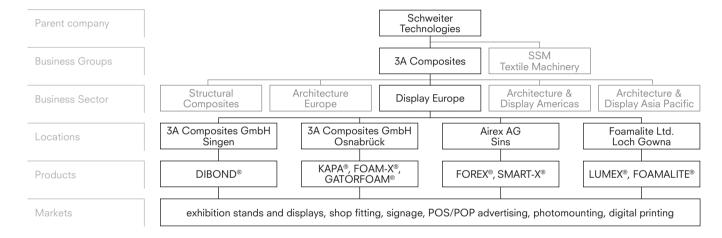
OUR COMPANY



DIBOND FOREX SMART-X KAPA LUMEX GATORFOAM



3A Composites GmbH Singen, Germany Tel +49 (0) 77 31 80 29 89 Fax +49 (0) 77 31 80 21 05 display.eu@3AComposites.com www.dibond.eu 3A Composites GmbH Osnabrück, Germany Tel +49(0)541 1219316 Fax +49(0)541 1219393 display.eu@3AComposites.com www.kapa.eu

Airex AG Sins, Switzerland Tel +41 (0) 41 789 6650 Fax +41 (0) 41 789 6660 display.eu@3AComposites.com www.forex.eu FOAMALITE Ltd. Loch Gowna, Ireland Tel +353-43-668 3525 Fax +353-43-668 3523 info@foamalite.ie www.foamalite.ie **DIBOND® FOREX**® SMART-X° KAPA **LUMEX**® GATORFOAM COMPOSITES

THE BROADEST RANGE AND THE WIDEST DIMENSIONS

3A COMPOSITES A WORLDWIDE ORGANIZATION

3A COMPOSITES, a division of Schweiter Technologies, has approximately 2'500 employees at various locations in Europe, the Americas and Asia. It is active in manufacturing and commercializing lightweight products for architecture, visual communication, transportation, industrial and wind energy markets. The 3A COMPOSITES range includes leading brands such as ALUCOBOND®, DIBOND®, ALUCORE®, HYLITE®, FOREX®, SMART-X®, GATOR®, KAPA®, FOAMALITE®, LUMEX®, FOME-COR®, AIREX® und BALTEK®.

3A Composites GmbH operates from headquarters in Germany and Switzerland and has a long tradition of manufacturing famous brands and offering customers a very varied product range. This range comprises leading brands including DIBOND® aluminium composite panels, SMART-X®, KAPA®, GATORFOAM®, FOAM-X® lightweight foam boards, FOREX® and FOAMALITE® rigid foam plastic sheets as well as LUMEX® highly transparent PET polyester sheets.

This broad range, including a huge choice of variants and options for applications in signage, exhibition, shop and interior design, POS / POP and advertising, means we are able to serve our customers as a single-source supplier of sheet material for virtually any application.

Thanks to a worldwide production and distribution network, designed with our customers in mind, our products are available on short lead times in over 80 countries. This service is based on cooperative partnerships with leading distributors in the paper, plastics and metal sectors who provide application support and other valuable customer services tailored to suit individual needs.

As market leader, we attach the highest importance to sustainability in our production processes and the development of environmentally compliant materials to ensure prompt delivery of requirement-oriented, innovative and high quality products to our customers.

DIBOND®

FOREX°

SMART-X°

KAPA

LUMEX°

GATORFOAM

The selection of materials depends on key factors such as required lifespan, processing, fixing and attaching options as well as surface finishes.

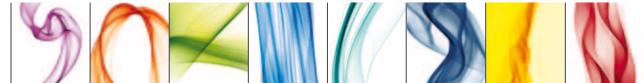
This matrix gives you an overview of our whole range with the specification criteria you can easily find the appropriate product for your application.

Of course, this can only act as an initial guide. More detailed information can be found in this brochure or in our individual product brochures.

	+	+	+	+	-	+	+	+	+	+	+	-	+	+	+	+	+	+	+	+	+	+
	+	+	+	+	-	-	+	+	+	+	+	+	+	-	+	-	+	+	+	+	+	+
	+	-	+	+	+	-	+	+	-	-	-	-	-	-	-	-	+	-	+	+	-	+
	+	-	-	-	+	-	+	-	-	+	-	-	+	-	-	-	+	+	+	+	+	+
	+	+	+	+	-	+	+	+	+	-	+	+	+	-	+	-	+	+	+	-	+	+
	+	-	-	-	+	-	+	+	+	-	-	-	-	-	-	-	+	+	+	+	+	+
	Interior	External long-term (> 3 years)	External medium-term (1-3 years)	External short-term (< 1 years)	Cutting/Die cutting/Plotting	Guillotining	Sawing	Drilling	Contour milling	Folding (V-groove)	Cold bending	Hot forming	Punching	Riveting	Screwing	Hot air welding	Gluing	Mounting/Laminating	Varnishing/Lacquering	Painting/Spray painting	Screen printing	Digital printing
ı	Αŗ	plio ty _l		on				Pro	cess	sing					Fix	ing				ırfa atm		

