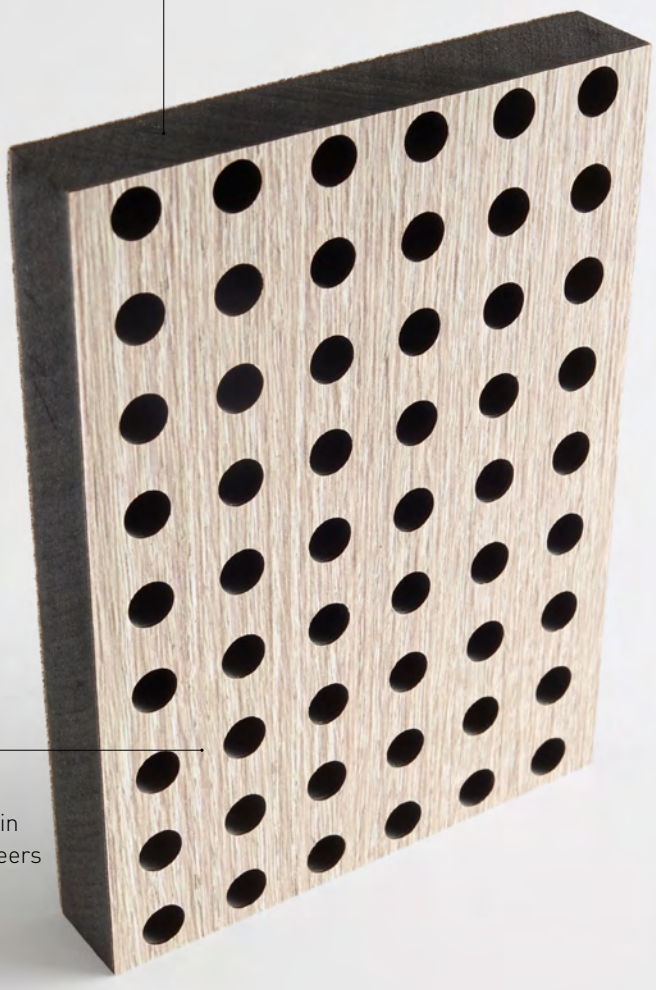
Perforated top layer with micro perforations (linear, 3/3/1.1 mm) or nano perforations (diagonally, 1.97/1.97/0.5 mm). Perforations standardly up to the edge of the panel.



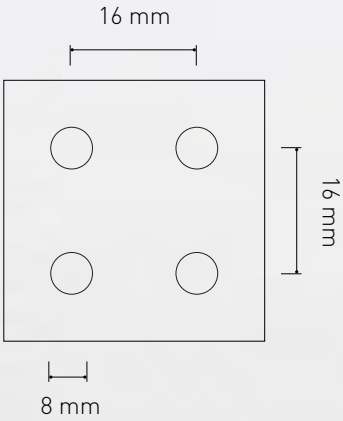
DRILLED 

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

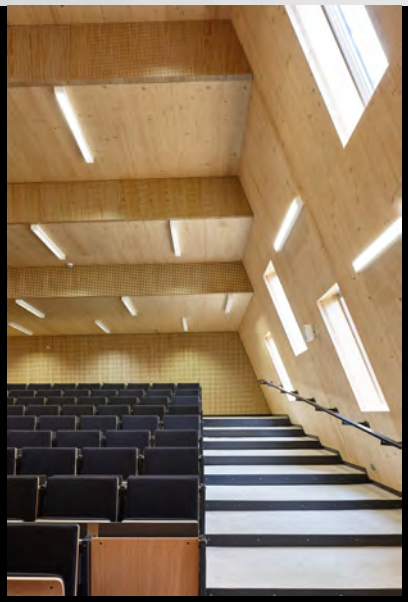
± 17 to 18 mm

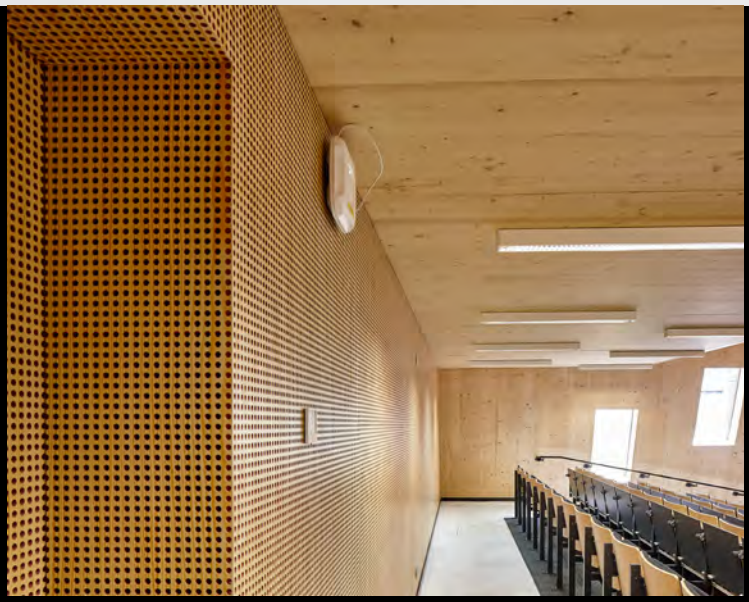


Top layer in one of the six standard veneers or finished in one of the 16 prefinished veneers of the Shinnoki® range.



