

build for life

**Reynobond<sup>®</sup>**  
Sign & Display

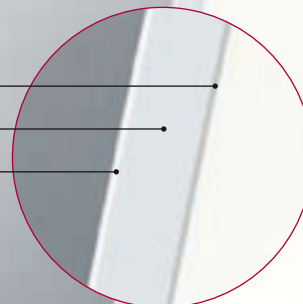


Open Your Eyes



Meet customer's requirements.  
React quickly with flexibility.  
Work with passion.

Coil-coated sheet (upper side) ————  
Polyethylene core ————  
Coil-coated sheet (lower side) ————



**Reynobond**<sup>®</sup>  
Sign & Display

## Open your eyes to Reynobond<sup>®</sup>!

**Reynobond<sup>®</sup> is a composite panel consisting of two coil-coated aluminium sheets that are fusion-bonded to both sides of a polyethylene core.**

This combined chemical and mechanical bond provides excellent adhesion of the aluminium sheets. Due to its low weight compared to pure aluminium or PVC foam sheets, Reynobond<sup>®</sup> can be fabricated easily, making it an ideal material for creative applications.

Reynobond<sup>®</sup> is a tradename of Alcoa Architectural Products in Merxheim/France, a subsidiary of Alcoa, the world's leading aluminium supplier. Alcoa Architectural Products has been successful in the composite panel market with Reynobond<sup>®</sup> for many years, and is now clear Number Two in Europe.







Open Your Eyes

**Reynobond®**  
Sign & Display

Open your eyes  
to a new dimension!

**With Reynobond® XXL, Alcoa Architectural Products introduces the world's first 2000 mm wide composite aluminium panel.**

Which means you now have a real alternative to pure aluminium or PVC foam for your big, bright ideas. The exceptionally flat surface with its superb finish makes the material ideally suited for digital print, thus providing a real alternative to pure PVC materials.



With a thickness of 3 mm, Reynobond® XXL is as strong as 2 mm lacquered aluminium but has only 60 % of its weight, and as strong as 10 mm rigid PVC foam but almost half the weight. Moreover, Reynobond® XXL permits optimum use of horizontal digitally controlled surface cutting and milling machines. The advantages are obvious: Optimum material utilization, less offcut, and reduced fabrication costs per square metre.





Open Your Eyes

**Reynobond®**  
Sign & Display

## Open your eyes to new perspectives!

**Discover the new creative possibilities offered by Reynobond®!**

Especially for outdoor applications, the advantages of our composite material are convincing: Whether free-standing totems or company signboards, wall advertising panels or all types of display pillars.

Weather resistance is one of the many Reynobond® strengths. In addition, the material is highly corrosion resistant, has a very low coefficient of expansion, is easy to process, and exhibits outstanding mechanical properties such as increased impact strength.

Reynobond® is coated with a high-performance polyester lacquer that is UV and weather resistant. It is particularly suitable for screen-printing, the application of adhesive films, and post-painting using the liquid spray technique. Furthermore, the panels have excellent mechanical properties, and their weight is lower than that of any other material with comparable stiffness.







Open Your Eyes

**Reynobond**<sup>®</sup>  
Sign & Display

## Open your eyes to new creative possibilities!

**To an increasing extent, today's exhibition stand construction is tending towards modular designs.** Whether wall panels or ceiling constructions, displays or other stand elements – the demand is for strength, durability, and the most flexible options for reuse.

The answer to these requirements is Reynobond<sup>®</sup>. Practically unlimited possibilities for fabrication and machining, plus outstanding surface properties meet even the highest demands of exhibition stand builders. In addition, the material's extreme robustness withstands storage and reassembly without problems.





Open Your Eyes

**Reynobond**<sup>®</sup>  
Sign & Display

## Open your eyes to new incentives!

**Purchasing decisions are made at the point of sale –** whereby the fascinating and convincing presentation of product benefits plays a decisive role. It's not only a rational message that is involved, but also an emotional appeal.

Reynobond<sup>®</sup> supports the creative needs of designers, and gives them the material necessary to implement their imaginative ideas in an optimum manner. Numerous machining and fabrication options permit every required shape to be realized.







