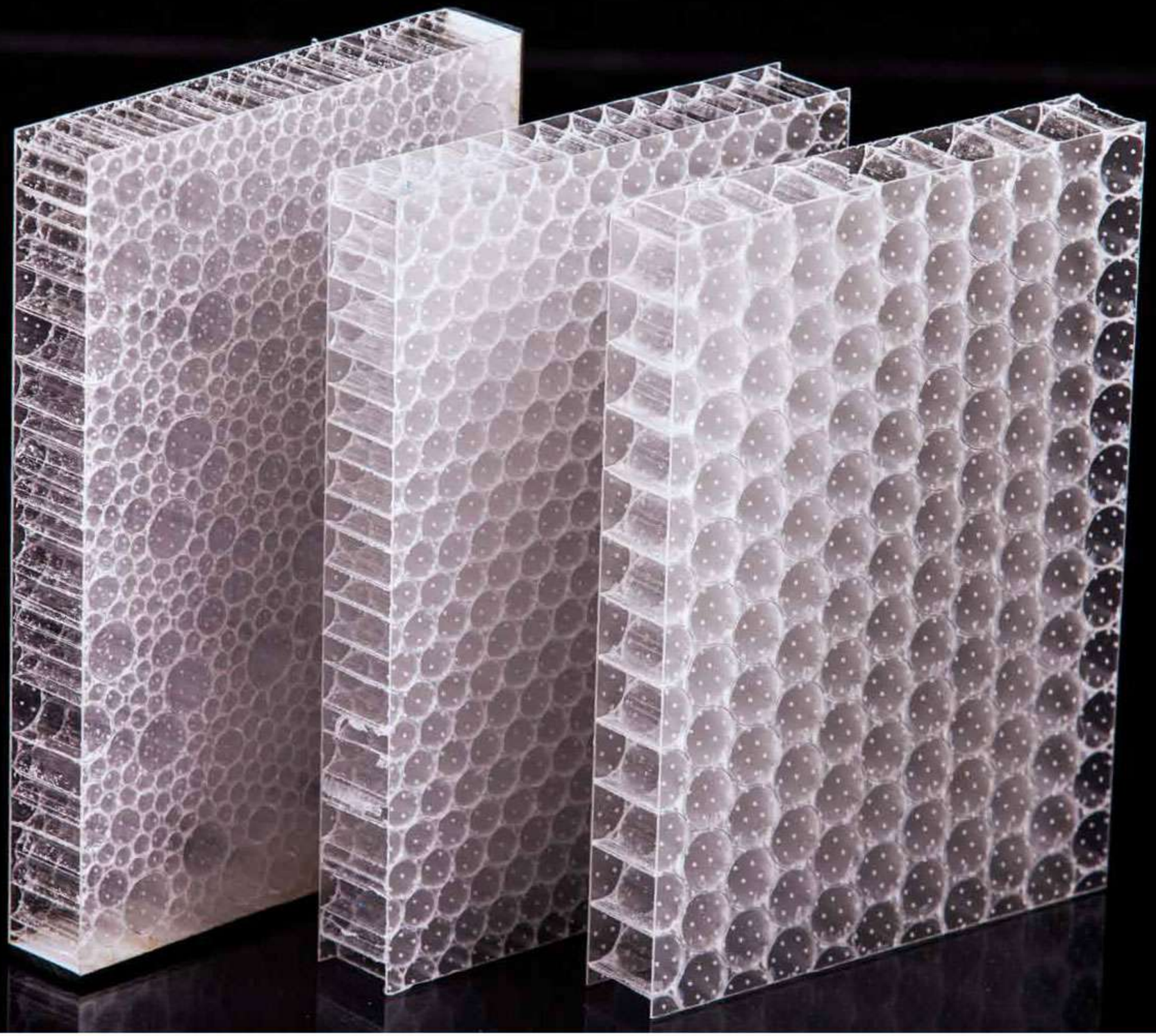
design
composite



AIR-board® acoustic – Trennwand· Tischaufsatz · Abgehängte Trennwand
AIR-board® acoustic – Partition wall · Desk divider · Hanging partition wall

AIR-board® acoustic

Absorption und Tageslicht ist möglich. Das Streben nach Transparenz muss nicht im Widerspruch zur Akustik stehen. Design Composite **AIR-board**® acoustic dient zur akustischen Zonierung und Abschirmung von Arbeitsbereichen in Einzel- und Großraumbüros. Design Composite **AIR-board**® acoustic ist ein innovatives Raumgliederungssystem, welches Design & Funktion in drei Produktgruppen – Trennwände, Tischaufsätze und abgehängte Raumteiler – optisch, attraktiv vereint.

Transparente Sandwich-Paneele bestehend aus mikroperforierten, lichtdurchlässigen Deckschichten und einem farblosen Wabenkern, wirken in einem hohen Grad schallabsorbierend und bestechen durch eine einzigartige Optik und Funktionalität.

*Sound absorption with natural daylight is possible. The pursuit of transparency must not contradict room acoustics. Design Composite **AIR-board**® acoustic elements can be used for visual screening and zoning of work areas in both individual and large offices. Design Composite **AIR-board**® acoustic elements are innovative both in design & function in three product groups – partition walls, desk dividers and hanging partitions – giving visually attractive acoustic solutions.*

Transparent sandwich panels consisting of micro-perforated translucent outer layers and a transparent honeycomb core give a high level of sound absorption with unique appearance and functionality.