INSTALLATION *see page 70*





MATERIAL COMPOSITION

Top layer	Top layer in one of the six standard veneers or finished in one of the 16 prefinished veneers of the Shinnoki® range.
Core	Acoustic black moisture resistant MDF 16 mm
Backing	All panels have a backing veneer for stability + 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. MEAS. FULL PANEL

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

Sports hall-approved (see page 70)

OPTIONS

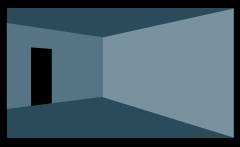
Made-to-measure	on request
Cladding panel	on request (see page 65)
Top layer	Top layer in one of the six standard veneers or finished in one of the 16 prefinished veneers of the Shinnoki® range.
Core	Acoustic black moisture resistant MDF or black fire retardant MDF (European fire class B), Multiplex birch BB/BB, spruce or poplar

Other drill patterns are possible as well:

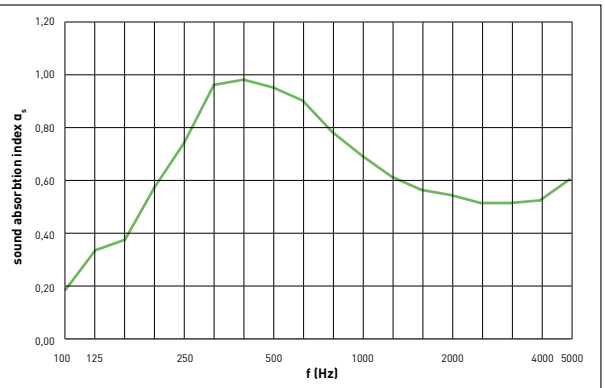
Perforation	Distance between holes	% perfo	α_w	α_w
Ø	Ctc distance		Wall thickness: 70 mm, filled with 50 mm of mineral wool	Wall thickness: 20 mm, filled with 20 mm of primawool
5 mm	16-16 mm	7,7%	0,35	0,30
8 mm	**16-16 mm**	**19,6%**	**0,65**	**0,65**
5 mm	32-32 mm	1,5%	0,15	0,20
8 mm	32-32 mm	4,9%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

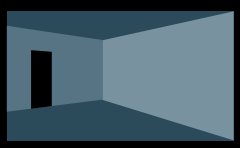


f(Hz)	α_p
125	0,30
250	0,75
500	0,95
1000	0,70
2000	0,55
4000	0,55

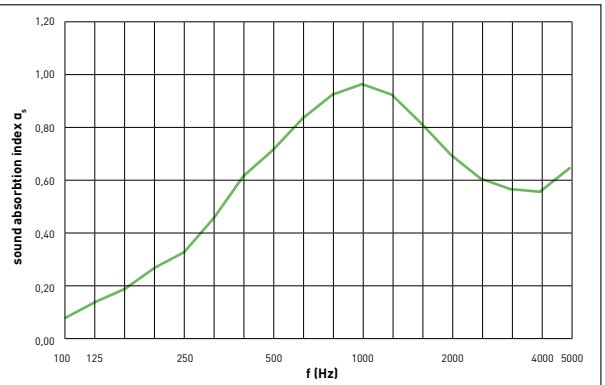
Total thickness	% perfo	α_w	f(Hz)	Sound class	NRC	SAA
88 mm	19,6%	**0,65**	LM	C	0,75	0,74
Installation	Mounted on a wooden frame with a thickness of 70mm, filled with 50mm of mineral wool with a density of 40kg/m³.					
Values according to reverberation room test EN ISO 354:2003 - EN ISO 11654:1997						

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

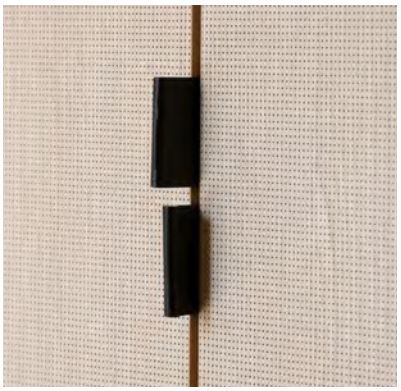


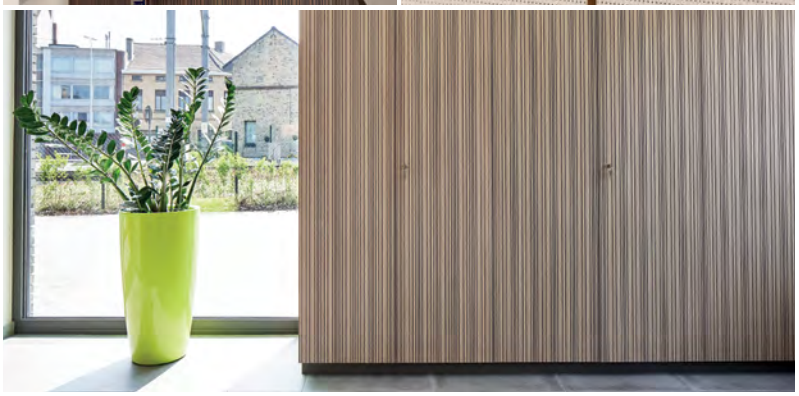
f(Hz)	α_p
125	0,15
250	0,35
500	0,75
1000	0,95
2000	0,70
4000	0,60