Open Your Eyes

Windsor



Reynobond®  
Sign & Display

Open your eyes  
to new interiors!

**More and more, the design of shop interiors is becoming a decisive and distinguishing business feature.**

The shopping atmosphere is gaining in importance; the presentation of goods no longer involves practical considerations, but is being guided increasingly by aesthetic aspects.

When it comes to creative interior designs and furnishings, Reynobond® is your perfect partner. Strength, durability, and easy care ensure an economic investment, whilst numerous fabrication and machining options guarantee utmost quality and an aesthetically pleasing overall impression.

Windsor



# Open your eyes to a surprising range of colours!



Open Your Eyes

## STANDARD colours



### Colours signalize emotions – the essence of your business.

Which is why Reynobond® allows you to choose from a wide range of colours that are available in various options of gloss and satin finishes. Subject to minimum order quantities, we can also provide special colours from the RAL, NCS or PANTONE colour palettes. Naturally, you can also obtain any other special colour of your choice.

Our products are coated with a high-performance polyester lacquer that is UV and weather resistant. It is particularly suitable for screen-printing, the application of adhesive films, and post-painting using the liquid spray technique, provided that certain precautions are taken.

The polyester coating comes with 5-year guarantee, depending on the project location.

### Our 6 STANDARD colours are available in 3 finishes: “FULL GLOSS”, “SATIN”, and “DUAL”.

#### 1. “FULL GLOSS” finish

- Upper sheet coating: 80 % high gloss
- Lower sheet coating: White 903, 35 % gloss

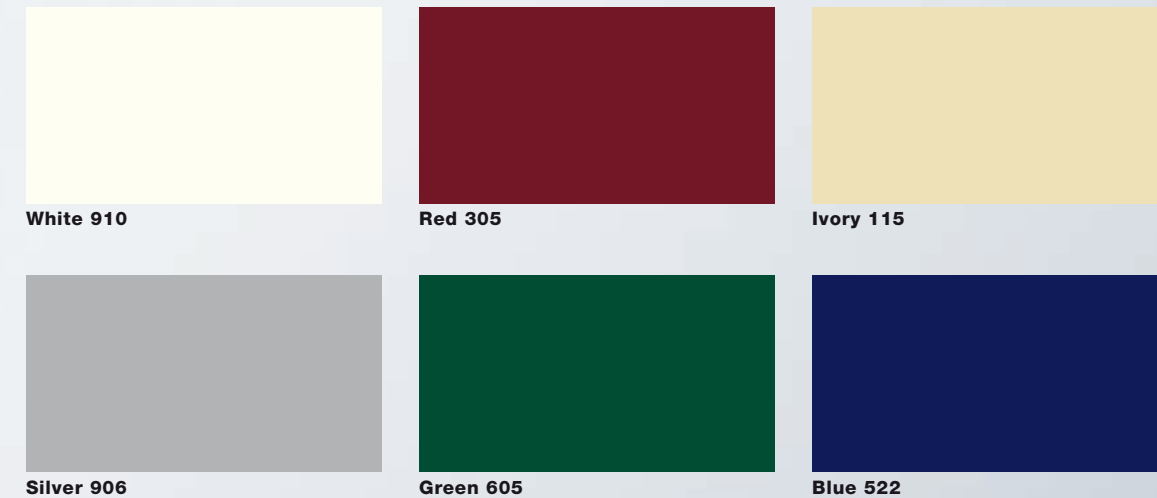
#### 2. “SATIN” finish

- Upper sheet coating: 35 % gloss
- Lower sheet coating: White 903, 35 % gloss

#### 3. “DUAL” finish

- Upper sheet coating: 80 % high gloss
- Lower sheet coating: 35 % gloss, identical colour as upper sheet

## CLASSIC colours



### Colours need not be loud to have an impact on the viewer.

Frequently, it's subdued colours that leave a particularly aesthetic impression. For example, the colour hues one comes across in old town centres (“country colours”).

With our CLASSIC colour tones for Reynobond®, we are the only supplier to offer a selection of these classical shades, which are independent of trends, and symbolize traditional luxury. They are less intense than the STANDARD colours, and open up completely new possibilities for expression.