- Lichtdurchlässig – Tageslicht
  Transluscent - natural light
- Rahmenloses Design
  Frameless design
- Offenheit & Privatbereich
  Openess & Privacy
- Schallabsorbierend
  Sound-absorbing
- Individuell gestaltbar
  Individual design
- Leichte Montage
  Easy mounting
- Geringes Gewicht
  Light weight

design composite

Einzelne Paneele können beliebig auf Wänden und Decken verlegt werden oder als fertiges System, wie Trennwände, Tischaufsätze und abgehängte Raumteiler, eingesetzt werden. Durch den transparenten Look bleibt die Übersicht in Räumen gewahrt, die Nachhallzeit wird reduziert und die Sprachverständlichkeit wird erhöht.

Individual panels can be installed as walls and false ceiling or used as partitions, desk dividers or hanging partition walls. Through the transparency the overview of the room is retained, echoing is reduced and speech intelligibility is increased.

Die Synergie zwischen Funktionalität und individuellem Design wirkt sich positiv auf die Arbeitseffizienz und das Wohlbefinden der Mitarbeiter aus. Die rahmenlosen und lichtdurchlässigen Materialien schaffen eine einzigartige Raumatmosphäre.

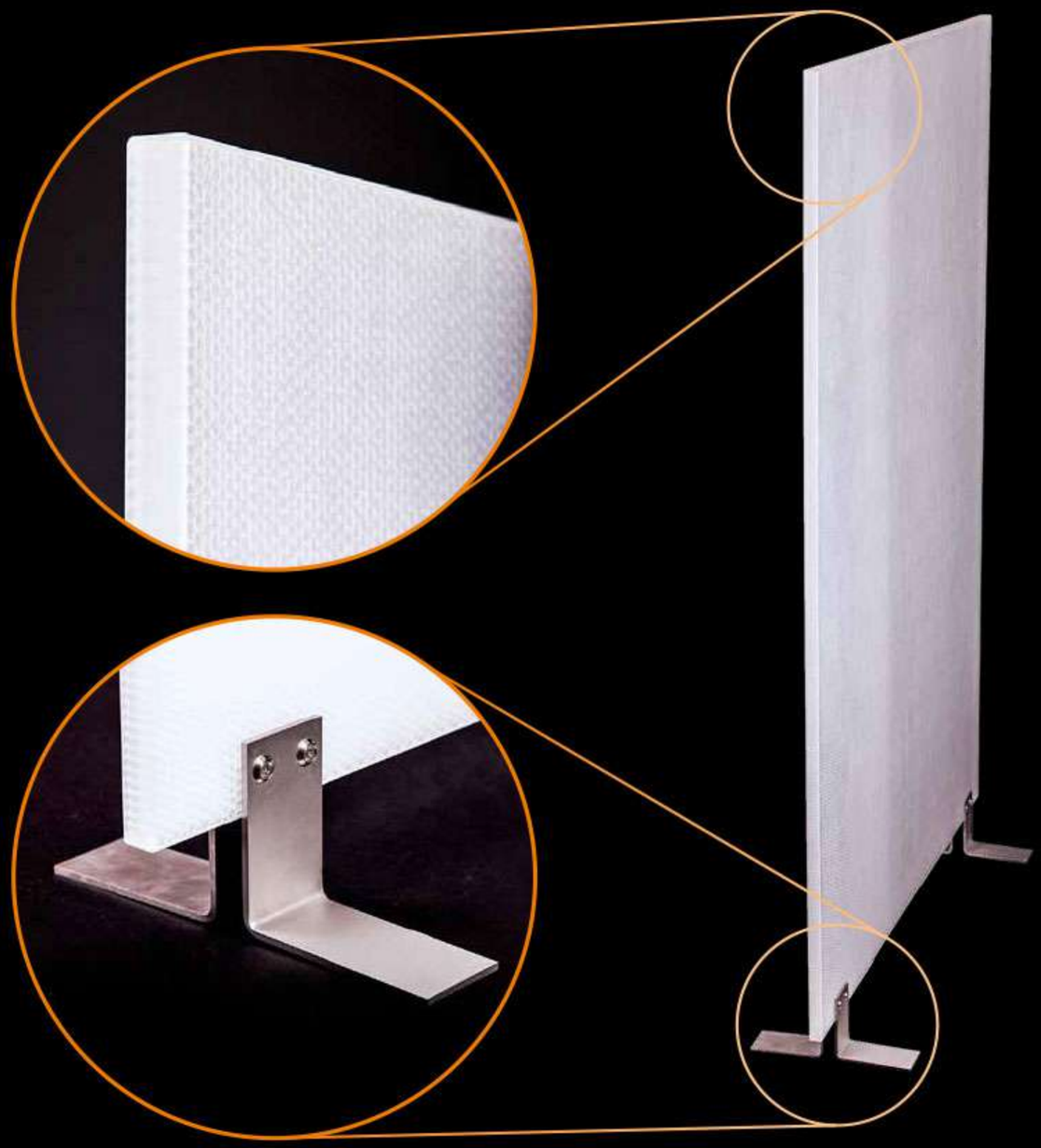
The synergy between functionality and individual design has a positive effect on work efficiency and the well-being of the employees. The frameless and translucent materials create a unique room ambiance.

AIR-Board® acoustic Paneele sind auch für individuelle Lösungen und Projekte einsetzbar.

