For use in:

Shop Design
Exhibition stands
POS/POP Display
Hoardings
Aluminium Composite Panels (ACP) are a strong, rigid, lightweight, flat solution for many applications, especially the Sign Industry as well as Display, POS Displays (Point of Sale), Shop-Fitting and Exhibition use. Other uses include partitioning and wall lining. Hoarding Board is specifically for use in enclosing building sites.

**aalcopanel ACP** is designed for use in interior applications where high load-bearing capacity is not required. All **aalcopanel** panels have a PE Thermoplastic core and two Skins of Aluminium Alloy 1100.

**Benefits**

- ✔ Highly cost effective
- ✔ Extremely rigid and very lightweight
- ✔ Tough and hard wearing
- ✔ Very flat, smooth surface
- ✔ Easily cut, folded and formed

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**WEIGHTS**

All weights shown in this publication are for guidance only. They are calculated using nominal dimensions and scientifically recognised densities. Please note that in practice, the actual weight can vary significantly from the theoretical weight due to variations in manufacturing tolerances and compositions.

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Particularly suited to Tops and Fronts, Cubicles, Partition Walls, Shaped Profiles and Kitchen Splash Back and Back Boards.

Ease of machining and forming means decorative and shaped panels are readily available to enhance your display.

Exhibition Stands

Hardwearing but lightweight panels mean an effective marketing tool that is reusable and easy to transport, further reducing costs.

Hoardings

Lightweight, but hardwearing and with a flat smooth surface that can take many different applications makes aalcopanel Hoarding Board ideal for this purpose.

Other uses of aalcopanel include partitioning, suspended ceilings and interior wall lining (not fire rated).
Technical Data for aalcopanel

- The overall thickness is 3.0 mm
- The Aluminium Skins are finished with Polyester (PE) Paint
- Paint Film Thickness: 20 microns
- Both painted Skins are PVC Coated with Hi-Tack 50 micron film
- Unit Weight is 3.8 kg per sq m (Except Hoarding Board)
- During storage the panels must be protected against rain and moisture penetration

### Dimensional Tolerances

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Tolerance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thickness (mm)</td>
<td>-0 + 0.1</td>
</tr>
<tr>
<td>Width (mm)</td>
<td>±1</td>
</tr>
<tr>
<td>Length (mm)</td>
<td>±1</td>
</tr>
<tr>
<td>Diagonal (mm)</td>
<td>±3</td>
</tr>
<tr>
<td>Thermal Expansion</td>
<td>2.4 mm/m @ 100°C Temp Difference</td>
</tr>
<tr>
<td>Aluminium Thickness (mm)</td>
<td>±0.02</td>
</tr>
</tbody>
</table>

### Surface Properties

- Paint Thickness (microns): 20
- Pencil Hardness: >HB
- Toughness of Coating: 3T
- Impact Strength (kg cm²): -50˚ to +90˚C
- Boiling Water Resistance: Boiling for 2hrs without change
- Acid Resistance: Immersed Surface in 2% HC1 for 24hrs without a change
- Alkali Resistance: Immersed Surface in 2% NaOH for 24hrs without a change
- Oil Resistance: Immersed Surface in engine oil for 24hrs without a change
- Solvent Resistance: Cleaned 100 times with Dimethylbenzene without change
- Cleaning Resistance: >1000 times without change
- Peel Strength 180°: >5 Newton / mm
- Lead (Pb) Content:
  - White Panels: 0 parts per million
  - Coloured Panels: 20 parts per million

### Product Properties

- Weight (kg m²): 3.8
- Sound Absorption NRC: 0.05
- Sound Attenuation RW DB: 24
- Water Absorption % by volume: 0.01
- Thermal Performance $R_p$ Values: 0.0057
- Core Composition: LDPE Polyethylene
- Colour Difference: $\Delta E=1.6$ ASTM G155-05A, 4000H Test
- Gloss Retention: 85.7% ASTM G155-05A, 4000H Test
Rigidity vs Weight kg/m²

<table>
<thead>
<tr>
<th>Thickness</th>
<th>Material</th>
<th>Weight kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.0 mm</td>
<td>Aluminium</td>
<td>3.8 kg</td>
</tr>
<tr>
<td>2.4 mm</td>
<td>Foamed PVC</td>
<td>6.5 kg</td>
</tr>
<tr>
<td>11.1 mm</td>
<td>Steel</td>
<td>5.6 kg</td>
</tr>
<tr>
<td>1.7 mm</td>
<td>Acrylic</td>
<td>13.3 kg</td>
</tr>
<tr>
<td>6.8 mm</td>
<td></td>
<td>8.2 kg</td>
</tr>
</tbody>
</table>

At equal rigidity of the material shown, **aalcopanel** is the lightest per m².

