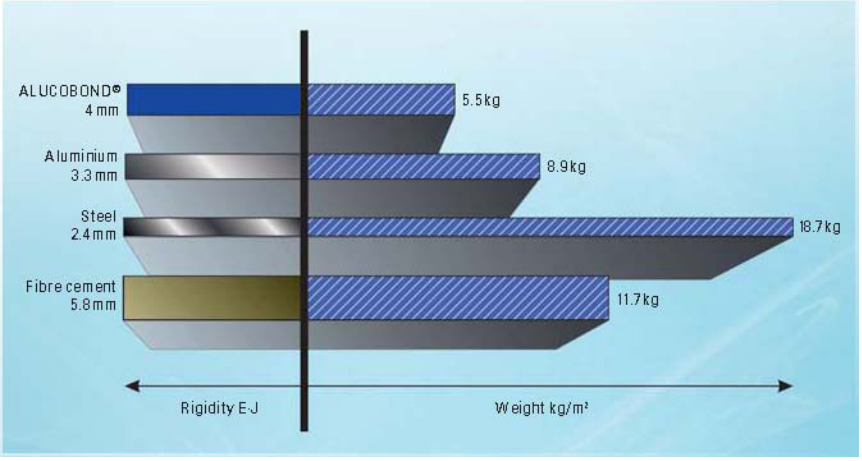
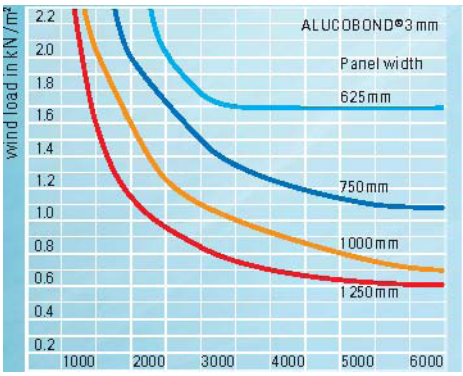
Structural Behaviour

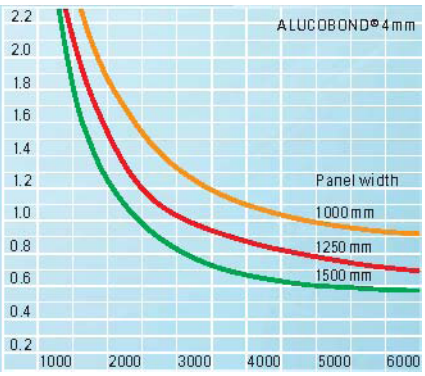


Comparison of thickness and panel weight with equal rigidity

The composite structure of ALUCOBOND® – two aluminium cover sheets and a plastic or mineral filled core – results in an impressive strength-to-weight ratio, even when comparing large panel sizes. Even though the panels are very lightweight, which makes them easy to transport and handle in the factory and on site, they are highly rigid and strong, thus making the most suitable for exterior wall cladding. When properly designed and installed, ALUCOBOND® panels will keep their shape and remain flat for life, even when exposed to extreme temperature changes.



Permissible panel length L in mm



Permissible panel length L in mm

Wind load and permissible panel sizes

The graphs for 3 and 4 mm thick ALUCOBOND® indicate the maximum permissible panel length without having to add a stiffener based on applicable design wind load and panel width.

- Permissible design stress =51 N/mm², safety factor 1.75 is taken into account.
- Values apply to 4-side supported panels.
- Values for other systems upon request.

Technical Data	ALUCOBOND®			ALUCOBOND® plus	ALUCOBOND® A2	
Thickness	3mm	4mm	6mm	4mm	3mm	4mm
Panel thickness [mm]				0.50	0.50	
Weight [kg/m²]	4.5	5.5	7.3	7.6	5.9	7.6
Technical properties						
Section modulus Z [cm³/m]	1.25	1.75	2.75	1.75	1.25	1.75
Rigidity E·I [kNcm²/m]				2400	1250	2400
Alloy/ Temper of Aluminium Layers				EN AW - 5005 A (AlMg1) H22/H42 according to EN 573-3		
Modulus of Elasticity [N/mm²]				70000		
Tensile Strength of Aluminium [N/mm²]				$R_m \geq 130$		
0.2% Proof Stress [N/mm²]				$R_{p0,2} \geq 90$		
Elongation				$A_{50} \geq 5\%$		
Linear Thermal Expansion				m at 100°C temperature difference		

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