AIR-board® *acoustic panels are also available for bespoke solutions and projects.*

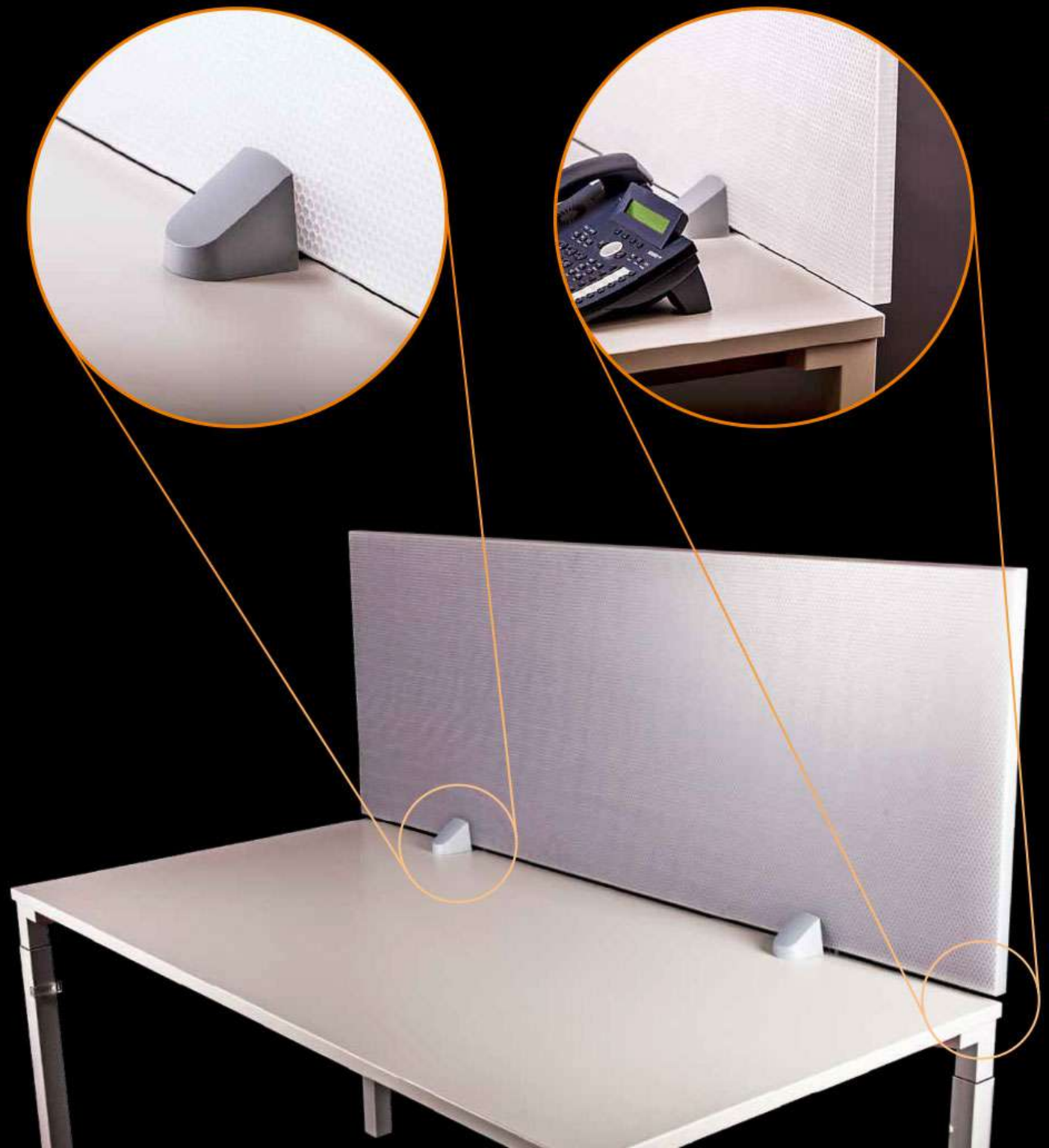
Trennwand / Partition wall – AIR-board® acoustic

Artikelnr:	ABA0025-Wand-01
Dimension:	1800 x 1200 x 25 mm; Sondergrößen auf Anfrage
Farben:	Transparent; Sonderfarben auf Anfrage
Struktur:	**AIR-board®**; **AIR-board®** big; chaos **AIR-board®**
Optionen:	Steckbinder 90°, Steckbinder 180°, Digitaldruck
Lieferumfang:	Paneele inkl. Kantenverschluss „satin“, 2 Paar Stellfüße glasperlengestrahlt, Montagematerial (Senkschrauben, Beilagscheiben, Verlängerungsmuttern)
Article no:	*ABA0025-Wand-01*
Dimension:	*1800 x 1200 x 25 mm;* *70.86 x 47.24 x 0.98 inches* *Special sizes on request*
Colour:	*Transparency;* *Special colours on request*
Structure:	***AIR-board®***; ***AIR-board®*** *big,* *chaos* ***AIR-board®***
Options:	*Connection 90 °, Connection 180 °,* *digital print*
Scope of delivery:	*Panel incl. satin edge banding,* *2 pairs of mat stainless steel feet,* *mounting material (countersunk* *screws, washers, extended nuts)*



design composite

Tischaufsatz / Desk divider – AIR-board® acoustic



Artikelnr:	ABA0025-Wand-03 – 1600 x 600 x 25 mm ABA0025-Wand-04 – 1800 x 600 x 25 mm
Dimension:	Sondergrößen auf Anfrage
Farben:	Transparent; Sonderfarben auf Anfrage
Struktur:	**AIR-board®**; **AIR-board®** big, chaos **AIR-board®**
Optionen:	Steckbinder 90°, Steckbinder 180°, Digitaldruck
Lieferumfang:	Paneele inkl. Kantenverschluss „satin“; 2 Stück Befestigungsklammern fenstergrau