Total thickness	% perfo	α_w	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						

MADE-TO-MEASURE CUPBOARD DOORS

Why opt for acoustic cupboard door fronts?
Within the project, Woodcoustics 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
		doorgaand %	breedte (mm)	breedte (mm)		breedte = 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	44,2	-	HPL veneer	free*	ABS veneer	ABS veneer
N 	Nano	5,8	44,2	-	veneer	free*	veneer	veneer

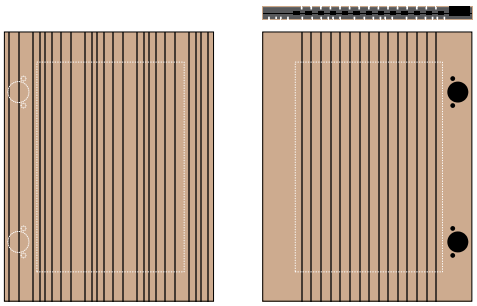
* The perforations can differ slightly near the edge.

Cupboard doors can only be made to measure by Woodcoustics.
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 mm (four sides).

CUPBOARD DOOR HINGE

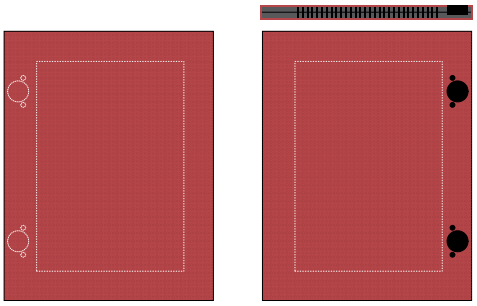
Acoustic absorbing cupboard doors are strongly perforated in the core to optimise absorption capacity. To ensure stability of the cupboard doors, we provide a full edge frame at the core of approx. 50 mm and, depending on the height, 1 or 2 horizontal transverses. Due to the acoustic black MDF core,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

GROOVED



front back

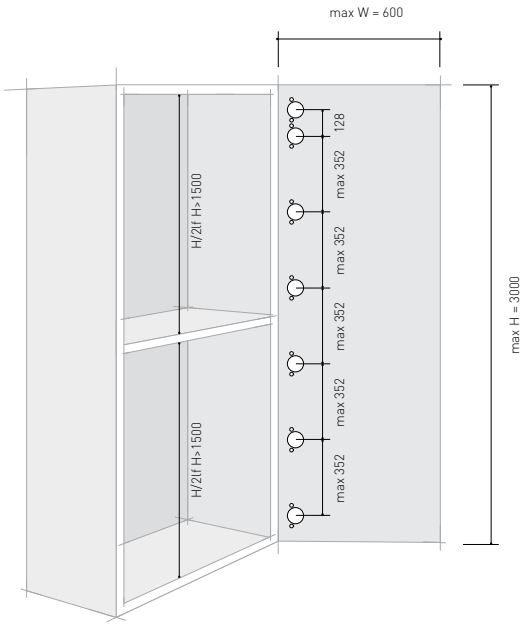
MICRO/NANO



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.

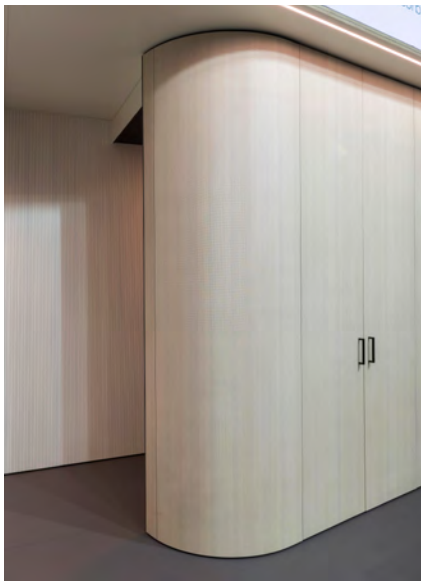


CUPBOARD SLIDING DOOR

Woodcoustics 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. Woodcoustics can also create acoustic absorbing panels for baffles, sliding walls or cladding for interior doors.



