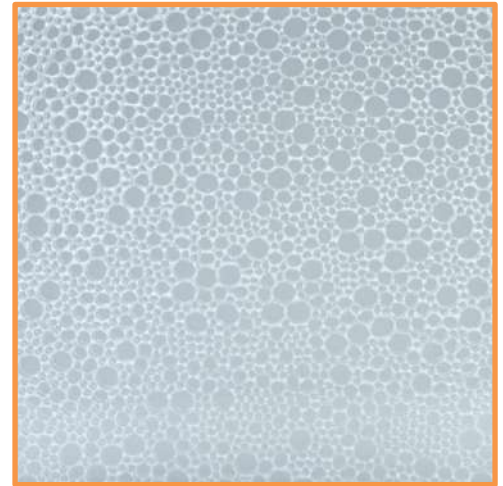


Our unique bonding technology enables us to combine a rigid translucent honeycomb core with translucent thermoplastic facing sheets resulting in a panel with exceptional optical features.

The various types of panel in the AIR-board® family differ in their facing sheet materials, cores, surface structures, physical properties, dimensions and colours.



## Product description

Facing sheet on both sides	PMMA satin*
Core	PC-honeycomb multi cell size

\*Standard colour: clear; other colours on request

## Properties

- innovative translucent optics
- unique 3D effects and light scattering
- excellent UV stability and resistance to weathering
- high light transmission with optimum privacy
- low weight
- easy processing
- compatibility with common mounting systems
- excellent rigidity

## Dimensions

Format	Length [mm]	Width [mm]	Thickness [mm]
Standard	3020	1000	19
Special dimensions*	max. 3020	max. 2020**	max. 80

\*on request – minimum order per special size: 25 panels

\*\* with core joint

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

## General physical properties

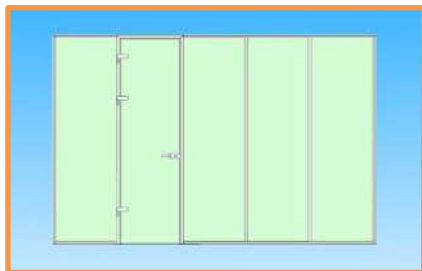
Coefficient of thermal expansion acc. to DIN 53752-A	Service temperature	Fire class		
[1/K]	[°C]	DIN 4102-1	BS 476 Part 7	EN 13501
$7 \times 10^{-5}$	-30 bis +80	B2		

Thickness [mm]	Weight per unit area [kg/m <sup>2</sup> ]	Thermal insulation U-value [W/m <sup>2</sup> K]	Sound insulation Rw [dB]	Bending stiffness* [Nm <sup>2</sup> ]
12	7,6	3,5	24	226
16	8,0	2,8	24	515
19	8,3	2,5	24	714
30	9,2	1,8	26	1710
40	10,1	1,5	27	3040
60	11,9	1,1	28	4140
80	13,7	0,9	28	11520

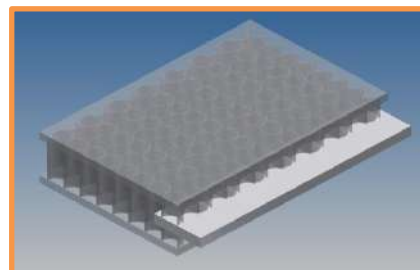
\* per m panel width

## Mounting systems for all AIR-board® panels

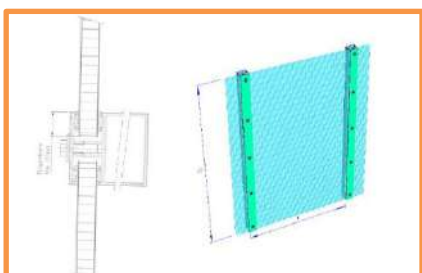
### Profile system for dividing walls



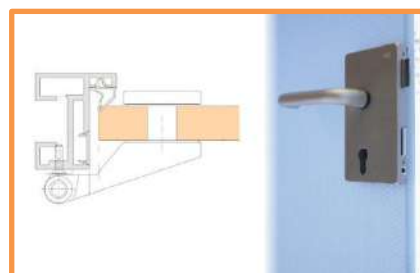
### Tongue and groove joint



### Profile system for glazing






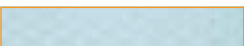


### Furniture for hinged doors



All these specifications are based on our most up-to-date information but are subject to changes at any time. A legally binding assurance of certain properties or the suitability of an individual type for a specific field of application cannot be assumed from these specifications.

