

# HYLITE<sup>®</sup>

## LIGHTNESS IN ALU LOOK

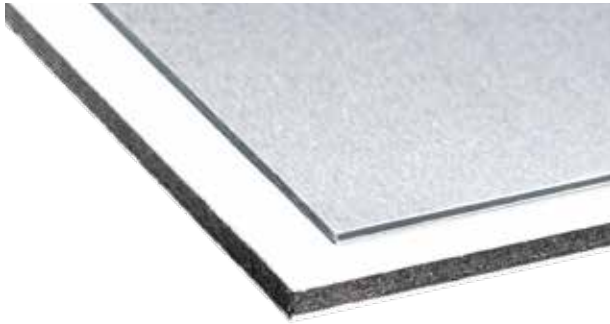
THE FIRST CHOICE FOR NUMEROUS APPLICATIONS



# HYLITE®

## HIGHLY VERSATILE – WITH A COMPACT OR FOAMED CORE

HYLITE® is an aluminium composite panel with a polypropylene core and aluminium outer skins. Two different core systems mean our range offers great variety for very different applications.



### COMPACT CORE

Panel thicknesses 1.2 mm and 2 mm

HYLITE®, the world's thinnest composite panel with thicknesses of 1.2 mm and 2 mm, offers another special feature: the panel's core material can provide a hinge function, which withstands repeated bending without damage. This function is achieved by milling grooves at the same position into both outer aluminium skins. RWTÜV testing has shown that the hinge application is unimpaired even after 80.000 bends.

### APPLICATIONS

#### OFFICE SUPPLY

- Office articles –article design e.g. high-end CD sleeves, files and books backs etc.
- Technical manuals for the automobile industry
- Notebook stands

#### OTHER APPLICATIONS

- Bicycle mudguards
- High-end packaging
- Suitcases
- and so much more

### PRODUCT RANGE

Colours	Aluminium-Look		White. Other colours on request.	
Panel thickness	<b>1.2 mm</b>	<b>2 mm</b>	<b>3 mm</b>	<b>4 mm</b>
Core	compact	compact	foamed	foamed
Cover sheet thickness	0.2 mm	0.2 mm	0.3 mm	0.3 mm
Standard formats (WxL)	1540 x 3000 mm	1540 x 3000 mm	1250 x 2500 mm 1250 x 3050 mm	1250 x 2500 mm 1250 x 3050 mm

HYLITE® is available in a variety of thicknesses and dimensions. The above dimensions are standard ex works. Individual sizes are available on request.

### FOAMED CORE

Panel thicknesses 3 mm and 4 mm

The core material for the 3 mm and 4 mm -panel thicknesses is foamed in a manufacturing process specially developed for this purpose. The result is an ultra-light aluminium composite panel, and the only cutback is in weight: HYLITE® in 3 mm and 4 mm thicknesses is up to 80% lighter than conventional steel sheets or up to 60% lighter than aluminium sheets yet provides the same flexural rigidity.

The foamed core panel features other superlative technical properties. Major advantages include dimensional stability at high temperatures and excellent digital printing results, due to the high quality aluminium strips used in the production process.

### APPLICATIONS

#### INDUSTRY / TRANSPORT

- Interior / exterior cladding for commercial vehicles, agricultural machinery, mobile homes, caravans, buses
- Machinery casing

#### FURNITURE CONSTRUCTION

- Loudspeaker casings
- Furniture design

#### VISUAL COMMUNICATION

- Signs / advertising
- Light boxes

Creative design options for transportation, furniture making, product design, display and Point of Sale advertising as well as office supplies can be created with HYLITE® using a variety of processing techniques. Individual 3-D applications can be achieved by contour cutting, forming or other standard means of processing aluminium composite panels. Even when used on large surface areas, HYLITE® is lightweight and its dimensional stability is excellent.