Article no:	*ABA0025-Wand-03* *1600 x 600 x 25 mm* *62.99 x 23.62 x 0.98 inches* *ABA0025-Wand-04* *1800 x 600 x 25 mm* *70.86 x 23.62 x 0.98 inches*
Dimension:	*Special sizes on request*
Colour:	*Transparency; Special colours on request*
Structure:	***AIR-board®; AIR-board®** big,* *chaos **AIR-board®***
Options:	*Connection 90°, Connection 180°,* *digital print*
Scope of delivery:	*Panel incl. satin edge banding,* *2 pc. fixing clips grey*

Abgehängte Trennwand / Hanging partition wall
AIR-board® acoustic

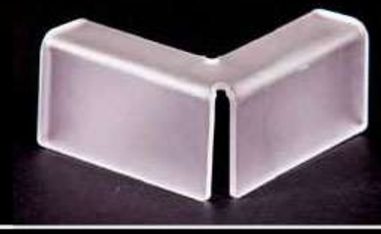
Artikelnr:	ABA0025-Wand-02
Dimension:	1800 x 1200 x 25 mm; Sondergrößen auf Anfrage
Farben:	Transparent, Sonderfarben auf Anfrage
Struktur:	**AIR-board®**, **AIR-board®** big, chaos **AIR-board®**
Optionen:	Steckbinder 90°, Steckbinder 180°, Digitaldruck, Biegung
Lieferumfang:	Paneele inkl. Kantenverschluss „satin“; Decken- und Bodenaufhängung (1,5 mm Seil aus Edelstahl, Schlaufen- verschraubung, Plexiglasröhrchen)

Article no:	*ABA0025-Wand-02*
Dimension:	*1800 x 1200 x 25 mm;* *70.86 x 47.24 x 0.98 inches* *Special sizes on request*
Colour:	*Transparency;* *Special colours on request*
Structure:	***AIR-board®***, ***AIR-board®*** *big,* *chaos* ***AIR-board®***
Options:	*Connection 90 °, Connection 180 °,* *digital print, bending*
Scope of delivery:	*Panel incl. satin edge banding,* *floor and ceiling mounting suspension* *(1.5 mm stainless steel rope, screwed* *joint connection and counterweight)*

design composite

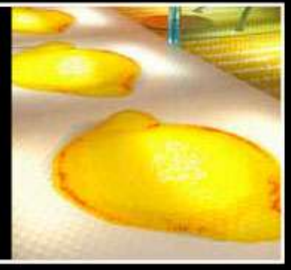
Zubehör / Options – AIR-board® acoustic:

Steckbinder 90° clear
Connection 90° clear

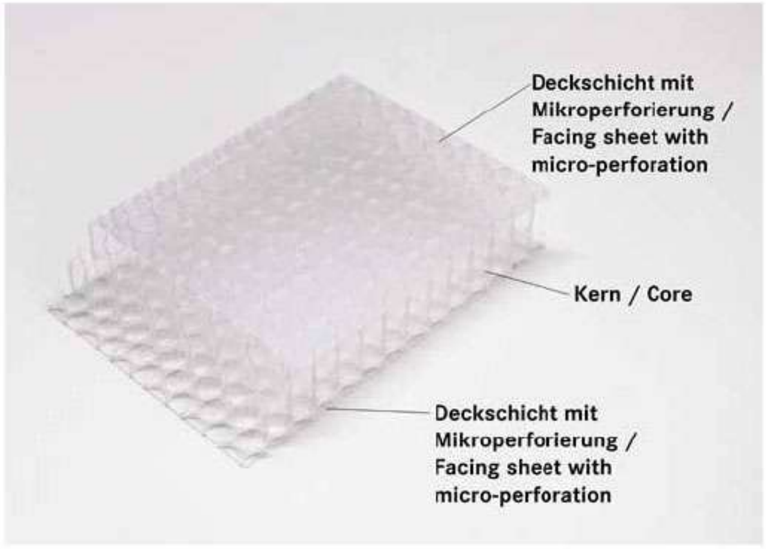


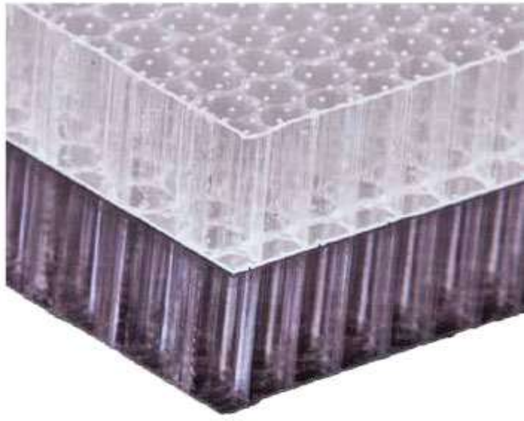
Steckbinder 180° clear
Connection 180° clear

Digitaldruck
(eps, jpeg, tiff / mind. 150 dpi)
Digital print
(eps, jpeg, tiff / min. 150 dpi)

