

QUALITY MEETS DESIGN.

THE ORIGINAL ALUMINIUM COMPOSITE SHEET FROM 3A COMPOSITES





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DIBOND[®]

DIBOND® is the original aluminium composite sheet, comprising two 0.3 mm thick aluminium cover layers and a polyethylene or mineral core. It is lightweight - extremely rigid and strong, making it ideal for both indoor and outdoor applications.

DIBOND® is used predominately in the areas of signage, product and furniture design, shopfitting, interior design, shop design as well as trade fair and exhibition design.

It is the perfect material for producing creative ideas due to its wide range of high-quality surfaces, easy processing and durability.

3A Composites continually enhances the DIBOND® product portfolio! For us, it is very important that the design of our surfaces not only serves aesthetic purposes, but that our panels also comply with all technical expectations. So, alongside form, colour and functionality, the quality of our products and excellent processing properties play a particularly important part.

Moreover, sustainable involvement and environmental protection have always been amongst the essential corporate objectives at 3A Composites. The minimisation of risks for man and environment as well as the reduction of environmental pollution through careful and efficient utilisation of resources is part of the corporate philosophy.

Our DIBOND® production site is certified according to DIN EN ISO 14001, which establishes globally recognized requirements for environmental management. Furthermore, a strong linkage of management systems for quality (DIN EN ISO 9001), workplace safety (DIN ISO 45001) and energy management (DIN EN ISO 50001) is a key point in our corporate philosophy.

DIBOND® is a high quality product which goes through extensive quality controls during its production process. The abstention from hazardous processes and substances is one of our highest priorities. All lacquer formulars applied for DIBOND[®], also the special colours, do not contain any heavy metals. This has been tested by an independent institute and an according certificate is available for our DIBOND® range.

DIBOND[®] – MADE IN GERMANY!

DIBOND®

ALUMINIUM COMPOSITE PANELS COMPRISING TWO 0.3 MM THICK ALUMINIUM COVER LAYERS AND A POLYETHYLENE CORE

CHARACTERISTICS

- Cover sheets in AlMg1 alloy
- Lightweight high rigidity
- Very high resistance to weathering and corrosion
- UV-resistant black core
- Weather resistant applicable with temperatures between - 50°C up to + 80°C
- Easy to handle also three-dimensional
- Wide range of colours and formats up to 2050 mm width
- For interior and exterior applications
- Sustainable material mix 100% recyclable

APPLICATIONS

- Displays (POS / POP)
- Signage | Lettering
- Corporate Identity
- Shop design
- Shop window decoration
- Furniture construction | Interior design
- Partition wall | Cladding
- Exhibition design
- Creative work

PROCESSING

- Digital printing | Screen printing
- Laminating
- Lacquering
- Contour milling
- Water jet cutting
- Shearing | Sawing | Die cutting
- Glueing
- Drilling | Riveting | Screwing
- Welding

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- Folding (V-groove) | 3D
- Cold bending | Cold folding
- Engraving (laser / graver)







TECHNICAL DATA SHEET - DIBOND® STANDARD

| THICKNESSES AND WEIGHT | | | | | |
|-------------------------------------------|-------------------|---------------------------------------------|--------|--------|--------|
| Panel thickness | mm | 2 | 3 | 4 | 6 |
| Thickness of aluminium layer | mm | 0.3 | | | |
| Weight | kg/m² | 2.9 | 3.8 | 4.75 | 6.6 |
| CORE | | | | | |
| Polyethylene, type LDPE | g/cm³ | 0.92 | | | |
| SURFACE | | | | | |
| Lacquering | | Modified-Polyester-Coating | | | |
| Gloss (Initial value) | % | 25 - 85 | | | |
| MECHANICAL PROPERTIES | | | | | |
| Section Modulus (W) | cm³/m | 0.5 | 0.8 | 1.1 | 1.7 |
| Rigidity (E·I) | kNcm²/m | 345 | 865 | 1620 | 3840 |
| Alloy of aluminium layer | | EN AW-5005A (AIMg1), H44 according EN 485-2 | | | |
| Modulus of Elasticity | N/mm ² | 70'000 | | | |
| Tensile strength of aluminium | N/mm ² | R _m 145 - 185 | | | |
| Proof Stress | N/mm ² | R _{p0,2} 110 - 175 | | | |
| Elongation | % | A50 ≥ 3 | | | |
| Linear Thermal Expansion | | 2.4 mm/m at 100°C temperature difference | | | |
| ACOUSTICAL PROPERTIES | | | | | |
| Sound Absorption Factor (αs) | | 0.05 | | | |
| Sound Transmission Loss (R _w) | dB | 23 | 24 | 25 | 26 |
| Loss Factor (d) | | 0.0048 | 0.0057 | 0.0072 | 0.0102 |
| THERMAL PROPERTIES | | | | | |
| Thermal Resistance (1/λ) | m²K/W | 0.0047 | 0.0080 | 0.0113 | 0.0180 |
| Thermal Transmission Coefficient (k) | W/m²K | 5.72 | 5.61 | 5.50 | 5.30 |
| Temperature resistance | °C | -50+80 | | | |