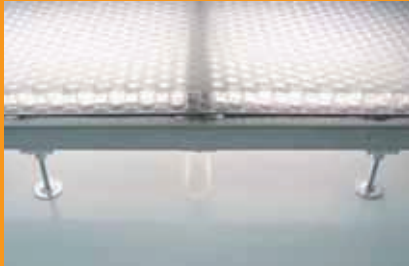
# AIR-board® panels

Color	Top sheets	Dimensions	AIR-board®	big AIR-board®	chaos AIR-board®	metal AIR-board®
	PC transparent	2550 x 1050 x 12	AB0012-25501			
	PC transparent	2550 x 1050 x 16	AB0016-25501			
	PC transparent	2550 x 1050 x 19	<b>AB0019-25501*</b>			
	UV PC transparent	3020 x 1000 x 19		BABU19-30201	ABUC19-30201	
	UV PC transparent	3020 x 1220 x 19	<b>ABU019-30201*</b>			<b>ABTU19-00031*</b>
	UV PC color orange	3020 x 1000 x 19	ABC019-24781	BABC19-24781	ABUC19-24781	ABTU19-24781
	UV PC color green	3020 x 1000 x 19	ABC019-27771	BABC19-27771	ABUC19-27771	ABTU19-27771
	UV PC color light blue	3020 x 1000 x 19	ABC019-26251	BABC19-26251	ABUC19-26251	ABTU19-26251
	UV PC color dark blue	3020 x 1000 x 19	ABC019-26271	BABC19-26271	ABUC19-26271	ABTU19-26271
	UV satin clear	3020 x 1000 x 19	<b>ABSA19-20001*</b>	BABS19-20001	ABCS19-20001	
	UV satin opal	3020 x 1000 x 19	<b>ABSA19-20011*</b>	BABS19-20011	ABCS19-20011	
	UV satin orange	3020 x 1000 x 19	<b>ABSA19-20041*</b>	BABS19-20041	ABCS19-20041	
	UV satin glass green	3020 x 1000 x 19	ABSA19-20021	BABS19-20021	ABCS19-20021	
	UV satin ice blue	3020 x 1000 x 19	ABSA19-20031	BABS19-20031	ABCS19-20031	
	radiant	2420 x 1200 x 19	ABR019-24201			
	UV PC transparent	3020 x 1000 x 19	ABUP19-30201	ABUG19-30201	ABUY19-30201	ABUB19-30201
			color pink AIR-board®	color green AIR-board®	color yelblue AIR-board®	color black AIR-board®

\*stock items, delivery time for other panels on request

# Installation systems for all AIR-board® & clear-PEP® panels

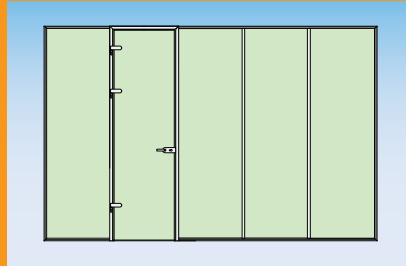
**Profile system for raised floor**



Profile system for installing clear-PEP® UV PC stage - panels as raised floor; appropriate for backlighting.

**Appropriate for interior applications**

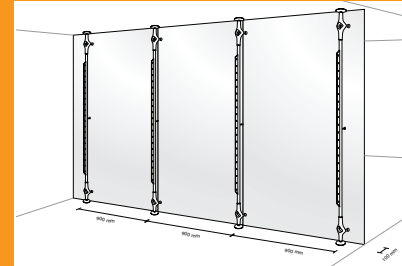
**Profile system for partition walls**



Profile system for partition walls in different variations, including swing- and sliding doors.