Acou Flex flexible elements

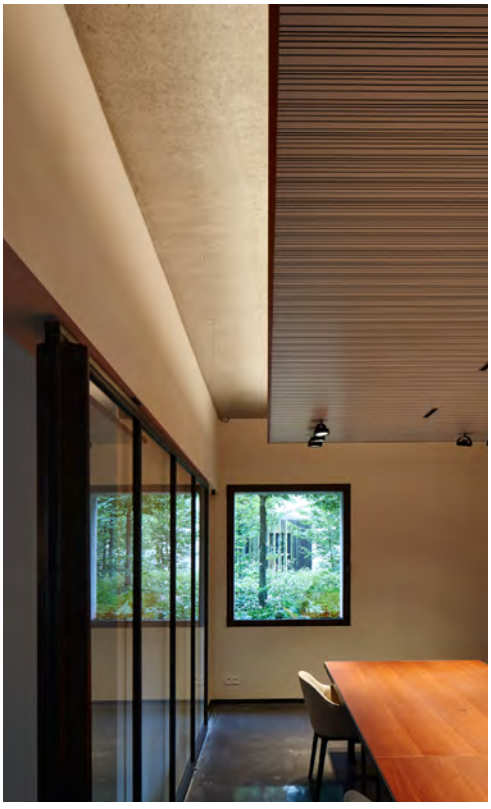
Grooved		Vertical groove pattern Possible for all types in the shape of laths with a radius of min 3 m (to be installed by you on a flexible support structure)
		Horizontal groove pattern On request Flex laths, TYPE Db flex, Dr flex, Dw flex, with a radius of min 1.5 m (to be installed by you on a flexible 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)

Acou Sliding Walls

Woodcoustics 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.

Woodcoustics creates beauty by processing natural wood veneer.
Our company develops products based on this precious wood in a creative and sustainable manner. With our treasure chest of more than 160 wood species, our state-of-the-art machines, our sustainable business model and our flexible employees, we are able to develop new products that meet the needs of all stakeholders. Woodcoustics combines these noble veneer materials with a black high-quality acoustic core into a timeless and elegant absorbent product for wall, ceiling or furniture. Welcome to the wonderful world of Woodcoustics.

SHINNOKI®

Shinnoki offers prefinished wood veneered panels for architects and cabinet makers to design and create stylish and distinctive interiors. Unlike regular veneered panels, Shinnoki products are ready-to-use and as easy to work with as a melamine board, huge time and cost-saving but with the same unique look and feel that is typical for real wood veneer.

Thanks to our proprietary mixmatch technique and our years of experience in product finishing, Shinnoki panels guarantee a continuous look without significant visual interruptions and color consistency throughout your entire project. Shinnoki is a complete program including matching panels, veneers and edge banding all quickly available from stock in 16 timely colors.

The benefits of Shinnoki:

16 trend driven real wood designs

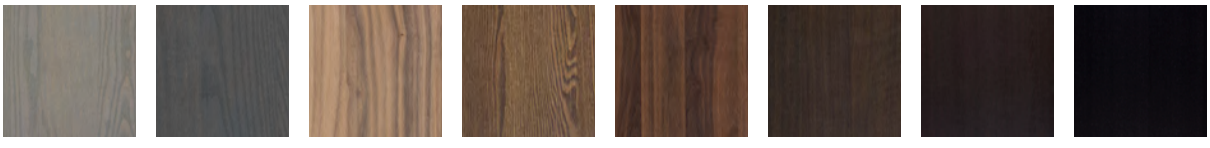
consistent colors and quality thanks to the mixmatch technique and industrial processsing

prefinished surface making the processing extremely fast, easy and price-effective

complete range of panels, laminated veneers and edge banding

wood from well managed forests (FSC® certified)

NATURAL OAK | IVORY OAK | MILK OAK | CHALK ASH | DESERT OAK | MANHATTAN OAK | GRANITE WALNUT | DUSK FRAKE



STONE TRIBA | MINERAL TRIBA | FROZEN WALNUT | CINNAMON TRIBA | SMOKED WALNUT | STARDUST WALNUT | CHOCOLATE OAK | RAVEN OAK

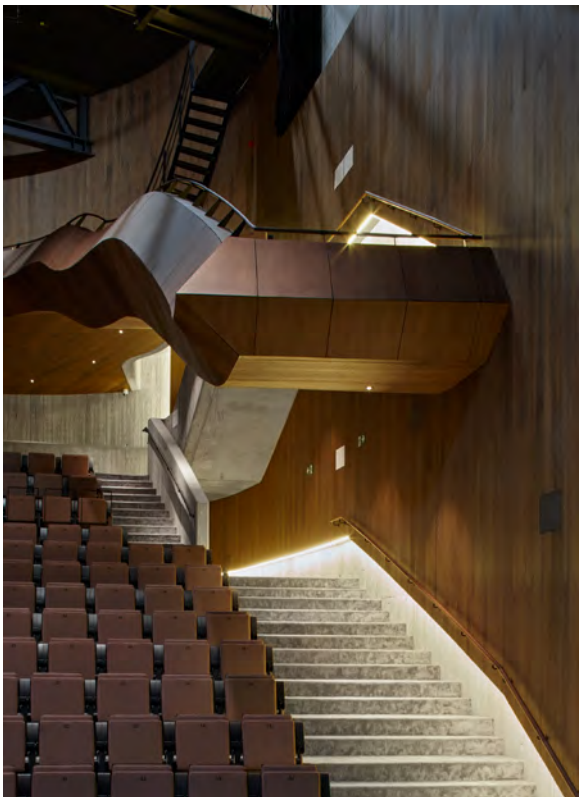
VENEER

Our acoustic panels are also available with a real wood veneer finish (you have the choice between birch, maple, oak quarter cut, oak crown cut, american walnut, ash, carolina pine, etc.).