# Open your eyes to surface innovations!



Open Your Eyes

## METALLICS colours



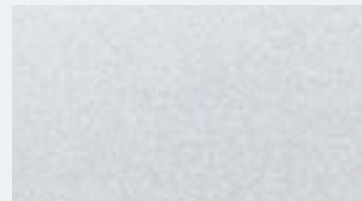
Gold 401



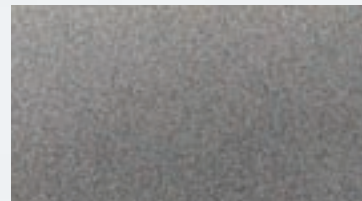
Black 905



Blue 502



Silver 906



Graphite 428



Red 320

### The METALLICS colour palette is a top-quality coating:

The colour intensity changes with the lighting index. Depending on the time of day and the time of year, the daylight creates changing and fascination effects on the panel.

Using the inventive but well-balanced effects of the METALLICS colour range, you can create promotional panels, advertising displays, and signage for indoor and outdoor applications.

### The 6 METALLICS colours tones are available in high-gloss (80 %) or satin (35 %) finish, and in the following colour combinations<sup>(1)</sup>:

#### 1. Gold/Silver

- Upper sheet coating: Gold 401
- Lower sheet coating: Silver 960

#### 2. Black/Graphite

- Upper sheet coating: Black 905
- Lower sheet coating: Graphite 428

#### 3. Blue/Red

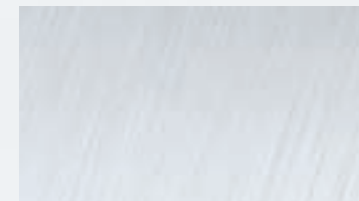
- Upper sheet coating: Blue 502
- Lower sheet coating: Red 320

#### 4. METALLICS/White

- Upper sheet coating: One of the 6 METALLICS colours
- Lower sheet coating: White 903

<sup>(1)</sup> Other combinations are available on request and in minimum ordering quantities.

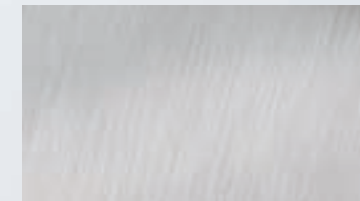
## BRUSHED colours



Natural aluminium



Gold look



Stainless steel look



Copper look

### High quality and attention-getting – that describes our aluminium composite panels with new surface finishes in natural aluminium and gold, stainless steel, and copper look.

Of course in the outstanding quality and with all the convincing fabrication properties that you are accustomed to from Reynobond®. You will now be able to make a lasting and high-class impression.

Available in the satin gloss grade (50 %). Natural aluminium is also available in the high-gloss grade (80 %).