- Suitable - Unsuitable

Please contact our sales team for detailed advice and support





DIBOND® FOR PEOPLE WITH IDEAS

DIBOND® is an exceptionally sturdy aluminium composite panel, comprising a polyethylene core with two aluminium surface layers. This combination of aluminium and plastic makes it a lightweight, easy to process, versatile alternative to solid aluminium sheet. The surfaces of DIBOND® are stove enamelled using a coil coating process which is compliant with ECCA standards. A wide variety of colours and surface finishes are available.

DIBOND® offers excellent physical characteristics, such as

- Very high resistance to weathering and corrosion
- Excellent print substrate
- Very high level of stiffness
- Extremely flat surfaces even when sheets are thin
- UV-resistant black polyethylene core
- Fire certification
- Wide range of processing options.

These make DIBOND® the most popular and versatile material for people with ideas for interior and exterior applications.

DIBOND®

PRODUCT LINE

DIBOND® FR

The mineral-filled core of this DIBOND® panel fulfils increased fire retardation requirements (EN13501-1 class B).

Applications: Signage, exhibition stands and displays, shopfitting, interior design and public buildings.

DIBOND®digital

DIBOND® panel with 0.2 mm aluminium surfaces and optimised lacquer system for digital printing surfaces.

Applications: High quality digital printing, screen printing, signage, hoardings. DIBOND® digital is recommended for flat applications.

DIBONDbutlerfinish®

This member of the DIBOND® product family owes its appearance to superb, decorative brushed metallic surfaces in natural aluminium, gold, copper and steel.

Applications: Signage, exhibition stands and displays, interior design, POS/POP displays, modelmaking, furnishing applications, shopfitting and print.

DIBOND®eloxal 10um (batch anodised)

DIBOND® panel with an abrasion-resistant anodised surface. Also offers reduced fingerprint visibility.

Applications: Shopfitting, interior design, furnishing applications and signage. Due to its hard anodised surface, DIBOND®eloxal 10µm offers only limited folding (V-groove) and bending capabilities

DIBOND®mirror

Shatterproof DIBOND® panel in three decorative mirror surfaces for display purposes. **Applications:** Shopfitting, interior design, furnishing applications. The tough DIBOND®mirror surface limits bending or folding (V-groove).

DIBOND®decor

Aluminium composite panels with realistic wood effect finishes. DIBOND®decor is maintenance-free, resistant to moisture and temperature changes and thus also suited for external applications.

Applications: Shopfitting, interior design, furnishing applications, exhibition design, POS displays, advertising signage - easy processing for bending, rounding off, contour milling and routing and folding.

DIBOND®structure

This DIBOND® panel gets its characteristic look by using a special coating system that provides the panel with a haptic surface which is extremely durable.

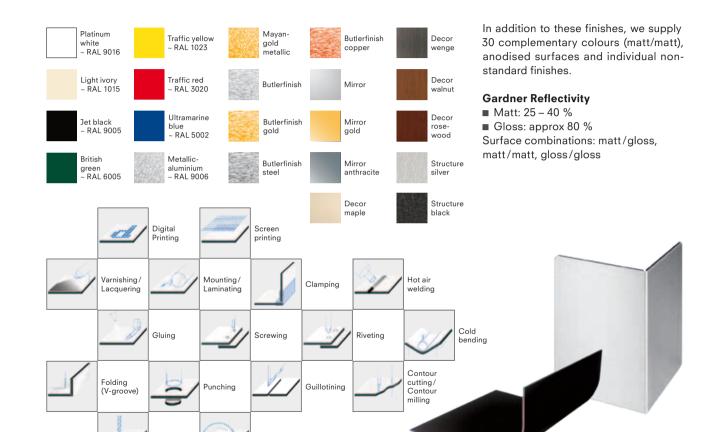
Applications: With its black or optionally silver surface, DIBOND® structure ensures bright accents. Especially as an eye catcher, used selectively to accentuate or extensively for full cladding, high quality products can be represented with DIBOND® structure in an excellent way. Applications cover the fields of shop fitting, wall cladding, interior design, bars and counters.