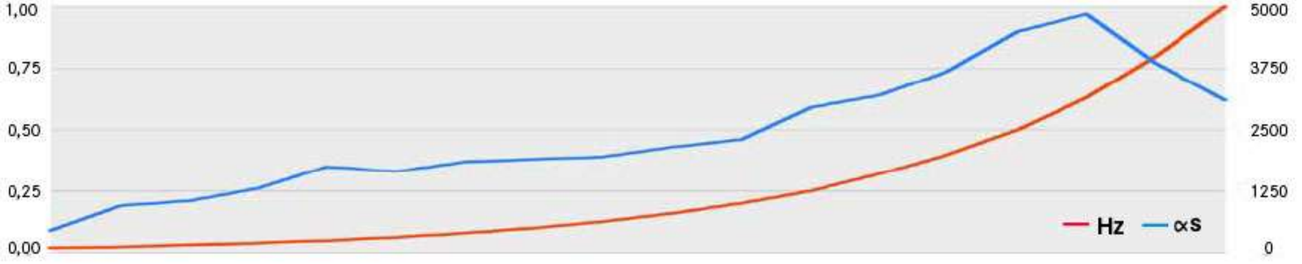


Aufbau/stucture AIR-board® acoustic:





Absorptionswerte / Sound absorbing properties:



NRC ASTM EN 11654 αw	Hz	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
0,48 0.50(HL)/D	αs	0,09	0,19	0,21	0,26	0,35	0,33	0,37	0,38	0,39	0,43	0,46	0,59	0,64	0,74	0,90	0,97	0,77	0,62

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Nil – Die Agentur | Bilder: www.foto-art-more.at, Daniel Ilihs, Nikolaus Faistauer, Archiv Design Composite GmbH

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ACOUSTIC

design
composite

Feel-good factor, room acoustics

A pleasant indoor climate depends on several factors

In the design of the room the optical conditions in a room are usually defined first: colours, shapes, the floor, wall and ceiling coverings as well as the furnishings. They all contribute decisively to the character of a space. The fact that rooms are perceived not only through the eyes, but also through the ears is only realized by most people when they are disturbed by excessive noise levels, poor speech intelligibility or other inadequate acoustic conditions in a room. In many cases, the question arises, "Could you have done better?" The answer is in almost all cases an unreserved "yes", because room acoustics are characterized by the fact that they are plannable and predictable. It is also known under which conditions spaces feel acoustically pleasant or if people feel disturbed.

In principle every room can be acoustically optimized. With the aid of modern computer programs it is possible to calculate the acoustics of a room in advance. Especially for rooms with high acoustic demands such planning is always recommended. The goal is always an environment in which we feel comfortable, in which we can communicate without difficulty and which we do not feel it to be too loud or too quiet. Two areas play an important role: "building acoustics"and "room acoustics"
Room acoustics always consider a space in entirety: an office, a call centre or meeting room, a classroom, a swimming pool or a concert hall. The evaluation is essentially that of the acoustic conditions in the space itself, which are primarily influenced by the surfaces and equipment therein. design composite translucent acoustic panels can contribute to improving room acoustics in various ways. The thin and architecturally sophisticated thermoplastic panels can be adapted to the particular design of the room in a simple manner. Not only do they contribute visually to the design of the room but they also make an important contribution to the acoustic well-being thanks to their good sound absorption properties.

Translucent acoustic panels from design composite

Architecture & spatial acoustics in harmony

Often the demands on the architecture of a room and the planned measures for the improvement of the room acoustics are in complete contrast to each other. With its translucent acoustic panels, design composite offers a variety of possibilities to integrate the elements into existing room concepts or existing rooms without having to interfere with the basic architecture or lighting design of the rooms. The panels can be flexibly adapted to the room in shape and colour. For example the pursuit of transparency must no longer be at odds with optimized acoustics.

The transparent sandwich panels - consisting of micro-perforated, translucent facings and a transparent or coloured honeycomb core - have a high degree of sound-absorption and are characterized by their unique optics and functionality. Whether individually, in formation, or as a surface covering a wall, a wall suspended freely in the room or as a part of a desk, as a dividing wall or mobile enclosure of a workplace, the elements can be flexibly and individually adapted to the respective room concept.

Translucence

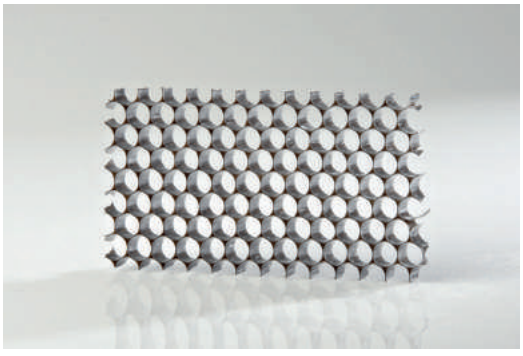
The panels made of translucent honeycomb cores with UV-stable perforated facings with up to 60% light-transmissivity.