Panels can be supplied unfinished so that the interior contractor can stain or varnish them, or we can supply prefinished panels.

Finishing options include:

- transparent UV-varnish
- stain + lacquer
- oil




BERK


CAROLINA PINE


ESDOORN


EIK KWARTIER


EIK DOSSE


NOTELAAR

TYPE S, G, DB, DR, DW, Z

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 Woodcoustics type (RAL 8014) in the grooves of the panel by means of a Woodcoustics 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).

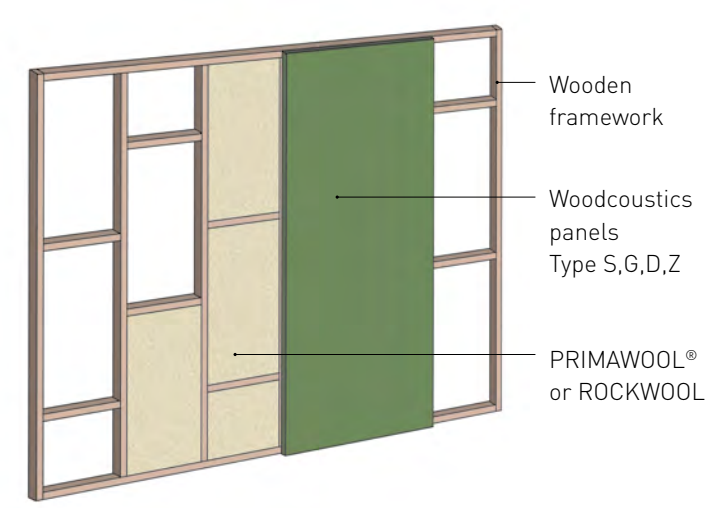
The four sides of the panel must always be supported by the framework. The long sides of two panels are mounted against each other to a common underlying frame.

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 71. Our guidelines for corner and plinth details can be found on Page 73.

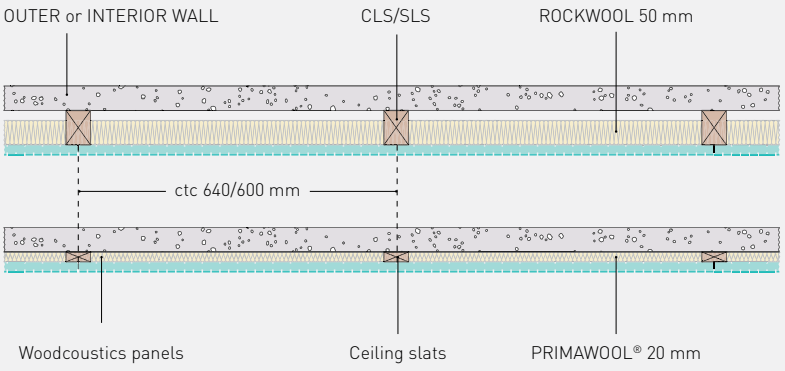
On request you can obtain specific installation guidelines and certificates for: walls with an expected increased impact (sports rooms, party rooms, etc.) according to standard ETAG 003 and EN 13,964 and for ceiling installation.



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

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

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

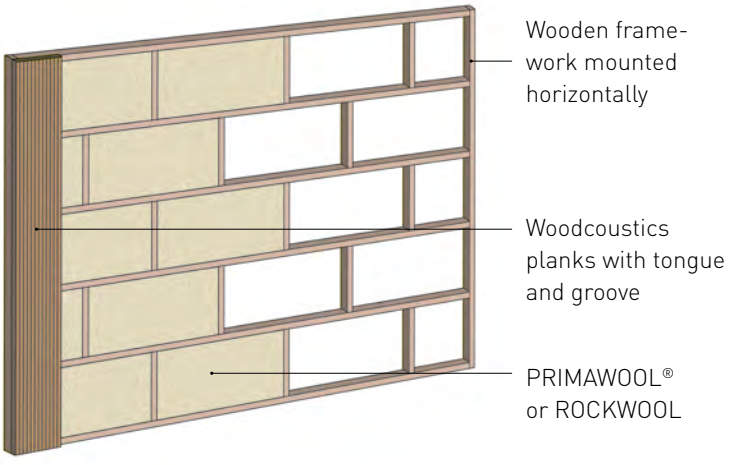
The openings of the wooden framework must be filled with a sound absorbing material (e.g. Rockwool or Primawool).