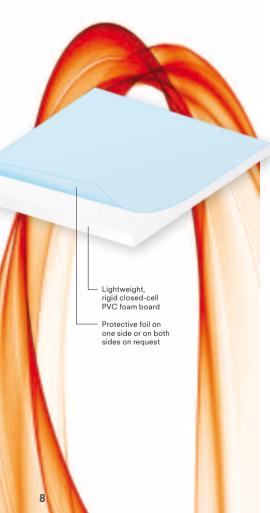
STANDARD COLOURS / FORMATS AND PROCESSING OPTIONS

	Platinum	white and	aluminiun	n metallic	Other colours	
Sheet thickness in mm	2	3	4	6	2/3/4	
Standard formats						
(L x W) 2050 x 1000						
2500 x 1000		•				
2500 x 1250						
3050 x 1250						
4050 x 1250						
3050 x 1500						
4050 x 1500						
5050 x 1500	-		-		-	
6250 x 1500	•	•	•	•	•	
3050 x 2050						
4050 x 2050	•	•	•			

Not all surfaces are available in all formats. All formats are standard formats ex works. Your local distributor can cut boards to size according to your needs.

DIBOND®





FOREX® classic A POPULAR CLASSIC

FOREX® classic is the premium board in the FOREX® product family with the best mechanical properties and a top-grade surface quality. The fine, closed-cell homogenous structure and smooth, silk-matt surface make FOREX® classic ideal for high-quality, long-term applications, both interior and exterior.

Thanks to renowned product attributes such as

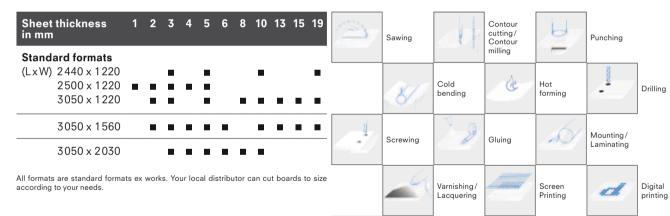
- such asHigh stability despite minimal weight
- Excellent print/mounting substrate
- Simple mechanical processing with standard tools for processing wood and plastic

- Behavior in fire: difficult-to-ignite and self-extinguishing
- > Euroclasses EN 13501-1: C s3 d0 (1 19 mm)
- > BS 476 / part 7: Class 1 (3 19 mm)
- Broad range of processing options, including 3D-forming with cold/hot bending or thermoforming
- FOREX® classic is suitable for internal and external applications, particularly in retail signage, exhibitions, interior design, POS / POP advertising and displays, modelmaking, shopfitting and printing.

STANDARD COLOURS / FORMATS AND PROCESSING OPTIONS

FOREX°









FOREX® print THE ECONOMIC SOLUTION FOR PRINTING

FOREX®print is specially designed to cater for the needs of the printing market. The extremely lightweight board features bright white, smooth and even surfaces and is the optimal substrate, especially for direct digital printing.

FOREX®print is the optimum substrate for high quality digital and screen printing, POS / POP displays and signage. FOREX®print enables economic solutions in the field of printing applications.

FOREX®print at a glance

- Bright white, smooth, even surface for good printability
- Excellent printability, best ink adhesion and colour fastness
- Good dimensional accuracy
- Suitable for flat applications
- "Ready to use" can be printed on directly without any pre-treatment required
- Suitable for shorter to medium-term applications for interior and exterior use
- Behavior in fire: difficult-to-ignite and self-extinguishing
- > Euroclasses EN 13501-1: C s3 d0 (2 - 10 mm)
- > BS 476 / part 7: Class 1 (10 mm)

STANDARD COLOURS / FORMATS AND PROCESSING OPTIONS

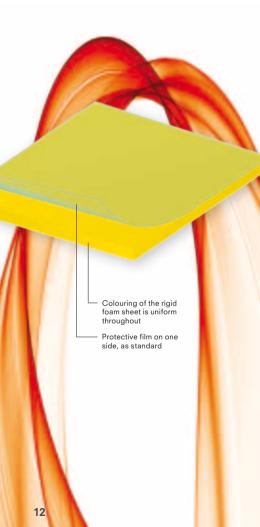




Sheet th	nickness in mm	2	3	4	5	6	8	10
Standa	rd formats							
$(L \times W)$	2440 x 1220							
	3050 x 1220		•		•			•
	3050 x 1560	•						
	3050 x 2030							-

Sawing	1	Drilling		Screwing
	Gluing	eth.	Digital Printing	
Screen Printing	6	Mounting/ Laminating		

All formats are standard formats ex works. Your local distributor can cut boards to size according to your needs.



FOREX®color THE CREATIVE PLAY OF COLOURS

FOREX® color rounds off the FOREX® product family with a selection of nine vibrant colour shades. As the colouring of the rigid foam sheet is uniform through-out, it offers optimum colour consistency and guarantees the same colour is seen when viewed from different angles.

FOREX® color provides designers with the best possible basis for adding a dash of colour to a comprehensive range of applications in the field of visual communication: as POS/POP merchandising displays, shopfitting and exhibition structures or as signage. FOREX® color can be used everywhere to emphasize advertising messages by means of powerful colour effects.