**Appropriate for interior applications**

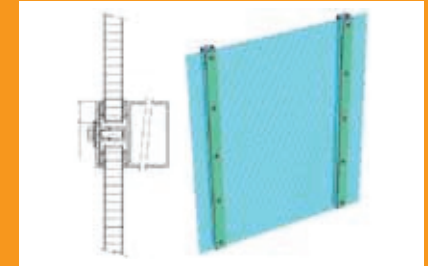
**Profile system for partition walls**



Profile system for partition walls with open panel joints; completion with swing-, sliding doors and shelves on request.

**Appropriate for interior applications**

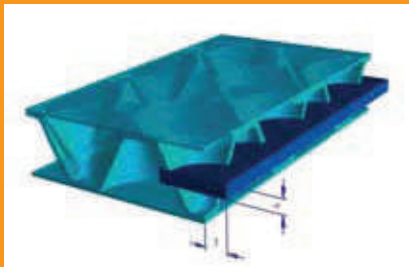
**Visible clamping profile system**



Example of a typical aluminium fixing system for exterior glazing; compatible for all AIR-board® & clear-PEP® Panels.

**Appropriate for exterior applications**

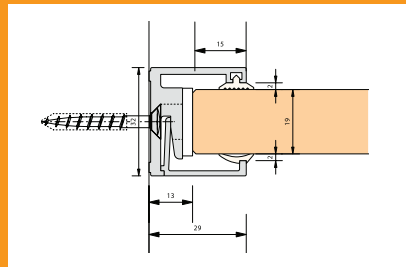
**Tongue & groove connection**



Tongue & groove connection for panel joints without profiles; specially designed for standard aluminium booth construction profiles.

**Appropriate for interior applications**

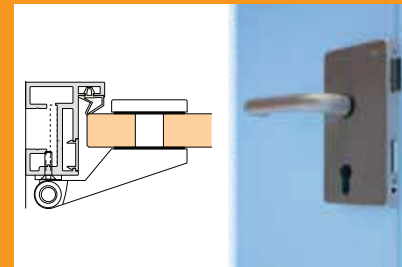
**Profile system for partition walls**



Slim profile system for fixed partitions; compatible with all 16 and 19 mm AIR-board® & clear-PEP® panels.

**Appropriate for interior applications**

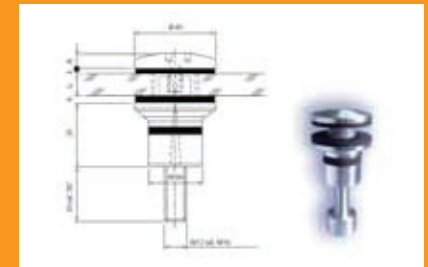
**Fittings for swing doors**



Fittings for swing door system appropriate for frameless 19 mm AIR-board® & clear-PEP® panels.

**Appropriate for interior applications**

**Point fixing system**



Our panels with sealed edge banding are suitable for curtain walls by using all available (spider) point fixed systems.

**Appropriate for exterior applications**

**Important advices concerning exterior applications:** Panel edges have to be protected against penetrating moisture. In case of horizontal installation: angle for installation  $\geq 5^\circ$ .



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## 1. Introduction

Our standard lightweight panels respectively any customized panel demand not only a great deal of the modern Design Composite production equipment, but also a comprehensive know-how of processing and handling by our customers.

Following instructions and suggestions should assist you to handle Design Composite lightweight panels according to their properties.

## 2. Metal cutting processing of Design Composite panels

### 2.1 General

In principle the selection of the cutting tool depends on the type of top sheet material.

**Note:** In general we recommend to wear protective gloves and safety glasses during mechanical processing with the panels.

### 2.2 Drilling

Any conventional metal drill bit (HSS spiral bit) can be used. Panels without metallic top sheets should be drilled with high drill speed (50 – 10 m/min, but little feed speed). We recommend an advance drill if the hole diameter is more than 5 mm.

Due to the thermal expansion of any thermoplastic top sheet a hole diameter of minimum 2 mm bigger than the screw diameter is imperatively required.

Lubrication is useful during drilling in order to achieve an optimum drill surface.

### 2.3 Sawing

Sandwich panels can generally be cut with standard workshop equipment (e.g. work table or hand circular saw, compass and band saw). Carbide tipped saw blades with a large number of crown teeth together with high cutting speed and little feed speed produce optimum results.