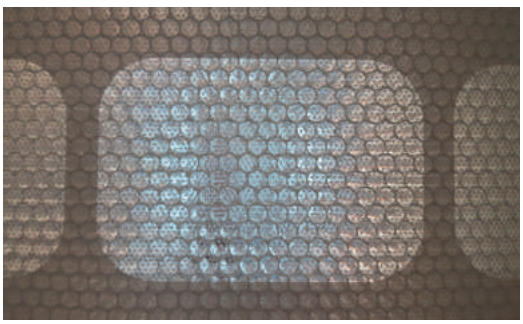
3D Effects

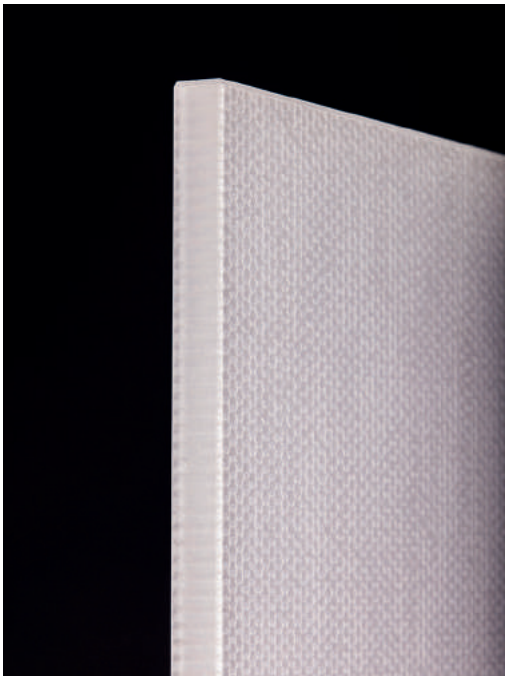
The acoustics panels can be characterised by their light scattering and light absorption effects and enhanced by backlighting, integration of light bodies and other decorative materials.

Diversity

Diverse possibilities for the individual design of the acoustic elements whether core design, shape or special effects.
Printed panels are also possible as are formed panels, special edge effects and ready-to-install systems.



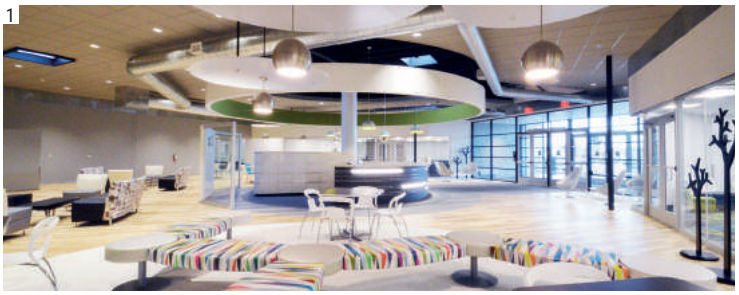




How do acoustics work?

We perceive as different sounds such as noise, speech or music at different intensities depending on their sound pressure level. Our perception of noise begins at about 20 dB (ticking clock) and a whispered conversation takes place at approx. 30 dB. In addition to the sound pressure level, the frequency composition or the spectrum of the sound is particularly important. The human ear usually perceives frequencies between approximately 20 Hz and 20,000 Hz. As a consequence of the fact that our hearing varied sensitivity at different frequencies, spatial acoustic variables such as the reverberation time, the sound pressure level, or the sound absorption rate of a material are generally indicated as a function of the frequency. The acoustic effect of a material (or an object) is described by the sound absorption degree. This can take values between 0 (no absorption, example: a concrete wall) and 1 (complete absorption, example: wall surfaces in a recording studio). The sound absorption rate is highly dependent on the frequency and should therefore be described as far as possible not only by a single value but by a series of values as a function of the frequency.

1



2

3

4

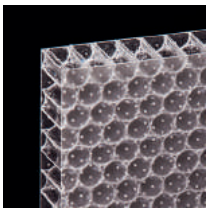
1., 2. ECOT US - entrance; 3. CSUSM ballroom US ;
4. restaurant IT - partition wall

Room acoustic products by design composite

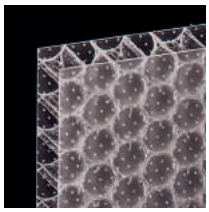
Product range

AIR-board® acoustic
The sandwich element, consisting of micro perforated translucent facing sheets and a transparent honeycomb core, has a translucency of up to 60%, has a high level of sound-absorbing properties, is characterized by a very low weight combined with high stiffness and is also difficult to ignite (B s1 d0 according to EN13501-1).

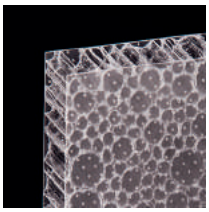
The panels are available in 3 core versions:



AIR-board® acoustic:
7 mm cell diameter



big AIR-board® acoustic:
12 mm cell diameter

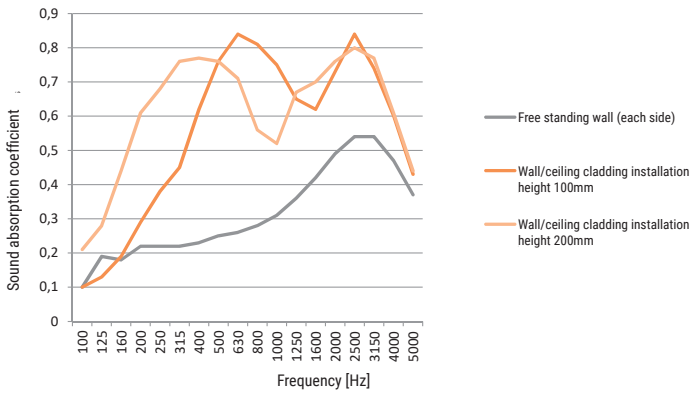


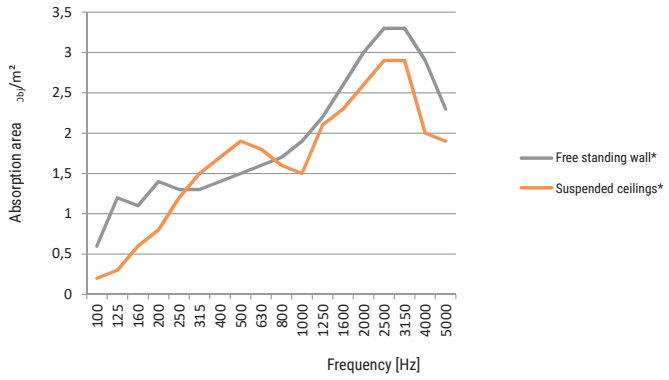
chaos AIR-board® acoustic:
4,7 and 12 mm cell diameter