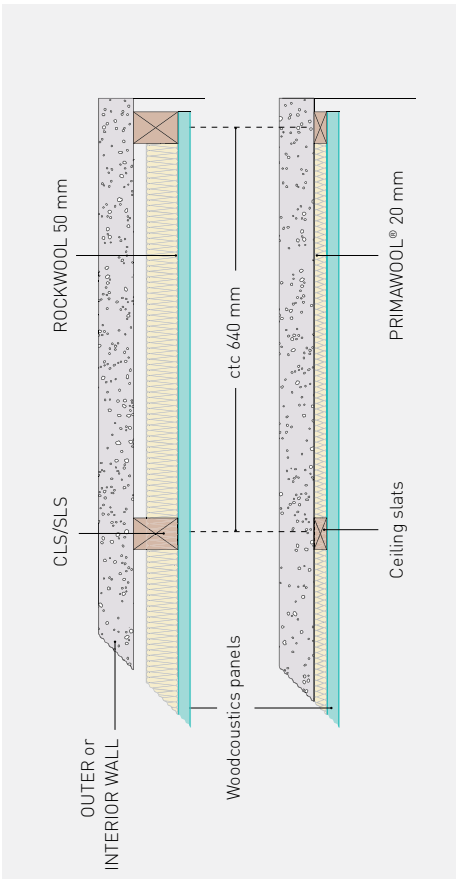
The long sides of laths with tongue and groove are mounted against each other. The short sides of two panels are mounted to a common underlying frame with a distance of 2 to 3 mm between them.

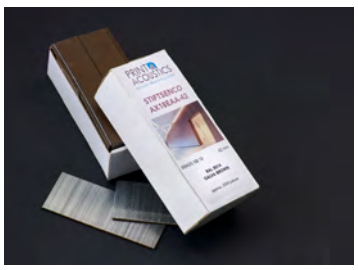
We advise you to leave a space of 2.5 mm per meter in height and width in order to allow the construction to expand.

Proposed installation patterns as well as our guidelines to store the panels can be found on Page 71. Our guidelines for corner and plinth details can be found on Page 73.

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 B, 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 laths. These invisible laths 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.

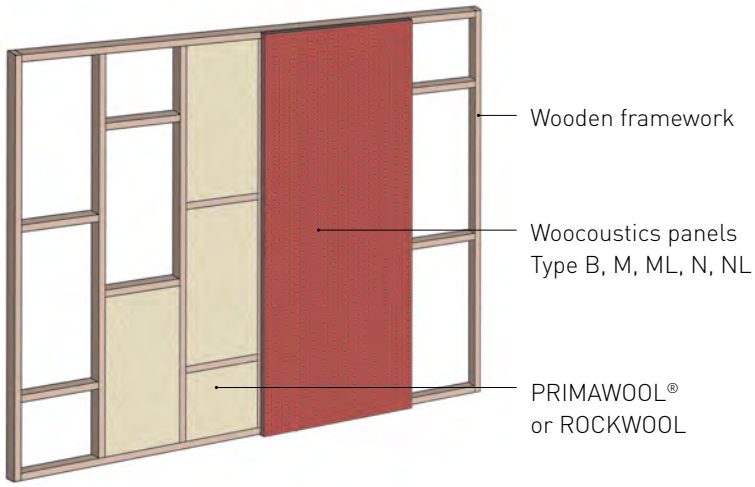
The short sides of two panels are mounted to a common underlying frame with a distance of 2 to 3 mm between them.

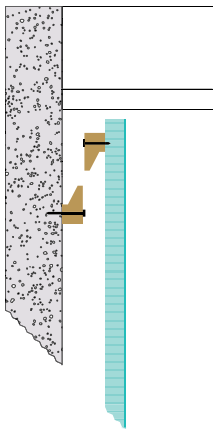
We advise you to leave a space at the top between the panel and the ceiling so as to enable you to join the two elements.

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 71. Our guidelines for corner and plinth details can be found on Page 73.

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.

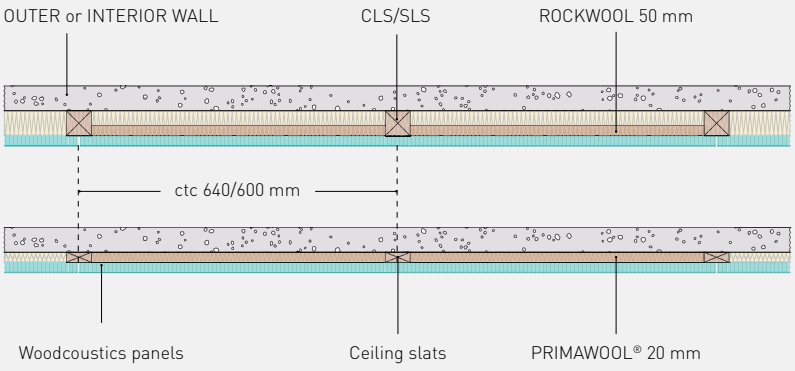




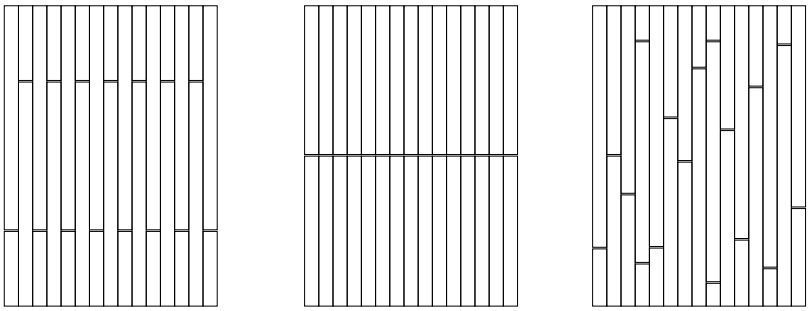
TEST SET-UP
IN LABORATORY:

