



LUXBOARD A



DATA-SHEET

Aluminium Honeycomb Sandwich Panel, coated with aluminum cover sheets

DESCRIPTION

Luxboard A is a lightweight aluminium panel consisting of an aluminium honeycomb core coated with aluminium sheets on both sides.

The panel combines extraordinary stability characteristics with an extreme light weight property and is certified as non-combustible material, according to various standards and codes. Luxboard A has a proven outstanding longevity for interior constructions in shipbuilding & railway, as well as for the truck trailer industry and general industry.

It can also be found in offshore construction, design components and machinery casing.

Composition:

The cover sheets and the core are bonded together with a thermoplastic adhesive which guarantees stability of the composite material up to 110°C.

Availability:

Panel thickness:
- minimum honeycomb thickness of **3 mm** + cover
- maximum panel thickness: **50 mm**

Panel width:

minimum production with: 1000 mm
maximum production with: 1550 mm

Panel length:

continuous production length up to 15,000 mm
(Maximum transportation limit). Cut-to-size parts are available from the standard sizes.

Recyclability:

Luxboard A is almost completely recyclable due to its consistency of more than 90 % aluminium

MATERIALS

Core:

Aluminium honeycomb core made of 3003 alloy, nominal cell diameters are: 6,4 mm (1/4"), 9,6 mm (3/8") and 12,7 mm (1/2"). The densities of the core are 90 kg/m³, 60 kg/m³ bzw 42 kg/m³.

Cover sheets:

Aluminium alloy made of 5754 H48 (standard material) guarantees high surface stability and impact strengths. This alloy is very robust against environmental influences e.g. seawater resistancy. Standard skin thicknesses are 0.5 mm and 1.0 mm. Bespoke thicknesses are available on request. Cover sheets can be layered symmetrically on top and bottom (1mm/1mm or 0.5mm/0.5 mm) or asymmetrically (0.5 mm / 1.0 mm). Alternative alloys are available by respecting minimum order quantity. Finished/painted cover sheets are available at a minimum panel order quantity of 250 running meters for both sides finished.

Tolerances:

length: + 1,0 / - 0 mm
width: + 1,0 / - 0 mm
thickness: + 0,1 / - 0,1 mm
surface flatness: + 0,1 / - 0,1 mm
dishing: < 1 mm per 1m

Safety:

It is recommended that protective equipment such as safety glasses and breathing protection is worn during any cutting operations to avoid inhalation and eye contact with dust. Gloves should be worn to avoid cuts. Hands should be washed before eating, drinking or smoking and after finishing work.

Environmental compatibility

The materials are manufactured 100% chromefree.





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Table Size:

Type	Thickness* [mm]				Weight [kg/m ²]		
	total	cover sheet		honey- comb core	cell size		
		top	bottom		6,4 mm	9,6 mm	12,7 mm
					1/4" inch	3/8" inch	1/2" inch
A060303 A060505	6	0,3	0,3	5,4	2,4	2,2	2,1
		0,5	0,5	5,0	3,4	3,3	3,2
A100303 A100505 A101010 A101515	10	0,3	0,3	9,4	2,7	2,4	2,3
		0,5	0,5	9,0	3,8	3,5	3,4
		1,0	1,0	8,0	6,4	6,1	6,0
		1,5	1,5	7,0	9,0	8,8	8,7
A150303 A150505 A151010 A151515	15	0,3	0,3	14,4	3,2	2,7	2,5
		0,5	0,5	14,0	4,2	3,8	3,6
		1,0	1,0	13,0	6,8	6,4	6,2
		1,5	1,5	12,0	9,4	9,1	8,9
A200303 A200505 A201010 A201515	20	0,3	0,3	19,4	3,6	3,0	2,8
		0,5	0,5	19,0	4,7	4,1	3,8
		1,0	1,0	18,0	7,3	6,7	6,5
		1,5	1,5	17,0	9,9	9,4	9,1
A250303 A250505 A251010 A251515	25	0,3	0,3	24,4	4,1	3,3	3,0
		0,5	0,5	24,0	5,1	4,4	4,0
		1,0	1,0	23,0	7,7	7,0	6,7
		1,5	1,5	22,0	10,3	9,7	9,4
A300303 A300505 A301010 A301515	30	0,3	0,3	29,4	4,5	3,6	3,2
		0,5	0,5	29,0	5,6	4,7	4,3
		1,0	1,0	28,0	8,2	7,3	6,9
		1,5	1,5	27,0	10,8	10,0	9,6
Compressive Strength					MPa**		
					4,5	2,5	1,5

* extra width on request

**) DIN 53291, 1 MPa = 1 N/mm²

ZERTIFIKATE / NORMEN

maritime

MED, IMO



0098

In conformity with the EU-MED directive, European Union Marine Equipment Directory, to allow use in vessels constructed, built, registered or operated in Europe

Item No. MED/3.13 non combustible, IMO 2010 FTP Code

Zertifikat Nr.: MEDB00003ZH, MEDD00001GG

USCG Approval Nr.: 164.109/EC0098/MEDB0003ZH



U.S. Coast Guard

Aluminium honeycomb core:

Item No. MED/3.13 non combustible, IMO FTP Code, Annex 1, part 1

USCG Approval No.: 164.109/EC0098/MEDB0003U9

architecture

DIN EN 13501-1

A2-s1, d0 classification, non-combustible

- A2 – non-combustible

- s1 – no smoke

- d0 – no flammable dropping

A2

railway

DIN EN 45545-2

Requirementsset R1

Hazard Level 3

Implementable

- in all design categories

- in all operation categories

HL3



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APPLICATIONS:

Ferry:

Fast ferries need to go fast. To reach that goal, Luxboard A is used in doors, walls, ceilings, hatches....