### Our new surface finishes in the BRUSHED look also enable you to expand your creative horizons!



# Open your eyes to flexibility!



Open Your Eyes

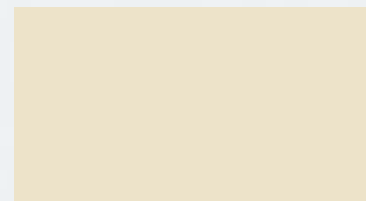
## COMPLEMENTARY colours



Beige 101



Yellow 103



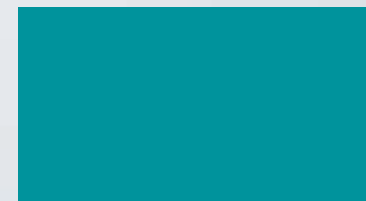
White 113



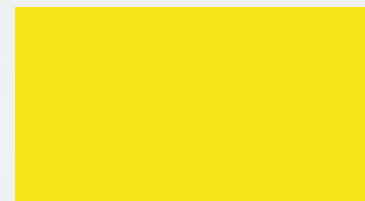
Blue 515



Blue 517



Turquoise 518



Yellow 116



Yellow 128



Orange 202



Green 618



Green 628



Green 629



Orange 203



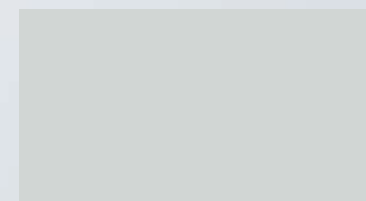
Orange 209



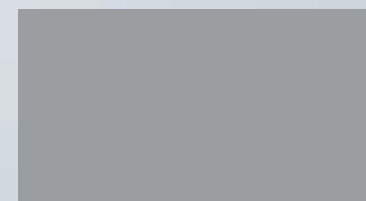
Red 300



Grey 712



Grey 735



Grey 742



Red 301



Red 303



Purple 406



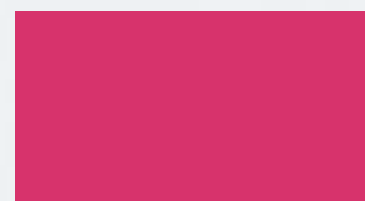
Grey 743



Brown 802



Brown 807



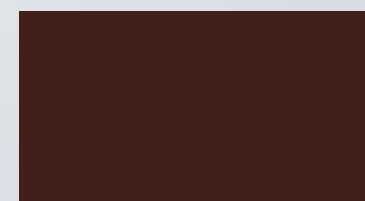
Magenta 410



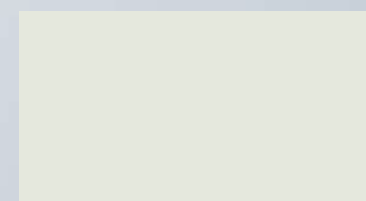
Blue 503



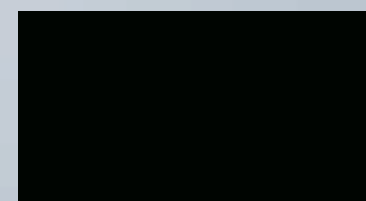
Blue 505



Brown 817



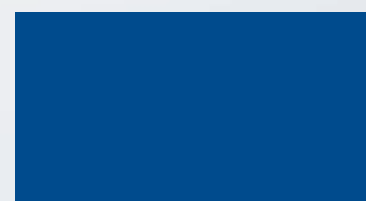
White 902



Black 917



Blue 507



Blue 510



Blue 512

**Note:** When printing, colour deviations are possible for technical reasons.

The complementary colours are available in satin (35 %) or high-gloss (80 %) finish.

Colour tones are based on RAL colours.



# General recommendations

## Storage

We recommend storing Reynobond® composite panels in the workshop (or another dry place at a temperature of 18 to 20°C) at least 24 hours before fabrication starts. During storage, and between fabrication stages, the panels should be separated by means of polystyrene or foamed plastic wedges.

## Protective equipment

Individual personal protection must be provided in accordance with the safety regulations in force in the workshop. However, we also recommend wearing safety gloves, goggles, and ear protection.

## Handling the panels

Handling of Reynobond® composite panels requires a certain degree of care. In particular with long panel lengths, several persons may be needed to support the sheet at several points.

## Expansion

During fabrication, the ambient temperature must be taken into account. When exposed to sunlight outdoors, dark-coloured panels will heat up more strongly than panels with a light-coloured coating. As a result, a temperature difference of approx. 20°C must be expected between a white or metallized panel and a black panel.

## Protective film

The film protects the panel's surface during fabrication and installation. The protective film should only remain on the panels temporarily, and should be removed as soon as possible after final installation on site. Arrows are printed on the film to indicate the direction of coating. With metallic finishes, this must be taken into account during forming and shaping.

## Cleaning the panels

Frequent and regular cleaning is strongly recommended. The frequency of cleaning, and selection of the appropriate cleaning agent, depends on the sign's location and on the degree of contamination.

Washing operations must be carried out progressively from bottom to top. Hereby, the following rules must be observed:

1. Manual cleaning or using special equipment (industrial cleaner, foaming machine, etc.). Make sure to apply moderate pressure.
2. Use of appropriate cleaning agents: Do not use high-alkaline and other products that attack the coating (potash, caustic soda, acid products, scouring agents with an abrasive effect, solvents).
3. Systematic and thorough rinsing of the surfaces with clear water to remove the remains of the cleaning agent. Excess rinsing water is to be wiped away with a sponge, squeegee or chamois leather to remove the mineral residues left by the rinsing water (streaking).