FOREX®color at a glance

- 9 colour shades with a striking colour effect
- Maximum colour consistency throughout the entire sheet
- High stability despite minimal weight
- Recommended for interior applications
- Resistant to moisture
- Simple, mechanical processing using standard tools for processing wood and plastics
- Behavior in fire: difficult-to-ignite and self-extinguishing DIN 4102, part 1: B1 (3 mm) /

NF P 92-501: M1 (3 - 5 mm)

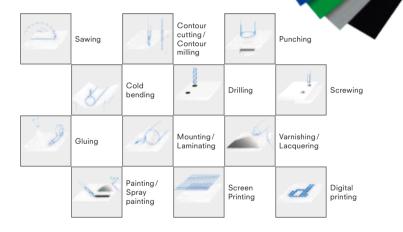
STANDARD COLOURS / FORMATS AND PROCESSING OPTIONS

FOREX°



Sheetth	nickness in mm	3	5	10
•	rd formats 2440 x 1220			
(= / / / /	3050 x 1560	-		-
	3050 x 2030			

Not all FOREX® color products are available in all offered formats and thicknesses. All formats are standard formats ex works. Your local distributor can cut boards to size according to your needs.



Solid polystyrene Expanded polystyrene core

SMART-X® FOR SMART EXTERNAL ADVERTISING

SMART-X® is a lightweight, all-plastic sheet material with surfaces of UV and weather resistant solid polystyrene (HIPS) and a core of expanded polystyrene that is completely moisture-resistant. These characteristics make SMART-X® the world's only lightweight foam board for external applications without any significant change in colour for a period of up to two years.

Due to its refined surface structure and the large format production (up to 2 metres width) SMART-X® is also perfectly suited for direct digital printing.

SMART-X® stands out, in particular, because of

- High stability and very low weight
- Very good resistance to weathering with high UV stability and humidity resistance, no deformation
- Refined surface structure
- Brilliant printing results with direct digital printing, offering vibrant colours even for exterior applications
- Available in 2 metres width
- Ecological SMART-X® is a monomaterial and 100% recyclable

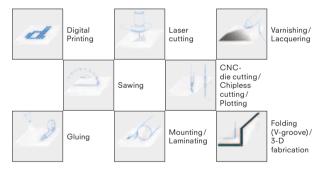
SMART-X® applications include all lamination and printing techniques and applications in the fields of signage, event marketing and product presentation.

STANDARD COLOURS / FORMATS AND PROCESSING OPTIONS



Sheet th	nickness in mm	5	10	19
Standa	rd formats			
(LxW)	2440 x 1220			
	3050 x 1220			
	3050 x 2030			

All formats are standard formats ex works. Your local distributor can cut boards to size according to your needs.



PRODUC



KAPA® TAILORMADE FOR YOUR APPLICATION

KAPA® is synonymous with a range of high-quality lightweight foam boards comprising individual liner sheets bonded with a polyurethane foam core. The options for use of KAPA® products range from modelmaking to multi-purpose substrates for interior applications because each KAPA® variant features different liner materials developed to meet specific application needs.

KAPA® is a high performance foam board with

- Usable surfaces on both sides
- High-quality liners
- Excellent level of stiffness and good dimensional stability
- Perfect flatness even with thin boards
- Problem-free application of solvent based paints and glues.

PRODUCT RANGE

KΔPΔ®line

Lightweight foam board with pigmented chromo-substitute liners and a polyurethane core. **Applications:** Decorative applications, punching and die cutting, digital printing and screen printing, modelmaking, presentations and display panel for design purposes.

KAPA®bright

Lightweight foam board with bright white woodfree matt-coated paper liners and a polyurethane core. **Applications:** Particularly suitable as bright white direct substrate for UV direct printing and screen printing as well as for modelmaking and display panels.

KAPA®plast

Lightweight foam board with very white plastic-coated cellucarton liners and polyurethane core. **Applications:** KAPA®plast is the high quality substrate for direct digital printing, screen printing and signage, display panel for design purposes and POS, die cut 3-D logos and lettering, modelmaking and presentations.

KAPA®premium

Premium lightweight foam board with high quality PET liners. The luxury paper liners offer printing results with highest quality and perfection. Moreover, they are tear- and water-resistant. **Applications**: Display panel for sophisticated advertising displays and POS.

KAPA®tex

Lightweight foam board with high-grade textured and latex-impregnated liners ("Canvas") on both sides and polyurethane core. **Applications:** Ideal substrate for direct digital printing, retail signage, photo campaigns and advertising displays as well as decorative applications.