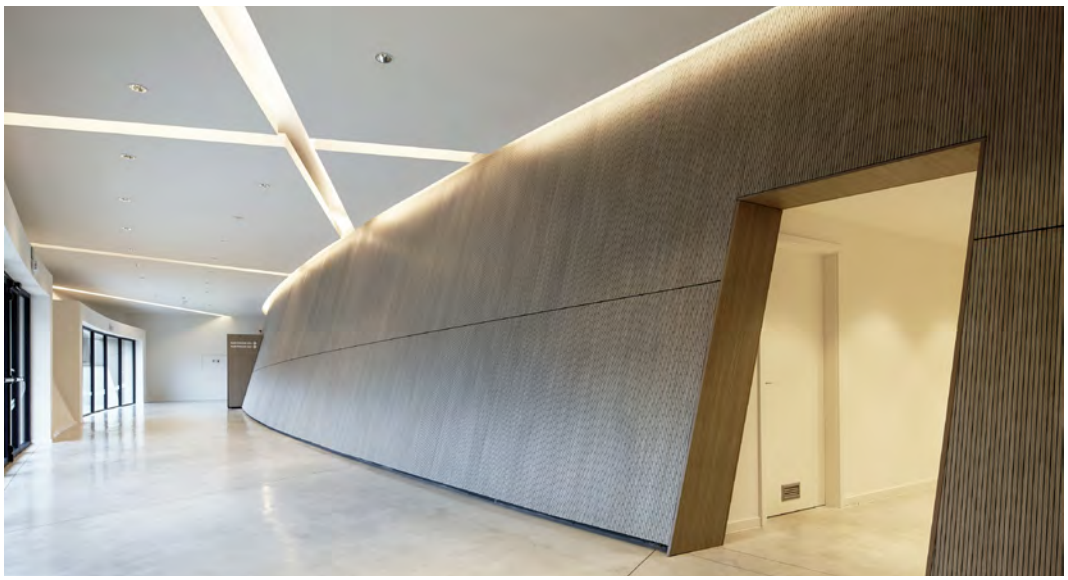
TOTAL THICKNESS WALLS
88/90 mm

TOTAL THICKNESS WALLS
38/40 mm



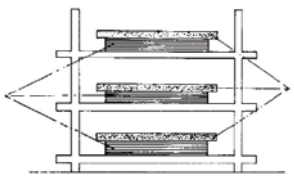
There are different possible installation patterns for panels and laths.
A couple of examples of patterns with laths are given in the drawings below.





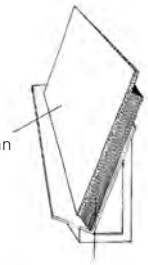
STORAGE OF FINISHED PANELS

The acoustic panels/laths 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.

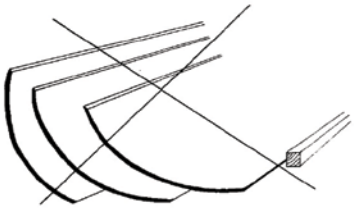


Woodcoustics panels

Cover board of Woodcoustics stack needs to be larger than the panels.



Woodcoustics 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

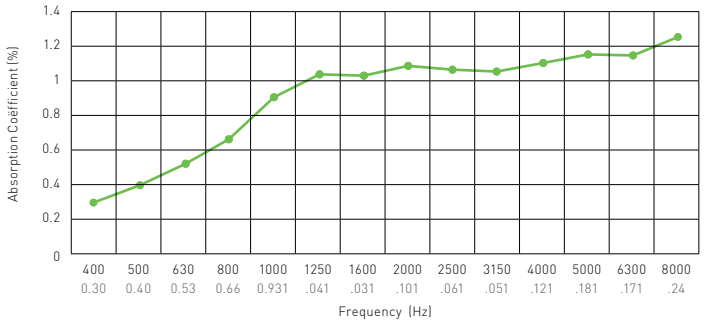
> 100 % recyclable PET
> Inodorous
> No emission of volatile organic compounds (VOCs) (A+ level)
> Moisture and rot resistant
> Non irritating for skin and eyes
> European fire class B-s2-d0

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 mm / 600 mm / -0 +2 cm
Package	36 m² (2 separate rolls of 30 m)

