

Aluminium foam for shipbuilding



"Aluminium foam" is lighter than water but nevertheless a solid, metallic material!

Lots of air bubbles in the foam reduce the weight of aluminium about 80 % and enables the material to float on water. Nevertheless the chemical resistance of bulk aluminium still remains.

Particular attention should be paid to its flame and heat resistance: Plastic materials are serviceable up to 150 °C depending on chemical composition, bulk aluminium up to 200 °C under load. Due to the low thermal conductivity the through heating of the aluminium foam material takes much longer whereby the heat resistance gets improved. Furthermore the oxide films on the pore walls operate as stabilizer for the whole foam structure.

Alulight® foam panels are certified according to: **ÖNORM B 3800** as:

- A „non inflammable“
- TR1 „non-seeping“
- Q1 „hardly emitting smoke“

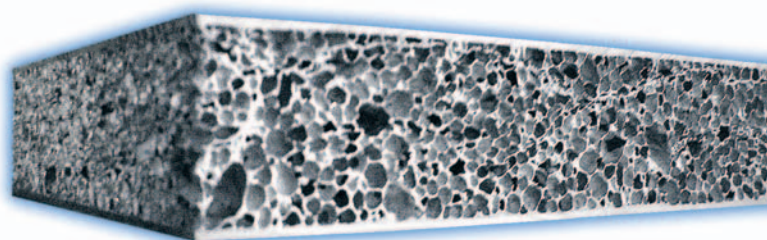
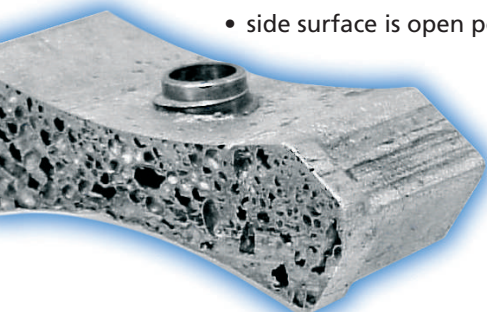
Furthermore our panels were successful tested as fire protection panels in practice buildings of the American fire department thereby temperature-change resistance was also proofed.

	AFS – Panel	PM – Aluminium foam
Max. panel dimensions (mm)	1350 x 1700	625 x 625 / (1250 x 625)*
Thickness (mm)	9–80	8, 10, 15, 20, 25, 30 / (1,25)*
Density (kg/m ³)	380–2200 (foam core)	400–600
Alloy	Core: AlSiMg, AlSi6Cu06 Cover: AlMg1, AlMgSi0.5 AlMgSi1	AlMgSi0.6, AlSi10
E-modulus (GPa)	25 (1,2 mm coversheets, hges: 25 mm)	5 (reinforced with steel mesh)

* Panel dimensions available soon

AFS – Aluminium foam sandwich:

- Metallurgical joint between cover sheets and foam core > no adhesives!
- 3 dimensional sandwich structures are possible
- side surface is open porous



PM-Aluminium foam:

- Complex 3 dimensional shapes are possible
- Can be reinforced with embedded steel mesh
- Attracts attention through a unique surface
- Due to oxide film more heat resistant than bulk aluminium
- Is successful used as a serial part for crash absorption

Additional Information like electromagnetic shielding or energy absorption can be found in our product folder.

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