KAPA® graph

Lightweight foam board with throughcoloured polyurethane foam core and doublesided bright white/black cellucarton liners (pH-neutral). **Applications:** Designer material for sophisticated creative applications, for model building, sculptures, presentations, window mounts for framing.

KAPA®color

Lightweight foam board with coloured plastic coated cellucarton liners (two-colour) and polyurethane core. **Applications:** Display panel for design purposes, modelmaking and presentations.

KΔPΔ®mount

Lightweight foam board with aluminium-reinforced UC paperboard liners. Fire rated to DIN 4102 B2 (EN 13501-1-E). **Applications:** High-quality mounting substrate for digital prints and/or large photographs.

KAPA®mount is also ideal for use as fill-in panel for exhibition and display systems. It is not recommended for punching.

KAPA®fix

Lightweight foam board with aluminium reinforced UC paperboard liners and self-adhesive surface on one or both sides of the sheet. KAPA®fix /1 fire rated to DIN 4102 class B2 (EN13501-1:E); BS 476, part 7 class 1. Applications: Specifically developed as a self-adhesive "rapid-action" mounting substrate for digital prints and/or large-format photographs. KAPA®fix is also ideal for use as fill-in panel for exhibition and display systems.

PRODUCTS





STANDARD FORMATS

Sheet thickness in mm	3	5	10	15	20
Standard formats					
$(L \times W) = 500 \times 700$			•		
1000 x 700					
1400 x 1000			•		
2 440 x 1220		-	-		
3000 x 1400		•	•	•	•
3050 x 1 530			•		
3050 x 2 030		•	•		

Not all KAPA® products are available in all offered formats and thicknesses. All formats are standard formats ex works. Your local distributor can cut boards to size according to your needs.

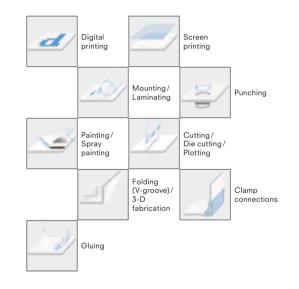
KAPA® - CUT TO SIZE

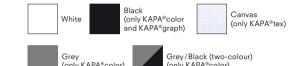
For all project business that requires special formats e.g. advertising campaigns, 3A Composites offers an extended flexibility in the production of KAPA® lightweight foam boards. The panels are available in any format with widths between 400 – 2030 mm and lengths between 400 – 4000 mm. Minimum order quantity of 500 m².

Thanks to the custom sizes ex works valuable time in today's short-term project business can be saved.

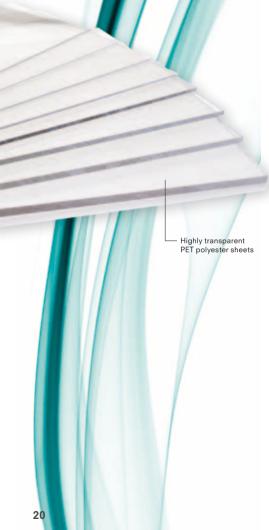
We will be happy to assist you with your next project!

STANDARD COLOURS AND PROCESSING OPTIONS









LUMEX® THE CHOICE IS CLEAR

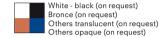
LUMEX® offers the complete range for transparent and translucent applications. The PET polyester sheets are available in two product types: LUMEX® A (amorphous PET), available in 0.8 - 6 mm thickness, for flat applications and "simple" thermoforming and LUMEX® G (modified PET with Glycol), in 0.8 – 10 mm thickness, for complex thermoforming and solvent bonding. Both products show extremely good printability with UV inks. In addition, they have a B1 fire classification as well as an FDA approval. They are extremely impact resistant, show good outdoor durability and are easy and fast to transform and print.

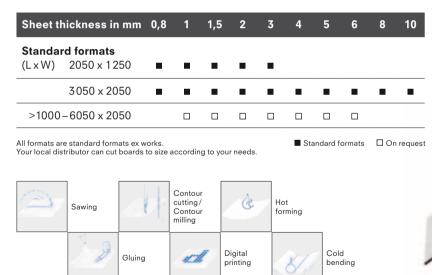
The flawlessly extruded A-PET and PET-G thermoplastic polyester sheets stand for:

- Excellent resistance to chemicals, solvents, detergents, oil and greases, etc.
- FDA/BGA approved suitable for food contact and medical applications
- Fully recyclable
- No drying prior to forming
- Good printability

STANDARD COLOURS / FORMATS AND PROCESSING OPTIONS

Clear-transparent
Clear-transparent ar (anti reflective)
Clear-transparent uv
Opal 30%







GATORFOAM® STRENGTH TAKEN LIGHTLY

GATORFOAM® is an extremely rigid lightweight foam board with resin impregnated liners on both sides and an extruded polystyrene foam core. Its high rigidity and flatness as well as thicknesses up to 25 mm make GATORFOAM® the optimum choice for all kinds of display and 3-D applications and ideal for all top-level imaging, lamination, decorative applications and interior design. The unique bright white surfaces of GATORFOAM® ensure high quality direct-to-substrate digital printing results.