## Coating touch-ups

It is possible for panels to become scratched during forming or installation. Minor scratches can be re-touched with air-drying paint using an artist's brush. Small dents may be repaired with automotive type body filler before post-painting.

We recommend that a full-sized sample be test-painted before any large-scale coating is undertaken.

# Applications to Reynobond®



Open Your Eyes



Kino Maxx, Switzerland



Vifit Campina Project, Netherlands



Mike's famous Harley Davidson, USA



Totem of Peugeot, France



# Surface treatment



## Application of self-adhesive films

Before application, ensure that the surfaces of the machined panels are not dented in the application area, and that they are free of dust and grease.

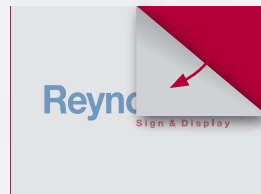
Self-adhesive films and photographs coated beforehand with a suitable adhesive can be applied without difficulty.

For each type of film, the ambient temperature and that of the panel must correspond to the values specified by the manufacturer (minimum application temperature: 4°C).

### Method:

Various methods are recommended, depending on the size and shape of the films to be applied. The general rules given below must be followed in all cases:

1. Carefully remove the protective paper at an angle of 180° from the lower side of the panel, and then from the upper side.



2. Apply the self-adhesive film with a scraper, starting from the centre and out to the edges.



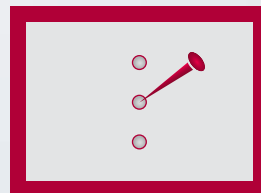
3. Remove the protective paper from the upper side.



### Special precautions after removal of the protective paper

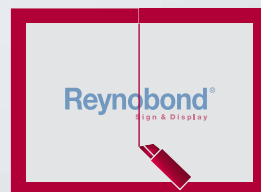
#### Rivet heads

Use a needle or similar pointed object around rivet heads to free any trapped air (do not use a knife or razor blade).



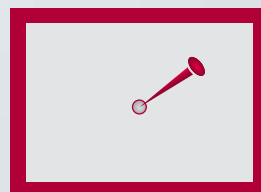
#### Overlapping metallic joints

For a supporting joint, use a cutter or razor blade, as shown in the drawing.



#### Air bubbles:

The last step involves removal of the trapped air bubbles by pricking the edge of the bubble with a needle, and expelling the air with your thumb or a scraper.



## Spray painting

Air-drying acrylic and two-component polyurethane paints have been tested with widely differing results, depending on the paint supplier, the resin used, and the selected colour. The procedure described below produces highly satisfactory results without the need for applying an additional coat of primer.

**Caution:** In all cases, we recommend testing the compatibility of the paints with the sheet coating before fabrication, and to observe the paint manufacturer's instructions.

### General procedure:

1. Smooth the panel surface with automotive bodywork sandpaper using an eccentric sander. Select a sufficiently fine-grained paper to prevent scoring marks. Take care not to sand down to the aluminium sheet.
2. Clean the surface with an air duster and a solvent. **Caution:** The coating and the core of the Reynobond® panels suffer from prolonged exposure to organic solvents.
3. Spray paint in accordance with the manufacturer's instructions.
4. Oven drying between 70 and max. 80°C.

## Screen printing

The compatibility and adhesion of various inks have been successfully tested.

**Caution:** In all cases, we recommend testing the compatibility of the printing inks with the sheet coating before fabrication, and to observe the paint manufacturer's instructions.

### Screen printing tests on polyester coating

Supplier	Ink reference	1 component	2 components
TIFLEX S.A. B.P. 3 F-01450 Poncin	Urethal Polycolor	•	•
COATES SCREEN Mainstraße 99 D-90451 Nürnberg	Z/PVC PO HG CX J CP	• • • • •	• •
PRÖLL Treuchtlinger Straße 29 D-91781 Weißenburg in Bayern	Thermo-Jet® PUR®-ZK Noristar® PG NoriPlan Norilit® NK N Sorte P Aqua-Jet® KSF	• • • • • • •	• •
MARABU GmbH & Co. Postfach 152 D-71730 Tamm	Marastar SR Marasoft MS Ultraplus UVP	• •	• •
SERICOL GmbH Adolfheim Str.11 D-74321 Bissingen	Colorstar CS Mattplast MG Polyplast PY	• •	•



# Easy shaping, simple machining



## Shaping procedures

Reynobond® can be shaped and machined using extremely simple techniques and equipment.