When drilling a support could prevent detachment of the lower top sheet.

**Cutting thermoplastic sheets (e.g. clear-PEP®, clear-PEP® color, AIR-board®, AIR-board® satin) require special saw blades in order to avoid bursting of edges.**

**Recommendation: Leitz HW circular saw blade for NE-metal neg. HW 300x3.2x30, Z96, FZ / TZ.**

**For further information look up [www.leitz.org](http://www.leitz.org)**

**Cutting with laser and/or water-jet is not possible!**

## **2.4 Milling**

**Sandwich panels can be milled with cemented carbide (CC) milling tools.**

**Note: high cutting speed (15.000 – 25.000 R/min) combined with little feed speed produces optimum results.**

## **2.5 Grinding**

**Grinding is used to adjust minor top surface defects or rough cutting edges. High grinding speed with little feed speed is recommended too. The requested roughness can be adjusted with the grit size of the sandpaper. Tape speed of 10 m/s is suggested.**

## **2.6 Burnishing**

**Manual polishing can either be done with a soft cloth or with a suitable felt together with a polishing paste.**

**Larger surfaces should be polished with a face-polishing machine that is equipped with a cloth of felt or lambskin soaked with polishing paste.**

# AIR-board® panels


	Standard dimensions	Tolerances for Standard dimensions			Special dimensions		Fire class			Coefficient of thermal expansion	Service temperature	TSET value (total solar energy transmittance)			
	Length x Width x Thickn. (mm)	Length (mm)	Width (mm)	Thickn. (mm)	Thickn. (mm)	Length <sub>max</sub> x Width <sub>max</sub> (mm x mm)	DIN 4102-1	BS 476 Part 7	ÖNORM B3800	acc. to DIN 53752-A (1/K)	(°C)	sun elevation angle			
												0°	30°	45°	60°
AIR-board® PC	2550 x 1050 x 12/16/19	+10/-101	+5/-51	+0/-11			B1	1Y		6,5 x 10 <sup>-5</sup>	-30 up to +80				
AIR-board® UV PC	3020 x 1220 x 19	+2/-2	+1/-2	+0/-1	12 - 80	3020 x 1300 <sup>2</sup>	B1	1Y	B1	6,5 x 10 <sup>-5</sup>	-30 up to +80	0,72	0,67	0,61	0,52
color AIR-board® UV PC	3020 x 1000 x 19	+2/-2	+1/-2	+0/-1	12 - 80	3020 x 1300 <sup>4</sup>	B1	1Y		6,5 x 10 <sup>-5</sup>	-30 up to +80				
big AIR-board® UV PC	3020 x 1000 x 19	+2/-2	+1/-2	+0/-1	12 - 80	3020 x 1300 <sup>2</sup>	B1	1Y	B1	6,5 x 10 <sup>-5</sup>	-30 up to +80				
chaos AIR-board® UV PC	3020 x 1000 x 19	+2/-2	+1/-2	+0/-1	12 - 80	3020 x 1300 <sup>2</sup>	B1	1Y	B1	6,5 x 10 <sup>-5</sup>	-30 up to +80				
AIR-board® UV PC color	3020 x 1000 x 19	+2/-2	+1/-2	+0/-1	12 - 80	3020 x 1300 <sup>3</sup>	B1		B1	6,5 x 10 <sup>-5</sup>	-30 up to +80				
big AIR-board® UV PC color	3020 x 1000 x 19	+2/-2	+1/-2	+0/-1	12 - 80	3020 x 1300 <sup>3</sup>	B1		B1	6,5 x 10 <sup>-5</sup>	-30 up to +80				
chaos AIR-board® UV PC color	3020 x 1000 x 19	+2/-2	+1/-2	+0/-1	12 - 80	3020 x 1300 <sup>3</sup>	B1		B1	6,5 x 10 <sup>-5</sup>	-30 up to +80				
AIR-board® UV satin	3020 x 1000 x 19	+2/-2	+1/-2	+2/-2	12 - 80	3020 x 2020 <sup>4</sup>	B2			7 x 10 <sup>-5</sup>	-30 up to +80				
big AIR-board® UV satin	3020 x 1000 x 19	+2/-2	+1/-2	+2/-2	12 - 80	3020 x 2020 <sup>4</sup>	B2			7 x 10 <sup>-5</sup>	-30 up to +80				
chaos AIR-board® UV satin	3020 x 1000 x 19	+2/-2	+1/-2	+2/-2	12 - 80	3020 x 2020 <sup>4</sup>	B2			7 x 10 <sup>-5</sup>	-30 up to +80				
AIR-board® radiant	2420 x 1200 x 19	+2/-2	+1/-2	+0/-1	12 - 80	2420 x 1200 <sup>4</sup>	B2			7 x 10 <sup>-5</sup>	-30 up to +80				
metal AIR-board® UV PC	3020 x 1220 x 19	+2/-2	+1/-2	+0/-1	12 - 80	3020 x 1500 <sup>4</sup>		1Y	B1	6,5 x 10 <sup>-5</sup>	-30 up to +80				
metal AIR-board® UV PC color	3020 x 1000 x 19	+2/-2	+1/-2	+0/-1	12 - 80	3020 x 1500 <sup>3</sup>			B1	6,5 x 10 <sup>-5</sup>	-30 up to +80				