GATORFOAM® offers

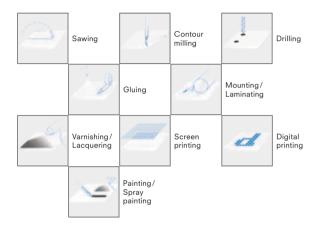
- A bright white surface
- Excellent image quality with direct-to-substrate digital printing
- High rigidity and dimensional stability
- Optimal flatness even with thin sheets
- Easy processing with standard techniques like sawing and die cutting

STANDARD COLOURS / FORMATS AND PROCESSING OPTIONS



Sheet t	hickness in mm	5	10	25
	rd formats 2440 x 1220			
	3050 x 1524	•		

All formats are standard formats ex works. Your local distributor an cut boards to size according to your needs.



GATORFOAM

SMART-X® advertising displays in a supermarket chain. Processor Punkt1, Larvik, NO

GATORFOAM® laminated and cut to shape

with a jigsaw

SIGNAGE INDOOR





SIGNAGE OUTDOOR



Direction and image signage for the UEFA Euro 2004 – FOREX®classic

entrance signage

World Cup 2006 – DIBOND® with

and lamination.

+ Metall Unlimited GmbH, Munich, DE



DIBOND® monolith in front of corporate building "Le Vigan", FR

Coca Cola logo – waterjet-cut KAPA®plast



SMART-X® display "Duty Free Store"



KAPA® cut-out figures



Direct digital printing on SMART-X $^{\otimes}$, shop window advertising at Galeria Kaufhof, DE



State Garden Show in VS, DE / DIBOND® Energy Wheel



Direct digital printing on DIBOND® – car park "Hohe Promenade", Zurich, CH



DIBOND® jet black store front and DIBOND®butlerfinish logo. Sunglass hut, South Africa

SHOPFRONTS





Store front with

DIBOND® mirror lettering



DIBOND® store front AmericanSwiss Johannesburg, South Africa



DIBOND® jet black (high-gloss) store front





DIBOND®butlerfinish gold store front



DIBOND® interior panelling at Leonid Borzenkov – Vnukovo Airport, RU



DIBOND® façade in ultramarine blue



DIBOND® platinum white lettering

Citi Nails store front, Australia – DIBOND®



DIBOND® jet black (high-gloss) store front. Woolworths, South Africa



Exhibition stand "Cookut", Maison & Obiet Paris, FR. SMART-X® digital printed and contour lasered.

"Design office Hall A"-DIBOND® mayagoldmetallic. Created by: Designliga – Office for visual communication and interior design, Munich, DE

EXHIBITION STANDS AND DISPLAYS



3A Composites exhibition stand at Euroshop 2008, Dusseldorf, DE made of DIBOND®, FOREX®, KAPA®, FOAM-X®, GATORFOAM®



3A Composites exhibition stand at FESPAdigital 2012, Barcelona, ES made of DIBOND®, FOREX®, KAPA®, FOAM-X®, GATORFOAM®







Special exhibition show Bugatti "Art & Perfection". Digital prints on GATORFOAM® Created by: Daddy Creative Communications, Berlin, DE



3A Composites exhibition stand at Euroshop 2011, Dusseldorf, DE made of DIBOND®, FOREX®, KAPA®, FOAM-X®, GATORFOAM®



Outdoor exhibition of art by photo-journalist Hiroji Kubota, Embankment. London, DIBOND® boxes fabricated by using the routing and folding method, photos mounted and laminated. Created by: Standard8,





EXHIBITION STANDS AND DISPLAYS





Exhibition "Distinct Ambiguity", DIBOND®mirror, 3 mm Created by: Architekturbüro GRAFT, Berlin, DE

Co. KG exhibition



Kohlschein GmbH & stand (photokina 2008) made of KAPA®



Indoor exhibition of the "BMW-legends", Siegen Shopping Centre, applications made of DIBOND®



Presentation of a European open competitive bidding for the architectural platform "wonderland" in Vienna – mounted on KAPA®.





Exhibition FotoFacta 2007, Osnabruck, DE – pictures laminated on KAPA®fix



Temporary interior decoration made of KAPA® to mark FAKD's 50-year anniversary. Created by: Marc Flick



POS | POP





Portable stand for promotional activities at the POS – KAPA®

Exhibition display – laminated and cold bent

FOREX®classic



In store decoration with counter made of KAPA® for the brand DIOR



SMART-X® - laser cut-out letters



POS and advertising display for Casio G-Shock watches – DIBOND®



PHOTOMOUNTING



Machine lamination on KAPA®fix



Machine lamination on KAPA®mount



Manual lamination on KAPA®fix



Shelf system made of DIBOND® light ivory, manufactured using the routing and folding method

- Fashionable hair dresser

"Schnittzone" in Austria

SHOP FITTING | INTERIOR DESIGN



High-quality designer shelving system – DIBOND®. Created by: C. Maas, duplico, DE

Designer chair made of DIBOND®decor wenge by industrial designer George Hlavacs, NL



Bang and Olufsen exhibition – rear walls made of FOREX® classic

Shop interior and wall panelling – DIBOND® red gloss, DIBOND®butlerfinish and DIBOND®mirror



SMART-X® – shop window decoration "Bon Marché Rive Gauche", Paris, FR. Created by: Pedro Varela /



Image laminated on GATORFOAM®, cut out using a jigsaw, lacquered and attached with hot glue

Designer shelf made of DIBOND®. Created by: Product & Interior Designer Andreas Hegert, SE



Created by: dfrost GmbH & Co. KG

Shop window decoration Modehaus Zinser, Singen, DE - made of FOREX®classic.



Shelf system - DIBOND®butlerfinish. Created by: YC2, Kaiserslautern, DE



Designer lamp made of DIBOND®. Designed and created by: www.daniel-michel.com







OUR DIGITAL PRINTING RANGE

As the leading producer of display materials, 3A COMPOSITES is committed to the development of innovative materials for the rapidly growing digital print market. The increasing significance of continuously improving technologies requires skilled specialist knowledge.

Working closely with the leading manufacturers of digital printing equipment, our printing substrates undergo continuous testing.

Our customers benefit from the know-how gained in this process as we are able to optimise our products to suit the latest developments in imaging technologies.

In addition, 3A COMPOSITES offers a unique choice of different two-metre wide panels. The larger printing size allows for more flexible use of available digital printing technology through more efficient use of the printing machines and substrates.

We are on hand with help and advice for our customers, providing them with the most up-to-date knowledge and the best application support for our materials.

On the next page is a summary of our premium products for digital printing.

	Product	Thickness	Width	Appli	cation	Prop	erties	Met	hod	lmage quality	Ink adhesion	Ink c	uring
			Max.	Interior	Exterior	Hardness	Weight	UV- curing inks	Solvent inks	Whiteness	Cross- hatch test	Sheet distortion	Sheet yellowing
	DIBOND 'digital	2/3	1500	+	+		-	+	+				
	DIBONDbutlerfinish	2/3/4	1500	+	+		-	+	+	-			
	FOREX print	2/3/4/ 5/6/8/10	2030	+	+	•	••	+	+				••
	SMART-X	5/10/19	2030	+	+			+	-				•••
	KAPA plast	3/5/10/15	2030	+	-	•		+	+				••••
1	KAPA premium	3/5/10	1530	+	+			+	+			••••	••••
	KAPA tex	5/10	1400	+	-	•		+	+				
	LUMEX.	0,8/1/2/3/ 4/5/6/8/10	2050	+	+		-	+	+	-			
á	GATORFOAM	5/10/13/ 19/25	1524	+	-		•••	+	+				

+ Suitable

■■■ Excellent
■■■ Very Good

■■ Good ■ Adequate

DIBOND® digital

DIBOND® digital has a special stove enamelled surface that is optimised for digital printing and guarantees outstanding ink adhesion – even for high-speed printing.

Overview of direct digital print advantag	jes
Temperature resistant up to 80 °C	No distortion caused by UV lamps
Low weight/high rigidity	Allows large unsupported spans
Weather resistant for exterior use	Water and UV-resistant
Smooth surface optimised for digital printing	Excellent print quality – even the finest details
Thickness tolerance + / - 0.2 mm	Allows limited clearance of print heads
Extremely flat, strong and rigid	No distortion at fixing points
Easy cutting	Clean edges, no deflashing necessary
Lacquer system optimised for direct to substrate digital printing	Excellent ink adhesion

 ${\rm DIBOND^@digital}$ is recommended for flat applications as its surface comprises 0.2 mm thick aluminium layers.

SMART-X®

SMART-X® is a lightweight, all-plastic sheet material with polystyrene surfaces and an expanded polystyrene core. SMART-X® stands out due to its weather-resistance and excellent printability.

Overview of direct digital printing advantages						
Smooth UV-resistant polystyrene surfaces	For ideal printing results and outstanding ink adhesion – also in exterior applications					
Optimal low weight to high rigidity ratio	Simple to attach, trouble-free handling. Optimal for all types of signage, especially large-format or long and narrow signs.					
Resistant to moisture and humidity	Outdoor applications for up to 2 years					
Excellent surface hardness	Scratch-resistant even after repeated use					
Temperature resistance	Suitable for applications up to 70°C					
Simple processing	Whole range of processing options with standard tools (printing, cutting, assembling)					
Excellent recyclability	Adhesive-free mono-material					

Only UV-cured inks should be used in direct digital printing on SMART-X®.

FOREX® print

FOREX®print is a rigid lightweight foam plastic sheet with bright white surfaces optimised for digital printing.

Overview of direct digital print advantag	Overview of direct digital print advantages						
Bright white surfaces	Ideal for applications where printing only partially covers the surface, particularly bright impact in outdoor applications						
Low weight	Simple to attach, problem-free handling						
International fire classification B1 / M1	Approved for public areas						
Wide range of sizes and thicknesses	Sheets cut to size to suit different requirements						
Resistant to humidity and moisture	Suitable for exterior and interior use						
Simple processing	Whole range of processing options with standard tools – as known from FOREX®classic						





KAPA® is a high-grade lightweight foam board with an expanded polyurethane core and individual bonded surface layers. KAPA® offers the most varied interior application options from manual cutting to direct digital flat-bed printing

	KAPA®plast	KAPA®tex	KAPA®premium
Digital printing	Primer-finish for excellent ink adhesion	Special surface-finish for excellent ink adhesion	Luxurious surface specifically developed for digital printing
Surface properties	Colour intensity and sharp images due to bright white surfaces	Surfaces in "canvas" look	Luxury paper with bright white surface
Excellent flatness	Permits high-speed printing		
Easy processing, no foam crumbling	Simple, speedy die cutting possible		
Low weight and high rigidity	Simple attaching, problem-free handling		
High heat resistance	Long-term up to 100 °C Short-term up to 160 °C		
Further advantages at a glance:	Moisture-resistant	Three-dimensional structure adds depth to print and images	Moisture-resistant, suitable for outdoor applications

LUMEX®

LUMEX®, the transparent and translucent polyester sheets (A-PET/PET-G) have optimum performance in digital printing. With an additional backlighting, optical effects can be achieved thanks to the transparency of the material.

Overview of direct digital print advantages			
Transparent and translucent sheets	Good printability thanks to optimal adhesion with UV curing inks, backlighting possible		
LUMEX® A LUMEX® G	Excellent resistance to chemicals, solvents, detergents, oil and greases, etc.		
Wide range of sheet thicknesses and colours	Sheets cut to size to suit different requirements		
Resistant to humidity and moisture	Suitable for exterior and interior use		
International fire classification B1/Class 1Y / M2	Approved for public areas		

GATORFOAM®

GATORFOAM® is an extremely rigid foam board featuring resin-impregnated liners with bright white surfaces that are particularly suited for direct digital printing.

Overview of direct digital print advantages		
Bright white surface	High quality print results with optimal image quality	
Laminated composite construction	High rigidity (increasing with sheet thickness)	
Wide range of sheet thicknesses	Increasing dimensional stability at greater thicknesses with minimal increase in weight	
Smooth, durable surfaces on both upper and lower sides	Excellent ink adhesion	
Extruded polystyrene foam core	Suitable for interior decorative and design applications	



HINTS AND TIPS FOR EVEN BETTER PRINT RESULTS

- We recommend that print machines are regularly serviced, in particular, UV-lamps and UV-radiation intensity should be regularly tested.
- Avoid fluctuating humidity or environments which are too dry (this can lead to danger from static charge).
- Boards should be acclimatised to work-room temperature 24 hours before printing, especially when boards have been stored at low temperatures in an exterior storage area. Store the boards flat and not under tension (remove packaging straps).
- We recommend wearing white cotton gloves to avoid any grip marks (fingerprints) and prevent oils and dirt particles on the surfaces. Hold sheets only by the edges and do not lift the sheet only on one corner (risk of breakage).
- If the sheet carries a protective film, this should be removed slowly and smoothly.
- Sweep the sheet surface with ionised air prior to printing and consistently apply any available measures to reduce static build-up.

- Use a print profile that is optimally suited to each print surface.
- Use inks recommended for rigid substrates by the machine manufacturer. Using nonrecommended inks can result in poor ink adhesion.
- When printing onto DIBOND® digital and KAPA® plast, a high UV intensity can be employed for rapid ink curing without problems. Both materials can be processed at temperatures of up to 80 °C.
- Keep thermal load as low as possible for FOREX®print, FOREX®classic and SMART-X® and only use the UV-lamps required for correct ink curing. Normally, not all available UV-lamps need to be turned on to achieve excellent curing.
- Ink adhesion can be tested reliably only after 24 to 48 hours due to post hardening (cross hatch test DIN EN ISO 2409).