Ships:

Some of them can't live without Luxboard A to reach to goal of low center of gravity.

Trucks:

Make it light and make it stiff, that was the mission for our customers. Luxboard is the solution.

Living:

For the offshore industry, weight saving is a master goal. Luxboard A does bring solutions

Other:

Building Cladding, Water Barriers, Solar roof panels, Interior Design, Railway Coaches.



HOW TO WORK WITH IT!

Folding:

Cutting of skins, removing skin/core, filling with bonding paste, folding to position and hold till adhesive is cured.

Connect:

Use profiles when available, create tongue & groove, secure with adhesive.

Closing:

Use profiles, wood inlays, edging paste, adhesive tape, skin bending, all depending on your final application.

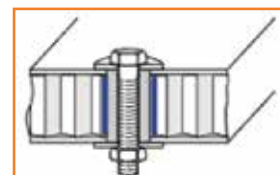
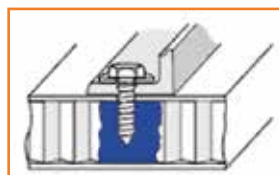
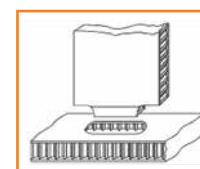
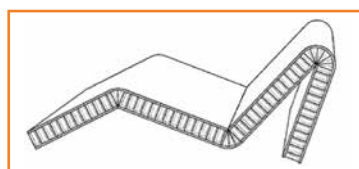
Fixing:

95% of a sandwich panel is air.

Use fillers and spacers to bolt or crew into panels.

Other:

Our technical team would gladly share their experience with you and help find solutions for your application.



Luxboard – Innovation pure

Trends never changed as quickly as they do today.

Technological developments have made it possible to combine materials in an innovative manner and to use them in many different ways. To learn more about possibilities and applications, please contact us.



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Table mechanical performance and physical data:

Type	Thickness			honey- comb core	E- Modulus of skin sheet	tensile strength **	elastic limit **	Traverse strength at deforma- tion*	max. bending in the middle *	theor. bending stiffness *	section modu- lus*	area moment of inertia*
	total	cover sheet										
		top	bottom									
	[mm]	[mm]	[mm]	Zoll - mm	[N/mm ²]			[N]	[mm]	[kNcm ² / m]	cm ³ /m	cm ⁴ / mcm ⁴ /m
A060505	6	0,5	0,5	3/8" - 9,6	70.000	280	220					
A100505	10	0,5	0,5	3/8" - 9,6	70.000	280	220	1294	2,61	15820	4,51	2,26
A100510	10	0,5	1	3/8" - 9,6	70.000	280	220	1250	2,78	19950	5,7	2,85
A101010	10	1	1	3/8" - 9,6	70.000	280	220	1.400	7,25	28350	8,1	4,05
A150505	15	0,5	0,5	3/8" - 9,6	70.000	280	220	1.853	3,53	36820	7,01	5,26
A151010	15	1	1	3/8" - 9,6	70.000	280	220	1.856	3,28	68600	13,07	9,8
A200505	20	0,5	0,5	3/8" - 9,6	70.000	280	220	2.181	4,15	66570	9,51	9,51
A200510	20	0,5	1	3/8" - 9,6	70.000	280	220	2.673	4,31	86450	12,35	12,35
A201010	20	1	1	3/8" - 9,6	70.000	280	220	3.188	3,68	126350	18,05	18,05
A250505	25	0,5	0,5	3/8" - 9,6	70.000	280	220	2.550	5,12	105070	12,01	15,01
A251010	25	1	1	3/8" - 9,6	70.000	280	220	3.245	5,15	201600	23,04	28,8
A300505	30	0,5	0,5	3/8" - 9,6	70.000	280	220	2.854	5,69	152320	14,5	21,76
A300510	30	0,5	1	3/8" - 9,6	70.000	280	220	3.811	6,78	199640	19,1	28,52
A301010	30	1	1	1/4" - 6,4	70.000	280	220	6.592	8,80	294350	28,03	42,05
A301010	30	1	1	3/8" - 9,6	70.000	280	220	4.036	7,12	294350	28,03	42,05
A401010	40	1	1	1/4" - 6,4	70.000	280	220	7.900	11,31	532350	38,03	76,05
A401010	40	1	1	3/8" - 9,6	70.000	280	220	4.682	7,67	532350	38,03	76,05

*) 4-point bending test in dependance on DIN 53293

**) Drum-peeling-test according to DIN 53295

Important: All information is given without acceptance of liability and in best knowledge and good faith. Luxpanel International GmbH has the right to change specifications without prior notice. All business is carried out according to the standard terms and conditions of sale of Luxpanel International GmbH.

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