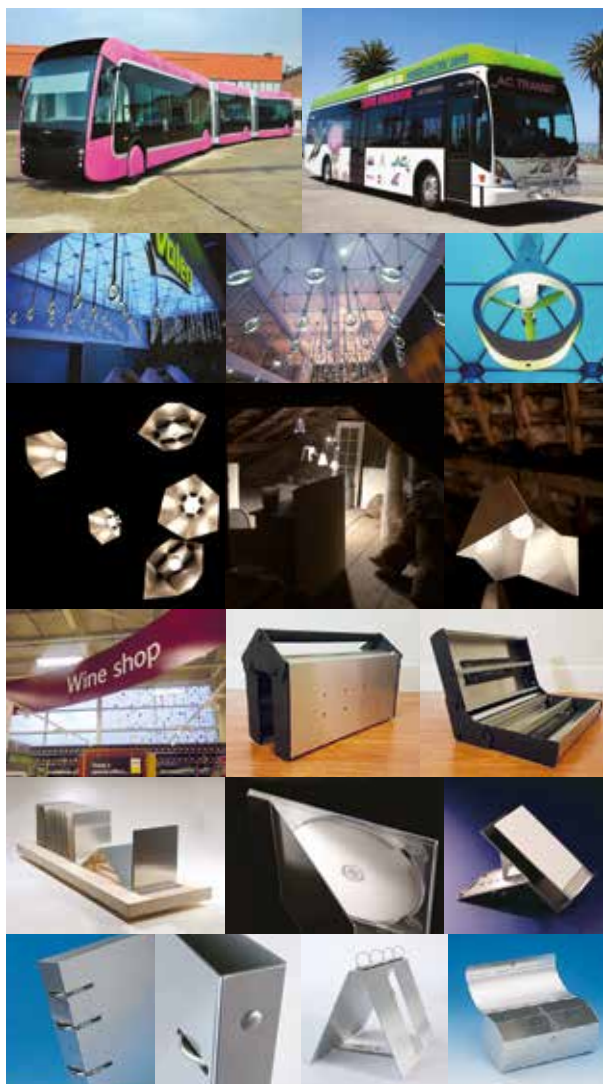
## HYLITE® – AT A GLANCE

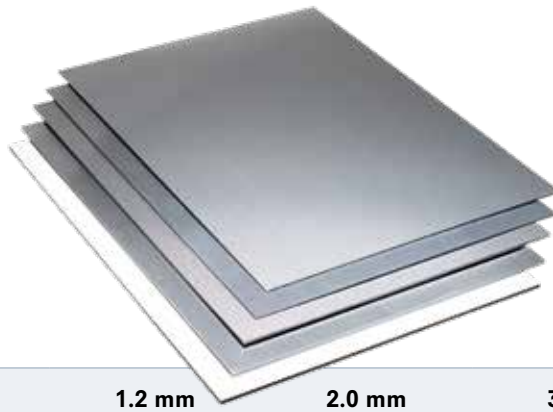
- Dimensional stability at temperatures between +120°C and, for a limited period, + 150°C (approx. 30 minutes) make HYLITE® the first choice for a wide number of applications.
- HYLITE® offers an outstanding range of applications, in particular three-dimensional formability.
- HYLITE® and aluminium have similar properties and can be processed using the same equipment.
- HYLITE® offers optimum results in direct digital printing and minimal weight for an aluminium composite panel.
- HYLITE® is excellent in terms of recycling. Both the aluminium and plastic components can be easily separated for recycling. A combination of minimal material usage and the ensuing low energy consumption mean HYLITE® is in line with sustainability criteria.
- HYLITE® can also be embossed and engraved provided ultimate elongation is taken into consideration.

## PROCESSING

- |                   |   |
|-------------------|---|
| ■ Cutting         | ■ Roll bending  |
| ■ Sawing          | ■ Folding   |
| ■ Drilling        | ■ Punching  |
| ■ Gluing          | ■ Profile milling   |
| ■ Riveting        | ■ Screen printing   |
| ■ Screwing        | ■ Direct digital printing   |
| ■ Bending         | ■ Embossing   |
| ■ Contour cutting | ■ Water jet cutting   |
| ■ Powder coating  | ■ Hinge joint routing<br><small>(only 1.2 and 2 mm thicknesses)</small> |

For advice regarding tools and equipment or hints about how to achieve optimal processing results, please feel free to get in touch.





## PRODUCT PROPERTIES

Panel thickness	1.2 mm	2.0 mm	3 mm	4 mm
Aluminium cover sheets	0.2 mm	0.2 mm	0.3 mm	0.3 mm
Alloy (EN 4852)	EN AW-5182 (AlMg4.5Mn0.4)		EN AW-5005A (AlMg1)	
Cover sheet hardness	Hardness (H18)		H44	
Core material	Polypropylen PP		Polypropylen PP, foamed	
Panel weight	1.8 kg/m <sup>2</sup>	2.5 kg/m <sup>2</sup>	2.7 +/- 0.1 kg/m <sup>2</sup>	3.2 +/- 0.1 kg/m <sup>2</sup>
Thickness tolerance (EN 485-4)	+/- 0.09 mm	+/- 0.12 mm	+/- 0.2 mm	+/- 0.2 mm
Mechanical Properties				
Modulus of elasticity [E]	70.000 N/mm <sup>2</sup>		70.000 N/mm <sup>2</sup>	
Yield strength [R <sub>p0,2</sub> ]	≥ 320 N/mm <sup>2</sup>		110 – 175 N/mm <sup>2</sup>	
Tensile strength [R <sub>m</sub> ]	≥ 380 N/mm <sup>2</sup>		145 – 185 N/mm <sup>2</sup>	
Section modulus [W]	0.2 cm <sup>3</sup> /m	0.36 cm <sup>3</sup> /m	0.76 cm <sup>3</sup> /m	1.04 cm <sup>3</sup> /m
Flexural rigidity (incl. lateral contraction) [ExI]	80 kNcm <sup>2</sup> /m	230 kNcm <sup>2</sup> /m	800 kNcm <sup>2</sup> /m	1500 kNcm <sup>2</sup> /m
Ultimate elongation	4 %	4 %	≥3 %	≥3 %
Thermal Properties				
Service temperature range	- 30 bis +120 °C		- 40 bis +120 °C	
Temporary temperature (up to 30 minutes)	+ 150 °C Sufficient for powder or dip coating		+ 150 °C Sufficient for powder or dip coating	
Coefficient of thermal expansion	24 x 10 <sup>-6</sup> 1/K		24 x 10 <sup>-6</sup> 1/K	

Further technical information about HYLITE® is available on request.