DIBOND



STANDARD COLOURS

DIBOND® offers endless options for individual designs through creative colour schemes. Our colour span ranges from traditional to trendy. Our DIBOND® standard colours are available in different surface combinations: ■ matt/matt ■ gloss/matt ■ gloss/gloss | Gardner Reflectivity: Matt: 25-40% | Gloss: approx. 85%



SPECIAL COLOURS

Besides the standard DIBOND® colours we have the possibility to provide a wide variety of specific customized colours in our own colour lab. Available in colour options e.g. RAL or PANTONE colour systems or your custom colour, and in a wide range of gloss levels. From low gloss (> 10 GU) to high-gloss (> 80 GU), everything is possible – please just get in touch. | GU = Gloss Unit



For our DIBOND® colours we guarantee a constantly high quality of colour and colour consistency. The colours printed may vary from the original. To ensure exact colour matching please ask for a colour sample. To secure colour consistency, the material for each project should be placed on one order.



SPECIALTIES

The great variety of DIBOND® surfaces is reflected not only in numerous standard and special colours but also in a wide range of special surfaces and versions - our "specialties". On the following pages, we would like to share the inspiration DIBOND® offers. Not only lightweight and strong, it is easy to shape and process and ideal for a wide range of potential applications.

Spaces for presentations, consultations, service and sales: DIBOND® turns them into exciting settings with distinctive flair. Whether it is in furniture design, as wall or ceiling cladding, for shelving systems construction, or for counters, bars and kitchens, DIBOND® is so versatile when it comes to processing and fixing that there is almost unlimited scope for creativity.

High-quality, aesthetic DIBOND® surfaces create the right atmosphere for successful customer communication, offering a unique and coherent design which communicates the quality of your brand to customers.

DIBOND® does not only make a positive impact indoors but, thanks to its excellent weather resistance, also in a wide range of outdoor applications. For example: impressive shop fronts, information boards, signposting, pylons and totems for corporate signage or for particularly eye-catching, spectacular outdoor advertising campaigns.

Are you still looking for your perfect surface? DIBOND®design can satisfy your individual design needs; and thanks to its mineral core, DIBOND® FR provides you with a flame-retardant aluminium composite panel which makes it ideal for use in areas where stringent fire protection requirements must be met.

Turn your brightest ideas into reality with DIBOND®!



BUTLERFINISH®

BRUSHED ALUMINIUM LOOK IN STYLISH, CONTEMPORARY COLOURS

A special process creates the unique brushed appearance of BUTLERFINISH® surfaces. By running the cover plate through rollers, the surface is embossed and given a brushed aluminium effect before being finished with a clear lacquer. The distinctive and exclusive brushed aluminium effect is in high demand for applications in areas such as store design, furniture construction, high-grade POS / POP applications and as a substrate for advertising applications. Whether for interior or exterior use, flat or three-dimensionally shaped - its wide-range of processing options, such as routing, folding, bending and roll-bending, allow creative designs to be implemented effectively and aesthetically.

The brushed aluminium effect is also available in a selection of colours: rosé, gold, steel, anthracite and copper.

CHARACTERISTICS

- High-quality, brushed surface
- Excellent printing results
- Optimum processing parameters
- For interior and exterior applications
 - - Exhibition design
 - Creative work
- Digital printing | Screen printing
- Contour milling

PROCESSING

- Water jet cutting
- Shearing | Sawing | Die cutting
- Glueing
- Drilling | Riveting | Screwing
- Welding
- Folding (V-groove) | 3D
- Cold bending | Cold folding
- Engraving (laser / graver)



BUTLERFINISH[®] rosé



BUTLERFINISH[®] steel

BUTLERFINISH®

BUTLERFINISH[®] anthracite

DIBONDbutlerfinish

- Displays (POS / POP) ■ Signage | Lettering Corporate Identity ■ Shop design | Shop window decoration ■ Furniture construction | Interior design



BUTLERFINISH[®] gold





DIBOND[®] structure

STRUCTURED TACTILE SURFACES FOR DAZZLING HIGHLIGHTS

DIBOND®structure has a distinctive look. A look achieved by a special coating system which gives the panel a tangible, textured surface, and which is also largely dirt-resistant. With silver, black or white surfaces to choose from, DIBOND®structure ensures that there are vivid highlights, especially as eye-catchers, for selected details or on a larger scale, for applications in the fields of shop fitting, wall cladding, interior design, bars and counters. DIBOND®structure ensures high quality products are displayed to their best advantage.

DIBOND® structure can be processed in the same way as standard versions of DIBOND®, that means it is exceptionally wellsuited to processing techniques such as sawing, cutting, routing, folding, 3-dimensional forming, etc. DIBOND® structure can be digitally printed using the direct to substrate method. However, care should be taken to use suitable ink systems and to comply with certain parameters. In particular, it is important to ensure adequate print head clearance. We recommend pre-testing the adhesion and drying of the type of ink selected for use. Wearing suitable gloves at work is essential to avoid leaving fingerprints. Due to its surface structure, DIBOND® structure is not suitable for laminating, and there are also different parameters for gluing and fixing that result from the surface structure. But, when it comes to engraving, the black surface is particularly suitable and an excellent choice.

CHARACTERISTICS

- .
- Distinctive structure due to special coating system
- Special texture and aesthetics
- Suitable for interior and exterior applications

PROCESSING

- Digital printing
- Contour milling
- Water jet cutting
- Shearing | Sawing | Die cutting
- Glueing
- Drilling | Riveting | Screwing
- Welding
- Folding (V-groove) | 3D
- Engraving (laser / graver)





DIBOND[°]structure

- Displays (POS / POP)
- Signage | Lettering
- Corporate Identity
- Shop design | Shop window decoration
- Furniture construction | Interior design
- Exhibition design
- Creative work





White



DIBOND[®]mirror

REFLECTIVE SURFACES FOR MORE LIGHT, SPACE AND TRANSPARENCY

Reflective DIBOND® surfaces have specular reflection properties similar to those of a conventional glass mirror – but they are unbreakable and the panels offer a weight reduction of up to 50%. DIBOND®mirror creates more light, space and transparency in interiors and it is an appealing material option for interior design in spaces which appear small or cramped (shops, hotels, bars and other leisure facilities). It is also ideal for trade fair design and for applications in public spaces (for instance sport stadiums) where safety takes precedence.

Since direct digital printing or laser engraving are all possible with DIBOND®mirror, it is also an ideal substrate for advertising messages. However, care should be taken in case of printing to use suitable ink systems and to comply with certain parameters. We recommend pre-testing the adhesion and drying of the type of ink selected for use. Wearing suitable gloves at work is essential to avoid leaving fingerprints.

DIBOND®mirror offers almost all the same processing qualities as standard DIBOND®, with the exception of some folding or bending options. DIBOND®mirror compares favourably to acrylic mirror panels because the surface of the mirror does not flake off during cutting. Another important feature is that DIBOND®mirror is less sensitive to mechanical constraints and much safer and easier to mount than glass, which has a high risk of breakage, or mirror products made of acrylic, which can warp at fixture points.

The mirrored effect is available in gold and anthracite and in a special variant for exterior applications.

CHARACTERISTICS

- Reflective properties similar to a conventional glass mirror
- Lightweight and non-breakable: handling, transport and installation advantages
- Mirror surface does not flake off during cutting process
- Less sensitive to pressure than glass or acrylic i.e. problem-free mounting without warping
- Different product versions for internal and external uses

PROCESSING

- Digital printing
- Contour milling
- Water jet cutting
- Shearing | Sawing | Die cutting
- Glueing
- Drilling | Riveting | Screwing
- Welding
- Engraving (laser / graver)

- Displays (POS / POP)
- Signage | Lettering
- Corporate Identity
- Shop design | Shop window decoration
- Furniture construction | Interior design
- Exhibition design
- Creative work





Mirror anthracite



DIBOND[®]decor

ELEGANT WOOD LOOKS FOR CREATIVE DESIGN

DIBOND®decor stands for a range of aluminium composite panels featuring a variety of wood effect finishes. DIBOND®decor is used in the fields of shopfitting and store design, but also for furniture construction, exhibition stands, for POS displays or advertising - in fact, wherever there is a need for a combination of elegant wood effect and "wood untypical" shaping. Compared to real wood, DIBOND®decor is dimensionally stable, not sensitive to humidity and changes of temperature and, therefore, can be used in long-term external applications. In addition, another advantage is that DIBOND® decor does not require repainting, sanding or retouching.