Recycling

**aalcopanel** is fully recyclable. Both the core material and the aluminium cover sheets can be remelted and used for the production of new material.

Cleaning, Maintenance

Clean with a soft cloth and mild detergent or water. Strong acid or alkali is not advised. High pressure sprayers can also be used when cleaning curtain walls.

**HOARDING BOARD**

**aalcopanel** Hoarding Board has only one side painted, in Matt White; with the reverse being mill finish aluminium. This product is often used for enclosing building sites. It also has a PE Thermoplastic core and two skins of Aluminium Alloy 1100. The overall thickness is 3.0 mm. The painted skin (only) is PVC Coated with Hi-Tack 50 micron film.

Size Range - **aalcopanel** Hoarding Board

<table>
<thead>
<tr>
<th>Size</th>
<th>Aluminium Skin Thickness</th>
<th>Colour (RAL)</th>
<th>Gloss - Front</th>
<th>Reverse</th>
<th>Weight per Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td>2440 x 1220 x 3 mm</td>
<td>0.21 mm</td>
<td>White - 9016</td>
<td>Matt</td>
<td>Mill finish Aluminium</td>
<td>10.0 kg</td>
</tr>
</tbody>
</table>
Colours and finishes available

Size Range - Standard **alcoglass**

<table>
<thead>
<tr>
<th>Size</th>
<th>Aluminium Skin Thickness</th>
<th>Colour (RAL)</th>
<th>Gloss - Front</th>
<th>Gloss - Back</th>
<th>Weight per Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td>2440 x 1220 x 3 mm</td>
<td>0.3 mm</td>
<td>White - 9016</td>
<td>85%</td>
<td>45%</td>
<td>11.4 kg</td>
</tr>
<tr>
<td>3050 x 1500 x 3 mm</td>
<td>0.3 mm</td>
<td>White - 9016</td>
<td>85%</td>
<td>45%</td>
<td>17.4 kg</td>
</tr>
</tbody>
</table>

**Gloss White with Matt White Reverse**

Size Range - Standard **alcoglass**

<table>
<thead>
<tr>
<th>Size</th>
<th>Aluminium Skin Thickness</th>
<th>Colour (RAL)</th>
<th>Gloss - Front</th>
<th>Gloss - Back</th>
<th>Weight per Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td>2440 x 1220 x 3 mm</td>
<td>0.3 mm</td>
<td>White - 9016 / Silver - 9006</td>
<td>45%</td>
<td>45%</td>
<td>11.4 kg</td>
</tr>
<tr>
<td>3050 x 1500 x 3 mm</td>
<td>0.3 mm</td>
<td>White - 9016 / Silver - 9006</td>
<td>45%</td>
<td>45%</td>
<td>17.4 kg</td>
</tr>
</tbody>
</table>

**Matt White with Silver Reverse**
Colours and finishes available

Size Range - Standard aalco panel

<table>
<thead>
<tr>
<th>Size</th>
<th>Aluminium Skin Thickness</th>
<th>Colour (RAL)</th>
<th>Gloss - Front</th>
<th>Gloss - Back</th>
<th>Weight per Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td>2440 x 1220 x 3 mm</td>
<td>0.3 mm</td>
<td>Black - 9005</td>
<td>85%</td>
<td>45%</td>
<td>11.4 kg</td>
</tr>
<tr>
<td>3050 x 1500 x 3 mm</td>
<td>0.3 mm</td>
<td>Black - 9005</td>
<td>85%</td>
<td>45%</td>
<td>17.4 kg</td>
</tr>
</tbody>
</table>

Gloss Black with Matt Black Reverse

Size Range - Standard aalco panel

<table>
<thead>
<tr>
<th>Size</th>
<th>Aluminium Skin Thickness</th>
<th>Colour (RAL)</th>
<th>Gloss - Front</th>
<th>Gloss - Back</th>
<th>Weight per Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td>2440 x 1220 x 3 mm</td>
<td>0.3 mm</td>
<td>Silver - 9006</td>
<td>N/A</td>
<td>45%</td>
<td>11.4 kg</td>
</tr>
<tr>
<td>3050 x 1500 x 3 mm</td>
<td>0.3 mm</td>
<td>Silver - 9006</td>
<td>N/A</td>
<td>45%</td>
<td>17.4 kg</td>
</tr>
</tbody>
</table>

Brushed Silver with Matt Silver Reverse
Colours and finishes available

Size Range - Standard  *aalcopanel*

<table>
<thead>
<tr>
<th>Size</th>
<th>Aluminium Skin Thickness</th>
<th>Colour (RAL)</th>
<th>Gloss - Front</th>
<th>Gloss - Back</th>
<th>Weight per Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td>2440 x 1220 x 3 mm</td>
<td>0.3 mm</td>
<td>Red - 3020</td>
<td>85%</td>
<td>45%</td>
<td>11.4 kg</td>
</tr>
<tr>
<td>3050 x 1500 x 3 mm</td>
<td>0.3 mm</td>
<td>Red - 3020</td>
<td>85%</td>
<td>45%</td>
<td>17.4 kg</td>
</tr>
</tbody>
</table>