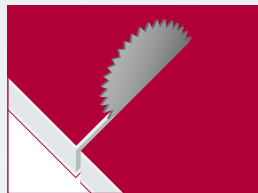
### Shearing

Guillotine shears are particularly suitable for sizing Reynobond® sheets, provided that certain precautions are observed.



### Sawing

Circular saws, jig saws, vertical panel saws, and band saws can all be used for cutting the sheets, provided the saw blades are suitable for sawing aluminium.



### Drilling

Twist drill bits designed for drilling aluminium are the most suitable.

- Cutting angle: between 100° and 140°
- Helix angle: between 30° and 50°

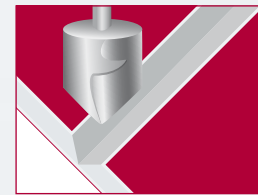
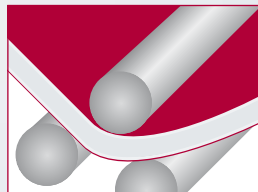


### Roll bending

Pyramid-type roll bending machines are most suitable for shaping our products. To avoid all risk of cracking, the minimum inner bending radius must be taken into account.

For Reynobond®, the minimum inner radius on a bending machine is approx. 15 to 20 times the overall thickness of the composite panel.

We recommend carrying out tests before production.



### Milling

Please remember that the upper “looks” side of the panel must always be kept intact, and there must be a minimum thickness of polyethylene at the bottom of the milled groove (the polyethylene thickness is 0,3 mm with V-shaped grooves, and 1 mm with concave grooves).

### General recommendations for bending and folding

In general, it is essential to fold the entire turnback in a single movement, and to close the fold 10 to 20° more than the desired angle (to counteract a slight spring back effect) before shaping the exact final angle. Depending on the required fold, the following techniques may be used:

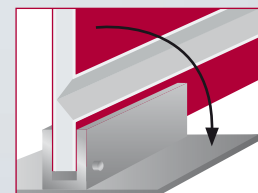
### Folding with a sheet former

The former is U or H-shaped, and is fitted with a handle to facilitate the operation. This device is particularly suitable for folding small sizes.



### Folding on a bending bench

The bench consists of a strip fitted to a base. The panel is clamped vertically in the strip, and tips over under its own weight, requiring little effort on the part of the operator. This technique is particularly suited for folding turnbacks, especially for long lengths and narrow folds.



Further information is given in our technical brochure.

# Fastening

There are several methods for fastening Reynobond®:

- Screw fastening,
- Rivetting,
- Glueing.

With all of these techniques, it is essential that the coefficient of expansion of the composite panels is taken into account, which amounts to 0,024 mm/m/°C; this translates into 2,4 mm/m with a temperature variation from -20°C to 80°C.

To compensate for this expansion, the adhesive used must be sufficiently elastic. When using rivets or screws as fasteners, the following must be considered:

The pressure exerted on the Reynobond® composite panel determines the type of rivet and its diameter. These precautions will prevent the rivets from pulling out.

For safety reasons, when selecting the rivets, we recommend adding a safety factor of 3 to the manufacturer's specified values for tensional and shear strength.

When used outdoors, there must be at least 2 mm of working play between the rivet diameter and the hole diameter in the Reynobond® composite panel, in order to compensate for the linear coefficient of thermal expansion.

When fastening, there must be one fixed point – ideally in the centre of the panel. The other fastening points are also expansion points with sufficient hole play. The fixed central point permits free expansion in both directions.

It is essential that a step drill be used to ensure perfectly coaxial drilling of the panel and the support, and that the bore in the Reynobond® panel is larger than the hole in the support. In all cases we recommend that you follow the supplier's instructions, and carry out some advance testing.

The rivet's swage head or the screw head must be large enough to cover the bore hole in the panel. There must be play between the panel and the screw head or the rivet's swage head.

Painted rivets are particularly suited for assemblies with visible rivets.