Standard dimensions: 2.500 x 1.220 x 19 or 25 mm

Air-board® acoustic

Readings





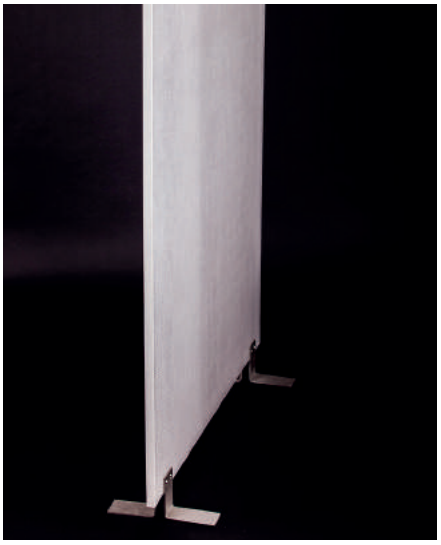
*based on a panel size 2500 x 1220 mm

The range of translucent thermoplastic acoustics panels of the AIR-board® series from design composite can be integrated into the internal design efficiently, in a visually sophisticated and uncomplicated manor.

Customized solutions

Important and popular offer from design composite are the ready-made system solutions and custom-made products. In addition to the optically sophisticated products, design composites service and an uncomplicated installation are paramount. The requirement to be able to deliver ready-to-use products right up to the customer's doorstep not only makes a great contribution to the planning and development of individual solutions but also the practical and uncomplicated system solutions.

Office concepts & finished systems



Partition wall:
1,800 x 1,200 x 25 mm, panels incl. Edge sealing in "satin", 2 pairs of bead-blasted stainless steel feet and mounting material

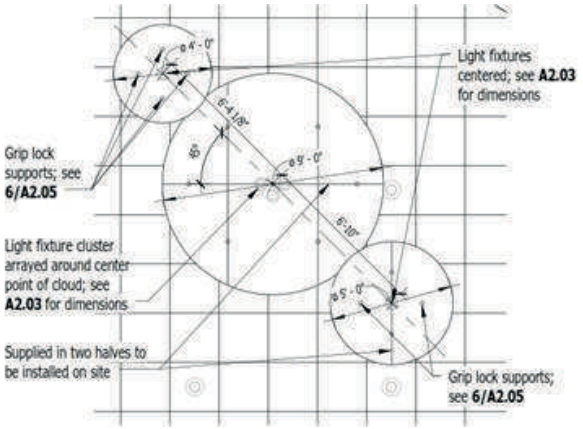
Table top divider:
1,600 or 1,800 x 600 x 25 mm
Panels including edge sealing satin "satin" and mounting brackets

Suspended partition:
1,800 x 1,200 x 25 mm, panels including edge sealing "satin", ceiling and floor suspension (1.5 mm stainless steel cable).

Ecot Offices, Columbus US
NVIRONMENT Architect, Columbus US

Acoustic ceiling Ecot

suspended acoustic ceiling panels
80 m²
AIR-board® acoustic



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design
composite

AIR-board® acoustic

Stand: 01.01.2014

Our unique bonding technology enables us to combine a rigid translucent honeycomb core with translucent thermoplastic top sheets resulting in a panel with exceptional optical features.
The translucent AIR-board® acoustic panel solves complex tasks. The sandwich element consisting of micro-perforated translucent outer layers and a colourless honeycomb core transmits up to 60% of the ambient light, is a highly effective sound absorber, is characterized by a very low weight with high rigidity and is also flame retardant.

Product description

Facing sheet on both sides	PET antireflex perf. 1.8 x 1.8 mm perforations Ø 0,5 mm*
Core	PC-Core (cell diameter 7mm) other core designs as big AIR-board® und chaos AIR-board® on request

*alternatives: reflective, coated or printed

Properties

- sound-absorbent up to 70%
- innovative translucent optics
- high light transmission with optimum privacy
- low weight
- easy processing
- available with a range of mounting systems

Format

Format	Length [mm]	Width [mm]	Thickness [mm]
Standard	2500	1220	19
Special dimensions	on request		

Tolerances	Length [mm]	Width [mm]	Thickness [mm]
Cut to size	+2/-2	+1/-2	+0/-1

General physical properties

Coefficient of thermal expansion acc. to DIN 53752-A	Service temperature	Fire class	Light transmission	Weight per unit area

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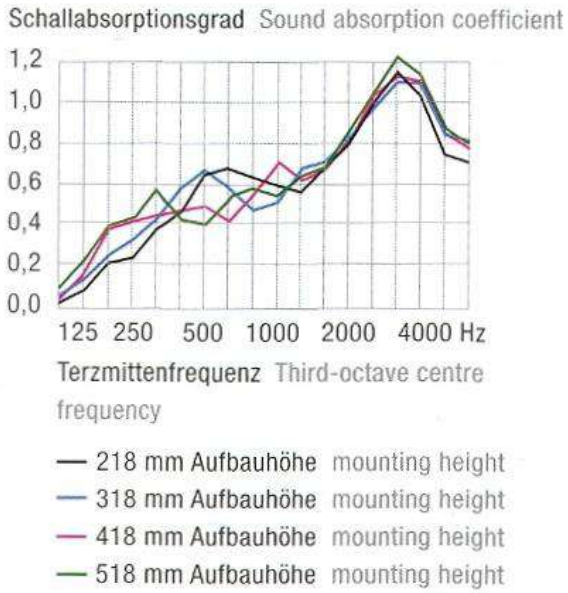
[1/K]	[°C]	DIN 4102-1	BS 476 Part 7	EN 13501	acc. to IEC Norm 50 (845)	[kg/m²]
8 x 10^{-5}	-20 bis +60	B1		B s1 d0	ca. 60%	3,6

Sound wave absorption



Cleaning

The protective foil should be removed after installation is complete. The panels can be cleaned with warm soapy water or a 50% isopropanol solution and a soft lint free cloth. Dust can be removed with antistatic detergent. Cleaning with a dry cloth may lead to surface scratches.