1...untrimmed; 2...minimum order quantity per special dimension: 200 m<sup>2</sup>; 3...minimum order quantity per special dimension: 400 m<sup>2</sup>; 4...minimum order quantity per special dimension: 25 pc.

	Weight per unit area (kg/m <sup>2</sup> )							Thermal insulation (W/m <sup>2</sup> K)							Sound insulation Rw (dB)							Bending stiffness per panel width (Nm <sup>2</sup> /m)						
	panel thickness in mm							panel thickness in mm							panel thickness in mm							panel thickness in mm						
	12	16	19	30	40	60	80	12	16	19	30	40	60	80	12	16	19	30	40	60	80	12	16	19	30	40	60	80
AIR-board® PC	3,1	3,4	3,6	4,4	5,1	6,5	7,9	3,0	2,5	2,3	1,7	1,4	1,1	0,9	19	19	19	20	20	22	22	144	266	383	968	1760	2556	5120
AIR-board® UV PC	5,4	5,6	5,9	6,6	7,3	8,7	10,1	3,2	2,7	2,4	1,7	1,4	1,1	0,9	21	21	21	23	24	25	25	196	444	532	1688	2987	3420	11093
color AIR-board® UV PC	5,4	5,6	5,9	6,6	7,3	8,7	10,1	3,2	2,7	2,4	1,7	1,4	1,1	0,9	21	21	21	23	24	25	25	196	444	532	1688	2987	3420	11093
big AIR-board® UV PC	5,5	5,9	6,2	7,1	8,0	9,8	11,6	3,2	2,7	2,4	1,7	1,4	1,1	0,9	21	21	21	23	24	25	25	196	444	532	1688	2987	3420	11093
chaos AIR-board® UV PC	5,5	5,9	6,2	7,1	8,0	9,8	11,6	3,2	2,7	2,4	1,7	1,4	1,1	0,9	21	21	21	23	24	25	25	196	444	532	1688	2987	3420	11093
AIR-board® UV PC color	5,4	5,6	5,9	6,6	7,3	8,7	10,1	3,2	2,7	2,4	1,7	1,4	1,1	0,9	21	21	21	23	24	25	25	196	444	532	1688	2987	3420	11093
big AIR-board® UV PC color	5,5	5,9	6,2	7,1	8,0	9,8	11,6	3,2	2,7	2,4	1,7	1,4	1,1	0,9	21	21	21	23	24	25	25	196	444	532	1688	2987	3420	11093
chaos AIR-board® UV PC color	5,5	5,9	6,2	7,1	8,0	9,8	11,6	3,2	2,7	2,4	1,7	1,4	1,1	0,9	21	21	21	23	24	25	25	196	444	532	1688	2987	3420	11093
AIR-board® UV satin	7,5	7,8	8,0	8,8	9,5	10,9	12,3	3,5	2,8	2,5	1,8	1,5	1,1	0,9	24	24	24	26	27	28	28	226	515	714	1710	3040	4140	11520
big AIR-board® UV satin	7,6	8,0	8,3	9,2	10,1	11,9	13,7	3,5	2,8	2,5	1,8	1,5	1,1	0,9	24	24	24	26	27	28	28	226	515	714	1710	3040	4140	11520
chaos AIR-board® UV satin	7,6	8,0	8,3	9,2	10,1	11,9	13,7	3,5	2,8	2,5	1,8	1,5	1,1	0,9	24	24	24	26	27	28	28	226	515	714	1710	3040	4140	11520
AIR-board® radiant	7,5	7,8	8,0	8,8	9,5	10,9	12,3	3,5	2,8	2,5	1,8	1,5	1,1	0,9	24	24	24	26	27	28	28	226	515	714	1710	3040	4140	11520
metal AIR-board® UV PC	5,1	5,3	5,4	5,8	6,2	7,0	7,8	5,3	5,2	5,2	5,1	5,0	4,8	4,6	20	20	20	22	23	24	24	205	461	543	1733	3093	3540	11947
metal AIR-board® UV PC color	5,1	5,3	5,4	5,8	6,2	7,0	7,8	5,3	5,2	5,2	5,1	5,0	4,8	4,6	20	20	20	22	23	24	24	205	461	543	1733	3093	3540	11947