# General data, facts & figures



## Standard dimensions \*

Thickness (mm)	2, 3, 4 und 6
Width (mm)	1000, 1250, 1500, 2000
Length	variable lengths possible

## Tolerances of Reynobond®

Thickness (mm)	± 0.1
Width (mm)	0/+3
Length: between 2000 and 4050 mm between 4050 and 6050 mm > 6050 mm	0/+3 0/+6 please consult us
Deviation from diagonal (mm)	3
Deviation from superposition (mm)	± 1.5
Curvature (mm)	< 1 mm

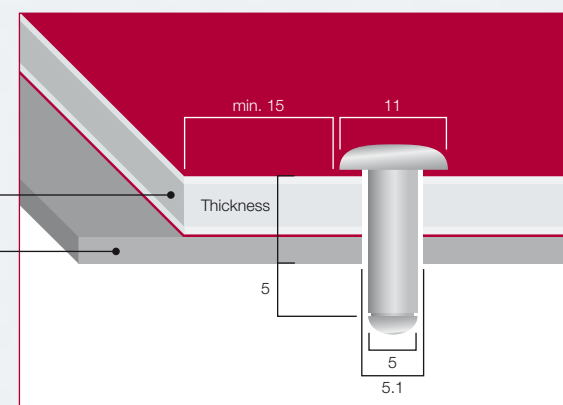
## Fire resistance of Reynobond®

France	Test CSTB: Class M1
Germany	To DIN 4102: Class B2
Switzerland	Class 4.2
Great Britain	To BS 476: Part 6, Class 0 Part 7, Class 1

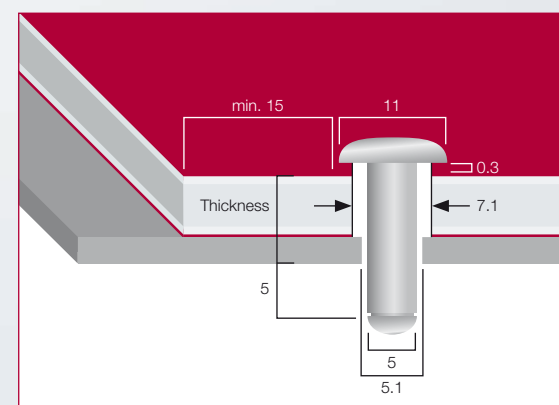
## Weight advantages

Panel deflection EJ (kNm <sup>2</sup> /m)	0.034	0.086	0.162
Weight of Reynobond® (kg/m <sup>2</sup> )	2.9	3.8	4.7
Material thickness (mm)	2.0	3.0	4.0
Weight of aluminium sheet (kg/m <sup>2</sup> )	4.6	6.5	7.8
Material thickness (mm)	1.7	2.4	2.9
Weight of PVC foam (kg/m <sup>2</sup> )	5.6	7.2	8.8
Material thickness (mm)	7.5	10.2	12.6

## Rivetting without expansion



## Rivetting with expansion



Given in mm

## General characteristics

Item	Unit	Reynobond®			
Thickness	mm	2	3	4	6
Weight	kg/m <sup>2</sup>	2.90	3.80	4.75	6.60
Rigidity	KN m <sup>2</sup> /m	0.034	0.086	0.162	0.384
Alloy	ENAW	3004			
Condition		H46			
Rm	N/mm <sup>2</sup>	≥ 260			
Elongation A50	%	≥ 6			
Modulus of elasticity	N/mm <sup>2</sup>	70000			
PE	g/cm <sup>3</sup>	0.92			
Water absorption	%	0.01			
DIN 53495					
Sound insulation	dB	23	24	25	26
Heat coefficient K	W/m <sup>2</sup> K	5.72	5.61	5.50	5.30
Expansion coefficient	mm/m/°C	0.024			

\* Other dimensions on request





**Reynobond®**  
**Sign & Display**

**ALCOA ARCHITECTURAL PRODUCTS**

1, rue du Ballon  
F-68500 Merxheim

Phone +33 (0) 3 89 74 47 13

Fax +33 (0) 3 89 74 46 35

e-mail: [aapmerxheim@alcoa.com](mailto:aapmerxheim@alcoa.com)

Internet: [www.reynobond.co.uk](http://www.reynobond.co.uk)

Your Reynobond® distributor  
Sign & Display: