

# DIBOND®

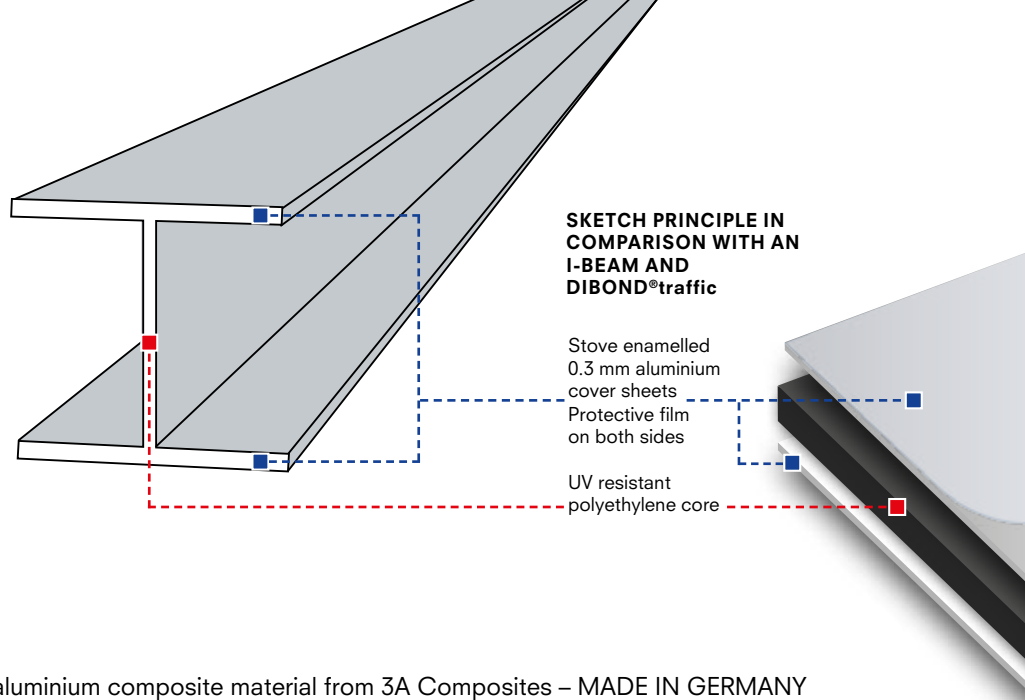
DIBOND® traffic



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## A NEW DIRECTION FOR TRAFFIC SIGNS

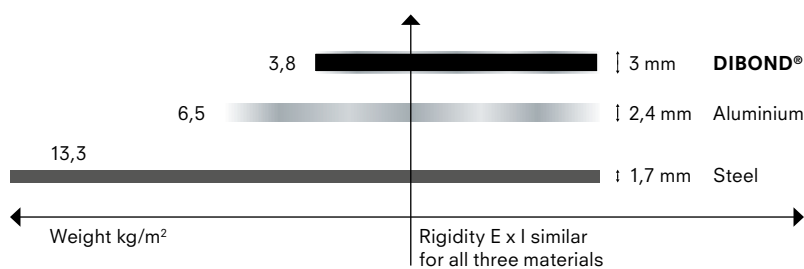
THE ONLY ACM SIGNAGE WITH ADVANCED DURABILITY  
– THE LOWER COST SOLUTION UP TO 20%.

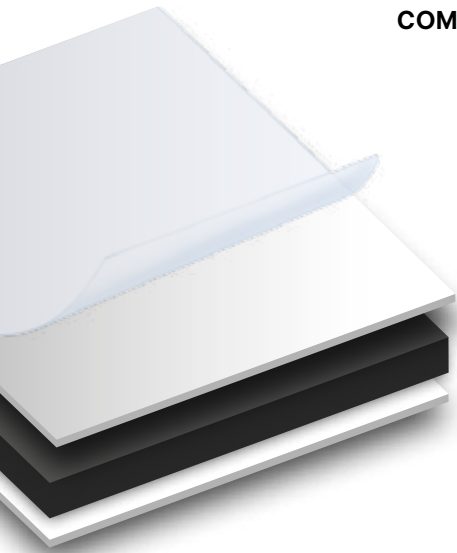


## PRODUCT SPECIFICATION

- High grade aluminium composite material from 3A Composites – MADE IN GERMANY
- **No scrap value - no theft value**
  - Escalating costs of aluminium
    - Disproportional cost increase of full aluminium traffic signs
    - Rising costs of scrap → Increased thefts
  - Alternative sign solution DIBOND®traffic
    - Low aluminium share → Lower price increase
    - No scrap value → No thefts
- 40 years of experience in ACM business - highly experienced technical service, constantly high quality
  - Optimised bonding system ensuring no delamination
  - Tested for a minimum of 2000 hours in salt water
  - Corrosion resistance → no change in appearance
  - Impact resistance → no cracking or delamination
- DIBOND® is the only ACM with AlMg1 alloy - quality of alloy according to EN 485
  - Optimised processing possibilities and corrosion resistance
  - Weather resistant material and coating
- Available in traffic grey and green, black or white
- Wide range of sheet sizes and shapes
- Excellent surface for lamination of reflective road vinyls, screen printing and digital printing
- Perfect flatness and flexural stiffness
- High rigidity compared to the low weight
  - Easy handling and installation
  - Easy fixing
- Internationally available