Use as suspended ceiling

Can be used as suspended ceiling elements in combination with standard or customised systems (e.g. transparent T or L profiles).

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Sound-absorbing properties of acoustic AIR-board®

	Same perforation on side 1 and side 2	Different perforation on side 1 and side 2
Side 1	2.7/1.8/0.5-3 PC	2.7/1.8/0.5-3PC
Side 2	2.7/1.8/0.5-3 PC	5.4/3.6/0.5-3 PC
	Free standing	Free standing
(X) Distance to wall external	Free standing	Free standing
(A) Thickness of element	19 mm	19 mm
(B) Fleece	no	no
(C) Insulation	no	no
(D) distance to wall internal	Frei im Raum	Frei im Raum
6 T-W Li.M	0,48	0,54
18 T-W Li.M	0,48	0,52
NRC ASTM	0,48	0,58
EN 11654 α_w	0.50(HL)/D	0.55(H)/D
Hz	**αs**	**αs**
100	0,09	0,11
125	0,19	0,24
160	0,21	0,20
200	0,26	0,34
250	0,35	0,44
315	0,33	0,41
400	0,37	0,45
500	0,38	0,46
630	0,39	0,48
800	0,43	0,51
1000	0,46	0,59
1250	0,59	0,63
1600	0,64	0,69
2000	0,74	0,84
2500	0,90	0,89
3150	0,97	0,83
4000	0,77	0,66
5000	0,62	0,52

	Same perforation on side 1 and side 2	Same perforation on side 1 and side 2	Same perforation on side 1 and side 2
Side 1	2.7/1.8/0.5-3 PC	2.7/1.8/0.5-3 PC	2.7/1.8/0.5-3 PC
Side 2	2.7/1.8/0.5-3 PC	2.7/1.8/0.5-3 PC	2.7/1.8/0.5-3 PC
(X) Distance to wall external	69 mm	200 mm	400 mm
(A) Thickness of element	19 mm	19 mm	19 mm
(B) Fleece	no	no	no
(C) Insulation	no	no	no
(D) distance to wall internal	50 mm	180 mm	380 mm
6 T-W Li.M	0,45	0,47	0,52
18 T-W Li.M	0,45	0,49	0,53
NRC ASTM	0,52	0,53	0,54
EN 11654 α_w	0.45(MH)/D	0.60(.)/C	0.50(.)/D
Hz	**αs**	**αs**	**αs**
100	0,03	0,16	0,26
125	0,05	0,15	0,30
160	0,08	0,19	0,47
200	0,04	0,27	0,65
250	0,17	0,42	0,56
315	0,23	0,58	0,43
400	0,38	0,65	0,40
500	0,45	0,59	0,30
630	0,61	0,51	0,46
800	0,62	0,45	0,52
1000	0,76	0,41	0,55
1250	0,68	0,55	0,58
1600	0,61	0,62	0,61
2000	0,69	0,69	0,74
2500	0,84	0,78	0,82
3150	0,78	0,75	0,77
4000	0,57	0,58	0,64
5000	0,50	0,44	0,52

	Different perforation on side 1 and side 2	Different perforation on side 1 and side 2	Different perforation on side 1 and side 2
Side 1	2.7/1.8/0.5-3PC	2.7/1.8/0.5-3PC	2.7/1.8/0.5-3PC
Side 2	5.4/3.6/0.5-3 PC	5.4/3.6/0.5-3 PC	5.4/3.6/0.5-3 PC
(X) Distance to wall external	69 mm	200 mm	400 mm
(A) Thickness of element	19 mm	19 mm	19 mm
(B) Fleece	no	no	no
(C) Insulation	no	no	no
(D) distance to wall internal	50 mm	180 mm	380 mm
6 T-W Li.M	0,49	0,54	0,54
18 T-W Li.M	0,48	0,54	0,57
NRC ASTM	0,60	0,62	0,56
EN 11654 α_w	0.50(H)/D	0.60(.)/C	0.60(.)/C
Hz	**αs**	**αs**	**αs**
100	0,04	0,22	0,32
125	0,07	0,21	0,39
160	0,10	0,24	0,55
200	0,07	0,31	0,73
250	0,22	0,55	0,57
315	0,30	0,73	0,53
400	0,44	0,71	0,51
500	0,58	0,71	0,41
630	0,68	0,63	0,51
800	0,74	0,48	0,57
1000	0,75	0,47	0,48
1250	0,74	0,58	0,60
1600	0,69	0,62	0,68
2000	0,84	0,73	0,79
2500	0,80	0,85	0,85
3150	0,66	0,69	0,73
4000	0,46	0,54	0,60
5000	0,44	0,44	0,48

Same perforation on side 1 and side 2: standard
Different perforation on side 1 and side 2: on request

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