Direct to substrate screen and digital printing options mean DIBOND® decor is also ideal for advertising purposes. Creating threedimensional designs is easy because all processing methods for standard DIBOND® products, such as roll-bending, contour milling, routing and folding as well as cutting, can also be done with DIBOND®decor. The easy bending properties, for example, for circular forms, pillar covers or furniture construction provide a decisive advantage over real wood or wood-veneered chipboard panels. A practical aspect: when cladding pillars, DIBOND®decor can be routed in advance, transported flat and shaped appropriately on site - using simple, manual means and without tools.

DIBOND® decor is available in the colours maple, wenge and walnut.

CHARACTERISTICS

- Temperature resistance from 50°C up to +80°C and absolute humidity resistance
- Lightweight in comparison with real wood saves effort and costs for handling, transporting and installing
- Suitable for direct-to-substrate screen and digital printing (without pre-treatment)
- Easy bending for curved and wave shapes
- Minimal maintenance costs (no need to repaint)

PROCESSING

- Digital printing | Screen printing
- Contour milling
- Water jet cutting
- Shearing | Sawing | Die cutting
- Glueing
- Drilling | Riveting | Screwing
- Welding
- Folding (V-groove) | 3D
- Cold bending | Cold folding





- Displays (POS / POP)
- Signage | Lettering
- Corporate Identity
- Shop design | Shop window decoration
- Furniture construction | Interior design
- Exhibition design
- Creative work





Walnut



DIBOND[®]design

UNLIMITED DESIGN FREEDOM TO EXPRESS YOUR INDIVIDUAL STYLE

DIBOND[®]design allows a new freedom of design that lets inspiration come true. Architects and designers are able to create their own individual designs and yet retain the advantages and quality of tried and trusted DIBOND[®] material. Individual decors, designed to suit customers' needs, can be produced on request. Due to the high flexibility and the quick realisation, small lot sizes are also feasible.

In addition, there is the possibility to choose designs from our existing decor collection to achieve remarkable effects. This inspirational collection includes Art/Fashion, 3D-Effect, Stone/Natura, Carbon, Vintage/Metallics as well as concrete and wood effects. Whether used extensively or selectively, for applications such as petrol stations, shopfronts, shopfitting, interior design or for your special Corporate Design Project – individual DIBOND® design decors accentuate indoor and outdoor applications. The 3D effect and depth of colour as well as the possibility to create metallic effects provide an additional scope of design.

Another advantage is that there is no repetition of the decor up to 5 metres. Combined with the extraordinary formability (e.g. folding, bending) of DIBOND[®], unlimited possibilities arise to express your unique style. The use of high quality lacquer systems guarantees a long-term durability.

We will be pleased to assist you in realising your creative ideas for truly unique projects.

CHARACTERISTICS

- Individual decor-surfaces
- Planning and design freedom
- Light, high bending stiffness, outstanding flatness
- Use of premium-quality lacquer systems
- Ready-to-use product
- Guaranteed durability (also in exterior applications)
- Easy processing with standard tools and procedures e.g. folding, bending and roll bending
- No application of adhesive films or additional treatment of the surface necessary

PROCESSING

- Digital printing | Screen printing
- Contour milling
- Water jet cutting
- Shearing | Sawing | Die cutting
- Glueing
- Drilling | Riveting | Screwing
- Welding
- Folding (V-groove) | 3D
- Cold bending | Cold folding

- Displays (POS / POP)
- Signage | Lettering
- Corporate Identity
- Shop design | Shop window decoration
- Furniture construction | Interior design
- Exhibition design
- Creative work



DIBOND[®]digital

OPTIMISED LACQUER SYSTEM ESPECIALLY FOR DIRECT TO SUBSTRATE DIGITAL PRINTING

DIBOND® digital is the aluminium composite material especially for direct to substrate digital printing on flatbed printers. An optimised lacquer system guarantees best possible ink adhesion for UV-curing and solvent based inks. The combination of optimal ink adhesion and the extreme flatness of panel surfaces mean that printing fine lines and small-scale fonts are possible as are increased printing speeds.

The results of numerous print trials in cooperation with well-known printing machine manufacturers have always produced perfect print results and achieved excellent Cross Hatch Test performances. The ideal flatness and minimal thickness variation of the sheets ensure that the clearance between panel and print heads can be kept to a minimum.