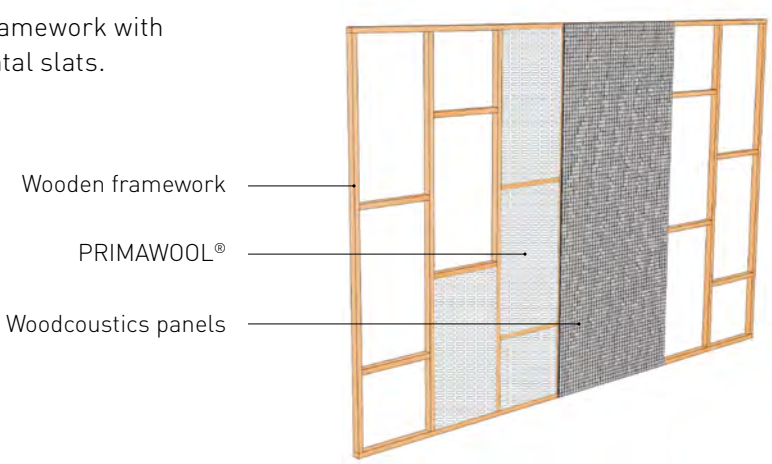
Acoustic features

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



Installation PRIMAWOOL®

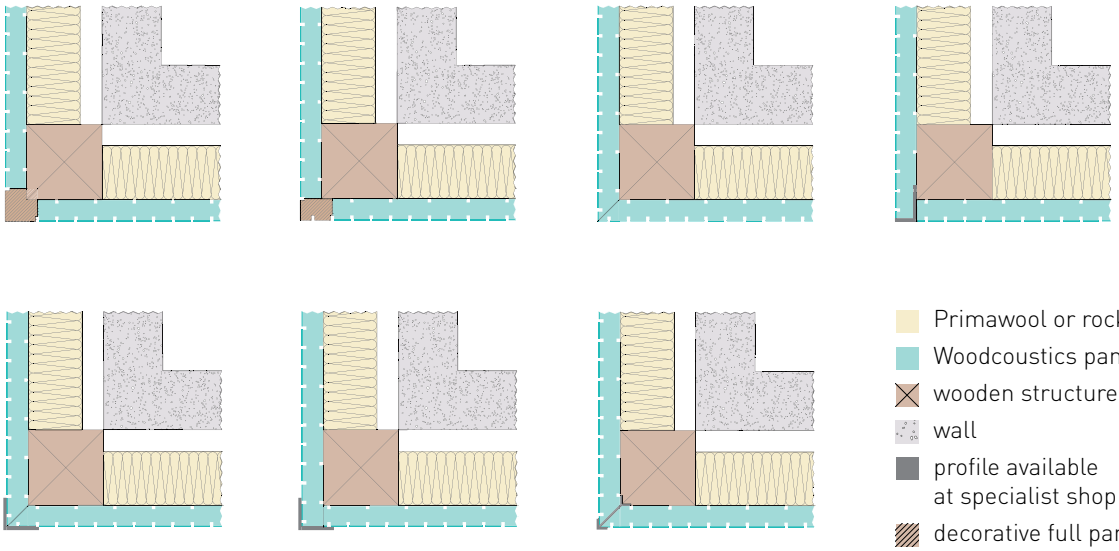
Installation in a framework with vertical or horizontal slats.



DETAILS

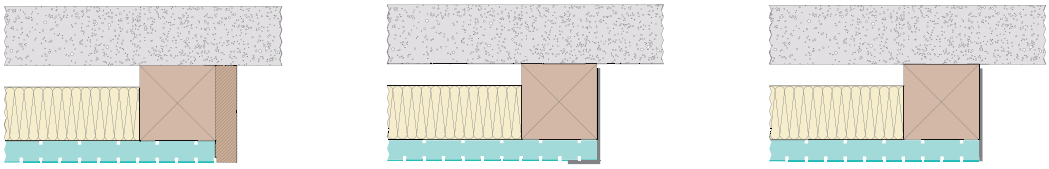
In terms of finishing details, it is important to take into account acoustic perforations at the core per type. A number of the different possible finishes are illustrated below with a support structure.

Corner solutions

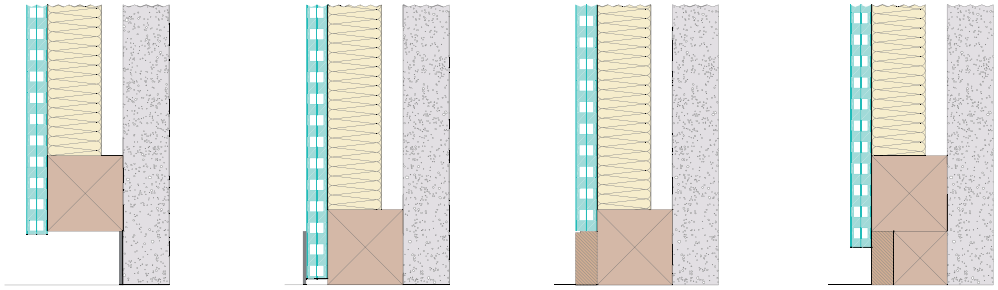


CORNER-PLINTH DETAILS

Wall connections

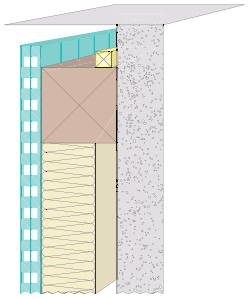


Floor connections



*

Ceiling LED line



*Required plinth position in case of type F or Ds

WOOD COUSTICS

warm wood, soft sound

Woodcoustics is a DECOSPAN and TRIPLACO brand

Generaal Deprezstraat 2, 8530 Harelbeke - Belgium

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www.woodcoustics.com