**Gloss Red with Matt Red Reverse**

Size Range - Standard  *aalcopanel*

<table>
<thead>
<tr>
<th>Size</th>
<th>Aluminium Skin Thickness</th>
<th>Colour (RAL)</th>
<th>Gloss - Front</th>
<th>Gloss - Back</th>
<th>Weight per Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td>2440 x 1220 x 3 mm</td>
<td>0.3 mm</td>
<td>Red - 3020</td>
<td>85%</td>
<td>45%</td>
<td>11.4 kg</td>
</tr>
<tr>
<td>3050 x 1500 x 3 mm</td>
<td>0.3 mm</td>
<td>Red - 3020</td>
<td>85%</td>
<td>45%</td>
<td>17.4 kg</td>
</tr>
</tbody>
</table>

**Gloss Blue with Matt Blue Reverse**
### Colours and finishes available

Size Range - Standard "aalcopanel"

<table>
<thead>
<tr>
<th>Size</th>
<th>Aluminium Skin Thickness</th>
<th>Colour (RAL)</th>
<th>Gloss - Front</th>
<th>Gloss - Back</th>
<th>Weight per Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td>2440 x 1220 x 3 mm</td>
<td>0.3 mm</td>
<td>Green - 6024</td>
<td>85%</td>
<td>45%</td>
<td>11.4 kg</td>
</tr>
<tr>
<td>3050 x 1500 x 3 mm</td>
<td>0.3 mm</td>
<td>Green - 6024</td>
<td>85%</td>
<td>45%</td>
<td>17.4 kg</td>
</tr>
</tbody>
</table>

**Gloss Green with Matt Green Reverse**

Size Range - Standard "aalcopanel"

<table>
<thead>
<tr>
<th>Size</th>
<th>Aluminium Skin Thickness</th>
<th>Colour (RAL)</th>
<th>Gloss - Front</th>
<th>Gloss - Back</th>
<th>Weight per Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td>2440 x 1220 x 3 mm</td>
<td>0.3 mm</td>
<td>Yellow - 1023</td>
<td>85%</td>
<td>45%</td>
<td>11.4 kg</td>
</tr>
<tr>
<td>3050 x 1500 x 3 mm</td>
<td>0.3 mm</td>
<td>Yellow - 1023</td>
<td>85%</td>
<td>45%</td>
<td>17.4 kg</td>
</tr>
</tbody>
</table>

**Gloss Yellow with Matt Yellow Reverse**
Fabrication of aalcopanel

Cutting to shape

Sawing
- with vertical panel saw
- circular saw or fret saw

Cutting
- with guillotine shears using cushion clamp
  note: concave PE core edge effect

Jointing

Drilling holes for joining
- with drill bits for aluminium sheet and plastic panels
- for larger holes use a drill bit with location point

Riveting
- with pop or blind rivets

Screwing
- with common stainless steel screws or bolts for wood, sheet or metal

Welding
- of the PE-core by means of a hot welding device and polyethylene welding rod

Gluing
- with standard metal adhesive for aluminium (no adhesion to core edges)
- with commercial double-sided adhesive tape

Shaping

Bending
- with folding machine or bending press
  note: min inner radius $r = 15 \times t$
  ($t =$ panel thickness), spring-back greater than with solid sheet

Roll Bending
- with roll bending machines, using ground rolls

Folding (routing technique)
- manually after routing v-groove using a panel saw with routing device
- CNC machining centre
- panel routing machine

Punching and Decorative work

Punching
- for 2.0 and 3.0 mm panels with steel punch and die
  note: concave PE core edge effect
- for all thicknesses with steel metal punching machines

Decorative work
- with fret saw
- with water jet
- with CNC machining centre
Benefits

✓ Simple operating technique

Folding can be done directly on site
- this could mean lower transport and storage costs

✓ Low manufacturing cost of pre-shaped decorative elements, advertising boards and large signage

✓ Versatile formability

✓ Shapes are not restricted by machine dimensions

*aalcopanel* can be shaped by means of a simple processing technique. This procedure, the routing and folding technique, enables the variety of shapes and sizes to be manufactured. V-shaped or rectangular grooves are routed on the rear of the panels with disk end or milling cutters, whereby the aluminium cover sheet at the front and part of the polyethylene core are retained. The grooves can be produced with either a panel saw or a routing tool.

**Rectangular groove for edges up to 180° depending on panel thickness**

**Groove 135° (v-shaped) for edges up to 135°**

**Groove 135° (v-shaped) for edges up to 90°**