DIBOND® digital is UV-resistant and temperature resistant up to 80°C, meaning the sheet is not only suitable for external applications but also the ideal printing substrate for poorly ventilated shop windows. This explains why DIBOND® digital is a particularly popular choice, both in internal and external applications, for advertising boards and high-class advertising campaign signage, for exhibitions and event marketing.

Unlike standard DIBOND®, DIBOND®digital comes with 0.2 mm aluminium layers, making it ideal for flat applications. For panels which are going to be processed into three-dimensional applications after printing, (e.g. using the routing and folding technique), we recommend standard versions of DIBOND®. Otherwise DIBOND®digital can be processed in the same ways as standard DIBOND[®] sheets.

CHARACTERISTICS

- 0.2 mm aluminium cover layers
- Optimised lacquer system guaranteeing best possible ink adhesion and allowing for high-speed printing
- UV- and weather-resistant
- Perfect printing results Cross Hatch Test = Gt 0
- Extremely flat, smooth, uniform surface and good dimensional stability

PROCESSING

- Digital printing | Screen printing
- Laminating
- Painting | Spraying
- Contour milling
- Water jet cutting
- Shearing | Sawing | Die cutting
- Glueing
- Drilling | Riveting | Screwing
- Welding

- Displays (POS / POP)
- Signage | Lettering
- Corporate Identity
- Shop design | Shop window decoration
- Furniture construction | Interior design
- Exhibition design
- Creative work



DIBOND[®]eloxal

MATT, VELVETY METALLIC SURFACE WITH ENHANCED SCRATCH AND ABRASION RESISTANCE

DIBOND®eloxal surfaces are substantially harder and, therefore, more scratch-resistant than other DIBOND® surfaces thanks to a 10 µm-thick anodised coating. Due to its robustness, DIBOND®eloxal caters for all applications requiring not only particular durability but also aesthetic elegance. The authentic glistening matt of the surfaces' metal effect offers a high-class, sophisticated appearance, particularly in interior applications. This explains why DIBOND®eloxal is especially popular for decorative surfaces in shop, furniture and trade fair applications, for product promotions at POS, as well as for counters and displays.

DIBOND[®]eloxal can be processed in the same way as standard DIBOND[®] versions, with the exception of routing and folding techniques.

CHARACTERISTICS

- Anodised surfaces on each side (protective oxide coating)
- Enhanced abrasion and scratch resistance
- Largely dirt-resistant
- Ideally suited for screen-printing
- Suitable for interior applications

PROCESSING

- Digital printing | Screen printing
- Contour milling
- Water jet cutting
- Shearing | Sawing | Die cutting
- Glueing
- Drilling | Riveting | Screwing
- Welding
- Engraving (laser / graver)



Anodised

- Displays (POS / POP)
- Signage | Lettering
- Corporate Identity
- Shop design | Shop window decoration
- Furniture construction | Interior design
- Exhibition design
- Creative work



DIBOND®FR

MINERAL CORE FOR APPLICATIONS WITH MORE STRINGENT FIRE SAFETY REQUIREMENTS

The public sector, in particular, often requires stricter fire prevention measures. Both the mineral core used in DIBOND® FR and its aluminium cover layers make key contributions to the fire classification class B-s1, d0 according to European standards EN 13501. DIBOND® FR achieves this classification without the addition of halogenated fire retardants, with the result that there is no undue risk of exposure to toxic agents. DIBOND® FR can be used in a variety of applications where stringent fire prevention regulations are in place: airports, exhibition halls, shopping malls, in public buildings, in shopfitting and for interior cladding as well as displays and signage. DIBOND® FR can be processed in exactly the same way as standard DIBOND® sheets (with the exception of hot air welding) and it is also suitable for three-dimensional applications.

The standard version of DIBOND[®] FR is available with a platinum white matt surface on both sides. On request, both the full-range of standard and special colours described before and our "specialties" are available with a mineral core.

CHARACTERISTICS

- Fire classification class B-s1, d0 according to EN 13501
- Mineral core without halogenated fire retardants
 no undue risk of exposure to toxic agents.
- Suitable for known DIBOND[®] processing options (except for hot air welding)
- Excellent processing results, including routing and folding technique
- Suitable for interior and exterior applications

PROCESSING

- Digital printing | Screen printing
- Laminating
- Painting | Spraying
- Contour milling
- Water jet cutting
- Shearing | Sawing | Die cutting
- Glueing
- Drilling | Riveting | Screwing
- Folding (V-groove) | 3D
- Cold bending | Cold folding

- Displays (POS / POP)
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- Exhibition design
- Creative work













































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