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	<b>Material Safety Data Sheet</b> <b>Product Lines</b> <b>clear-PEP® and AIR-board®</b>	<b>MSDS</b> <b>0102</b> Ch.- Nr.:      01 page:          1 von 2
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1. Trade names of products concerned:

**clear-PEP® PC**  
**clear-PEP® UV PC**  
**clear-PEP® UV PC color**  
**clear-PEP® UV PC stage**

**AIR-board® PC**  
**AIR-board® UV PC**  
**AIR-board® UV PC color**  
**color AIR-board® UV PC**  
**metal AIR-board® UV PC**

2. Composition / Indication to parts:

Chemical characterisation:

Polycarbonate panels bonded with a drawn TRICore or honeycomb Polycarbonate core

Dangerous substances:

By bonding with Polyurethane adhesives Isocyanathe can be released, however they are chemically bonded in adhesive reacted out (approx. 48 hours after processing).

3. Possible dangers:

unknown

4. First Aid actions:

inhale:  
skin contact:  
swallow up:  
eye contact with PC-swarf:

not applicable  
not applicable  
not applicable  
irrigation with water or commercial eye irrigations

5. Actions against fire:

Suitable extinguishing agents:  
Unsuitable extinguishing agents:  
At fire following will be released:  
Other decomposition products at thermal decomposition:

water, powder, foam, carbon dioxide  
unknown  
Carbon Dioxide, water vapour

Further information:

Carbon Monoxide and other organic monomers in small quantity  
combustion residues are to be disposed according to local regulations

6. Actions at unintended release:

not applicable

7. Handling and storage:

handling:  
storage:

no information  
in delivery package in dry rooms, according to local fire-directions

These indications are based on our state of knowledge and experience at date of issue, but they do not bear the meaning of assurance of characteristics. It is not allowed to change nor to translate into other products. Copying in unchanged status is allowed.





**Material Safety Data Sheet**  
**Product Lines**  
**clear-PEP® and AIR-board®**

**MSDS**      **0102**  
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8. Exposition limitation and personal protective equipment:

Parts with limit value to be observed – not applicable

Personal protective equipment:

breathing protection

not necessary

eye protection

at mechanical processing – protective goggles

ear protection

at mechanical processing – ear protection

9. Physical and chemical characteristics:

form:

non-detachable

colour:

according to customer's request

smell:

neutral

change of condition:

non

ignition temperature:

over 200° C

solubility in water:

unsolubly

10. Stability and reactivity:

no change of condition at usage according to determination

11. Information on toxicology:

no acute toxicity

12. Information on ecology:

Information on elimination:

no datas available

Behaviour in environment

compartments:

not water endangering, environment neutral

13. Information on disposal:

According to local magisterial directives

14. Information on transport:

no labelling liability for dangerous goods-law according to EEC-law

15. Instructions:

labelling according to EEC-law:

no labelling liability

national regulations:

not subject of dangerous goods-regulation

16. Others:

information for usage of this MSDS please find in the footer

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