



luxpanel
International

LUXBOARD A



Aluminium honeycomb panels with aluminium 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 3mm + cover
- **maximum production** thickness: 50mm

Panel width:

minimum production width: 1000 mm
maximum production width: 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 82 kg/m³, 50 kg/m³ bzw 38 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. Other 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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APPLICATION

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.



ADAPTATIONS

Trimming and folding:

- cut the cover sheets
- fill with two component glue
- fold into desired position
- fixate until glue hardens

Compounds:

- usage of profiles if possible
- creation of tongue and groove joints
- securing with adhesive and/or rivets

Edge closure:

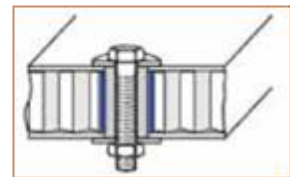
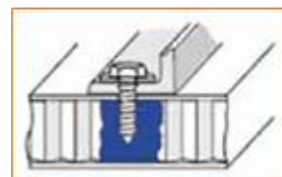
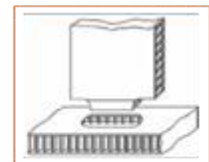
- using profiles
- wooden inlays
- edge sealant
- adhesive tape
- cover sheet

Depending on the requirements of your application.

Fasteners Fixation:

95% of a honeycomb panel is air. Use filler resins and spacer sleeves to introduce screws and secure bolts.

Our experienced team is always ready to assist you with advice in finding the right solution for your application.





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TYPES AND WEIGHTS

Type	Thickness* [mm]				Panel weight [kg/m ²]		
	total	cover sheet		honeycomb comb	Cell width		
		Top	Bottom		6,4 mm 1/4" inch	9,6 mm 3/8" inch	12,7 mm 1/2" inch
A060303	6	0,3	0,3	5,4	2,4	2,2	2,1
A060505		0,5	0,5	5,0	3,4	3,3	3,2
A100303	10	0,3	0,3	9,4	2,7	2,4	2,3
A100505		0,5	0,5	9,0	3,8	3,5	3,4
A101010		1,0	1,0	8,0	6,4	6,1	6,0
A101515		1,5	1,5	7,0	9,0	8,8	8,7
A150303	15	0,3	0,3	14,4	3,2	2,7	2,5
A150505		0,5	0,5	14,0	4,2	3,8	3,6
A151010		1,0	1,0	13,0	6,8	6,4	6,2
A151515		1,5	1,5	12,0	9,4	9,1	8,9
A200303	20	0,3	0,3	19,4	3,6	3,0	2,8
A200505		0,5	0,5	19,0	4,7	4,1	3,8
A201010		1,0	1,0	18,0	7,3	6,7	6,5
A201515		1,5	1,5	17,0	9,9	9,4	9,1
A250303	25	0,3	0,3	24,4	4,1	3,3	3,0
A250505		0,5	0,5	24,0	5,1	4,4	4,0
A251010		1,0	1,0	23,0	7,7	7,0	6,7
A251515		1,5	1,5	22,0	10,3	9,7	9,4
A300303	30	0,3	0,3	29,4	4,5	3,6	3,2
A300505		0,5	0,5	29,0	5,6	4,7	4,3
A301010		1,0	1,0	28,0	8,2	7,3	6,9
A301515		1,5	1,5	27,0	10,8	10,0	9,6
Compressive strength					MPa**		
					4,5	2,5	1,5

*) special thicknesses and widths on demand

**) DIN 53291, 1 MPa = 1 N/mm²





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TECHNICAL DATA

type	thickness			Cell width	E-module of cover sheets	Tensile strength R _m MPa **	Yield strength R _{p0,2} MPa **	Shear force during deformation *	Max. deflection under transverse force *	theor. Flexural rigidity *	moment of inertia *	area moment of inertia*
	total	Cover sheets										
		top	bottom									
	mm	mm	mm	inch - mm	n/mm ²	MPa	MPa	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 dependence on DIN 53293

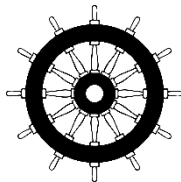


**) Drum-peeling-test according to DIN 53295





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CERTIFICATES

Ship Construction		<p>Module D Production Quality Assurance</p> <ul style="list-style-type: none"> Module D MEDD000013Y-rev.6 <p>Module B – Type Approvals Item no. MED/3.13 non-combustible Luxboard A honeycomb core with USCG no. 164.109</p> <ul style="list-style-type: none"> Module B MEDB00003ZH-rev.2 <p>Item no. MED/3.64 C-class divisions, non-combustible materials Luxboard A</p> <ul style="list-style-type: none"> Module B MEDB00002Do-rev.1 Luxboard D Module B MEDB000077T Luxboard A-QA Module B MEDB000076N Blueboard Module B MEDB00002JV-rev.2 <p>Item no. MED/3.18a surface materials and floor coverings with low flame spread characteristics Luxboard A mit USCG no. 164.112</p> <ul style="list-style-type: none"> Module B MEDB00006H8 Luxboard D mit USCG no. 164.112 Module B MEDB00004HM-rev.1 Blueboard mit USCG no. 164.112 Module B MEDB00006Hg
		<p>Aluminum honeycomb core:</p> <ul style="list-style-type: none"> Item No: MED/3.13 non-flammable according to IMO FTP Code, Annex 1, part 1 USCG Approval No.: 164.109/EC0098/MEDB0003ZH-REV-1/MEDD000013Y
Architecture	DIN EN 13501-1	<p>A2-s1, do classification, non-combustibility</p> <ul style="list-style-type: none"> A2 – non-flammable s1 – no smoke development do – no flammable dripping/falling off
Rail vehicles	DIN EN 45545	<p>Meets requirement set R1, Hazard Level 3, suitable for:</p> <ul style="list-style-type: none"> all construction types in all operating conditions
		

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