## COMPARISON OF THICKNESS AND WEIGHT AT EQUAL FLEXURAL STIFFNESS





## QUALITY AND COMPLIANCE

- 3A Composites GmbH is a member of the ECCA (European Coil Coating Association) – DIBOND® surfaces are lacquered at the Singen site. All lacquers come from a German source and are free of any hazardous substances such as heavy metals.
- This is proven and tested through an independent institute – an according certificate is available for the whole program
- Compliant to WEE and REACH
- Manufactured according to ISO 9001, EN 14001, ISO TS 14969 and OHSAS 18001
- Quality inspection certificate - according to DIN EN 10204
- Supported by the leading reflective film manufacturers
- **UK:** BSI tested according to EN 12899-1: 2007
  - ☑ Corrosion test    ☑ Impact test    ☑ Adhesion test
- **Netherlands:** Rijkswaterstaat tested according to EN 12899-1, CE-label according to EN 12899. Requirements as a substrate for gantry signs fulfilled (FEM method).
- **South Africa:** SABS tested according to SANS 1519-2:2004
  - ☑ Corrosion test    ☑ Weathering test    ☑ Adhesion test
  - ☑ Impact test    ☑ Load test

## WARRANTY

- DIBOND®traffic is the only ACM sheet with a **full manufacturer's warranty** of 12 years

## PASSIVELY SAFE

- DIBOND®traffic is passively safe – see our MIRA crash test results

## SUSTAINABILITY

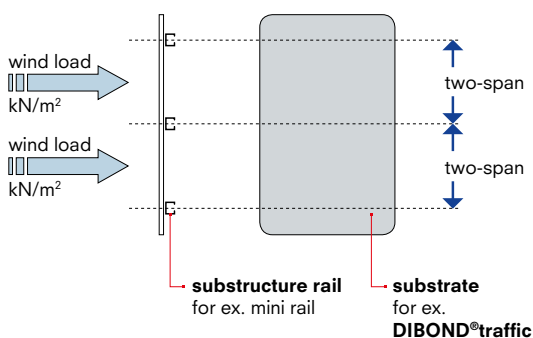
- 3A Composites is the only ACM manufacturer offering a closed recycling system for all scrap and future replacement signs
- CO<sub>2</sub> emission for the production of aluminium are clearly lower for composite materials than for solid sheets

## PROCESSING AND INSTALLATION

- Easy cutting with vertical panel saw or jig saw – aluminium cover layers are only 0,3 mm thick
- When shearing - use evenly ground tools and narrow cutting gap of 0,1 mm for clean cuts
- Processable with CNC standard machines and suitable cutters
- Punching to standard road sign shapes
- Load tables for safe installation available
  - Single and two span
- Approved for use with the **Henrob** and the **Böllhoff RIVSET® fixing system**
  - Pullout testing - the measured values are well below solid material
  - Distance between fixings should be ≤ 100 mm
  - Distance to the edge should be 25 mm

side view

front view



## LOAD TABLE – WIND LOAD

Thickness 3 mm

Wind Load	[kN/m <sup>2</sup> ]	0.3	0.4	0.5	0.6	0.7	0.8	1	1.2	1.4	1.6	1.8
Single span	max. b [mm]	655	596	553	520	494	473	439	413	392	375	361
Two span	max. b [mm]	878	798	741	697	662	633	588	553	525	503	492

### TECHNICAL DATA

Panel thickness	Standard	Units	3 mm
Thickness of Aluminium Layers		[mm]	0.30
Weight		[kg/m <sup>2</sup> ]	3.80
<b>Technical Properties:</b>			
Section Modulus W	DIN 53293	[cm <sup>3</sup> /m]	0.81
Rigidity (Poisson's ratio $\mu = 0.3$ ) E·I	DIN 53293	[kNcm <sup>2</sup> /m]	865
Alloy of Aluminium Layers	EN 573-3		AlMg 1 (EN AW-5005)
Temper	EN 515		H44
Modulus of Elasticity	EN 1999 1-1	[N/mmm <sup>2</sup> ]	70'000
Tensile Strength of Aluminium	EN 485-2	[N/mmm <sup>2</sup> ]	R <sub>m</sub> 145 – 185
0.2% Proof Stress	EN 485-2	[N/mmm <sup>2</sup> ]	R <sub>p0.2</sub> 110 – 175
Elongation	EN 485-2	[%]	A <sub>50</sub> ≥ 3
Linear Thermal Expansion	EN 1999 1-1		2.4 mm / m at 100°C temperature difference
<b>Core:</b>			
Polyethylene, Typ LDPE		[g/cm <sup>3</sup> ]	0.92
<b>Composition:</b>			Advanced durability
<b>Surface:</b>			
Lacquering			Coil Coating Mod. Polyester-System adapted for the lamination of reflective sheeting
Gloss grade (according to Gardner)	EN 13523-2		30 – 35 %
Pencil Hardness	EN 13523-4		HB – F
Corrosion and Impact (according to clauses 5.3.5 and 5.3.7)	EN 12899-1		passed
<b>Temperature resistance:</b>		[°C]	-50°C... +80°C
<b>Quality:</b>	Quality management according to ISO TS 16949, ISO 9001, EN 14001. Inspection certificate 3.1 according to EN 10204 is available with this product.		
<b>Warranty:</b>	12 years full manufacturers warranty		

